**Analytical Resources, Incorporated**
Analytical Chemists and Consultants

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NOV - 3 2004
LANDAU ASSOCIATES, INC.

1 November 2004

Stacy Pischer
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020-9129

**RE: Project: POA Uplands / 529009.311**
**ARI Job No: HA23**

Dear Stacy:

Please find enclosed a revised cover letter for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted six water samples on August 31, 2004 in good condition. There were no discrepancies between the COC and the sample containers' labels. Data for these analyses was sent previously under a separate cover letter.

As requested, the cover letter has been revised to included discussion of which samples were initially sulfur-cleaned for the PCB analysis and which samples were not. This cover letter can simply replace the original cover letter.

A copy of this cover letter will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mary Lou Fox

Mary Lou Fox
Project Manager
206/695-6211
marylou@arilabs.com

Enclosures
cc: HA23
MLF/esj

**Analytical Resources, Incorporated**
Analytical Chemists and Consultants

24 September 2004

Stacy Pischer
Landau Associates, Inc.
130 Second Avenue South
Edmonds, WA 98020-9129

**RE: Project: POA Uplands / 529009.311**
**ARI Job No: HA23**

Dear Stacy:

Please find enclosed a copy of chain of custody (COC) record and the analytical results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted six water samples on August 31, 2004 in good condition. There were no discrepancies between the COC and the sample containers' labels.

The samples were analyzed for VOAs, SIM-vinyl chloride, SVOAs, SIM-cPAHs, PCBs, Resin Acids, NWTPH-G, NWTPH-Dx with acid/silica gel cleanups, total and dissolved metals, and tannins/lignins. The standards for the NWTPH-Dx analyses were acid/silica cleaned as per the method. The test for tanning/lignins was sub-contracted to Aquatic Research in Seattle, WA.

The analyst who performed the full scan volatiles analyses noted that the pH of sample **MW-107**, although indicated as preserved, was approximately 7. The sample was analyzed eleven days after the collection date.

Recovery of the o-methyl podocarpic acid surrogate in the analysis of sample **MW-107** for resin acids was below the QC limit at 17.9%. The sample was re-extracted 18 days past collection. Surrogate recovery in the re-extraction was good. Both sets of data have been reported for this sample.

Recovery of abietic acid in the resin acid laboratory control sample (LCS) was low at 7.52%. The analyst noted that breakdown products were present in the LCS. The abietic acid is very unstable. Recovery of abietic acid in the LCS associated with the re-extraction was low again at 7.8%. As recoveries of the other spikes were good in both extractions, this strongly suggests loss of the abietic acid in the LCS solution.

In the analysis of the samples for PCBs, samples **MW-103**, **MW-105**, **MW-106**, and **MW-107** were not sulfur cleaned in error. This resulted in some of the "Y" qualified reporting limits. Samples **MW-101** and **MW-110B** were sulfur cleaned in the initial analysis. **MW-103**, **MW-105**, **MW-106**, and **MW-107** were re-extracted seventeen days past the holding time and were sulfur-cleaned. Limited volumes were available for some of the samples for re-extraction, resulting in elevated reporting limits in the re-extractions. Both sets of data have been reported for these four samples.

The analyst who performed the NWTPH-G analyses noted that sample **MW-103** was surrogated twice in error, resulting in the high recoveries. There was no detection of gasoline range hydrocarbons above the reporting limit in this sample.

Recovery of the tetrachlorometaxylene surrogate in the initial extraction of sample **MW-106** was low at 24.2%. Recovery of the TCMX surrogate in the re-extraction was again low at 17.0%, strongly suggesting matrix effect.

Recovery of the o-terphenyl surrogate in the method blank associated with the NWTPH-Dx analyses was 3% above the QC limit of 110% at 113%. No corrective action was taken because there were no detections above the reporting limit in any of the samples.

The metals analyses of the samples were batched with the metals analyses of the samples for this project that were received on September 1, 2004 (ARI Job No: HA44). The method blanks and laboratory control samples are reported originally under ARI job number HA44. Copies have been included in this data package for your convenience.

In some of the samples' metals analyses, the dissolved value for an element was slightly higher than the corresponding total value. In all such cases, the variability was within what would be expected analytically.

No further analytical complications were noted. A copy of this report and all associated raw data will remain on file with ARI. If you have any questions or require additional information, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mary Lou Fox

Mary Lou Fox
Project Manager
206/695-6211
marylou@arilabs.com

Enclosures
cc: HA23
MLF/esj

5.0 | 6.0 | 5.5 | 5.5 | 5.5

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

# Chain-of-Custody Record

method 6020

№ 3169

Date 8/30/04
Page 1 of 1

Project Port of Anacortes Uplands Job No. 529009

Client " " "

Project Location Anacortes, WA

Sampler's Name Ken Reid / Mario Lopes

Testing Parameters

Turnaround Time
☒ Standard
☐ Accelerated

| Sample Number | Date | Time | Matrix | No. of Containers | LPAH | PCB | NW-TPH-Dx | Metals (Total + Dissolved) | NW-TPH-Gx | VOC | Chloride | SVOC | Pesticides | Conventionals (b) | Other Organics (c) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-101 | 8/30/04 | 1130 | $H_2O$ | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| MW-103 | ↓ | 0915 | ↓ | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ |
| MW-105 | ↓ | 1135 | ↓ | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MW-106 | ↓ | 1300 | ↓ | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MW-107 | ↓ | 1320 | ↓ | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| MW-110B | ↓ | 1430 | ↓ | 2 | | ✓ | | | | | | | | | |

Note: Please check with Stacy Fischer or Kris Hendrickson at Landau prior to performing acid/silica gel cleanup on any sample. 425-778-0907.

Observations/Comments

(a) Use method 6020 for total & dissolved metals. Metals include: antimony arsenic, cadmium, copper, lead, mercury, nickel, thallium

(b) Conventionals include: nitrate, nitrite, ammonia, sulfate, sulfid tannins & lignins, phenol

(c) ~~Phen~~ Other Organics include: resin acids, chlorinated guaiacols and guaiacol.

Let samples settle prior to analysis

Special Shipment/Handling or Storage Requirements On-ice

Method of Shipment ARI Carrier

| Relinquished by | Received by | Relinquished by | Received by |
|---|---|---|---|
| Signature [signature] | Signature [signature] | Signature | Signature |
| Printed Name Ken Reid | Printed Name ERIC BRANSON | Printed Name | Printed Name |
| Company LAI | Company ARI | Company | Company |
| Date 8/30/04 Time 1745 | Date 8/31/04 Time 1515 | Date Time | Date Time |

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

000001

LANDAU ASSOCIATES, INC.
Edmonds, WA (206) 778-0907
FAX (206)778-6409

# Chain-of-Custody Record

Method 6020

No 3169

Date 8/30/04

Page 1 of 1

Project Port of Anacortes Uplands Job No. 529009

Client " " "

Project Location Anacortes, WA

Sampler's Name Ken Reid / Mario Lopes

Turnaround Time
☒ Standard
☐ Accelerated

Testing Parameters

| Sample Number | Date | Time | Matrix | No. of Containers | CPAH | PCB | NWTPH-Dx | Metals (total + dissolved) | NWTPH-Gx | VOC | Chloride | SVOC | Pest Bioxides | Conventionals (b) | Other Organics (c) | Observations/Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-101 | 8/30/04 | 1130 | $H_2O$ | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | (a) Use method 6020 for |
| MW-103 | | 0915 | | 20 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | | ✓ | ✓ | total & dissolved metals. |
| MW-105 | | 1135 | | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | Metals include: antimony |
| MW-106 | | 1300 | | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | arsenic, cadmium, copper, |
| MW-107 | | 1320 | | 22 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | lead, mercury, nickel, thallium |
| MW-110B | ↓ | 1430 | ↓ | 2 | | ✓ | | | | | | | | | | |
| | | | | | | | | | | | | | | | | (b) Conventionals include: nitrate, |
| | | | | | | | | | | | | | | | | nitrite, ammonia, sulfate, sulfid |
| | | | | | | | | | | | | | | | | tannins & lignins, phenol |
| | | | | | | | | | | | | | | | | (c) Other Organics |
| | | | | | | | | | | | | | | | | include: resin acids, |
| | | | | | | | | | | | | | | | | chlorinated guaiacols and |
| | | | | | | | | | | | | | | | | guaiacol. |
| | | | | | | | | | | | | | | | | let samples settle prior to analysis |

Note: Please check with Stacy Fischer or Kris Hendrickson at Landau prior to performing acid/silica gel cleanup on any sample. 425-778-0907.

Special Shipment/Handling or Storage Requirements On-ice

Method of Shipment ARI Courier

| Relinquished by | Received by | Relinquished by | Received by |
|---|---|---|---|
| Signature | Signature | Signature | Signature |
| Printed Name | Printed Name | Printed Name | Printed Name |
| Company | Company | Company | Company |
| Date 8/30/04 Time 1745 | Date Time | Date Time | Date Time |

3/91

WHITE COPY - Project File YELLOW COPY - Laboratory PINK COPY - Client Representative

**Analytical Resources, Incorporated**
Analytical Chemists and Consultants

## ORGANIC COMPOUND DATA REPORTING QUALIFIERS

| | |
|---|---|
| U | Indicates the compound was undetected at the reported concentration. (Same as ND). |
| J | Indicates an estimated concentration when the value is less than the calculated reporting limit. |
| D | Indicates the surrogate/spike(s) was not detected, due to dilution of extract. |
| NR | Indicates the surrogate recovery cannot be reported due to matrix interference. |
| E | Indicates a value above the linear range of the detector. Sample dilution required. |
| S | Indicates no value reported due to saturation of the detector. Sample dilution required. |
| NA | Indicates compound not analyzed for. |
| M | Indicates an estimated value of analyte found and confirmed by analyst but with low spectral match. |
| B | Indicates possible/probable blank contamination. Flagged when the analyte is detected in the blank as well as the sample. |
| Y | Indicates raised reporting limit due to background interference or to activity on the instrument. Compound is still not detected at or above the raised level. |
| C | Indicates a probable hit that cannot be confirmed due to matrix interference (GC). |
| P | Indicates a high RPD for dual column GC analyses without obvious interference. |



4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MB-090904**
 **METHOD BLANK**

Lab Sample ID: MB-090904
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN1/PAB
Date Analyzed: 09/09/04 12:38

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| 67-64-1 | Acetone | 1.0 | < 1.0 U |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| 78-93-3 | 2-Butanone | 1.0 | < 1.0 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

Lab Sample ID: MB-090904 QC Report No: HA23-Landau Associates
LIMS ID: 04-13882 Project: Port of Anacortes Uplands
Matrix: Water 529009
Date Analyzed: 09/09/04 12:38

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

| Volatile Surrogate Recovery | |
|---|---|
| d4-1,2-Dichloroethane | 95.4% |
| d8-Toluene | 94.2% |
| Bromofluorobenzene | 85.0% |
| d4-1,2-Dichlorobenzene | 94.6% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B
Sample ID: MB-091004
METHOD BLANK


Lab Sample ID: MB-091004
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN3/PAB
Date Analyzed: 09/10/04 16:26

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| 67-64-1 | Acetone | 1.0 | < 1.0 U |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| 78-93-3 | 2-Butanone | 1.0 | < 1.0 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

Lab Sample ID: MB-091004 QC Report No: HA23-Landau Associates
LIMS ID: 04-13881 Project: Port of Anacortes Uplands
Matrix: Water 529009
Date Analyzed: 09/10/04 16:26

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 101% |
| d8-Toluene | 104% |
| Bromofluorobenzene | 91.7% |
| d4-1,2-Dichlorobenzene | 108% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: Trip Blank**
 **SAMPLE**

Lab Sample ID: HA23L
LIMS ID: 04-13892
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled:
Date Received: 08/31/04

Instrument/Analyst: FINN1/PAB
Date Analyzed: 09/09/04 18:50

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| 67-64-1 | Acetone | 1.0 | < 1.0 U |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| 78-93-3 | 2-Butanone | 1.0 | < 1.0 U |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B


Sample ID: Trip Blank
SAMPLE

Lab Sample ID: HA23L
LIMS ID: 04-13892
Matrix: Water
Date Analyzed: 09/09/04 18:50

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 89.8% |
| d8-Toluene | 95.8% |
| Bromofluorobenzene | 83.5% |
| d4-1,2-Dichlorobenzene | 96.5% |

ANALYTICAL RESOURCES INCORPORATED

## WATER VOLATILE SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water (Low Level) QC Report No: HA23

| Lab ID | Client ID | DCE | TOL | BFB | DCB | TOT OUT |
|---|---|---|---|---|---|---|
| 091004MB | Method Blank | 101% | 104% | 91.7% | 108% | 0 |
| HA23LCS | Lab Control | 99.6% | 102% | 97.8% | 97.8% | 0 |
| HA23LCD | LCDuplicate | 120% | 106% | 103% | 99.5% | 0 |
| HA23A | MW-101 | 104% | 105% | 93.2% | 104% | 0 |
| 090904MB | Method Blank | 95.4% | 94.2% | 85.0% | 94.6% | 0 |
| HA23LCS | Lab Control | 87.6% | 94.6% | 93.4% | 91.9% | 0 |
| HA23LCD | LCDuplicate | 89.1% | 95.0% | 92.0% | 90.8% | 0 |
| HA23B | MW-103 | 104% | 97.8% | 88.2% | 94.8% | 0 |
| HA23C | MW-105 | 108% | 104% | 91.8% | 104% | 0 |
| HA23D | MW-106 | 110% | 106% | 94.0% | 105% | 0 |
| HA23E | MW-107 | 107% | 107% | 94.8% | 104% | 0 |
| HA23L | Trip Blank | 89.8% | 95.8% | 83.5% | 96.5% | 0 |

| SW8260B | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (DCE) = 1,2-Dichloroethane-d4 | (68-126) | (62-138) |
| (TOL) = Toluene-d8 | (59-121) | (66-124) |
| (BFB) = Bromofluorobenzene | (62-117) | (60-111) |
| (DCB) = 1,2-Dichlorobenzene-d4 | (77-122) | (77-127) |

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

FORM-II VOA-1

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: LCS-091004**
 LCS/LCSD

Lab Sample ID: LCS-091004
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN3/PAB
LCSD: FINN3/PAB
Date Analyzed LCS: 09/10/04 15:39
LCSD: 09/10/04 17:16

Sample Amount LCS: 20.0 mL
LCSD: 20.0 mL
Purge Volume LCS: 20.0 mL
LCSD: 20.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Chloromethane | 3.3 | 4.0 | 82.5% | 3.3 | 4.0 | 82.5% | 0.0% |
| Bromomethane | 3.5 | 4.0 | 87.5% | 3.9 | 4.0 | 97.5% | 10.8% |
| Vinyl Chloride | 3.6 | 4.0 | 90.0% | 3.5 | 4.0 | 87.5% | 2.8% |
| Chloroethane | 3.7 | 4.0 | 92.5% | 3.6 | 4.0 | 90.0% | 2.7% |
| Methylene Chloride | 3.9 | 4.0 | 97.5% | 4.3 | 4.0 | 108% | 9.8% |
| Acetone | 17.5 | 20.0 | 87.5% | 19.5 | 20.0 | 97.5% | 10.8% |
| Carbon Disulfide | 4.0 | 4.0 | 100% | 4.1 | 4.0 | 102% | 2.5% |
| 1,1-Dichloroethene | 3.9 | 4.0 | 97.5% | 3.9 | 4.0 | 97.5% | 0.0% |
| 1,1-Dichloroethane | 3.8 | 4.0 | 95.0% | 4.0 | 4.0 | 100% | 5.1% |
| trans-1,2-Dichloroethene | 4.1 | 4.0 | 102% | 4.2 | 4.0 | 105% | 2.4% |
| cis-1,2-Dichloroethene | 3.9 | 4.0 | 97.5% | 4.1 | 4.0 | 102% | 5.0% |
| Chloroform | 3.8 | 4.0 | 95.0% | 4.1 | 4.0 | 102% | 7.6% |
| 1,2-Dichloroethane | 3.8 | 4.0 | 95.0% | 4.3 | 4.0 | 108% | 12.3% |
| 2-Butanone | 16.2 | 20.0 | 81.0% | 19.8 | 20.0 | 99.0% | 20.0% |
| 1,1,1-Trichloroethane | 3.8 | 4.0 | 95.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| Carbon Tetrachloride | 4.0 | 4.0 | 100% | 3.8 | 4.0 | 95.0% | 5.1% |
| Vinyl Acetate | 3.7 | 4.0 | 92.5% | 4.4 | 4.0 | 110% | 17.3% |
| Bromodichloromethane | 3.9 | 4.0 | 97.5% | 4.3 | 4.0 | 108% | 9.8% |
| 1,2-Dichloropropane | 3.9 | 4.0 | 97.5% | 4.3 | 4.0 | 108% | 9.8% |
| cis-1,3-Dichloropropene | 3.4 | 4.0 | 85.0% | 3.8 | 4.0 | 95.0% | 11.1% |
| Trichloroethene | 3.8 | 4.0 | 95.0% | 3.8 | 4.0 | 95.0% | 0.0% |
| Dibromochloromethane | 3.2 | 4.0 | 80.0% | 3.7 | 4.0 | 92.5% | 14.5% |
| 1,1,2-Trichloroethane | 3.9 | 4.0 | 97.5% | 4.7 | 4.0 | 118% | 18.6% |
| Benzene | 4.0 | 4.0 | 100% | 4.1 | 4.0 | 102% | 2.5% |
| trans-1,3-Dichloropropene | 3.4 | 4.0 | 85.0% | 4.0 | 4.0 | 100% | 16.2% |
| 2-Chloroethylvinylether | 3.8 | 4.0 | 95.0% | 4.5 | 4.0 | 112% | 16.9% |
| Bromoform | 3.6 | 4.0 | 90.0% | 3.9 | 4.0 | 97.5% | 8.0% |
| 4-Methyl-2-Pentanone (MIBK) | 16.0 | 20.0 | 80.0% | 18.9 | 20.0 | 94.5% | 16.6% |
| 2-Hexanone | 16.0 | 20.0 | 80.0% | 18.9 | 20.0 | 94.5% | 16.6% |
| Tetrachloroethene | 4.0 | 4.0 | 100% | 3.7 | 4.0 | 92.5% | 7.8% |
| 1,1,2,2-Tetrachloroethane | 3.8 | 4.0 | 95.0% | 4.3 | 4.0 | 108% | 12.3% |
| Toluene | 3.9 | 4.0 | 97.5% | 3.9 | 4.0 | 97.5% | 0.0% |
| Chlorobenzene | 3.9 | 4.0 | 97.5% | 3.9 | 4.0 | 97.5% | 0.0% |
| Ethylbenzene | 4.2 | 4.0 | 105% | 3.9 | 4.0 | 97.5% | 7.4% |
| Styrene | 3.6 | 4.0 | 90.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| Trichlorofluoromethane | 3.8 | 4.0 | 95.0% | 3.8 | 4.0 | 95.0% | 0.0% |
| 1,1,2-Trichloro-1,2,2-trifl | 4.0 | 4.0 | 100% | 4.0 | 4.0 | 100% | 0.0% |
| m,p-Xylene | 8.4 | 8.0 | 105% | 7.9 | 8.0 | 98.8% | 6.1% |
| o-Xylene | 3.5 | 4.0 | 87.5% | 3.4 | 4.0 | 85.0% | 2.9% |
| 1,2-Dichlorobenzene | 3.9 | 4.0 | 97.5% | 4.0 | 4.0 | 100% | 2.5% |
| 1,3-Dichlorobenzene | 4.0 | 4.0 | 100% | 3.8 | 4.0 | 95.0% | 5.1% |
| 1,4-Dichlorobenzene | 3.9 | 4.0 | 97.5% | 3.8 | 4.0 | 95.0% | 2.6% |
| Acrolein | 16.7 | 20.0 | 83.5% | 23.4 | 20.0 | 117% | 33.4% |
| Methyl Iodide | 4.2 | 4.0 | 105% | 4.2 | 4.0 | 105% | 0.0% |
| Bromoethane | 4.0 | 4.0 | 100% | 4.1 | 4.0 | 102% | 2.5% |
| Acrylonitrile | 3.7 | 4.0 | 92.5% | 4.7 | 4.0 | 118% | 23.8% |
| 1,1-Dichloropropene | 3.8 | 4.0 | 95.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| Dibromomethane | 4.0 | 4.0 | 100% | 4.7 | 4.0 | 118% | 16.1% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: LCS-091004**
 LCS/LCSD

Lab Sample ID: LCS-091004 QC Report No: HA23-Landau Associates
LIMS ID: 04-13881 Project: Port of Anacortes Uplands
Matrix: Water 529009
Date Analyzed: 09/10/04 15:39 Purge Volume: 20.0 mL
LCSD: 09/10/04 17:16 LCSD: 20.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 3.4 | 4.0 | 85.0% | 3.5 | 4.0 | 87.5% | 2.9% |
| 1,2-Dibromo-3-chloropropane | 3.1 | 4.0 | 77.5% | 3.3 | 4.0 | 82.5% | 6.2% |
| 1,2,3-Trichloropropane | 3.6 | 4.0 | 90.0% | 4.1 | 4.0 | 102% | 13.0% |
| trans-1,4-Dichloro-2-butene | 4.0 | 4.0 | 100% | 4.3 | 4.0 | 108% | 7.2% |
| 1,3,5-Trimethylbenzene | 3.8 | 4.0 | 95.0% | 3.5 | 4.0 | 87.5% | 8.2% |
| 1,2,4-Trimethylbenzene | 4.3 | 4.0 | 108% | 3.9 | 4.0 | 97.5% | 9.8% |
| Hexachlorobutadiene | 4.2 | 4.0 | 105% | 3.4 | 4.0 | 85.0% | 21.1% |
| Ethylene Dibromide | 3.8 | 4.0 | 95.0% | 4.7 | 4.0 | 118% | 21.2% |
| Bromochloromethane | 3.9 | 4.0 | 97.5% | 4.6 | 4.0 | 115% | 16.5% |
| 2,2-Dichloropropane | 3.5 | 4.0 | 87.5% | 3.5 | 4.0 | 87.5% | 0.0% |
| 1,3-Dichloropropane | 3.8 | 4.0 | 95.0% | 4.3 | 4.0 | 108% | 12.3% |
| Isopropylbenzene | 4.2 | 4.0 | 105% | 3.8 | 4.0 | 95.0% | 10.0% |
| n-Propylbenzene | 4.5 | 4.0 | 112% | 4.0 | 4.0 | 100% | 11.8% |
| Bromobenzene | 4.0 | 4.0 | 100% | 4.0 | 4.0 | 100% | 0.0% |
| 2-Chlorotoluene | 3.8 | 4.0 | 95.0% | 3.5 | 4.0 | 87.5% | 8.2% |
| 4-Chlorotoluene | 4.2 | 4.0 | 105% | 4.0 | 4.0 | 100% | 4.9% |
| tert-Butylbenzene | 3.6 | 4.0 | 90.0% | 3.1 | 4.0 | 77.5% | 14.9% |
| sec-Butylbenzene | 4.4 | 4.0 | 110% | 3.8 | 4.0 | 95.0% | 14.6% |
| 4-Isopropyltoluene | 4.0 | 4.0 | 100% | 3.5 | 4.0 | 87.5% | 13.3% |
| n-Butylbenzene | 4.5 | 4.0 | 112% | 3.8 | 4.0 | 95.0% | 16.9% |
| 1,2,4-Trichlorobenzene | 3.8 | 4.0 | 95.0% | 3.6 | 4.0 | 90.0% | 5.4% |
| Naphthalene | 3.4 | 4.0 | 85.0% | 3.6 | 4.0 | 90.0% | 5.7% |
| 1,2,3-Trichlorobenzene | 3.7 | 4.0 | 92.5% | 3.6 | 4.0 | 90.0% | 2.7% |

Results reported in µg/L
RPD calculated using sample concentrations per SW846.
LCS spike recovery is evaluated using only the nine regulated compounds noted in the ARI LQAP. The other LCS spike compound recoveries are advisory and used for analytical troubleshooting should any of the nine regulated compounds be out of control.

**Volatile Surrogate Recovery**

| | LCS | LCSD |
|---|---|---|
| d4-1,2-Dichloroethane | 99.6% | 120% |
| d8-Toluene | 102% | 106% |
| Bromofluorobenzene | 97.8% | 103% |
| d4-1,2-Dichlorobenzene | 97.8% | 99.5% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B
Sample ID: LCS-090904
LCS/LCSD


Lab Sample ID: LCS-090904
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN1/PAB
LCSD: FINN1/PAB
Date Analyzed LCS: 09/09/04 11:33
LCSD: 09/09/04 12:07

Sample Amount LCS: 20.0 mL
LCSD: 20.0 mL
Purge Volume LCS: 20.0 mL
LCSD: 20.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Chloromethane | 2.9 | 4.0 | 72.5% | 3.0 | 4.0 | 75.0% | 3.4% |
| Bromomethane | 2.7 | 4.0 | 67.5% | 2.9 | 4.0 | 72.5% | 7.1% |
| Vinyl Chloride | 3.0 | 4.0 | 75.0% | 3.0 | 4.0 | 75.0% | 0.0% |
| Chloroethane | 3.2 | 4.0 | 80.0% | 3.1 | 4.0 | 77.5% | 3.2% |
| Methylene Chloride | 3.6 | 4.0 | 90.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| Acetone | 17.7 | 20.0 | 88.5% | 17.9 | 20.0 | 89.5% | 1.1% |
| Carbon Disulfide | 3.1 | 4.0 | 77.5% | 3.2 | 4.0 | 80.0% | 3.2% |
| 1,1-Dichloroethene | 3.5 | 4.0 | 87.5% | 3.4 | 4.0 | 85.0% | 2.9% |
| 1,1-Dichloroethane | 3.4 | 4.0 | 85.0% | 3.5 | 4.0 | 87.5% | 2.9% |
| trans-1,2-Dichloroethene | 3.4 | 4.0 | 85.0% | 3.4 | 4.0 | 85.0% | 0.0% |
| cis-1,2-Dichloroethene | 3.5 | 4.0 | 87.5% | 3.6 | 4.0 | 90.0% | 2.8% |
| Chloroform | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 1,2-Dichloroethane | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 2-Butanone | 15.5 | 20.0 | 77.5% | 15.3 | 20.0 | 76.5% | 1.3% |
| 1,1,1-Trichloroethane | 3.5 | 4.0 | 87.5% | 3.6 | 4.0 | 90.0% | 2.8% |
| Carbon Tetrachloride | 3.9 | 4.0 | 97.5% | 3.8 | 4.0 | 95.0% | 2.6% |
| Vinyl Acetate | 3.2 | 4.0 | 80.0% | 3.3 | 4.0 | 82.5% | 3.1% |
| Bromodichloromethane | 3.7 | 4.0 | 92.5% | 3.5 | 4.0 | 87.5% | 5.6% |
| 1,2-Dichloropropane | 3.6 | 4.0 | 90.0% | 3.4 | 4.0 | 85.0% | 5.7% |
| cis-1,3-Dichloropropene | 3.7 | 4.0 | 92.5% | 3.6 | 4.0 | 90.0% | 2.7% |
| Trichloroethene | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| Dibromochloromethane | 2.9 | 4.0 | 72.5% | 3.1 | 4.0 | 77.5% | 6.7% |
| 1,1,2-Trichloroethane | 3.5 | 4.0 | 87.5% | 3.5 | 4.0 | 87.5% | 0.0% |
| Benzene | 3.8 | 4.0 | 95.0% | 3.8 | 4.0 | 95.0% | 0.0% |
| trans-1,3-Dichloropropene | 3.5 | 4.0 | 87.5% | 3.4 | 4.0 | 85.0% | 2.9% |
| 2-Chloroethylvinylether | 2.9 | 4.0 | 72.5% | 3.1 | 4.0 | 77.5% | 6.7% |
| Bromoform | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 4-Methyl-2-Pentanone (MIBK) | 17.3 | 20.0 | 86.5% | 16.6 | 20.0 | 83.0% | 4.1% |
| 2-Hexanone | 17.1 | 20.0 | 85.5% | 17.6 | 20.0 | 88.0% | 2.9% |
| Tetrachloroethene | 3.8 | 4.0 | 95.0% | 3.9 | 4.0 | 97.5% | 2.6% |
| 1,1,2,2-Tetrachloroethane | 3.4 | 4.0 | 85.0% | 3.5 | 4.0 | 87.5% | 2.9% |
| Toluene | 3.8 | 4.0 | 95.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| Chlorobenzene | 3.7 | 4.0 | 92.5% | 3.8 | 4.0 | 95.0% | 2.7% |
| Ethylbenzene | 4.1 | 4.0 | 102% | 4.3 | 4.0 | 108% | 4.8% |
| Styrene | 3.9 | 4.0 | 97.5% | 4.0 | 4.0 | 100% | 2.5% |
| Trichlorofluoromethane | 3.4 | 4.0 | 85.0% | 3.5 | 4.0 | 87.5% | 2.9% |
| 1,1,2-Trichloro-1,2,2-trifl | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| m,p-Xylene | 8.2 | 8.0 | 102% | 8.4 | 8.0 | 105% | 2.4% |
| o-Xylene | 3.6 | 4.0 | 90.0% | 3.7 | 4.0 | 92.5% | 2.7% |
| 1,2-Dichlorobenzene | 3.7 | 4.0 | 92.5% | 3.7 | 4.0 | 92.5% | 0.0% |
| 1,3-Dichlorobenzene | 3.7 | 4.0 | 92.5% | 3.8 | 4.0 | 95.0% | 2.7% |
| 1,4-Dichlorobenzene | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| Acrolein | 16.1 | 20.0 | 80.5% | 16.9 | 20.0 | 84.5% | 4.8% |
| Methyl Iodide | 3.3 | 4.0 | 82.5% | 3.5 | 4.0 | 87.5% | 5.9% |
| Bromoethane | 3.4 | 4.0 | 85.0% | 3.5 | 4.0 | 87.5% | 2.9% |
| Acrylonitrile | 3.0 | 4.0 | 75.0% | 3.3 | 4.0 | 82.5% | 9.5% |
| 1,1-Dichloropropene | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| Dibromomethane | 3.5 | 4.0 | 87.5% | 3.6 | 4.0 | 90.0% | 2.8% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: LCS-090904**
 **LCS/LCSD**

Lab Sample ID: LCS-090904 QC Report No: HA23-Landau Associates
LIMS ID: 04-13882 Project: Port of Anacortes Uplands
Matrix: Water 529009
Date Analyzed: 09/09/04 11:33 Purge Volume: 20.0 mL
LCSD: 09/09/04 12:07 LCSD: 20.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 1,2-Dibromo-3-chloropropane | 3.4 | 4.0 | 85.0% | 3.1 | 4.0 | 77.5% | 9.2% |
| 1,2,3-Trichloropropane | 3.4 | 4.0 | 85.0% | 3.3 | 4.0 | 82.5% | 3.0% |
| trans-1,4-Dichloro-2-butene | 3.3 | 4.0 | 82.5% | 3.4 | 4.0 | 85.0% | 3.0% |
| 1,3,5-Trimethylbenzene | 4.0 | 4.0 | 100% | 4.1 | 4.0 | 102% | 2.5% |
| 1,2,4-Trimethylbenzene | 4.0 | 4.0 | 100% | 4.2 | 4.0 | 105% | 4.9% |
| Hexachlorobutadiene | 3.8 | 4.0 | 95.0% | 3.8 | 4.0 | 95.0% | 0.0% |
| Ethylene Dibromide | 3.7 | 4.0 | 92.5% | 3.5 | 4.0 | 87.5% | 5.6% |
| Bromochloromethane | 3.5 | 4.0 | 87.5% | 3.5 | 4.0 | 87.5% | 0.0% |
| 2,2-Dichloropropane | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 1,3-Dichloropropane | 3.4 | 4.0 | 85.0% | 3.6 | 4.0 | 90.0% | 5.7% |
| Isopropylbenzene | 3.9 | 4.0 | 97.5% | 4.0 | 4.0 | 100% | 2.5% |
| n-Propylbenzene | 4.2 | 4.0 | 105% | 4.2 | 4.0 | 105% | 0.0% |
| Bromobenzene | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |
| 2-Chlorotoluene | 3.8 | 4.0 | 95.0% | 3.9 | 4.0 | 97.5% | 2.6% |
| 4-Chlorotoluene | 3.9 | 4.0 | 97.5% | 4.0 | 4.0 | 100% | 2.5% |
| tert-Butylbenzene | 3.8 | 4.0 | 95.0% | 4.0 | 4.0 | 100% | 5.1% |
| sec-Butylbenzene | 4.1 | 4.0 | 102% | 4.2 | 4.0 | 105% | 2.4% |
| 4-Isopropyltoluene | 4.2 | 4.0 | 105% | 4.2 | 4.0 | 105% | 0.0% |
| n-Butylbenzene | 4.2 | 4.0 | 105% | 4.2 | 4.0 | 105% | 0.0% |
| 1,2,4-Trichlorobenzene | 3.7 | 4.0 | 92.5% | 3.5 | 4.0 | 87.5% | 5.6% |
| Naphthalene | 3.3 | 4.0 | 82.5% | 3.4 | 4.0 | 85.0% | 3.0% |
| 1,2,3-Trichlorobenzene | 3.6 | 4.0 | 90.0% | 3.6 | 4.0 | 90.0% | 0.0% |

Results reported in µg/L
RPD calculated using sample concentrations per SW846.
LCS spike recovery is evaluated using only the nine regulated compounds noted in the ARI LQAP. The other LCS spike compound recoveries are advisory and used for analytical troubleshooting should any of the nine regulated compounds be out of control.

**Volatile Surrogate Recovery**

| | LCS | LCSD |
|---|---|---|
| d4-1,2-Dichloroethane | 87.6% | 89.1% |
| d8-Toluene | 94.6% | 95.0% |
| Bromofluorobenzene | 93.4% | 92.0% |
| d4-1,2-Dichlorobenzene | 91.9% | 90.8% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MW-101**
Page 1 of 2 **SAMPLE**

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: FINN3/PAB
Date Analyzed: 09/10/04 17:34

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| **67-64-1** | **Acetone** | **1.0** | **3.8** |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| **78-93-3** | **2-Butanone** | **1.0** | **1.5** |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Date Analyzed: 09/10/04 17:34

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 104% |
| d8-Toluene | 105% |
| Bromofluorobenzene | 93.2% |
| d4-1,2-Dichlorobenzene | 104% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MW-103**
Page 1 of 2 **SAMPLE**

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: FINN1/PAB
Date Analyzed: 09/09/04 18:20

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| **67-64-1** | **Acetone** | **1.0** | **13** |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| **78-93-3** | **2-Butanone** | **1.0** | **1.6** |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B
Sample ID: MW-103
SAMPLE



Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Date Analyzed: 09/09/04 18:20

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|---|---|
| d4-1,2-Dichloroethane | 104% |
| d8-Toluene | 97.8% |
| Bromofluorobenzene | 88.2% |
| d4-1,2-Dichlorobenzene | 94.8% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MW-105**
Page 1 of 2 **SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: FINN3/PAB
Date Analyzed: 09/10/04 18:02

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| **67-64-1** | **Acetone** | **1.0** | **7.6** |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| **78-93-3** | **2-Butanone** | **1.0** | **2.1** |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MW-105**
 **SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Date Analyzed: 09/10/04 18:02

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 108% |
| d8-Toluene | 104% |
| Bromofluorobenzene | 91.8% |
| d4-1,2-Dichlorobenzene | 104% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B
Page 1 of 2

Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: FINN3/PAB
Date Analyzed: 09/10/04 18:31

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| **67-64-1** | **Acetone** | **1.0** | **7.8** |
| 75-15-0 | Carbon Disulfide | 0.2 | < 0.2 U |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| **78-93-3** | **2-Butanone** | **1.0** | **2.0** |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| 100-42-5 | Styrene | 0.2 | < 0.2 U |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Date Analyzed: 09/10/04 18:31

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| 99-87-6 | 4-Isopropyltoluene | 0.2 | < 0.2 U |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

Volatile Surrogate Recovery

| | |
|---|---|
| d4-1,2-Dichloroethane | 110% |
| d8-Toluene | 106% |
| Bromofluorobenzene | 94.0% |
| d4-1,2-Dichlorobenzene | 105% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Purge & Trap GC/MS-Method 8260B** **Sample ID: MW-107**
 **SAMPLE**

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/15/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: FINN3/PAB
Date Analyzed: 09/10/04 19:00

Sample Amount: 20.0 mL
Purge Volume: 20.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 74-87-3 | Chloromethane | 0.2 | < 0.2 U |
| 74-83-9 | Bromomethane | 0.2 | < 0.2 U |
| 75-01-4 | Vinyl Chloride | 0.2 | < 0.2 U |
| 75-00-3 | Chloroethane | 0.2 | < 0.2 U |
| 75-09-2 | Methylene Chloride | 0.3 | < 0.3 U |
| **67-64-1** | **Acetone** | **1.0** | **7.6** |
| **75-15-0** | **Carbon Disulfide** | **0.2** | **0.3** |
| 75-35-4 | 1,1-Dichloroethene | 0.2 | < 0.2 U |
| 75-34-3 | 1,1-Dichloroethane | 0.2 | < 0.2 U |
| 156-60-5 | trans-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 156-59-2 | cis-1,2-Dichloroethene | 0.2 | < 0.2 U |
| 67-66-3 | Chloroform | 0.2 | < 0.2 U |
| 107-06-2 | 1,2-Dichloroethane | 0.2 | < 0.2 U |
| **78-93-3** | **2-Butanone** | **1.0** | **1.9** |
| 71-55-6 | 1,1,1-Trichloroethane | 0.2 | < 0.2 U |
| 56-23-5 | Carbon Tetrachloride | 0.2 | < 0.2 U |
| 108-05-4 | Vinyl Acetate | 0.2 | < 0.2 U |
| 75-27-4 | Bromodichloromethane | 0.2 | < 0.2 U |
| 78-87-5 | 1,2-Dichloropropane | 0.2 | < 0.2 U |
| 10061-01-5 | cis-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 79-01-6 | Trichloroethene | 0.2 | < 0.2 U |
| 124-48-1 | Dibromochloromethane | 0.2 | < 0.2 U |
| 79-00-5 | 1,1,2-Trichloroethane | 0.2 | < 0.2 U |
| 71-43-2 | Benzene | 0.2 | < 0.2 U |
| 10061-02-6 | trans-1,3-Dichloropropene | 0.2 | < 0.2 U |
| 110-75-8 | 2-Chloroethylvinylether | 0.5 | < 0.5 U |
| 75-25-2 | Bromoform | 0.2 | < 0.2 U |
| 108-10-1 | 4-Methyl-2-Pentanone (MIBK) | 1.0 | < 1.0 U |
| 591-78-6 | 2-Hexanone | 1.0 | < 1.0 U |
| 127-18-4 | Tetrachloroethene | 0.2 | < 0.2 U |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 108-88-3 | Toluene | 0.2 | < 0.2 U |
| 108-90-7 | Chlorobenzene | 0.2 | < 0.2 U |
| 100-41-4 | Ethylbenzene | 0.2 | < 0.2 U |
| **100-42-5** | **Styrene** | **0.2** | **0.2** |
| 75-69-4 | Trichlorofluoromethane | 0.2 | < 0.2 U |
| 76-13-1 | 1,1,2-Trichloro-1,2,2-trifluoroe | 0.2 | < 0.2 U |
| 1330-20-7 | m,p-Xylene | 0.4 | < 0.4 U |
| 95-47-6 | o-Xylene | 0.2 | < 0.2 U |
| 95-50-1 | 1,2-Dichlorobenzene | 0.2 | < 0.2 U |
| 541-73-1 | 1,3-Dichlorobenzene | 0.2 | < 0.2 U |
| 106-46-7 | 1,4-Dichlorobenzene | 0.2 | < 0.2 U |
| 107-02-8 | Acrolein | 5.0 | < 5.0 U |
| 74-88-4 | Methyl Iodide | 0.2 | < 0.2 U |
| 74-96-4 | Bromoethane | 0.2 | < 0.2 U |
| 107-13-1 | Acrylonitrile | 1.0 | < 1.0 U |
| 563-58-6 | 1,1-Dichloropropene | 0.2 | < 0.2 U |
| 74-95-3 | Dibromomethane | 0.2 | < 0.2 U |
| 630-20-6 | 1,1,1,2-Tetrachloroethane | 0.2 | < 0.2 U |
| 96-12-8 | 1,2-Dibromo-3-chloropropane | 2.0 | < 2.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Date Analyzed: 09/10/04 19:00

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 96-18-4 | 1,2,3-Trichloropropane | 0.5 | < 0.5 U |
| 110-57-6 | trans-1,4-Dichloro-2-butene | 1.0 | < 1.0 U |
| 108-67-8 | 1,3,5-Trimethylbenzene | 0.2 | < 0.2 U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 0.2 | < 0.2 U |
| 87-68-3 | Hexachlorobutadiene | 0.5 | < 0.5 U |
| 106-93-4 | Ethylene Dibromide | 0.2 | < 0.2 U |
| 74-97-5 | Bromochloromethane | 0.2 | < 0.2 U |
| 594-20-7 | 2,2-Dichloropropane | 0.2 | < 0.2 U |
| 142-28-9 | 1,3-Dichloropropane | 0.2 | < 0.2 U |
| 98-82-8 | Isopropylbenzene | 0.2 | < 0.2 U |
| 103-65-1 | n-Propylbenzene | 0.2 | < 0.2 U |
| 108-86-1 | Bromobenzene | 0.2 | < 0.2 U |
| 95-49-8 | 2-Chlorotoluene | 0.2 | < 0.2 U |
| 106-43-4 | 4-Chlorotoluene | 0.2 | < 0.2 U |
| 98-06-6 | tert-Butylbenzene | 0.2 | < 0.2 U |
| 135-98-8 | sec-Butylbenzene | 0.2 | < 0.2 U |
| **99-87-6** | **4-Isopropyltoluene** | **0.2** | **1.2** |
| 104-51-8 | n-Butylbenzene | 0.2 | < 0.2 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 0.5 | < 0.5 U |
| 91-20-3 | Naphthalene | 0.5 | < 0.5 U |
| 87-61-6 | 1,2,3-Trichlorobenzene | 0.5 | < 0.5 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 107% |
| d8-Toluene | 107% |
| Bromofluorobenzene | 94.8% |
| d4-1,2-Dichlorobenzene | 104% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Selected Ion Monitoring GC/MS
Page 1 of 1

Sample ID: MB-090904
METHOD BLANK

Lab Sample ID: MB-090904
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 11:28

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 109% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Selected Ion Monitoring GC/MS** **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: HA23L
LIMS ID: 04-13892
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled:
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 16:38

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 105% |

ANALYTICAL RESOURCES INCORPORATED

## SW8260-SIM SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | DCA | TOT OUT |
|---|---|---|
| MB-090904 | 109% | 0 |
| LCS-090904 | 91.6% | 0 |
| LCSD-090904 | 112% | 0 |
| MW-101 | 114% | 0 |
| MW-103 | 99.1% | 0 |
| MW-105 | 115% | 0 |
| MW-106 | 109% | 0 |
| MW-107 | 103% | 0 |
| Trip Blank | 105% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (DCA) = d4-1,2-Dichloroethane | (78-122) | (67-138) |

Prep Method: SW5030
Log Number Range: 04-13881 to 04-13892

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Selected Ion Monitoring GC/MS**
Page 1 of 1

**Sample ID: LCS-090904**
**LCS/LCSD**

Lab Sample ID: LCS-090904
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/JA
LCSD: NT5/JA
Date Analyzed LCS: 09/09/04 10:28
LCSD: 09/09/04 10:58

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Vinyl Chloride | 0.417 | 0.500 | 83.4% | 0.383 | 0.500 | 76.6% | 8.5% |

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

**SIM Volatile Surrogate Recovery**

| | LCS | LCSD |
|---|---|---|
| d4-1,2-Dichloroethane | 91.6% | 112% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Selected Ion Monitoring GC/MS** **Sample ID: MW-101**
Page 1 of 1 **SAMPLE**

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 14:10

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 114% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Selected Ion Monitoring GC/MS
Page 1 of 1

Sample ID: MW-103
SAMPLE

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 14:39

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 99.1% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Selected Ion Monitoring GC/MS** **Sample ID: MW-105**
Page 1 of 1 **SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 15:09

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 115% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Selected Ion Monitoring GC/MS


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 15:39

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 109% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Volatiles by Selected Ion Monitoring GC/MS** **Sample ID: MW-107**
Page 1 of 1 **SAMPLE**

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Instrument/Analyst: NT5/JA
Date Analyzed: 09/09/04 16:08

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 75-01-4 | Vinyl Chloride | 0.020 | < 0.020 U |

Reported in µg/L (ppb)

**Volatile Surrogate Recovery**

| | |
|---|---|
| d4-1,2-Dichloroethane | 103% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MB-090304
METHOD BLANK

Lab Sample ID: MB-090304
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 20:04
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| 106-44-5 | 4-Methylphenol | 1.0 | < 1.0 U |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MB-090304
METHOD BLANK

Lab Sample ID: MB-090304
LIMS ID: 04-13881
Matrix: Water
Date Analyzed: 09/11/04 20:04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 81.3% | 2-Fluorobiphenyl | 79.0% |
| d14-p-Terphenyl | 85.8% | d4-1,2-Dichlorobenzene | 67.5% |
| d5-Phenol | 74.6% | 2-Fluorophenol | 73.4% |
| 2,4,6-Tribromophenol | 84.8% | d4-2-Chlorophenol | 81.6% |

ANALYTICAL RESOURCES INCORPORATED

## SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | NBZ | FBP | TPH | DCB | PHL | 2FP | TBP | 2CP | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| MB-090304 | 81.3% | 79.0% | 85.8% | 67.5% | 74.6% | 73.4% | 84.8% | 81.6% | 0 |
| LCS-090304 | 89.4% | 87.9% | 96.7% | 82.3% | 87.1% | 82.1% | 93.5% | 89.2% | 0 |
| MW-101 | 81.4% | 77.3% | 70.6% | 64.2% | 73.3% | 74.6% | 87.1% | 79.8% | 0 |
| MW-103 | 83.8% | 80.0% | 76.3% | 72.6% | 79.3% | 80.2% | 88.3% | 85.4% | 0 |
| MW-105 | 76.4% | 70.7% | 74.0% | 59.1% | 68.8% | 69.7% | 79.9% | 75.0% | 0 |
| MW-106 | 88.7% | 82.8% | 82.3% | 76.4% | 79.2% | 78.5% | 92.4% | 86.7% | 0 |
| MW-107 | 83.7% | 81.0% | 76.0% | 74.2% | 73.2% | 72.9% | 87.0% | 81.4% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (NBZ) = d5-Nitrobenzene | (44-107) | (38-111) |
| (FBP) = 2-Fluorobiphenyl | (43-99) | (30-109) |
| (TPH) = d14-p-Terphenyl | (44-123) | (37-113) |
| (DCB) = d4-1,2-Dichlorobenzene | (36-88) | (35-88) |
| (PHL) = d5-Phenol | (47-101) | (42-98) |
| (2FP) = 2-Fluorophenol | (44-102) | (40-99) |
| (TBP) = 2,4,6-Tribromophenol | (38-116) | (27-136) |
| (2CP) = d4-2-Chlorophenol | (50-102) | (47-101) |

Prep Method: SW3520C
Log Number Range: 04-13881 to 04-13885

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: LCS-090304
LAB CONTROL

Lab Sample ID: LCS-090304
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 20:36
Instrument/Analyst: NT6/LJR
GPC Cleanup: NO

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| Analyte | Lab Control | Spike Added | Recovery |
|---|---|---|---|
| Phenol | 31.1 | 37.5 | 82.9% |
| 2-Chlorophenol | 31.8 | 37.5 | 84.8% |
| 1,4-Dichlorobenzene | 17.4 | 25.0 | 69.6% |
| N-Nitroso-Di-N-Propylamine | 18.3 | 25.0 | 73.2% |
| 1,2,4-Trichlorobenzene | 18.4 | 25.0 | 73.6% |
| 4-Chloro-3-methylphenol | 33.8 | 37.5 | 90.1% |
| Acenaphthene | 21.7 | 25.0 | 86.8% |
| 4-Nitrophenol | 32.0 | 37.5 | 85.3% |
| 2,4-Dinitrotoluene | 20.9 | 25.0 | 83.6% |
| Pentachlorophenol | 38.0 | 37.5 | 101% |
| Pyrene | 22.3 | 25.0 | 89.2% |
| Guaiacol | 36.8 | 37.5 | 98.1% |
| 4,5-Dichloro-2-Methoxyphenol | 33.7 | 37.5 | 89.9% |
| 4,5,6-Trichloroguaiacol | 33.4 | 37.5 | 89.1% |
| 3,4,5-Trichloroguaiacol | 34.0 | 37.5 | 90.7% |
| Tetrachloroguaiacol | 68.4 | 75.0 | 91.2% |

| Semivolatile Surrogate Recovery | |
|---|---|
| d5-Nitrobenzene | 89.4% |
| 2-Fluorobiphenyl | 87.9% |
| d14-p-Terphenyl | 96.7% |
| d4-1,2-Dichlorobenzene | 82.3% |
| d5-Phenol | 87.1% |
| 2-Fluorophenol | 82.1% |
| 2,4,6-Tribromophenol | 93.5% |
| d4-2-Chlorophenol | 89.2% |

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 21:08
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| 106-44-5 | 4-Methylphenol | 1.0 | < 1.0 U |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Date Analyzed: 09/11/04 21:08

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 81.4% | 2-Fluorobiphenyl | 77.3% |
| d14-p-Terphenyl | 70.6% | d4-1,2-Dichlorobenzene | 64.2% |
| d5-Phenol | 73.3% | 2-Fluorophenol | 74.6% |
| 2,4,6-Tribromophenol | 87.1% | d4-2-Chlorophenol | 79.8% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-103
SAMPLE

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 21:40
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| **106-44-5** | **4-Methylphenol** | **1.0** | **1.0** |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-103
SAMPLE

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Date Analyzed: 09/11/04 21:40

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 83.8% | 2-Fluorobiphenyl | 80.0% |
| d14-p-Terphenyl | 76.3% | d4-1,2-Dichlorobenzene | 72.6% |
| d5-Phenol | 79.3% | 2-Fluorophenol | 80.2% |
| 2,4,6-Tribromophenol | 88.3% | d4-2-Chlorophenol | 85.4% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Semivolatiles by SW8270C GC/MS** **Sample ID: MW-105**
Page 1 of 2 **SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 22:12
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| 106-44-5 | 4-Methylphenol | 1.0 | < 1.0 U |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Semivolatiles by SW8270C GC/MS** **Sample ID: MW-105**
Page 2 of 2 **SAMPLE**

Lab Sample ID: HA23C QC Report No: HA23-Landau Associates
LIMS ID: 04-13883 Project: Port of Anacortes Uplands
Matrix: Water 529009
Date Analyzed: 09/11/04 22:12

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 76.4% | 2-Fluorobiphenyl | 70.7% |
| d14-p-Terphenyl | 74.0% | d4-1,2-Dichlorobenzene | 59.1% |
| d5-Phenol | 68.8% | 2-Fluorophenol | 69.7% |
| 2,4,6-Tribromophenol | 79.9% | d4-2-Chlorophenol | 75.0% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 22:44
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| 106-44-5 | 4-Methylphenol | 1.0 | < 1.0 U |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Date Analyzed: 09/11/04 22:44

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 88.7% | 2-Fluorobiphenyl | 82.8% |
| d14-p-Terphenyl | 82.3% | d4-1,2-Dichlorobenzene | 76.4% |
| d5-Phenol | 79.2% | 2-Fluorophenol | 78.5% |
| 2,4,6-Tribromophenol | 92.4% | d4-2-Chlorophenol | 86.7% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Semivolatiles by SW8270C GC/MS**


**Sample ID: MW-107**
**SAMPLE**

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/11/04 23:17
Instrument/Analyst: NT6/LJR

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 108-95-2 | Phenol | 2.0 | < 2.0 U |
| 111-44-4 | Bis-(2-Chloroethyl) Ether | 2.0 | < 2.0 U |
| 95-57-8 | 2-Chlorophenol | 1.0 | < 1.0 U |
| 541-73-1 | 1,3-Dichlorobenzene | 1.0 | < 1.0 U |
| 106-46-7 | 1,4-Dichlorobenzene | 1.0 | < 1.0 U |
| 100-51-6 | Benzyl Alcohol | 5.0 | < 5.0 U |
| 95-50-1 | 1,2-Dichlorobenzene | 1.0 | < 1.0 U |
| 95-48-7 | 2-Methylphenol | 1.0 | < 1.0 U |
| 108-60-1 | 2,2'-Oxybis(1-Chloropropane) | 1.0 | < 1.0 U |
| 106-44-5 | 4-Methylphenol | 1.0 | < 1.0 U |
| 621-64-7 | N-Nitroso-Di-N-Propylamine | 2.0 | < 2.0 U |
| 67-72-1 | Hexachloroethane | 2.0 | < 2.0 U |
| 98-95-3 | Nitrobenzene | 1.0 | < 1.0 U |
| 78-59-1 | Isophorone | 1.0 | < 1.0 U |
| 88-75-5 | 2-Nitrophenol | 5.0 | < 5.0 U |
| 105-67-9 | 2,4-Dimethylphenol | 3.0 | < 3.0 U |
| 65-85-0 | Benzoic Acid | 10 | < 10 U |
| 111-91-1 | bis(2-Chloroethoxy) Methane | 1.0 | < 1.0 U |
| 120-83-2 | 2,4-Dichlorophenol | 3.0 | < 3.0 U |
| 120-82-1 | 1,2,4-Trichlorobenzene | 1.0 | < 1.0 U |
| 91-20-3 | Naphthalene | 1.0 | < 1.0 U |
| 106-47-8 | 4-Chloroaniline | 3.0 | < 3.0 U |
| 87-68-3 | Hexachlorobutadiene | 2.0 | < 2.0 U |
| 59-50-7 | 4-Chloro-3-methylphenol | 2.0 | < 2.0 U |
| 91-57-6 | 2-Methylnaphthalene | 1.0 | < 1.0 U |
| 77-47-4 | Hexachlorocyclopentadiene | 5.0 | < 5.0 U |
| 88-06-2 | 2,4,6-Trichlorophenol | 5.0 | < 5.0 U |
| 95-95-4 | 2,4,5-Trichlorophenol | 5.0 | < 5.0 U |
| 91-58-7 | 2-Chloronaphthalene | 1.0 | < 1.0 U |
| 88-74-4 | 2-Nitroaniline | 5.0 | < 5.0 U |
| 131-11-3 | Dimethylphthalate | 1.0 | < 1.0 U |
| 208-96-8 | Acenaphthylene | 1.0 | < 1.0 U |
| 99-09-2 | 3-Nitroaniline | 6.0 | < 6.0 U |
| 83-32-9 | Acenaphthene | 1.0 | < 1.0 U |
| 51-28-5 | 2,4-Dinitrophenol | 25 | < 25 U |
| 100-02-7 | 4-Nitrophenol | 5.0 | < 5.0 U |
| 132-64-9 | Dibenzofuran | 1.0 | < 1.0 U |
| 606-20-2 | 2,6-Dinitrotoluene | 5.0 | < 5.0 U |
| 121-14-2 | 2,4-Dinitrotoluene | 5.0 | < 5.0 U |
| 84-66-2 | Diethylphthalate | 1.0 | < 1.0 U |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Date Analyzed: 09/11/04 23:17

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 7005-72-3 | 4-Chlorophenyl-phenylether | 1.0 | < 1.0 U |
| 86-73-7 | Fluorene | 1.0 | < 1.0 U |
| 100-01-6 | 4-Nitroaniline | 5.0 | < 5.0 U |
| 534-52-1 | 4,6-Dinitro-2-Methylphenol | 15 | < 15 U |
| 86-30-6 | N-Nitrosodiphenylamine | 1.0 | < 1.0 U |
| 101-55-3 | 4-Bromophenyl-phenylether | 1.0 | < 1.0 U |
| 118-74-1 | Hexachlorobenzene | 1.0 | < 1.0 U |
| 87-86-5 | Pentachlorophenol | 5.0 | < 5.0 U |
| 85-01-8 | Phenanthrene | 1.0 | < 1.0 U |
| 86-74-8 | Carbazole | 1.0 | < 1.0 U |
| 120-12-7 | Anthracene | 1.0 | < 1.0 U |
| 84-74-2 | Di-n-Butylphthalate | 1.0 | < 1.0 U |
| 206-44-0 | Fluoranthene | 1.0 | < 1.0 U |
| 129-00-0 | Pyrene | 1.0 | < 1.0 U |
| 85-68-7 | Butylbenzylphthalate | 1.0 | < 1.0 U |
| 91-94-1 | 3,3'-Dichlorobenzidine | 5.0 | < 5.0 U |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 1.0 | < 1.0 U |
| 117-84-0 | Di-n-Octyl phthalate | 1.0 | < 1.0 U |
| 191-24-2 | Benzo(g,h,i)perylene | 1.0 | < 1.0 U |
| 90-05-1 | Guaiacol | 2.0 | < 2.0 U |
| 2460-49-3 | 4,5-Dichloro-2-Methoxyphenol | 5.0 | < 5.0 U |
| 2668-24-8 | 4,5,6-Trichloroguaiacol | 5.0 | < 5.0 U |
| 57057-83-7 | 3,4,5-Trichloroguaiacol | 7.5 | < 7.5 U |
| 2539-17-5 | Tetrachloroguaiacol | 7.5 | < 7.5 U |

Reported in µg/L (ppb)

**Semivolatile Surrogate Recovery**

| | | | |
|---|---|---|---|
| d5-Nitrobenzene | 83.7% | 2-Fluorobiphenyl | 81.0% |
| d14-p-Terphenyl | 76.0% | d4-1,2-Dichlorobenzene | 74.2% |
| d5-Phenol | 73.2% | 2-Fluorophenol | 72.9% |
| 2,4,6-Tribromophenol | 87.0% | d4-2-Chlorophenol | 81.4% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS


Sample ID: MB-090304
METHOD BLANK

Lab Sample ID: MB-090304
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/03/04
Date Analyzed: 09/08/04 08:33
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 72.7% |
| d14-Dibenzo(a,h)anthracene | 89.7% |

ANALYTICAL RESOURCES INCORPORATED

## SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | MNP | DBA | TOT OUT |
|---|---|---|---|
| MB-090304 | 72.7% | 89.7% | 0 |
| LCS-090304 | 55.0% | 102% | 0 |
| MW-101 | 42.3% | 43.3% | 0 |
| MW-103 | 64.0% | 82.7% | 0 |
| MW-105 | 59.3% | 84.7% | 0 |
| MW-106 | 58.7% | 73.7% | 0 |
| MW-107 | 52.7% | 71.7% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (MNP) = d10-2-Methylnaphthalene | (48-107) | (34-120) |
| (DBA) = d14-Dibenzo(a,h)anthracene | (37-128) | (14-141) |

Prep Method: SW3520C
Log Number Range: 04-13881 to 04-13885

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PNAs by SW8270C SIM GC/MS**


**Sample ID: LCS-090304**
**LAB CONTROL**

Lab Sample ID: LCS-090304
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 16:57
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| Analyte | Lab Control | Spike Added | Recovery |
|---|---|---|---|
| Chrysene | 0.202 | 0.300 | 67.3% |
| Benzo(k)fluoranthene | 0.176 | 0.300 | 58.7% |

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 55.0% |
| d14-Dibenzo(a,h)anthracen | 102% |

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS


**Sample ID: MW-101**
**SAMPLE**

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 20:11
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 42.3% |
| d14-Dibenzo(a,h)anthracene | 43.3% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**SW8270C SIM GC/MS**
Page 1 of 1

**Sample ID: MW-103**
**SAMPLE**

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 20:33
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 64.0% |
| d14-Dibenzo(a,h)anthracene | 82.7% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS


Sample ID: MW-105
SAMPLE

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 20:54
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

| SIM Semivolatile Surrogate Recovery | |
|---|---|
| d10-2-Methylnaphthalene | 59.3% |
| d14-Dibenzo(a,h)anthracene | 84.7% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**SW8270C SIM GC/MS**
Page 1 of 1

**Sample ID: MW-106**
**SAMPLE**

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 21:16
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 58.7% |
| d14-Dibenzo(a,h)anthracene | 73.7% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**SW8270C SIM GC/MS**
Page 1 of 1

**Sample ID: MW-107**
**SAMPLE**

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/03/04
Date Analyzed: 09/07/04 21:37
Instrument/Analyst: NT2/Van

Sample Amount: 500 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 56-55-3 | Benzo(a)anthracene | 0.010 | < 0.010 U |
| 218-01-9 | Chrysene | 0.010 | < 0.010 U |
| 205-99-2 | Benzo(b)fluoranthene | 0.010 | < 0.010 U |
| 207-08-9 | Benzo(k)fluoranthene | 0.010 | < 0.010 U |
| 50-32-8 | Benzo(a)pyrene | 0.010 | < 0.010 U |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 0.010 | < 0.010 U |
| 53-70-3 | Dibenz(a,h)anthracene | 0.010 | < 0.010 U |

Reported in µg/L (ppb)

**SIM Semivolatile Surrogate Recovery**

| | |
|---|---|
| d10-2-Methylnaphthalene | 52.7% |
| d14-Dibenzo(a,h)anthracene | 71.7% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS


Sample No: Method Blank

Lab Sample ID: HA23MB
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: NA
Date Received: NA

Date extracted: 09/06/04
Date analyzed: 09/08/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 78.8%

ORGANICS ANALYSIS DATA SHEET
**Resin Acids by GC/MS**
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

**Sample No: Method Blank**

Lab Sample ID: HA23MB
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: NA
Date Received: NA

Date extracted: 09/17/04
Date analyzed: 09/22/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 93.4%

ANALYTICAL RESOURCES INCORPORATED

## WATER RESIN ACID SURROGATE SUMMARY

Matrix: Water

QC Report No: HA23
Project: Port of Anacortes Uplands
529009

| LIMS ID | Lab ID | Client ID | OMPA # | TOT OUT |
|---|---|---|---|---|
| 04-13881MB | 090604MB | Method Blank | 78.8% | 0 |
| 04-13881SB | 090604SB | Lab Control | 82.6% | 0 |
| 04-13881 | HA23A | MW-101 | 60.6% | 0 |
| 04-13882 | HA23B | MW-103 | 78.0% | 0 |
| 04-13883 | HA23C | MW-105 | 70.2% | 0 |
| 04-13884 | HA23D | MW-106 | 79.0% | 0 |
| 04-13885MB | 091704MB | Method Blank | 93.4% | 0 |
| 04-13885SB | 091704SB | Lab Control | 95.0% | 0 |
| 04-13885 | HA23E | MW-107 | 17.9% * | 1 |
| 04-13885RE | HA23E-RE | MW-107-RE | 86.8% | 0 |

| | QC LIMITS |
|---|---|
| (OMPA) = o-Methyl Podocarpic Acid | (30-150) |

\# Column to be used to flag recovery values

* Values outside of required QC limits

D Surrogate Compound diluted out

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Resin Acids by GC/MS**

Lab Sample ID: HA23SB
LIMS ID: 04-13881
Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

Data Release Authorized:
Reported: 09/09/04

| LABORATORY CONTROL SAMPLE CONSTITUENT | SPIKE VALUE | SPIKE ADDED | % RECOVERY |
|---|---|---|---|
| Pimaric Acid | 41.1 | 50.0 | 82.2% |
| Isopimaric Acid | 31.0 | 50.0 | 62.0% |
| Dehydroabietic Acid | 39.5 | 50.0 | 79.0% |
| Abietic Acid | 18.8 | 250 | 7.52% |

Spike Blank Surrogate Recovery

O-Methyl Podocarpic Acid 82.6%

Values reported in ug/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS

Lab Sample ID: HA23SB
LIMS ID: 04-13885
Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

Data Release Authorized:
Reported: 09/22/04

| LABORATORY CONTROL SAMPLE CONSTITUENT | SPIKE VALUE | SPIKE ADDED | % RECOVERY |
|---|---|---|---|
| Pimaric Acid | 46.7 | 50.0 | 93.4% |
| Isopimaric Acid | 34.6 | 50.0 | 69.2% |
| Dehydroabietic Acid | 44.4 | 50.0 | 88.8% |
| Abietic Acid | 19.5 | 250 | 7.80% |

Spike Blank Surrogate Recovery

O-Methyl Podocarpic Acid 95.0%

Values reported in ug/L

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

**Sample No: MW-101**

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/06/04
Date analyzed: 09/08/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 60.6%

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS


ANALYTICAL RESOURCES INCORPORATED

**Sample No: MW-103**

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/06/04
Date analyzed: 09/08/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

Resin Acids Surrogate Recovery

O-Methyl Podocarpic Acid 78.0%

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Resin Acids by GC/MS**
Page 1 of 1

**Sample No: MW-105**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/06/04
Date analyzed: 09/08/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 70.2%

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS


ANALYTICAL RESOURCES INCORPORATED

**Sample No: MW-106**

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/06/04
Date analyzed: 09/08/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 79.0%

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS


ANALYTICAL RESOURCES INCORPORATED

Sample No: MW-107

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/09/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/06/04
Date analyzed: 09/09/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 17.9%

ORGANICS ANALYSIS DATA SHEET
Resin Acids by GC/MS


ANALYTICAL RESOURCES INCORPORATED

Sample No: MW-107 REEXTRACTION

Lab Sample ID: HA23E-R
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date extracted: 09/17/04
Date analyzed: 09/22/04
Instrument: NT1

Sample Amount: 500 mL
Final Extract Volume: 0.5 mL
Dilution Factor: 1:1

| CAS Number | Analyte | ug/L |
|---|---|---|
| 127-27-5 | Pimaric Acid | 2.0 U |
| 471-74-9 | Sandaracopimaric Acid | 2.0 U |
| 5835-26-7 | Isopimaric Acid | 2.0 U |
| 1945-53-5 | Palustric Acid | 2.0 U |
| 1740-19-8 | Dehydroabietic Acid | 2.0 U |
| 514-10-3 | Abietic Acid | 2.0 U |
| 471-77-2 | Neoabietic Acid | 2.0 U |
| | 14-Chlorodehydroabietic Acid | 2.0 U |
| | 12-Chlorodehydroabietic Acid | 2.0 U |
| 57055-39-7 | Dichlorodehydroabietic Acid | 2.0 U |

**Resin Acids Surrogate Recovery**

O-Methyl Podocarpic Acid 86.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A


Sample ID: MB-090604
METHOD BLANK

Lab Sample ID: MB-090604
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/13/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 23:05
Instrument/Analyst: ECD4/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: NA
Florisil Cleanup: No
Silica Gel: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | < 0.050 U |
| 319-85-7 | beta-BHC | 0.050 | < 0.050 U |
| 319-86-8 | delta-BHC | 0.050 | < 0.050 U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | < 0.050 U |
| 76-44-8 | Heptachlor | 0.050 | < 0.050 U |
| 309-00-2 | Aldrin | 0.050 | < 0.050 U |
| 1024-57-3 | Heptachlor Epoxide | 0.050 | < 0.050 U |
| 959-98-8 | Endosulfan I | 0.050 | < 0.050 U |
| 60-57-1 | Dieldrin | 0.10 | < 0.10 U |
| 72-55-9 | 4,4'-DDE | 0.10 | < 0.10 U |
| 72-20-8 | Endrin | 0.10 | < 0.10 U |
| 33213-65-9 | Endosulfan II | 0.10 | < 0.10 U |
| 72-54-8 | 4,4'-DDD | 0.10 | < 0.10 U |
| 1031-07-8 | Endosulfan Sulfate | 0.10 | < 0.10 U |
| 50-29-3 | 4,4'-DDT | 0.10 | < 0.10 U |
| 72-43-5 | Methoxychlor | 0.50 | < 0.50 U |
| 53494-70-5 | Endrin Ketone | 0.10 | < 0.10 U |
| 7421-93-4 | Endrin Aldehyde | 0.10 | < 0.10 U |
| 5103-74-2 | gamma Chlordane | 0.050 | < 0.050 U |
| 5103-71-9 | alpha Chlordane | 0.050 | < 0.050 U |
| 8001-35-2 | Toxaphene | 5.0 | < 5.0 U |

Reported in µg/L (ppb)

**Pest/PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 64.5% |
| Tetrachlorometaxylene | 50.0% |

ANALYTICAL RESOURCES INCORPORATED

## SW8081/PESTICIDE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | DCBP | TCMX | TOT OUT |
|---|---|---|---|
| MB-090604 | 64.5% | 50.0% | 0 |
| LCS-090604 | 87.2% | 56.8% | 0 |
| MW-105 | 69.5% | 59.5% | 0 |
| MW-106 | 67.8% | 53.8% | 0 |
| MW-107 | 65.8% | 53.2% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (DCBP) = Decachlorobiphenyl | (64-119) | (10-133) |
| (TCMX) = Tetrachlorometaxylene | (45-94) | (17-110) |

Prep Method: SW3510C
Log Number Range: 04-13883 to 04-13885

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A


Sample ID: LCS-090604
LAB CONTROL

Lab Sample ID: LCS-090604
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/13/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 23:38
Instrument/Analyst: ECD4/YZ
GPC Cleanup: No
Florisil Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
Sulfur Cleanup: No
Silica Gel: No

| Analyte | Lab Control | Spike Added | Recovery |
|---|---|---|---|
| alpha-BHC | 0.191 | 0.200 | 95.5% |
| beta-BHC | 0.199 | 0.200 | 99.5% |
| delta-BHC | 0.182 | 0.200 | 91.0% |
| gamma-BHC (Lindane) | 0.189 | 0.200 | 94.5% |
| Heptachlor | 0.160 | 0.200 | 80.0% |
| Aldrin | 0.150 | 0.200 | 75.0% |
| Heptachlor Epoxide | 0.192 | 0.200 | 96.0% |
| Endosulfan I | 0.188 | 0.200 | 94.0% |
| Dieldrin | 0.380 | 0.400 | 95.0% |
| 4,4'-DDE | 0.360 | 0.400 | 90.0% |
| Endrin | 0.401 | 0.400 | 100% |
| Endosulfan II | 0.426 | 0.400 | 106% |
| 4,4'-DDD | 0.407 | 0.400 | 102% |
| Endosulfan Sulfate | 0.407 | 0.400 | 102% |
| 4,4'-DDT | 0.385 | 0.400 | 96.2% |
| Methoxychlor | 2.18 | 2.00 | 109% |
| Endrin Ketone | 0.394 | 0.400 | 98.5% |
| Endrin Aldehyde | 0.381 | 0.400 | 95.2% |
| gamma Chlordane | 0.183 | 0.200 | 91.5% |
| alpha Chlordane | 0.180 | 0.200 | 90.0% |

Pest/PCB Surrogate Recovery

| | |
|---|---|
| Decachlorobiphenyl | 87.2% |
| Tetrachlorometaxylene | 56.8% |

Results reported in µg/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**Pesticides/PCB by GC/ECD Method 8081A** **Sample ID: MW-105**
Page 1 of 1 **SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/13/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/11/04 00:12
Instrument/Analyst: ECD4/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: 7.0
Florisil Cleanup: No
Silica Gel: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | < 0.050 U |
| 319-85-7 | beta-BHC | 0.050 | < 0.050 U |
| 319-86-8 | delta-BHC | 0.050 | < 0.050 U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | < 0.050 U |
| 76-44-8 | Heptachlor | 0.050 | < 0.050 U |
| 309-00-2 | Aldrin | 0.050 | < 0.050 U |
| 1024-57-3 | Heptachlor Epoxide | 0.050 | < 0.050 U |
| 959-98-8 | Endosulfan I | 0.050 | < 0.050 U |
| 60-57-1 | Dieldrin | 0.10 | < 0.10 U |
| 72-55-9 | 4,4'-DDE | 0.10 | < 0.10 U |
| 72-20-8 | Endrin | 0.10 | < 0.10 U |
| 33213-65-9 | Endosulfan II | 0.10 | < 0.10 U |
| 72-54-8 | 4,4'-DDD | 0.10 | < 0.10 U |
| 1031-07-8 | Endosulfan Sulfate | 0.10 | < 0.10 U |
| 50-29-3 | 4,4'-DDT | 0.10 | < 0.10 U |
| 72-43-5 | Methoxychlor | 0.50 | < 0.50 U |
| 53494-70-5 | Endrin Ketone | 0.10 | < 0.10 U |
| 7421-93-4 | Endrin Aldehyde | 0.10 | < 0.10 U |
| 5103-74-2 | gamma Chlordane | 0.050 | < 0.050 U |
| 5103-71-9 | alpha Chlordane | 0.050 | < 0.050 U |
| 8001-35-2 | Toxaphene | 5.0 | < 5.0 U |

Reported in µg/L (ppb)

**Pest/PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 69.5% |
| Tetrachlorometaxylene | 59.5% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
**Pesticides/PCB by GC/ECD Method 8081A** **Sample ID: MW-106**
 **SAMPLE**

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/13/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/11/04 00:46
Instrument/Analyst: ECD4/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: 7.0
Florisil Cleanup: No
Silica Gel: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | < 0.050 U |
| 319-85-7 | beta-BHC | 0.050 | < 0.050 U |
| 319-86-8 | delta-BHC | 0.050 | < 0.050 U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | < 0.050 U |
| 76-44-8 | Heptachlor | 0.050 | < 0.050 U |
| 309-00-2 | Aldrin | 0.050 | < 0.050 U |
| 1024-57-3 | Heptachlor Epoxide | 0.050 | < 0.050 U |
| 959-98-8 | Endosulfan I | 0.050 | < 0.050 U |
| 60-57-1 | Dieldrin | 0.10 | < 0.10 U |
| 72-55-9 | 4,4'-DDE | 0.10 | < 0.10 U |
| 72-20-8 | Endrin | 0.10 | < 0.10 U |
| 33213-65-9 | Endosulfan II | 0.10 | < 0.10 U |
| 72-54-8 | 4,4'-DDD | 0.10 | < 0.10 U |
| 1031-07-8 | Endosulfan Sulfate | 0.10 | < 0.10 U |
| 50-29-3 | 4,4'-DDT | 0.10 | < 0.10 U |
| 72-43-5 | Methoxychlor | 0.50 | < 0.50 U |
| 53494-70-5 | Endrin Ketone | 0.10 | < 0.10 U |
| 7421-93-4 | Endrin Aldehyde | 0.10 | < 0.10 U |
| 5103-74-2 | gamma Chlordane | 0.050 | < 0.050 U |
| 5103-71-9 | alpha Chlordane | 0.050 | < 0.050 U |
| 8001-35-2 | Toxaphene | 5.0 | < 5.0 U |

Reported in µg/L (ppb)

**Pest/PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 67.8% |
| Tetrachlorometaxylene | 53.8% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/13/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/11/04 01:20
Instrument/Analyst: ECD4/YZ
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: 7.0
Florisil Cleanup: No
Silica Gel: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 319-84-6 | alpha-BHC | 0.050 | < 0.050 U |
| 319-85-7 | beta-BHC | 0.050 | < 0.050 U |
| 319-86-8 | delta-BHC | 0.050 | < 0.050 U |
| 58-89-9 | gamma-BHC (Lindane) | 0.050 | < 0.050 U |
| 76-44-8 | Heptachlor | 0.050 | < 0.050 U |
| 309-00-2 | Aldrin | 0.050 | < 0.050 U |
| 1024-57-3 | Heptachlor Epoxide | 0.050 | < 0.050 U |
| 959-98-8 | Endosulfan I | 0.050 | < 0.050 U |
| 60-57-1 | Dieldrin | 0.10 | < 0.10 U |
| 72-55-9 | 4,4'-DDE | 0.10 | < 0.10 U |
| 72-20-8 | Endrin | 0.10 | < 0.10 U |
| 33213-65-9 | Endosulfan II | 0.10 | < 0.10 U |
| 72-54-8 | 4,4'-DDD | 0.10 | < 0.10 U |
| 1031-07-8 | Endosulfan Sulfate | 0.10 | < 0.10 U |
| 50-29-3 | 4,4'-DDT | 0.10 | < 0.10 U |
| 72-43-5 | Methoxychlor | 0.50 | < 0.50 U |
| 53494-70-5 | Endrin Ketone | 0.10 | < 0.10 U |
| 7421-93-4 | Endrin Aldehyde | 0.10 | < 0.10 U |
| 5103-74-2 | gamma Chlordane | 0.050 | < 0.050 U |
| 5103-71-9 | alpha Chlordane | 0.050 | < 0.050 U |
| 8001-35-2 | Toxaphene | 5.0 | < 5.0 U |

Reported in µg/L (ppb)

| Pest/PCB Surrogate Recovery | |
|---|---|
| Decachlorobiphenyl | 65.8% |
| Tetrachlorometaxylene | 53.2% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MB-090604
METHOD BLANK

Lab Sample ID: MB-090604
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/06/04
Date Analyzed: 09/09/04 18:44
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.015 | < 0.015 U |
| 12672-29-6 | Aroclor 1248 | 0.015 | < 0.015 U |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.015 | < 0.015 U |
| 11141-16-5 | Aroclor 1232 | 0.015 | < 0.015 U |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 74.8% |
| Tetrachlorometaxylene | 41.2% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MB-091604
METHOD BLANK

Lab Sample ID: MB-091604
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 15:12
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.015 | < 0.015 U |
| 12672-29-6 | Aroclor 1248 | 0.015 | < 0.015 U |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.015 | < 0.015 U |
| 11141-16-5 | Aroclor 1232 | 0.015 | < 0.015 U |

Reported in µg/L (ppb)

| PCB Surrogate Recovery | |
|---|---|
| Decachlorobiphenyl | 97.8% |
| Tetrachlorometaxylene | 47.5% |

ANALYTICAL RESOURCES INCORPORATED

## SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | DCBP | TCMX | TOT OUT |
|---|---|---|---|
| MB-090604 | 74.8% | 41.2% | 0 |
| LCS-090604 | 72.8% | 39.2% | 0 |
| MW-101 | 73.8% | 38.8% | 0 |
| MB-091604 | 97.8% | 47.5% | 0 |
| LCS-091604 | 83.2% | 47.2% | 0 |
| MW-103 | 101% | 39.8% | 0 |
| MW-103 RE | 81.2% | 51.5% | 0 |
| MW-105 | 55.0% | 40.8% | 0 |
| MW-105 RE | 56.8% | 36.2% | 0 |
| MW-106 | 48.8% | 24.2%* | 1 |
| MW-106 RE | 29.0% | 17.0%* | 1 |
| MW-107 | 66.0% | 44.0% | 0 |
| MW-107 RE | 49.2% | 33.2% | 0 |
| MW-110B | 42.0% | 32.8% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (DCBP) = Decachlorobiphenyl | (42-138) | (25-134) |
| (TCMX) = Tetrachlorometaxylene | (32-117) | (25-118) |

Prep Method: SW3510C
Log Number Range: 04-13881 to 04-13886

FORM-II SW8082

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PCB by GC/ECD Method SW8082**
Page 1 of 1

**Sample ID: LCS-090604**
**LAB CONTROL**

Lab Sample ID: LCS-090604
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/09/04 19:04
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| Analyte | Lab Control | Spike Added | Recovery |
|---|---|---|---|
| Aroclor 1016 | 0.137 | 0.256 | 53.5% |
| Aroclor 1260 | 0.162 | 0.256 | 63.3% |

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 72.8% |
| Tetrachlorometaxylene | 39.2% |

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: LCS-091604
LAB CONTROL

Lab Sample ID: LCS-091604
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 15:32
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| Analyte | Lab Control | Spike Added | Recovery |
|---|---|---|---|
| Aroclor 1016 | 0.162 | 0.256 | 63.3% |
| Aroclor 1260 | 0.182 | 0.256 | 71.1% |

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 83.2% |
| Tetrachlorometaxylene | 47.2% |

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/09/04 19:24
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.10 | < 0.10 Y |
| 12672-29-6 | Aroclor 1248 | 0.025 | < 0.025 Y |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.15 | < 0.15 Y |
| 11141-16-5 | Aroclor 1232 | 0.050 | < 0.050 Y |

Reported in µg/L (ppb)

| PCB Surrogate Recovery | |
|---|---|
| Decachlorobiphenyl | 73.8% |
| Tetrachlorometaxylene | 38.8% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PCB by GC/ECD Method SW8082**


**Sample ID: MW-103**
**SAMPLE**

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/09/04 19:44
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.050 | < 0.050 Y |
| 53469-21-9 | Aroclor 1242 | 0.050 | < 0.050 Y |
| 12672-29-6 | Aroclor 1248 | 0.025 | < 0.025 Y |
| 11097-69-1 | Aroclor 1254 | 0.025 | < 0.025 Y |
| 11096-82-5 | Aroclor 1260 | 0.025 | < 0.025 Y |
| 11104-28-2 | Aroclor 1221 | 0.050 | < 0.050 Y |
| 11141-16-5 | Aroclor 1232 | 0.050 | < 0.050 Y |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 101% |
| Tetrachlorometaxylene | 39.8% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-103
REEXTRACT

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 15:53
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 850 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.018 | < 0.018 U |
| 53469-21-9 | Aroclor 1242 | 0.018 | < 0.018 U |
| 12672-29-6 | Aroclor 1248 | 0.018 | < 0.018 U |
| 11097-69-1 | Aroclor 1254 | 0.018 | < 0.018 U |
| 11096-82-5 | Aroclor 1260 | 0.018 | < 0.018 U |
| 11104-28-2 | Aroclor 1221 | 0.018 | < 0.018 U |
| 11141-16-5 | Aroclor 1232 | 0.018 | < 0.018 U |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 81.2% |
| Tetrachlorometaxylene | 51.5% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PCB by GC/ECD Method SW8082**
Page 1 of 1

**Sample ID: MW-105**
**SAMPLE**

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 16:23
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.050 | < 0.050 Y |
| 12672-29-6 | Aroclor 1248 | 0.10 | < 0.10 Y |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.050 | < 0.050 Y |
| 11141-16-5 | Aroclor 1232 | 0.050 | < 0.050 Y |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 55.0% |
| Tetrachlorometaxylene | 40.8% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-105
REEXTRACT

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 16:13
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.015 | < 0.015 U |
| 12672-29-6 | Aroclor 1248 | 0.015 | < 0.015 U |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.015 | < 0.015 U |
| 11141-16-5 | Aroclor 1232 | 0.015 | < 0.015 U |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 56.8% |
| Tetrachlorometaxylene | 36.2% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PCB by GC/ECD Method SW8082**
Page 1 of 1

**Sample ID: MW-106**
**SAMPLE**

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 16:43
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.10 | < 0.10 Y |
| 53469-21-9 | Aroclor 1242 | 0.10 | < 0.10 Y |
| 12672-29-6 | Aroclor 1248 | 0.25 | < 0.25 Y |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.10 | < 0.10 Y |
| 11141-16-5 | Aroclor 1232 | 0.10 | < 0.10 Y |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 48.8% |
| Tetrachlorometaxylene | 24.2% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-106
REEXTRACT

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 16:34
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.015 | < 0.015 U |
| 12672-29-6 | Aroclor 1248 | 0.015 | < 0.015 U |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.015 | < 0.015 U |
| 11141-16-5 | Aroclor 1232 | 0.015 | < 0.015 U |

Reported in µg/L (ppb)

| PCB Surrogate Recovery | |
|---|---|
| Decachlorobiphenyl | 29.0% |
| Tetrachlorometaxylene | 17.0% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 17:03
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: No

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: No

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.040 | < 0.040 Y |
| 53469-21-9 | Aroclor 1242 | 0.030 | < 0.030 Y |
| 12672-29-6 | Aroclor 1248 | 0.050 | < 0.050 Y |
| 11097-69-1 | Aroclor 1254 | 0.035 | < 0.035 Y |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.040 | < 0.040 Y |
| 11141-16-5 | Aroclor 1232 | 0.050 | < 0.050 Y |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 66.0% |
| Tetrachlorometaxylene | 44.0% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082


Sample ID: MW-107
REEXTRACT

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized:
Reported: 09/22/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/16/04
Date Analyzed: 09/20/04 16:54
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 910 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.016 | < 0.016 U |
| 53469-21-9 | Aroclor 1242 | 0.016 | < 0.016 U |
| 12672-29-6 | Aroclor 1248 | 0.016 | < 0.016 U |
| 11097-69-1 | Aroclor 1254 | 0.016 | < 0.016 U |
| 11096-82-5 | Aroclor 1260 | 0.016 | < 0.016 U |
| 11104-28-2 | Aroclor 1221 | 0.016 | < 0.016 U |
| 11141-16-5 | Aroclor 1232 | 0.016 | < 0.016 U |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 49.2% |
| Tetrachlorometaxylene | 33.2% |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**PCB by GC/ECD Method SW8082**
Page 1 of 1

**Sample ID: MW-110B**
**SAMPLE**

Lab Sample ID: HA23F
LIMS ID: 04-13886
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted: 09/06/04
Date Analyzed: 09/10/04 15:42
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 1000 mL
Final Extract Volume: 0.50 mL
Dilution Factor: 1.00
Silica Gel: No
Acid Cleanup: Yes

| CAS Number | Analyte | RL | Result |
|---|---|---|---|
| 12674-11-2 | Aroclor 1016 | 0.015 | < 0.015 U |
| 53469-21-9 | Aroclor 1242 | 0.015 | < 0.015 U |
| 12672-29-6 | Aroclor 1248 | 0.015 | < 0.015 U |
| 11097-69-1 | Aroclor 1254 | 0.015 | < 0.015 U |
| 11096-82-5 | Aroclor 1260 | 0.015 | < 0.015 U |
| 11104-28-2 | Aroclor 1221 | 0.015 | < 0.015 U |
| 11141-16-5 | Aroclor 1232 | 0.015 | < 0.015 U |

Reported in µg/L (ppb)

**PCB Surrogate Recovery**

| | |
|---|---|
| Decachlorobiphenyl | 42.0% |
| Tetrachlorometaxylene | 32.8% |

ANALYTICAL RESOURCES INCORPORATED

## WATER TPHg SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water

QC Report No: HA23

| LIMS ID | Lab ID | Client ID | TFT | BB | TOT OUT |
|---|---|---|---|---|---|
| 04-13881MB | 090204MB | Method Blank | 90.4% | 91.0% | 0 |
| 04-13881LC | 090204LC | Lab Control | 95.3% | 98.0% | 0 |
| 04-13881LCD | 090204LCD | Lab Control Dup | 92.5% | 97.6% | 0 |
| 04-13881 | HA23A | MW-101 | 78.9% | 89.2% | 0 |
| 04-13882 | HA23B | MW-103 | 156%* | 175%* | 2 |
| 04-13883 | HA23C | MW-105 | 82.8% | 91.5% | 0 |
| 04-13884 | HA23D | MW-106 | 79.2% | 88.6% | 0 |
| 04-13885 | HA23E | MW-107 | 77.2% | 83.3% | 0 |
| 04-13892 | HA23L | Trip Blank | 85.6% | 93.7% | 0 |

| | MB/LCS QC LIMITS | SAMPLE QC LIMITS |
|---|---|---|
| (TFT) = Trifluorotoluene | (66-129) | (31-139) |
| (BB) = Bromobenzene | (72-118) | (38-141) |

Limits Updated - 04/26/04

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out



FORM-II TPHg

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHg - Toluene to Naphthalene


Sample ID: LCS-090204
LCS/LCSD

Lab Sample ID: LCS-090204
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/06/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: PID2/PKC
LCSD: PID2/PKC
Date Analyzed LCS: 09/02/04 16:18
LCSD: 09/02/04 16:45

Sample Amount LCS: 5.0 mL
LCSD: 5.0 mL

| Analyte | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Gasoline Range Hydrocarbons | 2.61 | 2.50 | 104% | 2.63 | 2.50 | 105% | 0.8% |

Results reported in mg/L (ppm).
RPD calculated using sample concentrations per SW846.

**Gasoline Surrogate Recovery**

| | LCS | LCSD |
|---|---|---|
| Trifluorotoluene | 95.3% | 92.5% |
| Bromobenzene | 98.0% | 97.6% |

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL GASOLINE RANGE HYDROCARBONS
NWTPHg Toluene to Naphthalene
Page 1 of 1
Matrix: Water

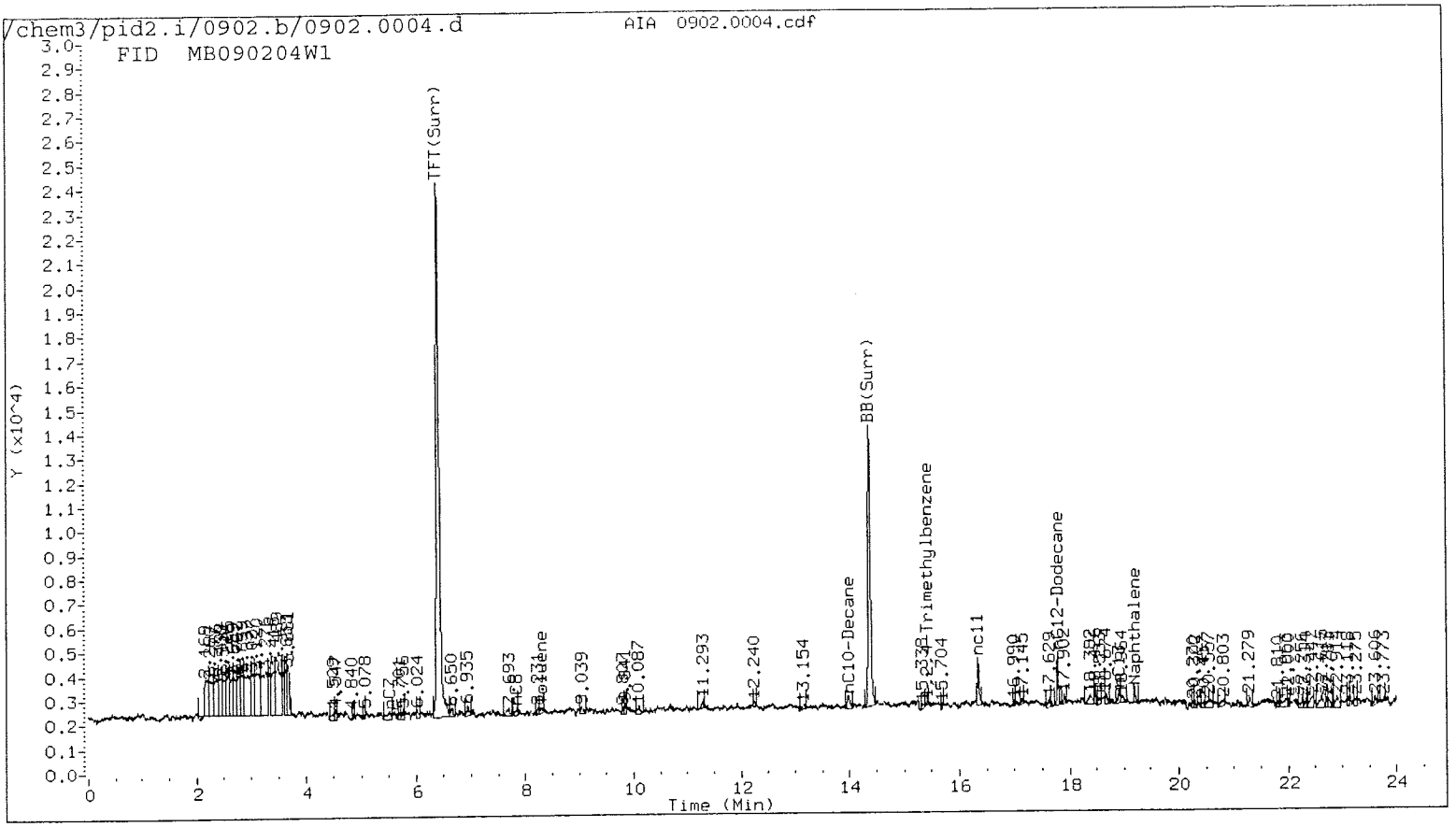
QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

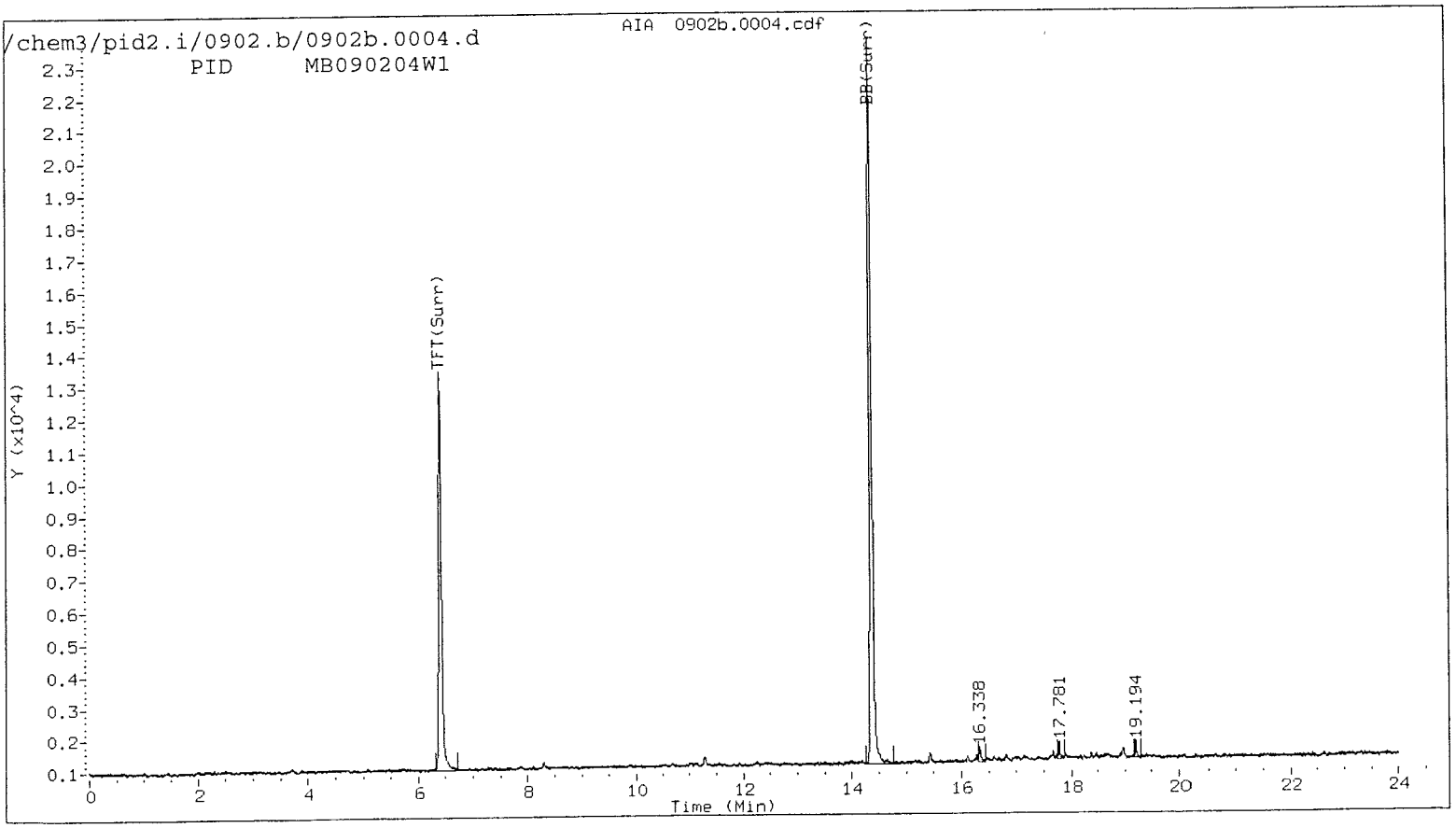
Data Release Authorized: MW
Reported: 09/06/04

| ARI ID | Client ID | Analysis Date | Range | Result mg/L |
|---|---|---|---|---|
| MB-090204 | Method Blank | 09/02/04 | Gasoline | < 0.25 U |
| 04-13881 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 90.4% |
| | | | Bromobenzene | 91.0% |
| HA23A | MW-101 | 09/02/04 | Gasoline | < 0.25 U |
| 04-13881 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 78.9% |
| | | | Bromobenzene | 89.2% |
| HA23B | MW-103 | 09/02/04 | Gasoline | < 0.25 U |
| 04-13882 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 156% |
| | | | Bromobenzene | 175% |
| HA23C | MW-105 | 09/02/04 | Gasoline | < 0.25 U |
| 04-13883 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 82.8% |
| | | | Bromobenzene | 91.5% |
| HA23D | MW-106 | 09/02/04 | Gasoline | < 0.25 U |
| 04-13884 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 79.2% |
| | | | Bromobenzene | 88.6% |
| HA23E | MW-107 | 09/02/04 | Gasoline | < 0.25 U |
| 04-13885 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 77.2% |
| | | | Bromobenzene | 83.3% |
| HA23L | Trip Blank | 09/02/04 | Gasoline | < 0.25 U |
| 04-13892 | | PID2 | HC ID | --- |
| | | | Trifluorotoluene | 85.6% |
| | | | Bromobenzene | 93.7% |

Quantitation on total peaks in the gasoline range from Toluene to Naphthalene.

GAS: Indicates the presence of gasoline or weathered gasoline.
GRO: Positive result that does not match an identifiable gasoline pattern.


/chem3/pid2.i/0902.b/0902.0004.d
FID MB090204W1
AIA 0902.0004.cdf
TFT(Surr)
BB(Surr)
nC10-Decane
Trimethylbenzene
nc11
2-Dodecane
Naphthalene
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0004.d
PID MB090204W1
AIA 0902b.0004.cdf
TFT(Surr)
BB(Surr)
16.338
17.781
19.194
Y (x10^4)
Time (Min)

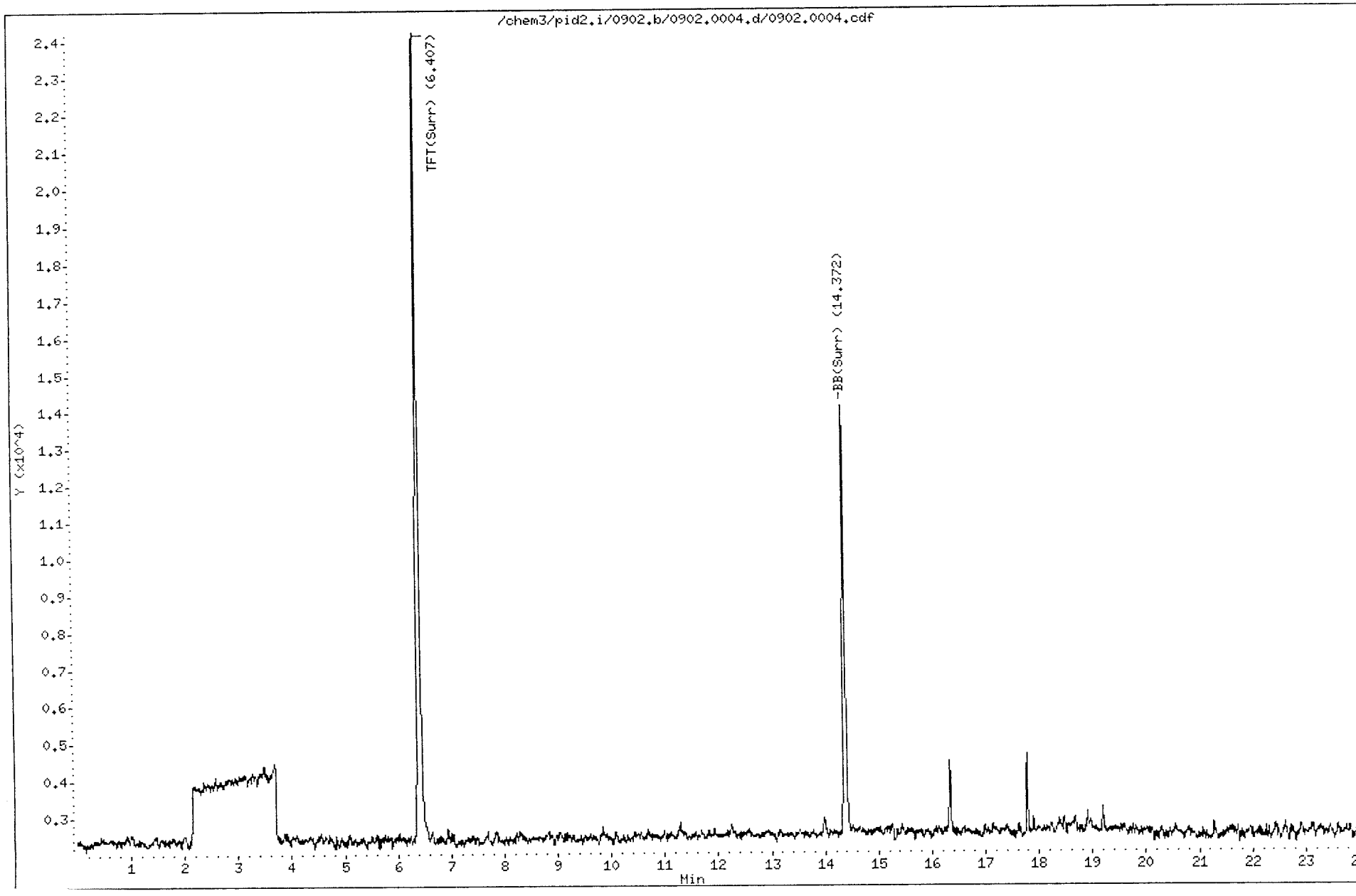
000080

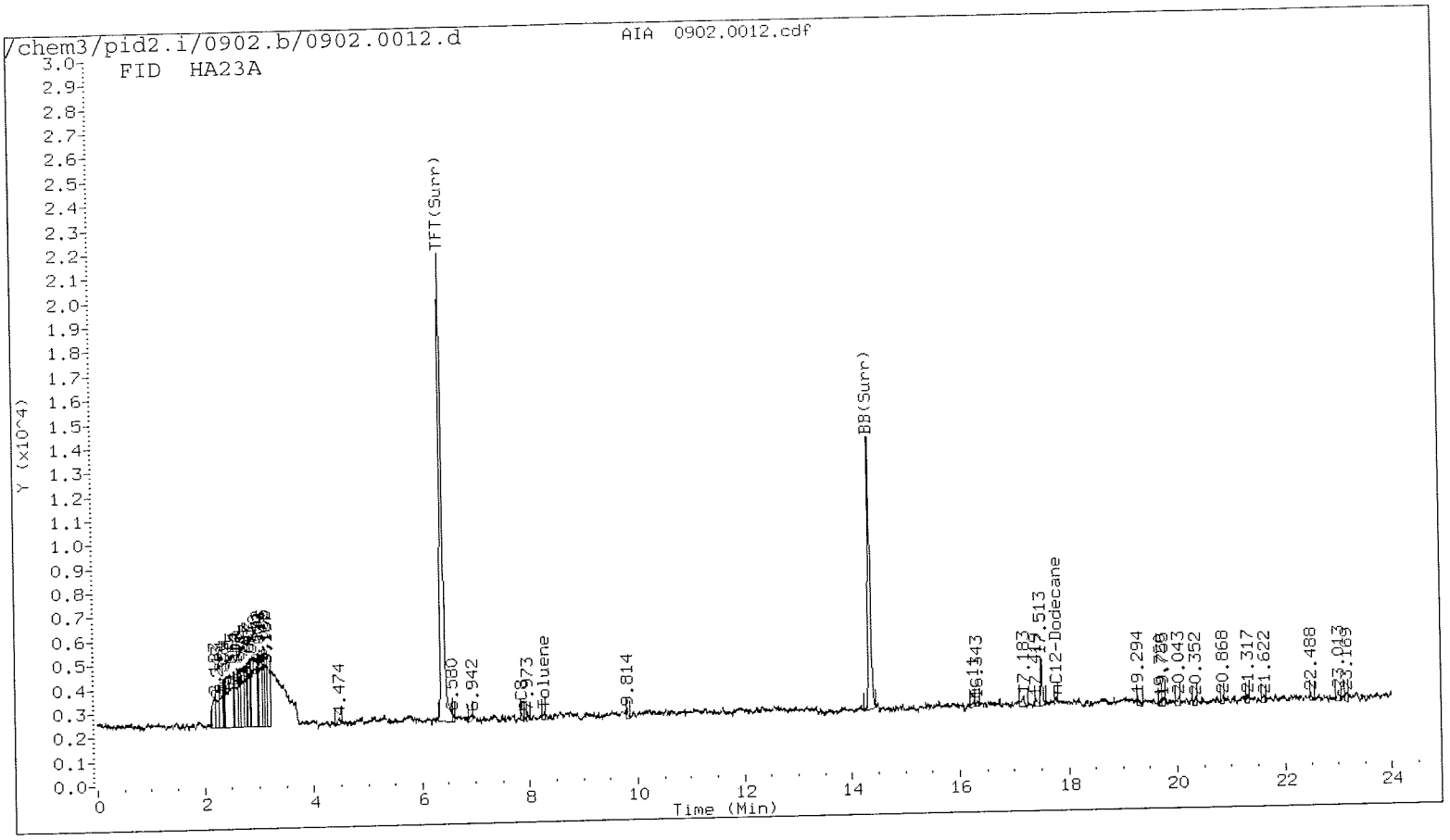
Data File: /chem3/pid2.i/0902.b/0902.0004.d
Date : 02-SEP-2004 15:50
Client ID:
Sample Info: MB090204W1

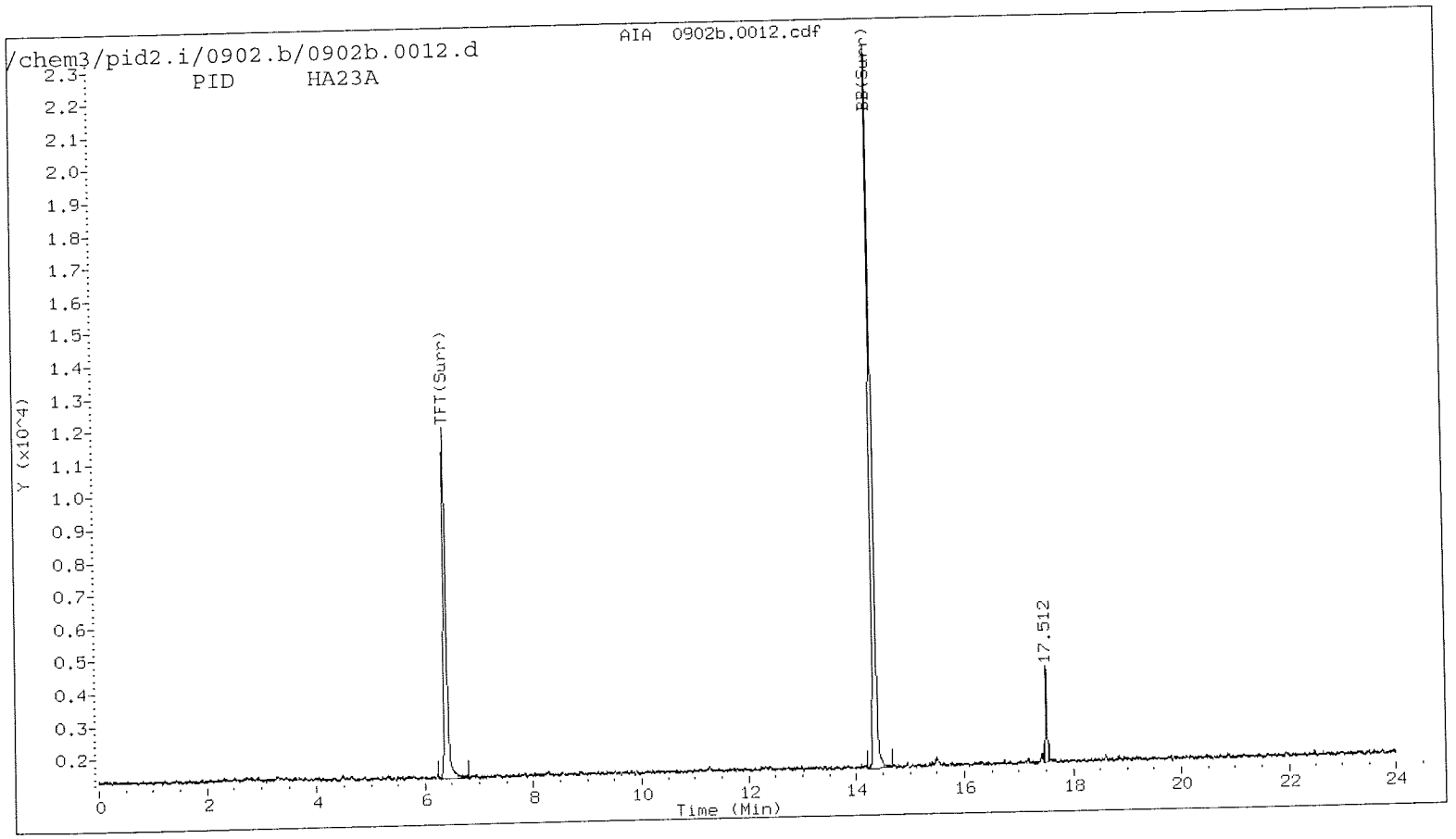
Column phase: FID

Instrument: pid2.i

Operator: AR
Column diameter: 2.00




/chem3/pid2.i/0902.b/0902.0012.d
FID HA23A
AIA 0902.0012.cdf
TFT(Surr)
BB(Surr)
C12-Dodecane
Toluene
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0012.d
PID HA23A
AIA 0902b.0012.cdf
TFT(Surr)
BB(Surr)
17.512
Y (x10^4)
Time (Min)

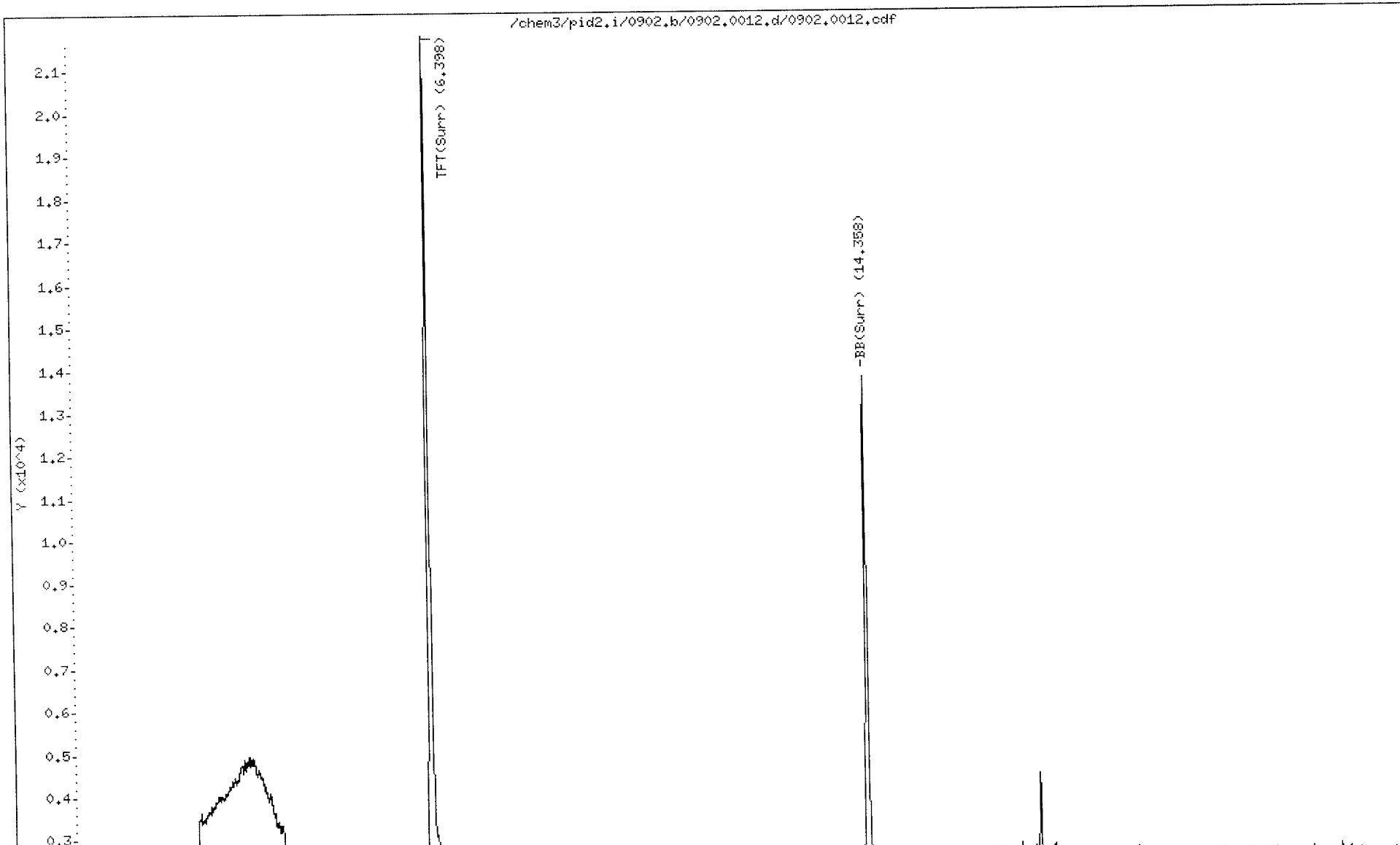
000091

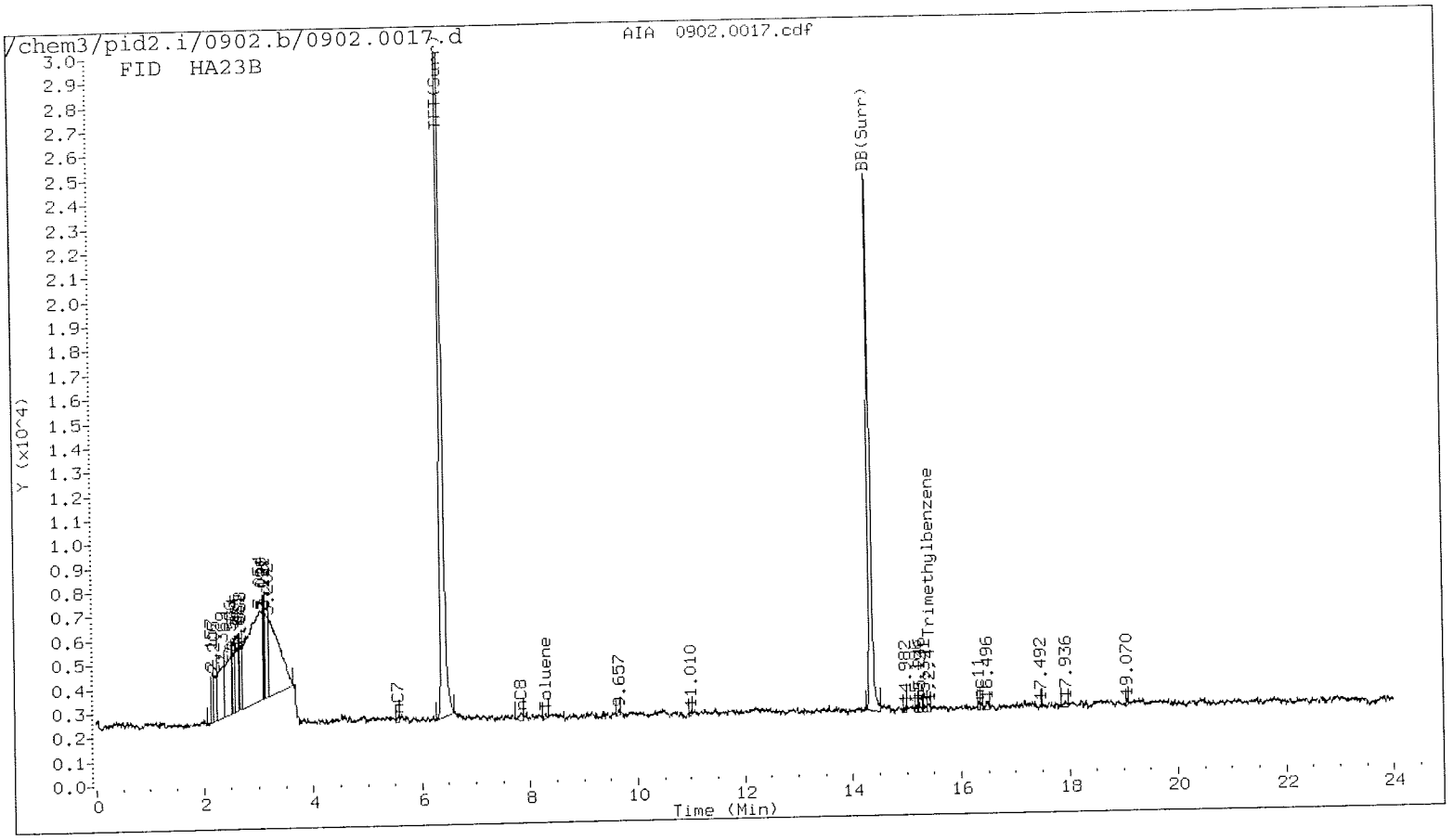
Data File: /chem3/pid2.i/0902.b/0902.0012.d
Date : 02-SEP-2004 19:30
Client ID:
Sample Info: HA23A

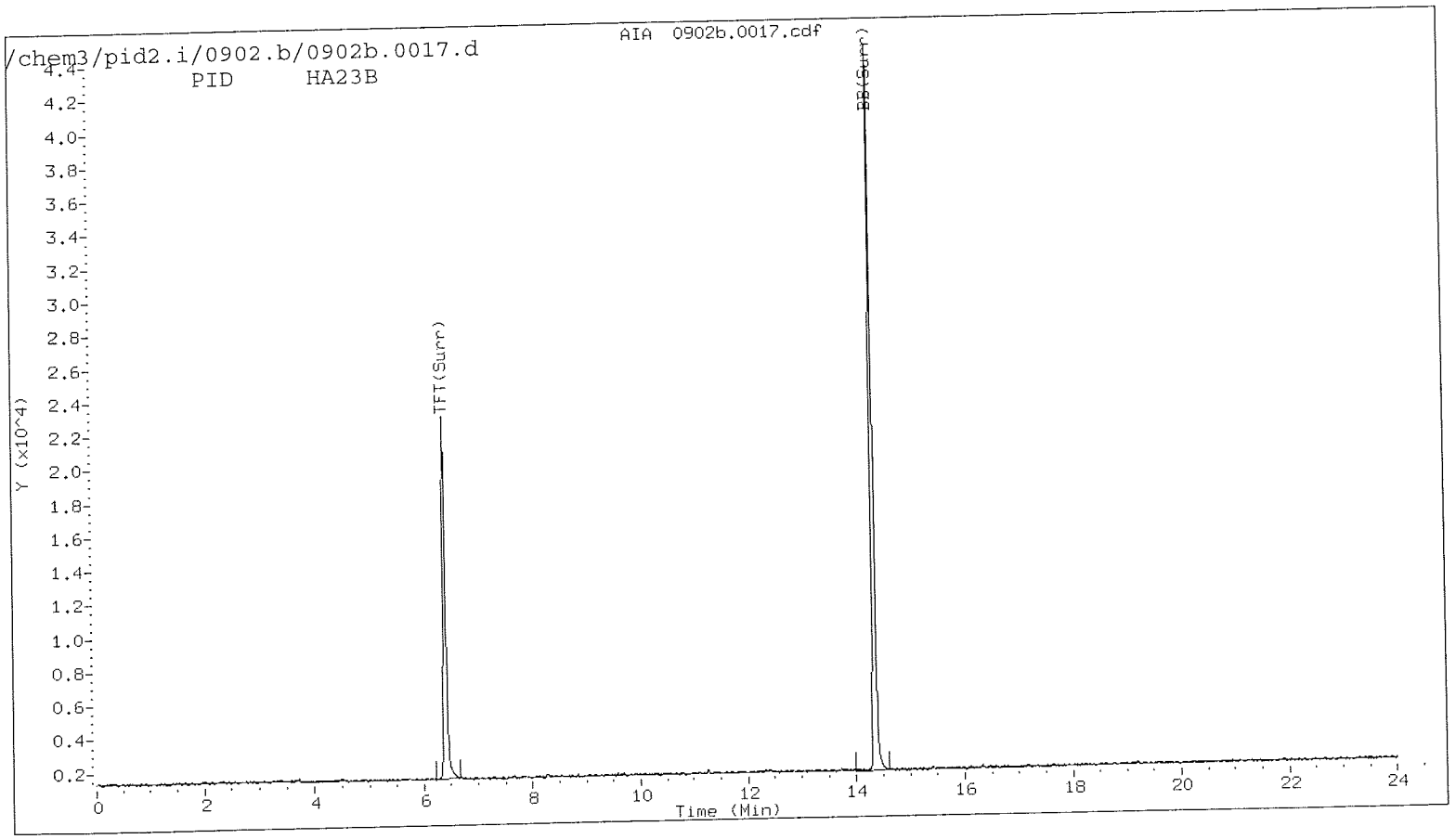
Instrument: pid2.i

Operator: AR
Column diameter: 2.00

Column phase: FID




/chem3/pid2.i/0902.b/0902.0017.d
FID HA23B
AIA 0902.0017.cdf
TFT(Surr)
BB(Surr)
Trimethylbenzene
Toluene
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0017.d
PID HA23B
AIA 0902b.0017.cdf
TFT(Surr)
BB(Surr)
Y (x10^4)
Time (Min)

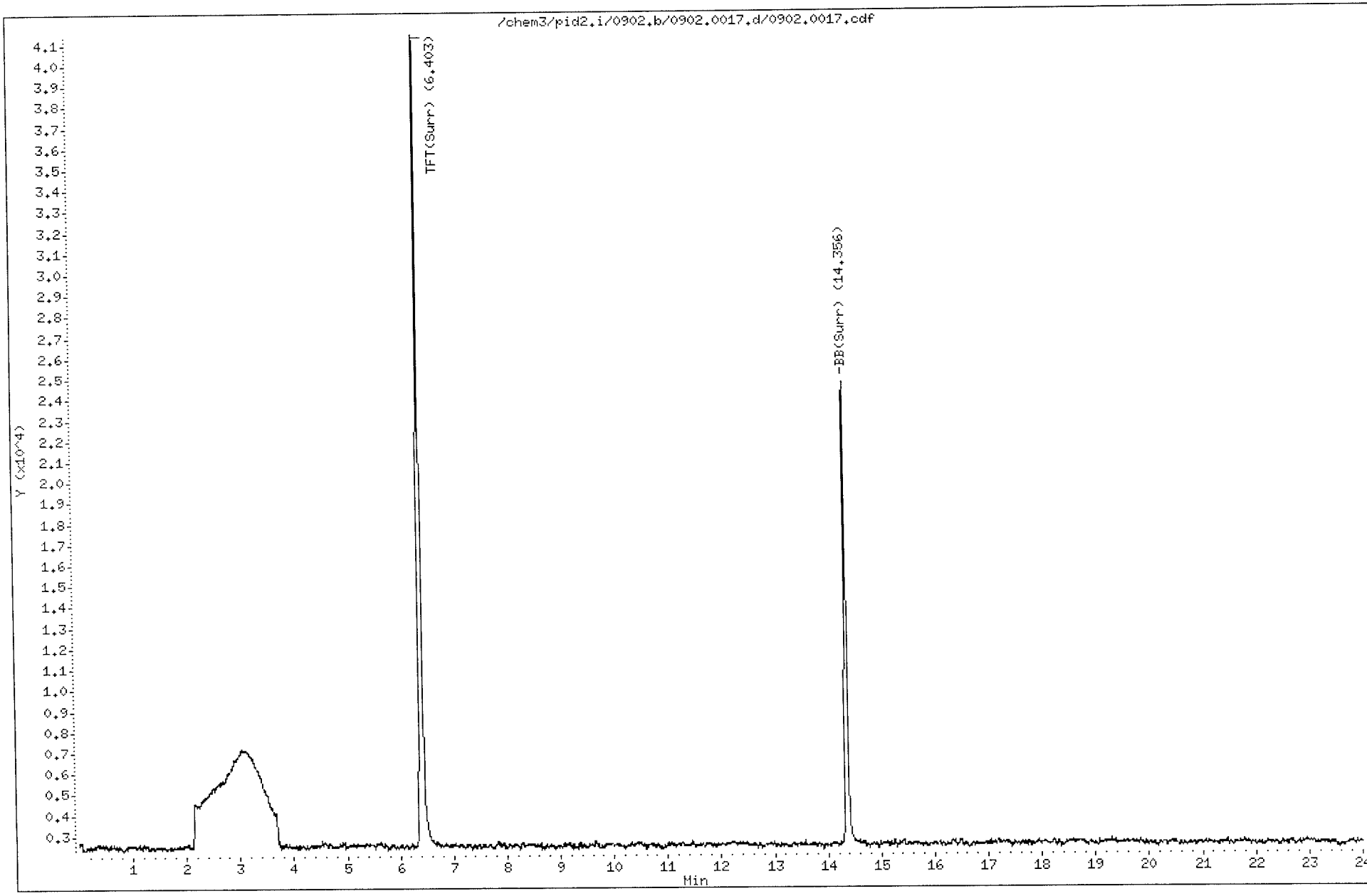
000093

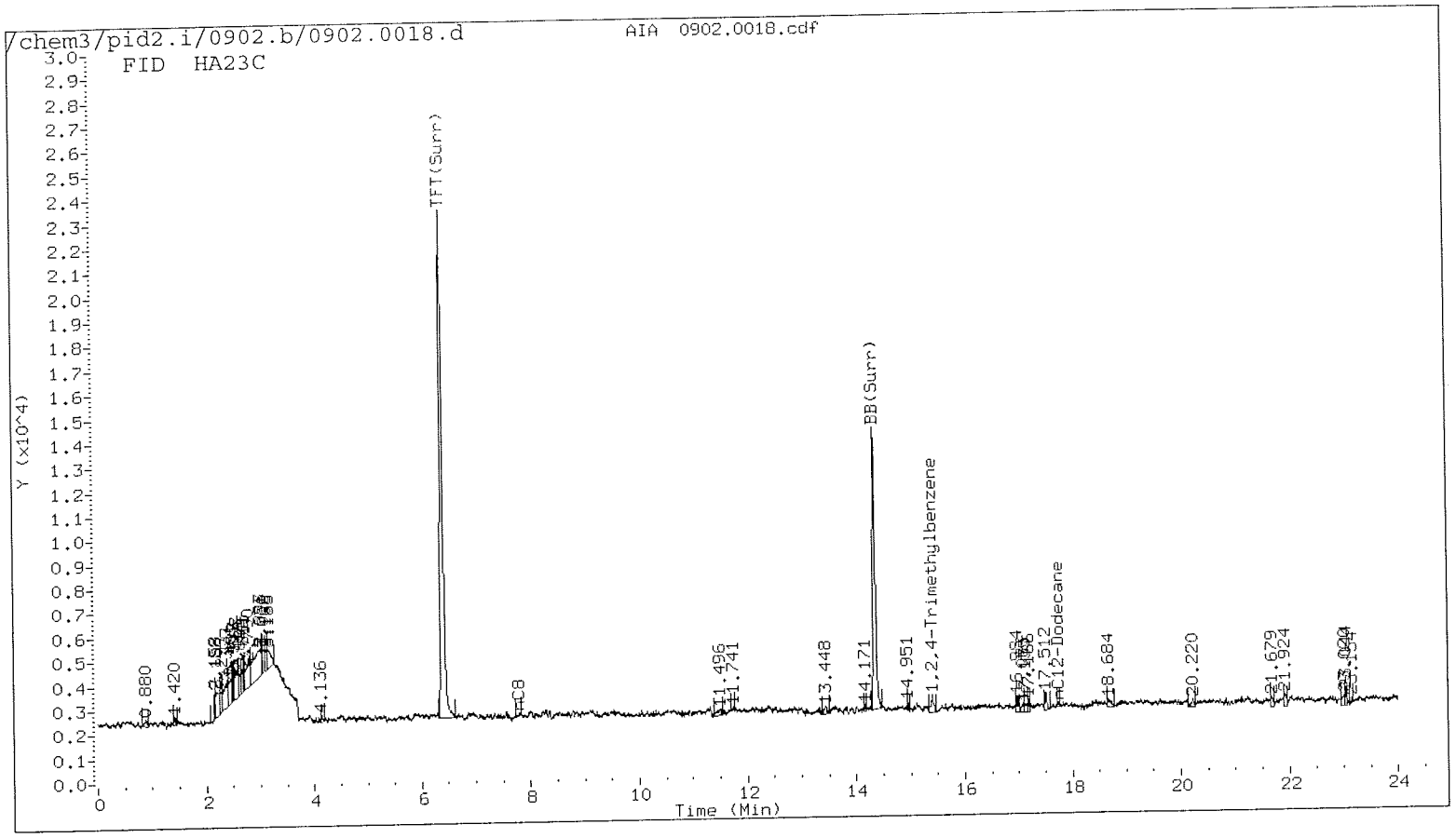
Data File: /chem3/pid2.i/0902.b/0902.0017.d
Date : 02-SEP-2004 21:47
Client ID:
Sample Info: HA23B

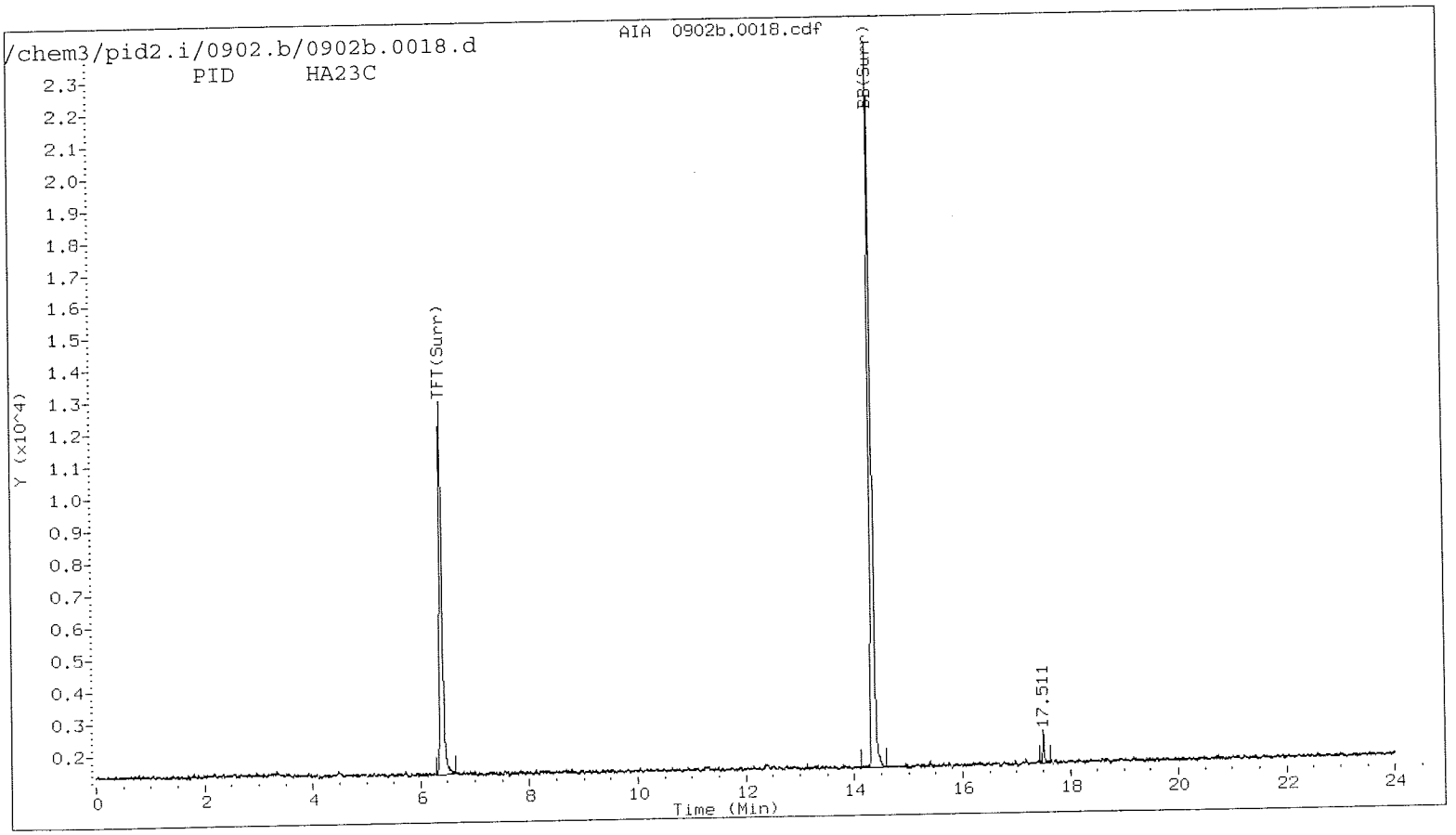
Column phase: FID

Instrument: pid2.i

Operator: AR
Column diameter: 2.00




/chem3/pid2.i/0902.b/0902.0018.d
AIA 0902.0018.cdf
FID HA23C
TFT(Surr)
BB(Surr)
1,2,4-Trimethylbenzene
C12-Dodecane
C8
0.880
1.420
4.136
11.496
11.741
13.448
14.171
14.951
17.512
18.684
20.220
21.679
21.924
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0018.d
AIA 0902b.0018.cdf
PID HA23C
TFT(Surr)
BB(Surr)
17.511
Y (x10^4)
Time (Min)

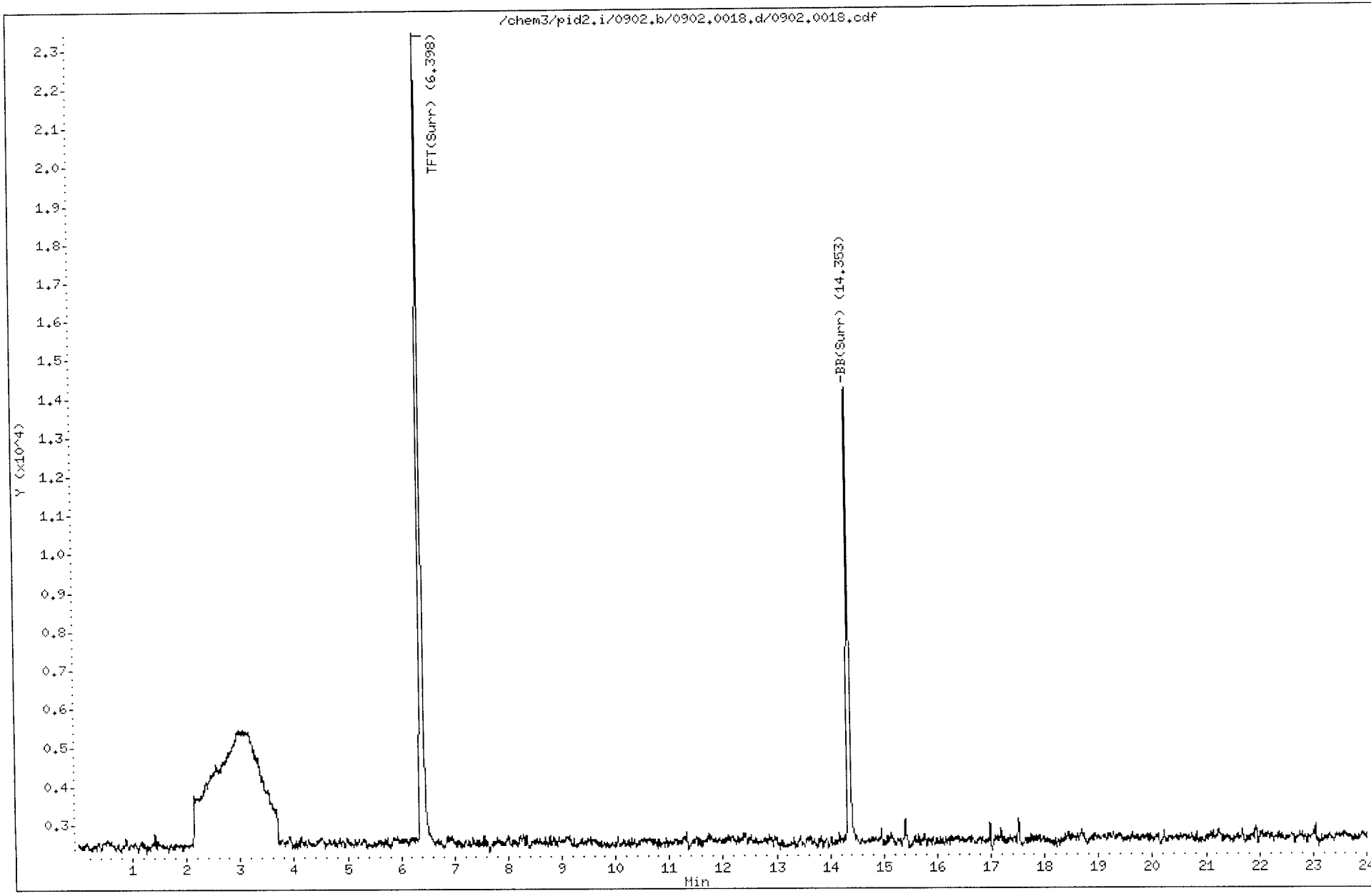
000095

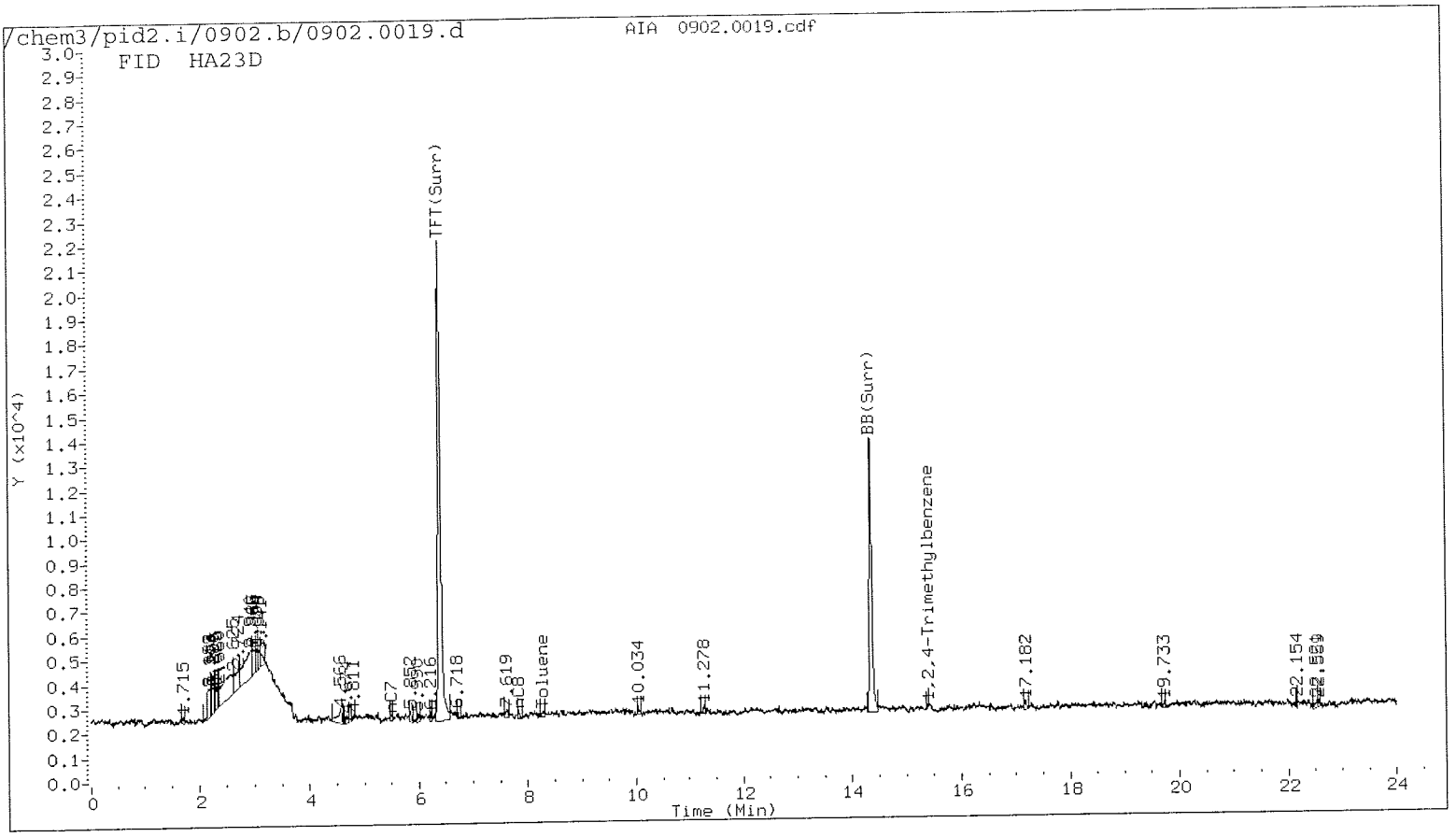
Data File: /chem3/pid2.i/0902.b/0902.0018.d
Date : 02-SEP-2004 22:14
Client ID:
Sample Info: HA23C

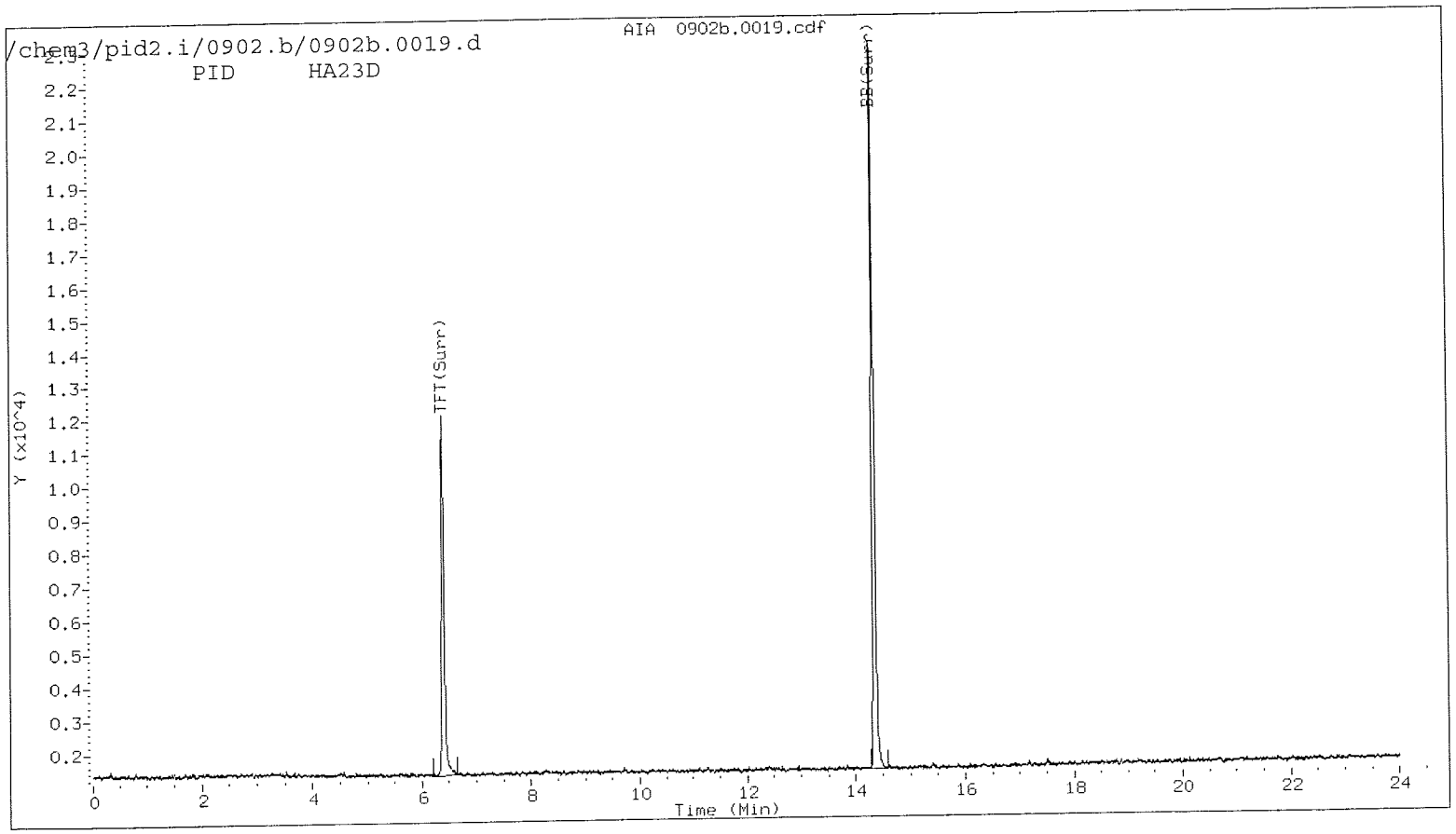
Instrument: pid2.i

Operator: AR
Column diameter: 2.00

Column phase: FID




/chem3/pid2.i/0902.b/0902.0019.d
FID HA23D
AIA 0902.0019.cdf
TFT(Surr)
BB(Surr)
Toluene
1,2,4-Trimethylbenzene
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0019.d
PID HA23D
AIA 0902b.0019.cdf
TFT(Surr)
BB(Surr)
Y (x10^4)
Time (Min)

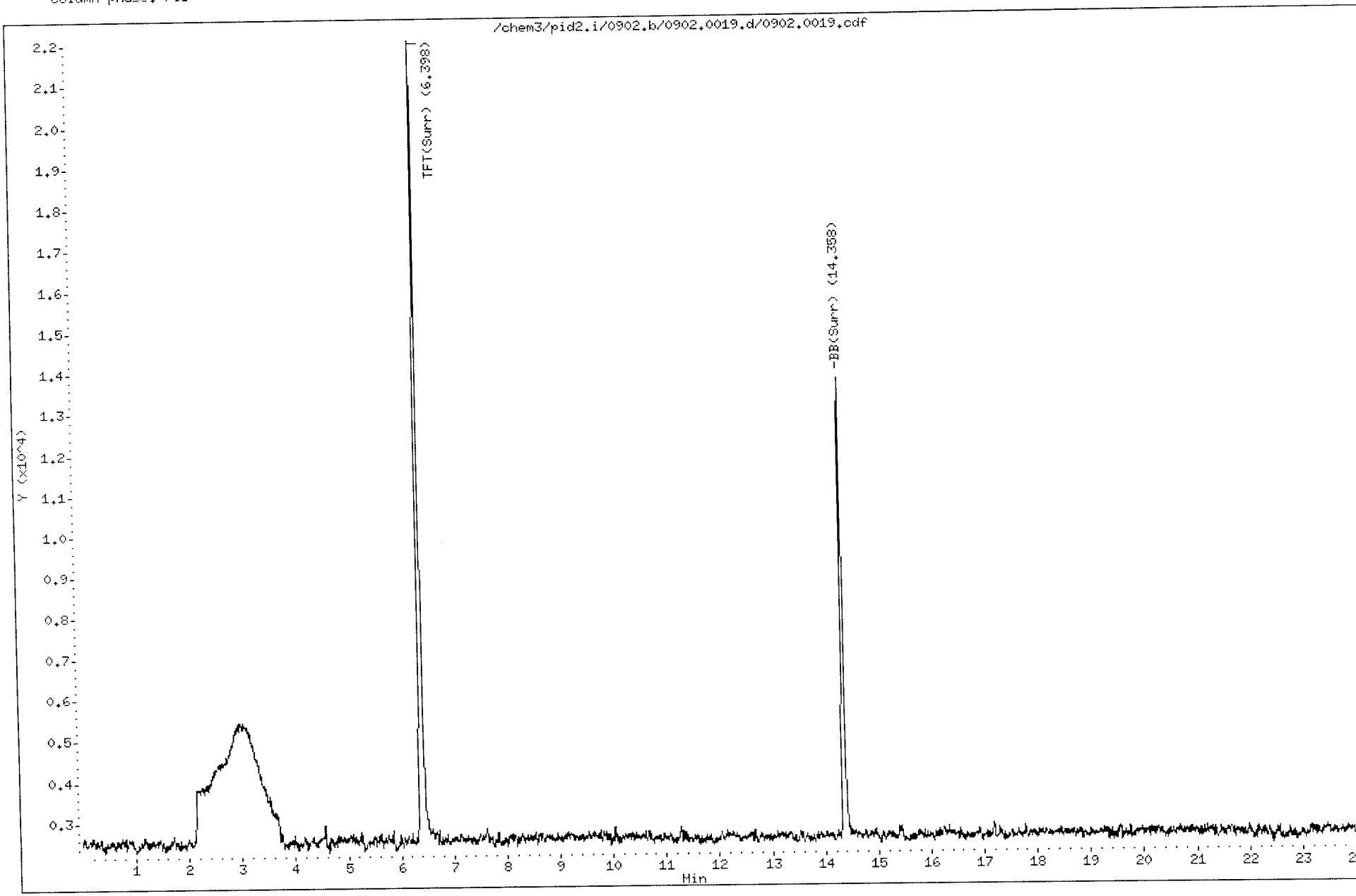
000067

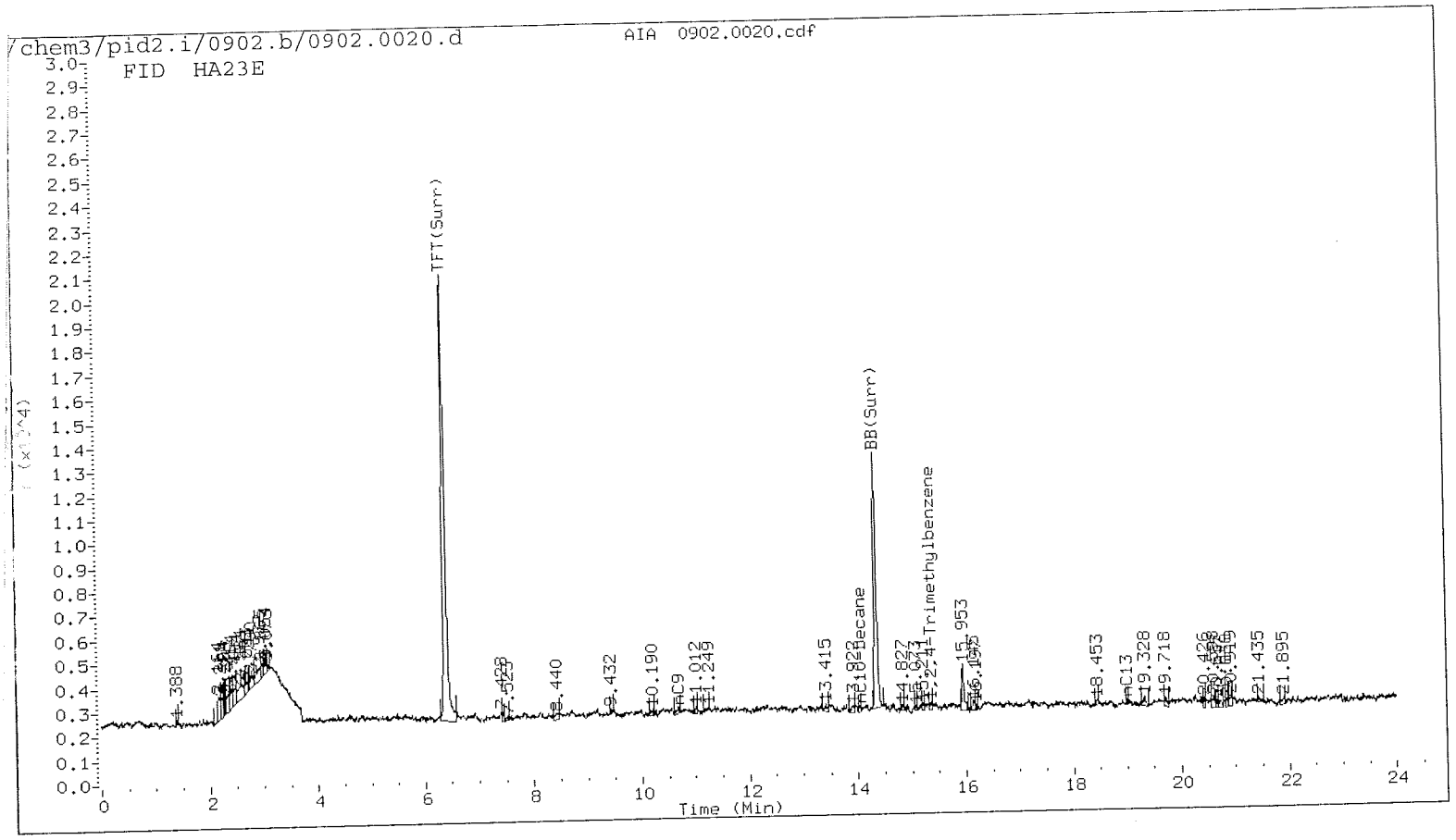
Data File: /chem3/pid2.i/0902.b/0902.0019.d
Date : 02-SEP-2004 22:42
Client ID:
Sample Info: HA23D

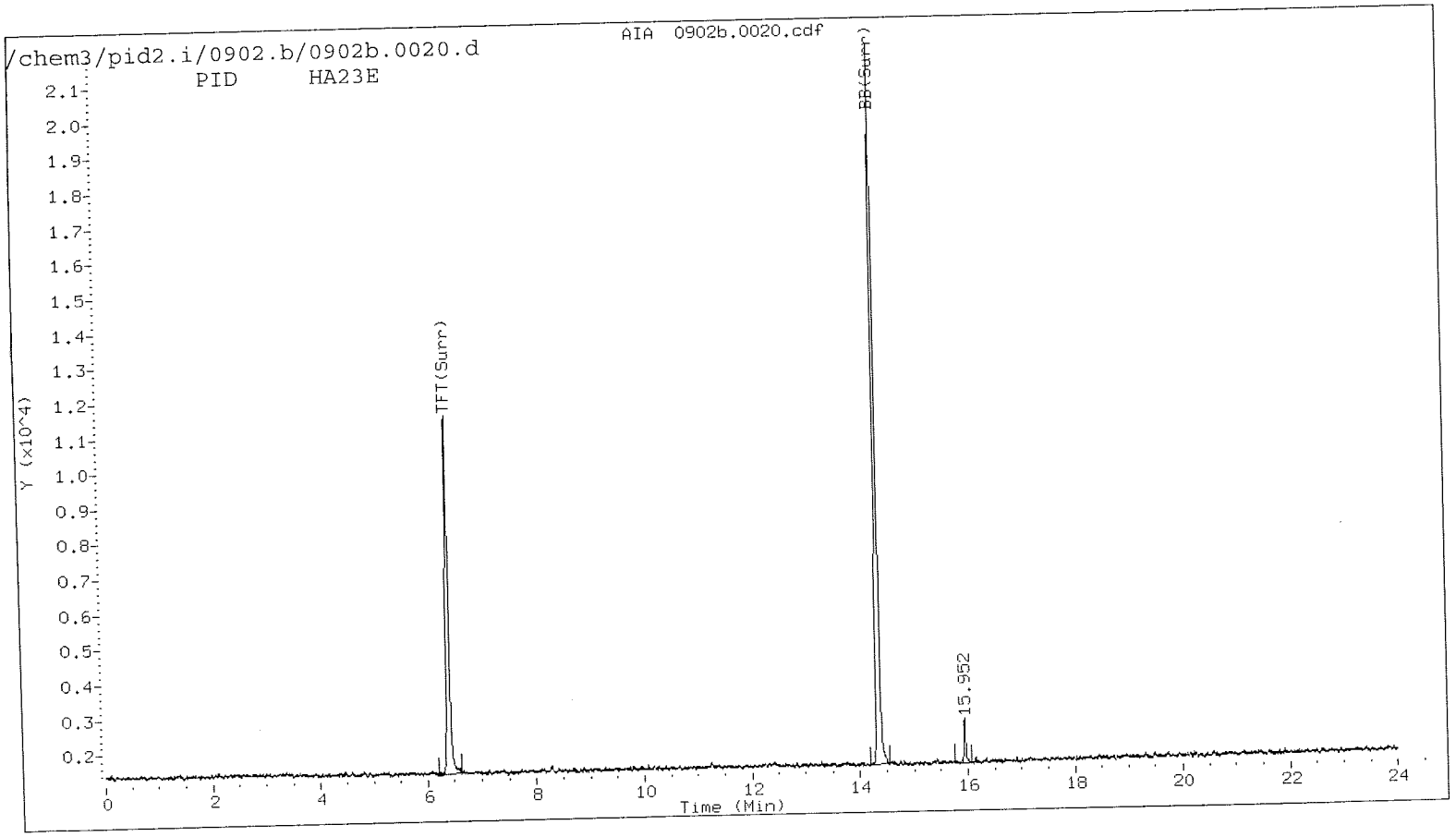
Instrument: pid2.i

Operator: AR
Column diameter: 2.00

Column phase: FID




/chem3/pid2.i/0902.b/0902.0020.d
FID HA23E
AIA 0902.0020.cdf
TFT(Surr)
BB(Surr)
Decane
Trimethylbenzene
nC13
Time (Min)


/chem3/pid2.i/0902.b/0902b.0020.d
PID HA23E
AIA 0902b.0020.cdf
TFT(Surr)
BB(Surr)
15.952
Y (x10^4)
Time (Min)

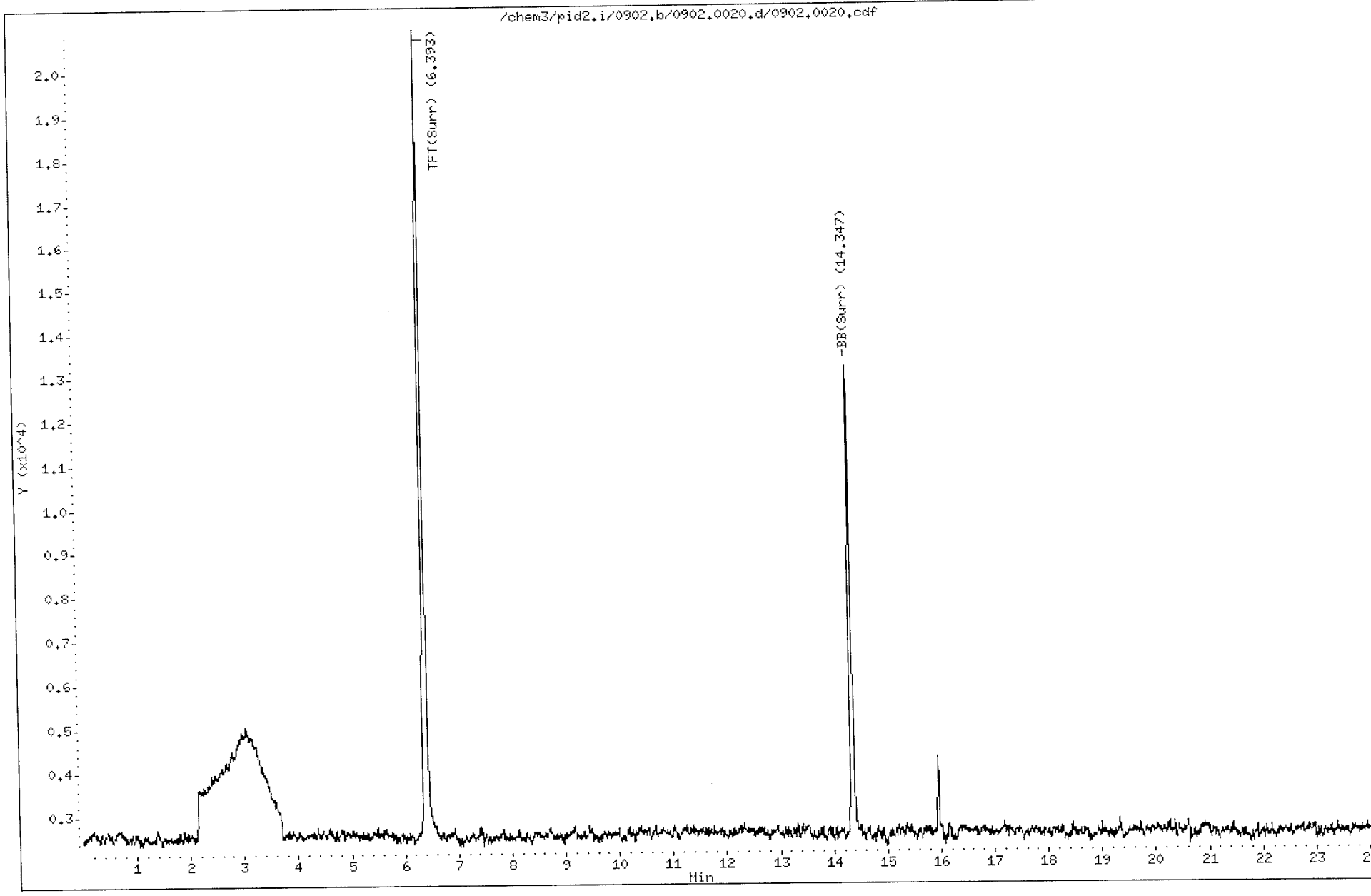
000099

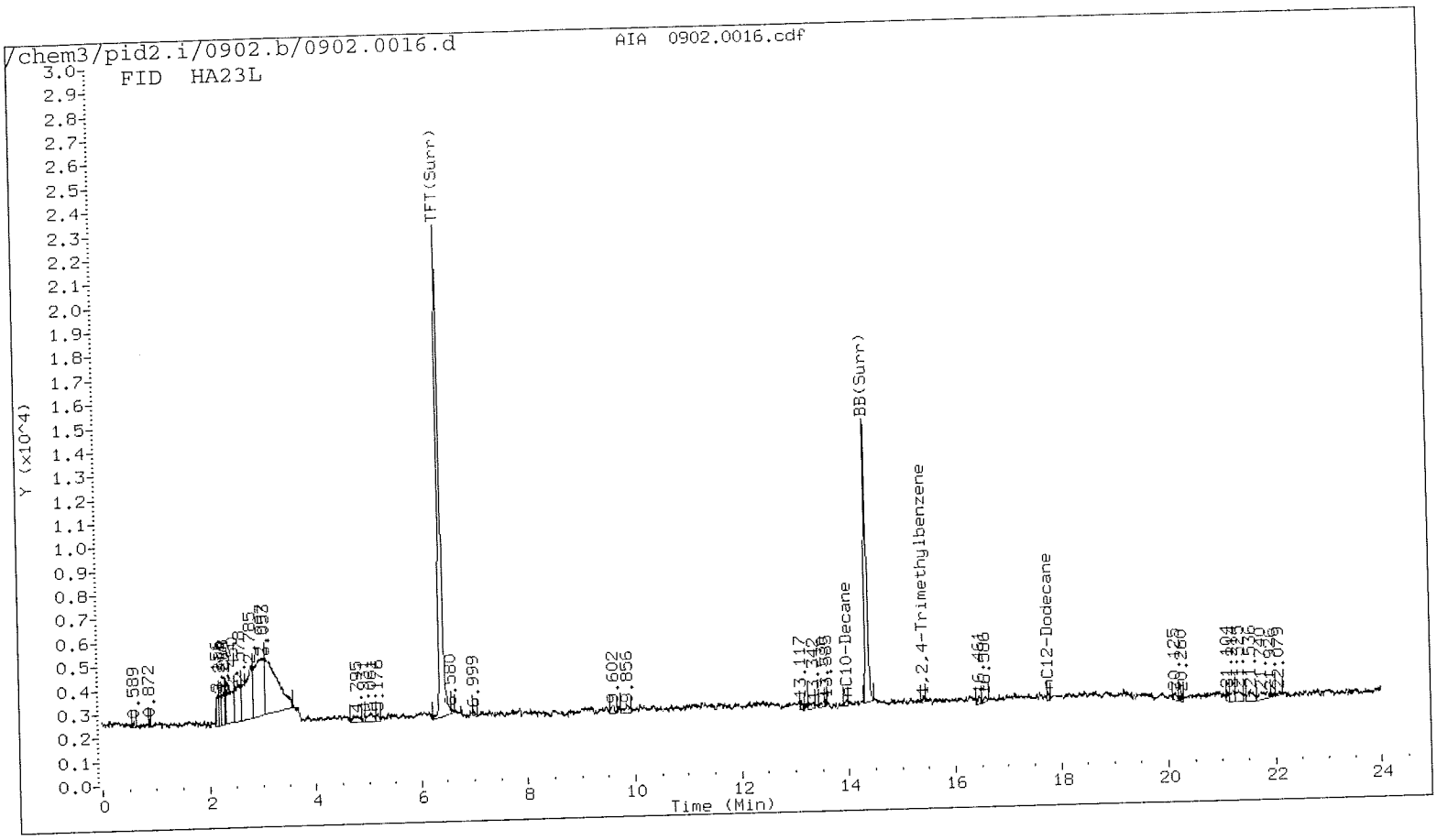
Data File: /chem3/pid2.i/0902.b/0902.0020.d
Date : 02-SEP-2004 23:09
Client ID:
Sample Info: HA23E

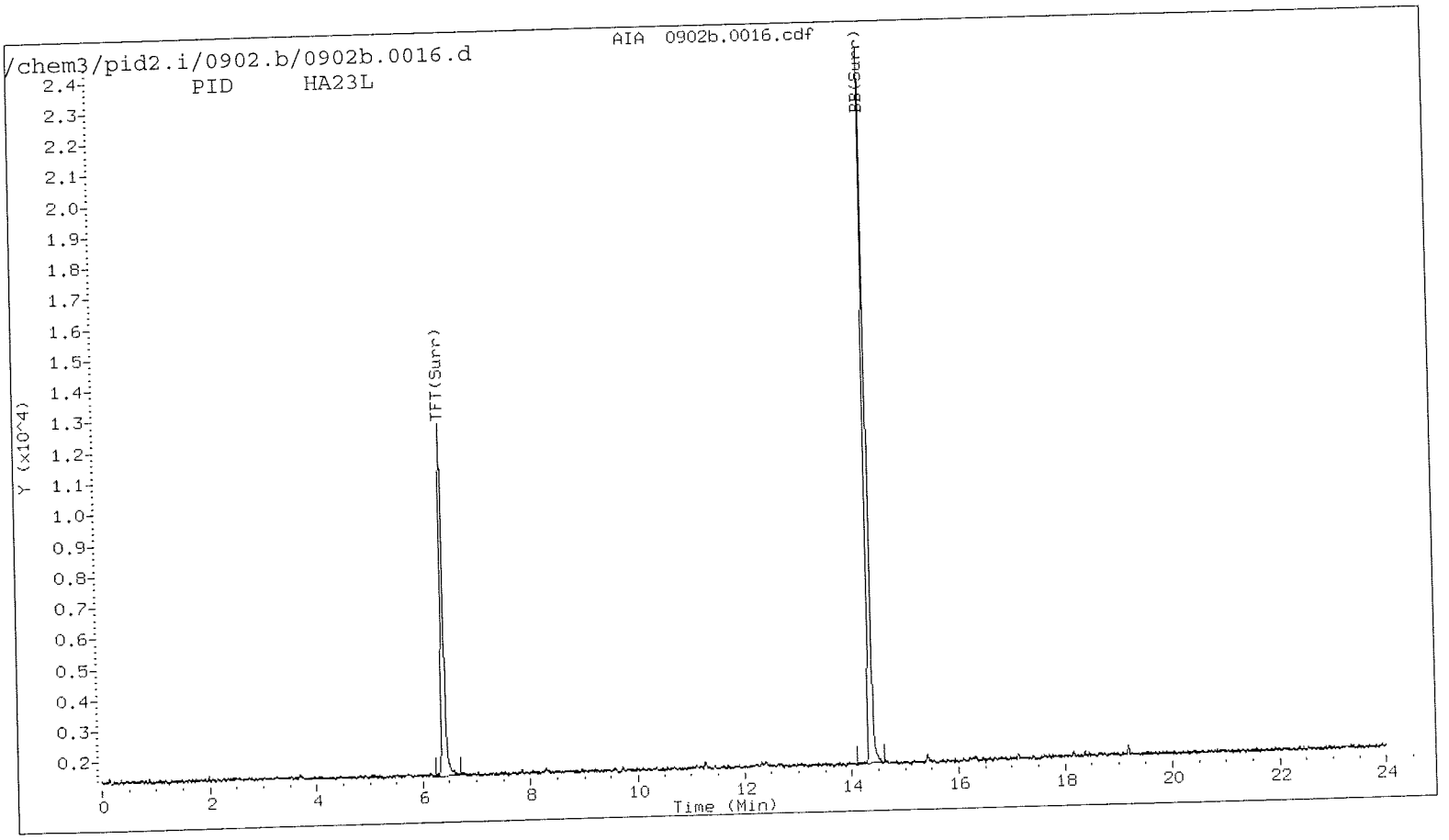
Column phase: FID

Instrument: pid2.i

Operator: AR
Column diameter: 2.00




/chem3/pid2.i/0902.b/0902.0016.d
AIA 0902.0016.cdf
FID HA23L
TFT(Surr)
BB(Surr)
nC10-Decane
1,2,4-Trimethylbenzene
nC12-Dodecane
Y (x10^4)
Time (Min)


/chem3/pid2.i/0902.b/0902b.0016.d
AIA 0902b.0016.cdf
PID HA23L
TFT(Surr)
BB(Surr)
Y (x10^4)
Time (Min)

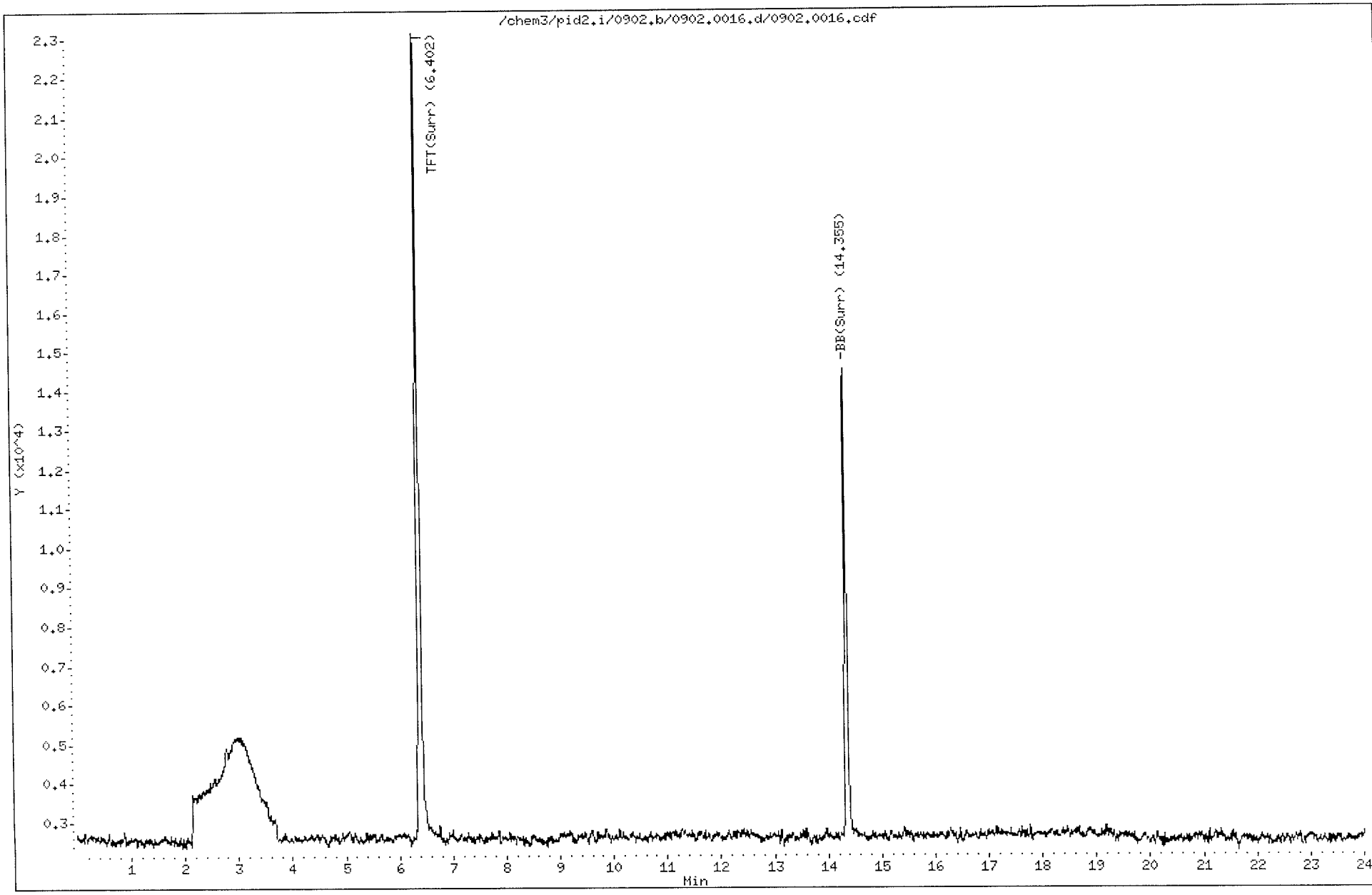
000101

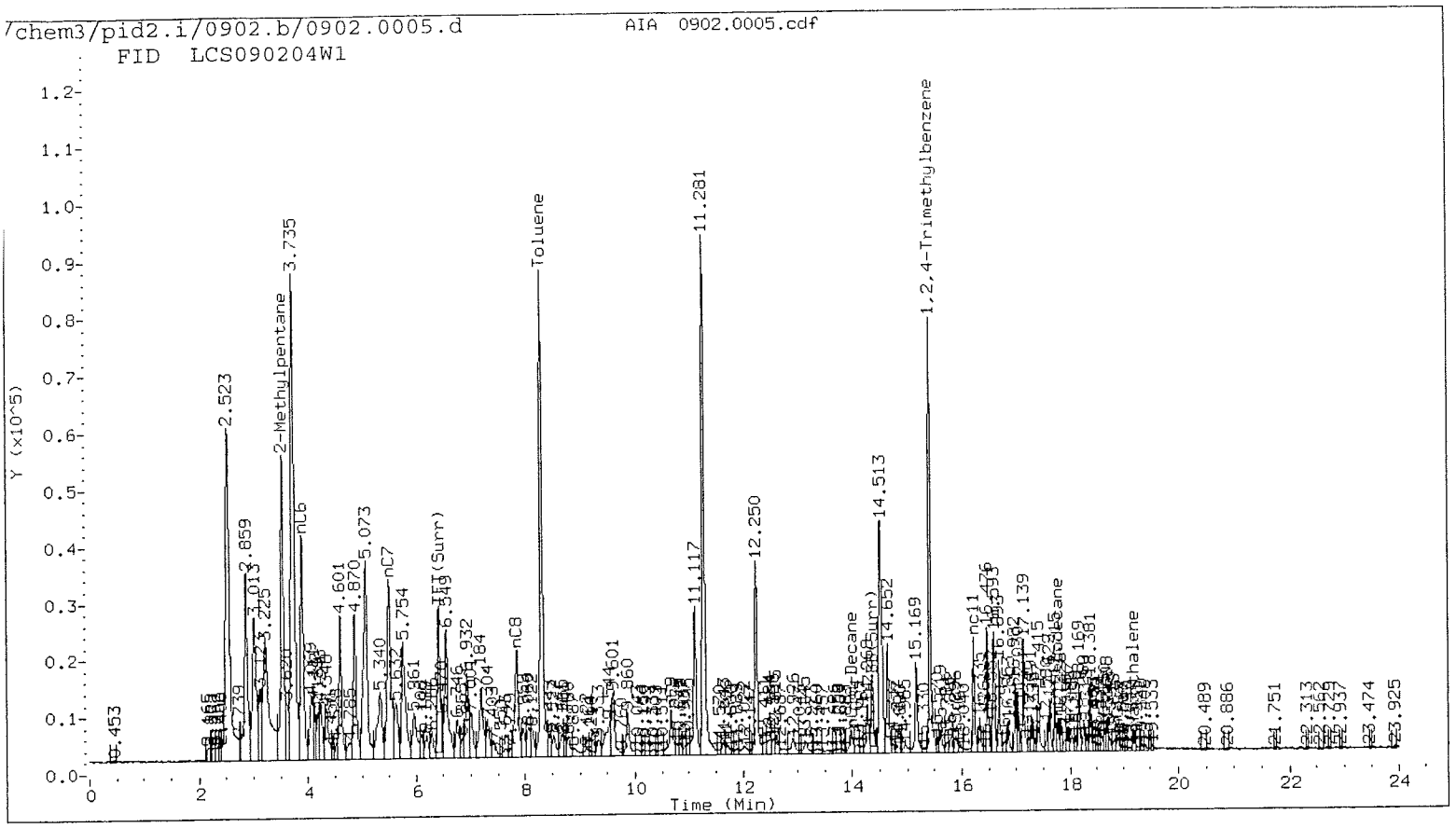
Data File: /chem3/pid2.i/0902.b/0902.0016.d
Date : 02-SEP-2004 21:19
Client ID:
Sample Info: HA23L

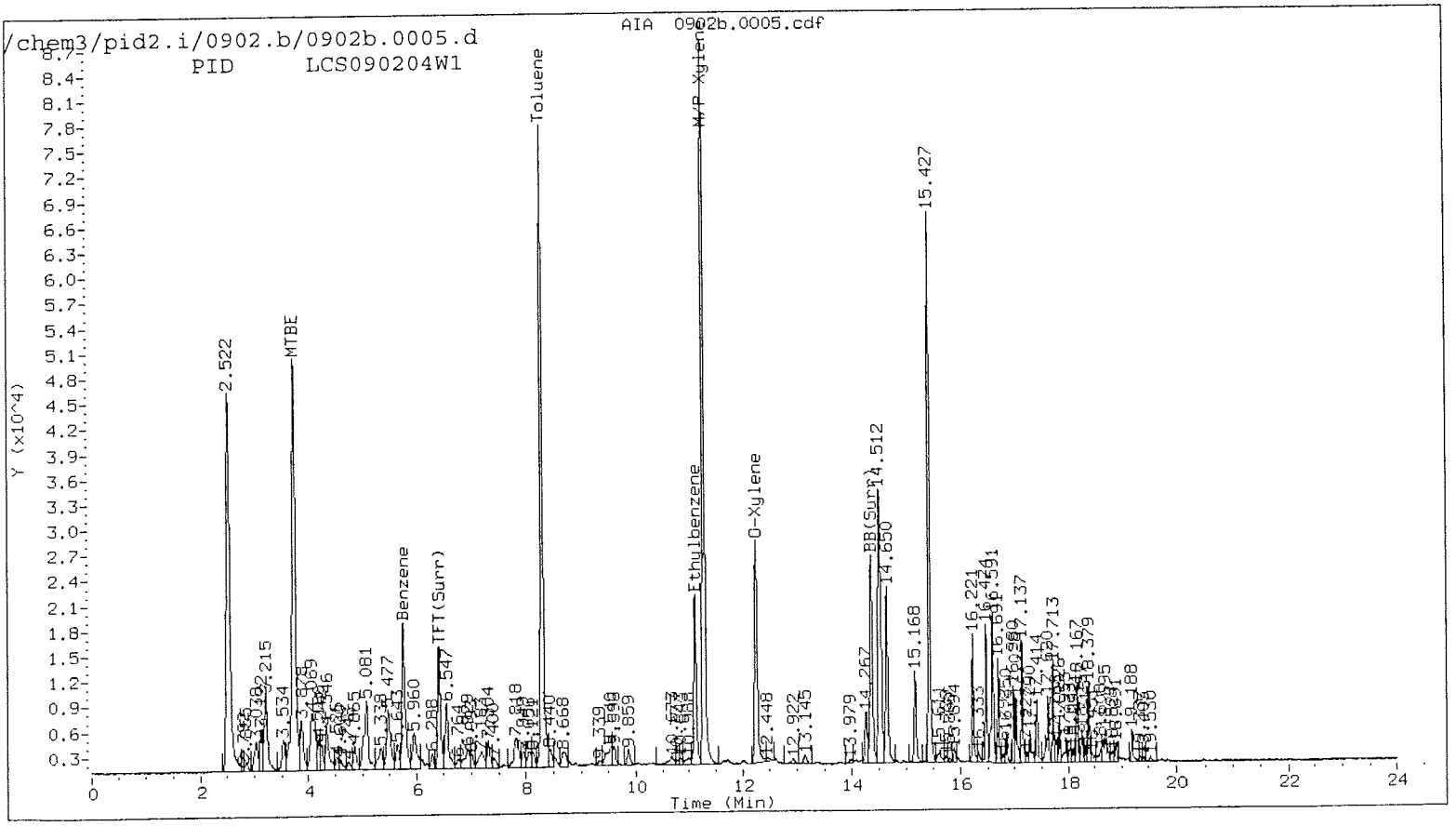
Instrument: pid2.i

Operator: AR
Column diameter: 2.00

Column phase: FID




/chem3/pid2.i/0902.b/0902.0005.d
FID LCS090204W1
AIA 0902.0005.cdf
Y (x10^5)
Time (Min)
2.523
2-Methylpentane
3.735
nC6
4.601
4.870
5.073
nC7
5.754
TFT(Surr)
nC8
Toluene
11.117
11.281
12.250
Decane
14.513
14.652
15.169
1,2,4-Trimethylbenzene
nC11
Undecane
Naphthalene


/chem3/pid2.i/0902.b/0902b.0005.d
PID LCS090204W1
AIA 0902b.0005.cdf
Y (x10^4)
Time (Min)
2.522
MTBE
Benzene
TFT(Surr)
Toluene
M/P Xylene
Ethylbenzene
O-Xylene
BB(Surr)
14.512
14.650
15.427
15.168

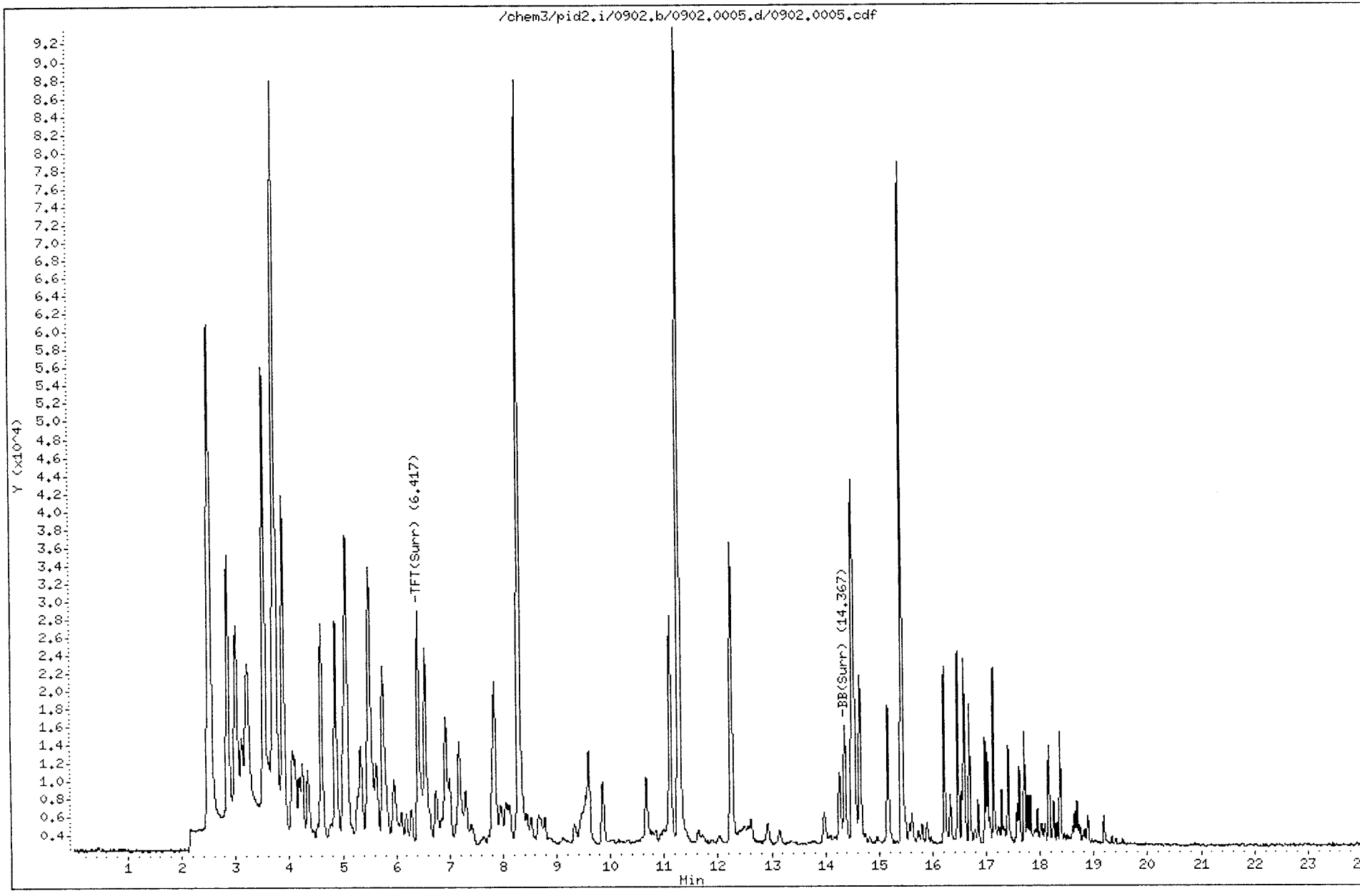
000104

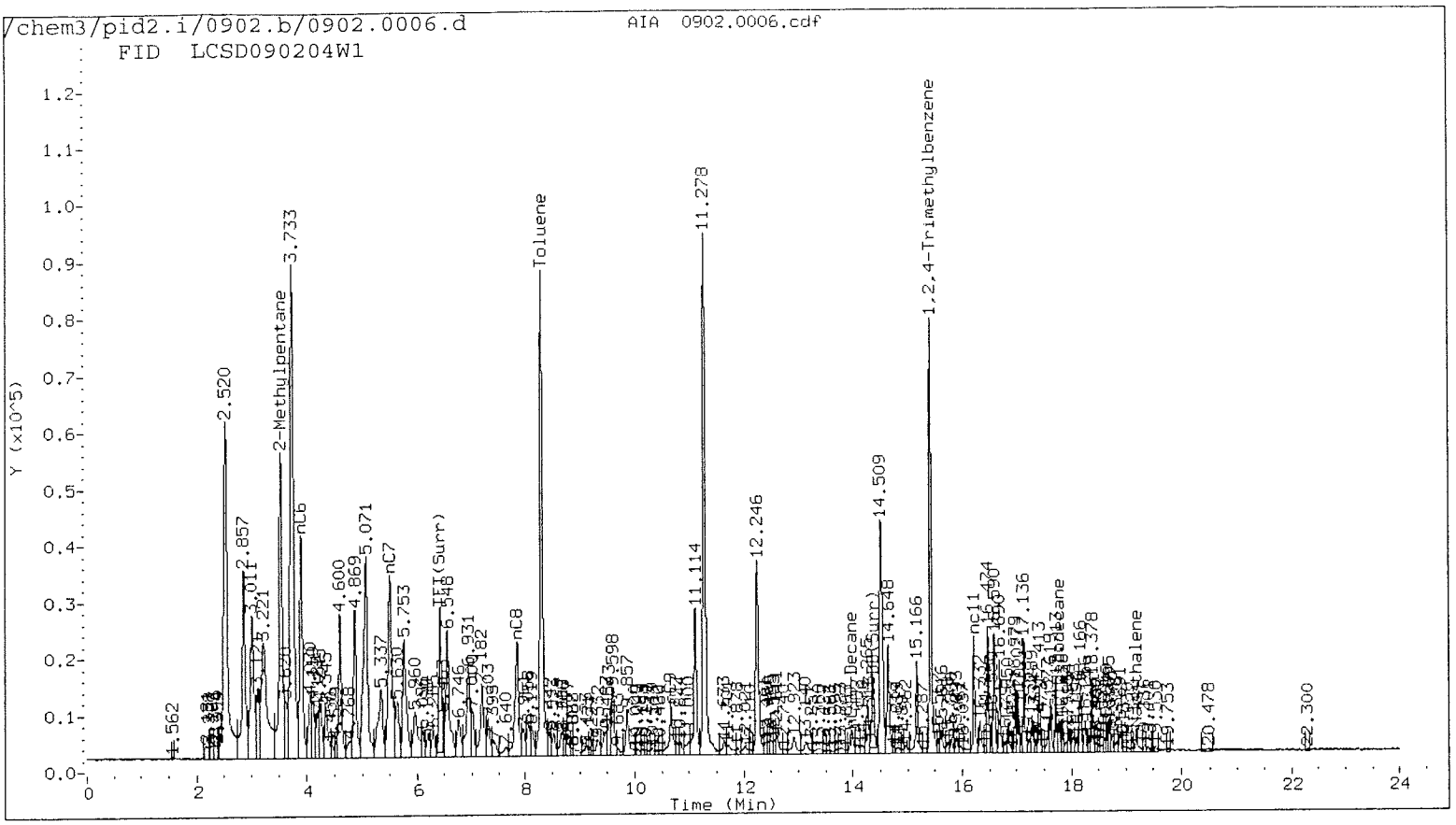
Data File: /chem3/pid2.i/0902.b/0902.0005.d
Date : 02-SEP-2004 16:18
Client ID:
Sample Info: LCS090204W1

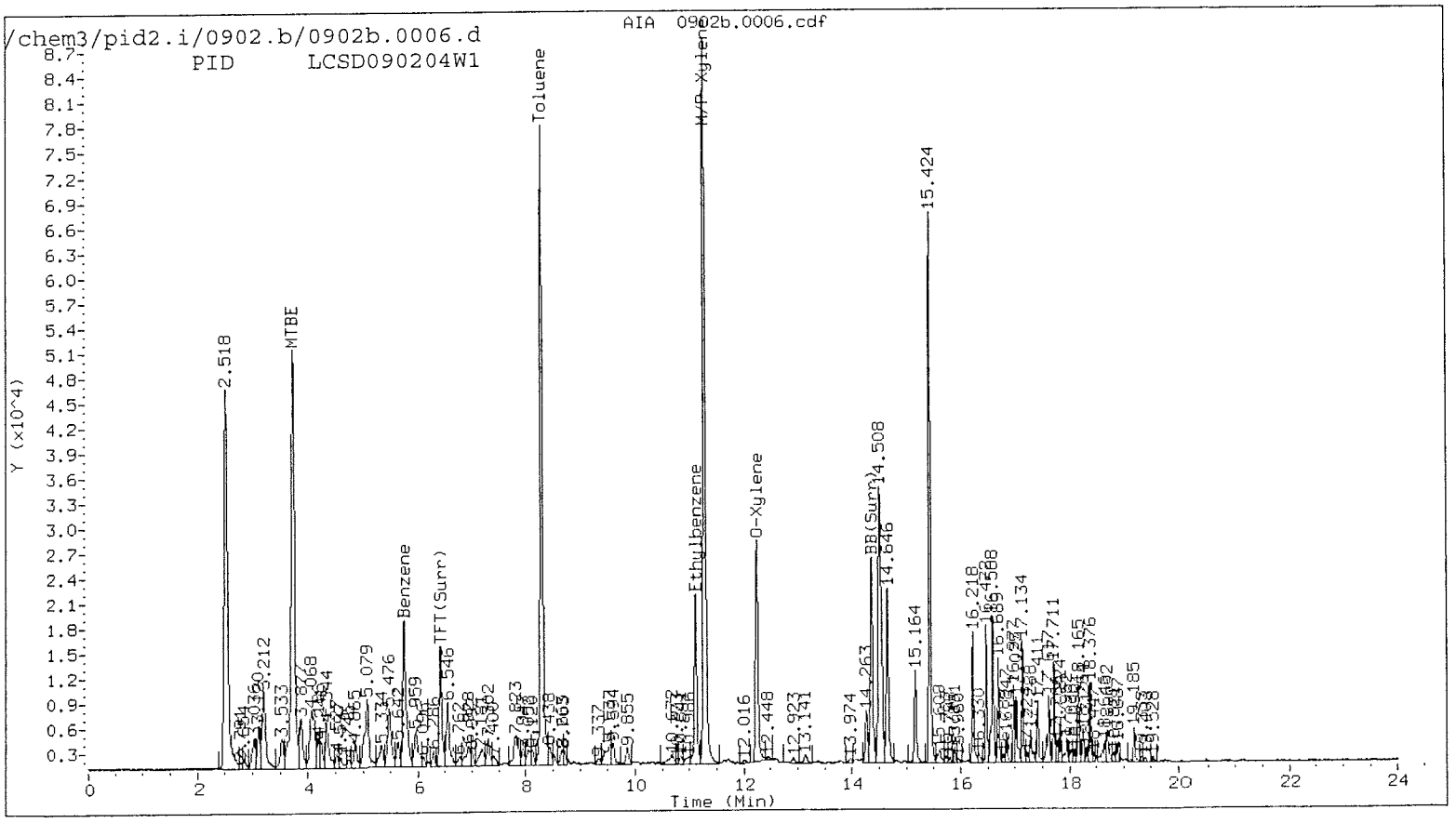
Instrument: pid2.i

Operator: AR
Column diameter: 2.00

Column phase: FID




/chem3/pid2.i/0902.b/0902.0006.d
AIA 0902.0006.cdf
FID LCSD090204W1
Y (x10^5)
Time (Min)
2.520
2-Methylpentane
3.733
nC6
4.600
4.869
5.071
nC7
5.753
TFT(Surr)
nC8
Toluene
11.114
11.278
12.246
Decane
14.509
14.648
15.166
1,2,4-Trimethylbenzene
nC11
Dodecane
Ethylbenzene
20.478
22.300


/chem3/pid2.i/0902.b/0902b.0006.d
AIA 0902b.0006.cdf
PID LCSD090204W1
Y (x10^4)
Time (Min)
2.518
MTBE
Benzene
TFT(Surr)
Toluene
M/P-Xylene
Ethylbenzene
O-Xylene
BB(Surr)
14.508
14.646
15.164
15.424
16.218

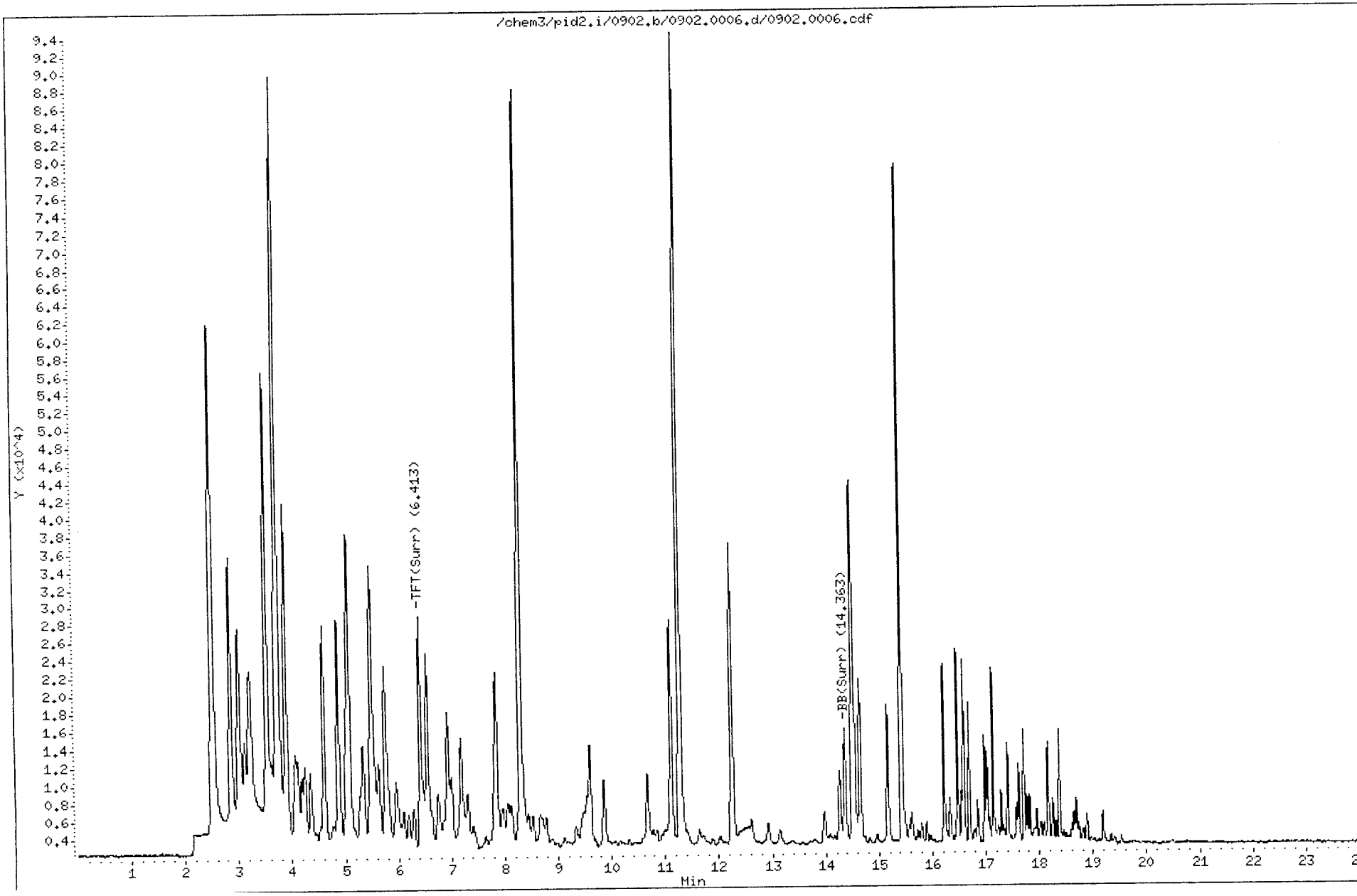
000106

Data File: /chem3/pid2.i/0902.b/0902.0006.d
Date : 02-SEP-2004 16:45
Client ID:
Sample Info: LCSD090204W1

Column phase: FID

Instrument: pid2.i

Operator: AR
Column diameter: 2.00



ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
TOTAL DIESEL RANGE HYDROCARBONS
NWTPHD by GC/FID-Silica and Acid Cleaned
Page 1 of 1
Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

Data Release Authorized:
Reported: 09/14/04

| ARI ID | Sample ID | Extraction Date | Analysis Date | DL | Range | Result mg/L |
|---|---|---|---|---|---|---|
| MB-090604 | Method Blank | 09/06/04 | 09/11/04 | 1.0 | Diesel | < 0.25 U |
| 04-13881 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 113% |
| HA23A | MW-101 | 09/06/04 | 09/10/04 | 1.0 | Diesel | < 0.25 U |
| 04-13881 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 100% |
| HA23B | MW-103 | 09/06/04 | 09/10/04 | 1.0 | Diesel | < 0.25 U |
| 04-13882 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 93.8% |
| HA23C | MW-105 | 09/06/04 | 09/10/04 | 1.0 | Diesel | < 0.25 U |
| 04-13883 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 78.7% |
| HA23D | MW-106 | 09/06/04 | 09/10/04 | 1.0 | Diesel | < 0.25 U |
| 04-13884 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 90.2% |
| HA23E | MW-107 | 09/06/04 | 09/10/04 | 1.0 | Diesel | < 0.25 U |
| 04-13885 | | | | | Motor Oil | < 0.50 U |
| | | | | | HC ID | --- |
| | | | | | o-Terphenyl | 92.0% |

Diesel quantitation on total peaks in the range from C12 to C24.
Motor Oil quantitation on total peaks in the range from C24 to C38.
HC ID: DRO/RRO indicate results of organics or additional hydrocarbons in ranges are not identifiable.

Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040910.b/0910a042.d
Method: /chem3/fid3a.i/20040910.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/11/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

ARI ID: HA40MBW1
Client ID:
Injection: 11-SEP-2004 05:15

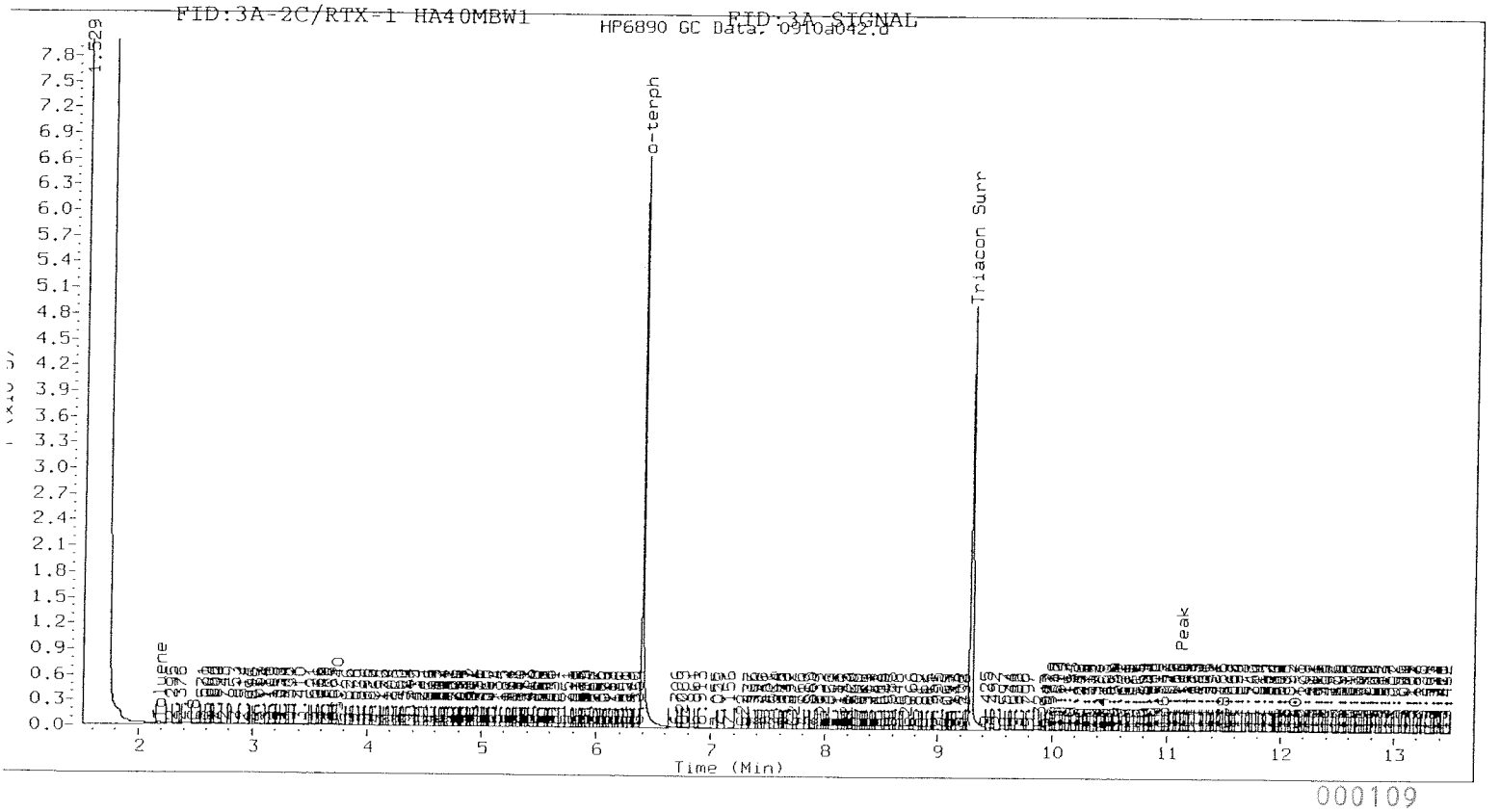
Dilution Factor: 1

9/11/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.183 | 0.016 | 2407 | 7836 | GAS (Tol-C12) | 55120 | 8 |
| C8 | 2.493 | 0.013 | 560 | 2248 | DIESEL (C12-C24) | 32051 | 3 |
| C10 | 3.719 | 0.014 | 386 | 486 | M.OIL (C24-C38) | 57051 | 7 |
| C12 | 4.484 | 0.001 | 103 | 194 | | | |
| C14 | 5.083 | -0.013 | 138 | 375 | | | |
| C16 | 5.689 | 0.020 | 178 | 565 | | | |
| C18 | 6.217 | -0.003 | 149 | 212 | OR.MOIL (C28-C40) | 66331 | 8 |
| C20 | 6.748 | 0.004 | 839 | 609 | | | |
| C22 | 7.277 | 0.028 | 200 | 526 | | | |
| C24 | 7.726 | -0.011 | 141 | 211 | | | |
| C25 | 7.988 | 0.015 | 63 | 78 | | | |
| C26 | 8.196 | -0.005 | 64 | 27 | | | |
| C28 | 8.727 | 0.018 | 261 | 351 | | | |
| C32 | 9.895 | 0.032 | 325 | 214 | | | |
| C34 | 10.438 | 0.014 | 249 | 315 | | | |
| Filter Peak | 11.132 | 0.005 | 387 | 397 | | | |
| C36 | 10.973 | 0.009 | 340.0 | 467 | o-Terph Surrogate Rec = 113.4% | | (693585) |
| C38 | 11.506 | 0.008 | 439.0 | 515 | Triacon Surrogate Rec = 126.8% | | (698839) |
| C40 | 12.135 | 0.004 | 464 | 699 | | | |
| o-terph | 6.397 | -0.002 | 665580 | 693585 | | | |
| Triacon Surr | 9.300 | -0.001 | 492517 | 698839 | | | |

Range Times: NW Diesel(4.483 - 7.737) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.74 - 11.50) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040910.b/0910a042.d
Date : 11-SEP-2004 05:15
Client ID:
Sample Info: HA40MBW1

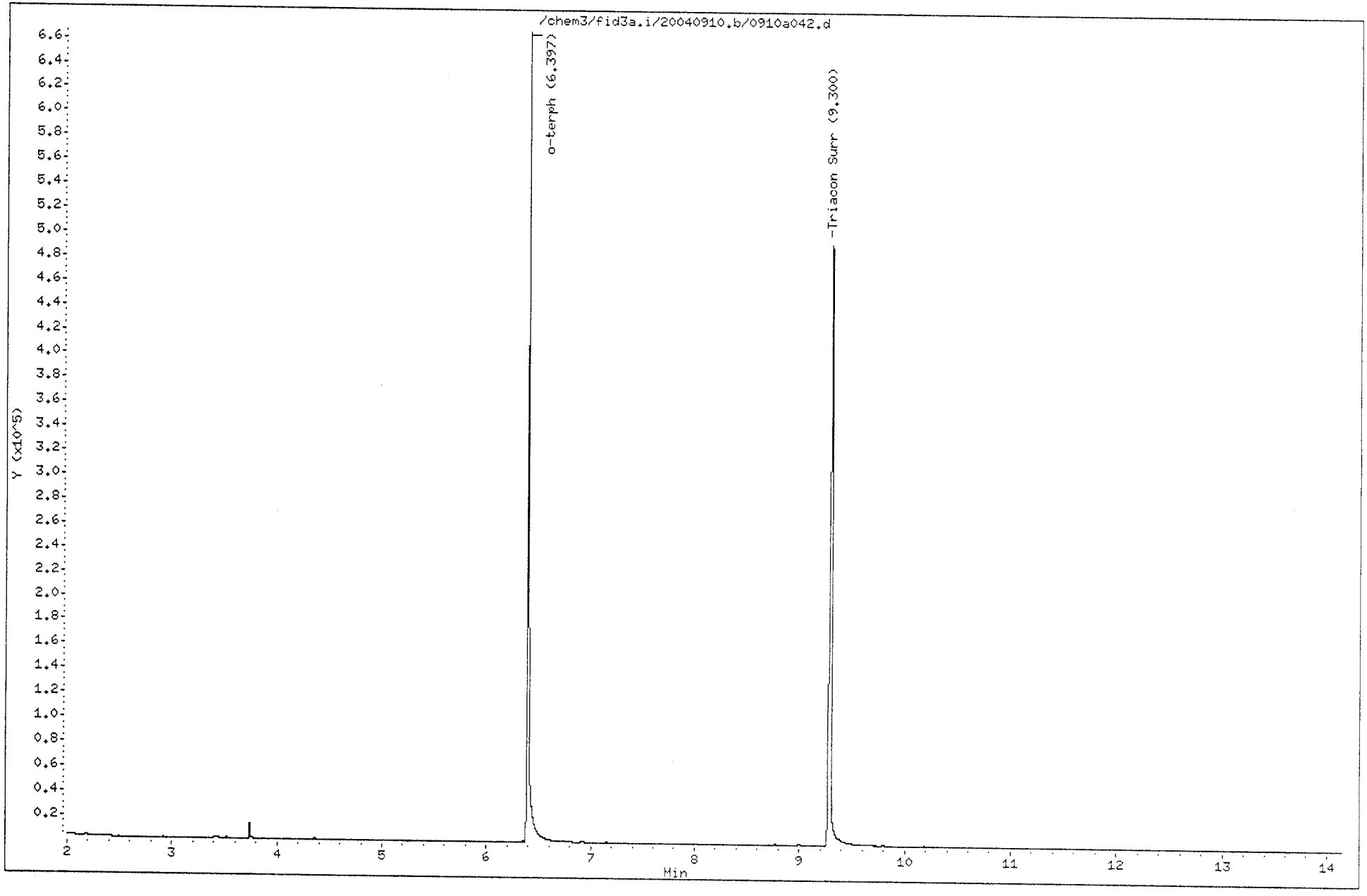
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000110



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a025.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

ARI ID: HA23A
Client ID:
Injection: 10-SEP-2004 00:50

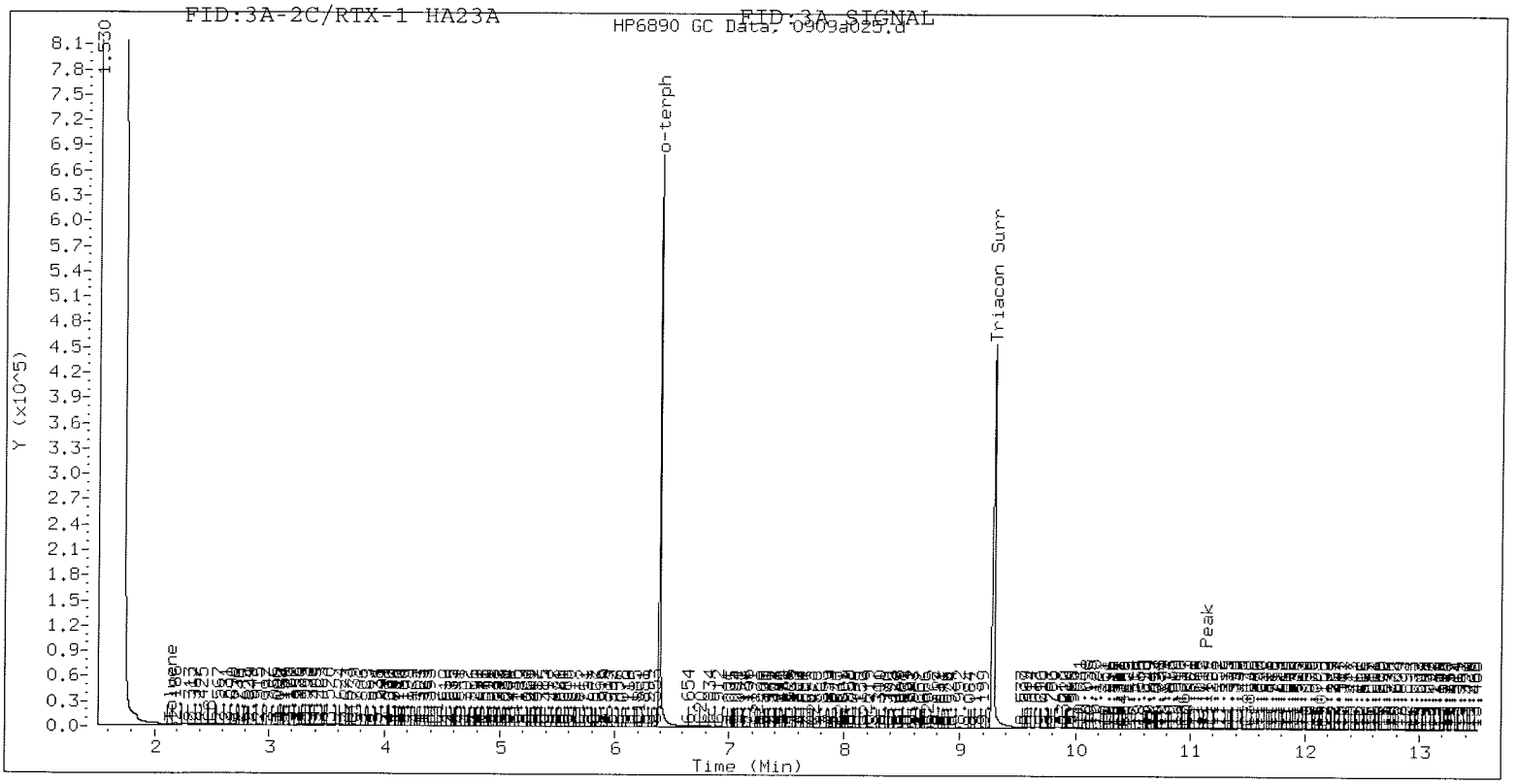
Dilution Factor: 1

9/9/10/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.140 | -0.019 | 1745 | 4158 | GAS (Tol-C12) | 42776 | 6 |
| C8 | 2.498 | 0.024 | 463 | 1262 | DIESEL (C12-C24) | 25685 | 2 UL |
| C10 | 3.714 | 0.012 | 270 | 333 | M.OIL (C24-C38) | 54588 | 6 |
| C12 | 4.455 | -0.026 | 20 | 16 | | | |
| C14 | 5.112 | 0.018 | 85 | 119 | | | |
| C16 | 5.683 | 0.017 | 203 | 245 | | | |
| C18 | 6.218 | 0.000 | 295 | 481 | OR.MOIL (C28-C40) | 57308 | 7 |
| C20 | 6.763 | 0.020 | 1165 | 2191 | | | |
| C22 | 7.245 | -0.002 | 183 | 288 | | | |
| C24 | 7.731 | -0.003 | 201 | 118 | | | |
| C25 | 7.970 | -0.002 | 210 | 198 | | | |
| C26 | 8.196 | -0.003 | 254 | 117 | | | |
| C28 | 8.725 | 0.018 | 382 | 769 | | | |
| C32 | 9.891 | 0.033 | 315 | 391 | | | |
| C34 | 10.412 | -0.008 | 256 | 142 | | | |
| Filter Peak | 11.146 | 0.002 | 403 | 759 | | | |
| C36 | 10.951 | -0.010 | 358.0 | 406 | o-Terph Surrogate Rec = 100.4% | | (614098) |
| C38 | 11.509 | 0.014 | 466.0 | 1203 | Triacon Surrogate Rec = 113.1% | | (623445) |
| C40 | 12.140 | 0.012 | 463 | 410 | | | |
| o-terph | 6.397 | 0.000 | 679099 | 614098 | | | |
| Triacon Surr | 9.295 | -0.002 | 454414 | 623445 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a025.d
Date : 10-SEP-2004 00:50
Client ID:
Sample Info: HA23A

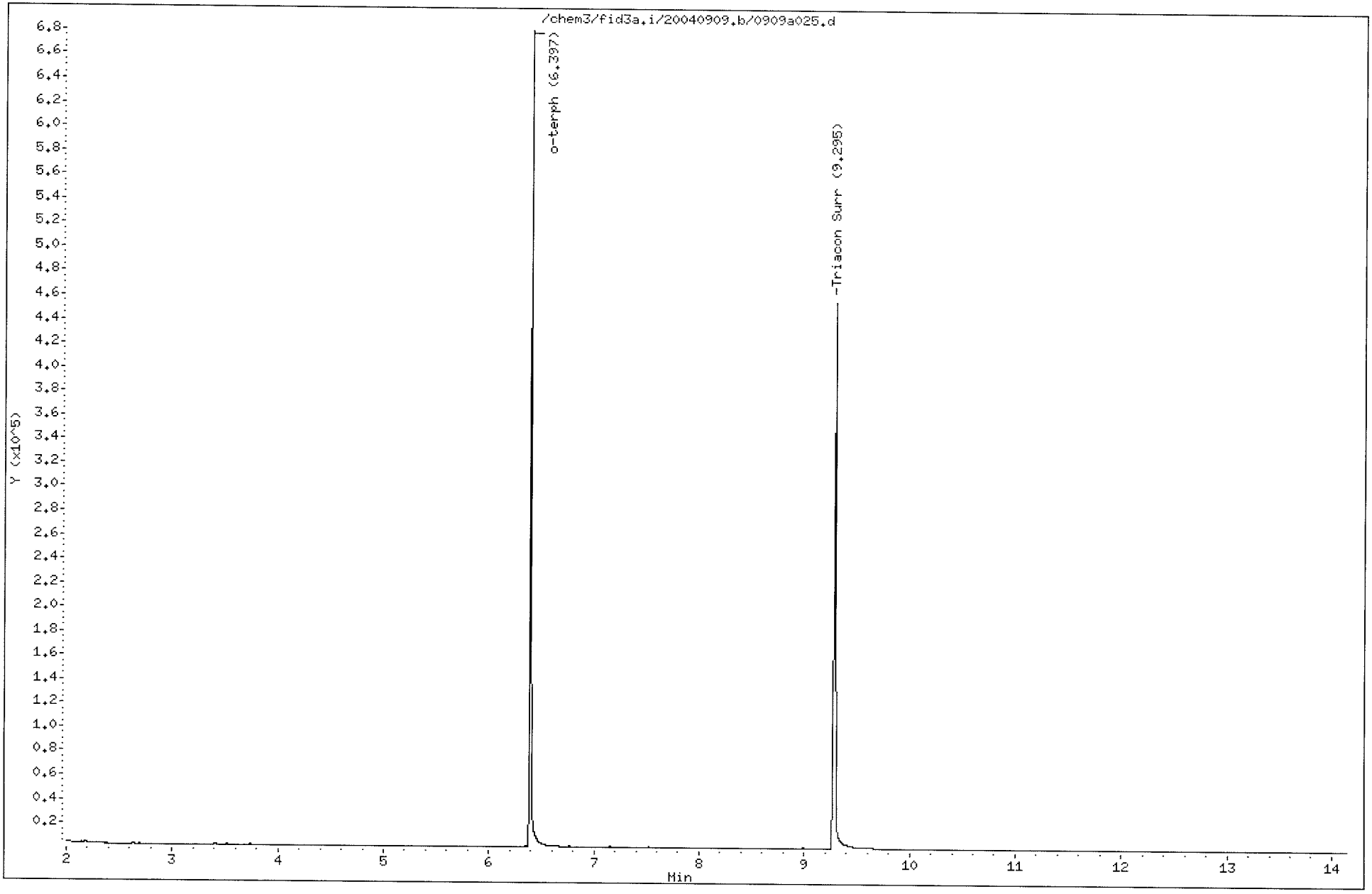
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000112



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a026.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

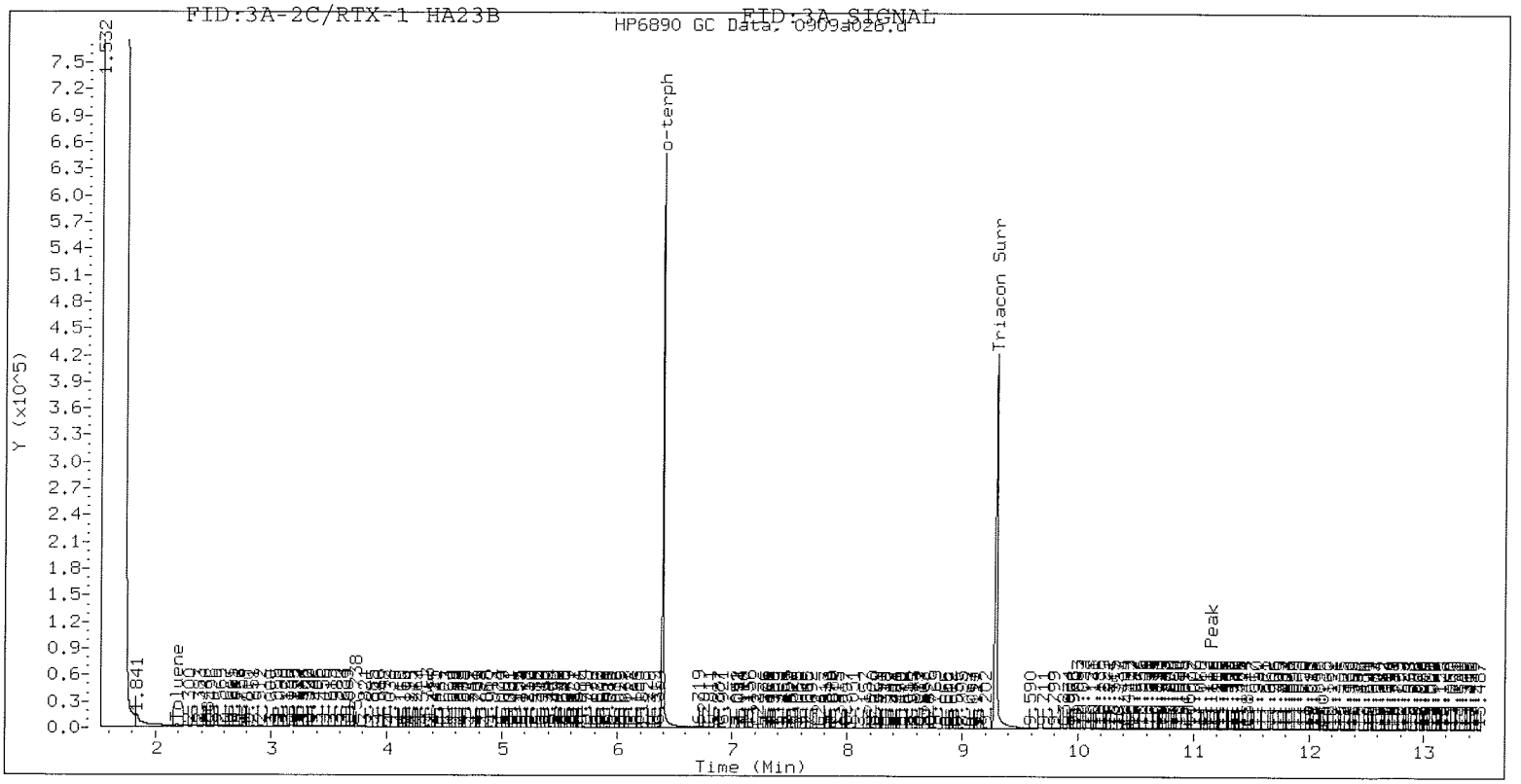
ARI ID: HA23B
Client ID:
Injection: 10-SEP-2004 01:11
Dilution Factor: 1

9a/10/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.185 | 0.026 | 2152 | 7201 | GAS (Tol-C12) | 49256 | 7 |
| C8 | 2.457 | -0.017 | 451 | 680 | DIESEL (C12-C24) | 17187 | 1 |
| C10 | 3.690 | -0.012 | 300 | 594 | M.OIL (C24-C38) | 40748 | 5 |
| C12 | 4.488 | 0.007 | 29 | 17 | | | |
| C14 | 5.105 | 0.011 | 81 | 133 | | | |
| C16 | 5.656 | -0.010 | 69 | 25 | | | |
| C18 | 6.218 | -0.001 | 212 | 389 | OR.MOIL (C28-C40) | 51795 | 6 |
| C20 | 6.763 | 0.021 | 1047 | 1528 | | | |
| C22 | 7.226 | -0.020 | 114 | 238 | | | |
| C24 | 7.761 | 0.027 | 175 | 482 | | | |
| C25 | 7.985 | 0.013 | 91 | 75 | | | |
| C26 | 8.201 | 0.002 | 94 | 73 | | | |
| C28 | 8.705 | -0.002 | 97 | 76 | | | |
| C32 | 9.885 | 0.027 | 277 | 544 | | | |
| C34 | 10.434 | 0.014 | 213 | 275 | | | |
| Filter Peak | 11.159 | 0.015 | 389 | 854 | | | |
| C36 | 10.959 | -0.002 | 310.0 | 302 | o-Terph Surrogate Rec = 93.8% | (573607) | |
| C38 | 11.475 | -0.020 | 445.0 | 956 | Triacon Surrogate Rec = 106.2% | (585111) | |
| C40 | 12.125 | -0.003 | 455 | 941 | | | |
| o-terph | 6.397 | 0.000 | 646155 | 573607 | | | |
| Triacon Surr | 9.296 | -0.001 | 421878 | 585111 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a026.d
Date : 10-SEP-2004 01:11
Client ID:
Sample Info: HA23B

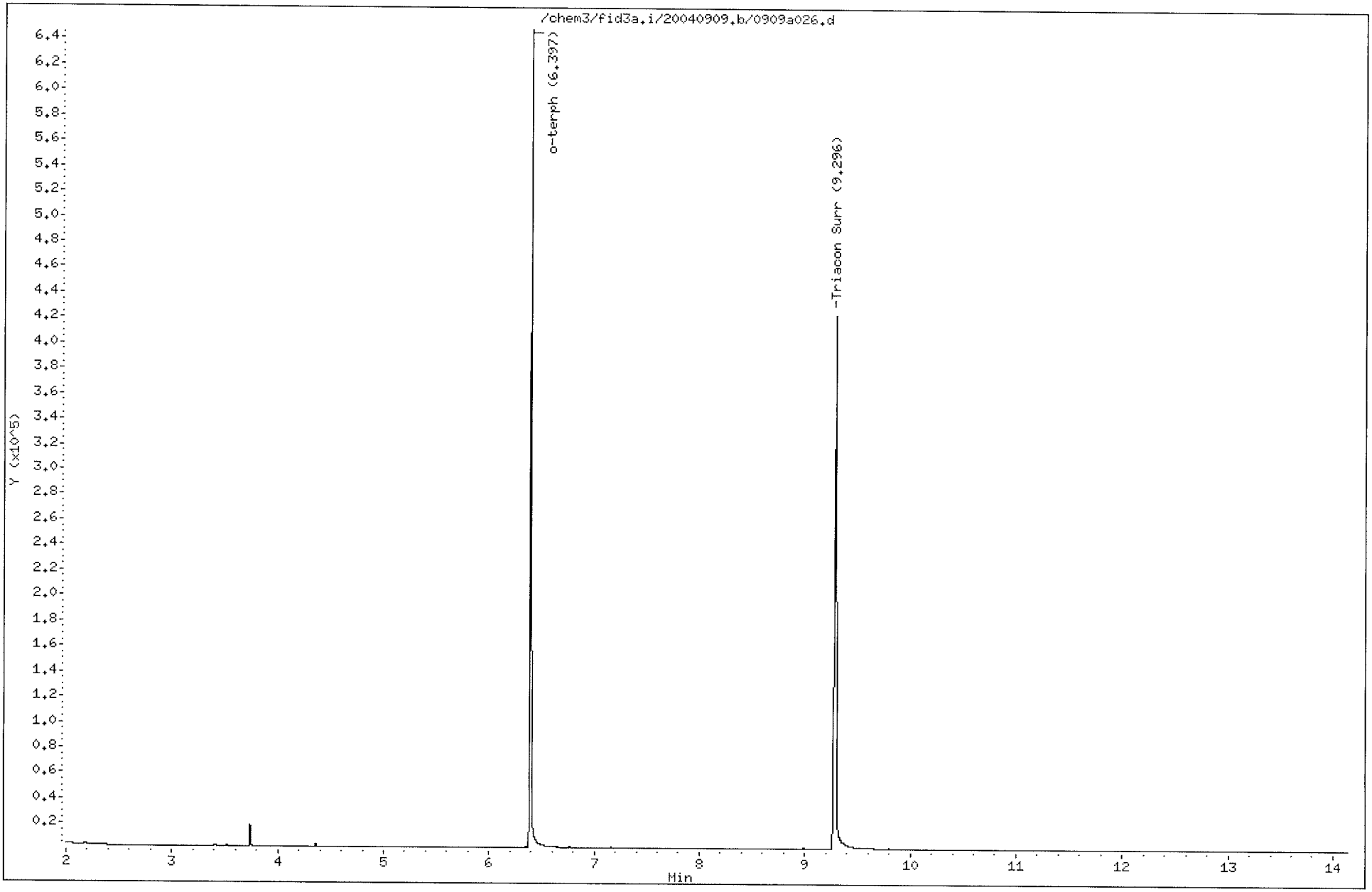
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000114



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a027.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

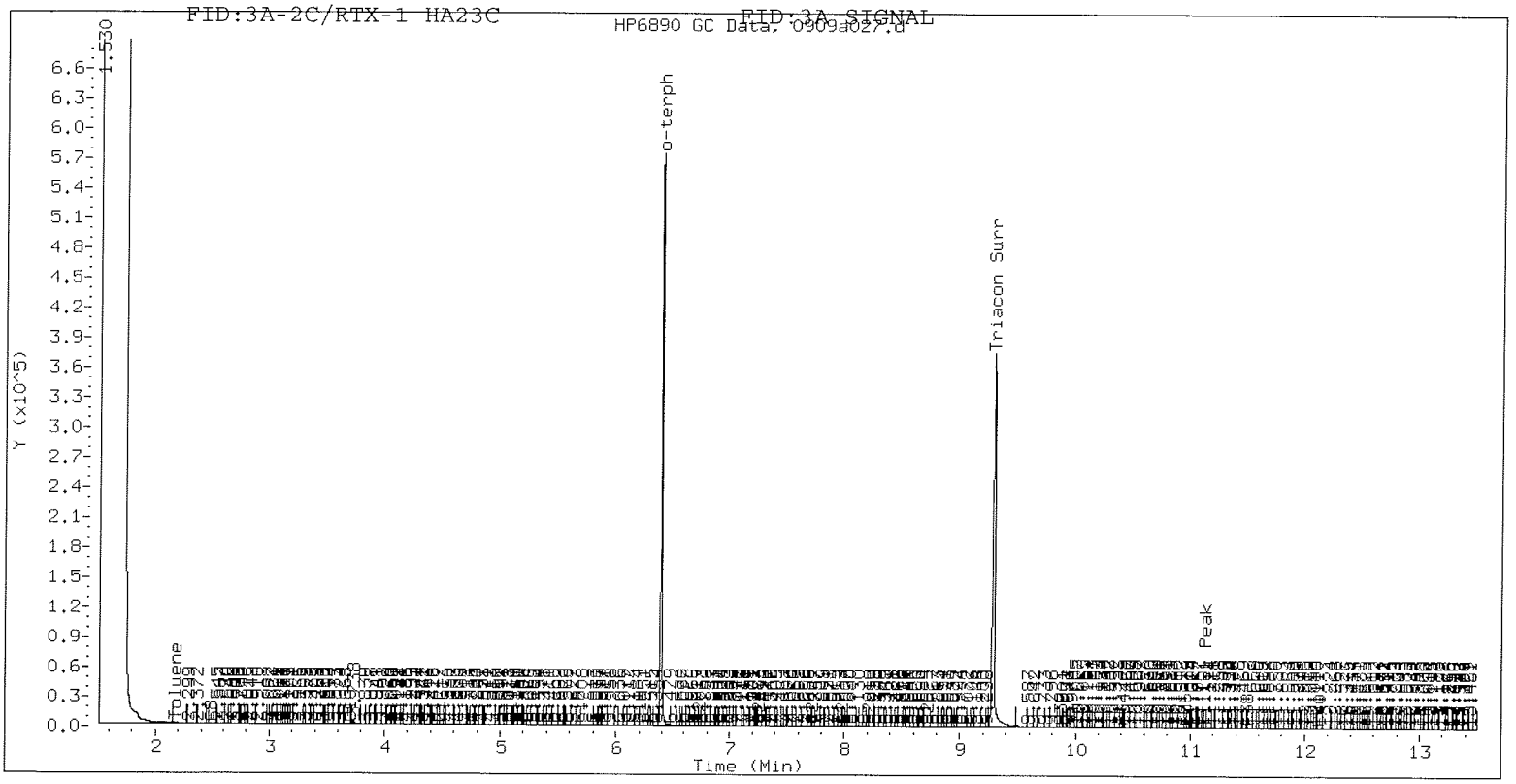
ARI ID: HA23C
Client ID:
Injection: 10-SEP-2004 01:33
Dilution Factor: 1

OK 9/10/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.180 | 0.021 | 2018 | 8209 | GAS (Tol-C12) | 41956 | 6 |
| C8 | 2.489 | 0.015 | 442 | 1518 | DIESEL (C12-C24) | 32575 | 3 ug/L |
| C10 | 3.707 | 0.005 | 253 | 256 | M.OIL (C24-C38) | 49928 | 6 D |
| C12 | 4.482 | 0.001 | 83 | 111 | | | |
| C14 | 5.101 | 0.007 | 100 | 80 | | | |
| C16 | 5.684 | 0.018 | 525 | 816 | | | |
| C18 | 6.217 | -0.002 | 296 | 468 | OR.MOIL (C28-C40) | 53133 | 6 |
| C20 | 6.739 | -0.003 | 356 | 325 | | | |
| C22 | 7.257 | 0.011 | 146 | 214 | | | |
| C24 | 7.725 | -0.008 | 161 | 99 | | | |
| C25 | 7.985 | 0.013 | 158 | 184 | | | |
| C26 | 8.210 | 0.011 | 197 | 219 | | | |
| C28 | 8.725 | 0.018 | 324 | 649 | | | |
| C32 | 9.871 | 0.013 | 309 | 285 | | | |
| C34 | 10.416 | -0.004 | 244 | 279 | | | |
| Filter Peak | 11.132 | -0.012 | 426 | 431 | | | |
| C36 | 10.956 | -0.004 | 368.0 | 500 | o-Terph Surrogate Rec = 78.7% | | (481393) |
| C38 | 11.499 | 0.004 | 453.0 | 378 | Triacon Surrogate Rec = 87.8% | | (483750) |
| C40 | 12.132 | 0.004 | 479 | 1029 | | | |
| o-terph | 6.396 | -0.001 | 573448 | 481393 | | | |
| Triacon Surr | 9.292 | -0.005 | 374591 | 483750 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a027.d
Date : 10-SEP-2004 01:33
Client ID:
Sample Info: HA23C

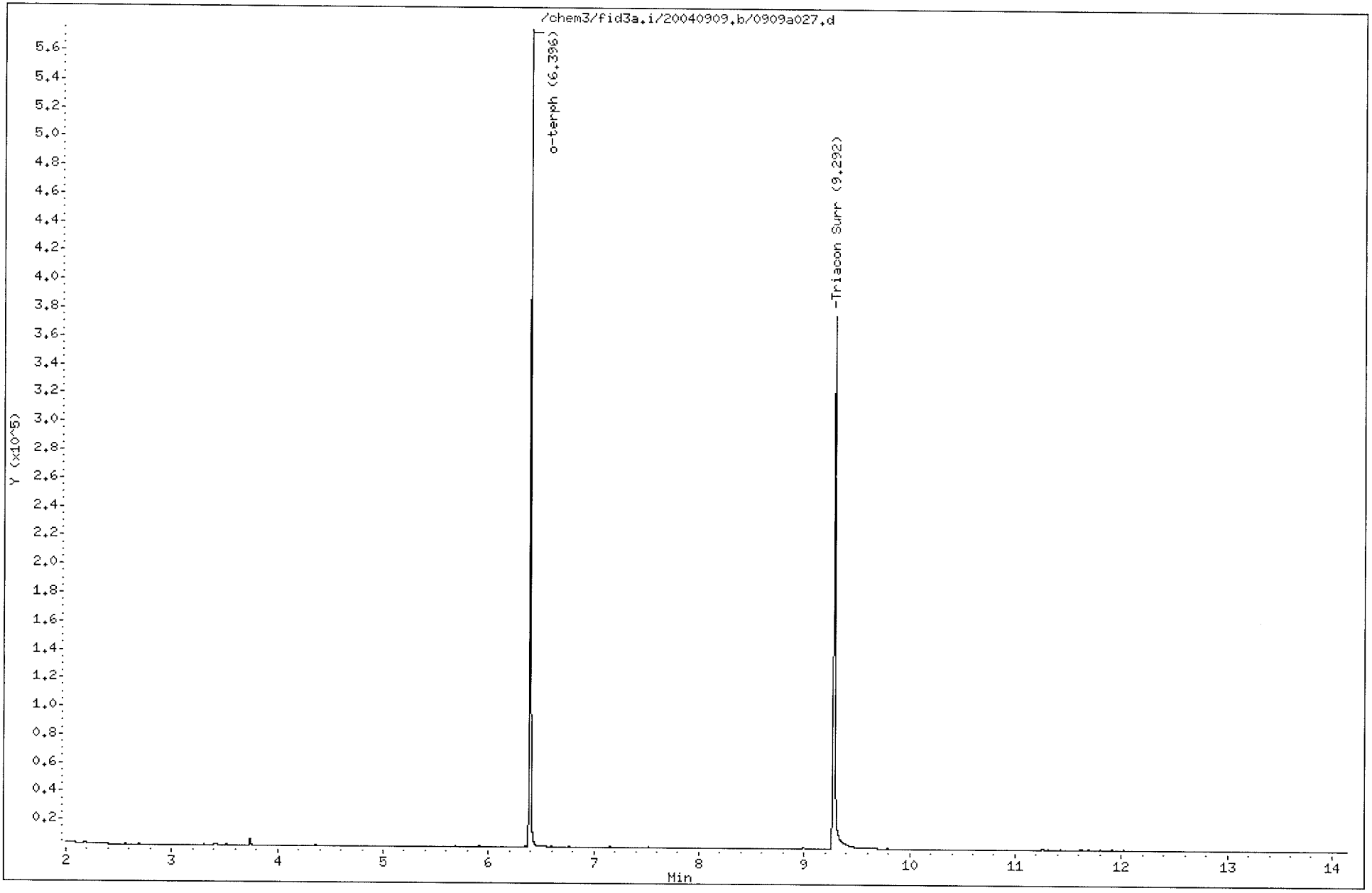
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000116



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a028.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

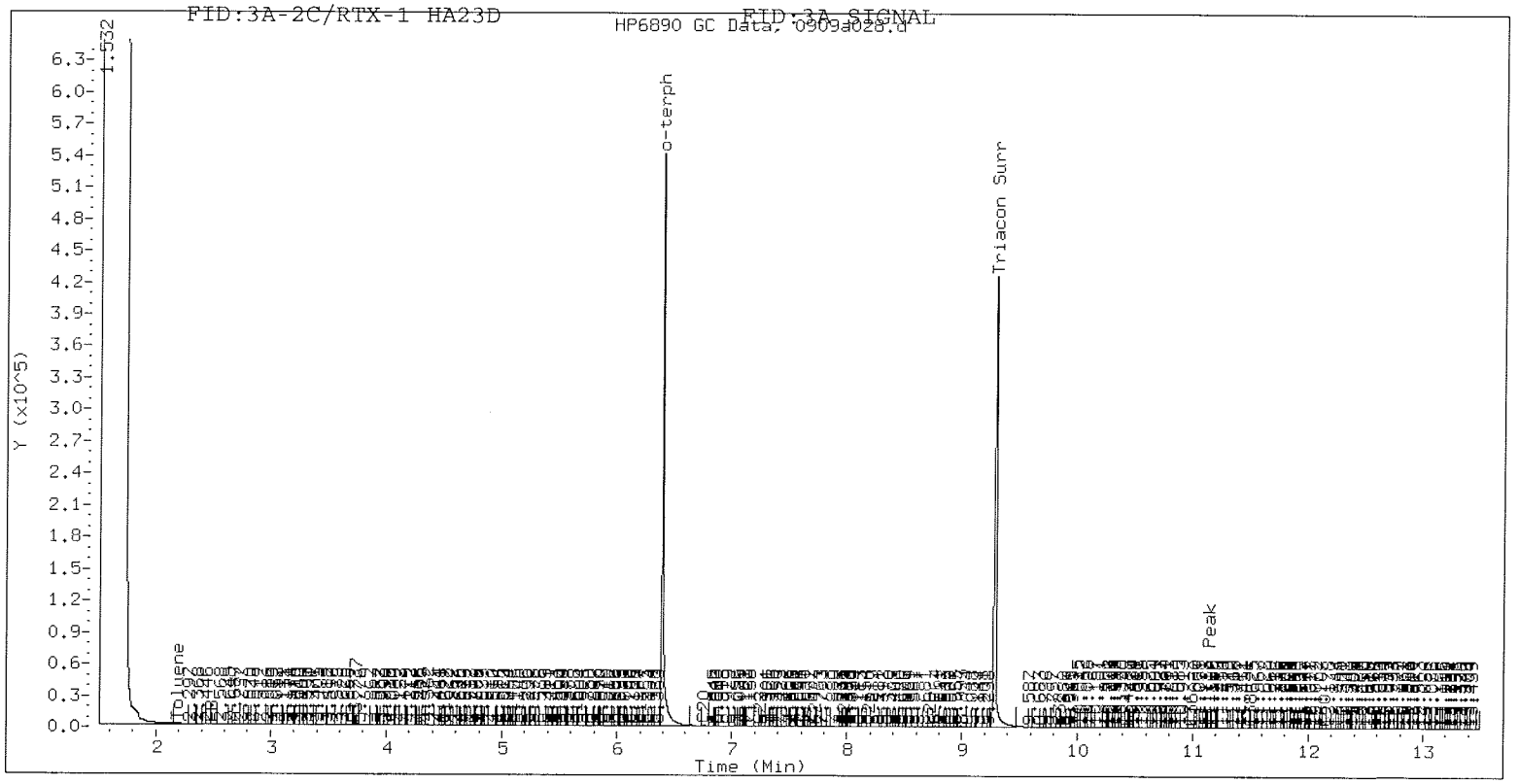
ARI ID: HA23D
Client ID:
Injection: 10-SEP-2004 01:55

Dilution Factor: 1

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.185 | 0.025 | 2022 | 9190 | GAS (Tol-C12) | 51076 | 7 |
| C8 | 2.494 | 0.020 | 457 | 1293 | DIESEL (C12-C24) | 21542 | 2 |
| C10 | 3.715 | 0.013 | 281 | 306 | M.OIL (C24-C38) | 64696 | 7 |
| C12 | 4.499 | 0.018 | 26 | 11 | | | |
| C14 | 5.083 | -0.011 | 77 | 62 | | | |
| C16 | 5.656 | -0.011 | 62 | 31 | | | |
| C18 | 6.209 | -0.009 | 136 | 182 | OR.MOIL (C28-C40) | 67277 | 8 |
| C20 | 6.763 | 0.020 | 1349 | 2853 | | | |
| C22 | 7.243 | -0.003 | 197 | 168 | | | |
| C24 | 7.728 | -0.006 | 206 | 164 | | | |
| C25 | 7.972 | 0.000 | 248 | 221 | | | |
| C26 | 8.196 | -0.002 | 343 | 511 | | | |
| C28 | 8.726 | 0.019 | 470 | 982 | | | |
| C32 | 9.853 | -0.005 | 416 | 498 | | | |
| C34 | 10.443 | 0.024 | 326 | 175 | | | |
| Filter Peak | 11.144 | 0.000 | 465 | 532 | | | |
| C36 | 10.996 | 0.035 | 425.0 | 1302 | o-Terph Surrogate Rec = 90.2% | | (551596) |
| C38 | 11.500 | 0.005 | 508.0 | 377 | Triacon Surrogate Rec = 102.6% | | (565461) |
| C40 | 12.143 | 0.015 | 509 | 1059 | | | |
| o-terph | 6.395 | -0.002 | 541072 | 551596 | | | |
| Triacon Surr | 9.294 | -0.003 | 426049 | 565461 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a028.d
Date : 10-SEP-2004 01:55
Client ID:
Sample Info: HA23D

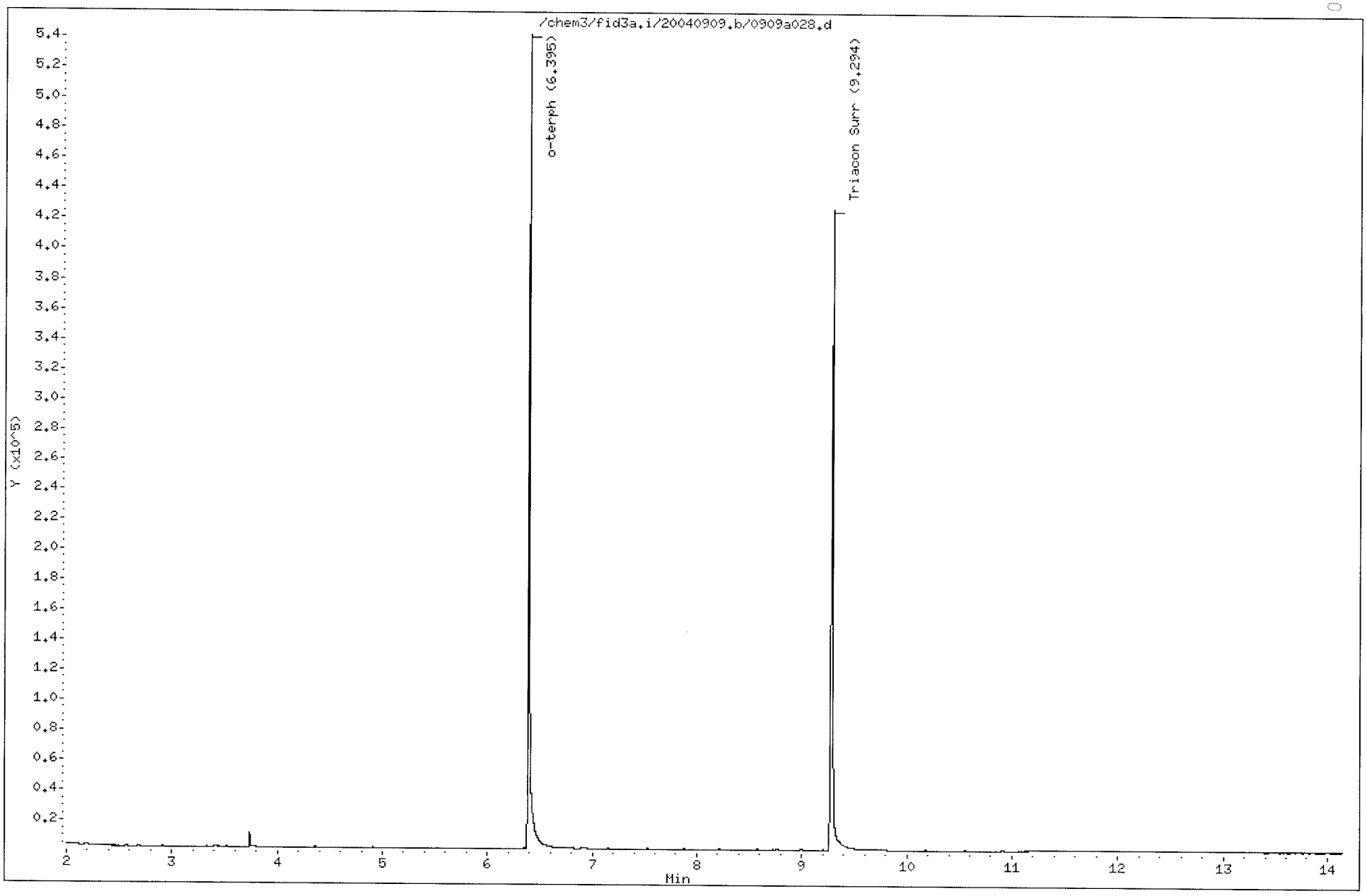
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000118



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a029.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

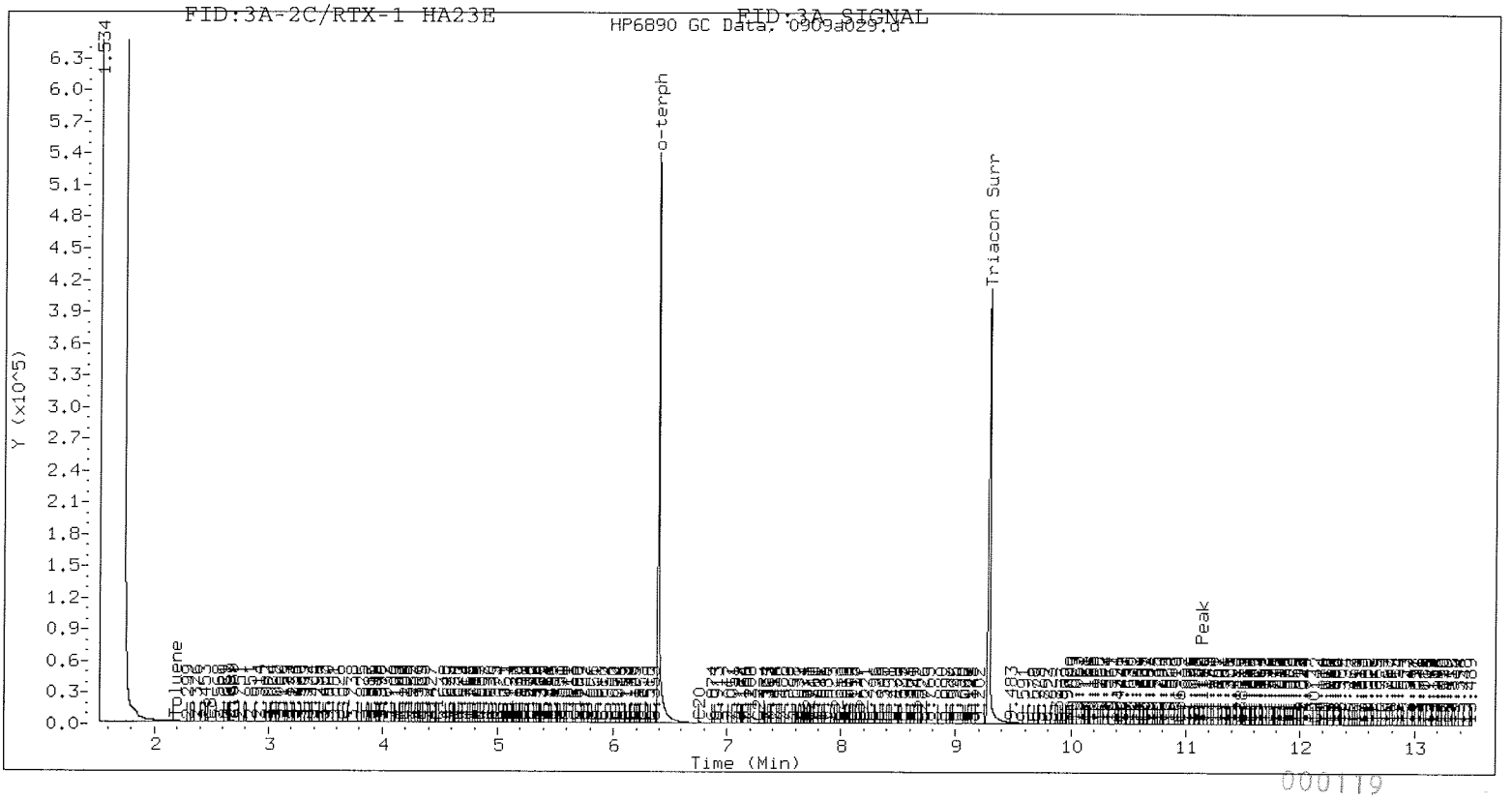
ARI ID: HA23E
Client ID:
Injection: 10-SEP-2004 02:16
Dilution Factor: 1

9/10/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.185 | 0.026 | 2222 | 9616 | GAS (Tol-C12) | 45607 | 6 |
| C8 | 2.492 | 0.019 | 767 | 2396 | DIESEL (C12-C24) | 17262 | 1 LDL |
| C10 | 3.665 | -0.036 | 358 | 849 | M.OIL (C24-C38) | 49485 | 6 LDL |
| C12 | 4.478 | -0.002 | 29 | 26 | | | |
| C14 | 5.081 | -0.012 | 63 | 33 | | | |
| C16 | 5.668 | 0.002 | 63 | 47 | | | |
| C18 | 6.234 | 0.016 | 86 | 40 | OR.MOIL (C28-C40) | 63233 | 8 |
| C20 | 6.763 | 0.021 | 1101 | 4184 | | | |
| C22 | 7.284 | 0.037 | 147 | 350 | | | |
| C24 | 7.728 | -0.005 | 83 | 53 | | | |
| C25 | 7.976 | 0.004 | 56 | 61 | | | |
| C26 | 8.189 | -0.009 | 54 | 68 | | | |
| C28 | 8.702 | -0.004 | 51 | 34 | | | |
| C32 | 9.890 | 0.032 | 345 | 406 | | | |
| C34 | 10.418 | -0.002 | 257 | 196 | | | |
| Filter Peak | 11.140 | -0.004 | 434 | 734 | | | |
| C36 | 10.953 | -0.007 | 342.0 | 443 | o-Terph Surrogate Rec = 91.9% | | (562398) |
| C38 | 11.494 | -0.001 | 472.0 | 522 | Triacon Surrogate Rec = 100.6% | | (554466) |
| C40 | 12.121 | -0.007 | 522 | 910 | | | |
| o-terph | 6.394 | -0.003 | 539461 | 562398 | | | |
| Triacon Surr | 9.296 | -0.001 | 412016 | 554466 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a029.d
Date : 10-SEP-2004 02:16
Client ID:
Sample Info: HA23E

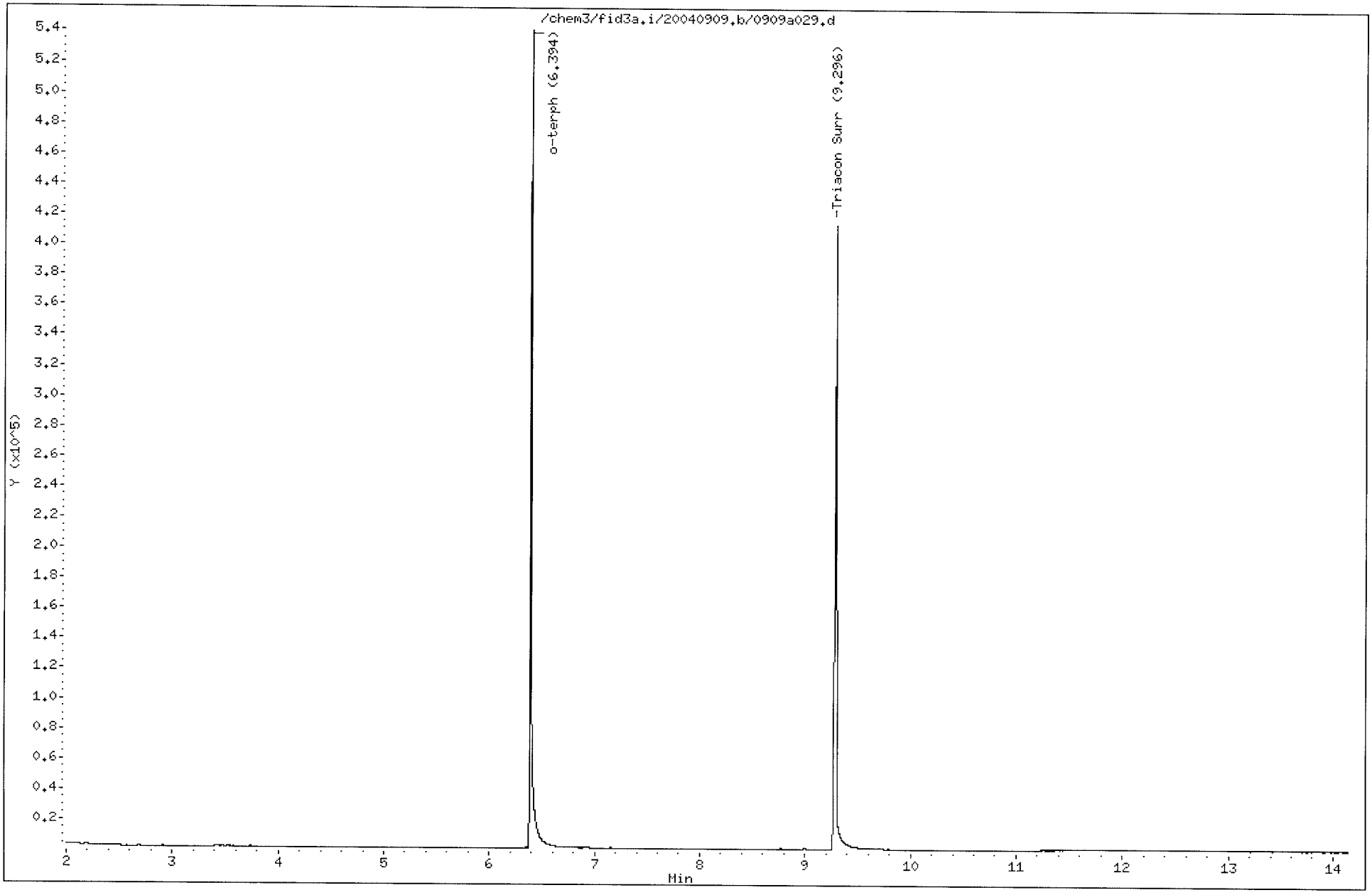
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000120



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a021.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

ARI ID: HA40LCSW1
Client ID:
Injection: 09-SEP-2004 23:23

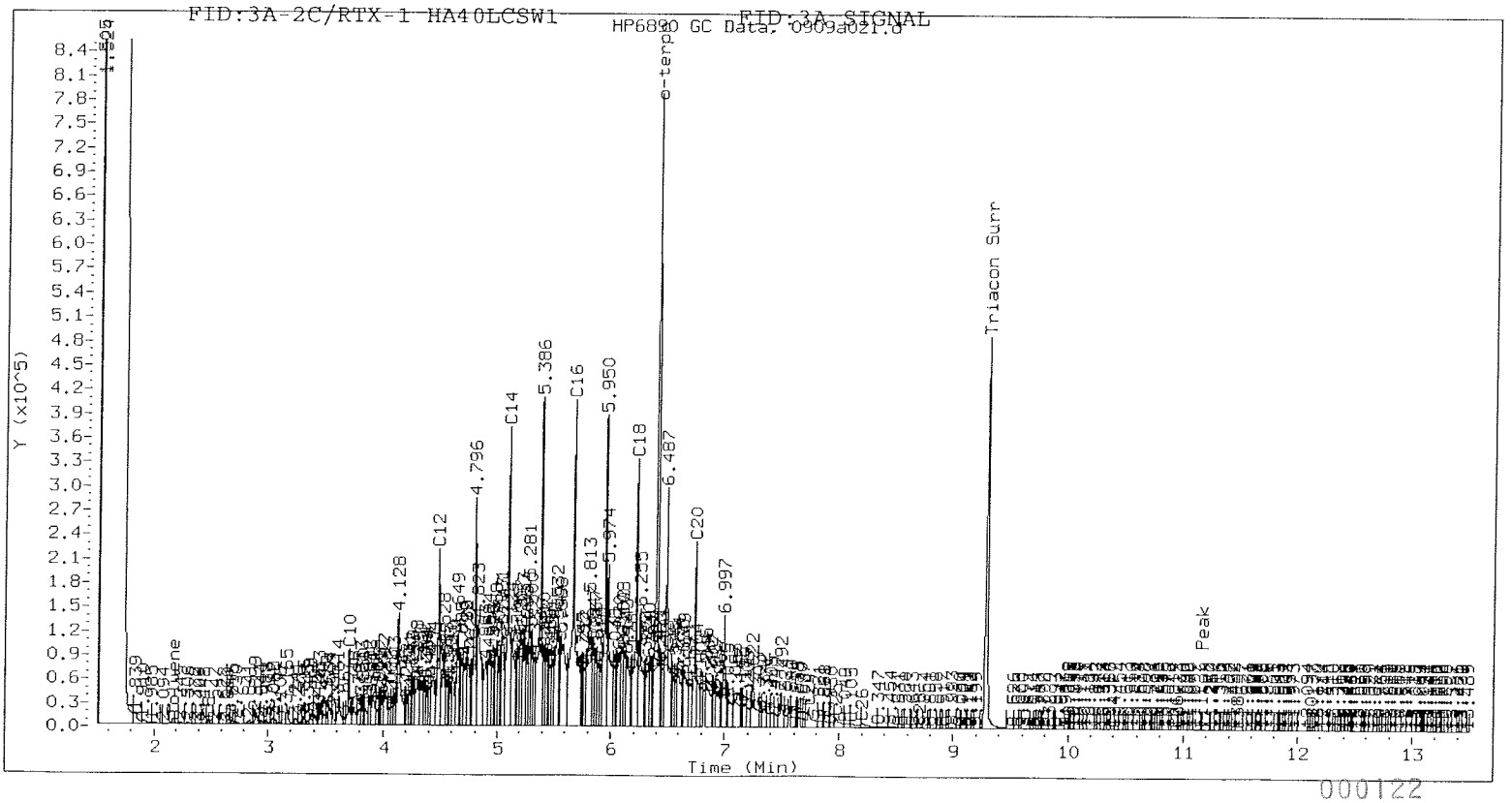
Dilution Factor: 1

9/9/10 kn

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.178 | 0.019 | 7399 | 13756 | GAS (Tol-C12) | 2438221 | 338 |
| C8 | 2.490 | 0.016 | 5186 | 7470 | DIESEL (C12-C24) | 13623514 | 1177 |
| C10 | 3.703 | 0.002 | 95316 | 98887 | M.OIL (C24-C38) | 261843 | 30 |
| C12 | 4.480 | -0.001 | 221194 | 276956 | | | |
| C14 | 5.095 | 0.001 | 373441 | 493365 | | | |
| C16 | 5.671 | 0.004 | 407509 | 840477 | | | |
| C18 | 6.223 | 0.004 | 334710 | 387660 | OR.MOIL (C28-C40) | 60075 | 7 |
| C20 | 6.745 | 0.003 | 231414 | 234604 | | | |
| C22 | 7.246 | 0.000 | 74745 | 141694 | | | |
| C24 | 7.733 | -0.001 | 24830 | 72999 | | | |
| C25 | 7.971 | -0.002 | 12807 | 41512 | | | |
| C26 | 8.203 | 0.005 | 6183 | 32008 | | | |
| C28 | 8.717 | 0.010 | 1655 | 2974 | | | |
| C32 | 9.837 | -0.021 | 267 | 560 | | | |
| C34 | 10.409 | -0.011 | 294 | 630 | | | |
| Filter Peak | 11.165 | 0.021 | 303 | 158 | | | |
| C36 | 10.953 | -0.007 | 325.0 | 276 | o-Terph Surrogate Rec = 107.2% | | (655954) |
| C38 | 11.478 | -0.017 | 547.0 | 1974 | Triacon Surrogate Rec = 124.4% | | (685496) |
| C40 | 12.123 | -0.005 | 278 | 210 | | | |
| o-terph | 6.403 | 0.006 | 712156 | 655954 | | | |
| Triacon Surr | 9.297 | 0.000 | 487298 | 685496 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a021.d
Date : 09-SEP-2004 23:23
Client ID:
Sample Info: HA40LCSW1

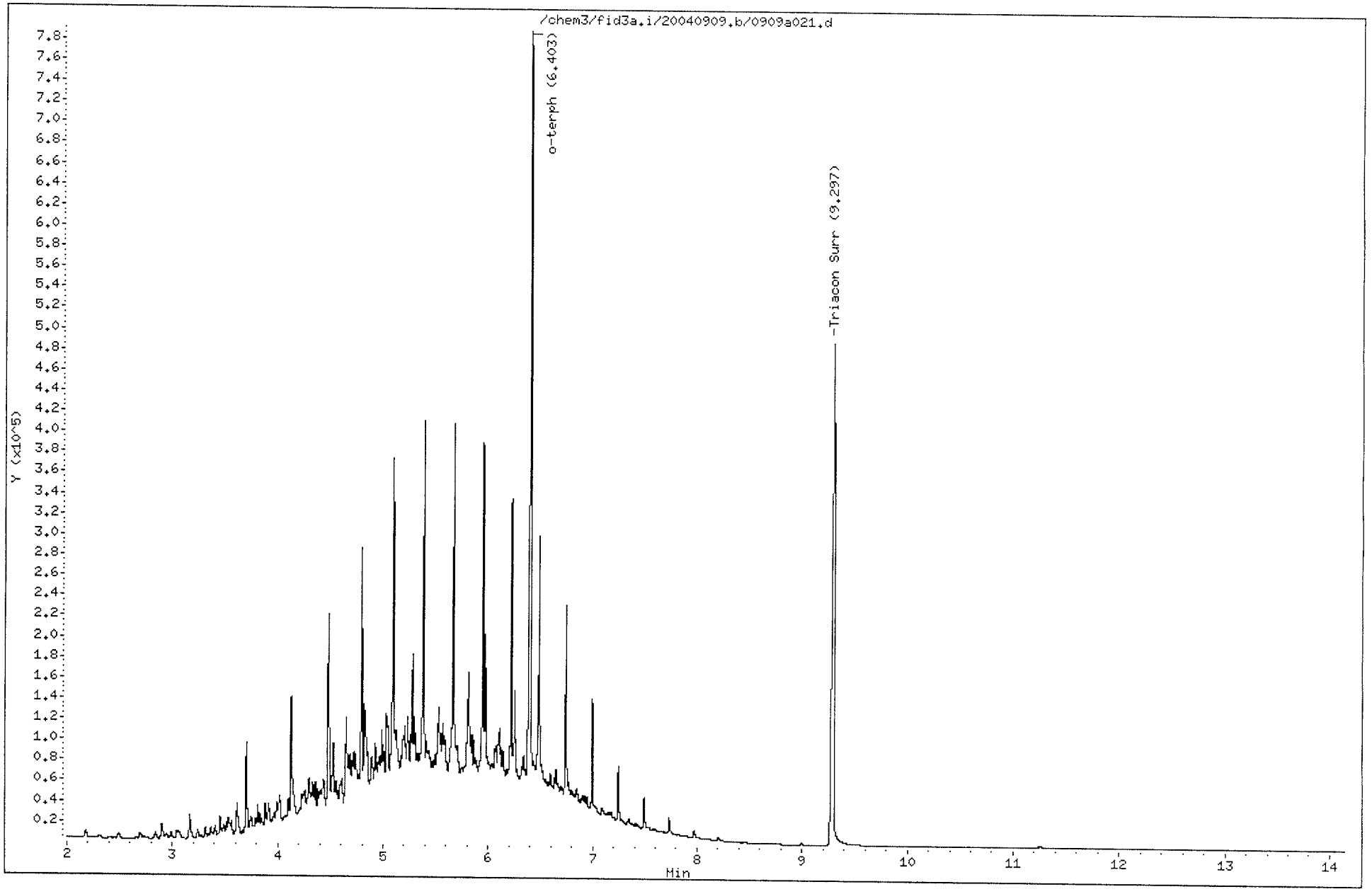
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000123



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid3a.i/20040909.b/0909a022.d
Method: /chem3/fid3a.i/20040909.b/acidsilfid3a.m
Instrument: fid3a.i
Operator: ESJ
Report Date: 09/10/2004
Macro: 01-SEP-2004
Calibration Dates: Gas:11-JUN-2004 Diesel:04-AUG-2004 M.Oil:01-SEP-2004
OR.MOIL:01-SEP-2004

ARI ID: HA40LCSDW1
Client ID:
Injection: 09-SEP-2004 23:44

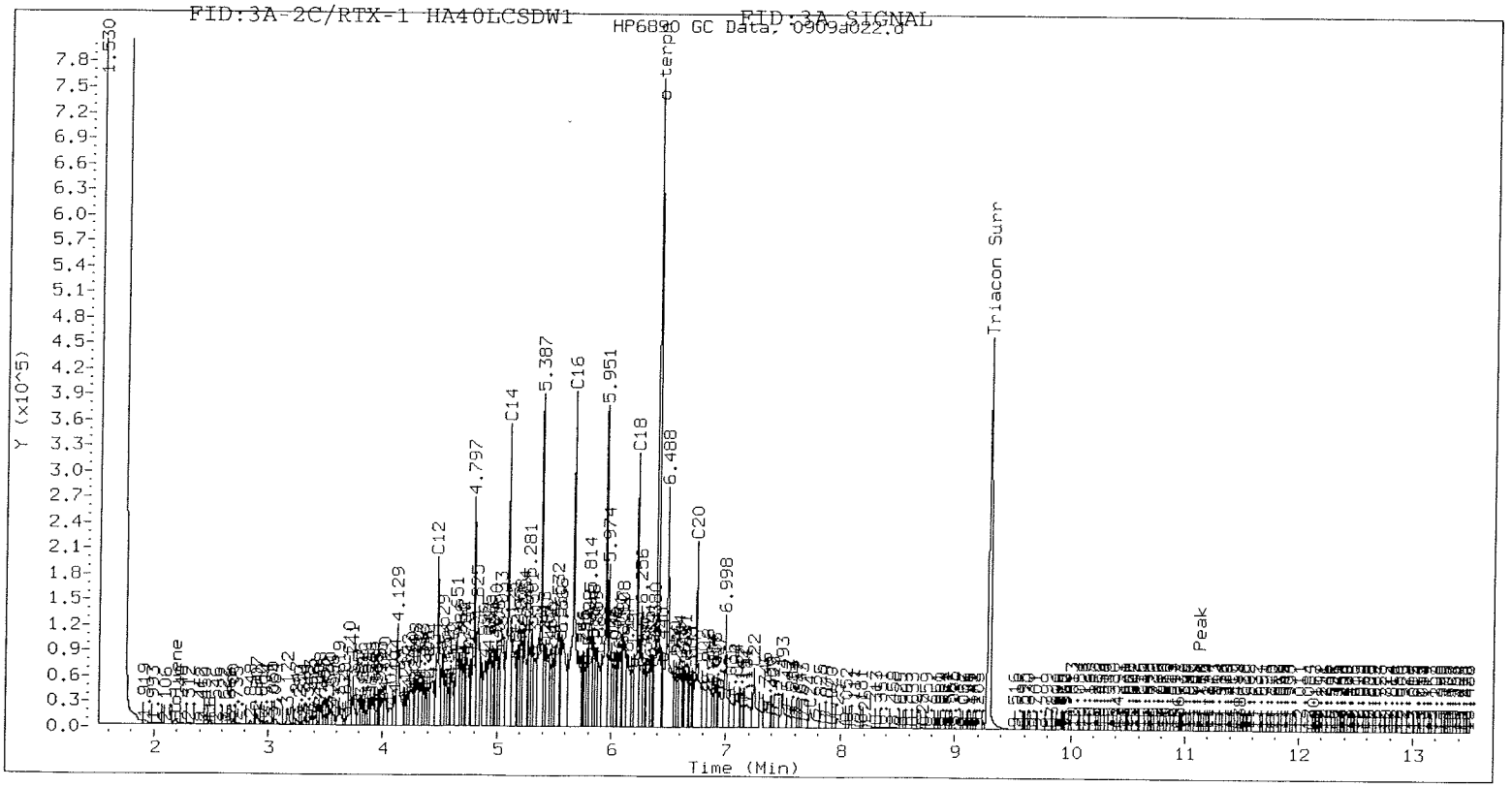
Dilution Factor: 1

9/10/04

FID:3A RESULTS

| Compound | RT | Shift | Height | Area | Range | Total Area | Conc |
|---|---|---|---|---|---|---|---|
| Toluene | 2.187 | 0.028 | 6073 | 14136 | GAS (Tol-C12) | 2286290 | 317 |
| C8 | 2.493 | 0.019 | 4412 | 7589 | DIESEL (C12-C24) | 13008593 | 1124 |
| C10 | 3.707 | 0.005 | 82834 | 88025 | M.OIL (C24-C38) | 229032 | 26 |
| C12 | 4.481 | 0.000 | 199841 | 256394 | | | |
| C14 | 5.096 | 0.002 | 355314 | 461286 | | | |
| C16 | 5.671 | 0.005 | 394161 | 790909 | | | |
| C18 | 6.224 | 0.005 | 321788 | 357623 | OR.MOIL (C28-C40) | 34502 | 4 |
| C20 | 6.746 | 0.004 | 219699 | 320976 | | | |
| C22 | 7.248 | 0.001 | 71435 | 126168 | | | |
| C24 | 7.735 | 0.002 | 23287 | 68392 | | | |
| C25 | 7.973 | 0.001 | 12178 | 37841 | | | |
| C26 | 8.209 | 0.010 | 5652 | 25607 | | | |
| C28 | 8.720 | 0.014 | 1592 | 2992 | | | |
| C32 | 9.837 | -0.021 | 153 | 139 | | | |
| C34 | 10.421 | 0.002 | 46 | 61 | | | |
| Filter Peak | 11.138 | -0.006 | 163 | 197 | | | |
| C36 | 10.954 | -0.007 | 150.0 | 114 | o-Terph Surrogate Rec = 90.7% | | (554544) |
| C38 | 11.490 | -0.005 | 208.0 | 299 | Triacon Surrogate Rec = 117.9% | | (649506) |
| C40 | 12.133 | 0.005 | 208 | 275 | | | |
| o-terph | 6.403 | 0.006 | 671304 | 554544 | | | |
| Triacon Surr | 9.301 | 0.004 | 459501 | 649506 | | | |

Range Times: NW Diesel(4.481 - 7.734) AK102(3.70 - 7.97) Jet A(3.70 - 6.22)
NW M.Oil(7.73 - 11.49) AK103(7.97 - 10.96) OR Diesel(3.70 - 8.71)



Data File: /chem3/fid3a.i/20040909.b/0909a022.d
Date : 09-SEP-2004 23:44
Client ID:
Sample Info: HA40LCSDW1

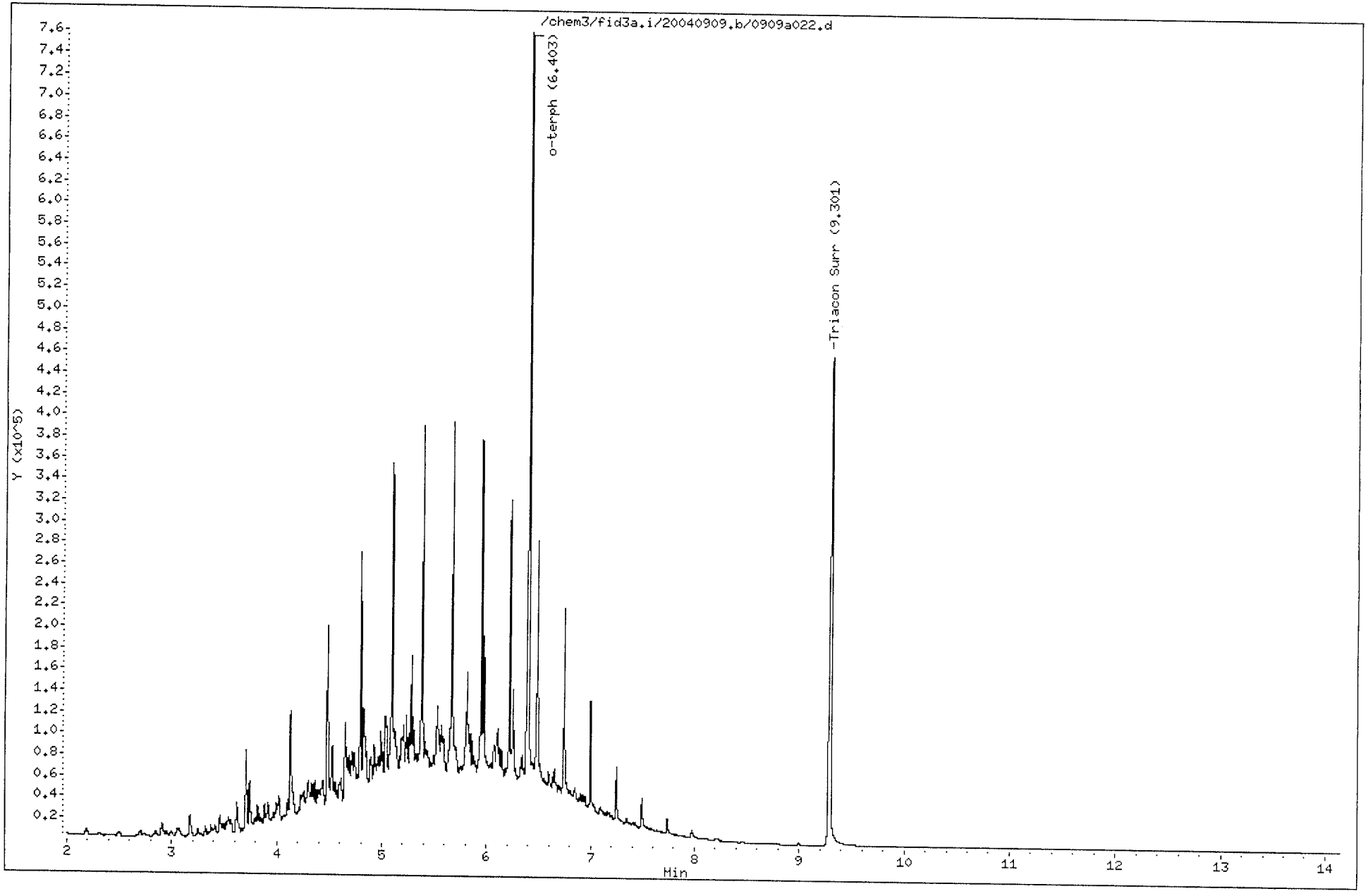
Column phase: RTX-1

Instrument: fid3a.i

Operator: ESJ
Column diameter: 2.00



000125



ANALYTICAL RESOURCES INCORPORATED

## CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009

| Client ID | O-TER | TOT OUT |
|---|---|---|
| MB-090604 | 113%* | 1 |
| LCS-090604 | 107% | 0 |
| LCSD-090604 | 90.7% | 0 |
| MW-101 | 100% | 0 |
| MW-103 | 93.8% | 0 |
| MW-105 | 78.7% | 0 |
| MW-106 | 90.2% | 0 |
| MW-107 | 92.0% | 0 |

| | LCS/MB LIMITS | QC LIMITS |
|---|---|---|
| (O-TER) = o-Terphenyl | (55-110) | (32-116) |

Prep Method: SW3510C
Log Number Range: 04-13881 to 04-13885

ANALYTICAL RESOURCES INCORPORATED

# TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

Matrix: Water
Date Received: 08/31/04

ARI Job: HA23
Project: Port of Anacortes Uplands 529009

| ARI ID | Client ID | Client Amt | Final Vol | Prep Date |
|---|---|---|---|---|
| 04-13881-090604MB1 | Method Blank | 500 mL | 1.00 mL | 09/06/04 |
| 04-13881-090604LCS1 | Lab Control | 500 mL | 1.00 mL | 09/06/04 |
| 04-13881-090604LCSD1 | Lab Control Dup | 500 mL | 1.00 mL | 09/06/04 |
| 04-13881-HA23A | MW-101 | 470 mL | 1.00 mL | 09/06/04 |
| 04-13882-HA23B | MW-103 | 465 mL | 1.00 mL | 09/06/04 |
| 04-13883-HA23C | MW-105 | 455 mL | 1.00 mL | 09/06/04 |
| 04-13884-HA23D | MW-106 | 500 mL | 1.00 mL | 09/06/04 |
| 04-13885-HA23E | MW-107 | 490 mL | 1.00 mL | 09/06/04 |

ANALYTICAL RESOURCES INCORPORATED

**ORGANICS ANALYSIS DATA SHEET**
**NWTPHD by GC/FID-Silica and Acid Cleaned**


**Sample ID: LCS-090604**
**LCS/LCSD**

Lab Sample ID: LCS-090604
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/14/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Date Extracted LCS/LCSD: 09/06/04

Date Analyzed LCS: 09/09/04 23:23
LCSD: 09/09/04 23:44
Instrument/Analyst LCS: FID/AAR
LCSD: FID/AAR

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

| Range | LCS | Spike Added-LCS | LCS Recovery | LCSD | Spike Added-LCSD | LCSD Recovery | RPD |
|---|---|---|---|---|---|---|---|
| Diesel | 2.35 | 3.00 | 78.3% | 2.25 | 3.00 | 75.0% | 4.3% |

**TPHD Surrogate Recovery**

| | LCS | LCSD |
|---|---|---|
| o-Terphenyl | 107% | 90.7% |

Results reported in mg/L
RPD calculated using sample concentrations per SW846.

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: METHOD BLANK

Lab Sample ID: HA44MB
LIMS ID: 04-14095
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA44-Landau Associates
Project: Port of Anacortes Uplands 529009
Date Sampled: NA
Date Received: NA

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-38-2 | Arsenic | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-50-8 | Copper | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | 7440-02-0 | Nickel | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: LAB CONTROL

Lab Sample ID: HA44LCS
LIMS ID: 04-14095
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA44-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

## BLANK SPIKE QUALITY CONTROL REPORT

| Analyte | Analysis Method | Spike Found | Spike Added | % Recovery | Q |
|---|---|---|---|---|---|
| Antimony | 200.8 | 23.4 | 25.0 | 93.6% | |
| Arsenic | 200.8 | 25.9 | 25.0 | 104% | |
| Cadmium | 200.8 | 25.1 | 25.0 | 100% | |
| Copper | 200.8 | 27.0 | 25.0 | 108% | |
| Lead | 200.8 | 23.2 | 25.0 | 92.8% | |
| Mercury | 7470A | 2.09 | 2.00 | 104% | |
| Nickel | 200.8 | 24.7 | 25.0 | 98.8% | |
| Thallium | 200.8 | 23.0 | 25.0 | 92.0% | |

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23A
LIMS ID: 04-13881
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-36-0 | Antimony | 0.2 | 0.2 | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-38-2 | Arsenic | 0.2 | 8.4 | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-43-9 | Cadmium | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-50-8 | Copper | 0.5 | 4.5 | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | 7440-02-0 | Nickel | 1 | 17 | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: MW-103
SAMPLE

Lab Sample ID: HA23B
LIMS ID: 04-13882
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 0.5 | **3.8** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **2** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | **7440-02-0** | **Nickel** | 0.5 | **12.2** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: MW-105
SAMPLE

Lab Sample ID: HA23C
LIMS ID: 04-13883
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-38-2 | Arsenic | 0.5 | 2.6 | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-50-8 | Copper | 1 | 6 | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | 7440-02-0 | Nickel | 2 | 17 | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23D
LIMS ID: 04-13884
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 1 | **2** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **8** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | **7440-02-0** | **Nickel** | 1 | **12** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23E
LIMS ID: 04-13885
Matrix: Water
Data Release Authorized: BC
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 0.5 | **2.4** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **3** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | **7440-02-0** | **Nickel** | 0.5 | **7.8** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: METHOD BLANK

Lab Sample ID: HA44MB
LIMS ID: 04-14104
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA44-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-38-2 | Arsenic | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.2 | 0.2 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-50-8 | Copper | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | 7440-02-0 | Nickel | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: LAB CONTROL

Lab Sample ID: HA44LCS
LIMS ID: 04-14104
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA44-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

| Analyte | Analysis Method | Spike Found | Spike Added | % Recovery | Q |
|---|---|---|---|---|---|
| Antimony | 200.8 | 24.1 | 25.0 | 96.4% | |
| Arsenic | 200.8 | 24.5 | 25.0 | 98.0% | |
| Cadmium | 200.8 | 23.9 | 25.0 | 95.6% | |
| Copper | 200.8 | 25.4 | 25.0 | 102% | |
| Lead | 200.8 | 26 | 25 | 104% | |
| Mercury | 7470A | 2.1 | 2.0 | 105% | |
| Nickel | 200.8 | 25.4 | 25.0 | 102% | |
| Thallium | 200.8 | 25.7 | 25.0 | 103% | |

Reported in µg/L

N-Control limit not met
Control Limits: 80-120%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: MW-101
SAMPLE

Lab Sample ID: HA23G
LIMS ID: 04-13887
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 1 | **4** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **4** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | **7440-02-0** | **Nickel** | 1 | **16** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: MW-103
SAMPLE

Lab Sample ID: HA23H
LIMS ID: 04-13888
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 0.5 | **3.3** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **2** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | **7440-02-0** | **Nickel** | 0.5 | **14.7** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: MW-105
SAMPLE

Lab Sample ID: HA23I
LIMS ID: 04-13889
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/10/04 | **7440-38-2** | **Arsenic** | 0.5 | **1.9** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **7** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | **7440-02-0** | **Nickel** | 2 | **17** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: MW-106
SAMPLE

Lab Sample ID: HA23J
LIMS ID: 04-13890
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 0.5 | **4.8** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **5** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7439-92-1 | Lead | 2 | 2 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/16/04 | **7440-02-0** | **Nickel** | 1 | **12** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-28-0 | Thallium | 0.5 | 0.5 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS


Sample ID: MW-107
SAMPLE

Lab Sample ID: HA23K
LIMS ID: 04-13891
Matrix: Water
Data Release Authorized:
Reported: 09/17/04

QC Report No: HA23-Landau Associates
Project: Port of Anacortes Uplands
529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Prep Meth | Prep Date | Analysis Method | Analysis Date | CAS Number | Analyte | RL | µg/L | Q |
|---|---|---|---|---|---|---|---|---|
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-36-0 | Antimony | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-38-2** | **Arsenic** | 0.5 | **2.2** | |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | 7440-43-9 | Cadmium | 0.5 | 0.5 | U |
| 200.8 | 09/06/04 | 200.8 | 09/09/04 | **7440-50-8** | **Copper** | 1 | **2** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7439-92-1 | Lead | 1 | 1 | U |
| 7470 | 09/06/04 | 7470A | 09/10/04 | 7439-97-6 | Mercury | 0.1 | 0.1 | U |
| 200.8 | 09/13/04 | 200.8 | 09/15/04 | **7440-02-0** | **Nickel** | 0.5 | **8.3** | |
| 200.8 | 09/06/04 | 200.8 | 09/08/04 | 7440-28-0 | Thallium | 0.2 | 0.2 | U |

U-Analyte undetected at given RL
RL-Reporting Limit

METHOD BLANK RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: NA
Date Received: NA

| Analyte | Date/Time | Units | Blank |
|---|---|---|---|
| Chloride | 09/16/04 12:31 | mg/L | < 1.0 U |
| N-Ammonia | 09/07/04 16:28 | mg-N/L | < 0.010 U |
| N-Nitrite | 09/02/04 07:30 | mg-N/L | < 0.010 U |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 | mg-N/L | < 0.010 U |
| Sulfate | 09/10/04 17:45 | mg/L | < 2.0 U |
| | 09/15/04 16:11 | | < 2.0 U |
| Sulfide | 09/02/04 12:00 | mg/L | < 0.05 U |
| Phenol | 09/16/04 16:55 | mg/L | < 0.04 U |

MS/MSD RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Analyte | Date | Units | Sample | Spike | Spike Added | Recovery |
|---|---|---|---|---|---|---|
| **ARI ID: HA23A Client ID: MW-101** | | | | | | |
| Phenol | 09/16/04 | mg/L | 0.10 | 0.51 | 0.40 | 102.5% |
| **ARI ID: HA23E Client ID: MW-107** | | | | | | |
| Sulfide | 09/02/04 | mg/L | < 0.05 | 7.01 | 7.11 | 98.6% |
| Sulfide | 09/02/04 | mg/L | < 0.05 | 7.44 | 7.11 | 104.6% |

REPLICATE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

| Analyte | Date | Units | Sample | Replicate(s) | RPD/RSD |
|---|---|---|---|---|---|
| **ARI ID: HA23A Client ID: MW-101** | | | | | |
| Phenol | 09/16/04 | mg/L | 0.10 | 0.10 | 0.0% |
| **ARI ID: HA23E Client ID: MW-107** | | | | | |
| Sulfide | 09/02/04 | mg/L | < 0.05 | 0.14 | NA |

LAB CONTROL RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: AH
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: NA
Date Received: NA

| Analyte | Date/Time | Units | LCS | Spike Added | Recovery |
|---|---|---|---|---|---|
| Sulfide | 09/02/04 12:00 | mg/L | 6.98 | 7.11 | 98.2% |

STANDARD REFERENCE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: [signature]
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: NA
Date Received: NA

| Analyte/SRM ID | Date/Time | Units | SRM | True Value | Recovery |
|---|---|---|---|---|---|
| Chloride<br>ERA #22013 | 09/16/04 12:31 | mg/L | 5.0 | 5.0 | 100.0% |
| N-Ammonia<br>ERA #03043 | 09/07/04 16:28 | mg-N/L | 0.492 | 0.500 | 98.4% |
| N-Nitrite<br>ERA #23034 | 09/02/04 07:30 | mg-N/L | 0.500 | 0.500 | 100.0% |
| Nitrate + Nitrite (NO3+NO2)<br>ERA #20034 | 09/02/04 07:30 | mg-N/L | 0.495 | 0.500 | 99.0% |
| Sulfate<br>ERA #08116 | 09/10/04 17:45<br>09/15/04 16:11 | mg/L | 26.1<br>26.7 | 25.0<br>25.0 | 104.4%<br>106.8% |
| Phenol<br>ERA 23073.2 | 09/16/04 16:55 | mg/L | 0.49 | 0.50 | 98.0% |

SAMPLE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: CMP
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Client ID: MW-101
ARI ID: 04-13881 HA23A

| Analyte | Date/Time Batch | Method | Units | RL | Sample |
|---|---|---|---|---|---|
| Chloride | 09/16/04 12:31 091604#1 | EPA 325.2 | mg/L | 1,000 | 9,540 |
| N-Ammonia | 09/07/04 16:28 090704#2 | EPA 350.1M | mg-N/L | 0.200 | 7.34 |
| N-Nitrate | 09/02/04 07:30 | Calculated | mg-N/L | 0.010 | < 0.010 U |
| N-Nitrite | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.041 |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.029 |
| Sulfate | 09/10/04 17:45 091004#1 | EPA 375.2 | mg/L | 10.0 | 191 |
| Sulfide | 09/02/04 12:00 090204#1 | EPA 376.2 | mg/L | 2.50 | 18.6 |
| Phenol | 09/16/04 16:55 091604#1 | EPA 420.1 | mg/L | 0.08 | 0.10 |

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

**Client ID: MW-103**
**ARI ID: 04-13882 HA23B**

| Analyte | Date/Time Batch | Method | Units | RL | Sample |
|---|---|---|---|---|---|
| Chloride | 09/16/04 12:31 091604#1 | EPA 325.2 | mg/L | 100 | 688 |
| N-Ammonia | 09/07/04 16:28 090704#2 | EPA 350.1M | mg-N/L | 0.100 | 8.09 |
| N-Nitrate | 09/02/04 07:30 | Calculated | mg-N/L | 0.010 | < 0.010 U |
| N-Nitrite | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.014 |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | < 0.010 U |
| Sulfate | 09/10/04 17:45 091004#1 | EPA 375.2 | mg/L | 10.0 | 125 |
| Sulfide | 09/02/04 12:00 090204#1 | EPA 376.2 | mg/L | 0.05 | < 0.05 U |
| Phenol | 09/16/04 16:55 091604#1 | EPA 420.1 | mg/L | 0.04 | < 0.04 U |

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Client ID: MW-105
ARI ID: 04-13883 HA23C

| Analyte | Date/Time Batch | Method | Units | RL | Sample |
|---|---|---|---|---|---|
| Chloride | 09/16/04 12:31 091604#1 | EPA 325.2 | mg/L | 2,000 | 14,900 |
| N-Ammonia | 09/07/04 16:28 090704#1 | EPA 350.1M | mg-N/L | 0.010 | 0.206 |
| N-Nitrate | 09/02/04 07:30 | Calculated | mg-N/L | 0.010 | < 0.010 U |
| N-Nitrite | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.010 |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | < 0.010 U |
| Sulfate | 09/10/04 17:45 091004#1 | EPA 375.2 | mg/L | 40.0 | 730 |
| Sulfide | 09/02/04 12:00 090204#1 | EPA 376.2 | mg/L | 1.00 | 9.12 |
| Phenol | 09/16/04 16:55 091604#1 | EPA 420.1 | mg/L | 0.04 | 0.09 |

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

**Client ID: MW-106**
**ARI ID: 04-13884 HA23D**

| Analyte | Date/Time Batch | Method | Units | RL | Sample |
|---|---|---|---|---|---|
| Chloride | 09/16/04 12:31 091604#1 | EPA 325.2 | mg/L | 1,000 | 9,880 |
| N-Ammonia | 09/07/04 16:28 090704#1 | EPA 350.1M | mg-N/L | 0.010 | 0.560 |
| N-Nitrate | 09/02/04 07:30 | Calculated | mg-N/L | 0.010 | 0.010 |
| N-Nitrite | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | < 0.010 U |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.010 |
| Sulfate | 09/15/04 16:11 091004#1 | EPA 375.2 | mg/L | 100 | 1,270 |
| Sulfide | 09/02/04 12:00 090204#1 | EPA 376.2 | mg/L | 0.50 | 1.82 |
| Phenol | 09/16/04 16:55 091604#1 | EPA 420.1 | mg/L | 0.04 | < 0.04 U |

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
HA23-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 09/20/04

Project: Port of Anacortes Uplands
Event: 529009
Date Sampled: 08/30/04
Date Received: 08/31/04

Client ID: MW-107
ARI ID: 04-13885 HA23E

| Analyte | Date/Time Batch | Method | Units | RL | Sample |
|---|---|---|---|---|---|
| Chloride | 09/16/04 12:31 091604#1 | EPA 325.2 | mg/L | 100 | 698 |
| N-Ammonia | 09/07/04 16:28 090704#1 | EPA 350.1M | mg-N/L | 0.010 | 0.720 |
| N-Nitrate | 09/02/04 07:30 | Calculated | mg-N/L | 0.010 | 0.035 |
| N-Nitrite | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.013 |
| Nitrate + Nitrite (NO3+NO2) | 09/02/04 07:30 090204#1 | EPA 353.2 | mg-N/L | 0.010 | 0.048 |
| Sulfate | 09/10/04 17:45 091004#1 | EPA 375.2 | mg/L | 10.0 | 86.4 |
| Sulfide | 09/02/04 12:00 090204#1 | EPA 376.2 | mg/L | 0.05 | < 0.05 U |
| Phenol | 09/16/04 16:55 091604#1 | EPA 420.1 | mg/L | 0.04 | < 0.04 U |

RL Analytical reporting limit
U Undetected at reported detection limit

# AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

PHONE: (206) 632-2715 FAX: (206) 632-2417


| | | | |
|---|---|---|---|
| **CASE FILE NUMBER:** | **ARI096-60,61** | **PAGE 1** | |
| **REPORT DATE:** | **09/09/04** | | |
| **DATE SAMPLED:** | **08/30,31/04** | **DATE RECEIVED:** | **09/02/04** |

**FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM ANALYTICAL RESOURCES / HA23,HA44**

## CASE NARRATIVE

Thirteen water samples were received by the laboratory in good condition. The samples were analyzed according to the chain-of-custody. The matrix spike sample was diluted to bring it into the analytical range resultting in less than optimal recovery. No other difficulties were encountered in the preparation or analysis of these samples. Sample data'follows while QA/QC data is contained on the subsequent page.

## SAMPLE DATA

| SAMPLE ID | LAB ID | TANNINS/LIGNINS (mg/l) |
|---|---|---|
| MW-101 | 04-13881-HA23A | 21.6 |
| MW-103 | 04-13882-HA23B | 6.47 |
| MW-105 | 04-13883-HA23C | 1.81 |
| MW-106 | 04-13884-HA23D | 2.96 |
| MW-107 | 04-13885-HA23E | 1.88 |
| MW-102 | 04-14095-HA44A | 12.3 |
| MW-104 | 04-14096-HA44B | 4.03 |
| MW-108 | 04-14097-HA44C | 7.40 |
| MW-109 | 04-14098-HA44D | 6.58 |
| MW-110 | 04-14099-HA44E | 17.2 |
| MW-111 | 04-14100-HA44F | 5.86 |
| MW-112 | 04-14101-HA44G | 2.67 |
| MW-202 | 04-14102-HA44H | 12.1 |

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|---|---|---|---|
| **CASE FILE NUMBER:** | **ARI096-60,61** | **PAGE 2** | |
| **REPORT DATE:** | **09/09/04** | | |
| **DATE SAMPLED:** | **08/30,31/04** | **DATE RECEIVED:** | **09/02/04** |

**FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM ANALYTICAL RESOURCES / HA23,HA44**

## QA/QC DATA

| QC PARAMETER | TANNINS/LIGNINS (mg/l) |
|---|---|
| METHOD | SM18 5550B |
| DATE ANALYZED | 09/08/04 |
| DETECTION LIMIT | 0.010 |
| DUPLICATE | |
| SAMPLE ID | BATCH |
| ORIGINAL | 1.40 |
| DUPLICATE | 1.43 |
| RPD | 2.48% |
| SPIKE SAMPLE | |
| SAMPLE ID | BATCH |
| ORIGINAL | 1.40 |
| SPIKED SAMPLE | 2.19 |
| SPIKE ADDED | 1.00 |
| % RECOVERY | 79.13% |
| QC CHECK | |
| FOUND | 1.07 |
| TRUE | 1.00 |
| % RECOVERY | 106.59% |
| | |
| BLANK | <0.010 |

RPD = RELATIVE PERCENT DIFFERENCE.
NA = NOT APPLICABLE OR NOT AVAILABLE.
NC = NOT CALCULABLE DUE TO ONE OR MORE VALUES BEING BELOW THE DETECTION LIMIT.
OR = RECOVERY NOT CALCULABLE DUE TO SPIKE SAMPLE OUT OF RANGE OR SPIKE TO LOW RELATIVE TO SAMPLE CONCENTRATION.

SUBMITTED BY:

Steven Lazoff
Laboratory Director

ARI 0966

**SUBCONTRACTOR ANALYSIS REQUEST**
CUSTODY TRANSFER 08\31\04

ANALYTICAL RESOURCES INCORPORATED

**ARI Project: HA23**

Laboratory: Aquatic Research, Inc
Lab Contact: Steve Lazoff
Lab Address: 3927 Aurora Ave N.
Seattle, WA 98103
Phone: 206-632-2715
Fax: 206-632-2417

ARI Client: Landau Associates
Project ID: 529009
ARI PMgr: Mary Lou Fox
Phone: (206) 340-2866 Ext
Fax: (206) 695-6201

Analytical Protocol: In-house
Special Instructions:

Requested Turn Around: **09/14/04**
Fax Results (Y/N): **Yes**

**Limits of Liability.** *Subcontractor is expected to perform all requested services in accordance with appropriate methodology following Standard Operating Procedures that meet standards for the industry. The total liability of ARI, its officers, agents, employees, or sucessors, arising out of or in connection with the requested services, shall not exceed the negotiated amount for said services. The agreement by the Subcontractor to perform services requested by ARI releases ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Subcontractor.*

| ARI Sample ID | Client Sample ID/ Add'l Sample ID | Sampled | Matrix | Bottles | Analyses |
|---|---|---|---|---|---|
| 04-13881-HA23A | MW-101 | 8/30/04 | Water | 1 | Tannins & Lignins |
| Special Instructions: NONE | | | | | |
| 04-13882-HA23B | MW-103 | 8/30/04 | Water | 1 | Tannins & Lignins |
| Special Instructions: NONE | | | | | |
| 04-13883-HA23C | MW-105 | 8/30/04 | Water | 1 | Tannins & Lignins |
| Special Instructions: NONE | | | | | |
| 04-13884-HA23D | MW-106 | 8/30/04 | Water | 1 | Tannins & Lignins |
| Special Instructions: NONE | | | | | |
| 04-13885-HA23E | MW-107 | 8/30/04 | Water | 1 | Tannins & Lignins |
| Special Instructions: NONE | | | | | |

| Carrier | Airbill | | Date |
|---|---|---|---|
| Relinquished by | Company | Date | Time |
| Received by | Company ARI | Date 9/2/04 | Time 1400 |