Analytical Resources, Incorporated
Analytical Chemists and Consultants

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JUN - 1 2004
LANDAU ASSOCIATES, INC.

27 May 2004

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

RE: Project: POA Uplands / 529009.311
ARI Job No: GO56

Dear Stacy:

Please find enclosed the original chain of custody (COC) record and the analytical results for the samples from the project referenced above. Analytical Resources, Inc. (ARI) accepted three water samples on April 23, 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-HCID, NWTPH-Dx with acid/silica gel cleanups, total and dissolved metals, tannins/lignins and dioxins/furans as requested. The standards for the NWTPH-Dx analyses were acid/silica cleaned as per the method. The test for dioxins/furans was sub-contracted to Pace Analytical Services in Minneapolis, MN. The test for tanning/lignins was sub-contracted to Aquatic Research in Seattle, WA. Quality control analyses are included for your review.

As requested by the client, all samples were allowed to settle before aliquots were removed for sample extraction or preparation. As a result, no solvent rinses were performed on any of the bottles.

All samples were initially analyzed for VOAs on 5/4/04. No data were useable due to high levels of sulfur contamination. All samples were re-analyzed on 5/5/04 using 5 mL purge volumes in lieu of 20 mL purge volumes. The data reviewer noted that the trip blank showed detections of four ketone compounds. The results for the re-analyses only have been submitted.

Sulfur interference in the SIM-vinyl chloride analyses of samples **MW-112** and **MW-108** resulted in elevated reporting limit with a "Y" qualifier for these samples.

The percent recovery for abietic acid was low (9.68%) following the initial analysis of the LCS associated with the resin acids analyses of these samples. The percent recovery for isopimaric acid was also somewhat low at 47.6%. The analyst analyzed the spiking solution used for the LCS and the levels of isopimaric and abietic acids were lower than expected at 56% and 29%, respectively. This indicates that the cause of the lower spike recoveries for these two compounds was the level of the spike rather than the extraction. Recoveries of the other spikes were good.

The analyst who ran the PCB analyses noted that many of the samples showed interference in the analyses, resulting in elevated reporting limits with "Y" qualifiers for some Aroclors.

The percent recoveries for the surrogate, DCBP, were low following the initial analyses of the method blank and the LCS associated with the pesticides analyses of these samples. Since the percent recoveries for the remaining surrogate, TCMX, were within established QC limits, no corrective actions were taken.

The metals analyses of these samples were batched with the metals analyses of the samples for this project received on 4/21. The method blank and laboratory control sample are reported originally with under ARI job number GO20. A copy of each is included here for your convenience.

The dissolved arsenic analyses were digested due to interferences that were observed in the samples when analyzed without digestion. The concentration of dissolved arsenic was still higher than the concentration of total arsenic for the re-analysis of sample **MW-104.** Since the concentration found was close to reporting limit and some analytical variability would be expected, no further corrective actions were taken.

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: GO56
MLF/mdh

☒ Seattle (Edmonds) (425) 778-0907
☐ Tacoma (253) 926-2493
☐ Spokane (509) 327-9737
☐ Portland (Lake Oswego) (503) 443-6010
☐ _____

9.4°C 16.8°C, 9.2°C G056

Landau Associates

Chain-of-Custody Record

Date 4/22/04

Page 1 of 1

Project Name POA Uplands Project No. 529009.311

Project Location/Event Anacortes, WA

Sampler's Name Ken Roic

Project Contact Stacy Fischer

Send Results To " "

Turnaround Time
☒ Standard
☐ Accelerated
☐ _____

Testing Parameters

Sample I.D.	Date	Time	Matrix	No. of Containers	PAHs	PCBs	Dioxin/Furan	NWTPH-Dx	Metals (a)	NWTPH-Gx	VOCs	Chloride	SVOCs	Pesticides	Conventionals	Other Organics (b)	Observations/Comments
MW-104	4/22/04	0850	H_2O	~~17~~	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
MW-112	↓	1015	↓	~~17~~	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
MW-108	↓	1210	↓	~~16~~ 19	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

(a) Metals Include: antimony, arsenic, cadmium, copper, lead, mercury, nickel, thallium

(b) Other Organics Include: Resin Acids, chlorinated guaiacols, guaiacols, nitrate nitrite ammonia, sulfate, sulfide, tannis & lignins, phenol

Special Shipment/Handling or Storage Requirements: on-ice

Method of Shipment:

Relinquished by	Received by	Relinquished by	Received by
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Printed Name: Ken Roic	Printed Name: JEFF RICHMAN	Printed Name:	Printed Name:
Company: LAI	Company: ARI	Company:	Company:
Date: 4/23/04 Time: 1110	Date: 4/23/04 Time: 1550	Date: Time:	Date: Time:

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

Rev 4/01

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 (GC/MS)
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).

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MB-050504**
 METHOD BLANK

Lab Sample ID: MB-050504
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Instrument/Analyst: FINN5/JA
Date Analyzed: 05/05/04 14:18

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result
74-87-3	Chloromethane	1.0	< 1.0 U
74-83-9	Bromomethane	1.0	< 1.0 U
75-00-3	Chloroethane	1.0	< 1.0 U
75-09-2	Methylene Chloride	2.0	< 2.0 U
67-64-1	Acetone	5.0	< 5.0 U
75-15-0	Carbon Disulfide	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0 U
67-66-3	Chloroform	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	1.0	< 1.0 U
78-93-3	2-Butanone	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	1.0	< 1.0 U
108-05-4	Vinyl Acetate	5.0	< 5.0 U
75-27-4	Bromodichloromethane	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0 U
79-01-6	Trichloroethene	1.0	< 1.0 U
124-48-1	Dibromochloromethane	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0 U
71-43-2	Benzene	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0 U
75-25-2	Bromoform	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0 U
591-78-6	2-Hexanone	5.0	< 5.0 U
127-18-4	Tetrachloroethene	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
108-90-7	Chlorobenzene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
100-42-5	Styrene	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0 U
1330-20-7	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	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
107-02-8	Acrolein	50	< 50 U
74-88-4	Methyl Iodide	1.0	< 1.0 U
74-96-4	Bromoethane	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	1.0	< 1.0 U
74-95-3	Dibromomethane	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0 U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MB-050504**
 METHOD BLANK

Lab Sample ID: MB-050504 QC Report No: GO56-Landau Associates
LIMS ID: 04-6425 Project: POA Uplands
Matrix: Water 529009.311
Date Analyzed: 05/05/04 14:18

CAS Number	Analyte	RL	Result
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	1.0	< 1.0 U
74-97-5	Bromochloromethane	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	1.0	< 1.0 U
98-82-8	Isopropylbenzene	1.0	< 1.0 U
103-65-1	n-Propylbenzene	1.0	< 1.0 U
108-86-1	Bromobenzene	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	1.0	< 1.0 U
104-51-8	n-Butylbenzene	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0 U
91-20-3	Naphthalene	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	93.4%
Bromofluorobenzene	89.1%
d4-1,2-Dichlorobenzene	95.8%

ANALYTICAL RESOURCES INCORPORATED

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

Lab Sample ID: GO56D
LIMS ID: 04-6428
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled:
Date Received: 04/23/04

Instrument/Analyst: FINN5/JA
Date Analyzed: 05/05/04 17:05

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result
74-87-3	Chloromethane	1.0	< 1.0 U
74-83-9	Bromomethane	1.0	< 1.0 U
75-00-3	Chloroethane	1.0	< 1.0 U
75-09-2	Methylene Chloride	2.0	< 2.0 U
67-64-1	**Acetone**	**5.0**	**12**
75-15-0	Carbon Disulfide	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0 U
67-66-3	Chloroform	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	1.0	< 1.0 U
78-93-3	**2-Butanone**	**5.0**	**9.6**
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	1.0	< 1.0 U
108-05-4	Vinyl Acetate	5.0	< 5.0 U
75-27-4	Bromodichloromethane	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0 U
79-01-6	Trichloroethene	1.0	< 1.0 U
124-48-1	Dibromochloromethane	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0 U
71-43-2	Benzene	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0 U
75-25-2	Bromoform	1.0	< 1.0 U
108-10-1	**4-Methyl-2-Pentanone (MIBK)**	**5.0**	**8.9**
591-78-6	**2-Hexanone**	**5.0**	**10**
127-18-4	Tetrachloroethene	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
108-90-7	Chlorobenzene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
100-42-5	Styrene	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0 U
1330-20-7	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	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
107-02-8	Acrolein	50	< 50 U
74-88-4	Methyl Iodide	1.0	< 1.0 U
74-96-4	Bromoethane	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	1.0	< 1.0 U
74-95-3	Dibromomethane	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0 U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0 U

ANALYTICAL RESOURCES INCORPORATED

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

Lab Sample ID: GO56D QC Report No: GO56-Landau Associates
LIMS ID: 04-6428 Project: POA Uplands
Matrix: Water 529009.311
Date Analyzed: 05/05/04 17:05

CAS Number	Analyte	RL	Result
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	1.0	< 1.0 U
74-97-5	Bromochloromethane	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	1.0	< 1.0 U
98-82-8	Isopropylbenzene	1.0	< 1.0 U
103-65-1	n-Propylbenzene	1.0	< 1.0 U
108-86-1	Bromobenzene	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	1.0	< 1.0 U
104-51-8	n-Butylbenzene	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0 U
91-20-3	Naphthalene	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	93.1%
Bromofluorobenzene	87.8%
d4-1,2-Dichlorobenzene	96.7%

ANALYTICAL RESOURCES INCORPORATED

WATER VOLATILE SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water 5 mL QC Report No: GO56

Lab ID	Client ID	DCE	TOL	BFB	DCB	TOT OUT
050504MB	Method Blank	101%	93.4%	89.1%	95.8%	0
GO56LCS	Lab Cntrl Sample	96.0%	89.2%	91.7%	95.7%	0
GO56LCSD	Lab Cntrl Sample Dp	97.9%	92.1%	93.9%	92.2%	0
GO56A	MW-104	102%	92.5%	86.2%	97.6%	0
GO56B	MW-112	105%	90.3%	87.6%	95.4%	0
GO56C	MW-108	102%	92.2%	89.2%	98.2%	0
GO56D	Trip Blank	102%	93.1%	87.8%	96.7%	0

SW8260B	LCS/MB LIMITS	QC LIMITS
(DCE) = 1,2-Dichloroethane-d4	(74-133)	(74-142)
(TOL) = Toluene-d8	(77-131)	(84-129)
(BFB) = Bromofluorobenzene	(79-127)	(77-122)
(DCB) = 1,2-Dichlorobenzene-d4	(84-132)	(85-135)

\# Column to be used to flag recovery values

* Values outside of required QC limits

D System Monitoring Compound diluted out

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: LCS-050504**
 LCS/LCSD

Lab Sample ID: LCS-050504
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: FINN5/JA
LCSD: FINN5/JA
Date Analyzed LCS: 05/05/04 12:15
LCSD: 05/05/04 13:15

Sample Amount LCS: 5.00 mL
LCSD: 5.00 mL
Purge Volume LCS: 5.0 mL
LCSD: 5.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	40.3	50.0	80.6%	42.1	50.0	84.2%	4.4%
Bromomethane	52.9	50.0	106%	50.8	50.0	102%	4.1%
Chloroethane	48.2	50.0	96.4%	47.8	50.0	95.6%	0.8%
Methylene Chloride	53.0	50.0	106%	54.5	50.0	109%	2.8%
Acetone	244	250	97.6%	260	250	104%	6.3%
Carbon Disulfide	55.6	50.0	111%	56.6	50.0	113%	1.8%
1,1-Dichloroethene	54.2	50.0	108%	54.3	50.0	109%	0.2%
1,1-Dichloroethane	54.3	50.0	109%	53.1	50.0	106%	2.2%
trans-1,2-Dichloroethene	58.3	50.0	117%	56.3	50.0	113%	3.5%
cis-1,2-Dichloroethene	54.8	50.0	110%	53.0	50.0	106%	3.3%
Chloroform	53.7	50.0	107%	52.0	50.0	104%	3.2%
1,2-Dichloroethane	52.3	50.0	105%	50.8	50.0	102%	2.9%
2-Butanone	216	250	86.4%	212	250	84.8%	1.9%
1,1,1-Trichloroethane	55.6	50.0	111%	53.1	50.0	106%	4.6%
Carbon Tetrachloride	53.2	50.0	106%	50.0	50.0	100%	6.2%
Vinyl Acetate	54.9	50.0	110%	50.2	50.0	100%	8.9%
Bromodichloromethane	51.4	50.0	103%	50.1	50.0	100%	2.6%
1,2-Dichloropropane	52.8	50.0	106%	49.4	50.0	98.8%	6.7%
cis-1,3-Dichloropropene	56.1	50.0	112%	53.6	50.0	107%	4.6%
Trichloroethene	55.2	50.0	110%	53.5	50.0	107%	3.1%
Dibromochloromethane	53.6	50.0	107%	50.8	50.0	102%	5.4%
1,1,2-Trichloroethane	49.2	50.0	98.4%	49.1	50.0	98.2%	0.2%
Benzene	53.7	50.0	107%	52.2	50.0	104%	2.8%
trans-1,3-Dichloropropene	48.8	50.0	97.6%	46.5	50.0	93.0%	4.8%
2-Chloroethylvinylether	15.9	50.0	31.8%	16.7	50.0	33.4%	4.9%
Bromoform	56.1	50.0	112%	54.0	50.0	108%	3.8%
4-Methyl-2-Pentanone (MIBK)	228	250	91.2%	221	250	88.4%	3.1%
2-Hexanone	234	250	93.6%	234	250	93.6%	0.0%
Tetrachloroethene	57.6	50.0	115%	57.7	50.0	115%	0.2%
1,1,2,2-Tetrachloroethane	51.9	50.0	104%	50.1	50.0	100%	3.5%
Toluene	53.0	50.0	106%	51.5	50.0	103%	2.9%
Chlorobenzene	53.1	50.0	106%	52.3	50.0	105%	1.5%
Ethylbenzene	56.9	50.0	114%	54.7	50.0	109%	3.9%
Styrene	53.0	50.0	106%	50.4	50.0	101%	5.0%
Trichlorofluoromethane	53.6	50.0	107%	53.2	50.0	106%	0.7%
1,1,2-Trichloro-1,2,2-trifl	58.8	50.0	118%	60.0	50.0	120%	2.0%
m,p-Xylene	110	100	110%	110	100	110%	0.0%
o-Xylene	48.6	50.0	97.2%	47.4	50.0	94.8%	2.5%
1,2-Dichlorobenzene	57.1	50.0	114%	51.5	50.0	103%	10.3%
1,3-Dichlorobenzene	59.9	50.0	120%	57.1	50.0	114%	4.8%
1,4-Dichlorobenzene	57.3	50.0	115%	54.6	50.0	109%	4.8%
Acrolein	190	250	76.0%	202	250	80.8%	6.1%
Methyl Iodide	53.1	50.0	106%	53.0	50.0	106%	0.2%
Bromoethane	57.5	50.0	115%	57.4	50.0	115%	0.2%
Acrylonitrile	48.8	50.0	97.6%	49.5	50.0	99.0%	1.4%
1,1-Dichloropropene	55.8	50.0	112%	53.5	50.0	107%	4.2%
Dibromomethane	49.2	50.0	98.4%	47.5	50.0	95.0%	3.5%
1,1,1,2-Tetrachloroethane	52.9	50.0	106%	52.5	50.0	105%	0.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: LCS-050504**
 LCS/LCSD

Lab Sample ID: LCS-050504 QC Report No: GO56-Landau Associates
LIMS ID: 04-6425 Project: POA Uplands
Matrix: Water 529009.311
Date Analyzed: 05/05/04 12:15 Purge Volume: 5.0 mL
LCSD: 05/05/04 13:15 LCSD: 5.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,2-Dibromo-3-chloropropane	48.7	50.0	97.4%	48.1	50.0	96.2%	1.2%
1,2,3-Trichloropropane	53.5	50.0	107%	51.2	50.0	102%	4.4%
trans-1,4-Dichloro-2-butene	61.0	50.0	122%	58.8	50.0	118%	3.7%
1,3,5-Trimethylbenzene	57.1	50.0	114%	53.0	50.0	106%	7.4%
1,2,4-Trimethylbenzene	57.2	50.0	114%	54.5	50.0	109%	4.8%
Hexachlorobutadiene	57.1	50.0	114%	54.3	50.0	109%	5.0%
Ethylene Dibromide	48.1	50.0	96.2%	48.3	50.0	96.6%	0.4%
Bromochloromethane	52.2	50.0	104%	51.9	50.0	104%	0.6%
2,2-Dichloropropane	56.7	50.0	113%	55.2	50.0	110%	2.7%
1,3-Dichloropropane	53.9	50.0	108%	51.1	50.0	102%	5.3%
Isopropylbenzene	63.8	50.0	128%	60.1	50.0	120%	6.0%
n-Propylbenzene	65.0	50.0	130%	62.0	50.0	124%	4.7%
Bromobenzene	59.7	50.0	119%	56.4	50.0	113%	5.7%
2-Chlorotoluene	60.9	50.0	122%	55.7	50.0	111%	8.9%
4-Chlorotoluene	58.9	50.0	118%	59.6	50.0	119%	1.2%
tert-Butylbenzene	54.8	50.0	110%	51.2	50.0	102%	6.8%
sec-Butylbenzene	57.1	50.0	114%	54.9	50.0	110%	3.9%
4-Isopropyltoluene	57.3	50.0	115%	54.0	50.0	108%	5.9%
n-Butylbenzene	66.0	50.0	132%	61.2	50.0	122%	7.5%
1,2,4-Trichlorobenzene	62.7	50.0	125%	58.7	50.0	117%	6.6%
Naphthalene	54.6	50.0	109%	49.8	50.0	99.6%	9.2%
1,2,3-Trichlorobenzene	56.8	50.0	114%	52.2	50.0	104%	8.4%

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	96.0%	97.9%
d8-Toluene	89.2%	92.1%
Bromofluorobenzene	91.7%	93.9%
d4-1,2-Dichlorobenzene	95.7%	92.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-104**
 SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: FINN5/JA
Date Analyzed: 05/05/04 17:39

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result
74-87-3	Chloromethane	1.0	< 1.0 U
74-83-9	Bromomethane	1.0	< 1.0 U
75-00-3	Chloroethane	1.0	< 1.0 U
75-09-2	Methylene Chloride	2.0	< 2.0 U
67-64-1	Acetone	5.0	< 5.0 U
75-15-0	Carbon Disulfide	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0 U
67-66-3	Chloroform	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	1.0	< 1.0 U
78-93-3	2-Butanone	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	1.0	< 1.0 U
108-05-4	Vinyl Acetate	5.0	< 5.0 U
75-27-4	Bromodichloromethane	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0 U
79-01-6	Trichloroethene	1.0	< 1.0 U
124-48-1	Dibromochloromethane	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0 U
71-43-2	Benzene	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0 U
75-25-2	Bromoform	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0 U
591-78-6	2-Hexanone	5.0	< 5.0 U
127-18-4	Tetrachloroethene	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
108-90-7	Chlorobenzene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
100-42-5	Styrene	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0 U
1330-20-7	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	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
107-02-8	Acrolein	50	< 50 U
74-88-4	Methyl Iodide	1.0	< 1.0 U
74-96-4	Bromoethane	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	1.0	< 1.0 U
74-95-3	Dibromomethane	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0 U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-104**
 SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Date Analyzed: 05/05/04 17:39

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

CAS Number	Analyte	RL	Result
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	1.0	< 1.0 U
74-97-5	Bromochloromethane	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	1.0	< 1.0 U
98-82-8	Isopropylbenzene	1.0	< 1.0 U
103-65-1	n-Propylbenzene	1.0	< 1.0 U
108-86-1	Bromobenzene	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	1.0	< 1.0 U
104-51-8	n-Butylbenzene	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0 U
91-20-3	Naphthalene	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	92.5%
Bromofluorobenzene	86.2%
d4-1,2-Dichlorobenzene	97.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-112**
Page 1 of 2 **SAMPLE**

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: FINN5/JA
Date Analyzed: 05/05/04 18:07

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result
74-87-3	Chloromethane	1.0	< 1.0 U
74-83-9	Bromomethane	1.0	< 1.0 U
75-00-3	Chloroethane	1.0	< 1.0 U
75-09-2	Methylene Chloride	2.0	< 2.0 U
67-64-1	**Acetone**	**5.0**	**10**
75-15-0	Carbon Disulfide	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0 U
67-66-3	Chloroform	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	1.0	< 1.0 U
78-93-3	2-Butanone	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	1.0	< 1.0 U
108-05-4	Vinyl Acetate	5.0	< 5.0 U
75-27-4	Bromodichloromethane	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0 U
79-01-6	Trichloroethene	1.0	< 1.0 U
124-48-1	Dibromochloromethane	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0 U
71-43-2	Benzene	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0 U
75-25-2	Bromoform	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0 U
591-78-6	2-Hexanone	5.0	< 5.0 U
127-18-4	Tetrachloroethene	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
108-90-7	Chlorobenzene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
100-42-5	Styrene	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0 U
1330-20-7	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	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
107-02-8	Acrolein	50	< 50 U
74-88-4	Methyl Iodide	1.0	< 1.0 U
74-96-4	Bromoethane	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	1.0	< 1.0 U
74-95-3	Dibromomethane	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0 U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-112**
Page 2 of 2 **SAMPLE**

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Date Analyzed: 05/05/04 18:07

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

CAS Number	Analyte	RL	Result
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	1.0	< 1.0 U
74-97-5	Bromochloromethane	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	1.0	< 1.0 U
98-82-8	Isopropylbenzene	1.0	< 1.0 U
103-65-1	n-Propylbenzene	1.0	< 1.0 U
108-86-1	Bromobenzene	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	1.0	< 1.0 U
99-87-6	**4-Isopropyltoluene**	**1.0**	**8.4**
104-51-8	n-Butylbenzene	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0 U
91-20-3	Naphthalene	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	90.3%
Bromofluorobenzene	87.6%
d4-1,2-Dichlorobenzene	95.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-108**
Page 1 of 2 **SAMPLE**

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized: MW
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: FINN5/JA
Date Analyzed: 05/05/04 18:34

Sample Amount: 5.00 mL
Purge Volume: 5.0 mL

CAS Number	Analyte	RL	Result
74-87-3	Chloromethane	1.0	< 1.0 U
74-83-9	Bromomethane	1.0	< 1.0 U
75-00-3	Chloroethane	1.0	< 1.0 U
75-09-2	Methylene Chloride	2.0	< 2.0 U
67-64-1	**Acetone**	**5.0**	**7.4**
75-15-0	Carbon Disulfide	1.0	< 1.0 U
75-35-4	1,1-Dichloroethene	1.0	< 1.0 U
75-34-3	1,1-Dichloroethane	1.0	< 1.0 U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0 U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0 U
67-66-3	Chloroform	1.0	< 1.0 U
107-06-2	1,2-Dichloroethane	1.0	< 1.0 U
78-93-3	2-Butanone	5.0	< 5.0 U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0 U
56-23-5	Carbon Tetrachloride	1.0	< 1.0 U
108-05-4	Vinyl Acetate	5.0	< 5.0 U
75-27-4	Bromodichloromethane	1.0	< 1.0 U
78-87-5	1,2-Dichloropropane	1.0	< 1.0 U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0 U
79-01-6	Trichloroethene	1.0	< 1.0 U
124-48-1	Dibromochloromethane	1.0	< 1.0 U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0 U
71-43-2	Benzene	1.0	< 1.0 U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0 U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0 U
75-25-2	Bromoform	1.0	< 1.0 U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0 U
591-78-6	2-Hexanone	5.0	< 5.0 U
127-18-4	Tetrachloroethene	1.0	< 1.0 U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0 U
108-88-3	Toluene	1.0	< 1.0 U
108-90-7	Chlorobenzene	1.0	< 1.0 U
100-41-4	Ethylbenzene	1.0	< 1.0 U
100-42-5	Styrene	1.0	< 1.0 U
75-69-4	Trichlorofluoromethane	1.0	< 1.0 U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0 U
1330-20-7	m,p-Xylene	1.0	< 1.0 U
95-47-6	o-Xylene	1.0	< 1.0 U
95-50-1	1,2-Dichlorobenzene	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
107-02-8	Acrolein	50	< 50 U
74-88-4	Methyl Iodide	1.0	< 1.0 U
74-96-4	Bromoethane	2.0	< 2.0 U
107-13-1	Acrylonitrile	1.0	< 1.0 U
563-58-6	1,1-Dichloropropene	1.0	< 1.0 U
74-95-3	Dibromomethane	1.0	< 1.0 U
630-20-6	1,1,1,2-Tetrachloroethane	1.0	< 1.0 U
96-12-8	1,2-Dibromo-3-chloropropane	5.0	< 5.0 U
96-18-4	1,2,3-Trichloropropane	3.0	< 3.0 U

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method 8260B **Sample ID: MW-108**
 SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Date Analyzed: 05/05/04 18:34

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

CAS Number	Analyte	RL	Result
110-57-6	trans-1,4-Dichloro-2-butene	5.0	< 5.0 U
108-67-8	1,3,5-Trimethylbenzene	1.0	< 1.0 U
95-63-6	1,2,4-Trimethylbenzene	1.0	< 1.0 U
87-68-3	Hexachlorobutadiene	5.0	< 5.0 U
106-93-4	Ethylene Dibromide	1.0	< 1.0 U
74-97-5	Bromochloromethane	1.0	< 1.0 U
594-20-7	2,2-Dichloropropane	1.0	< 1.0 U
142-28-9	1,3-Dichloropropane	1.0	< 1.0 U
98-82-8	Isopropylbenzene	1.0	< 1.0 U
103-65-1	n-Propylbenzene	1.0	< 1.0 U
108-86-1	Bromobenzene	1.0	< 1.0 U
95-49-8	2-Chlorotoluene	1.0	< 1.0 U
106-43-4	4-Chlorotoluene	1.0	< 1.0 U
98-06-6	tert-Butylbenzene	1.0	< 1.0 U
135-98-8	sec-Butylbenzene	1.0	< 1.0 U
99-87-6	4-Isopropyltoluene	1.0	< 1.0 U
104-51-8	n-Butylbenzene	1.0	< 1.0 U
120-82-1	1,2,4-Trichlorobenzene	5.0	< 5.0 U
91-20-3	Naphthalene	5.0	< 5.0 U
87-61-6	1,2,3-Trichlorobenzene	5.0	< 5.0 U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	92.2%
Bromofluorobenzene	89.2%
d4-1,2-Dichlorobenzene	98.2%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MB-050404
METHOD BLANK

Lab Sample ID: MB-050404
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/JA
Date Analyzed: 05/04/04 13:44

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	104%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: Trip Blank
SAMPLE

Lab Sample ID: GO56D
LIMS ID: 04-6428
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled:
Date Received: 04/23/04

Instrument/Analyst: NT5/JA
Date Analyzed: 05/04/04 17:53

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

SW8260-SIM SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	DCA	TOT OUT
MB-050404	104%	0
LCS-050404	91.2%	0
LCSD-050404	98.9%	0
MW-104	70.9%	0
MW-112	104%	0
MW-108	108%	0
Trip Blank	103%	0

	LCS/MB LIMITS	QC LIMITS
(DCA) = d4-1,2-Dichloroethane	(76-119)	(63-135)

Prep Method: SW5030
Log Number Range: 04-6425 to 04-6428

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: LCS-050404
LCS/LCSD

Lab Sample ID: LCS-050404
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/JA
LCSD: NT5/JA
Date Analyzed LCS: 05/04/04 12:44
LCSD: 05/04/04 13:14

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	0.494	0.500	98.8%	0.457	0.500	91.4%	7.8%

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

SIM Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	91.2%	98.9%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MW-104 SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized: WW
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: NT5/JA
Date Analyzed: 05/04/04 18:23

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	70.9%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: NT5/JA
Date Analyzed: 05/04/04 18:52

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result
75-01-4	Vinyl Chloride	0.10	< 0.10 Y

Reported in µg/L (ppb)

Volatile Surrogate Recovery	
d4-1,2-Dichloroethane	104%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Instrument/Analyst: NT5/JA
Date Analyzed: 05/04/04 19:22

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result
75-01-4	Vinyl Chloride	0.10	< 0.10 Y

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS

Sample ID: MB-042704
METHOD BLANK

Lab Sample ID: MB-042704
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Date Extracted: 04/27/04
Date Analyzed: 05/11/04 19:24
Instrument/Analyst: NT4/Van

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-042704
METHOD BLANK

Lab Sample ID: MB-042704
LIMS ID: 04-6425
Matrix: Water
Date Analyzed: 05/11/04 19:24

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

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	88.1%	2-Fluorobiphenyl	80.5%
d14-p-Terphenyl	91.6%	d4-1,2-Dichlorobenzene	65.1%
d5-Phenol	79.2%	2-Fluorophenol	76.2%
2,4,6-Tribromophenol	82.6%	d4-2-Chlorophenol	80.4%

ANALYTICAL RESOURCES INCORPORATED

SW8270 SEMIVOLATILES WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	NBZ	FBP	TPH	DCB	PHL	2FP	TBP	2CP	TOT OUT
MB-042704	88.1%	80.5%	91.6%	65.1%	79.2%	76.2%	82.6%	80.4%	0
LCS-042704	87.7%	81.1%	93.3%	65.6%	79.9%	77.4%	90.3%	83.7%	0
MW-104	80.3%	74.6%	80.0%	55.4%	74.8%	66.4%	86.1%	74.6%	0
MW-112	79.3%	70.4%	71.1%	55.3%	74.9%	68.9%	82.7%	76.4%	0
MW-108	75.6%	72.7%	79.1%	53.1%	68.2%	58.9%	83.6%	69.4%	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: 04-6425 to 04-6427

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS
Page 1 of 1

Sample ID: LCS-042704
LAB CONTROL

Lab Sample ID: LCS-042704
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/11/04 20:00
Instrument/Analyst: NT4/Van
GPC Cleanup: NO

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

Analyte	Lab Control	Spike Added	Recovery
Phenol	29.5	37.5	78.7%
2-Chlorophenol	31.2	37.5	83.2%
1,4-Dichlorobenzene	15.8	25.0	63.2%
N-Nitroso-Di-N-Propylamine	17.6	25.0	70.4%
1,2,4-Trichlorobenzene	17.7	25.0	70.8%
4-Chloro-3-methylphenol	36.9	37.5	98.4%
Acenaphthene	21.4	25.0	85.6%
4-Nitrophenol	27.6	37.5	73.6%
2,4-Dinitrotoluene	22.1	25.0	88.4%
Pentachlorophenol	43.1	37.5	115%
Pyrene	23.1	25.0	92.4%
Guaiacol	33.8	37.5	90.1%
4,5-Dichloro-2-Methoxyphenol	34.4	37.5	91.7%
4,5,6-Trichloroguaiacol	35.7	37.5	95.2%
3,4,5-Trichloroguaiacol	43.4	37.5	116%
Tetrachloroguaiacol	79.6	75.0	106%

Semivolatile Surrogate Recovery

d5-Nitrobenzene	87.7%
2-Fluorobiphenyl	81.1%
d14-p-Terphenyl	93.3%
d4-1,2-Dichlorobenzene	65.6%
d5-Phenol	79.9%
2-Fluorophenol	77.4%
2,4,6-Tribromophenol	90.3%
d4-2-Chlorophenol	83.7%

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS

Sample ID: MW-104
SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/11/04 22:26
Instrument/Analyst: NT4/Van

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-104
SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Date Analyzed: 05/11/04 22:26

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

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	80.3%	2-Fluorobiphenyl	74.6%
d14-p-Terphenyl	80.0%	d4-1,2-Dichlorobenzene	55.4%
d5-Phenol	74.8%	2-Fluorophenol	66.4%
2,4,6-Tribromophenol	86.1%	d4-2-Chlorophenol	74.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/11/04 23:02
Instrument/Analyst: NT4/Van

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**	**4.3**
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**	**79**
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-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Date Analyzed: 05/11/04 23:02

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

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**	**3.6**
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	79.3%	2-Fluorobiphenyl	70.4%
d14-p-Terphenyl	71.1%	d4-1,2-Dichlorobenzene	55.3%
d5-Phenol	74.9%	2-Fluorophenol	68.9%
2,4,6-Tribromophenol	82.7%	d4-2-Chlorophenol	76.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270C GC/MS

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/11/04 23:38
Instrument/Analyst: NT4/Van

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-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Date Analyzed: 05/11/04 23:38

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

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	75.6%	2-Fluorobiphenyl	72.7%
d14-p-Terphenyl	79.1%	d4-1,2-Dichlorobenzene	53.1%
d5-Phenol	68.2%	2-Fluorophenol	58.9%
2,4,6-Tribromophenol	83.6%	d4-2-Chlorophenol	69.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS

Sample ID: MB-042704
METHOD BLANK

Lab Sample ID: MB-042704
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Date Extracted: 04/27/04
Date Analyzed: 05/14/04 16:00
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	69.7%

ANALYTICAL RESOURCES INCORPORATED

SIM SW8270 SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	MNP	DBA	TOT OUT
MB-042704	72.7%	69.7%	0
LCS-042704	74.0%	87.3%	0
MW-104	48.0%	80.0%	0
MW-112	44.7%	45.3%	0
MW-108	65.3%	46.3%	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: 04-6425 to 04-6427

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PNAs by SW8270C SIM GC/MS

Sample ID: LCS-042704
LAB CONTROL

Lab Sample ID: LCS-042704
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/14/04 16:30
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	0.257	0.300	85.7%
Benzo(k)fluoranthene	0.210	0.300	70.0%

SIM Semivolatile Surrogate Recovery

d10-2-Methylnaphthalene	74.0%
d14-Dibenzo(a,h)anthracen	87.3%

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS

Sample ID: MW-104
SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/17/04 16:52
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	48.0%
d14-Dibenzo(a,h)anthracene	80.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized: MW
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/17/04 17:15
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	44.7%
d14-Dibenzo(a,h)anthracene	45.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
SW8270C SIM GC/MS

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/18/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/14/04 18:44
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	65.3%
d14-Dibenzo(a,h)anthracene	46.3%

ANALYTICAL RESOURCES INCORPORATED

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

Sample No: Method Blank

Lab Sample ID: GO56MB
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/20/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Date extracted: 04/27/04
Date analyzed: 05/19/04
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 80.2%

ANALYTICAL RESOURCES INCORPORATED

WATER RESIN ACID SURROGATE SUMMARY

Matrix: Water

QC Report No: GO56
Project: POA Uplands
529009.311

LIMS ID	Lab ID	Client ID	OMPA #	TOT OUT
04-6425MB	042704MB	Method Blank	80.2%	0
04-6425SB	042704SB	Lab Control	84.1%	0
04-6425	GO56A	MW-104	78.2%	0
04-6426	GO56B	MW-112	81.2%	0
04-6427	GO56C	MW-108	88.8%	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: GO56SB
LIMS ID: 04-6425
Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Data Release Authorized:
Reported: 05/20/04

LABORATORY CONTROL SAMPLE CONSTITUENT	SPIKE VALUE	SPIKE ADDED	% RECOVERY
Pimaric Acid	43.0	50.0	86.0%
Isopimaric Acid	23.8	50.0	47.6%
Dehydroabietic Acid	41.7	50.0	83.4%
Abietic Acid	24.2	250	9.68%

Spike Blank Surrogate Recovery

O-Methyl Podocarpic Acid 84.1%

Values reported in ug/L

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

ANALYTICAL RESOURCES INCORPORATED

Sample No: MW-104

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/20/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date extracted: 04/27/04
Date analyzed: 05/19/04
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 78.2%

ANALYTICAL RESOURCES INCORPORATED

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

Sample No: MW-112

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/20/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date extracted: 04/27/04
Date analyzed: 05/19/04
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**	**2.5**
5835-26-7	**Isopimaric Acid**	**4.4**
1945-53-5	Palustric Acid	2.0 U
1740-19-8	**Dehydroabietic Acid**	**56**
514-10-3	**Abietic Acid**	**5.2**
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 81.2%

ANALYTICAL RESOURCES INCORPORATED

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

Sample No: MW-108

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/20/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date extracted: 04/27/04
Date analyzed: 05/19/04
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 88.8%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MB-042704
METHOD BLANK

Lab Sample ID: MB-042704
LIMS ID: 04-6158
Matrix: Water
Data Release Authorized:
Reported: 05/13/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Date Extracted: 04/27/04
Date Analyzed: 05/12/04 11:28
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: No

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	85.8%
Tetrachlorometaxylene	65.1%

ANALYTICAL RESOURCES INCORPORATED

SW8082/PCB WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	DCBP	TCMX	TOT OUT
MW-104	76.5%	56.5%	0
MW-112	61.8%	51.1%	0
MW-108	87.6%	57.8%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(42-138)	(25-134)
(TCMX) = Tetrachlorometaxylene	(40-109)	(25-118)

Prep Method: SW3510C
Log Number Range: 04-6425 to 04-6427

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: LCS-042704
LAB CONTROL

Lab Sample ID: LCS-042704
LIMS ID: 04-6158
Matrix: Water
Data Release Authorized:
Reported: 05/13/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/20/04
Date Received: 04/21/04

Date Extracted: 04/27/04
Date Analyzed: 05/12/04 11:50
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: No

Analyte	Lab Control	Spike Added	Recovery
Aroclor 1016	0.680	1.00	68.0%
Aroclor 1260	0.755	1.00	75.5%

PCB Surrogate Recovery

Decachlorobiphenyl	80.9%
Tetrachlorometaxylene	64.9%

Results reported in µg/L

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082 **Sample ID: MW-104**
Page 1 of 1 **SAMPLE**

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/13/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/12/04 15:31
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 900 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	0.056	< 0.056 Y
53469-21-9	Aroclor 1242	0.028	< 0.028 Y
12672-29-6	Aroclor 1248	0.028	< 0.028 Y
11097-69-1	Aroclor 1254	0.028	< 0.028 Y
11096-82-5	Aroclor 1260	0.017	< 0.017 U
11104-28-2	Aroclor 1221	0.11	< 0.11 Y
11141-16-5	Aroclor 1232	0.11	< 0.11 Y

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	76.5%
Tetrachlorometaxylene	56.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
PCB by GC/ECD Method SW8082

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/13/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/12/04 15:54
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: No

CAS Number	Analyte	RL	Result
12674-11-2	Aroclor 1016	0.020	< 0.020 Y
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	0.020	< 0.020 Y
11141-16-5	Aroclor 1232	0.015	< 0.015 U

Reported in µg/L (ppb)

PCB Surrogate Recovery	
Decachlorobiphenyl	61.8%
Tetrachlorometaxylene	51.1%

ANALYTICAL RESOURCES INCORPORATED

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

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/13/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/27/04
Date Analyzed: 05/12/04 16:16
Instrument/Analyst: ECD5/PK
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 950 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	0.032	< 0.032 Y
53469-21-9	Aroclor 1242	0.016	< 0.016 U
12672-29-6	Aroclor 1248	0.032	< 0.032 Y
11097-69-1	Aroclor 1254	0.021	< 0.021 Y
11096-82-5	Aroclor 1260	0.016	< 0.016 U
11104-28-2	Aroclor 1221	0.10	< 0.10 Y
11141-16-5	Aroclor 1232	0.026	< 0.026 Y

Reported in µg/L (ppb)

PCB Surrogate Recovery

Decachlorobiphenyl	87.6%
Tetrachlorometaxylene	57.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A
Page 1 of 1

Sample ID: MB-042804
METHOD BLANK

Lab Sample ID: MB-042804
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/06/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Date Extracted: 04/28/04
Date Analyzed: 05/05/04 16:09
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes

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	49.5%
Tetrachlorometaxylene	63.5%

ANALYTICAL RESOURCES INCORPORATED

SW8081/PESTICIDE WATER SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	DCBP	TCMX	TOT OUT
MB-042804	49.5%*	63.5%	1
LCS-042804	50.8%*	63.2%	1
MW-108	60.0%	64.5%	0

	LCS/MB LIMITS	QC LIMITS
(DCBP) = Decachlorobiphenyl	(64-119)	(18-140)
(TCMX) = Tetrachlorometaxylene	(45-94)	(18-122)

Prep Method: SW3510C
Log Number Range: 04-6427 to 04-6427

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A **Sample ID: LCS-042804**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-042804
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/06/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/28/04
Date Analyzed: 05/05/04 16:43
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Florisil Cleanup: No

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

Analyte	Lab Control	Spike Added	Recovery
alpha-BHC	0.162	0.200	81.0%
beta-BHC	0.174	0.200	87.0%
delta-BHC	0.161	0.200	80.5%
gamma-BHC (Lindane)	0.160	0.200	80.0%
Heptachlor	0.157	0.200	78.5%
Aldrin	0.155	0.200	77.5%
Heptachlor Epoxide	0.168	0.200	84.0%
Endosulfan I	0.162	0.200	81.0%
Dieldrin	0.337	0.400	84.2%
4,4'-DDE	0.377	0.400	94.2%
Endrin	0.357	0.400	89.2%
Endosulfan II	0.348	0.400	87.0%
4,4'-DDD	0.377	0.400	94.2%
Endosulfan Sulfate	0.330	0.400	82.5%
4,4'-DDT	0.357	0.400	89.2%
Methoxychlor	1.89	2.00	94.5%
Endrin Ketone	0.332	0.400	83.0%
Endrin Aldehyde	0.139	0.400	34.8% not detected in sample
gamma Chlordane	0.167	0.200	83.5%
alpha Chlordane	0.166	0.200	83.0%

Pest/PCB Surrogate Recovery

Decachlorobiphenyl	50.8%
Tetrachlorometaxylene	63.2%

Results reported in µg/L (ppb)

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Pesticides/PCB by GC/ECD Method 8081A **Sample ID: MW-108**
Page 1 of 1 **SAMPLE**

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/06/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/28/04
Date Analyzed: 05/05/04 19:00
Instrument/Analyst: ECD3/YZ
GPC Cleanup: No
Sulfur Cleanup: Yes

Sample Amount: 500 mL
Final Extract Volume: 5.0 mL
Dilution Factor: 1.00
pH: 6.8
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	60.0%
Tetrachlorometaxylene	64.5%

ANALYTICAL RESOURCES INCORPORATED

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

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Data Release Authorized:
Reported: 05/07/04

ARI ID	Client ID	Analysis Date	Range	Result mg/L
MB-042704	Method Blank	04/27/04	Gasoline	0.25 U
04-6425			HC ID	---
			Trifluorotoluene	107%
			Bromobenzene	105%
GO56A	MW-104	04/27/04	Gasoline	0.25 U
04-6425			HC ID	---
			Trifluorotoluene	90.8%
			Bromobenzene	95.9%
GO56B	MW-112	04/27/04	Gasoline	0.25 U
04-6426			HC ID	---
			Trifluorotoluene	81.5%
			Bromobenzene	89.9%
GO56C	MW-108	04/27/04	Gasoline	0.25 U
04-6427			HC ID	---
			Trifluorotoluene	92.8%
			Bromobenzene	97.7%
GO56D	Trip Blank	04/27/04	Gasoline	0.25 U
04-6428			HC ID	---
			Trifluorotoluene	99.6%
			Bromobenzene	100%

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.

ANALYTICAL RESOURCES INCORPORATED

WATER TPHg SYSTEM MONITORING COMPOUND SUMMARY

Matrix: Water

QC Report No: GO56

LIMS ID	Lab ID	Client ID	TFT	BB	TOT OUT
04-6425MB	042704MB	Method Blank	107%	105%	0
04-6425LC	042704LC	Lab Control	116%	106%	0
04-6425LCD	042704LCD	Lab Control Dup	116%	105%	0
04-6425	GO56A	MW-104	90.8%	95.9%	0
04-6426	GO56B	MW-112	81.5%	89.9%	0
04-6427	GO56C	MW-108	92.8%	97.7%	0
04-6428	GO56D	Trip Blank	99.6%	100%	0

	MB/LCS QC LIMITS	SAMPLE QC LIMITS
(TFT) = Trifluorotoluene	(74-126)	(31-139)
(BB) = Bromobenzene	(75-121)	(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
Page 1 of 1

Sample ID: LCS-042704
LCS/LCSD

Lab Sample ID: LCS-042704
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/07/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: PID1/AAR
LCSD: PID1/AAR
Date Analyzed LCS: 04/27/04 14:12
LCSD: 04/27/04 14:40

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	2.62	2.50	105%	2.75	2.50	110%	4.8%

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

Gasoline Surrogate Recovery

	LCS	LCSD
Trifluorotoluene	116%	116%
Bromobenzene	106%	105%

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: GO56-Landau Associates
Project: POA Uplands
529009.311

Data Release Authorized:
Reported: 05/14/04

ARI ID	Sample ID	Extraction Date	Analysis Date	DL	Range	Result mg/L
MB-042904	Method Blank	04/29/04	05/13/04	1.0	Diesel	< 0.25 U
04-6425					Motor Oil	< 0.50 U
					HC ID	---
					o-Terphenyl	85.6%
GO56A	MW-104	04/29/04	05/13/04	1.0	Diesel	< 0.25 U
04-6425					Motor Oil	< 0.50 U
					HC ID	---
					o-Terphenyl	83.3%
GO56B	MW-112	04/29/04	05/13/04	1.0	Diesel	< 0.25 U
04-6426					Motor Oil	< 0.50 U
					HC ID	---
					o-Terphenyl	78.9%
GO56C	MW-108	04/29/04	05/13/04	1.0	Diesel	< 0.25 U
04-6427					Motor Oil	< 0.50 U
					HC ID	---
					o-Terphenyl	87.1%

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 INCORPORATED

CLEANED TPHD SURROGATE RECOVERY SUMMARY

Matrix: Water

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311

Client ID	O-TER	TOT OUT
MB-042904	85.6%	0
LCS-042904	89.6%	0
MW-104	83.3%	0
MW-112	78.9%	0
MW-108	87.1%	0

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

Prep Method: SW3510C
Log Number Range: 04-6425 to 04-6427

ANALYTICAL RESOURCES INCORPORATED

TOTAL DIESEL RANGE HYDROCARBONS-EXTRACTION REPORT

ARI Job: GO56
Matrix: Water Project: POA Uplands
Date Received: 04/23/04 529009.311

ARI ID	Client ID	Client Amt	Final Vol	Prep Date
04-6425-042904MB1	Method Blank	500 mL	1.00 mL	04/29/04
04-6425-042904LCS1	Lab Control	500 mL	1.00 mL	04/29/04
04-6425-GO56A	MW-104	500 mL	1.00 mL	04/29/04
04-6426-GO56B	MW-112	500 mL	1.00 mL	04/29/04
04-6427-GO56C	MW-108	500 mL	1.00 mL	04/29/04

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
NWTPHD by GC/FID-Silica and Acid Cleaned **Sample ID: LCS-042904**
Page 1 of 1 **LAB CONTROL**

Lab Sample ID: LCS-042904
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/14/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Date Extracted: 04/29/04
Date Analyzed: 05/13/04 01:18
Instrument/Analyst: FID/ESJ

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

Range	Lab Control	Spike Added	Recovery
Diesel	1.85	3.00	61.7%

TPHD Surrogate Recovery

o-Terphenyl	89.6%

Results reported in mg/L

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS **Sample ID: METHOD BLANK**

Lab Sample ID: GO20MB
LIMS ID: 04-6159
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	04/27/04	6010B	04/29/04	7440-36-0	Antimony	0.05	0.05	U
7060A	04/27/04	7060A	04/30/04	7440-38-2	Arsenic	0.001	0.001	U
3010A	04/27/04	6010B	04/29/04	7440-43-9	Cadmium	0.002	0.002	U
3010A	04/27/04	6010B	04/29/04	7440-50-8	Copper	0.002	0.002	U
3010A	04/27/04	6010B	04/29/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
3010A	04/27/04	6010B	04/29/04	7440-02-0	Nickel	0.01	0.01	U
3010A	04/27/04	6010B	04/29/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: GO20LCS
LIMS ID: 04-6159
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	6010B	2.03	2.00	102%	
Arsenic	7060A	0.105	0.100	105%	
Cadmium	6010B	0.507	0.500	101%	
Copper	6010B	0.489	0.500	97.8%	
Lead	6010B	2.03	2.00	102%	
Mercury	7470A	0.0023	0.0020	115%	
Nickel	6010B	0.48	0.50	96.0%	
Thallium	6010B	2.01	2.00	100%	

Reported in mg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MW-104
SAMPLE

Lab Sample ID: GO56A
LIMS ID: 04-6425
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	04/27/04	6010B	05/03/04	7440-36-0	Antimony	0.05	0.05	U
7060A	04/27/04	7060A	04/30/04	7440-38-2	Arsenic	0.001	0.001	U
3010A	04/27/04	6010B	05/03/04	7440-43-9	Cadmium	0.002	0.002	U
3010A	04/27/04	6010B	05/03/04	7440-50-8	Copper	0.002	0.002	U
3010A	04/27/04	6010B	05/03/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
3010A	04/27/04	6010B	05/03/04	7440-02-0	Nickel	0.01	0.01	U
3010A	04/27/04	6010B	05/03/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56B
LIMS ID: 04-6426
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	04/27/04	6010B	04/30/04	7440-36-0	Antimony	0.05	0.05	U
7060A	04/27/04	7060A	04/30/04	**7440-38-2**	**Arsenic**	0.001	**0.002**	
3010A	04/27/04	6010B	04/30/04	7440-43-9	Cadmium	0.002	0.002	U
3010A	04/27/04	6010B	04/30/04	**7440-50-8**	**Copper**	0.002	**0.003**	
3010A	04/27/04	6010B	04/30/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
3010A	04/27/04	6010B	04/30/04	7440-02-0	Nickel	0.01	0.01	U
3010A	04/27/04	6010B	04/30/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
TOTAL METALS

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56C
LIMS ID: 04-6427
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
3010A	04/27/04	6010B	04/29/04	7440-36-0	Antimony	0.05	0.05	U
7060A	04/27/04	7060A	04/30/04	7440-38-2	Arsenic	0.001	0.001	U
3010A	04/27/04	6010B	04/29/04	7440-43-9	Cadmium	0.002	0.002	U
3010A	04/27/04	6010B	04/29/04	7440-50-8	Copper	0.002	0.002	U
3010A	04/27/04	6010B	04/29/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
3010A	04/27/04	6010B	04/29/04	7440-02-0	Nickel	0.01	0.01	U
3010A	04/27/04	6010B	04/29/04	7440-28-0	Thallium	0.05	0.05	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: GO20MB
LIMS ID: 04-6164
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	04/27/04	6010B	04/29/04	7440-36-0	Antimony	0.05	0.05	U
7060A	05/07/04	7060A	05/11/04	7440-38-2	Arsenic	0.001	0.001	U
6010B	04/27/04	6010B	04/29/04	7440-43-9	Cadmium	0.002	0.002	U
6010B	04/27/04	6010B	04/29/04	7440-50-8	Copper	0.002	0.002	U
6010B	04/27/04	6010B	04/29/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
6010B	04/27/04	6010B	04/29/04	7440-02-0	Nickel	0.01	0.01	U
6010B	04/27/04	6010B	04/29/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: GO20LCS
LIMS ID: 04-6164
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO20-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Antimony	6010B	2.05	2.00	102%	
Arsenic	7060A	0.099	0.100	99.0%	
Cadmium	6010B	0.523	0.500	105%	
Copper	6010B	0.475	0.500	95.0%	
Lead	6010B	2.06	2.00	103%	
Mercury	7470A	0.0023	0.0020	115%	
Nickel	6010B	0.48	0.50	96.0%	
Thallium	6010B	2.04	2.00	102%	

Reported in mg/L

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

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-104
SAMPLE

Lab Sample ID: GO56E
LIMS ID: 04-6429
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	04/27/04	6010B	04/29/04	7440-36-0	Antimony	0.05	0.05	U
7060A	05/07/04	7060A	05/11/04	**7440-38-2**	**Arsenic**	0.001	**0.002**	
6010B	04/27/04	6010B	04/29/04	7440-43-9	Cadmium	0.002	0.002	U
6010B	04/27/04	6010B	04/29/04	7440-50-8	Copper	0.002	0.002	U
6010B	04/27/04	6010B	04/29/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
6010B	04/27/04	6010B	04/29/04	7440-02-0	Nickel	0.01	0.01	U
6010B	04/27/04	6010B	04/29/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-112
SAMPLE

Lab Sample ID: GO56F
LIMS ID: 04-6430
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	04/27/04	6010B	04/30/04	7440-36-0	Antimony	0.05	0.05	U
7060A	05/07/04	7060A	05/11/04	**7440-38-2**	**Arsenic**	0.001	**0.001**	
6010B	04/27/04	6010B	04/30/04	7440-43-9	Cadmium	0.002	0.002	U
6010B	04/27/04	6010B	04/30/04	7440-50-8	Copper	0.002	0.002	U
6010B	04/27/04	6010B	04/30/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
6010B	04/27/04	6010B	04/30/04	7440-02-0	Nickel	0.01	0.01	U
6010B	04/27/04	6010B	04/30/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW-108
SAMPLE

Lab Sample ID: GO56G
LIMS ID: 04-6431
Matrix: Water
Data Release Authorized:
Reported: 05/12/04

QC Report No: GO56-Landau Associates
Project: POA Uplands
529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	04/27/04	6010B	04/30/04	7440-36-0	Antimony	0.05	0.05	U
7060A	05/07/04	7060A	05/11/04	7440-38-2	Arsenic	0.001	0.001	U
6010B	04/27/04	6010B	04/30/04	7440-43-9	Cadmium	0.002	0.002	U
6010B	04/27/04	6010B	04/30/04	7440-50-8	Copper	0.002	0.002	U
6010B	04/27/04	6010B	04/30/04	7439-92-1	Lead	0.02	0.02	U
7470A	04/27/04	7470A	04/30/04	7439-97-6	Mercury	0.0001	0.0001	U
6010B	04/27/04	6010B	04/30/04	7440-02-0	Nickel	0.01	0.01	U
6010B	04/27/04	6010B	04/30/04	7440-28-0	Thallium	0.05	0.05	U

U-Analyte undetected at given RL
RL-Reporting Limit

METHOD BLANK RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: mf
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	Blank
Chloride	05/05/04	mg/L	< 1.0 U
N-Ammonia	05/04/04	mg-N/L	< 0.010 U
	05/07/04		< 0.010 U
N-Nitrite	04/23/04	mg-N/L	< 0.010 U
Nitrate + Nitrite (NO3+NO2)	04/23/04	mg-N/L	< 0.010 U
Sulfate	05/05/04	mg/L	< 2.0 U
Sulfide	04/28/04	mg/L	< 0.05 U
Phenol	04/30/04	mg/L	< 0.03 U

MS/MSD RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Analyte	ID Date	Units	Sample	Spike	Spike Added	Recovery
N-Nitrite	GO56A MW-104 04/23/04	mg-N/L	< 0.010 U	0.505	0.500	101.0%
Nitrate + Nitrite (NO3+NO2)	GO56A MW-104 04/23/04	mg-N/L	< 0.010 U	0.522	0.500	104.4%

REPLICATE RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: ag
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Analyte	ID Date	Units	Sample	Replicate	RPD
N-Nitrite	GO56A MW-104 04/23/04	mg-N/L	< 0.010 U	< 0.010 U	NA
Nitrate + Nitrite (NO3+NO2)	GO56A MW-104 04/23/04	mg-N/L	< 0.010 U	< 0.010 U	NA

STANDARD REFERENCE RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Date	Units	SRM	True Value	Recovery
Chloride ERA #22013	05/05/04	mg/L	5.0	5.0	100.0%
N-Ammonia ERA #03043	05/04/04 05/07/04	mg-N/L	0.488 0.495	0.500 0.500	97.6% 99.0%
N-Nitrite ERA #17042	04/23/04	mg-N/L	0.494	0.500	98.8%
Nitrate + Nitrite (NO3+NO2) ERA #10062	04/23/04	mg-N/L	0.530	0.500	106.0%
Sulfate ERA #31073	05/05/04	mg/L	24.0	25.0	96.0%
Phenol ERA 05111.2	04/30/04	mg/L	0.99	1.00	99.0%

LAB CONTROL RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: ark
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: NA
Date Received: NA

Analyte	Date	Units	LCS	Spike Added	Recovery
Sulfide	04/28/04	mg/L	6.51	7.04	92.5%

SAMPLE RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Client ID: MW-104
ARI ID: 04-6425 GO56A

Analyte	Date	Method	Units	RL	Sample
Chloride	05/05/04	EPA 325.2	mg/L	20.0	84.7
N-Ammonia	05/07/04	EPA 350.1M	mg-N/L	0.050	4.14
N-Nitrate	04/23/04	Calculated	mg-N/L	0.010	< 0.010 U
N-Nitrite	04/23/04	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite (NO3+NO2)	04/23/04	EPA 353.2	mg-N/L	0.010	< 0.010 U
Sulfate	05/05/04	EPA 375.2	mg/L	2.0	3.6
Sulfide	04/28/04	EPA 376.2	mg/L	0.05	< 0.05 U
Phenol	04/30/04	EPA 420.1	mg/L	0.03	< 0.03 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized: QAP
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Client ID: MW-112
ARI ID: 04-6426 GO56B

Analyte	Date	Method	Units	RL	Sample
Chloride	05/05/04	EPA 325.2	mg/L	200	889
N-Ammonia	05/07/04	EPA 350.1M	mg-N/L	0.050	4.26
N-Nitrate	04/23/04	Calculated	mg-N/L	0.010	0.508
N-Nitrite	04/23/04	EPA 353.2	mg-N/L	0.010	< 0.010 U
Nitrate + Nitrite (NO3+NO2)	04/23/04	EPA 353.2	mg-N/L	0.010	0.508
Sulfate	05/05/04	EPA 375.2	mg/L	2.0	10.9
Sulfide	04/28/04	EPA 376.2	mg/L	0.50	2.82
Phenol	04/30/04	EPA 420.1	mg/L	0.06	0.74

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
GO56-Landau Associates

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/10/04

Project: POA Uplands
Event: 529009.311
Date Sampled: 04/22/04
Date Received: 04/23/04

Client ID: MW-108
ARI ID: 04-6427 GO56C

Analyte	Date	Method	Units	RL	Sample
Chloride	05/05/04	EPA 325.2	mg/L	50.0	157
N-Ammonia	05/04/04	EPA 350.1M	mg-N/L	0.020	1.42
N-Nitrate	04/23/04	Calculated	mg-N/L	0.010	< 0.010 U
N-Nitrite	04/23/04	EPA 353.2	mg-N/L	0.010	0.021
Nitrate + Nitrite (NO3+NO2)	04/23/04	EPA 353.2	mg-N/L	0.010	0.013
Sulfate	05/05/04	EPA 375.2	mg/L	2.0	8.8
Sulfide	04/28/04	EPA 376.2	mg/L	0.50	2.86
Phenol	04/30/04	EPA 420.1	mg/L	0.03	< 0.03 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: ARI096-53 **PAGE 1**

REPORT DATE: 05/07/04

DATE SAMPLED: 04/22/04 **DATE RECEIVED:** 04/26/04

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM ANALYTICAL RESOURCES / GO56

CASE NARRATIVE

Three water samples were received by the laboratory in good condition. The samples were analyzed according to the chain-of-custody. No 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-104	04-6429-GO56E	2.77
MW-112	04-6430-GO56F	15.3
MW-108	04-6431-GO56G	5.22

AQUATIC RESEARCH INCORPORATED

LABORATORY & CONSULTING SERVICES

3927 AURORA AVENUE NORTH, SEATTLE, WA 98103

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

CASE FILE NUMBER:	**ARI096-53**	**PAGE 2**	
REPORT DATE:	**05/07/04**		
DATE SAMPLED:	**04/22/04**	**DATE RECEIVED:**	**04/26/04**

FINAL REPORT, LABORATORY ANALYSIS OF SELECTED PARAMETERS ON WATER SAMPLES FROM ANALYTICAL RESOURCES / GO56

QA/QC DATA

QC PARAMETER	TANNINS/LIGNINS (mg/l)
METHOD	SM18 5550B
DATE ANALYZED	08/11/03
DETECTION LIMIT	0.010
DUPLICATE	
SAMPLE ID	MW-108
ORIGINAL	5.22
DUPLICATE	5.30
RPD	1.46%
SPIKE SAMPLE	
SAMPLE ID	MW-108
ORIGINAL	5.22
SPIKED SAMPLE	6.27
SPIKE ADDED	1.00
% RECOVERY	104.73%
QC CHECK	
FOUND	0.935
TRUE	1.00
% RECOVERY	93.50%
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

ARI096 - 53

SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 04\23\04

ANALYTICAL RESOURCES INCORPORATED

ARI Project: GO56

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: 529009.311
ARI PMgr: Mary Lou Fox
Phone: (206) 340-2866 Ext
Fax: (206) 695-6201

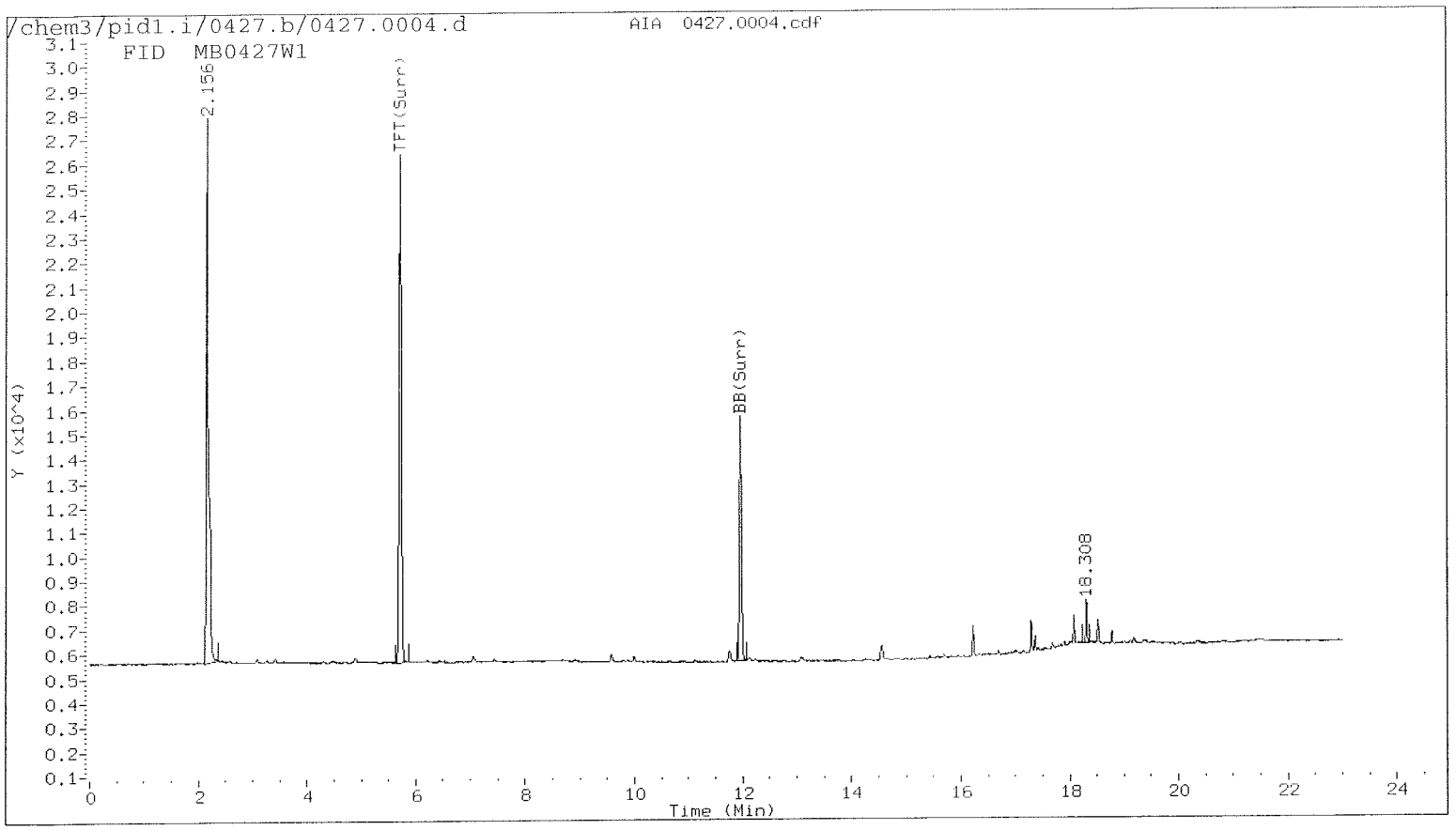
Analytical Protocol: In-house
Special Instructions:

Requested Turn Around: std ~~05/07/04~~
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
04-6429-GO56E	MW-104	4/22/04	Water	1	Tannins & Lignins
Special Instructions: NONE					
04-6430-GO56F	MW-112	4/22/04	Water	1	Tannins & Lignins
Special Instructions: NONE					
04-6431-GO56G	MW-108	4/22/04	Water	1	Tannins & Lignins
Special Instructions: NONE					

Carrier ARI Courier	Airbill		Date
Relinquished by	Company ARI	Date 4/26/04	Time 1420
Received by	Company ARI	Date 4/26/04	Time 1420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AIA 0427.0004.cdf
FID MB0427W1
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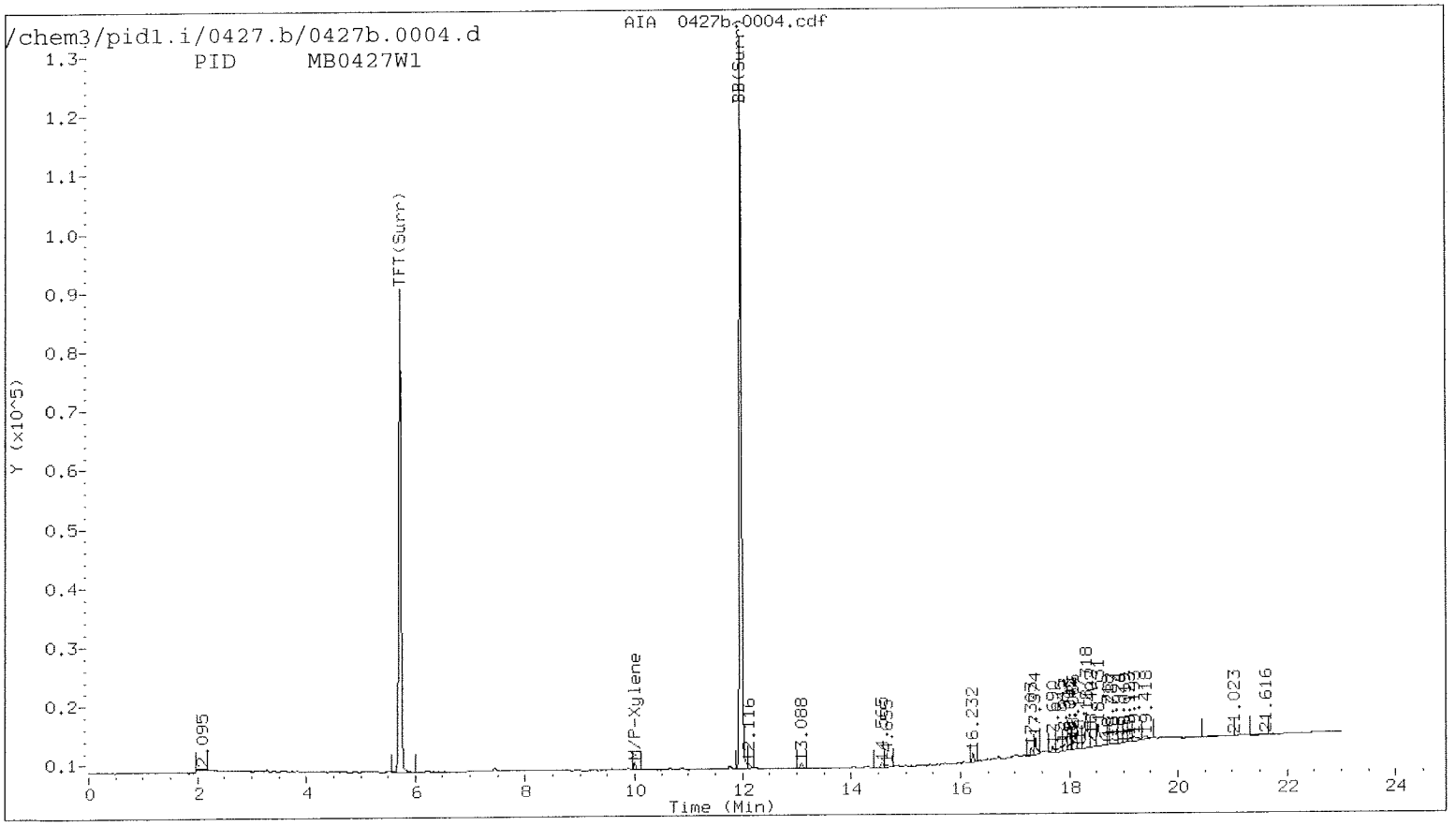
Y (x10^4)
Time (Min)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PID MB0427W1
TFT(Surr)
BB(Surr)
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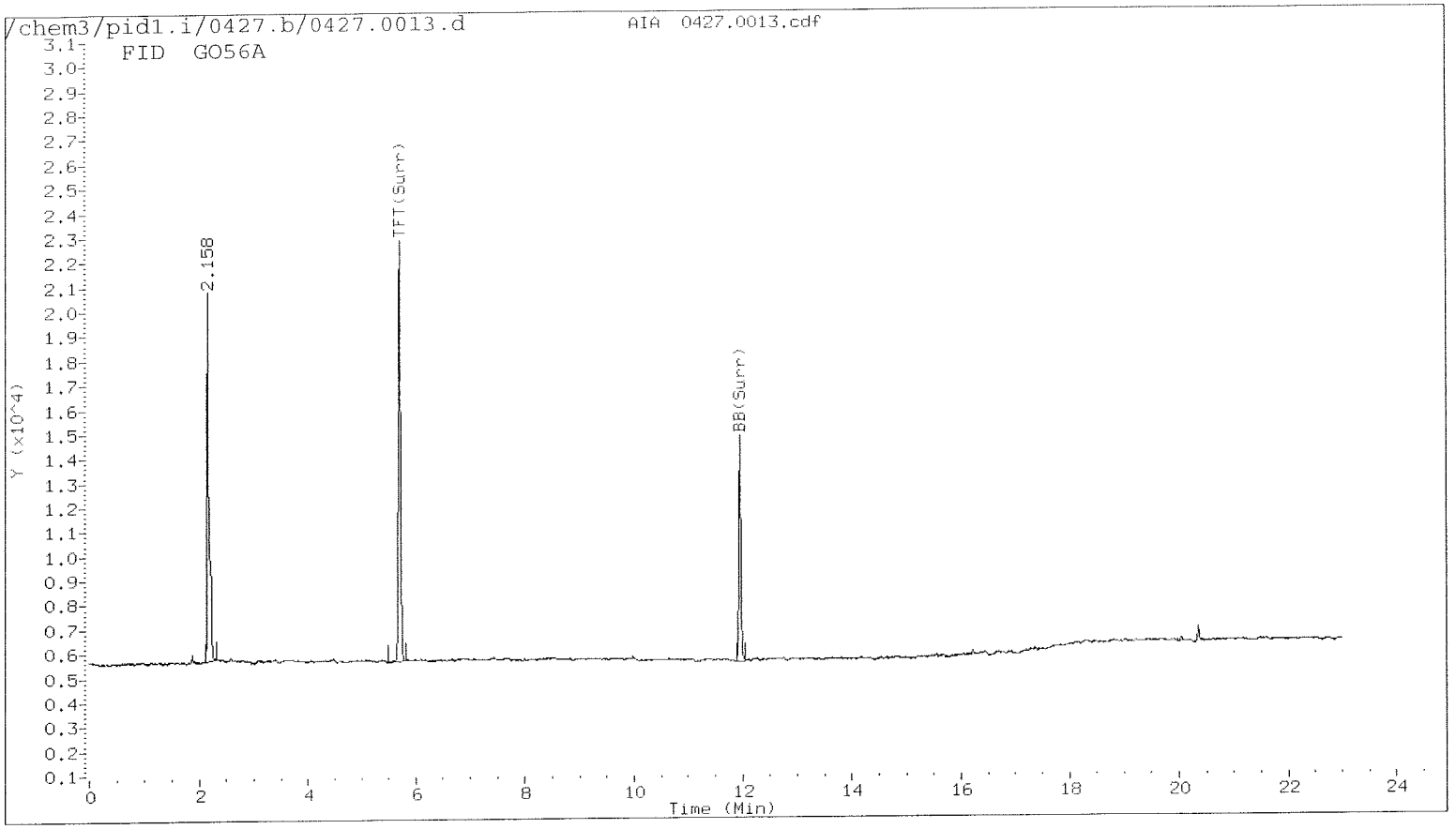
2.095
3.088
4.565
16.232
21.023
21.616
Y (x10^5)
Time (Min)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FID GO56A
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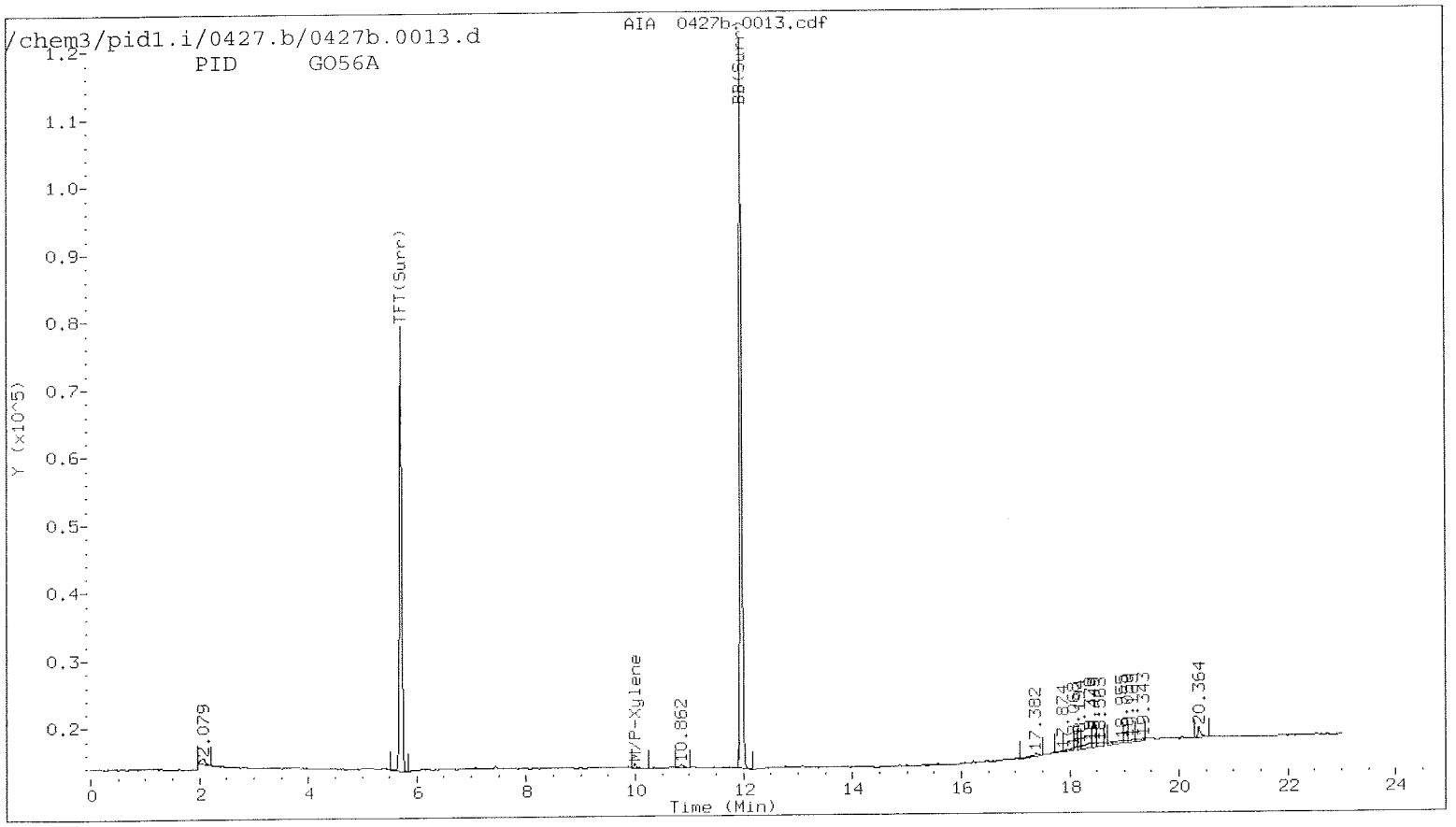
BB(Surr)
Y (x10^4)
Time (Min)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BB(Surr)
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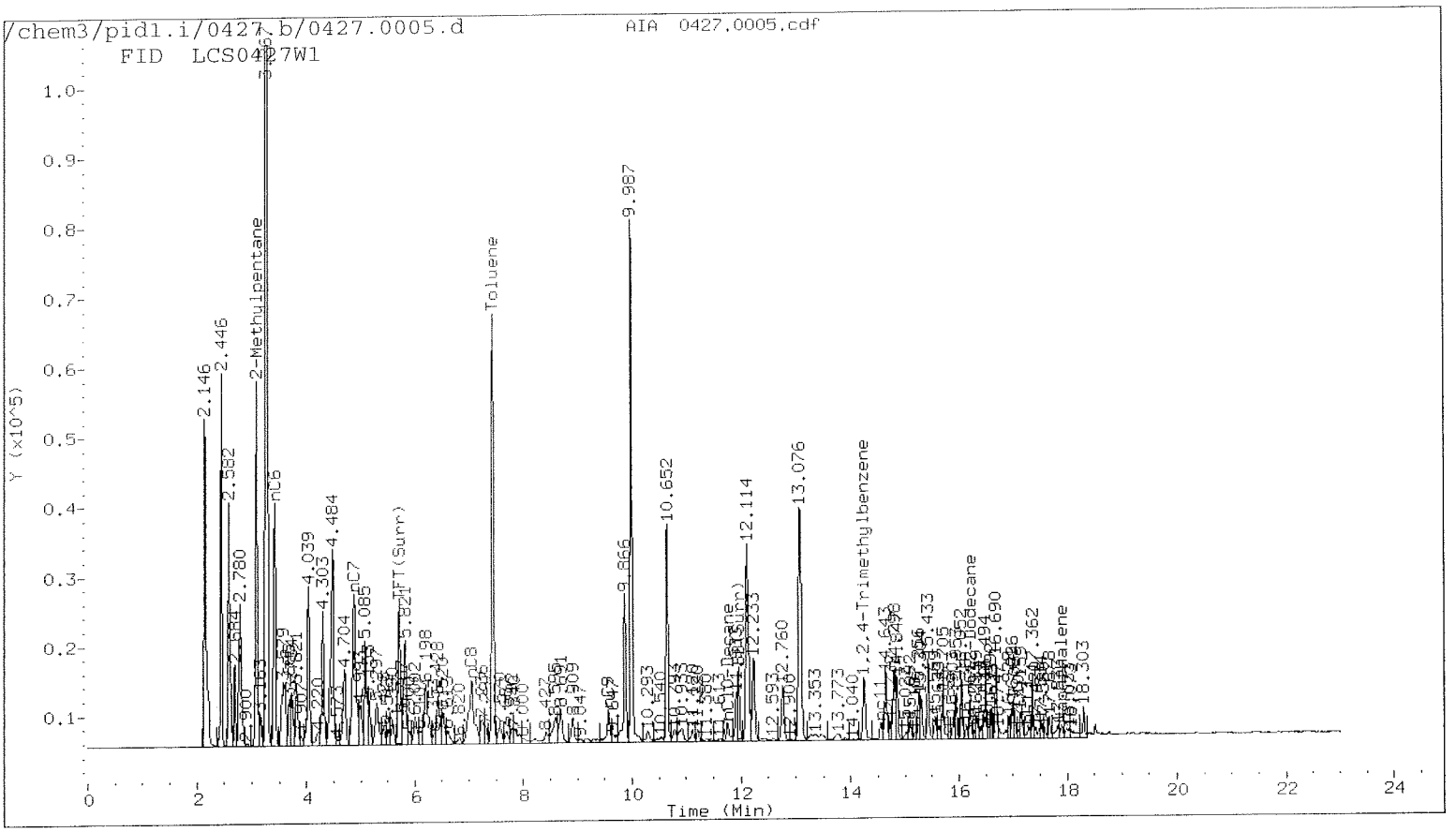
Time (Min)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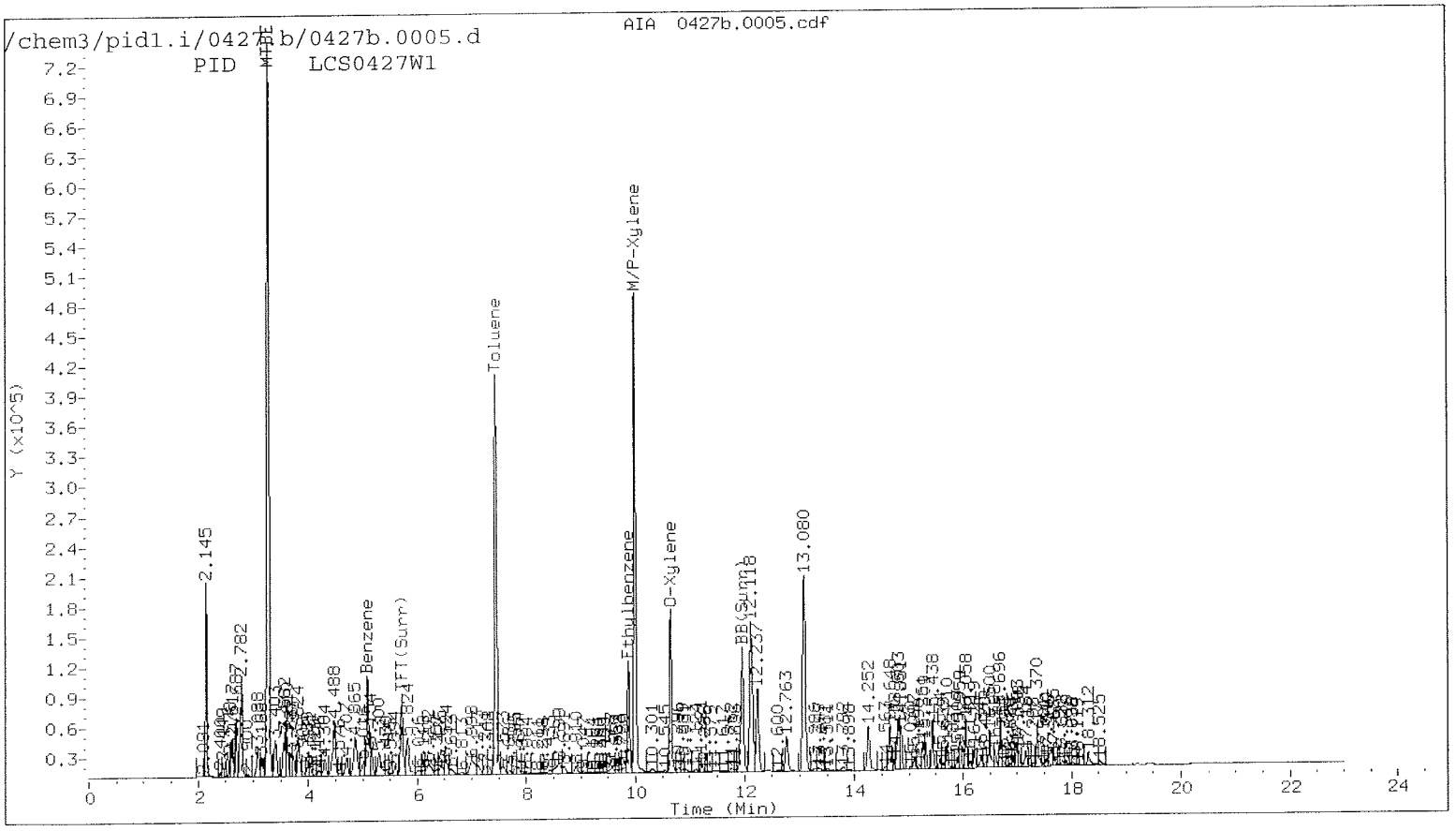
FID LCS0427W1
Y (x10^5)
Time (Min)
2-Methylpentane
Toluene
1,2,4-Trimethylbenzene
Dodecane
Naphthalene
TFT(Surr)
nC6
nC7
nC8
2.146
2.446
2.582
2.780
4.039
4.303
4.484
4.704
5.085
9.987
9.866
10.652
12.114
12.233
13.076
13.353
13.773
18.303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AIA 0427b.0005.cdf
PID LCS0427W1
Y (x10^5)
Time (Min)
MTBE
Benzene
TFT(Surr)
Toluene
Ethylbenzene
M/P-Xylene
O-Xylene
BB(Surr)
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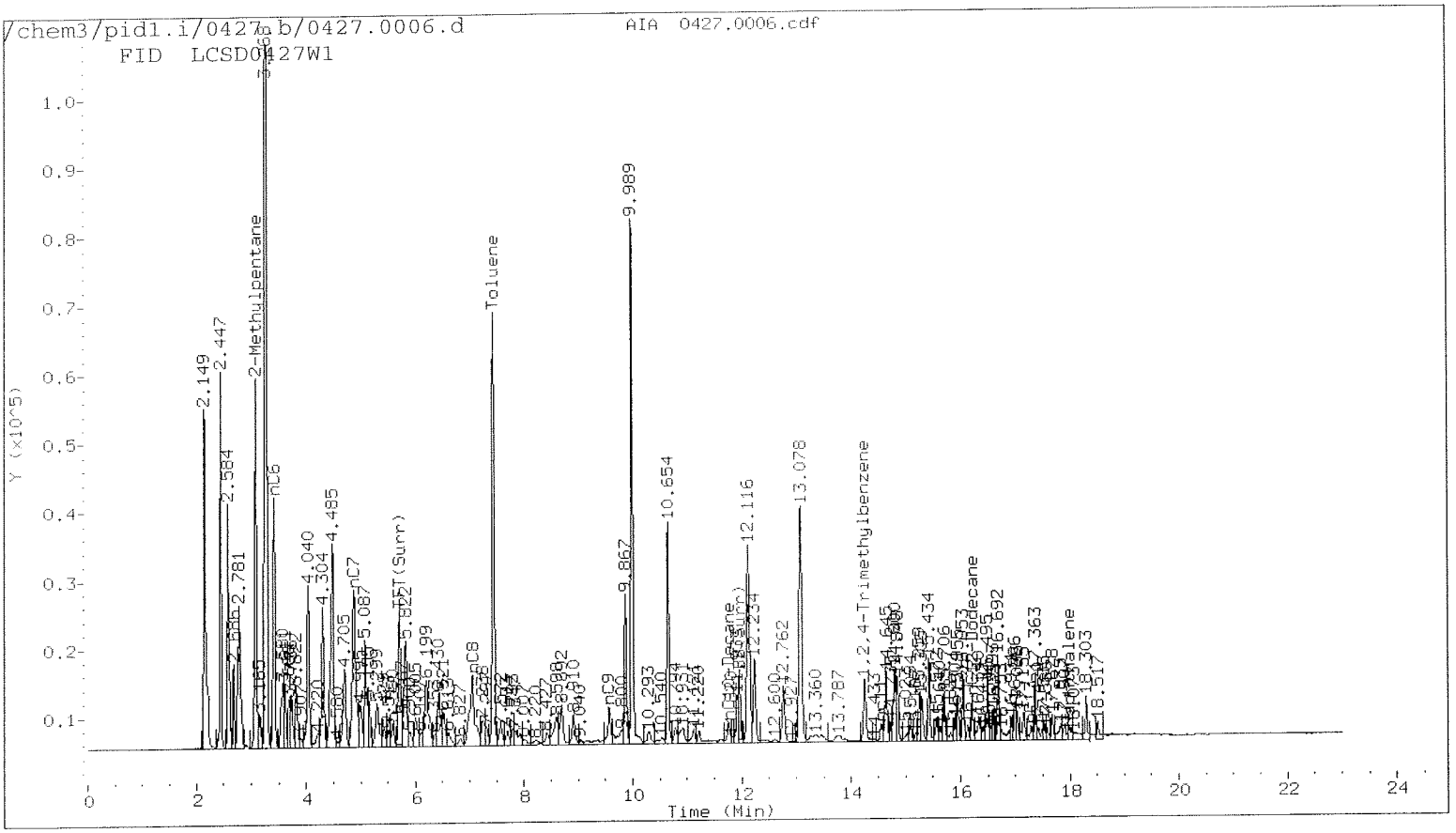
12.118
12.237
12.763
13.080
14.252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FID LCSD0427W1
AIA 0427.0006.cdf
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Time (Min)
2-Methylpentane
Toluene
1,2,4-Trimethylbenzene
Dodecane
Naphthalene
TFT(Surr)
nC6
nC7
nC8
nC9
2.149
2.447
2.584
2.781
4.040
4.304
4.485
4.705
5.087
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9.989
10.654
12.116
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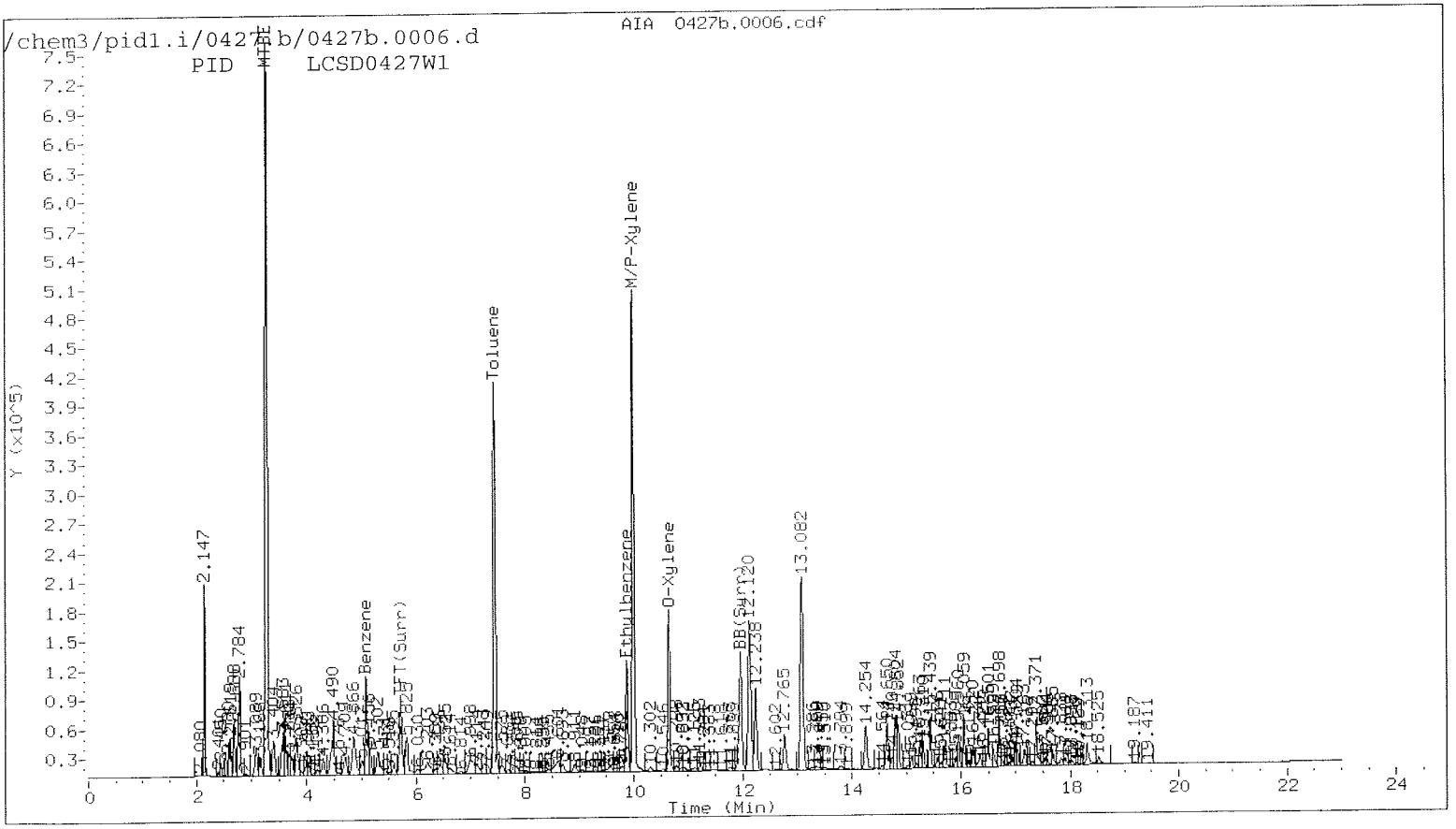
13.360
13.787
12.762
18.303
18.517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PID LCSD0427W1
AIA 0427b.0006.cdf
Y (x10^5)
Time (Min)
MTBE
Benzene
TFT(Surr)
Toluene
Ethylbenzene
M/P-Xylene
O-Xylene
BB(Surr)
2.147
2.784
4.490
12.120
12.238
12.765
13.082
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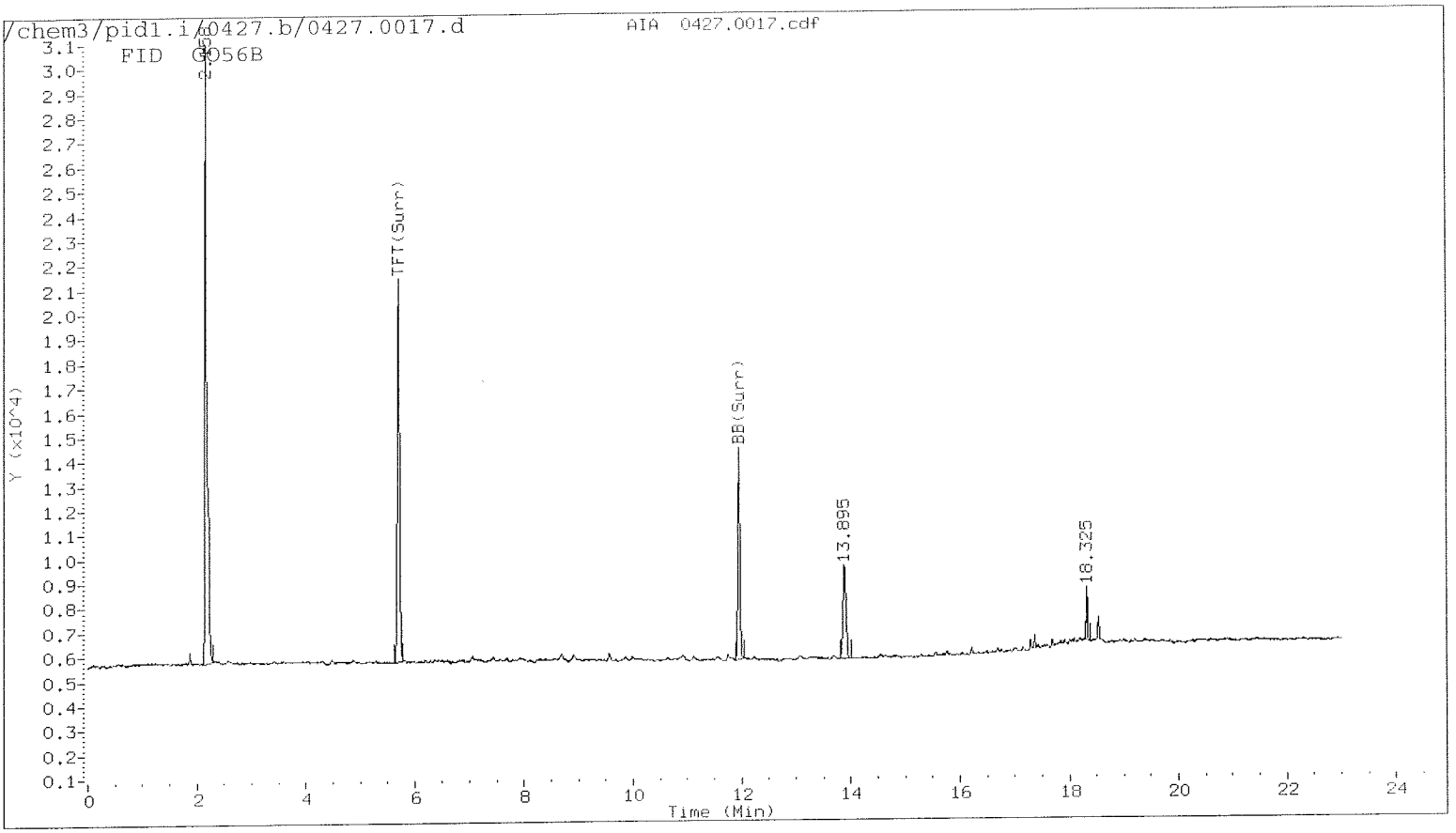
18.525
19.187
19.411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BB(Surr)
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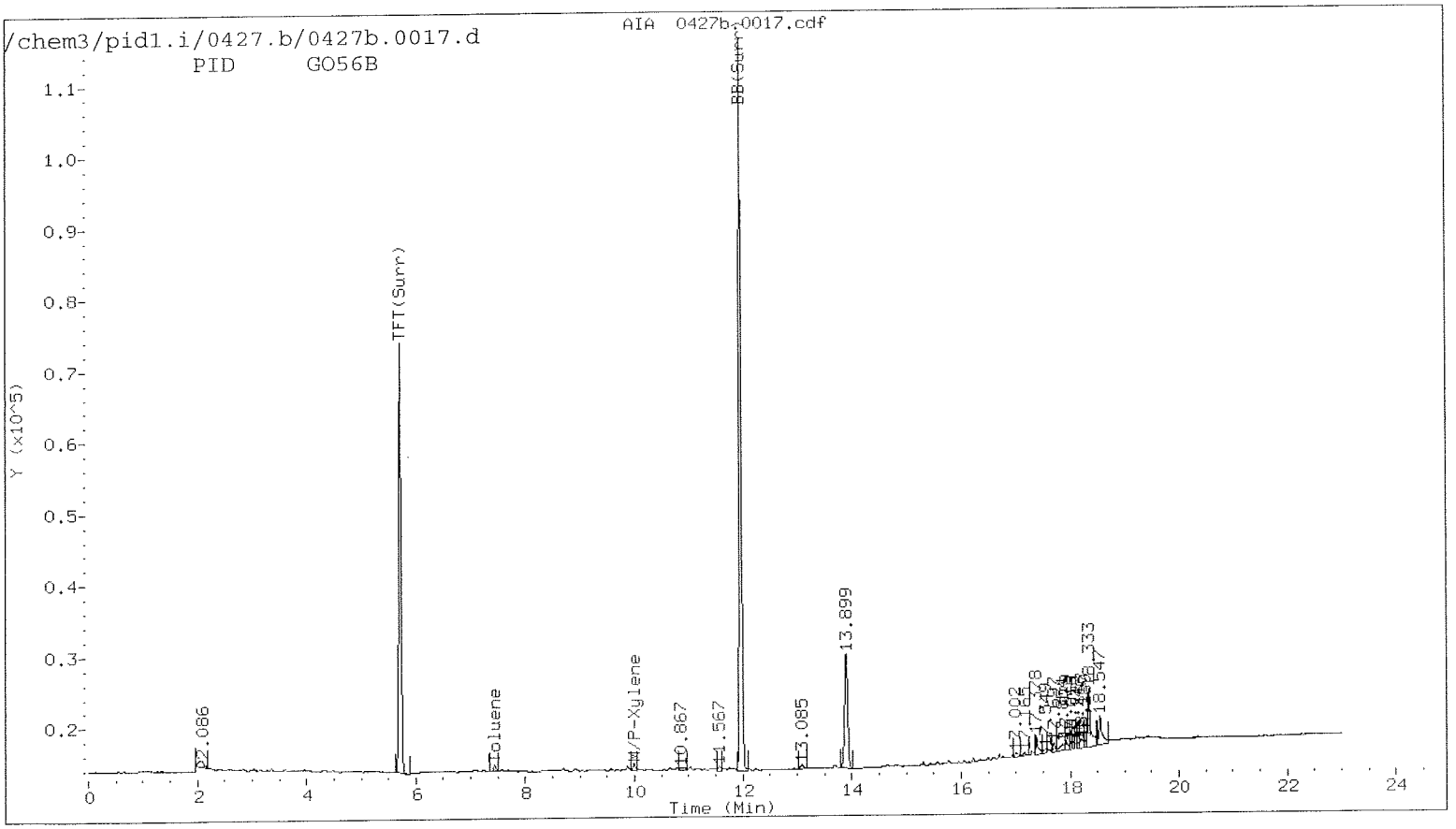
18.325
Y (x10^4)
Time (Min)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PID GO56B
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BB(Surr)
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Toluene
M/P-Xylene
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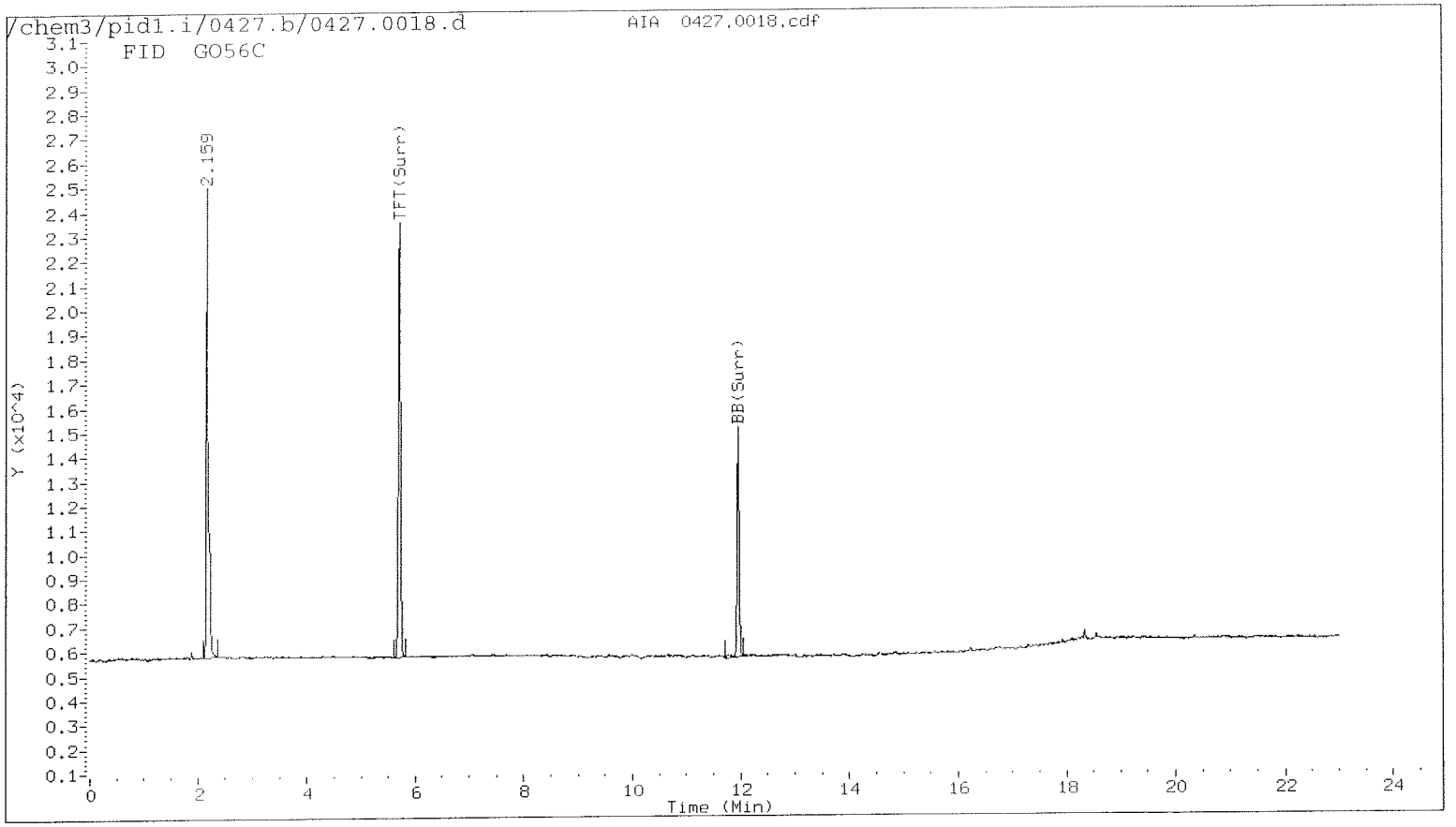
13.085
13.899
18.333
18.547
Y (x10^5)
Time (Min)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FID GO56C
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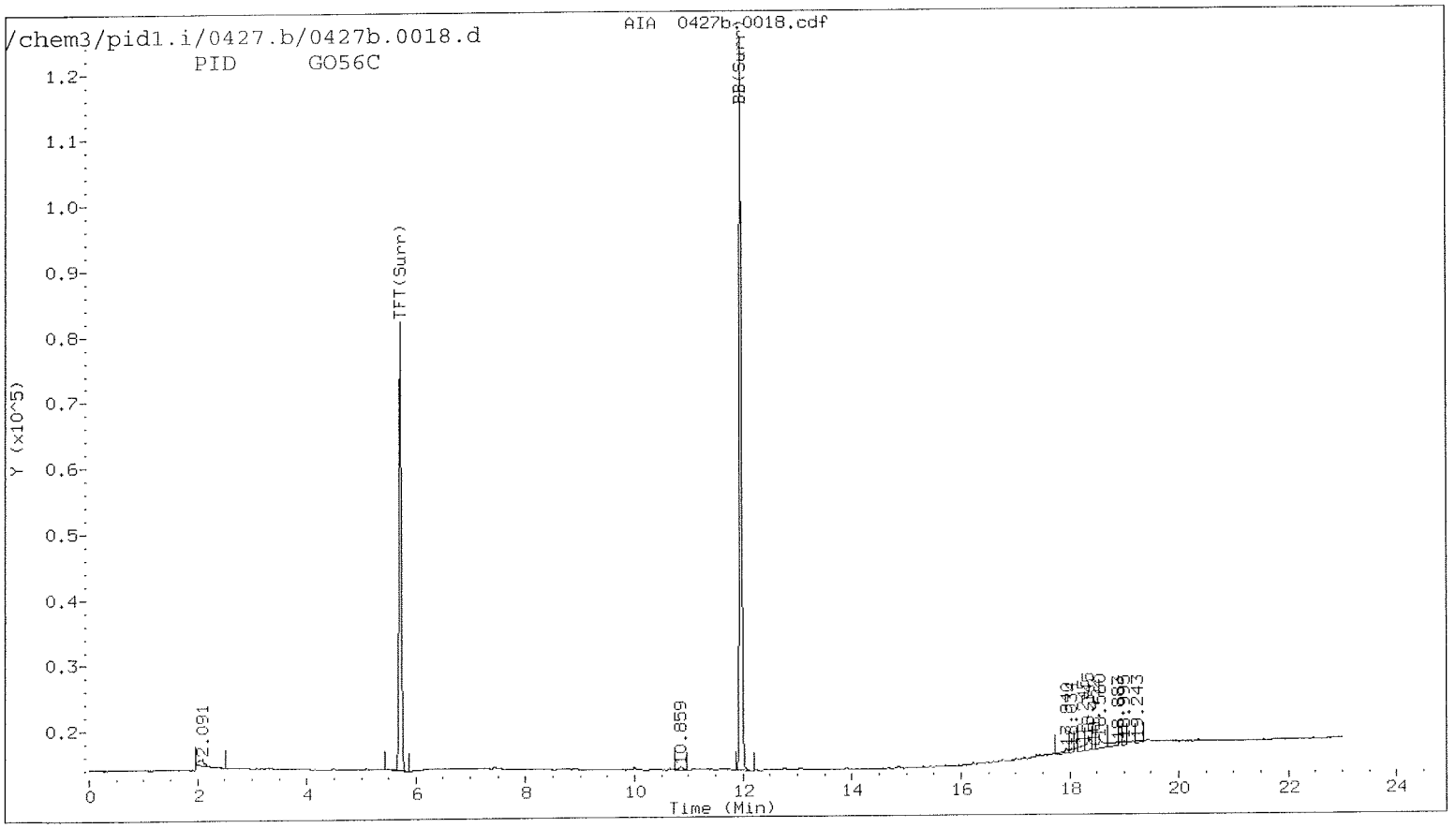
TFT(Surr)
BB(Surr)
Y (x10^4)
Time (Min)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PID GO56C
BB(Surr)
TFT(Surr)
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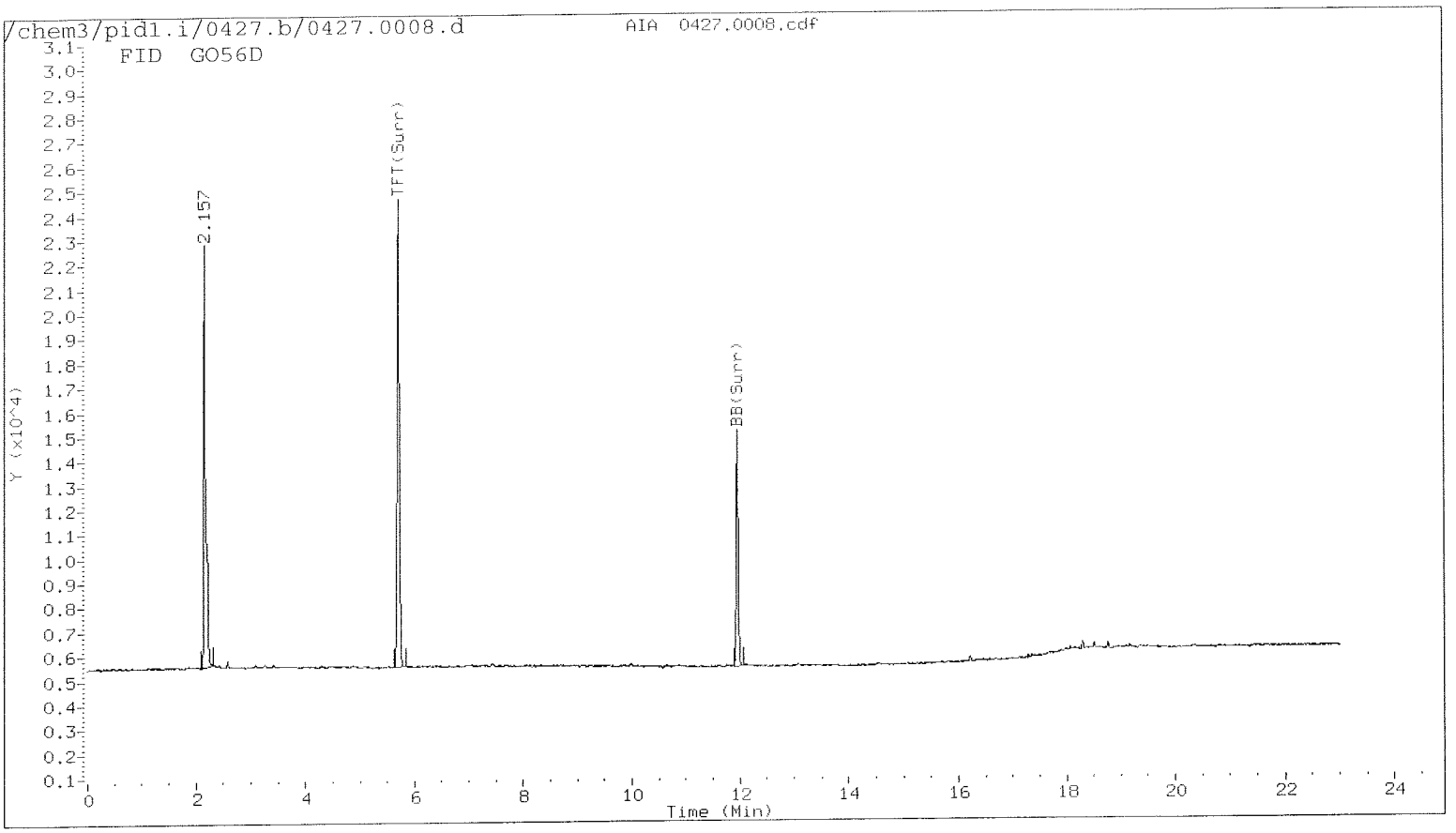
10.859
Y (x10^5)
Time (Min)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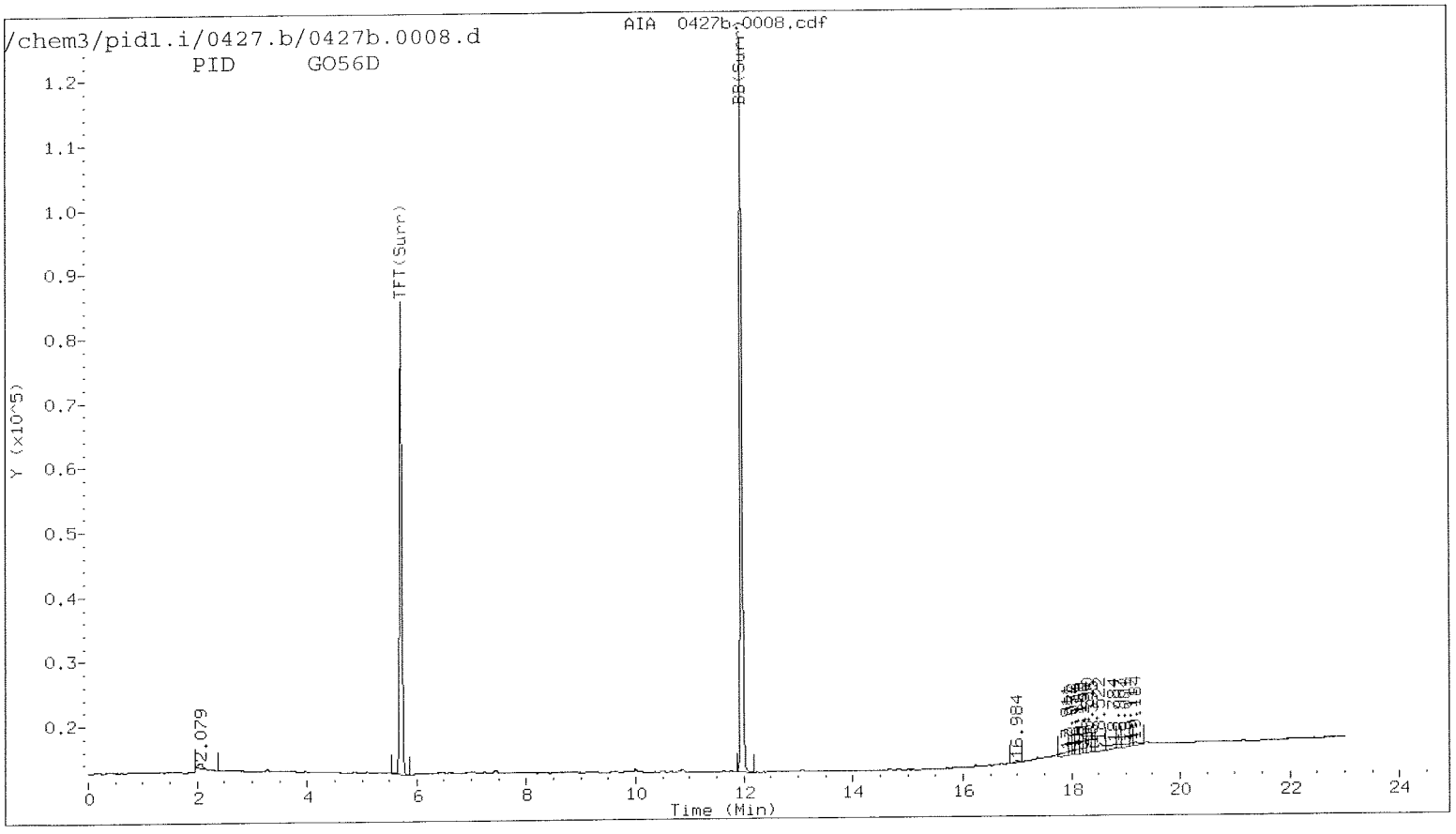
TFT(Surr)
BB(Surr)
Y (x10^4)
Time (Min)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PID GO56D
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TFT(Surr)
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16.984
Y (x10^5)
Time (Min)

Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid4b.i/20040512.b/0512b031.d
Method: /chem3/fid4b.i/20040512.b/acidsiltphfid4b.m
Instrument: fid4b.i
Operator: ESJ
Report Date: 05/13/2004
Macro: 26-APR-2004
Calibration Dates: Gas:08-MAY-2004 Diesel:12-MAY-2004 M.Oil:11-MAY-2004

ARI ID: GO56MBW1
Client ID: GO56MBW1
Injection: 13-MAY-2004 00:58
Dilution Factor: 1

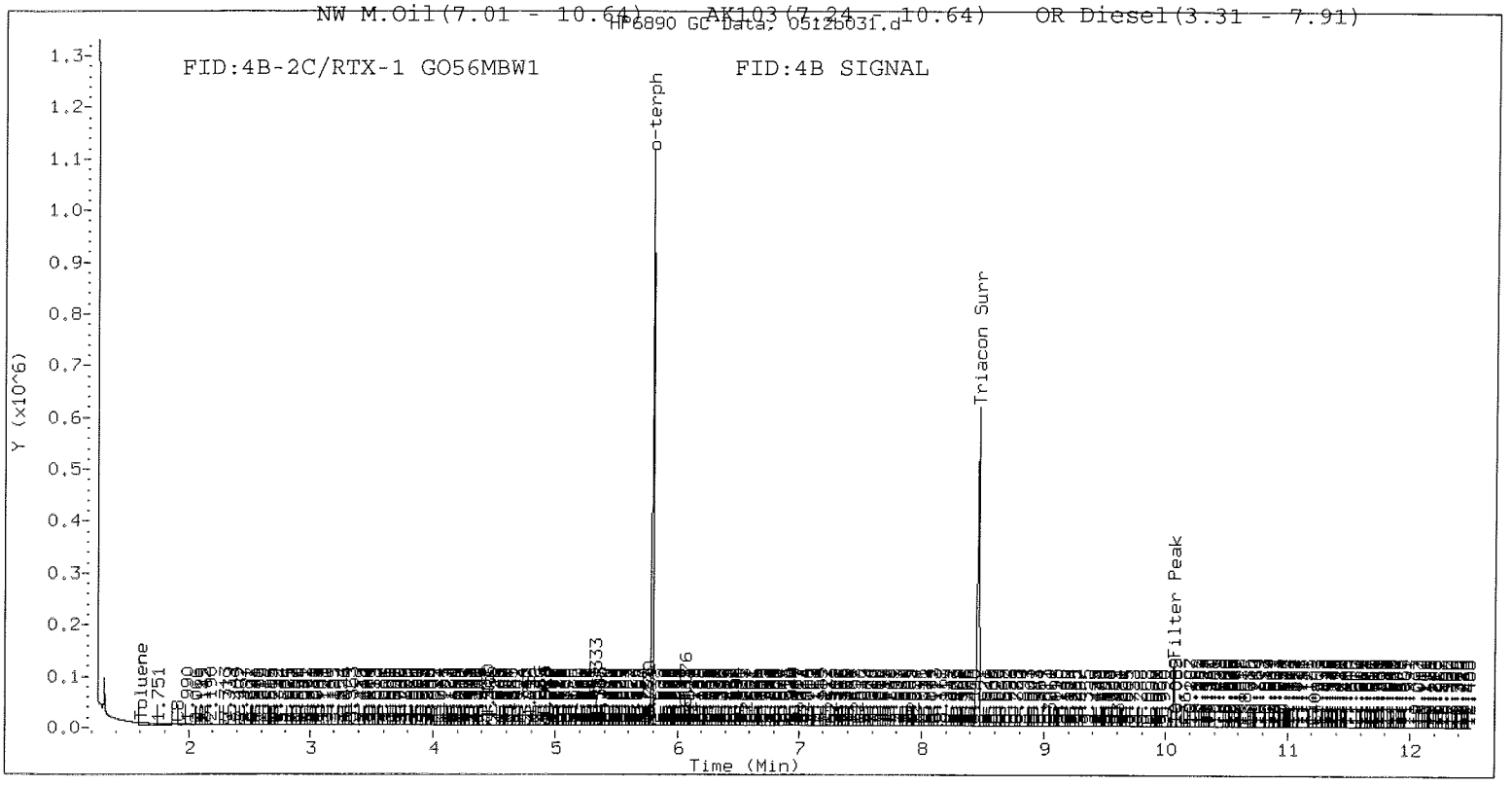
MF 5/13/04

FID:4B RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.606	-0.074	6820	45321	GAS (Tol-C12)	188963	22
C8	1.915	-0.022	2800	10286	DIESEL (C12-C24)	180232	12
C10	3.302	-0.005	1408	2191	M.OIL (C24-C38)	73676	7*
C12	4.053	-0.009	808	955			
C14	4.620	-0.013	781	635			
C16	5.139	-0.014	1613	1364			
C18	5.637	-0.013	1469	950			
C20	6.114	-0.001	976	585			
C22	6.580	0.016	1206	1048			
C24	7.039	0.025	538	658			
C25	7.264	0.027	244	297			
C26	7.485	0.026	1694	1450			
C28	7.942	0.036	166	128			
C32	9.051	0.036	89	31			
C34	9.613	0.032	173	129			
Filter Peak	10.065	0.416	128801	120159			
C36	10.157	0.064	336.0	492	o-Terph Surrogate Rec = 85.6%		(670679)
C38	10.654	0.011	604.0	1567	Triacon Surrogate Rec = 93.6%		(707772)
C40	11.228	0.018	467	771			
o-terph	5.795	-0.042	1109633	670679			
Triacon Surr	8.469	-0.038	616014	707772			

* Indicates Filter Peak subtracted

Range Times: NW Diesel(4.062 - 7.013) AK102(3.31 - 7.24) Jet A(3.31 - 5.65)
NW M.Oil(7.01 - 10.64) AK103(7.24 - 10.64) OR Diesel(3.31 - 7.91)



Analytical Resources Inc.
TPH Quantitation Report

Data file: /chem3/fid4b.i/20040512.b/0512b033.d ARI ID: GO56A
Method: /chem3/fid4b.i/20040512.b/acidsiltphfid4b.m Client ID: MW-104
Instrument: fid4b.i Injection: 13-MAY-2004 01:39
Operator: ESJ
Report Date: 05/13/2004 Dilution Factor: 1
Macro: 26-APR-2004
Calibration Dates: Gas:08-MAY-2004 Diesel:12-MAY-2004 M.Oil:11-MAY-2004

5/13/04

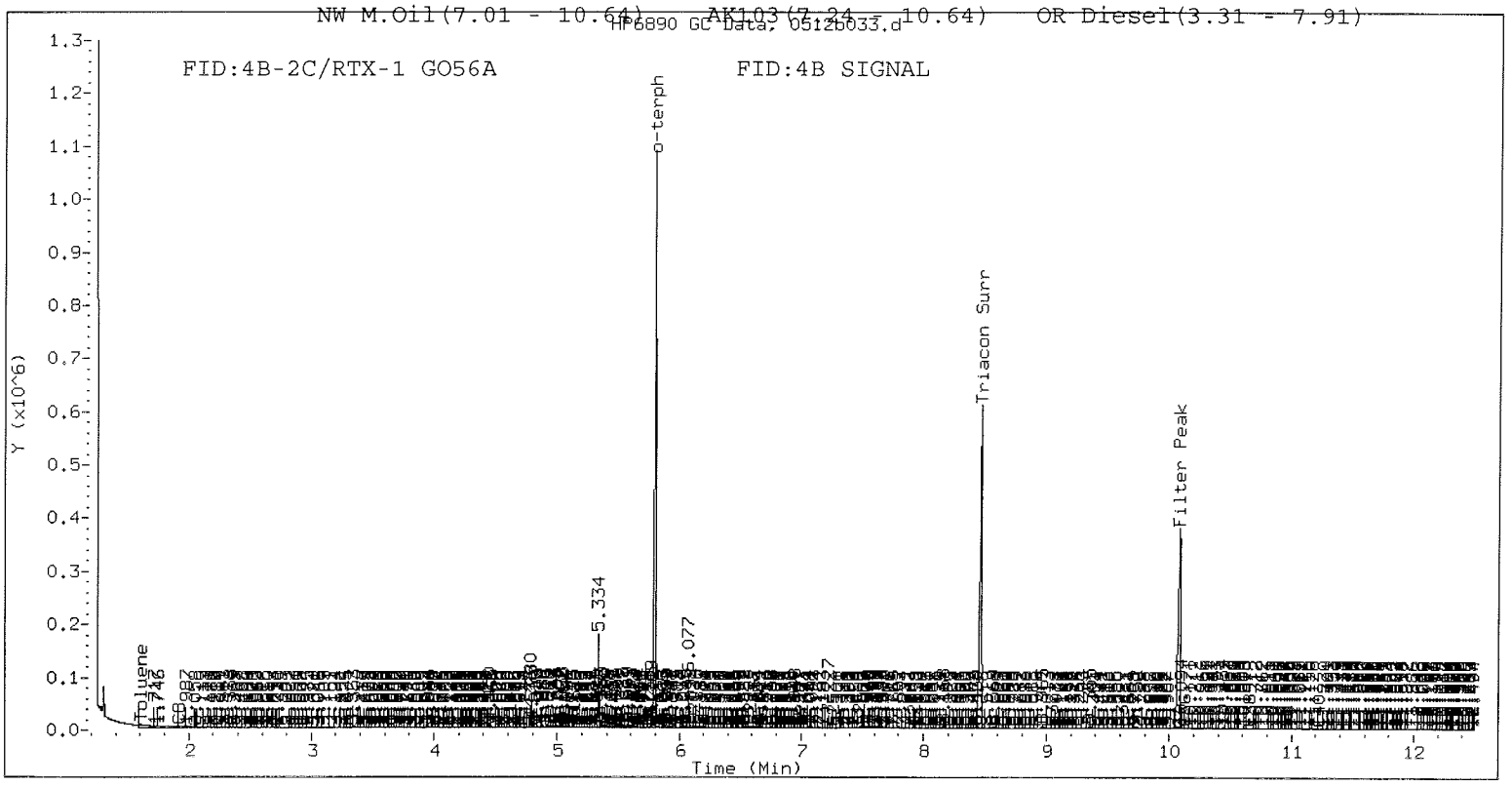
FID:4B RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.603	-0.077	7015	33622	GAS (Tol-C12)	157929	18
C8	1.921	-0.016	2425	7909	DIESEL (C12-C24)	388351	26
C10	3.302	-0.004	1175	1446	M.OIL (C24-C38)	175671	17* LDL
C12	4.054	-0.009	1370	796			
C14	4.620	-0.013	2067	1360			
C16	5.139	-0.014	5280	3362			
C18	5.637	-0.013	3162	1902			
C20	6.127	0.013	3809	3210			
C22	6.582	0.019	3293	5401			
C24	7.015	0.002	1474	1458			
C25	7.265	0.028	973	1217			
C26	7.484	0.025	2802	2971			
C28	7.927	0.021	529	379			
C32	9.049	0.034	296	317			
C34	9.615	0.035	72	71			
Filter Peak	10.081	0.431	373224	447534			
C36	10.127	0.034	608.0	1161	o-Terph Surrogate Rec = 83.4%		(653292)
C38	10.655	0.013	1076.0	1967	Triacon Surrogate Rec = 90.4%		(683801)
C40	11.223	0.013	310	690			
o-terph	5.794	-0.042	1083277	653292			
Triacon Surr	8.468	-0.039	608538	683801			

* Indicates Filter Peak subtracted

Range Times: NW Diesel(4.062 - 7.013) AK102(3.31 - 7.24) Jet A(3.31 - 5.65)
NW M.Oil(7.01 - 10.64) AK103(7.24 - 10.64) OR Diesel(3.31 - 7.91)

HP6890 GC Data: 0512b033.d



Analytical Resources Inc.
TPH Quantitation Report

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Method: /chem3/fid4b.i/20040512.b/acidsiltphfid4b.m
Instrument: fid4b.i
Operator: ESJ
Report Date: 05/13/2004
Macro: 26-APR-2004
Calibration Dates: Gas:08-MAY-2004 Diesel:12-MAY-2004 M.Oil:11-MAY-2004

ARI ID: GO56B
Client ID: MW-112
Injection: 13-MAY-2004 01:59
Dilution Factor: 1

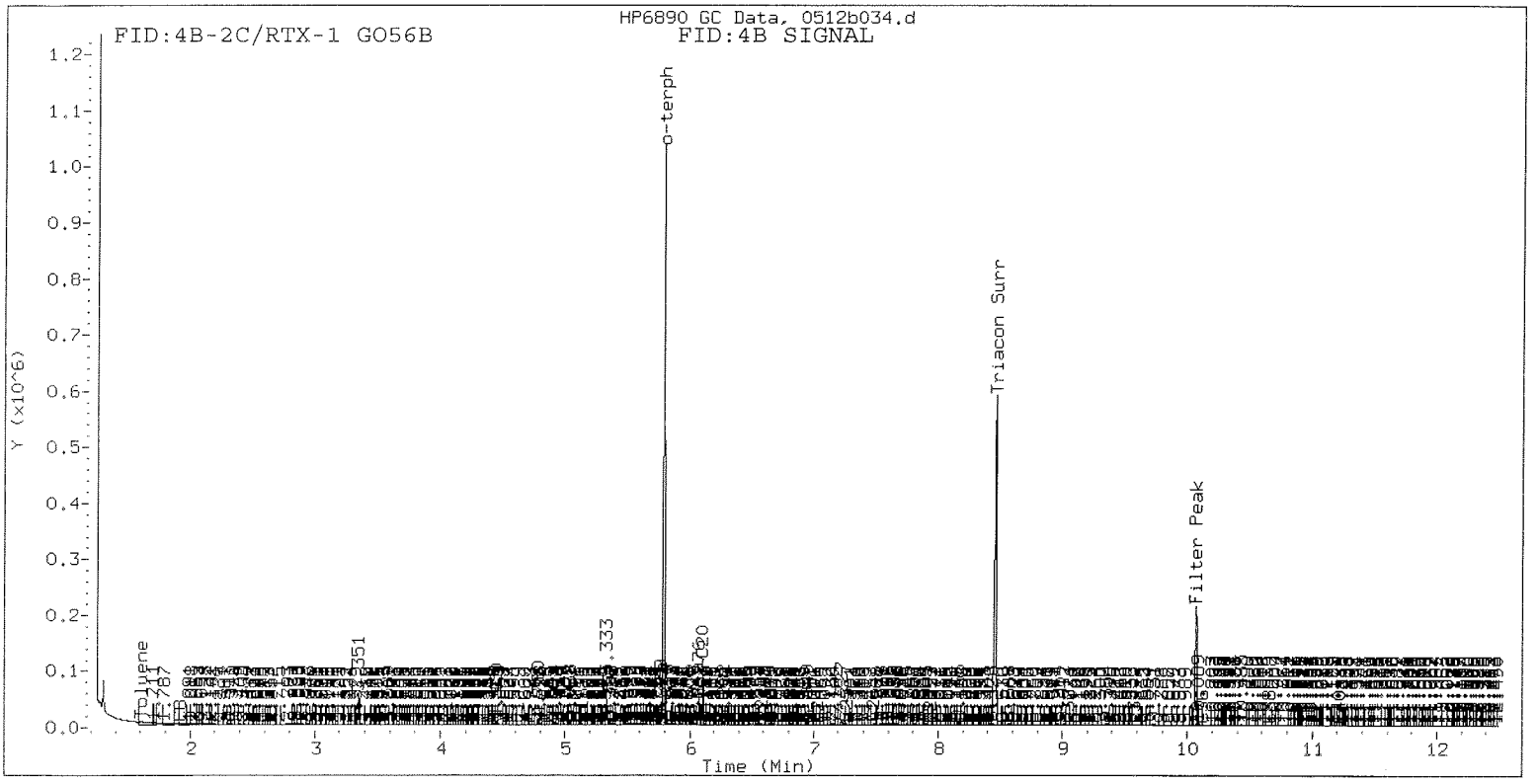
GJS 5/13/04

FID:4B RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.606	-0.074	7503	35442	GAS (Tol-C12)	202432	23
C8	1.920	-0.017	2603	9347	DIESEL (C12-C24)	308484	20
C10	3.302	-0.004	1140	1497	M.OIL (C24-C38)	208571	20*
C12	4.053	-0.009	540	354			
C14	4.620	-0.012	532	468			
C16	5.138	-0.015	1970	1491			
C18	5.636	-0.014	2015	1208			
C20	6.109	-0.005	114234	54529			
C22	6.583	0.020	1902	3252			
C24	7.037	0.024	1451	2295			
C25	7.264	0.027	3009	3230			
C26	7.484	0.026	3017	3866			
C28	7.936	0.030	1459	1757			
C32	9.053	0.038	492	712			
C34	9.581	0.000	730	1820			
Filter Peak	10.069	0.420	209262	205860			
C36	10.123	0.031	668.0	2239	o-Terph Surrogate Rec = 78.9%		(617982)
C38	10.653	0.011	1077.0	2155	Triacon Surrogate Rec = 86.3%		(652876)
C40	11.217	0.008	343	419			
o-terph	5.793	-0.043	1030514	617982			
Triacon Surr	8.466	-0.040	586615	652876			

* Indicates Filter Peak subtracted

Range Times: NW Diesel(4.062 - 7.013) AK102(3.31 - 7.24) Jet A(3.31 - 5.65)
NW M.Oil(7.01 - 10.64) AK103(7.24 - 10.64) OR Diesel(3.31 - 7.91)



Analytical Resources Inc.
TPH Quantitation Report

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Method: /chem3/fid4b.i/20040512.b/acidsiltphfid4b.m
Instrument: fid4b.i
Operator: ESJ
Report Date: 05/13/2004
Macro: 26-APR-2004
Calibration Dates: Gas:08-MAY-2004 Diesel:12-MAY-2004 M.Oil:11-MAY-2004

ARI ID: GO56C
Client ID: MW-108
Injection: 13-MAY-2004 02:19

Dilution Factor: 1

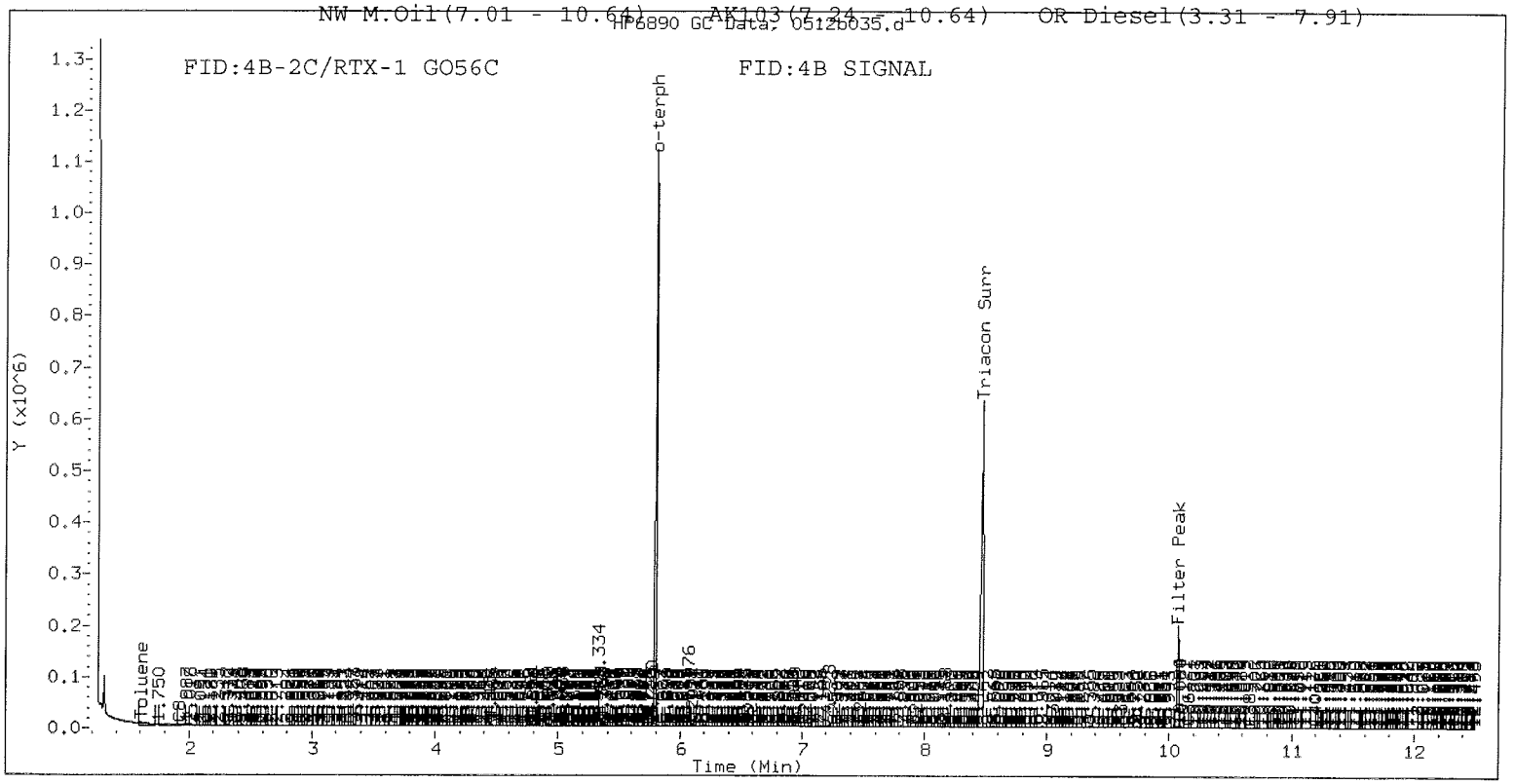
5/13/04

FID:4B RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.604	-0.077	7087	37736	GAS (Tol-C12)	160652	19
C8	1.918	-0.019	2518	9590	DIESEL (C12-C24)	239015	16
C10	3.302	-0.004	1103	1321	M.OIL (C24-C38)	152191	15*
C12	4.052	-0.010	1011	578			
C14	4.620	-0.012	534	295			
C16	5.139	-0.013	2154	1691			
C18	5.637	-0.013	1888	1140			
C20	6.109	-0.005	6326	4043			
C22	6.584	0.020	1565	1782			
C24	7.037	0.024	1010	1422			
C25	7.265	0.028	1977	1985			
C26	7.485	0.026	3547	3463			
C28	7.938	0.033	890	1005			
C32	9.049	0.034	280	366			
C34	9.614	0.033	169	200			
Filter Peak	10.069	0.420	196655	196040			
C36	10.158	0.066	296.0	356	o-Terph Surrogate Rec = 87.1%		(682411)
C38	10.654	0.012	949.0	2077	Triacon Surrogate Rec = 95.1%		(719258)
C40	11.200	-0.009	277	354			
o-terph	5.795	-0.042	1114722	682411			
Triacon Surr	8.470	-0.037	633964	719258			

* Indicates Filter Peak subtracted

Range Times: NW Diesel(4.062 - 7.013) AK102(3.31 - 7.24) Jet A(3.31 - 5.65)
NW M.Oil(7.01 - 10.64) AK103(7.24 - 10.64) OR Diesel(3.31 - 7.91)



Analytical Resources Inc.
TPH Quantitation Report

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Instrument: fid4b.i
Operator: ESJ
Report Date: 05/13/2004
Macro: 26-APR-2004
Calibration Dates: Gas:08-MAY-2004 Diesel:12-MAY-2004 M.Oil:11-MAY-2004

ARI ID: GO56LCSW1
Client ID: GO56LCSW1
Injection: 13-MAY-2004 01:18

Dilution Factor: 1

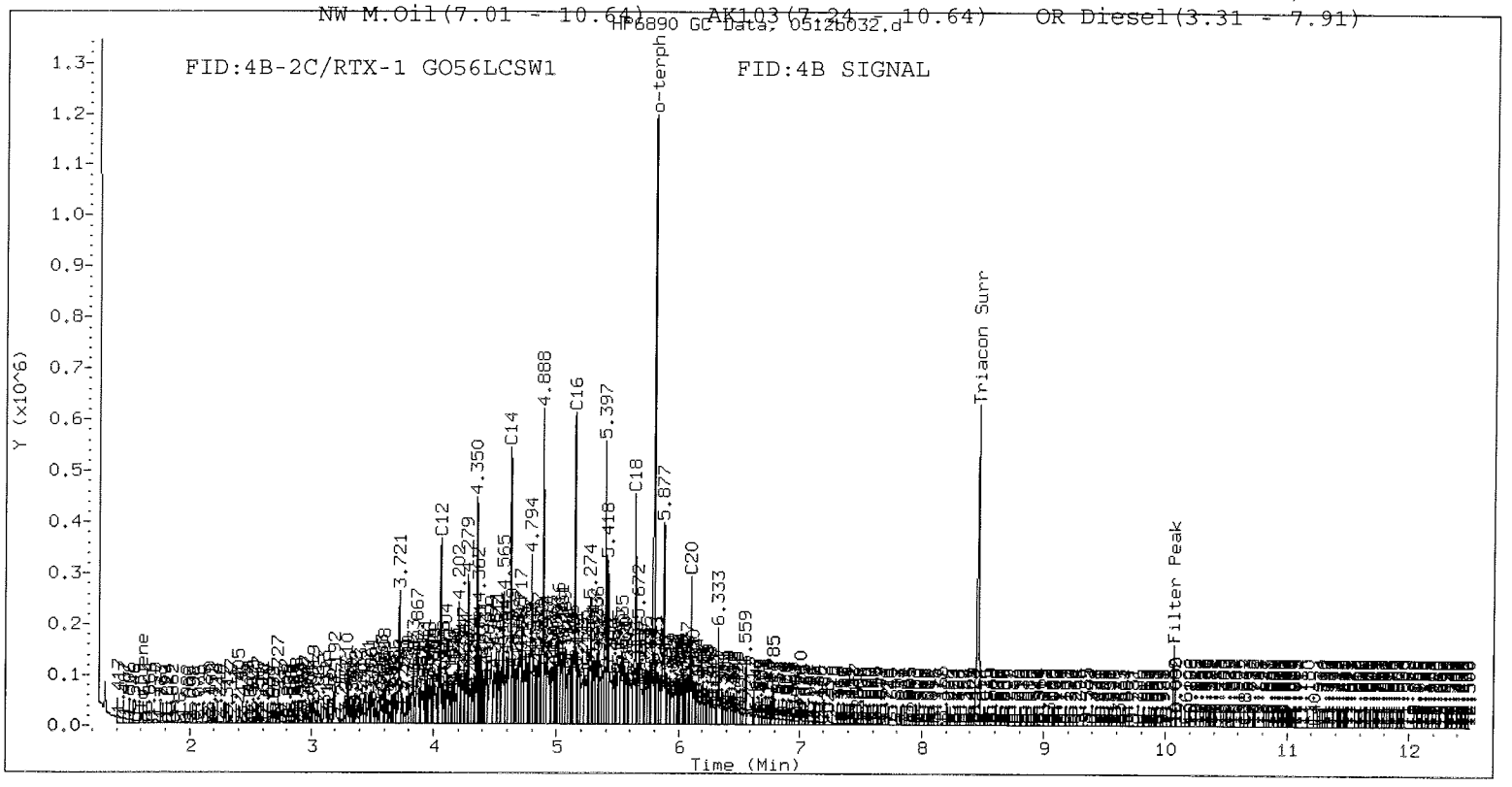
5/13/04

FID:4B RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.602	-0.078	19494	22255	GAS (Tol-C12)	2894031	336
C8	1.919	-0.018	14640	24803	DIESEL (C12-C24)	14007871	925
C10	3.301	-0.005	111144	76452	M.OIL (C24-C38)	267813	26*
C12	4.057	-0.006	365335	241873			
C14	4.625	-0.007	542618	409888			
C16	5.145	-0.008	612470	392816			
C18	5.641	-0.009	452202	337552			
C20	6.106	-0.008	291517	180859			
C22	6.589	0.025	23372	54868			
C24	7.032	0.019	7858	7403			
C25	7.234	-0.003	21173	29072			
C26	7.484	0.025	4637	6646			
C28	7.937	0.031	1267	1252			
C32	9.049	0.034	121	174			
C34	9.615	0.034	29	24			
Filter Peak	10.067	0.417	158314	149950			
C36	10.167	0.074	120.0	179	o-Terph Surrogate Rec = 89.5%		(701009)
C38	10.655	0.013	276.0	446	Triacon Surrogate Rec = 93.2%		(705153)
C40	11.227	0.017	227	353			
o-terph	5.797	-0.040	1121086	701009			
Triacon Surr	8.469	-0.038	626118	705153			

* Indicates Filter Peak subtracted

Range Times: NW Diesel(4.062 - 7.013) AK102(3.31 - 7.24) Jet A(3.31 - 5.65)
NW M.Oil(7.01 - 10.64) AK103(7.24 - 10.64) OR Diesel(3.31 - 7.91)



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Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DETERMINATION OF PCDD/PCDF LEVELS

Prepared for:
Analytical Resources, Inc.
Attn: Mary Lou Fox
4611 South 134th Place, Suite 100
Tukwila, WA 98168

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This report contains 14 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Client Project Number: GO56

Client Purchase Order Number: NA

REPORT OF LABORATORY ANALYSIS

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REPORT OF: CHEMICAL ANALYSES

PROJECT: **PCDD/PCDF ANALYSES**

DATE: May 19, 2004

ISSUED TO: Analytical Resources, Inc.
Attn: Mary Lou Fox
4611 South 134th Place
Tukwila, WA 98168

REPORT NO: 04-1088097

INTRODUCTION

This report presents the results from the analyses performed on three samples submitted by a representative of Analytical Resources, Inc. The samples were analyzed for the presence or absence of polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) using a modified version of USEPA Method 8290.

SAMPLE IDENTIFICATION

Client ID	Sample Type	Date Received	Pace ID
04-6425-GO56A	Water	04/28/04	105570295
04-6426-GO56B	Water	04/28/04	105570303
04-6427-GO56C	Water	04/28/04	105570311

RESULTS

The results are included in the following:

Appendix A – Chain of Custody Documentation
Appendix B – PCDD/PCDF Results

REPORT OF LABORATORY ANALYSIS

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DISCUSSION

The recoveries of the isotopically-labeled PCDD/PCDF internal standards in the sample extracts ranged from 72-98%. All of the labeled standard recoveries obtained for this project were within the 40-135% target range for this method. Also, since the quantification of the native 2,3,7,8-substituted congeners was based on isotope dilution, the data were automatically corrected for variation in recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results, found at the beginning of Appendix B, show the blank to be free of PCDDs and PCDFs at the reporting limits. These results indicate that the sample processing steps did not significantly impact the field sample determinations.

Laboratory spike samples were also prepared with the sample batch using laboratory water that had been fortified with native standard materials. The results show that the spiked native compounds were recovered at 87-104%, with relative percent differences of 1.0-7.7%. These results indicate high degrees of accuracy and precision for these determinations.

REMARKS

The sample extracts will be retained for a period of 30 days from the date of this report and then discarded unless other arrangements are made. The raw mass spectral data will be archived for a period of not less than one year. Questions regarding the data contained in this report may be directed to the author at the number provided below.

Pace Analytical Services, Inc.

Scott C. Unze
Project Manager, HRMS
(612) 607-6383

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TABLE 1. 2,3,7,8-TCDD Equivalency Factors (TEFs) for the Polychlorinated Dibenzo-p-dioxins and Dibenzofurans

Number	Compound(s)	TEF
1	2,3,7,8-TCDD	1.00
2	1,2,3,7,8-PeCDD	0.50
3	1,2,3,6,7,8-HxCDD	0.1
4	1,2,3,7,8,9-HxCDD	0.1
5	1,2,3,4,7,8-HxCDD	0.1
6	1,2,3,4,6,7,8-HpCDD	0.01
7	OCDD	0.001
8	* Total - TCDD	0.0
9	* Total - PeCDD	0.0
10	* Total - HxCDD	0.0
11	* Total - HpCDD	0.0
12	2,3,7,8-TCDF	0.10
13	1,2,3,7,8-PeCDF	0.05
14	2,3,4,7,8-PeCDF	0.5
15	1,2,3,6,7,8-HxCDF	0.1
16	1,2,3,7,8,9-HxCDF	0.1
17	1,2,3,4,7,8-HxCDF	0.1
18	2,3,4,6,7,8-HxCDF	0.1
19	1,2,3,4,6,7,8-HpCDF	0.01
20	1,2,3,4,7,8,9-HpCDF	0.01
21	OCDF	0.001
22	* Total - TCDF	0.0
23	* Total - PeCDF	0.0
24	* Total - HxCDF	0.0
25	* Total - HpCDF	0.0

*Excluding the 2,3,7,8-substituted congeners.

Reference: 1989 ITEFs

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Appendix A

REPORT OF LABORATORY ANALYSIS

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SUBCONTRACTOR ANALYSIS REQUEST
CUSTODY TRANSFER 04\23\04

ANALYTICAL RESOURCES INCORPORATED

ARI Project: GO56

1088097

Laboratory: Pace Analytical, Inc.
Lab Contact: Scott Unze
Lab Address: 1700 Elm St.
Minneapolis, MN 55414
Phone: 612-607-1700
Fax:

ARI Client: Landau Associates
Project ID: 529009.311
ARI PMgr: Mary Lou Fox
Phone: (206) 340-2866 Ext
Fax: (206) 695-6201

Analytical Protocol: In-house
Special Instructions:

Requested Turn Around: ~~05/07/04~~ std
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
04-6425-GO56A	MW-104	4/22/04	Water	2	Dioxin (High Res)
Special Instructions: NONE			5570295		8290
04-6426-GO56B	MW-112	4/22/04	Water	2	Dioxin (High Res)
Special Instructions: NONE			0303		8290
04-6427-GO56C	MW-108	4/22/04	Water	2	Dioxin (High Res)
Special Instructions: NONE			0311		8290

tetra-octa isomers

Please let samples settle prior to extraction/analysis
Client requests this to avoid particulates in sample.
per communication with Scott Unze.
Thanks

Carrier UPS	Airbill 832695034296 1043		Date 4/26/04
Relinquished by	Company ARI	Date 4/26/04	Time 16:00
Received by Marie Nolt	Company Spectra	Date ~~4-26-04~~ 4-27-04 2nd	Time 2:30pm

Holly Reeves/PACE 4/28/04 9:50
5.4°C

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Appendix B

REPORT OF LABORATORY ANALYSIS

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Method 8290 Blank Analysis Results

Client - Analytical Resources Inc.

Lab Sample ID	BLANK-4808	Matrix	Water
Filename	F40514B_04	Dilution	NA
Total Amount Extracted	994 mL	Extracted	05/12/2004
ICAL Date	05/11/2004	Analyzed	05/15/2004 07:07
CCal Filename(s)	F40514A_21 & F40514B_14	Injected By	BAL

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.00200	2,3,7,8-TCDF-13C	2.00	95
Total TCDF	ND	-----	0.00200	2,3,7,8-TCDD-13C	2.00	78
				1,2,3,7,8-PeCDF-13C	2.00	75
2,3,7,8-TCDD	ND	-----	0.00200	2,3,4,7,8-PeCDF-13C	2.00	71
Total TCDD	ND	-----	0.00200	1,2,3,7,8-PeCDD-13C	2.00	62
				1,2,3,4,7,8-HxCDF-13C	2.00	97
1,2,3,7,8-PeCDF	ND	-----	0.01000	1,2,3,6,7,8-HxCDF-13C	2.00	108
2,3,4,7,8-PeCDF	ND	-----	0.01000	2,3,4,6,7,8-HxCDF-13C	2.00	106
Total PeCDF	ND	-----	0.01000	1,2,3,7,8,9-HxCDF-13C	2.00	94
				1,2,3,4,7,8-HxCDD-13C	2.00	95
1,2,3,7,8-PeCDD	ND	-----	0.01000	1,2,3,6,7,8-HxCDD-13C	2.00	95
Total PeCDD	ND	-----	0.01000	1,2,3,4,6,7,8-HpCDF-13C	2.00	84
				1,2,3,4,7,8,9-HpCDF-13C	2.00	77
1,2,3,4,7,8-HxCDF	ND	-----	0.01000	1,2,3,4,6,7,8-HpCDD-13C	2.00	75
1,2,3,6,7,8-HxCDF	ND	-----	0.01000	OCDD-13C	4.00	68
2,3,4,6,7,8-HxCDF	ND	-----	0.01000			
1,2,3,7,8,9-HxCDF	ND	-----	0.01000	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.01000	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.01000	2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	-----	0.01000			
1,2,3,7,8,9-HxCDD	ND	-----	0.01000			
Total HxCDD	ND	-----	0.01000			
1,2,3,4,6,7,8-HpCDF	ND	-----	0.01000	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.01000	Equivalence: 0.00 ng/L		
Total HpCDF	ND	-----	0.01000	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.01000			
Total HpCDD	ND	-----	0.01000			
OCDF	ND	-----	0.02000	.00075		
OCDD	ND	-----	0.02000	.00070		

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
LRL = Lower Reporting Limit
J = Concentration detected is below the calibration range
P = Recovery outside of target range
A = Detection Limit based on signal-to-noise measurement

OCDD
1.0047

FDL
1-2 ppq

I = Interference
E = PCDE Interference
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

Report No.....1088097

REPORT OF LABORATORY ANALYSIS

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Tel: 612-607-1700
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Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	04-6425-G056A MW-104		
Lab Sample ID	105570295		
Filename	F40514A_11		
Injected By	BAL		
Total Amount Extracted	923 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/22/2004
ICAL Date	05/11/2004	Received	04/28/2004
CCal Filename(s)	F40514A_05 & F40514A_21	Extracted	05/12/2004
Method Blank ID	BLANK-4808	Analyzed	05/14/2004 19:26

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.00220	2,3,7,8-TCDF-13C	2.00	81
Total TCDF	ND	-----	0.00220	2,3,7,8-TCDD-13C	2.00	81
				1,2,3,7,8-PeCDF-13C	2.00	78
2,3,7,8-TCDD	ND	-----	0.00220	2,3,4,7,8-PeCDF-13C	2.00	79
Total TCDD	ND	-----	0.00220	1,2,3,7,8-PeCDD-13C	2.00	78
				1,2,3,4,7,8-HxCDF-13C	2.00	95
1,2,3,7,8-PeCDF	ND	-----	0.01100	1,2,3,6,7,8-HxCDF-13C	2.00	90
2,3,4,7,8-PeCDF	ND	-----	0.01100	2,3,4,6,7,8-HxCDF-13C	2.00	90
Total PeCDF	ND	-----	0.01100	1,2,3,7,8,9-HxCDF-13C	2.00	89
				1,2,3,4,7,8-HxCDD-13C	2.00	98
1,2,3,7,8-PeCDD	ND	-----	0.01100	1,2,3,6,7,8-HxCDD-13C	2.00	95
Total PeCDD	ND	-----	0.01100	1,2,3,4,6,7,8-HpCDF-13C	2.00	97
				1,2,3,4,7,8,9-HpCDF-13C	2.00	88
1,2,3,4,7,8-HxCDF	ND	-----	0.01100	1,2,3,4,6,7,8-HpCDD-13C	2.00	94
1,2,3,6,7,8-HxCDF	ND	-----	0.01100	OCDD-13C	4.00	82
2,3,4,6,7,8-HxCDF	ND	-----	0.01100			
1,2,3,7,8,9-HxCDF	ND	-----	0.01100	1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.01100	1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.01100	2,3,7,8-TCDD-37Cl4	0.20	82
1,2,3,6,7,8-HxCDD	ND	-----	0.01100			
1,2,3,7,8,9-HxCDD	ND	-----	0.01100			
Total HxCDD	ND	-----	0.01100			
1,2,3,4,6,7,8-HpCDF	ND	-----	0.01100	Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.01100	Equivalence: 0.000080 ng/L		
Total HpCDF	ND	-----	0.01100	(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.01100			
Total HpCDD	ND	-----	0.01100			
OCDF	0.035	-----	0.02200 J			
OCDD	0.046	-----	0.02200 J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

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Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	04-6426-G056B MW-112		
Lab Sample ID	105570303		
Filename	F40514A_12		
Injected By	BAL		
Total Amount Extracted	869 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/22/2004
ICAL Date	05/11/2004	Received	04/28/2004
CCal Filename(s)	F40514A_05 & F40514A_21	Extracted	05/12/2004
Method Blank ID	BLANK-4808	Analyzed	05/14/2004 20:16

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.00230		2,3,7,8-TCDF-13C	2.00	83
Total TCDF	ND	-----	0.00230		2,3,7,8-TCDD-13C	2.00	81
					1,2,3,7,8-PeCDF-13C	2.00	76
2,3,7,8-TCDD	ND	-----	0.00230		2,3,4,7,8-PeCDF-13C	2.00	75
Total TCDD	ND	-----	0.00230		1,2,3,7,8-PeCDD-13C	2.00	76
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	0.01200		1,2,3,6,7,8-HxCDF-13C	2.00	84
2,3,4,7,8-PeCDF	ND	-----	0.01200		2,3,4,6,7,8-HxCDF-13C	2.00	82
Total PeCDF	ND	-----	0.01200		1,2,3,7,8,9-HxCDF-13C	2.00	80
					1,2,3,4,7,8-HxCDD-13C	2.00	87
1,2,3,7,8-PeCDD	ND	-----	0.01200		1,2,3,6,7,8-HxCDD-13C	2.00	90
Total PeCDD	ND	-----	0.01200		1,2,3,4,6,7,8-HpCDF-13C	2.00	83
					1,2,3,4,7,8,9-HpCDF-13C	2.00	78
1,2,3,4,7,8-HxCDF	ND	-----	0.01200		1,2,3,4,6,7,8-HpCDD-13C	2.00	86
1,2,3,6,7,8-HxCDF	ND	-----	0.01200		OCDD-13C	4.00	76
2,3,4,6,7,8-HxCDF	ND	-----	0.01200				
1,2,3,7,8,9-HxCDF	ND	-----	0.01200		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.01200		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.01200		2,3,7,8-TCDD-37Cl4	0.20	84
1,2,3,6,7,8-HxCDD	ND	-----	0.01200				
1,2,3,7,8,9-HxCDD	ND	-----	0.01200				
Total HxCDD	ND	-----	0.01200				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.01200		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.01200		Equivalence: 0.000041 ng/L		
Total HpCDF	ND	-----	0.01200		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.01200				
Total HpCDD	ND	-----	0.01200				
OCDF	ND	-----	0.02300				
OCDD	0.041	-----	0.02300	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

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Method 8290 Analysis Results

Client - Analytical Resources Inc.

Client's Sample ID	04-6427-G056C MW-108		
Lab Sample ID	105570311		
Filename	F40514A_13		
Injected By	BAL		
Total Amount Extracted	913 mL	Matrix	Water
% Moisture	NA	Dilution	NA
Dry Weight Extracted	NA	Collected	04/22/2004
ICAL Date	05/11/2004	Received	04/28/2004
CCal Filename(s)	F40514A_05 & F40514A_21	Extracted	05/12/2004
Method Blank ID	BLANK-4808	Analyzed	05/14/2004 21:07

Native Isomers	Conc ng/L	EMPC ng/L	LRL ng/L		Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	ND	-----	0.00220		2,3,7,8-TCDF-13C	2.00	76
Total TCDF	ND	-----	0.00220		2,3,7,8-TCDD-13C	2.00	76
					1,2,3,7,8-PeCDF-13C	2.00	72
2,3,7,8-TCDD	ND	-----	0.00220		2,3,4,7,8-PeCDF-13C	2.00	73
Total TCDD	ND	-----	0.00220		1,2,3,7,8-PeCDD-13C	2.00	75
					1,2,3,4,7,8-HxCDF-13C	2.00	86
1,2,3,7,8-PeCDF	ND	-----	0.01100		1,2,3,6,7,8-HxCDF-13C	2.00	87
2,3,4,7,8-PeCDF	ND	-----	0.01100		2,3,4,6,7,8-HxCDF-13C	2.00	86
Total PeCDF	ND	-----	0.01100		1,2,3,7,8,9-HxCDF-13C	2.00	83
					1,2,3,4,7,8-HxCDD-13C	2.00	94
1,2,3,7,8-PeCDD	ND	-----	0.01100		1,2,3,6,7,8-HxCDD-13C	2.00	89
Total PeCDD	ND	-----	0.01100		1,2,3,4,6,7,8-HpCDF-13C	2.00	86
					1,2,3,4,7,8,9-HpCDF-13C	2.00	83
1,2,3,4,7,8-HxCDF	ND	-----	0.01100		1,2,3,4,6,7,8-HpCDD-13C	2.00	89
1,2,3,6,7,8-HxCDF	ND	-----	0.01100		OCDD-13C	4.00	79
2,3,4,6,7,8-HxCDF	ND	-----	0.01100				
1,2,3,7,8,9-HxCDF	ND	-----	0.01100		1,2,3,4-TCDD-13C	2.00	NA
Total HxCDF	ND	-----	0.01100		1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	ND	-----	0.01100		2,3,7,8-TCDD-37Cl4	0.20	74
1,2,3,6,7,8-HxCDD	ND	-----	0.01100				
1,2,3,7,8,9-HxCDD	ND	-----	0.01100				
Total HxCDD	ND	-----	0.01100				
1,2,3,4,6,7,8-HpCDF	ND	-----	0.01100		Total 2,3,7,8-TCDD		
1,2,3,4,7,8,9-HpCDF	ND	-----	0.01100		Equivalence: 0.000047 ng/L		
Total HpCDF	ND	-----	0.01100		(Using ITE Factors)		
1,2,3,4,6,7,8-HpCDD	ND	-----	0.01100				
Total HpCDD	ND	-----	0.01100				
OCDF	ND	-----	0.02200				
OCDD	0.047	-----	0.02200	J			

Conc = Concentration (Totals include 2,3,7,8-substituted isomers)
EMPC = Estimated Maximum Possible Concentration
A = Detection Limit based on signal-to-noise measurement
J = Concentration detected is below the calibration range
B = Less than 10 times higher than method blank level
P = Recovery outside of target range
Nn = Value obtained from additional analysis

LRL = Lower Reporting Limit
I = Interference
E = PCDE Interference
S = Saturated signal
ND = Not Detected
NA = Not Applicable
NC = Not Calculated
* = See Discussion

Report No.....1088097

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
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Pace Analytical™

Method 8290 Laboratory Control Spike Results

Client - Analytical Resources Inc.

Lab Sample ID	LCS-4809		
Filename	F40514B_01	Matrix	Water
Total Amount Extracted	986 mL	Dilution	NA
ICAL Date	05/11/2004	Extracted	05/12/2004
CCal Filename(s)	F40514A_21 & F40514B_14	Analyzed	05/15/2004 04:37
Method Blank ID	BLANK-4808	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.20	99	2,3,7,8-TCDF-13C	2.00	82
				2,3,7,8-TCDD-13C	2.00	90
				1,2,3,7,8-PeCDF-13C	2.00	74
2,3,7,8-TCDD	0.20	0.18	91	2,3,4,7,8-PeCDF-13C	2.00	77
				1,2,3,7,8-PeCDD-13C	2.00	80
				1,2,3,4,7,8-HxCDF-13C	2.00	85
1,2,3,7,8-PeCDF	1.00	0.99	99	1,2,3,6,7,8-HxCDF-13C	2.00	95
2,3,4,7,8-PeCDF	1.00	0.96	96	2,3,4,6,7,8-HxCDF-13C	2.00	88
				1,2,3,7,8,9-HxCDF-13C	2.00	87
				1,2,3,4,7,8-HxCDD-13C	2.00	98
1,2,3,7,8-PeCDD	1.00	0.93	93	1,2,3,6,7,8-HxCDD-13C	2.00	92
				1,2,3,4,6,7,8-HpCDF-13C	2.00	101
				1,2,3,4,7,8,9-HpCDF-13C	2.00	92
1,2,3,4,7,8-HxCDF	1.00	1.02	102	1,2,3,4,6,7,8-HpCDD-13C	2.00	104
1,2,3,6,7,8-HxCDF	1.00	0.92	92	OCDD-13C	4.00	88
2,3,4,6,7,8-HxCDF	1.00	0.96	96			
1,2,3,7,8,9-HxCDF	1.00	0.95	95	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.93	93	2,3,7,8-TCDD-37Cl4	0.20	89
1,2,3,6,7,8-HxCDD	1.00	0.94	94			
1,2,3,7,8,9-HxCDD	1.00	0.90	90			
1,2,3,4,6,7,8-HpCDF	1.00	0.92	92			
1,2,3,4,7,8,9-HpCDF	1.00	0.92	92			
1,2,3,4,6,7,8-HpCDD	1.00	0.92	92			
OCDF	2.00	1.73	87			
OCDD	2.00	1.83	91			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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Method 8290 Laboratory Control Spike Results

Client - Analytical Resources Inc.

Lab Sample ID	LCSD-4810		
Filename	F40514B_02	Matrix	Water
Total Amount Extracted	1000 mL	Dilution	NA
ICAL Date	05/11/2004	Extracted	05/12/2004
CCal Filename(s)	F40514A_21 & F40514B_14	Analyzed	05/15/2004 05:27
Method Blank ID	BLANK-4808	Injected By	BAL

Native Isomers	Qs (ng)	Qm (ng)	% Rec.	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDF	0.20	0.21	104	2,3,7,8-TCDF-13C	2.00	82
				2,3,7,8-TCDD-13C	2.00	86
				1,2,3,7,8-PeCDF-13C	2.00	73
2,3,7,8-TCDD	0.20	0.19	96	2,3,4,7,8-PeCDF-13C	2.00	75
				1,2,3,7,8-PeCDD-13C	2.00	76
				1,2,3,4,7,8-HxCDF-13C	2.00	90
1,2,3,7,8-PeCDF	1.00	1.01	101	1,2,3,6,7,8-HxCDF-13C	2.00	94
2,3,4,7,8-PeCDF	1.00	1.02	102	2,3,4,6,7,8-HxCDF-13C	2.00	93
				1,2,3,7,8,9-HxCDF-13C	2.00	89
				1,2,3,4,7,8-HxCDD-13C	2.00	100
1,2,3,7,8-PeCDD	1.00	0.97	97	1,2,3,6,7,8-HxCDD-13C	2.00	94
				1,2,3,4,6,7,8-HpCDF-13C	2.00	96
				1,2,3,4,7,8,9-HpCDF-13C	2.00	91
1,2,3,4,7,8-HxCDF	1.00	1.03	103	1,2,3,4,6,7,8-HpCDD-13C	2.00	102
1,2,3,6,7,8-HxCDF	1.00	0.98	98	OCDD-13C	4.00	90
2,3,4,6,7,8-HxCDF	1.00	0.99	99			
1,2,3,7,8,9-HxCDF	1.00	0.98	98	1,2,3,4-TCDD-13C	2.00	NA
				1,2,3,7,8,9-HxCDD-13C	2.00	NA
1,2,3,4,7,8-HxCDD	1.00	0.98	98	2,3,7,8-TCDD-37Cl4	0.20	85
1,2,3,6,7,8-HxCDD	1.00	0.97	97			
1,2,3,7,8,9-HxCDD	1.00	0.95	95			
1,2,3,4,6,7,8-HpCDF	1.00	0.97	97			
1,2,3,4,7,8,9-HpCDF	1.00	0.94	94			
1,2,3,4,6,7,8-HpCDD	1.00	0.95	95			
OCDF	2.00	1.87	94			
OCDD	2.00	1.91	95			

Qs = Quantity Spiked
Qm = Quantity Measured
Rec. = Recovery (Expressed as Percent)
P = Recovery outside of target range
X = Background subtracted value
Nn = Value obtained from additional analysis
NA = Not Applicable
* = See Discussion

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SPIKE RECOVERY RELATIVE PERCENT DIFFERENCE (RPD) RESULTS

Client..... Analytical Resources Inc.

SPIKE 1 ID..... LCS-4809
SPIKE 1 Filename..... F40514B_01
SPIKE 2 ID..... LCSD-4810
SPIKE 2 Filename..... F40514B_02

COMPOUND	SPIKE 1 REC,%	SPIKE 2 REC,%	RPD,%
2378-TCDF	99	104	4.9
2378-TCDD	91	96	5.3
12378-PeCDF	99	101	2.0
23478-PeCDF	96	102	6.1
12378-PeCDD	93	97	4.2
123478-HxCDF	102	103	1.0
123678-HxCDF	92	98	6.3
234678-HxCDF	96	99	3.1
123789-HxCDF	95	98	3.1
123478-HxCDD	93	98	5.2
123678-HxCDD	94	97	3.1
123789-HxCDD	90	95	5.4
1234678-HpCDF	92	97	5.3
1234789-HpCDF	92	94	2.2
1234678-HpCDD	92	95	3.2
OCDF	87	94	7.7
OCDD	91	95	4.3

REC = Percent Recovered
RPD = The difference between the two values divided by the average.
NA = Not Applicable

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