

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem3/fid4a.i/20110321.b

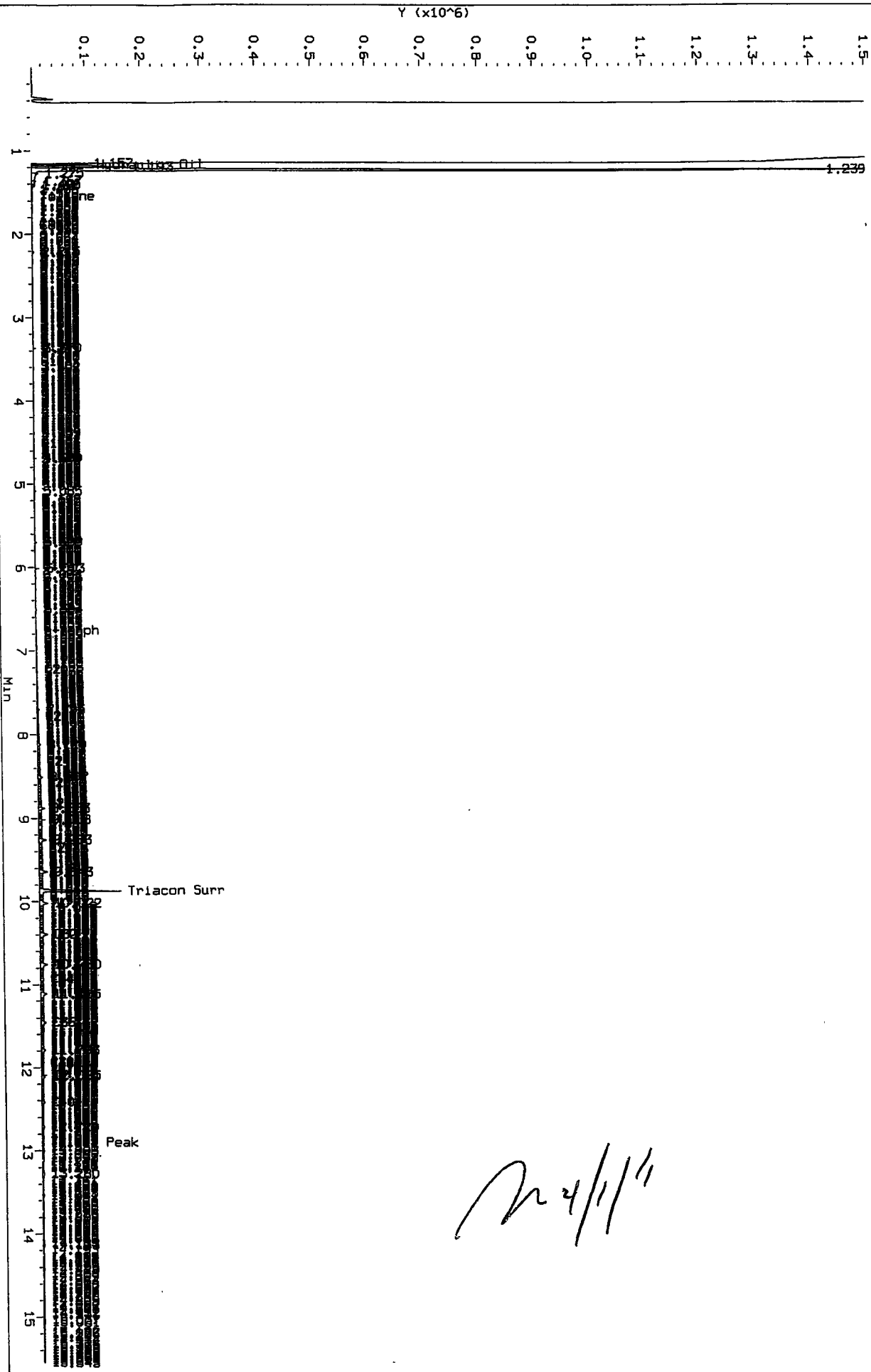
ARI Job No.: RT Method: fthpfid4a.m Instrument: fid4a.i Date: 21-MAR-2011

1192  
00000000

Prime	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1455	0321a002.d	RT	RT	1	NO MANUAL INTEGRATION
1519	0321a003.d	IB	IB	1	NO MANUAL INTEGRATION
1542	0321a004.d	DIESEL 50	DIESEL 50	1	o-terph,
1606	0321a005.d	DIESEL 100	DIESEL 100	1	o-terph,
1630	0321a006.d	DIESEL 250	DIESEL 250	1	o-terph,
1654	0321a007.d	DIESEL 500	DIESEL 500	1	o-terph,
1717	0321a008.d	DIESEL 1000	DIESEL 100	1	o-terph,
1741	0321a009.d	DIESEL 2500	DIESEL 250	1	o-terph,
1805	0321a010.d	DIESEL ICV		1	o-terph,
1828	0321a011.d	MOIL 100	MOIL 100	1	Triacon Surr,
1852	0321a012.d	MOIL 250	MOIL 250	1	Triacon Surr,
1916	0321a013.d	MOIL 500	MOIL 500	1	Triacon Surr,
1939	0321a014.d	MOIL 1000	MOIL 1000	1	Triacon Surr,
2003	0321a015.d	MOIL 2500	MOIL 2500	1	Triacon Surr,
2027	0321a016.d	MOIL 5000	MOIL 5000	1	Triacon Surr,
2050	0321a017.d	MOIL ICV		1	Triacon Surr,

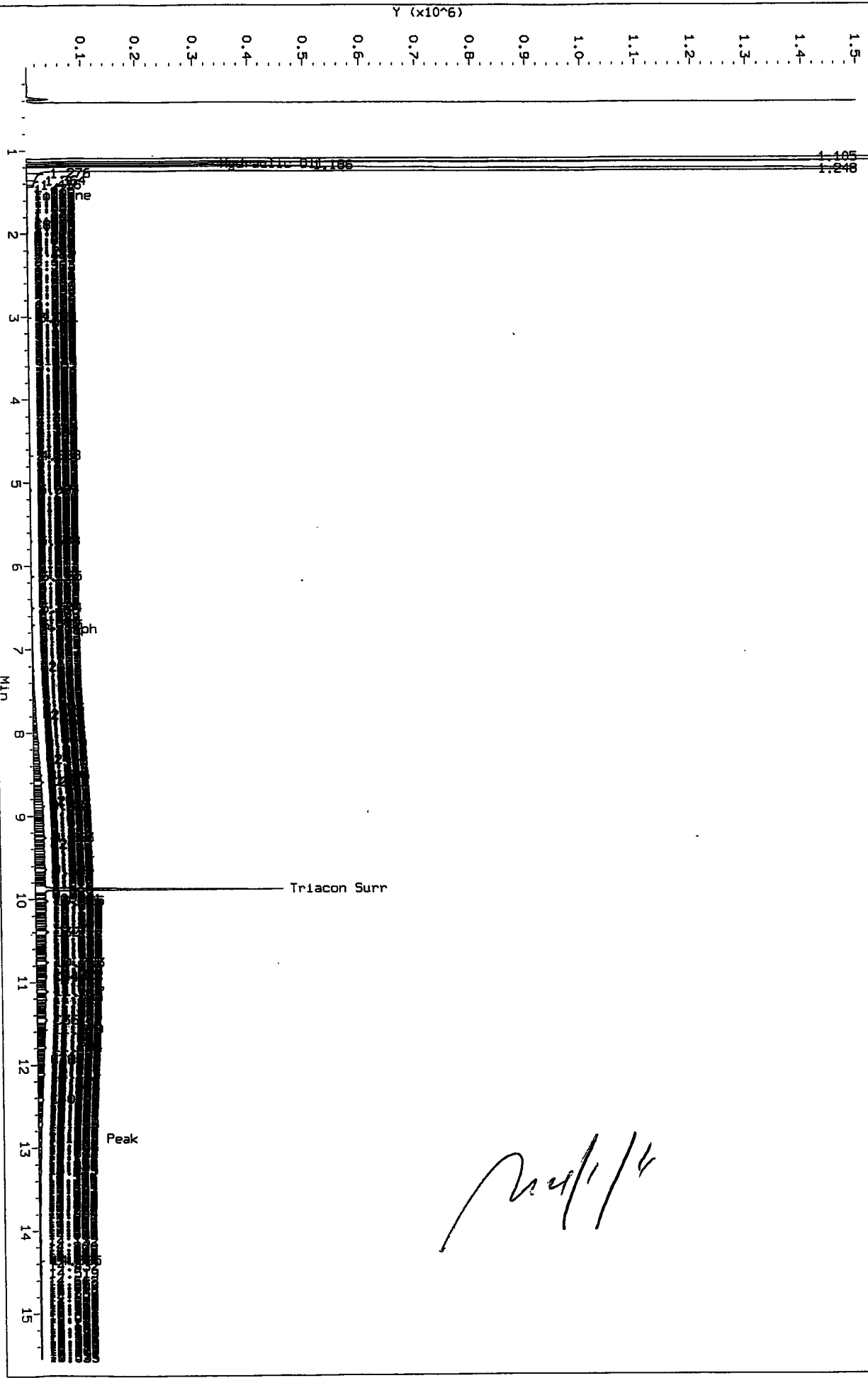
Data File: /chem3/fid4a.1/20110321.b/0321a011.d  
Injection Date: 21-MAR-2011 18:28  
Instrument: fid4a.1  
Client Sample ID: MDIL 100

HP6890 GC Data, 0321a011.d: 0.000 to 15.548 MIN



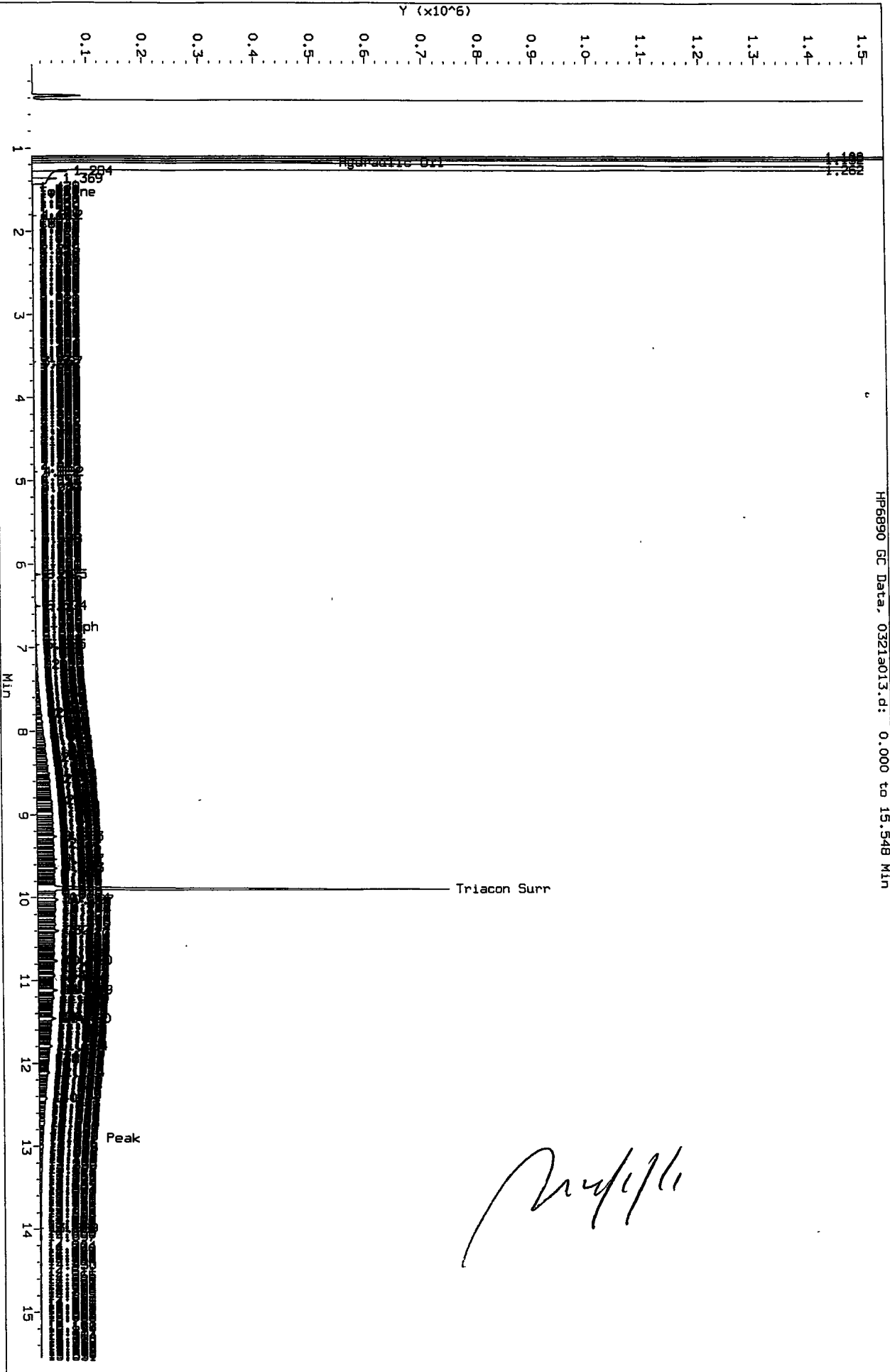
Data File: /chem3/fid4a.1/20110321\_b/0321a012.d  
Injection Date: 21-MAR-2011 18:52  
Instrument: FID4a.1  
Client Sample ID: M01L 250

HP6890 GC Data, 0321a012.d: 0.000 to 15.548 Min



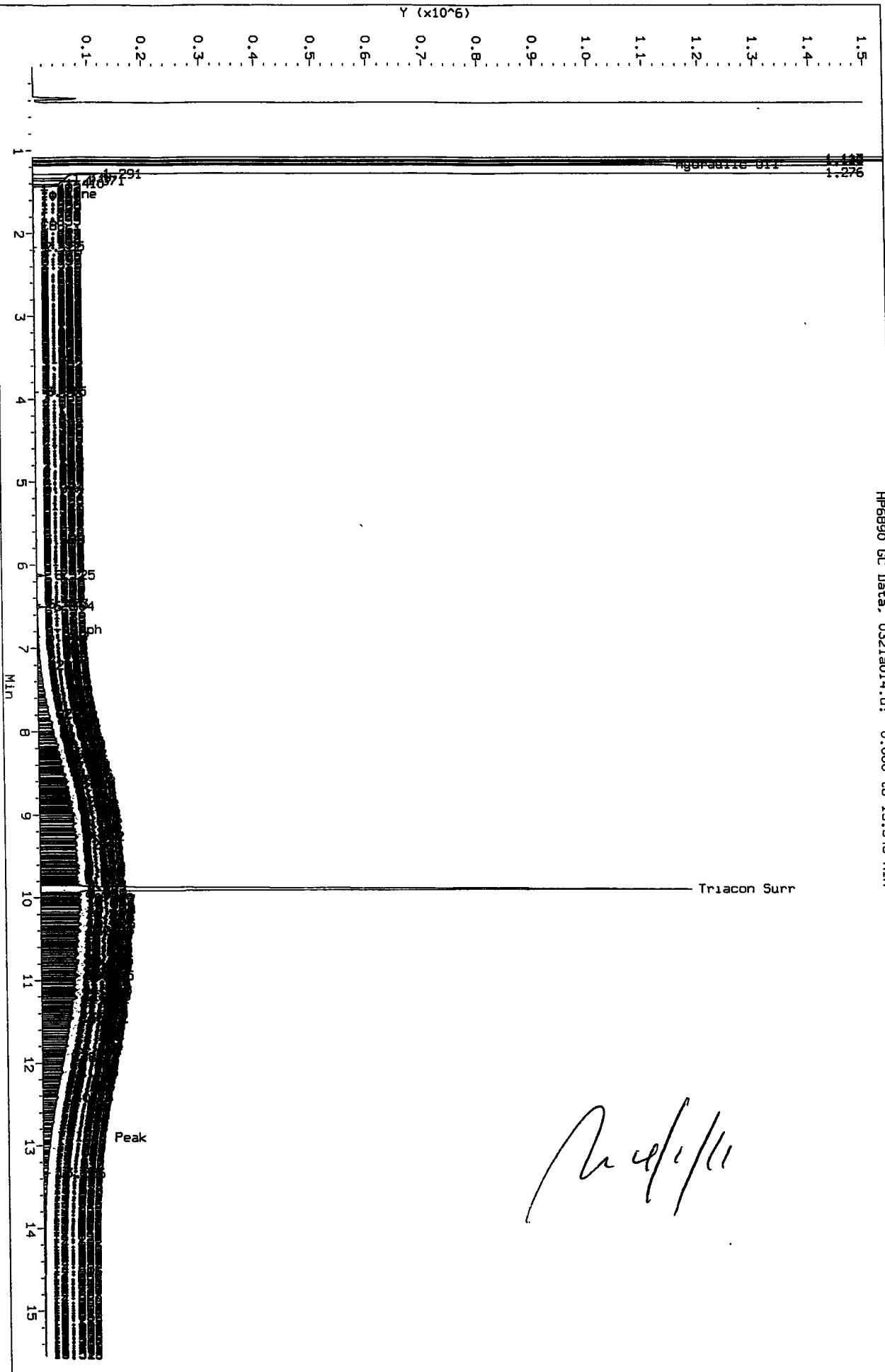
*Handwritten signature*

Data File: /chem3/fid4a.1/20110321.b/0321a013.d  
Injection Date: 21-MAR-2011 19:16  
Instrument: fid4a.1  
Client Sample ID: M01L 500

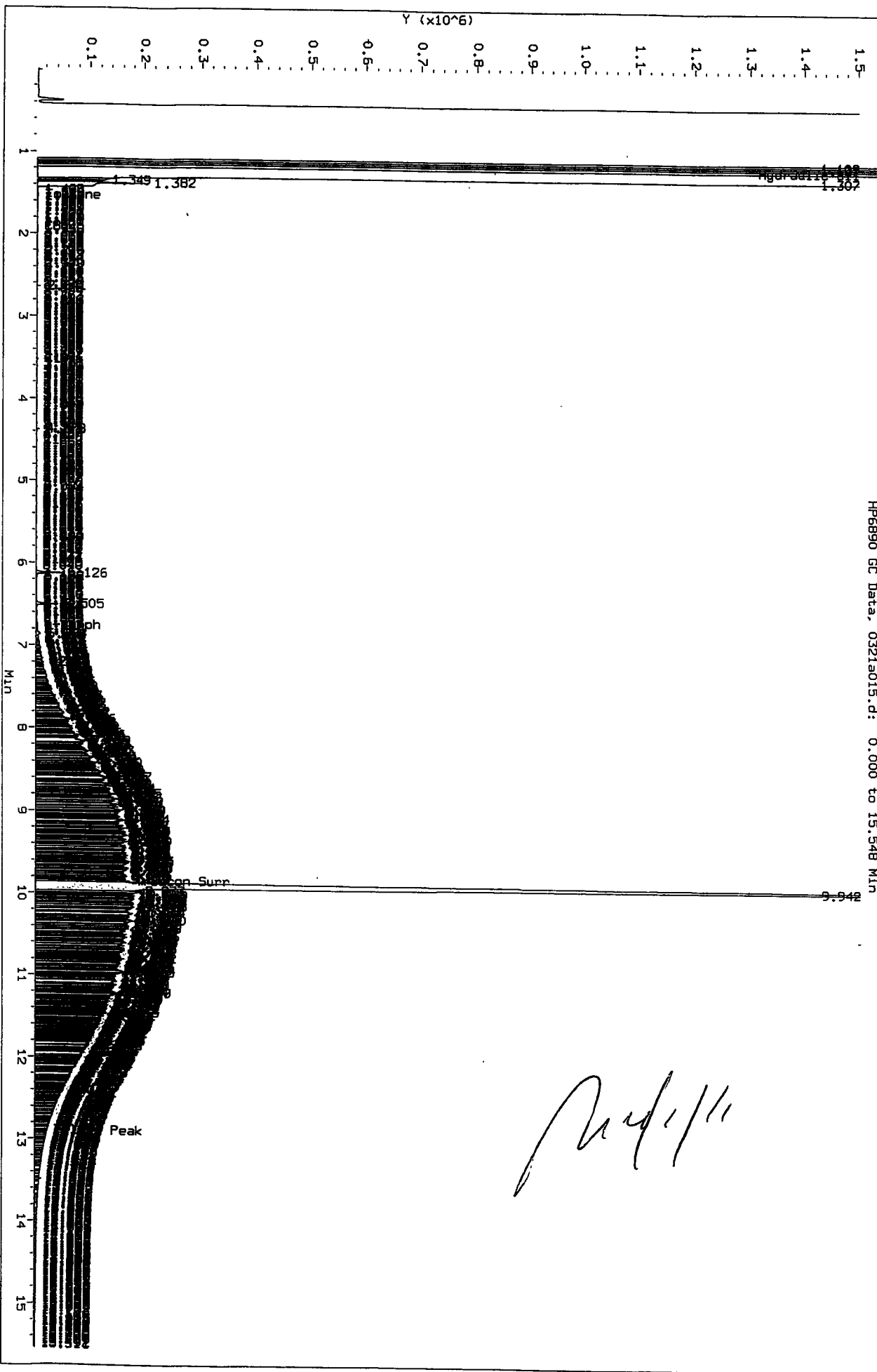


Data File: /chem3/fid4a.1/20110321.b/0321a014.d  
Injection Date: 21-MAR-2011 19:39  
Instrument: fid4a.1  
Client Sample ID: MDIL 1000

HP6890 GC Data, 0321a014.d: 0.000 to 15.548 Min



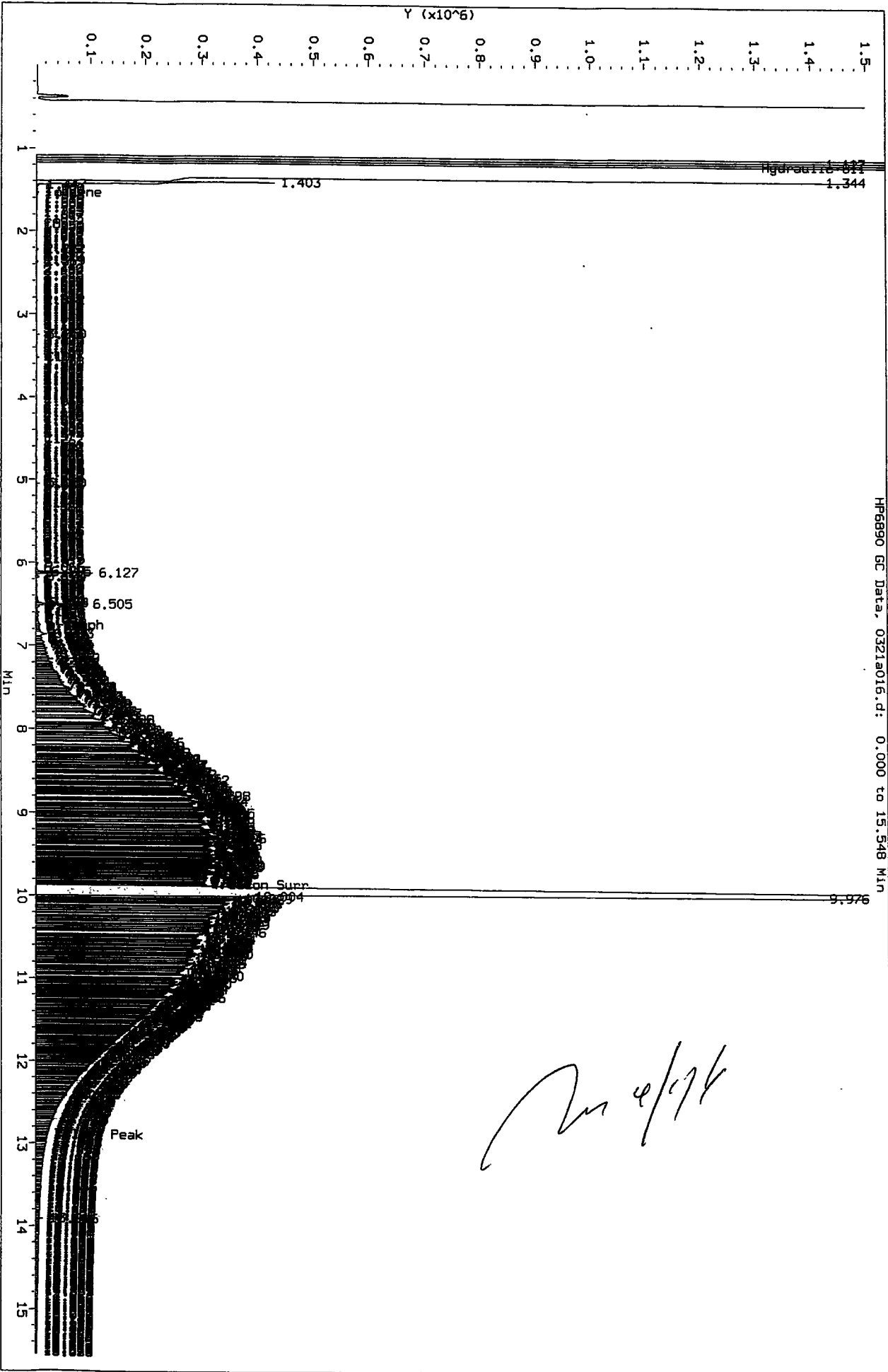
Data File: /chem3/fid4a.1/20110321.b/0321a015.d  
Injection Date: 21-MAR-2011 20:03  
Instrument: fid4a.1  
Client Sample ID: MDL 2500



HP6890 GC Data, 0321a015.d: 0.000 to 15.548 Min

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Data File: /chem3/fid4e.1/20110321.b/0321a016.d  
Injection Date: 21-MAR-2011 20:27  
Instrument: fid4e.1  
Client Sample ID: MOIL 5000



HP6890 GC Data, 0321a016.d: 0.000 to 15.548 Min



### GC Analyst Notes / Corrective Action Log

ARI Project ID: Jet-A, o-Terph. CURVE Client ID: ARI.

ARI SOP: 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)  
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): Jet-A, o-Terphenyl

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8

FID-9 ECD-1 ECD-5 ECD-6 ECD-7

Dates: Curve: 4/13/11 Analysis Start: 4/13/11

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	<u>YES</u> / NO
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	YES / <u>NO</u> <u>NA</u>
CCal Meets RF & %RSD Criteria?	<u>YES</u> / NO	Surrogate Recovery In Control?	<u>YES</u> / NO
Manual Integrations for ICal?	<u>YES</u> / <u>NO</u>	Manual Integrations for Samples?	<u>YES</u> / <u>NO</u>
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	YES / NO / <u>NA</u>

**Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):**

*o-Terphenyl was curved from the Jet-A curve mix.  
ms 4/21/11*

Additional Details on Reverse: Yes / No

Analyst: MO for M.A./dr Date: 4/21/11

Reviewer: [Signature] Date: 4/21/11



# Analytical Resources Inc.: Organics Instrument Log

FID-4A Serial No.: US00003247

Date: 4/13/11 Analysis: NWTPHD Analyst: MH  
 GC Program: TPH Column No: 977444 Column Type: RTX-1

Instrument Tune (.U or .CT.): \_\_\_\_\_ EM Voltage: \_\_\_\_\_

Calibration File: \_\_\_\_\_ Curve Date: 3/24/11

IS/SS	Ical/Ccal	LCS/ICV
<del>_____</del>	<u>1786-1</u>	<del>_____</del>
<del>_____</del>	<u>1751-2</u>	<del>_____</del>
<del>_____</del>	<u>1777-3</u>	<del>_____</del>
<del>_____</del>	<u>1775-2</u>	<del>_____</del>

Inject	Date/Time	Filename	DF	LabID
1	13-APR-2011 04:39	0413a001.d	1	RINSE
2	13-APR-2011 05:26	0413a003.d	1	RINSE
3	13-APR-2011 05:49	0413a004.d	1	RT
4	13-APR-2011 06:12	0413a005.d	1	IB
5	13-APR-2011 06:35	0413a006.d	1	RINSE
6	13-APR-2011 06:59	0413a007.d	1	JET 50
7	13-APR-2011 07:22	0413a008.d	1	JET 100
8	13-APR-2011 07:46	0413a009.d	1	JET 250
9	13-APR-2011 08:09	0413a010.d	1	JET 500
10	13-APR-2011 08:33	0413a011.d	1	JET 1000
11	13-APR-2011 08:56	0413a012.d	1	JET 2500
12	13-APR-2011 09:20	0413a013.d	1	JETA 1695-1
13	13-APR-2011 09:43	0413a014.d	1	DIESEL#1
14	13-APR-2011 10:07	0413a015.d	1	MOIL#1
15	13-APR-2011 10:31	0413a016.d	1	JETA#1
16	13-APR-2011 10:54	0413a017.d	1	SQ44MBW1
17	13-APR-2011 11:18	0413a018.d	1	DIESEL#2
18	13-APR-2011 11:41	0413a019.d	1	MOIL#2
19	13-APR-2011 12:05	0413a020.d	1	JETA#2
20	13-APR-2011 12:28	0413a021.d	1	I6279
21	13-APR-2011 12:52	0413a022.d	1	SQ44MBW1
22	13-APR-2011 13:16	0413a023.d	1	SQ44LCSW1
23	13-APR-2011 13:40	0413a024.d	1	SQ44LCSW1
24	13-APR-2011 14:04	0413a025.d	1	SQ66A
25	13-APR-2011 14:28	0413a026.d	1	SQ66B
26	13-APR-2011 14:51	0413a027.d	1	SQ66C
27	13-APR-2011 15:15	0413a028.d	1	DIESEL#3
28	13-APR-2011 15:39	0413a029.d	1	MOIL#3
29	13-APR-2011 16:03	0413a030.d	1	JETA#3
30	13-APR-2011 16:26	0413a031.d	1	SQ440
31	13-APR-2011 16:50	0413a032.d	1	SQ62G
32	13-APR-2011 17:14	0413a033.d	1	SQ54A
33	13-APR-2011 17:38	0413a034.d	1	DIESEL#4
34	13-APR-2011 18:01	0413a035.d	1	MOIL#4
35	13-APR-2011 18:25	0413a036.d	1	SQ00MBS1
36	13-APR-2011 18:48	0413a037.d	1	SQ00LCS1
37	13-APR-2011 19:12	0413a038.d	1	SQ00LCS1
38	13-APR-2011 19:35	0413a039.d	1	SQ00QLS
39	13-APR-2011 19:59	0413a040.d	1	SQ00A
40	13-APR-2011 20:23	0413a041.d	1	SQ00B
41	13-APR-2011 20:46	0413a042.d	1	SQ00C
42	13-APR-2011 21:10	0413a043.d	1	SQ00D
43	13-APR-2011 21:34	0413a044.d	1	SQ00E
44	13-APR-2011 21:58	0413a045.d	1	SQ00F
45	13-APR-2011 22:21	0413a046.d	1	DIESEL#5
46	13-APR-2011 22:45	0413a047.d	1	MOIL#5
47	14-APR-2011 23:09	0413a048.d	1	SQ53MBS1
48	14-APR-2011 23:33	0413a049.d	1	SQ53LCS1
49	14-APR-2011 23:56	0413a050.d	1	SQ53QLS
50	14-APR-2011 00:20	0413a051.d	1	SQ53A
Maintenance 1	51 14-APR-2011 00:44	0413a052.d	1	DIESEL#6
	52 14-APR-2011 01:07	0413a053.d	1	MOIL#6

*[Large handwritten scribble/signature covering the right side of the table]*

MH  
4/24/11

**Maintenance 1**

Diesel #3 surr low by 0.1% Samples re-run from Diesel #2 to MOIL #4.

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):  
 Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

in jetCurve macro

6a  
JET A INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: 20110413

Instrument: FID4A.I

Project:

Calibration Date: 13-APR-2011

SDG No.: 20110413

Product Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
JET A	15185	15040	14996	14809	14596	14425	14842	1.9
o-Terph	20223	19513	19642	19176	18937	18599	19348	3.0

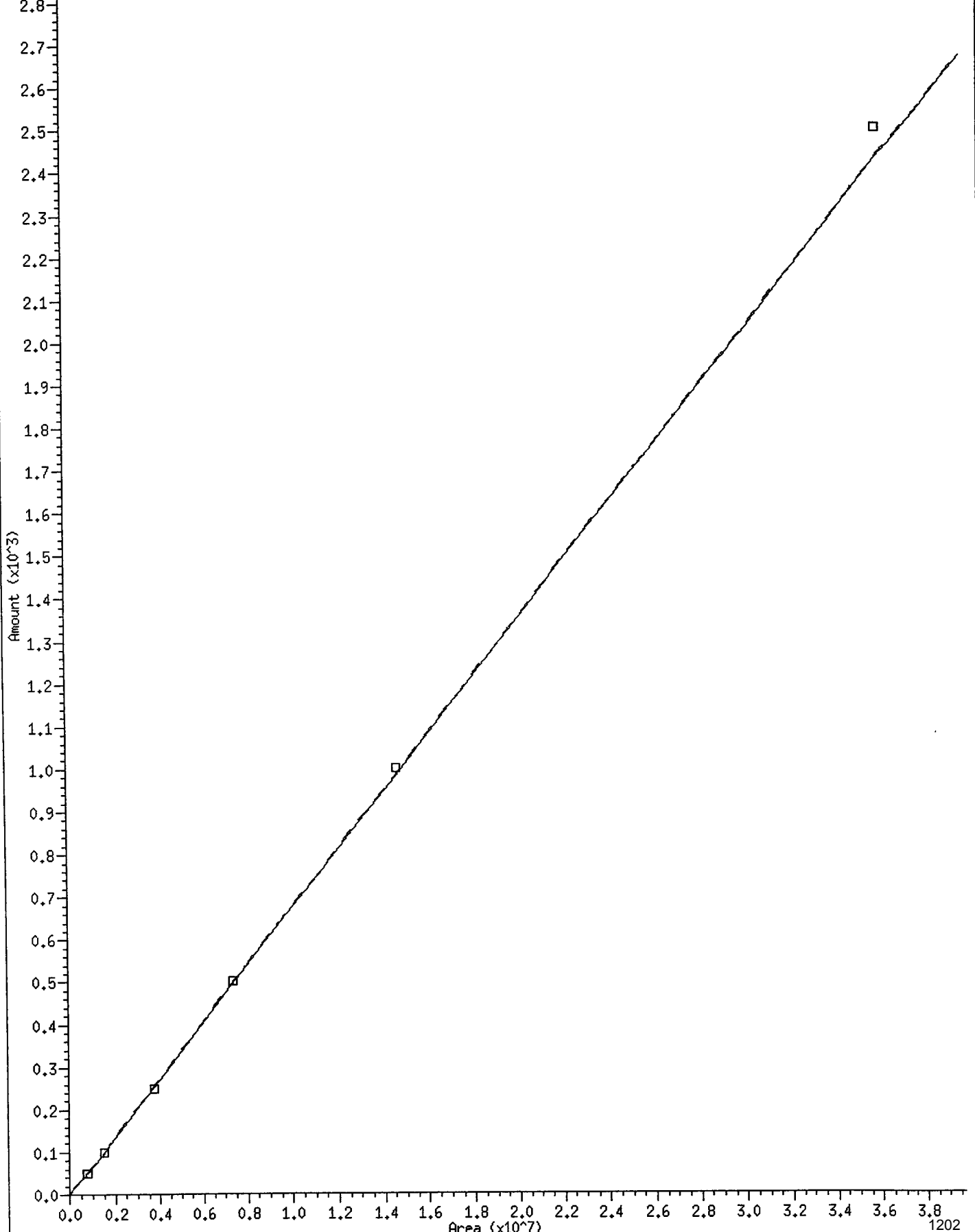
<- Indicates %RSD outside limits  
Quant Ranges : JET A - C10-C18 (3.522-6.601)

Calibration Files      Analysis Time

0413a007.d	13-APR-2011 06:59
0413a008.d	13-APR-2011 07:22
0413a009.d	13-APR-2011 07:46
0413a010.d	13-APR-2011 08:09
0413a011.d	13-APR-2011 08:33
0413a012.d	13-APR-2011 08:56

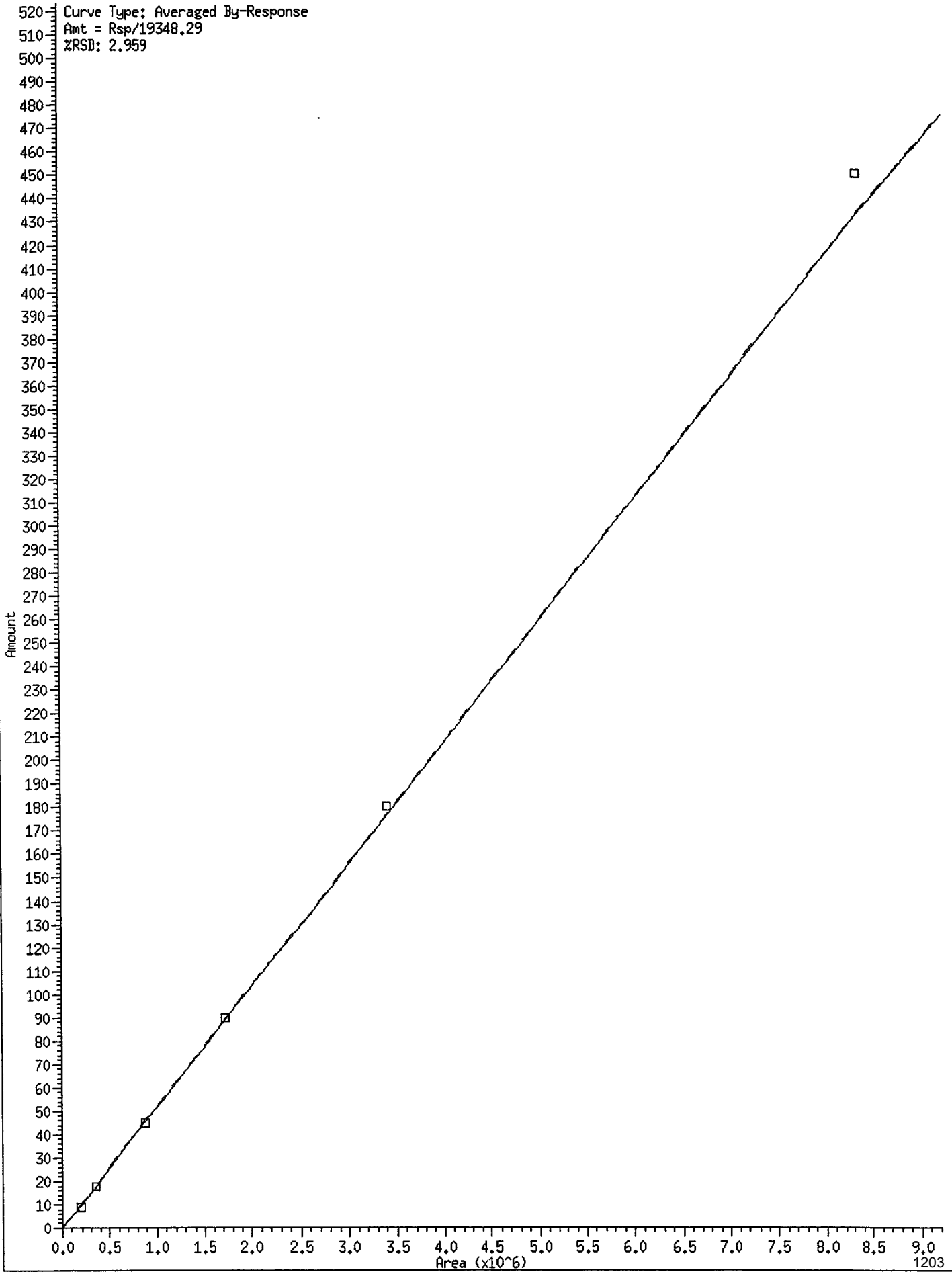
36 JetA

Curve Type: Averaged By-Response  
Amt = Rsp/14841.89  
%RSD: 1.944



\* 8 o-terph

Curve Type: Averaged By-Response  
Amt = Rsp/19348.29  
%RSD: 2.959



8  
JET-A ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC      Client: ARI  
 SDG No.: 20110413      Project: ARI  
 Instrument ID: FID4A      GC Column: RTX-1  
 Run Date: 04/13/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,  
 IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD						
		TERPH: 6.76		TRIAC: 9.88		
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAC RT #	
01	RT	04/13/11	0549	6.76	9.88	
02	IB	04/13/11	0612	6.76	9.88	
03	JET 50	04/13/11	0659	6.75	9.88	
04	JET 100	04/13/11	0722	6.76	9.88	
05	JET 250	04/13/11	0746	6.76	9.88	
06	JET 500	04/13/11	0809	6.77	9.88	
07	JET 1000	04/13/11	0833	6.78	9.88	
08	JET 2500	04/13/11	0856	6.80	9.88	

TERPH = o-terph      QC LIMITS  
 (+/- 0.05 MINUTES)  
 TRIAC = Triacon Surr      (+/- 0.05 MINUTES)

\* Values outside of QC limits.

Report Date : 21-Apr-2011 14:09

Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Batch File: /chem3/fid4a.i/20110413.b  
Inst ID: fid4a.i

ID: RT01 RT02 RT03 RT04 RT05 RT06 RT06  
FILENAME: 0413a007 0413a008 0413a009 0413a010 0413a011 0413a012  
INJ.DATE: 13-APR-2011 13-APR-2011 13-APR-2011 13-APR-2011 13-APR-2011 13-APR-2011  
INJ.TIME: 06:59 07:22 07:46 08:09 08:33 08:56

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.537	1.532	1.530	1.532	1.528	1.526	1.523	1.423-1.623	1.531	0.004
40 Mineral Oil	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
39 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	0.546	0.496-0.596	+++++	+++++
36 Jeta	+++++	+++++	+++++	+++++	+++++	+++++	0.787	0.737-0.837	+++++	+++++
37 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.718	0.668-0.768	+++++	+++++
38 Hydraulic Oil	1.182	+++++	1.178	1.179	1.164	1.163	1.137	1.087-1.187	1.173	0.009
2 C8	1.896	1.891	1.889	1.889	1.886	1.885	1.885	1.785-1.985	1.889	0.004
3 C10	3.522	3.521	3.521	3.522	3.526	3.535	3.522	3.472-3.572	3.525	0.006
4 C12	4.514	4.513	4.514	4.516	4.520	4.531	4.514	4.464-4.564	4.518	0.007
5 C14	5.289	5.287	5.286	5.287	5.290	5.298	5.288	5.238-5.338	5.290	0.004
6 C16	5.973	5.967	5.962	5.962	5.962	5.964	5.964	5.914-6.014	5.965	0.004
7 C18	6.595	6.596	6.596	6.597	6.599	6.600	6.601	6.551-6.651	6.597	0.002
8 o-terph	6.752	6.755	6.761	6.770	6.781	6.802	6.763	6.713-6.813	6.770	0.019
9 C20	7.204	7.206	7.205	7.210	7.213	7.214	7.208	7.158-7.258	7.208	0.004
10 C22	7.777	7.774	7.774	7.789	7.783	7.785	7.781	7.731-7.831	7.780	0.006
11 C24	8.304	8.308	8.328	8.309	8.307	8.311	8.318	8.268-8.368	8.311	0.009
12 C25	8.569	8.586	8.573	8.562	8.581	8.579	8.574	8.524-8.624	8.575	0.009

Reviewer 1 *MM*  
Reviewer 2 *RS*  
Date: 4/21/11  
Date: 4/21/11

Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Batch File: /chem3/fid4a.i/20110413.b  
Inst ID: fid4a.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
13 C26	8.829	8.830	8.823	8.831	8.821	8.822	8.824	8.774-8.874	8.826	0.005
14 C28	9.315	9.297	9.289	9.308	9.315	9.305	9.339	9.289-9.389	9.305	0.010
15 Triacon Surr	9.883	9.882	9.882	9.877	9.881	9.880	9.882	9.832-9.932	9.881	0.002
16 C32	10.381	10.382	10.381	10.382	10.384	10.381	10.400	10.350-10.450	10.382	0.001
17 C34	10.920	10.923	10.926	10.921	10.924	10.925	10.929	10.879-10.979	10.923	0.002
18 Filter Peak	12.853	12.863	12.866	12.858	12.867	12.865	12.863	12.763-12.963	12.862	0.006
19 C36	11.445	11.448	11.446	11.445	11.449	11.444	11.444	11.394-11.494	11.446	0.002
20 C38	11.951	11.933	11.937	11.941	11.950	11.937	11.942	11.892-11.992	11.941	0.007
21 C40	12.405	12.406	12.407	12.405	12.409	12.405	12.421	12.371-12.471	12.406	0.002
31 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
32 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.687	0.637-0.737	+++++	+++++
33 AK Dies 102	+++++	+++++	+++++	+++++	+++++	+++++	0.660	0.610-0.710	+++++	+++++
30 NW MOil	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 CRUDE	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 AK MOil 103	+++++	+++++	+++++	+++++	+++++	+++++	0.612	0.562-0.662	+++++	+++++

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem3/fid4a.i/20110413.b

ARI Job No. : RT Method: ftphfid4a.m Instrument: fid4a.i Date: 13-APR-2011

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
0549	0413a004.d	RT		1	C28,
0612	0413a005.d	IB		1	NO MANUAL INTEGRATION
0659	0413a007.d	JET 50		1	NO MANUAL INTEGRATION
0722	0413a008.d	JET 100		1	NO MANUAL INTEGRATION
0746	0413a009.d	JET 250		1	NO MANUAL INTEGRATION
0809	0413a010.d	JET 500		1	NO MANUAL INTEGRATION
0833	0413a011.d	JET 1000		1	NO MANUAL INTEGRATION
0856	0413a012.d	JET 2500		1	NO MANUAL INTEGRATION



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a004.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: RT  
Client ID:  
Injection: 13-APR-2011 05:49  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.523	0.000	510172	367936	GAS (Tol-C12)	1206909	60.98
C8	1.885	0.000	221798	220364	DIESEL (C12-C24)	1774402	89.42
C10	3.522	0.000	449616	268154	M.OIL (C24-C38)	2348340	206.09
C12	4.514	0.000	406909	273093	AK-102 (C10-C25)	2354117	106.40
C14	5.288	0.000	387267	270892	AK-103 (C25-C36)	2039398	295.48
C16	5.964	0.000	369186	267918			
C18	6.601	0.000	337013	260658			
C20	7.208	0.000	337353	254959			
C22	7.781	0.000	343471	260514	MSPiRiT (Tol-C12)	1206909	65.69
C24	8.318	0.000	379641	279024			
C25	8.574	0.000	499860	393174			
C26	8.824	0.000	362156	291195			
C28	9.339	0.000	341468	300117			
C32	10.400	0.000	302727	316223			
C34	10.929	0.000	277944	307774	CREOSOT (C12-C22)	1467104	360.36
Filter Peak	12.863	0.000	937	899			
C36	11.444	0.000	283915	321666			
C38	11.942	0.000	250494	272238			
C40	12.421	0.000	194977	236034			
o-terph	6.763	0.000	965106	860474	JET-A (C10-C18)	1405360	94.69
Triacon Surr	9.882	0.000	756487	933997			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	860474	44.5	98.8
Triacontane	933997	55.0	122.2

*MH 4/21/11*

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

Data File: /chem3/fid4a.i/20110413.b/0413a004.d  
Date: 13-APR-2011 05:49

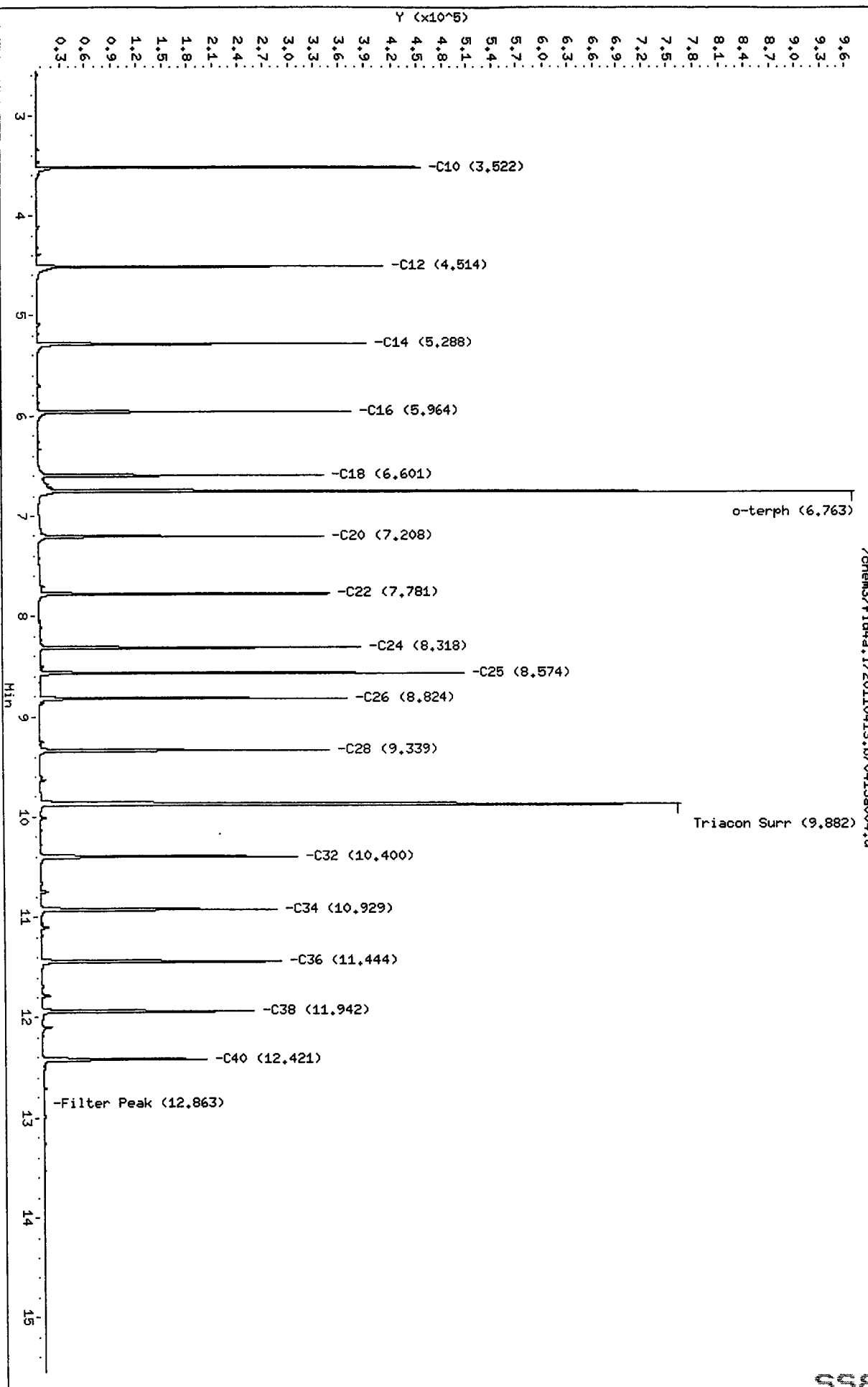
Client ID:  
Sample Info: RT

Column phase: RTX-1

Instrument: fid4a.i

Operator: MH  
Column diameter: 0.25

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Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a005.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: IB  
Client ID:  
Injection: 13-APR-2011 06:12  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.518	-0.005	910	500	GAS (Tol-C12)	58159	2.94
C8	1.896	0.011	412	605	DIESEL (C12-C24)	56374	2.84
C10	3.526	0.004	471	661	M.OIL (C24-C38)	93746	8.23
C12	4.524	0.010	275	504	AK-102 (C10-C25)	82473	3.73
C14	5.291	0.003	209	193	AK-103 (C25-C36)	75040	10.87
C16	5.972	0.008	95	179			
C18	6.598	-0.003	109	81			
C20	7.209	0.001	287	149			
C22	7.789	0.008	313	204	MSPIRIT (Tol-C12)	58159	3.17
C24	8.310	-0.008	447	1357			
C25	8.584	0.010	263	230			
C26	8.813	-0.011	246	241			
C28	9.285	-0.054	273	320			
C32	10.383	-0.017	2929	4215			
C34	10.930	0.001	330	264	CREOSOT (C12-C22)	47274	11.61
Filter Peak	12.866	0.003	786	450			
C36	11.446	0.002	3446	5815			
C38	11.939	-0.003	471	1085			
C40	12.405	-0.015	3030	5476			
o-terph	6.762	-0.001	977202	849993	JET-A (C10-C18)	43787	2.95
Triacon Surr	9.878	-0.004	666911	755442			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	849993	43.9	97.6
Triacontane	755442	44.5	98.8

*Mus 4/20/11*

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

Data File: /chem3/fid4a.i/20110413.b/0413a005.d  
Date: 13-APR-2011 06:12

Client ID:

Sample Info: IB

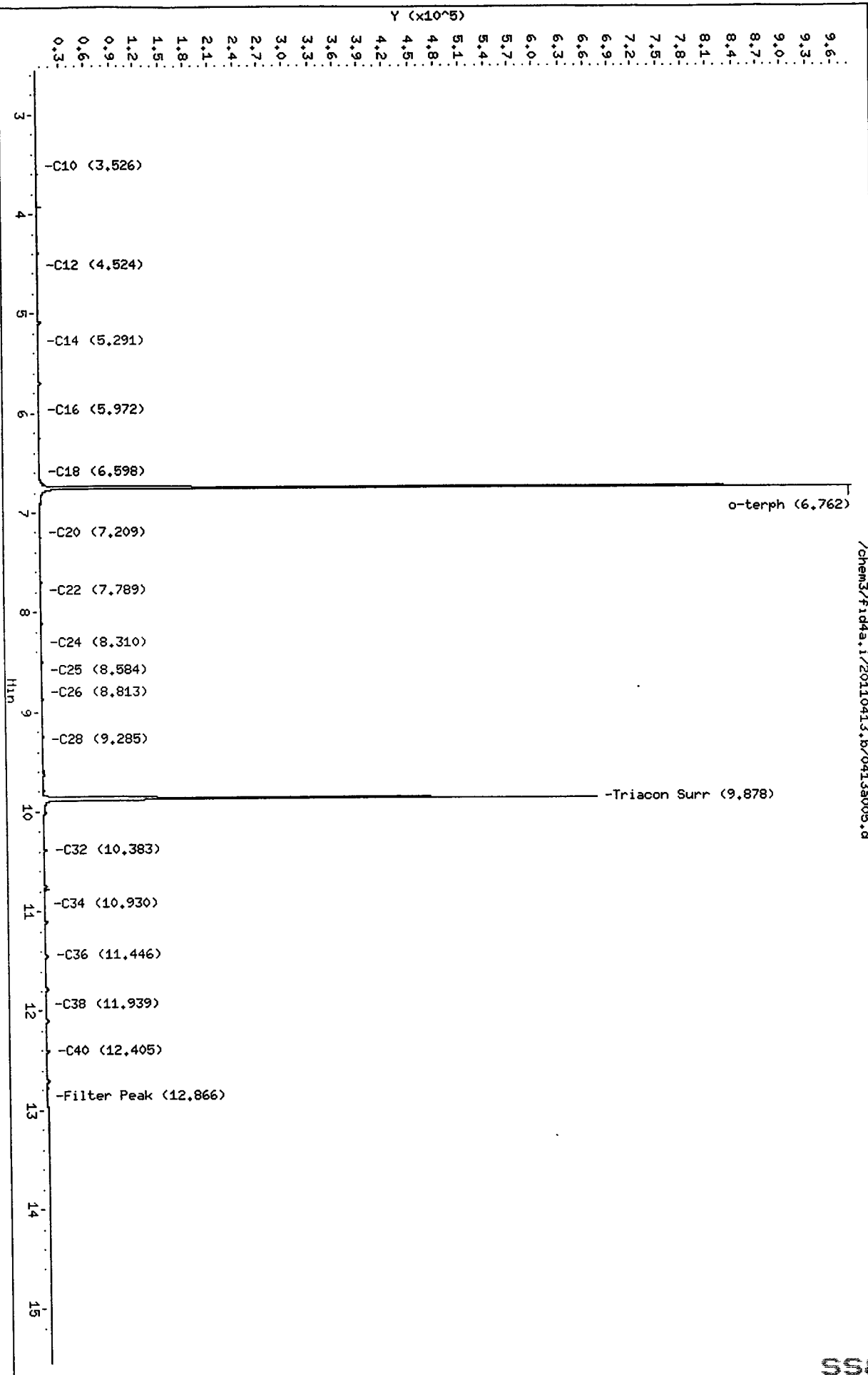
Column phase: RTX-1

Instrument: fid4a.i

Operator: MH

Column diameter: 0.25

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Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a007.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: JET 50  
Client ID:  
Injection: 13-APR-2011 06:59  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.537	0.013	2287	2813	GAS (Tol-C12)	535672	27.07
C8	1.896	0.011	3096	4660	DIESEL (C12-C24)	402945	20.31
C10	3.522	0.000	34763	20369	M.OIL (C24-C38)	32224	2.83
C12	4.514	0.000	39099	34910	AK-102 (C10-C25)	776285	35.09
C14	5.289	0.001	15641	25205	AK-103 (C25-C36)	24140	3.50
C16	5.973	0.009	1865	6372			
C18	6.595	-0.006	154	204			
C20	7.204	-0.003	150	98			
C22	7.777	-0.004	167	183	MSPiRiT (Tol-C12)	535672	29.16
C24	8.304	-0.014	139	205			
C25	8.569	-0.005	91	115			
C26	8.829	0.005	80	84			
C28	9.315	0.029	56	62			
C32	10.381	-0.019	2142	2307			
C34	10.920	-0.008	37	14	CREOSOT (C12-C22)	399098	98.03
Filter Peak	12.853	-0.011	472	374			
C36	11.445	0.001	2475	3370			
C38	11.951	0.009	170	242			
C40	12.405	-0.016	2244	3480			
o-terph	6.752	-0.011	250251	182007	JET-A (C10-C18)	759270	51.16
Triacon Surr	9.883	0.001	127	180			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	182007	9.4	20.9
Triacontane	180	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

Data File: /chem3/fid4a.i/20110413.b/0413a007.d  
Date : 13-APR-2011 06:59

Client ID:

Sample Info: JET 50

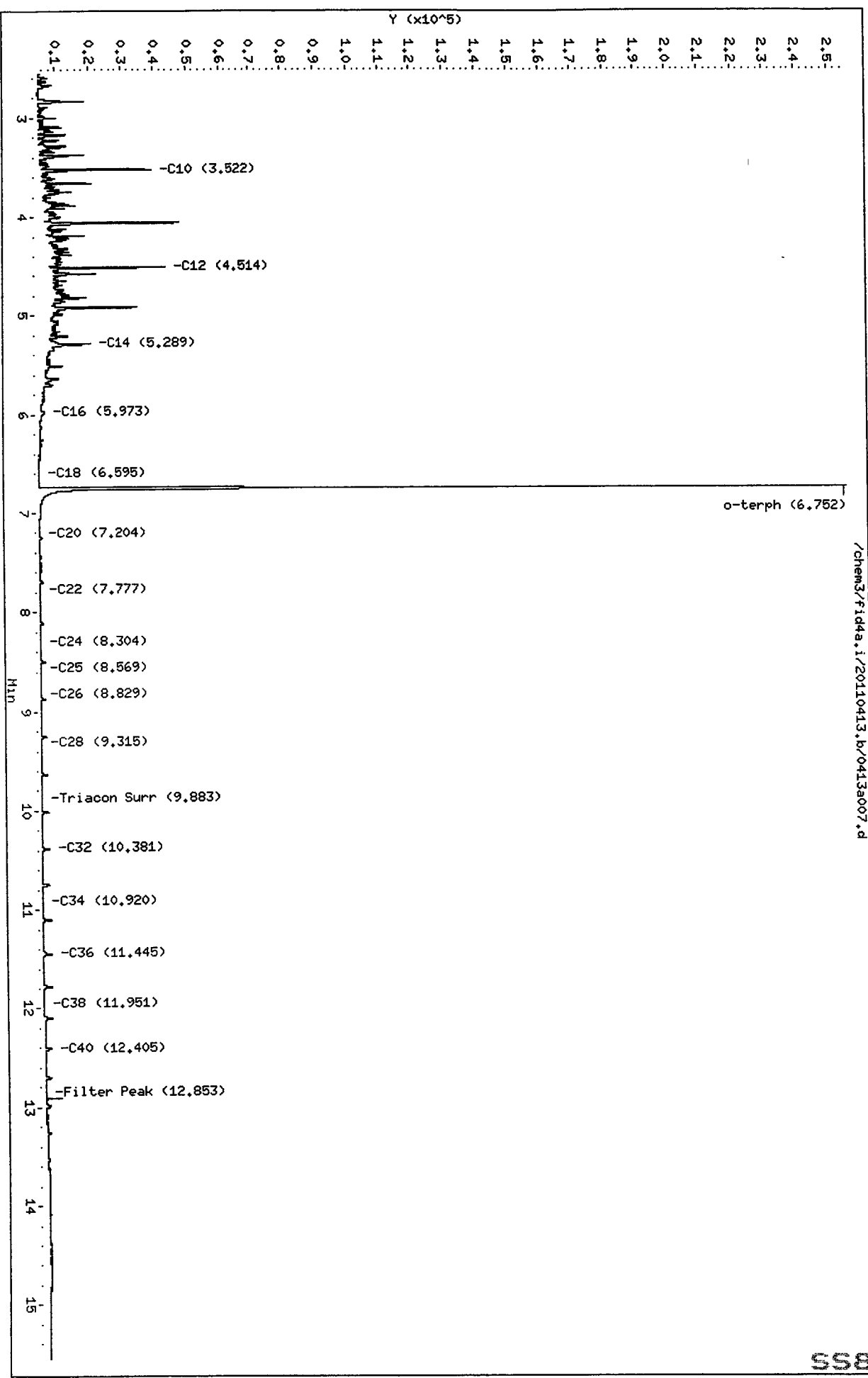
Column phase: RTX-1

Instrument: fid4a.i

Operator: HH

Column diameter: 0.25

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Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a008.d

ARI ID: JET 100

Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m

Client ID:

Instrument: fid4a.i

Injection: 13-APR-2011 07:22

Operator: MH

Dilution Factor: 1

Report Date: 04/21/2011

Macro: 13-APR-2011

Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.532	0.009	4421	4146	GAS (Tol-C12)	1032606	52.17
C8	1.891	0.006	6658	7484	DIESEL (C12-C24)	783332	39.47
C10	3.521	-0.001	75617	42269	M.OIL (C24-C38)	36671	3.22
C12	4.513	-0.001	87721	72413	AK-102 (C10-C25)	1523225	68.85
C14	5.287	-0.001	38516	49257	AK-103 (C25-C36)	27788	4.03
C16	5.967	0.004	4876	13297			
C18	6.596	-0.004	684	806			
C20	7.206	-0.002	215	170			
C22	7.774	-0.007	190	198	MSPIRIT (Tol-C12)	1032606	56.20
C24	8.308	-0.009	139	347			
C25	8.586	0.012	88	74			
C26	8.830	0.007	80	45			
C28	9.297	0.011	58	42			
C32	10.382	-0.018	2475	2780			
C34	10.923	-0.006	43	35	CREOSOT (C12-C22)	779009	191.35
Filter Peak	12.863	0.000	464	153			
C36	11.448	0.004	2948	3973			
C38	11.933	-0.009	170	236			
C40	12.406	-0.014	2386	3952			
o-terph	6.755	-0.007	463738	351227	JET-A (C10-C18)	1503979	101.33
Triacon Surr	9.882	0.001	150	213			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	351227	18.2	40.3
Triacontane	213	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

*MH 4/21/11*

Data File: /chem3/fid4a.i/20110413.b/0413a008.d

Date: 13-APR-2011 07:22

Client ID:

Sample Info: JET 100

Column phase: RTX-1

Instrument: fid4a.i

Operator: HH

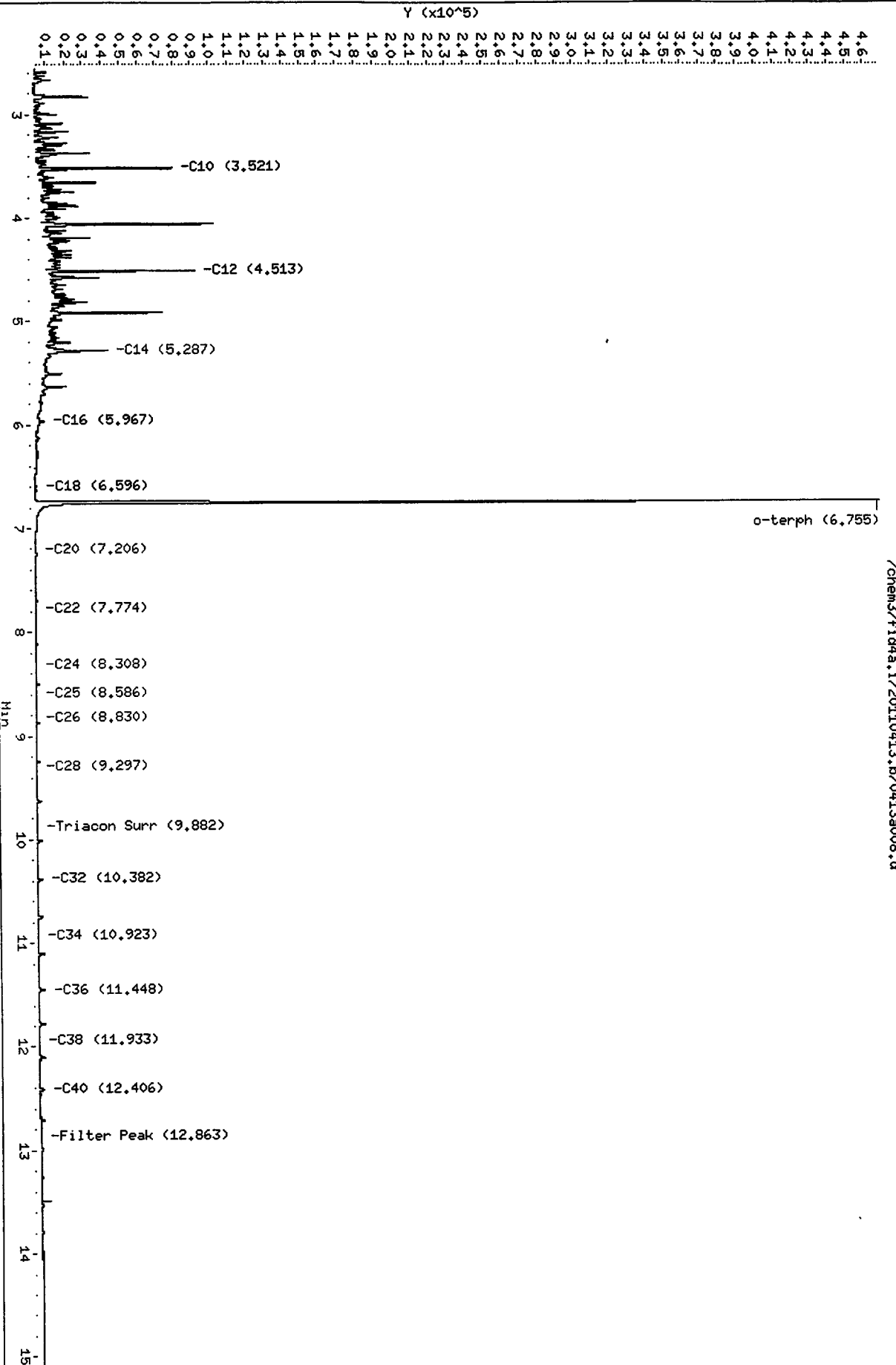
Column diameter: 0.25

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Page 1

1215

5583 : 01212





Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a009.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: JET 250  
Client ID:  
Injection: 13-APR-2011 07:46  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.530	0.007	9598	7739	GAS (Tol-C12)	2544426	128.56
C8	1.889	0.004	15637	17948	DIESEL (C12-C24)	1945331	98.03
C10	3.521	-0.001	200418	108870	M.OIL (C24-C38)	27167	2.38
C12	4.514	0.000	232396	183312	AK-102 (C10-C25)	3782528	170.96
C14	5.286	-0.001	113999	124303	AK-103 (C25-C36)	19807	2.87
C16	5.962	-0.002	17620	31308			
C18	6.596	-0.005	2704	3036			
C20	7.205	-0.003	408	388			
C22	7.774	-0.007	250	369	MSPERIT (Tol-C12)	2544426	138.49
C24	8.328	0.011	141	104			
C25	8.573	-0.001	127	66			
C26	8.823	-0.001	104	76			
C28	9.289	0.003	72	83			
C32	10.381	-0.019	1467	1675			
C34	10.926	-0.002	35	25	CREOSOT (C12-C22)	1939815	476.47
Filter Peak	12.866	0.003	4961	1959			
C36	11.446	0.003	1582	2244			
C38	11.937	-0.005	153	168			
C40	12.407	-0.013	1489	2451			
o-terph	6.761	-0.001	989928	883883	JET-A (C10-C18)	3749062	252.60
Triacon Surr	9.882	0.000	86	139			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	883883	45.7	101.5
Triacontane	139	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

*MH 4/21/11*

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Date: 13-APR-2011 07:46

Client ID:

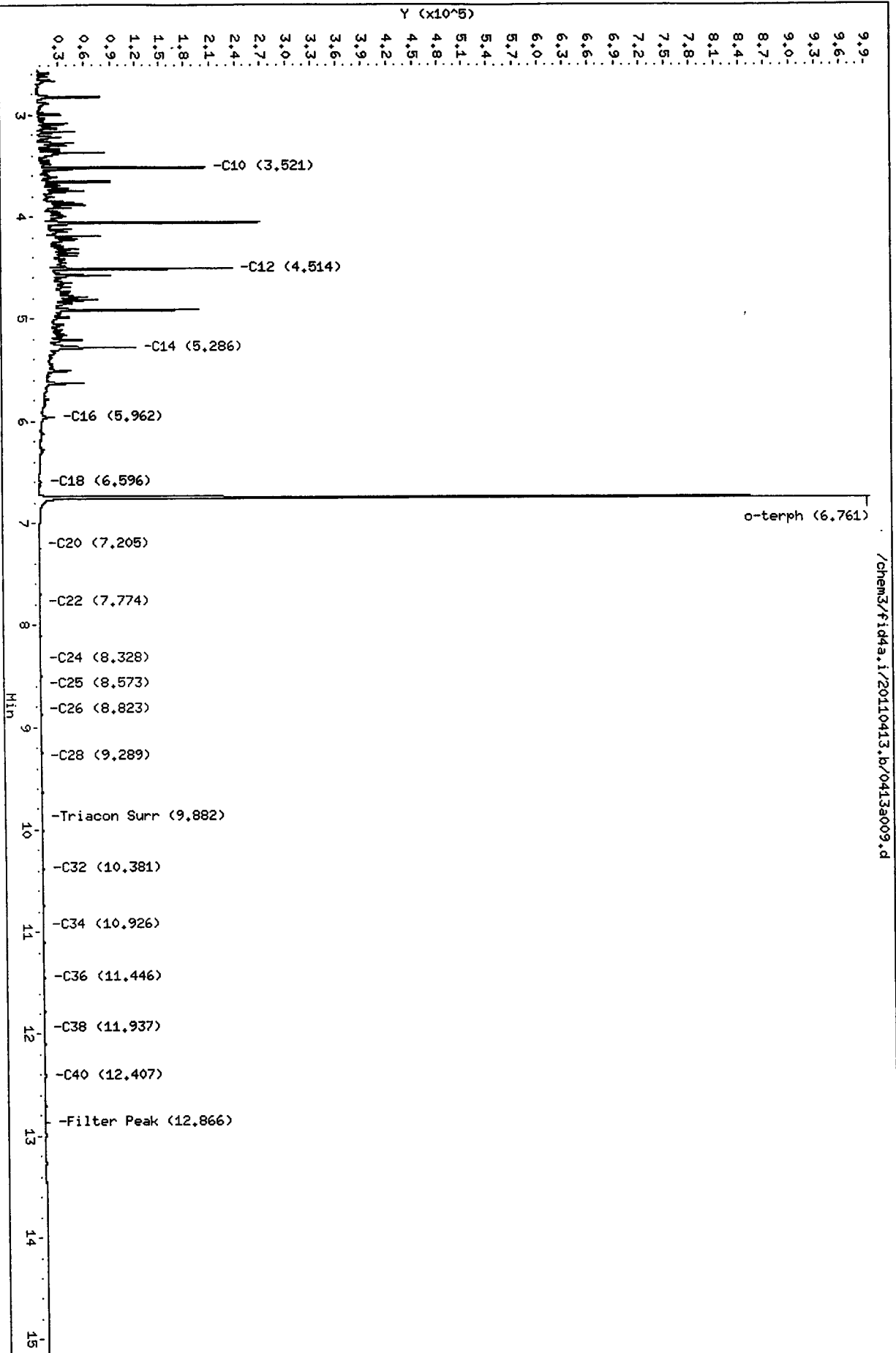
Sample Info: JET 250

Column phase: RTX-1

Instrument: fid4a.1

Operator: HH

Column diameter: 0.25



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a010.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: JET 500  
Client ID:  
Injection: 13-APR-2011 08:09  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.532	0.008	14558	13403	GAS (Tol-C12)	5007346	253.00
C8	1.889	0.004	26750	34363	DIESEL (C12-C24)	3818660	192.43
C10	3.522	0.001	392168	275204	M.OIL (C24-C38)	25286	2.22
C12	4.516	0.001	446714	348888	AK-102 (C10-C25)	7455706	336.98
C14	5.287	0.000	235172	214976	AK-103 (C25-C36)	19192	2.78
C16	5.962	-0.002	41356	68959			
C18	6.597	-0.004	5805	9122			
C20	7.210	0.002	616	182			
C22	7.789	0.008	308	258	MSPIRIT (Tol-C12)	5007346	272.54
C24	8.309	-0.008	195	444			
C25	8.562	-0.012	143	207			
C26	8.831	0.007	114	141			
C28	9.308	0.022	75	61			
C32	10.382	-0.018	1238	1450			
C34	10.921	-0.007	34	46	CREOSOT (C12-C22)	3812583	936.48
Filter Peak	12.858	-0.005	448	326			
C36	11.445	0.001	1317	1850			
C38	11.941	-0.001	150	147			
C40	12.405	-0.016	1260	2130			
o-terph	6.770	0.007	1553390	1725857	JET-A (C10-C18)	7404521	498.89
Triacon Surr	9.877	-0.004	87	94			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1725857	89.2	198.2
Triacontane	94	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

*MH 4/20/11*

Data File: /chem3/fid4a.i/20110413.b/0413a010.d  
Date: 13-APR-2011 08:09

Client ID:

Sample Info: JET 500

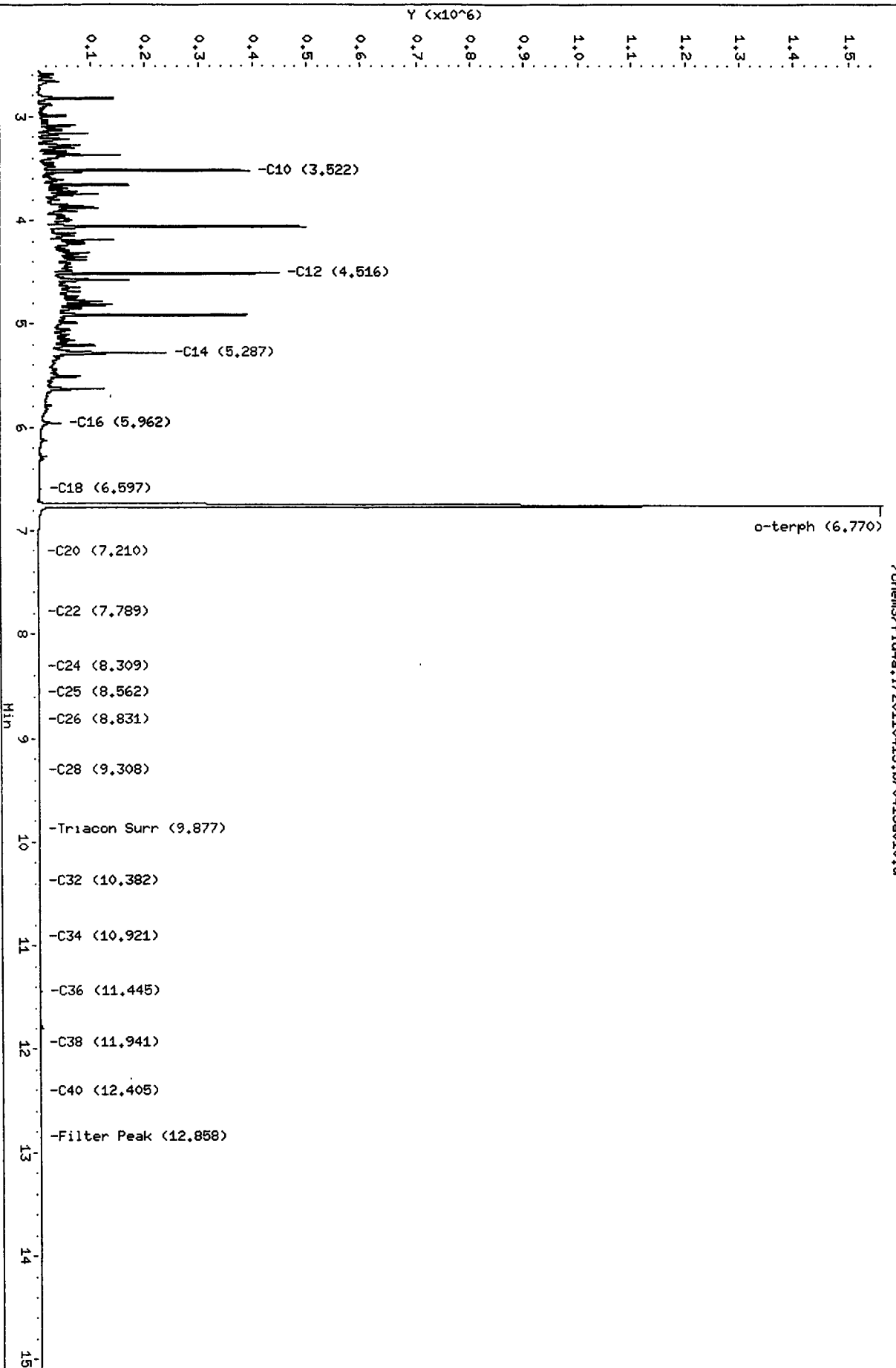
Column phase: RTX-1

Instrument: fid4a.i

Operator: HH

Column diameter: 0.25

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Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a011.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: JET 1000  
Client ID:  
Injection: 13-APR-2011 08:33  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.528	0.005	32482	24315	GAS (Tol-C12)	9796190	494.96
C8	1.886	0.001	56553	65133	DIESEL (C12-C24)	7580342	382.00
C10	3.526	0.004	735311	542360	M.OIL (C24-C38)	53689	4.71
C12	4.520	0.006	799045	696522	AK-102 (C10-C25)	14696428	664.25
C14	5.290	0.002	454871	430459	AK-103 (C25-C36)	41706	6.04
C16	5.962	-0.002	90713	141548			
C18	6.599	-0.002	15730	31899			
C20	7.213	0.005	1051	887			
C22	7.783	0.002	412	493	MSPRIT (Tol-C12)	9796190	533.18
C24	8.307	-0.010	282	907			
C25	8.581	0.007	173	151			
C26	8.821	-0.003	147	162			
C28	9.315	0.028	87	150			
C32	10.384	-0.016	3885	4245			
C34	10.924	-0.005	34	21	CREOSOT (C12-C22)	7571339	1859.73
Filter Peak	12.867	0.003	470	474			
C36	11.449	0.005	4661	6062			
C38	11.950	0.008	160	60			
C40	12.409	-0.012	2957	4341			
o-terph	6.781	0.019	2285190	3408689	JET-A (C10-C18)	14595836	983.41
Triacon Surr	9.881	-0.001	223	388			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	3408689	176.2	391.5
Triacontane	388	0.0	0.1

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

*MH 4/21/11*

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Date : 13-APR-2011 08:33

Client ID:

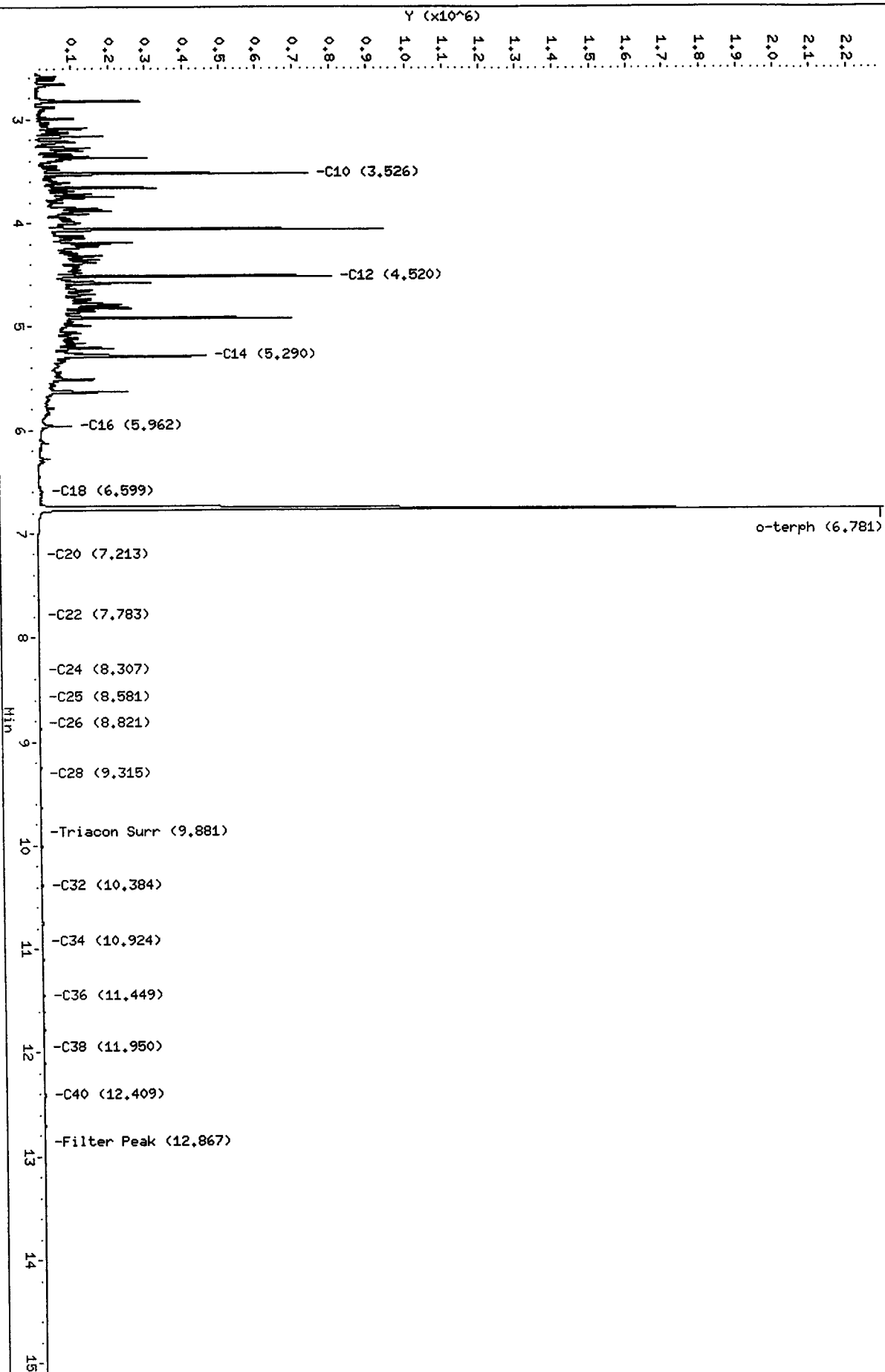
Sample Info: JET 1000

Column phase: RTX-1

Instrument: fid4a.i

Operator: HH  
Column diameter: 0.25

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Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110413.b/0413a012.d  
Method: /chem3/fid4a.i/20110413.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MH  
Report Date: 04/21/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: JET 2500  
Client ID:  
Injection: 13-APR-2011 08:56  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.526	0.003	76075	57741	GAS (Tol-C12)	24289641	1227.24
C8	1.885	0.000	128739	160997	DIESEL (C12-C24)	18596541	937.14
C10	3.535	0.013	1648337	1350149	M.OIL (C24-C38)	43582	3.82
C12	4.531	0.016	1623655	1749046	AK-102 (C10-C25)	36237392	1637.85
C14	5.298	0.010	980412	1068951	AK-103 (C25-C36)	33205	4.81
C16	5.964	0.000	238253	312560			
C18	6.600	-0.001	43532	75142			
C20	7.214	0.006	2755	5247			
C22	7.785	0.004	650	631	MSPIRIT (Tol-C12)	24289641	1322.02
C24	8.311	-0.006	352	671			
C25	8.579	0.005	222	259			
C26	8.822	-0.002	188	145			
C28	9.305	0.019	112	146			
C32	10.381	-0.019	2612	2892			
C34	10.925	-0.004	28	10	CREOSOT (C12-C22)	18584269	4564.81
Filter Peak	12.865	0.001	428	231			
C36	11.444	0.000	3170	4115			
C38	11.937	-0.005	144	217			
C40	12.405	-0.016	2610	3597			
o-terph	6.802	0.040	3735058	8369514	JET-A (C10-C18)	36062523	2429.76
Triacon Surr	9.880	-0.002	161	253			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.318) AK102(3.52 - 8.57) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.57 - 11.44) OR Diesel(3.52 - 9.29)

Surrogate	Area	Amount	%Rec
o-Terphenyl	8369514	432.6	961.3
Triacontane	253	0.0	0.0

*MH 4/21/11*

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Creosote	4071.2	31-MAR-2011

Data File: /chem3/fid4a.i/20110413.b/0413a012.d  
Date: 13-APR-2011 08:56

Client ID:

Sample Info: JET 2500

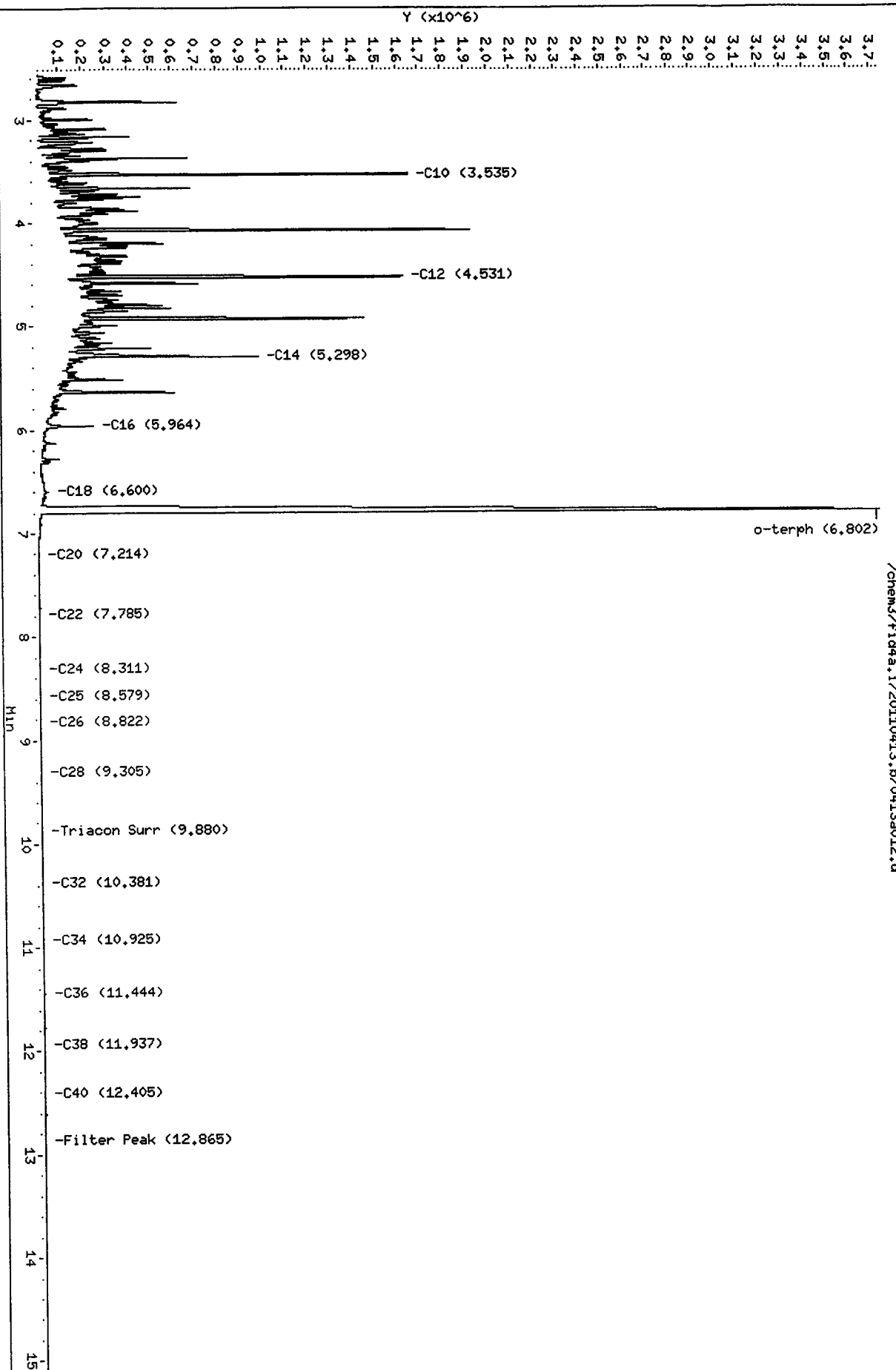
Column phase: RTX-1

Instrument: fid4a.i

Operator: MH

Column diameter: 0.25

/chem3/fid4a.i/20110413.b/0413a012.d







### GC Analyst Notes / Corrective Action Log

ARI Project ID: Diesel CURVE Client ID: ART

ARI SOP: **403S(PCB)** **405S(Herb)** **407S(TPH-D)** **409S(HCID)** **412S(PCP)** **423S(Pest)**  
**427S(Dir Inj)** **428S(EPH)** **432S(EDB)** **Other**

Parameter(s): Diesel #2, AK 102, o-Stapheny 1

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8  
 FID-9 ECD-1 ECD-3 ECD-4 ECD-5 ECD-6 ECD-7

Dates: Curve: 1/20/11 Analysis Start: 1/20/11

Endrin/DDT Breakdown <15%? YES / NO / NA  YES  NO  NA Method Blank In Control? YES / NO  YES  NO  N/A  
 ICal Meets RF & %RSD Criteria? YES / NO  YES  NO  N/A LCS/LCSD Recovery In Control? YES / NO  YES  NO  
 CCal Meets RF & %RSD Criteria? YES / NO  YES  NO  N/A Surrogate Recovery In Control? YES / NO  YES  NO  
 Manual Integrations for ICal? YES / NO  YES  NO Manual Integrations for Samples? YES / NO  YES  NO  
 Internal Standard Meets Criteria? YES / NO / NA  YES  NO  NA Special Analysis Criteria Met? YES / NO / NA  YES  NO  NA

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

Additional Details on Reverse: Yes  No

Analyst: ma Date: 1/31/11

Reviewer: WD Date: 2-1-11

6a  
NW DIESEL INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: 20110120

Instrument: FID9.I

Project: DIESEL 250

Calibration Date: 20-JAN-2011

SDG No.: 20110120

Diesel Range	RF1 50	RF2 100	RF3 250	RF4 500	RF5 1000	RF6 2500	Ave RF	%RSD
WA Diesel	24039	22507	22451	22137	23038	21746	22653	3.5
AK Diesel	27229	25485	25276	24857	25838	24470	25526	3.8
OR Diesel	27318	25588	25386	24978	25964	24607	25641	3.7
o-Terph	21882	20885	21247	21247	21987	21255	21417	2.0

<- Indicates %RSD outside limits  
Surrogate areas are not included in Diesel RF calculation.

Quant Ranges :   WA Diesel    C12-C24 (2.623-5.324)  
                  AK Diesel    C10-C25 (1.988-5.548)  
                  OR Diesel    C10-C28 (1.988-6.104)

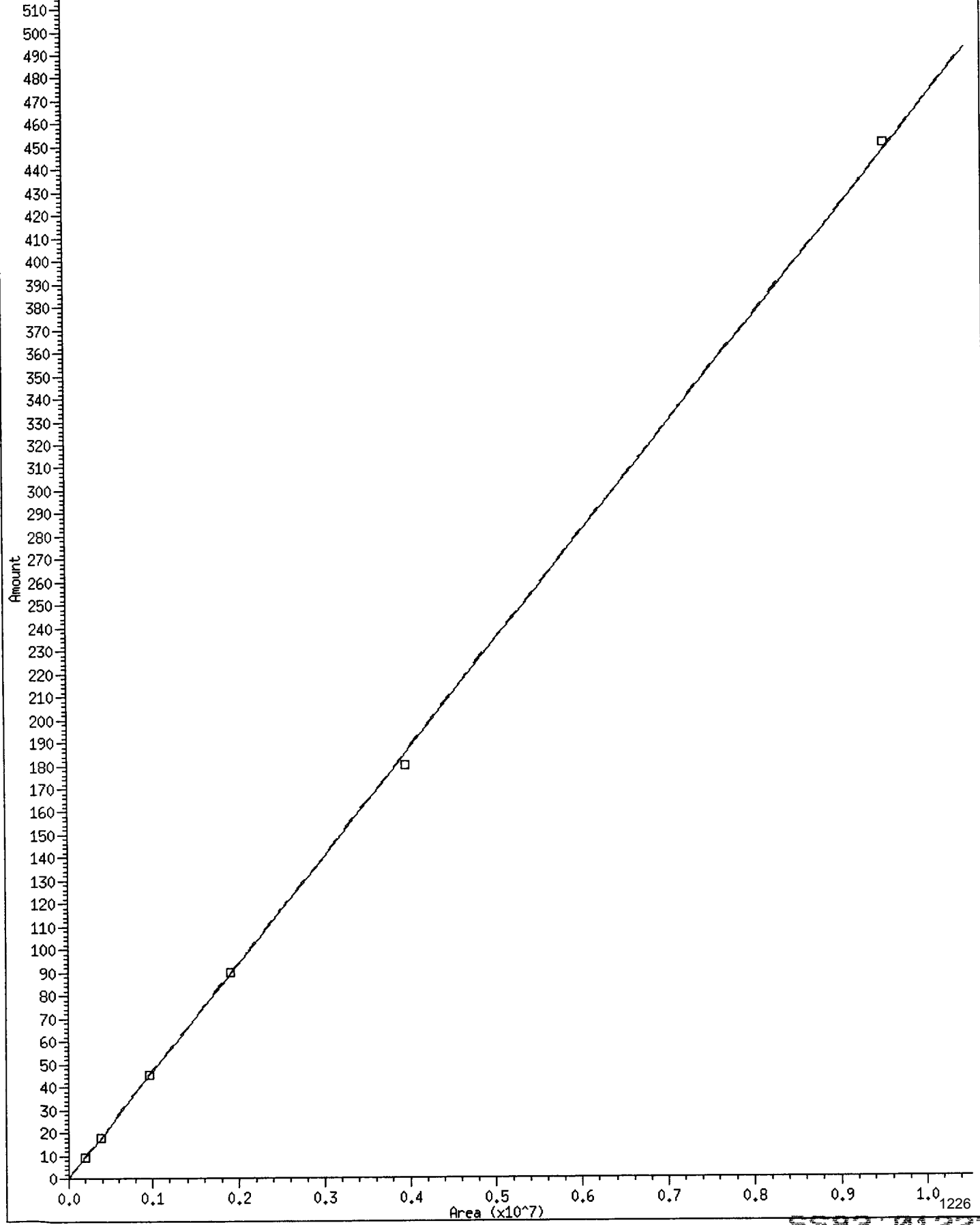
Calibration Files      Analysis Time

0120A007.D	20-JAN-2011 16:13
0120A008.D	20-JAN-2011 16:34
0120A009.D	20-JAN-2011 16:56
0120A010.D	20-JAN-2011 17:17
0120A011.D	20-JAN-2011 17:39
0120A014.D	20-JAN-2011 18:43

FID 9  
1/20/11

\* 8 o-terph

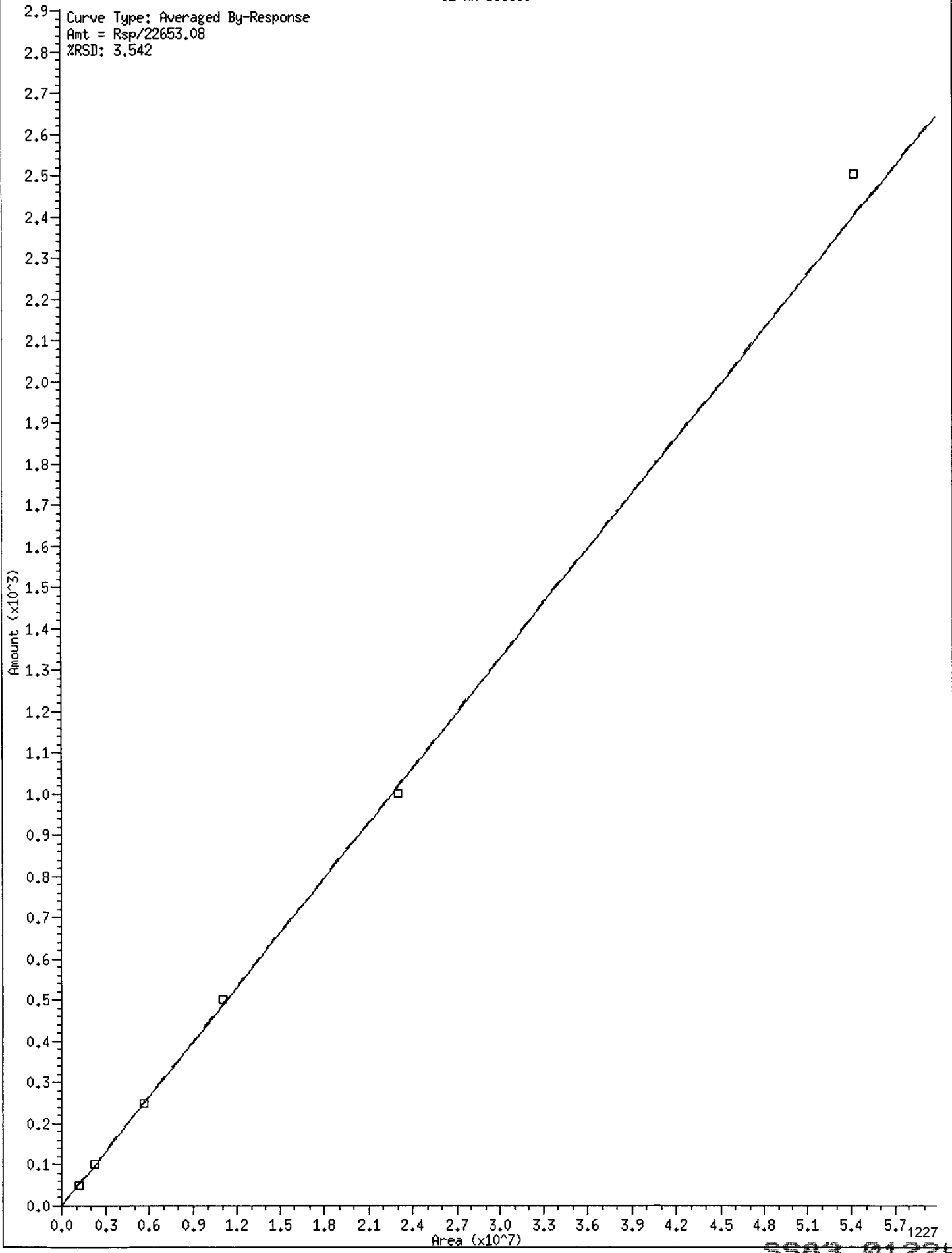
Curve Type: Averaged By-Response  
Amt = Rsp/21417.12  
%RSD: 1.990



5583:01223

F109  
1/20/11

31 NW Diesel

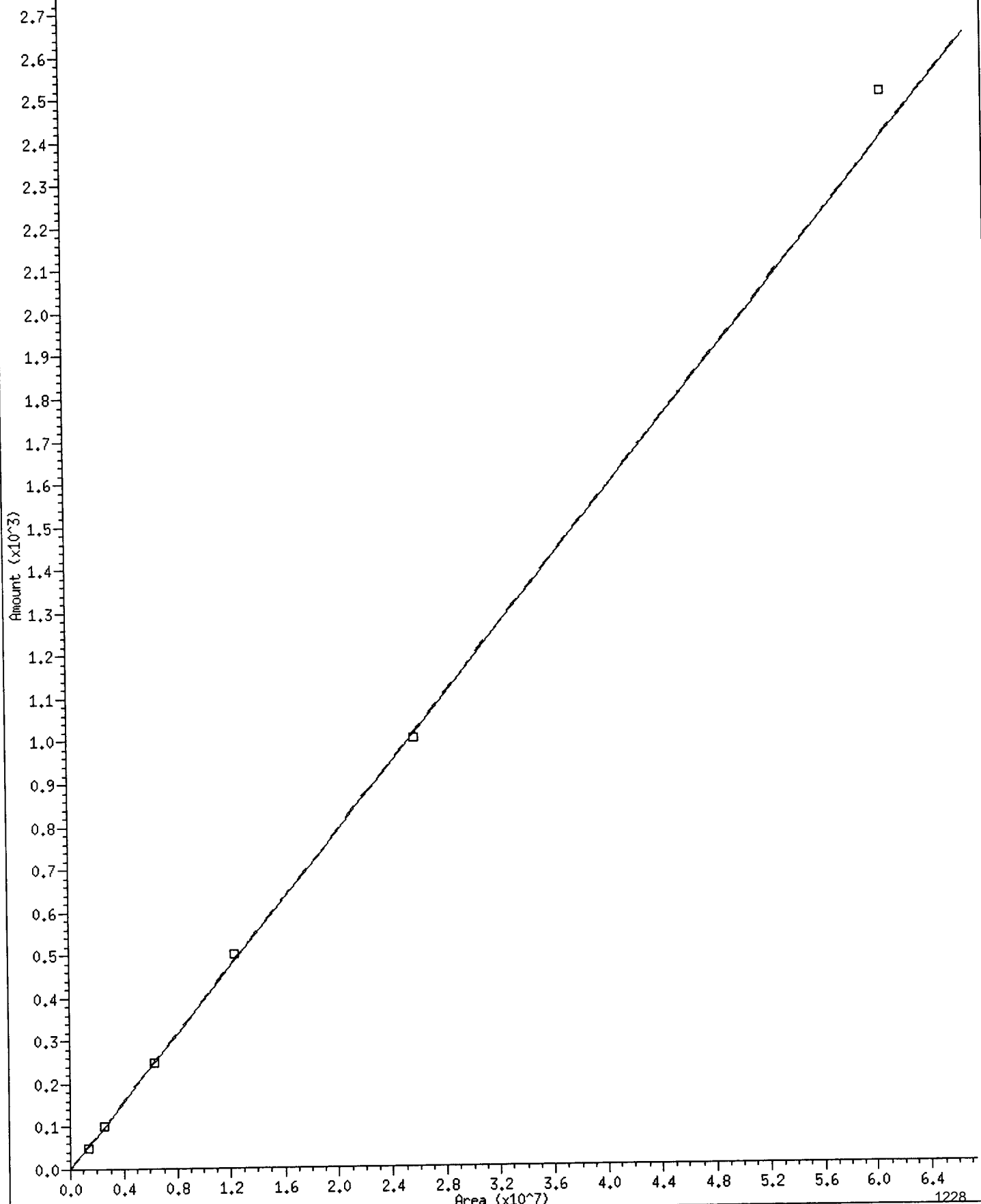


5583-01224

F119  
1/20/11

33 AK Dies 102

Curve Type: Averaged By-Response  
Amt = Rsp/25525.94  
%RSD: 3.767



SS83: 01225

# Analytical Resources Inc.: Organics Instrument Log

FID-9 Agilent 6850 - Serial No.: US10404004

Date: 1/20/11 Analysis: NEWPHO Analyst: ms

GC Program: TPH Column No: 977444 Column Type: V+X-1

Instrument Tune (.U or .CT.): \_\_\_\_\_ EM Voltage: \_\_\_\_\_

Calibration File: \_\_\_\_\_ Curve Date: 1/20/11

IS/SS	Ical/Ccal	LCS/ICV
	<u>1786-1</u>	
	<u>AT-2</u>	
	<u>1777-3</u>	
	<u>AT-2</u>	

Inject	Date/Time	Filename	DF	LabID
1	20-JAN-2011 12:42	0120A001.D	1	RINSE
2	20-JAN-2011 13:03	0120A002.D	1	RINSE
3	20-JAN-2011 13:24	0120A003.D	1	RINSE
4	20-JAN-2011 15:09	0120A004.D	1	RINSE
5	20-JAN-2011 15:30	0120A005.D	1	RT
6	20-JAN-2011 15:52	0120A006.D	1	IB
7	20-JAN-2011 16:13	0120A007.D	1	DIESEL 50
8	20-JAN-2011 16:34	0120A008.D	1	DIESEL 100
9	20-JAN-2011 16:56	0120A009.D	1	DIESEL 250
10	20-JAN-2011 17:17	0120A010.D	1	DIESEL 500
11	20-JAN-2011 17:39	0120A011.D	1	DIESEL 1000
12	20-JAN-2011 18:00	0120A012.D	1	Blank
13	20-JAN-2011 18:22	0120A013.D	1	DIESEL ICV
14	20-JAN-2011 18:43	0120A014.D	1	DIESEL 2500
15	20-JAN-2011 19:04	0120A015.D	1	MOIL 100
16	20-JAN-2011 19:26	0120A016.D	1	MOIL 250
17	20-JAN-2011 19:47	0120A017.D	1	MOIL 500
18	20-JAN-2011 20:08	0120A018.D	1	MOIL 1000
19	20-JAN-2011 20:30	0120A019.D	1	MOIL 2500
20	20-JAN-2011 20:51	0120A020.D	1	MOIL 5000
21	20-JAN-2011 21:12	0120A021.D	1	MOIL ICV
22	20-JAN-2011 21:34	0120A022.D	1	DIESEL#1
23	20-JAN-2011 21:55	0120A023.D	1	MOIL#1
24	20-JAN-2011 22:16	0120A024.D	1	SE57MBW1
25	20-JAN-2011 22:38	0120A025.D	1	SE57LCSW1
26	20-JAN-2011 22:59	0120A026.D	1	SE57LCSW1
27	20-JAN-2011 23:21	0120A027.D	1	SE57QLS
28	20-JAN-2011 23:42	0120A028.D	1	SE57A
29	21-JAN-2011 00:03	0120A029.D	1	SF16MBS1
30	21-JAN-2011 00:25	0120A030.D	1	SF16LCSS1
31	21-JAN-2011 00:46	0120A031.D	1	SF16LCSDS1
32	21-JAN-2011 01:08	0120A032.D	1	SF16QLS
33	21-JAN-2011 01:29	0120A033.D	10	SF16A
34	21-JAN-2011 01:50	0120A034.D	5	SF16B
35	21-JAN-2011 02:12	0120A035.D	1	DIESEL#2
36	21-JAN-2011 02:33	0120A036.D	1	MOIL#2

*ms*

*ms 1/24/11*

**Maintenance / Comments**

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

8  
TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC

Client: ARI

SDG No.: 20110120

Project: ARI

Instrument ID: FID9

GC Column: RTX-1

Run Date: 01/20/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,  
IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD					
		TERPH: 4.17		TRIAc: 6.42	
CLIENT SAMPLE NO.	LAB SAMPLE ID	DATE ANALYZED	TIME ANALYZED	TERPH RT #	TRIAc RT #
=====	=====	=====	=====	=====	=====
01 RT	RT	01/20/11	1530	4.17	6.42
02	IB	01/20/11	1552	4.17	6.42
03 DIESEL 50	DIESEL 50	01/20/11	1613	4.16	6.41
04 DIESEL 100	DIESEL 100	01/20/11	1634	4.16	6.41
05 DIESEL 250	DIESEL 250	01/20/11	1656	4.17	6.41
06 DIESEL 500	DIESEL 500	01/20/11	1717	4.18	6.42
07 DIESEL 1000	DIESEL 1000	01/20/11	1739	4.19	6.42
08	DIESEL ICV	01/20/11	1822	4.17	6.41
09 DIESEL 2500	DIESEL 2500	01/20/11	1843	4.21	6.41

TERPH = o-terph  
 TRIAC = Triacon Surr

QC LIMITS  
 (+/- 0.05 MINUTES)  
 (+/- 0.05 MINUTES)

\* Values outside of QC limits.

Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Batch File: /chem2/fid9.i/20110120.b  
Inst ID: fid9.i

ID:	RT01	RT02	RT03	RT04	RT05	RT06
FILENAME:	0120A015	0120A016	0120A017	0120A018	0120A019	0120A020
INJ.DATE:	20-JAN-2011	20-JAN-2011	20-JAN-2011	20-JAN-2011	20-JAN-2011	20-JAN-2011
INJ.TIME:	19:04	19:26	19:47	20:08	20:30	20:51

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.389	1.321	1.323	1.320	1.322	1.324	1.303	1.203-1.403	1.333	0.028
37 JET-A	1.376	1.370	1.368	1.371	1.378	1.370	1.370	1.320-1.420	1.372	0.004
2 C8	1.520	1.516	1.529	1.512	1.515	1.529	1.519	1.419-1.619	1.520	0.007
3 C10	1.989	1.987	1.986	1.988	1.988	1.985	1.988	1.938-2.038	1.987	0.001
4 C12	2.634	2.624	2.617	2.631	2.626	2.625	2.623	2.573-2.673	2.626	0.006
5 C14	3.146	3.163	3.148	3.147	3.165	3.162	3.156	3.106-3.206	3.155	0.009
6 C16	3.622	3.617	3.626	3.633	3.631	3.629	3.627	3.577-3.677	3.626	0.006
7 C18	4.057	4.054	4.052	4.052	4.051	4.051	4.049	3.999-4.099	4.053	0.002
8 o-terph	4.171	4.170	4.168	4.169	4.167	4.166	4.168	4.118-4.218	4.169	0.002
9 C20	4.438	4.435	4.431	4.436	4.436	4.438	4.435	4.385-4.485	4.436	0.003
10 C22	4.821	4.825	4.823	4.828	4.828	4.831	4.827	4.777-4.877	4.826	0.004
11 C24	5.322	5.324	5.320	5.329	5.327	5.322	5.324	5.274-5.374	5.324	0.003
12 C25	5.544	5.549	5.545	5.550	5.549	5.550	5.548	5.498-5.598	5.548	0.003
13 C26	5.750	5.752	5.746	5.746	5.747	5.743	5.749	5.699-5.799	5.748	0.003
14 C28	6.101	6.104	6.106	6.104	6.101	6.106	6.104	6.054-6.154	6.104	0.002
15 Triacon Surr	6.413	6.419	6.424	6.435	6.459	6.496	6.422	6.372-6.472	6.441	0.032
16 C32	6.693	6.694	6.694	6.696	6.693	6.698	6.696	6.646-6.746	6.695	0.002

Reviewer 1  
Reviewer 2

*[Handwritten Signature]*

Date: 1/31/11  
Date: 2-1-11



Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: /chem2/fig9.i/20110120.b/ftphfig9a.m  
Batch File: /chem2/fig9.i/20110120.b  
Inst ID: fig9.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
17 C34	6.953	6.958	6.964	6.965	6.956	6.958	6.959	6.909-7.009	6.959	0.005
18 Filter Peak	+++++	+++++	+++++	+++++	+++++	+++++	12.769	12.669-12.869	+++++	+++++
19 C36	7.214	7.203	7.205	7.209	7.215	7.214	7.209	7.159-7.259	7.210	0.005
20 C38	7.451	7.447	7.447	7.456	7.446	7.452	7.448	7.398-7.498	7.450	0.004
21 C40	7.731	7.722	7.725	7.719	7.723	7.722	7.723	7.673-7.773	7.724	0.004
31 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.513	0.463-0.563	+++++	+++++
32 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.690	0.640-0.740	+++++	+++++
33 AK Dies 102	+++++	+++++	+++++	+++++	+++++	+++++	0.660	0.610-0.710	+++++	+++++
30 NW MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 OR MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 AK MO11 103	+++++	+++++	+++++	+++++	+++++	+++++	0.658	0.608-0.708	+++++	+++++
38 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.705	0.655-0.755	+++++	+++++
39 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	0.550	0.500-0.600	+++++	+++++

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A005.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: RT  
 Client ID: RT  
 Injection: 20-JAN-2011 15:30  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.303	0.000	383937	277413	GAS (Tol-C12)	998508	48 M
C8	1.519	0.000	53885	28465	DIESEL (C12-C24)	1655661	73
C10	1.988	0.000	657169	294726	M.OIL (C24-C38)	1825693	138
C12	2.623	0.000	676220	289238	AK-102 (C10-C25)	2271772	89
C14	3.156	0.000	587065	285605	AK-103 (C25-C36)	1573197	185
C16	3.627	0.000	678327	282100			
C18	4.049	0.000	649103	277428			
C20	4.435	0.000	617954	270911			
C22	4.827	0.000	422551	260123			
C24	5.324	0.000	385629	251401			
C25	5.548	0.000	508484	337875			
C26	5.749	0.000	386378	243690			
C28	6.104	0.000	394465	236165			
C32	6.696	0.000	375697	230951	JP-4 (Tol-C14)	1294923	79 M
C34	6.959	0.000	351484	236984	BUNKERC (C10-C38)	4092053	484
Filter Peak	----						
C36	7.209	0.000	339607	248990			
C38	7.448	0.000	272516	232146			
C40	7.723	0.000	188027	195470			
o-terph	4.168	0.000	1676827	913732	JET-A (C10-C18)	1475173	107
Triacon Surr	6.422	0.000	1043688	719648	JP8 (Tol-C16)	1582493	90 M

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	913732	42.7	94.8
Triacontane	719648	40.8	90.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

*Handwritten signature*  
 01/31/11

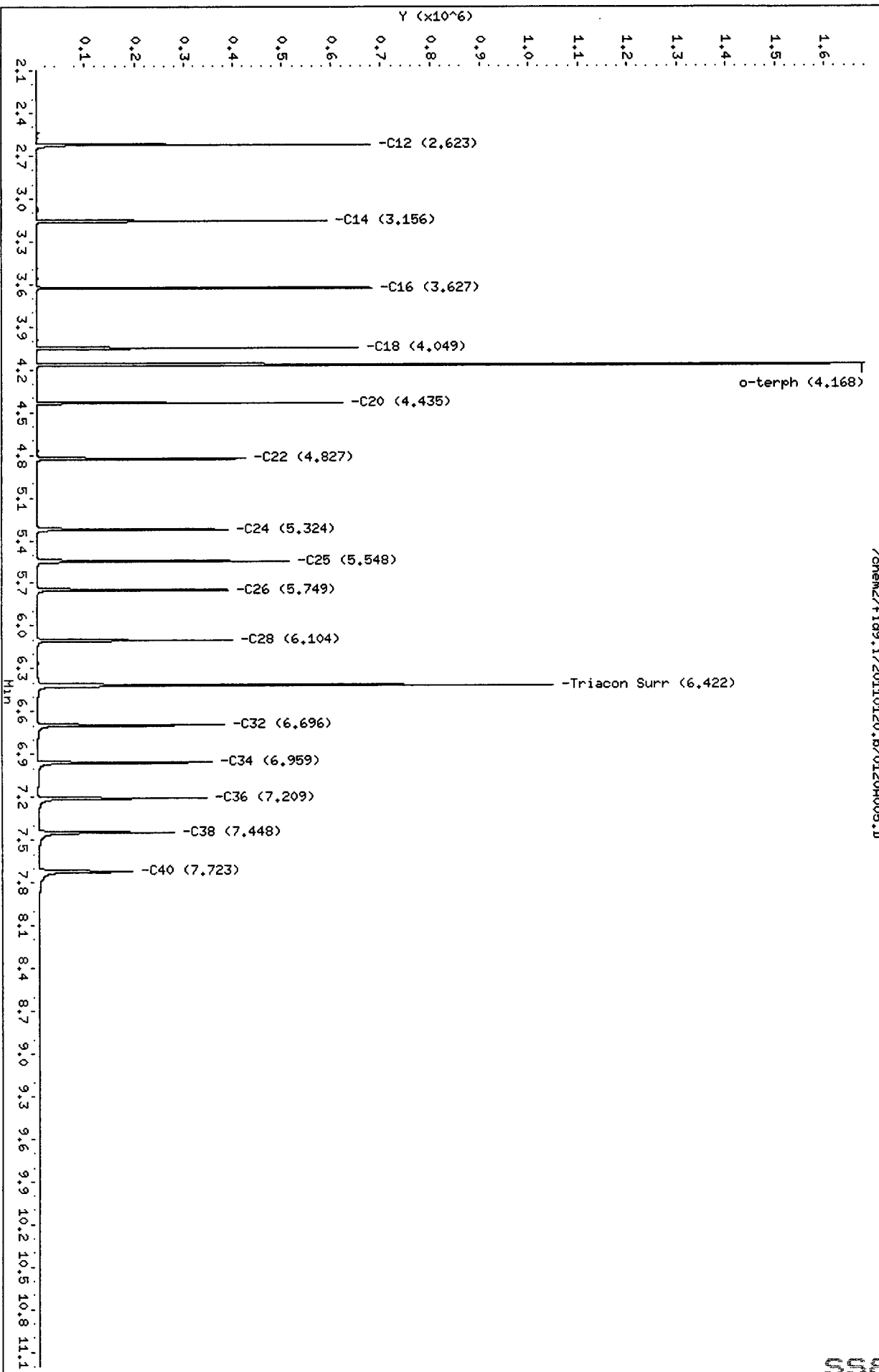
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Date: 20-JAN-2011 15:30  
Client ID: RT  
Sample Info: RT

Column phase: RTX-1

Instrument: fid9.i

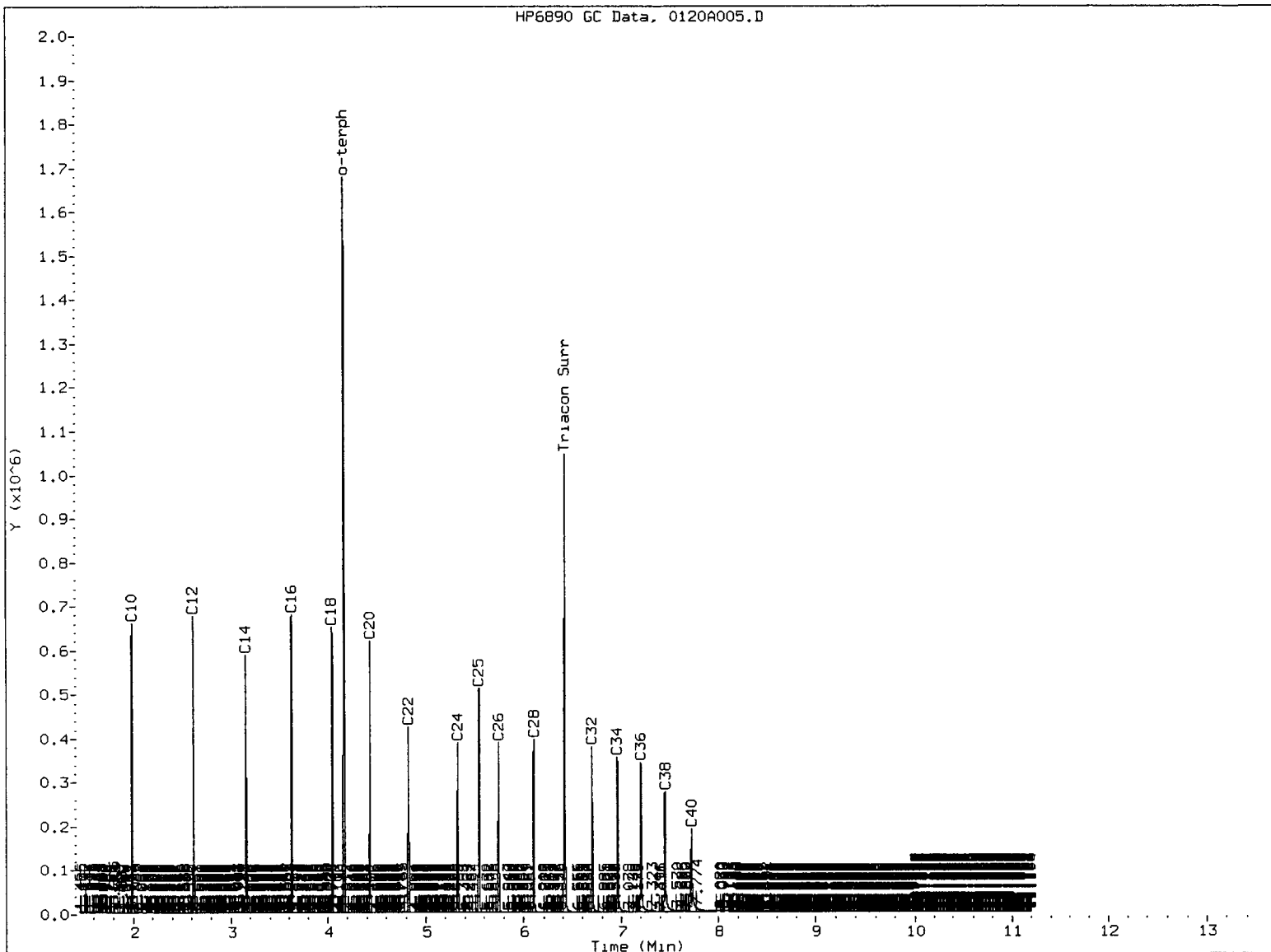
Operator: JR  
Column diameter: 0.25

Page 1



/chem2/fid9,i/20110120,b/01209005.D

HP6890 GC Data, 0120A005.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: 1/31/11

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/ftid9.i/20110120.b/0120A006.D  
 Method: /chem2/ftid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: IB  
 Client ID:  
 Injection: 20-JAN-2011 15:52  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.322	0.019	63463	64572	GAS (Tol-C12)	139212	7
C8	1.519	0.000	7460	7425	DIESEL (C12-C24)	22665	1
C10	1.987	-0.001	1338	1740	M.OIL (C24-C38)	44620	3
C12	2.612	-0.011	706	1274	AK-102 (C10-C25)	44595	2
C14	3.152	-0.005	306	190	AK-103 (C25-C36)	32471	4
C16	3.625	-0.002	165	22			
C18	4.049	0.000	184	200			
C20	4.437	0.002	136	115			
C22	4.830	0.003	67	18			
C24	5.318	-0.006	33	22			
C25	5.546	-0.002	53	25			
C26	5.745	-0.004	45	34			
C28	6.099	-0.005	256	173			
C32	6.695	-0.001	1292	2211	JP-4 (Tol-C14)	148417	9
C34	6.957	-0.002	875	1419	BUNKERC (C10-C38)	89113	11
Filter Peak	----						
C36	7.209	0.000	656	194			
C38	7.447	-0.001	938	390			
C40	7.718	-0.005	1264	377			
o-terph	4.171	0.003	1830174	1085386	JET-A (C10-C18)	40391	3
Triacon Surr	6.421	-0.001	1029861	732679	JP8 (Tol-C16)	154222	9

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1085386	50.7	112.6
Triacontane	732679	41.6	92.4

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200006.D

Date: 20-JAN-2011 15:52

Client ID:

Sample Info: IB

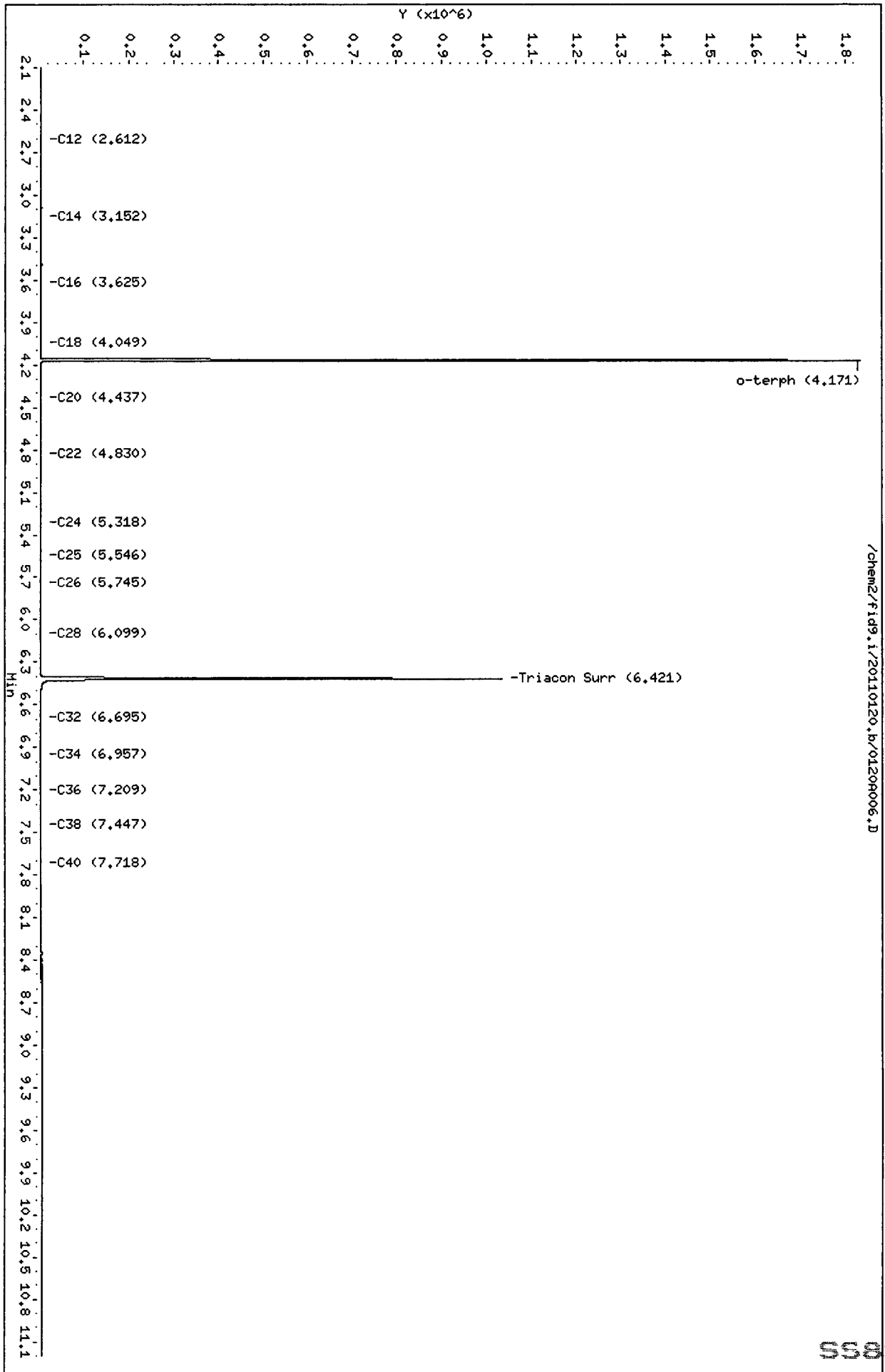
Column phase: RTX-1

Instrument: fid9.i

Operator: JR

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A007.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: DIESEL 50  
Client ID: DIESEL 50  
Injection: 20-JAN-2011 16:13  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.325	0.022	4316	9749	GAS (Tol-C12)	260141	12
C8	1.518	-0.001	4723	3015	DIESEL (C12-C24)	1201950	53 ✓
C10	1.986	-0.002	9019	7034	M.OIL (C24-C38)	29106	2
C12	2.624	0.002	19691	12552	AK-102 (C10-C25)	1361439	53 M
C14	3.160	0.003	35985	22344	AK-103 (C25-C36)	17309	2
C16	3.627	0.000	64307	36363			
C18	4.048	-0.001	56312	40699			
C20	4.434	-0.001	30544	20004			
C22	4.826	-0.001	9899	9065			
C24	5.323	-0.001	2311	2776			
C25	5.548	0.000	882	943			
C26	5.749	0.000	291	394			
C28	6.100	-0.003	38	22			
C32	6.691	-0.005	160	58	JP-4 (Tol-C14)	484680	30
C34	6.953	-0.006	440	580	BUNKERC (C10-C38)	1387701	164 M
Filter Peak	----						
C36	7.210	0.001	507	457			
C38	7.447	-0.001	794	282			
C40	7.725	0.003	1071	320			
o-terph	4.162	-0.006	439550	196937	JET-A (C10-C18)	1030119	75
Triacon Surr	6.413	-0.008	226	272	JP8 (Tol-C16)	799073	45

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	196937	9.2	20.4
Triacontane	272	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Date : 20-JAN-2011 16:13

Client ID: DIESEL 50

Sample Info: DIESEL 50

Column phase: RTX-1

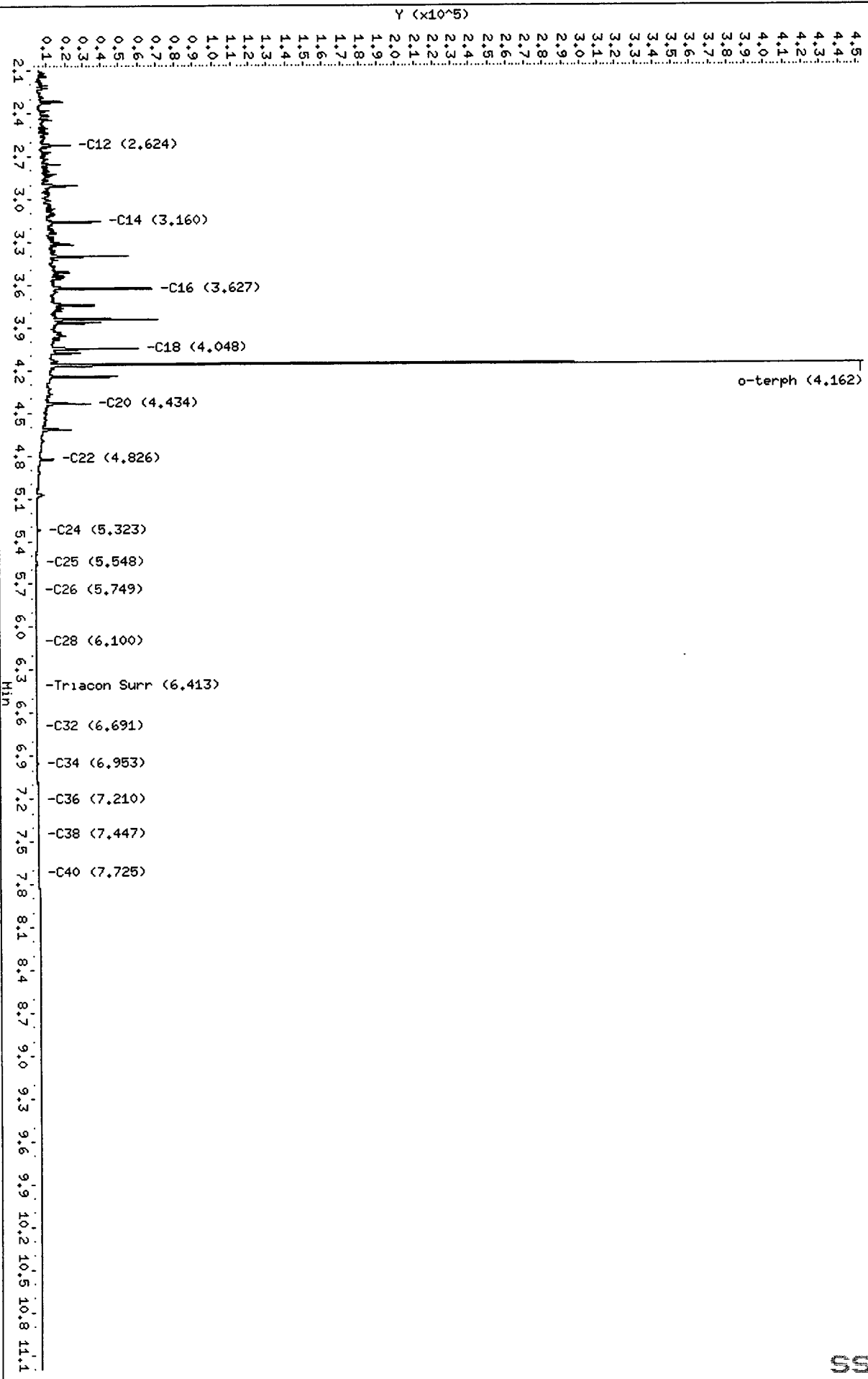
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Instrument: fid9.i

Operator: JR

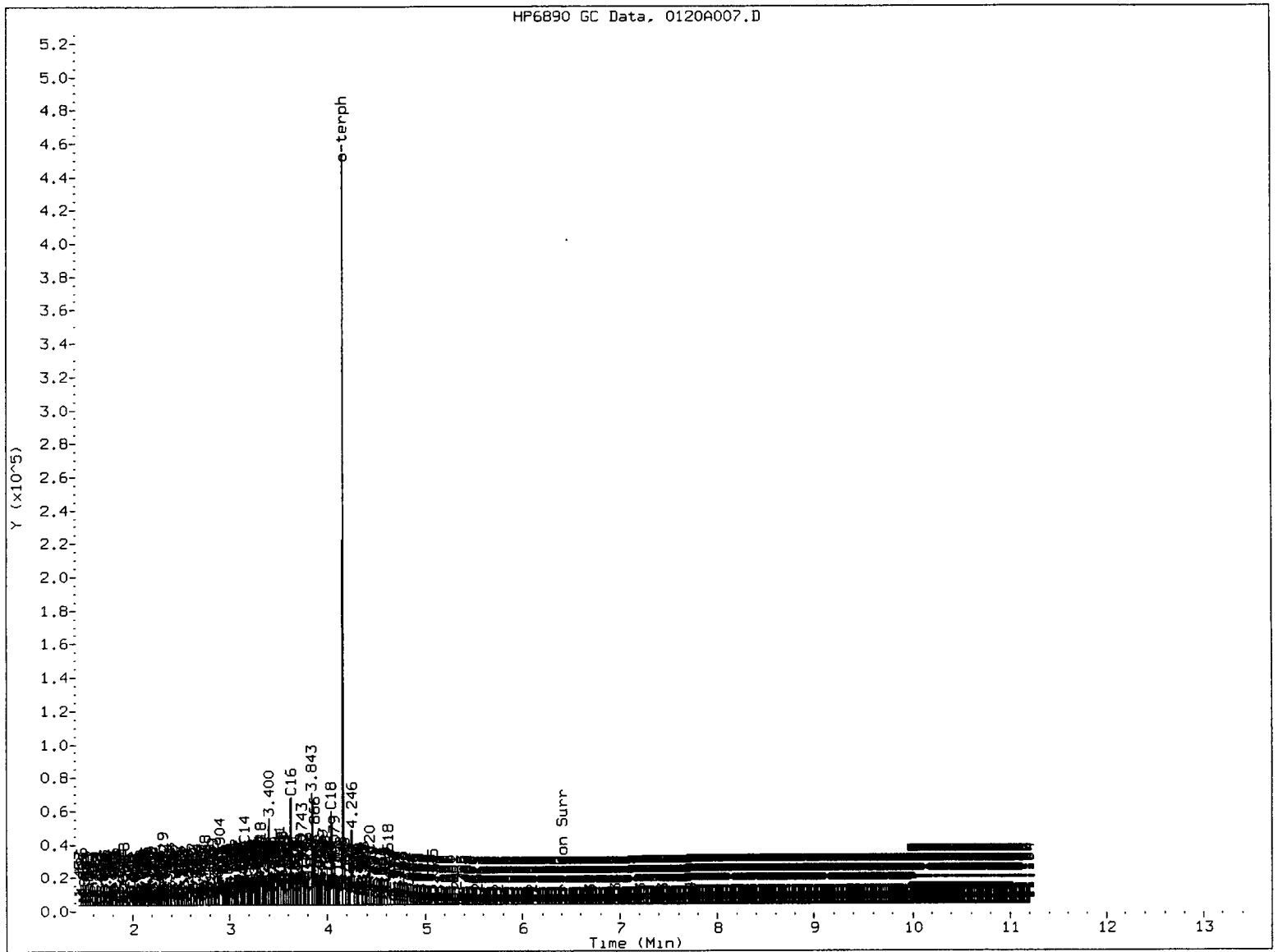
Column diameter: 0.25

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MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:         *Mr*        

Date:         *1/31/11*

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A008.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: DIESEL 100  
Client ID: DIESEL 100  
Injection: 20-JAN-2011 16:34  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.323	0.020	4200	1169	GAS (Tol-C12)	431533	21
C8	1.519	0.000	3135	1746	DIESEL (C12-C24)	2250682	99
C10	1.986	-0.002	16882	11699	M.OIL (C24-C38)	37206	3
C12	2.624	0.001	37179	23233	AK-102 (C10-C25)	2548528	100 M
C14	3.158	0.002	67785	42725	AK-103 (C25-C36)	22817	3
C16	3.626	-0.001	123251	70743			
C18	4.047	-0.003	108435	68087			
C20	4.434	-0.002	59788	39985			
C22	4.825	-0.003	20235	17023			
C24	5.322	-0.002	4892	5420			
C25	5.546	-0.002	1976	2143			
C26	5.749	0.000	641	866			
C28	6.101	-0.003	63	36			
C32	6.697	0.001	141	107	JP-4 (Tol-C14)	830791	51
C34	6.959	0.000	643	897	BUNKERC (C10-C38)	2580649	305 M
Filter Peak	----						
C36	7.206	-0.003	455	223			
C38	7.448	-0.001	744	288			
C40	7.725	0.003	995	554			
o-terph	4.163	-0.005	800604	375926	JET-A (C10-C18)	1919949	139
Triacon Surr	6.413	-0.009	215	233	JP8 (Tol-C16)	1419731	81

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	375926	17.6	39.0
Triacontane	233	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200008.D

Date: 20-JAN-2011 16:34

Client ID: DIESEL 100

Sample Info: DIESEL 100

Column phase: RTX-1

Instrument: fid9.i

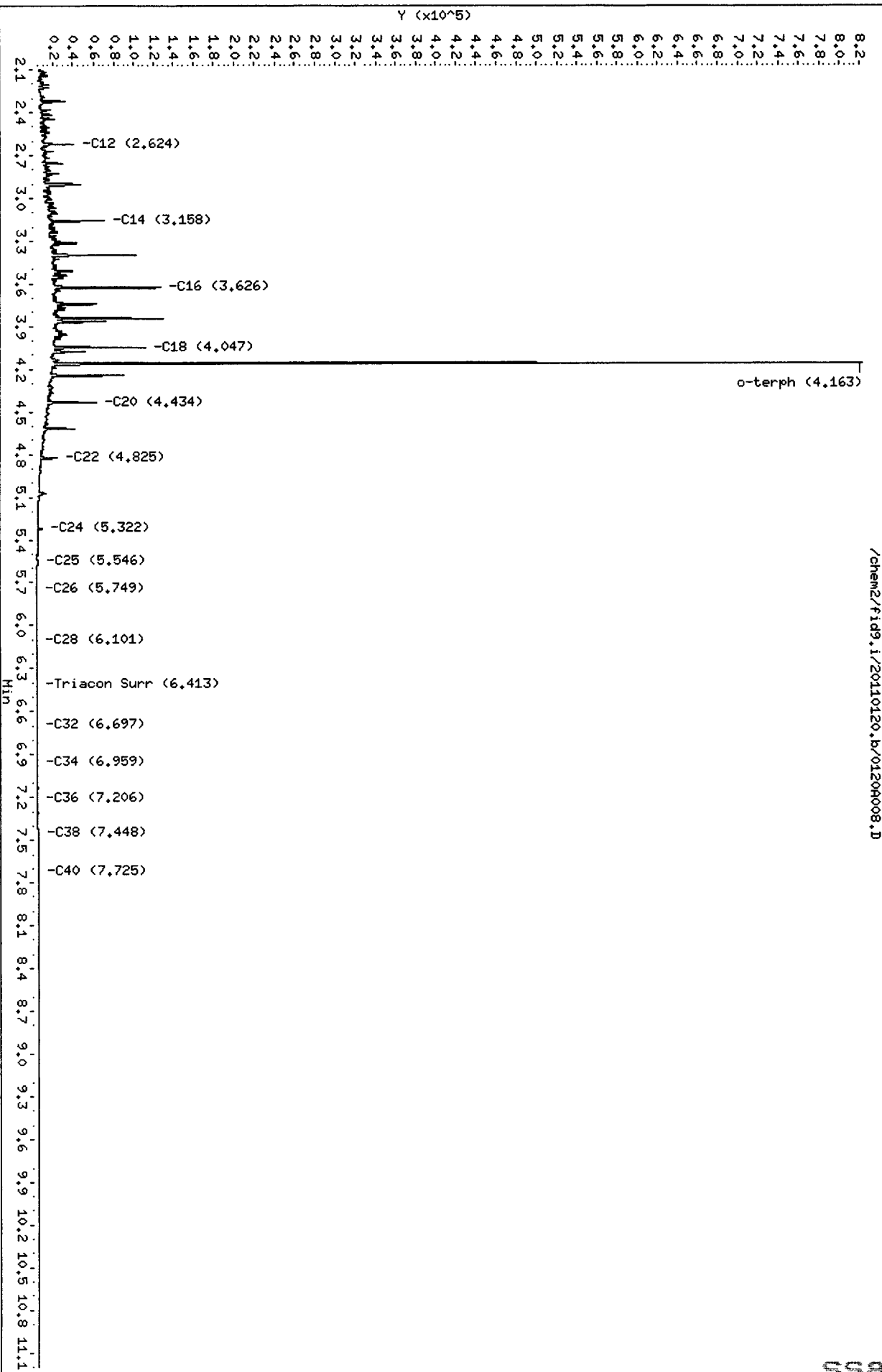
Operator: JR

Column diameter: 0.25

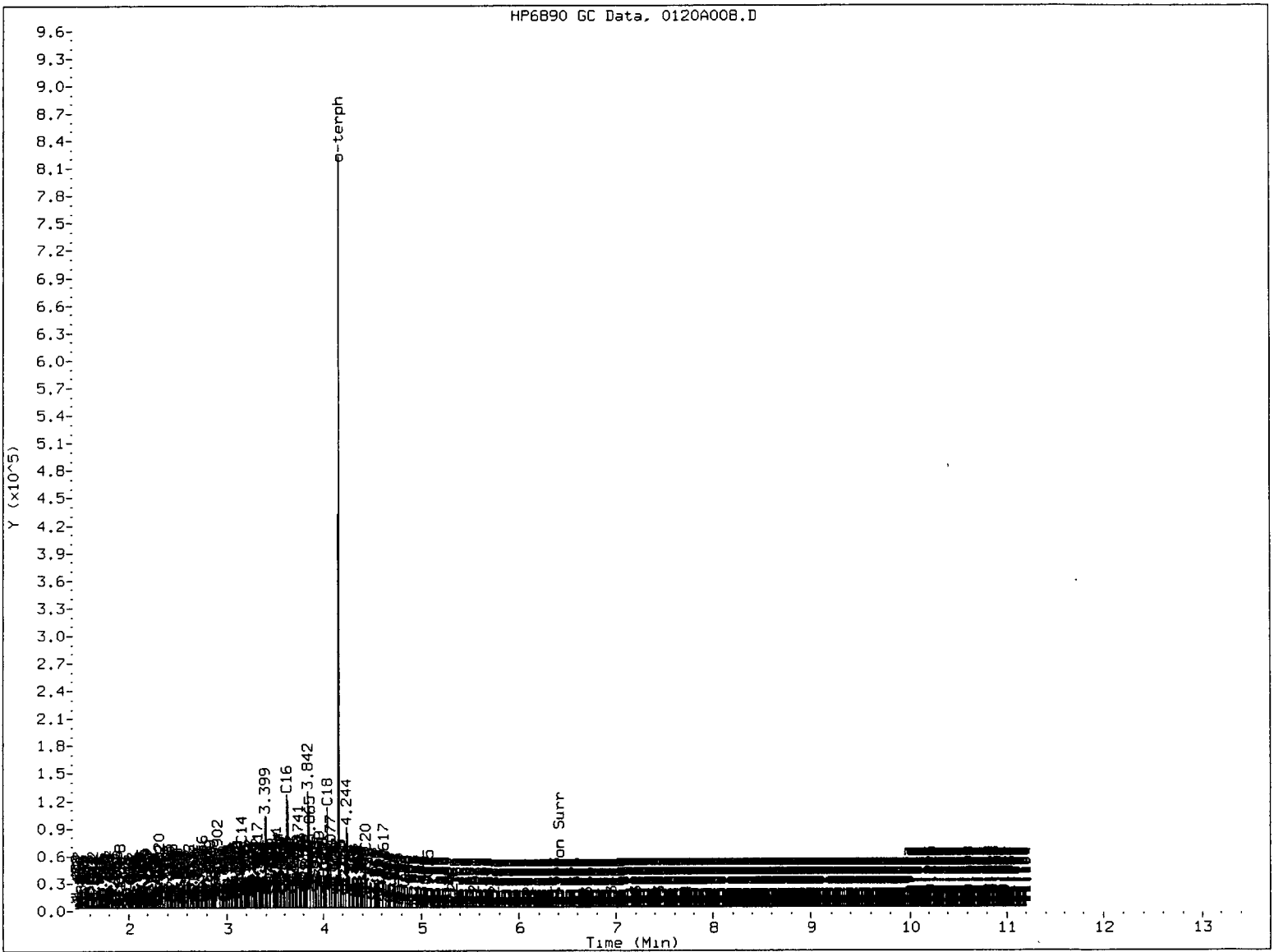
Page 1

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5583 : 01200



HP6890 GC Data, 0120A008.D



MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other \_\_\_\_\_

Analyst: *me*

Date: *1/31/16*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A009.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: DIESEL 250  
 Client ID: DIESEL 250  
 Injection: 20-JAN-2011 16:56  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.324	0.021	6031	7453	GAS (Tol-C12)	963284	46
C8	1.507	-0.012	7475	8561	DIESEL (C12-C24)	5612665	248
C10	1.986	-0.002	38817	27322	M.OIL (C24-C38)	62594	5
C12	2.624	0.001	90323	57014	AK-102 (C10-C25)	6319024	248 M
C14	3.158	0.001	171050	104020	AK-103 (C25-C36)	36765	4
C16	3.628	0.001	304099	171492			
C18	4.050	0.001	266328	193663			
C20	4.436	0.000	157838	100369			
C22	4.827	0.000	53206	41402			
C24	5.324	-0.001	13583	13064			
C25	5.547	-0.001	5666	9897			
C26	5.750	0.001	2020	3391			
C28	6.103	-0.001	182	194			
C32	6.699	0.003	100	53	JP-4 (Tol-C14)	1958006	119
C34	6.959	0.000	367	620	BUNKERC (C10-C38)	6363986	752 M
Filter Peak	----						
C36	7.208	0.000	395	317			
C38	7.449	0.000	650	230			
C40	7.722	-0.001	878	488			
o-terph	4.172	0.004	1648781	956101	JET-A (C10-C18)	4720353	342
Triacon Surr	6.414	-0.008	263	238	JP8 (Tol-C16)	3414412	194

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	956101	44.6	99.2
Triacontane	238	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200009.D

Date: 20-JAN-2011 16:56

Client ID: DIESEL 250

Sample Info: DIESEL 250

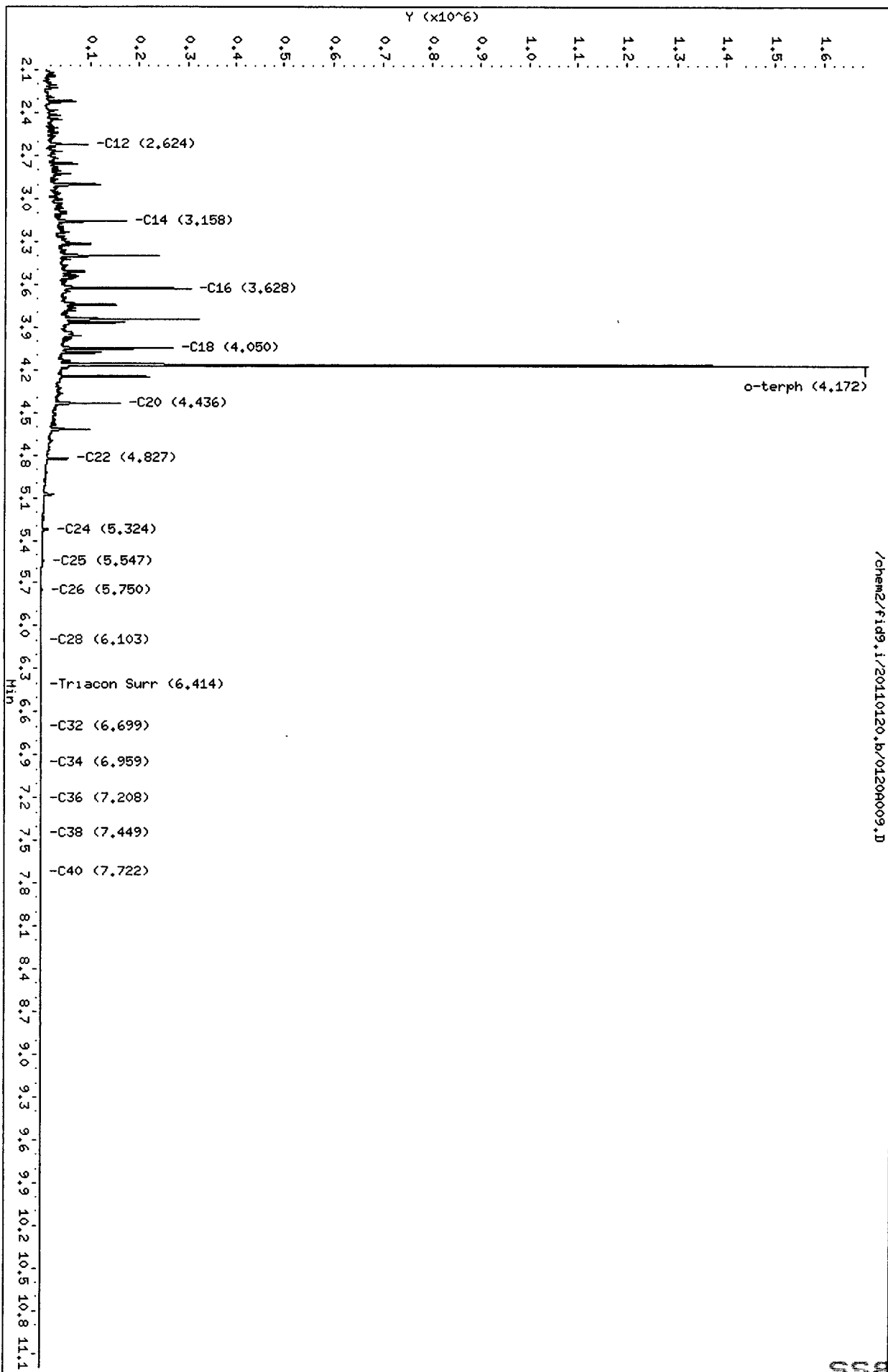
Column phase: RTX-1

Instrument: fid9.i

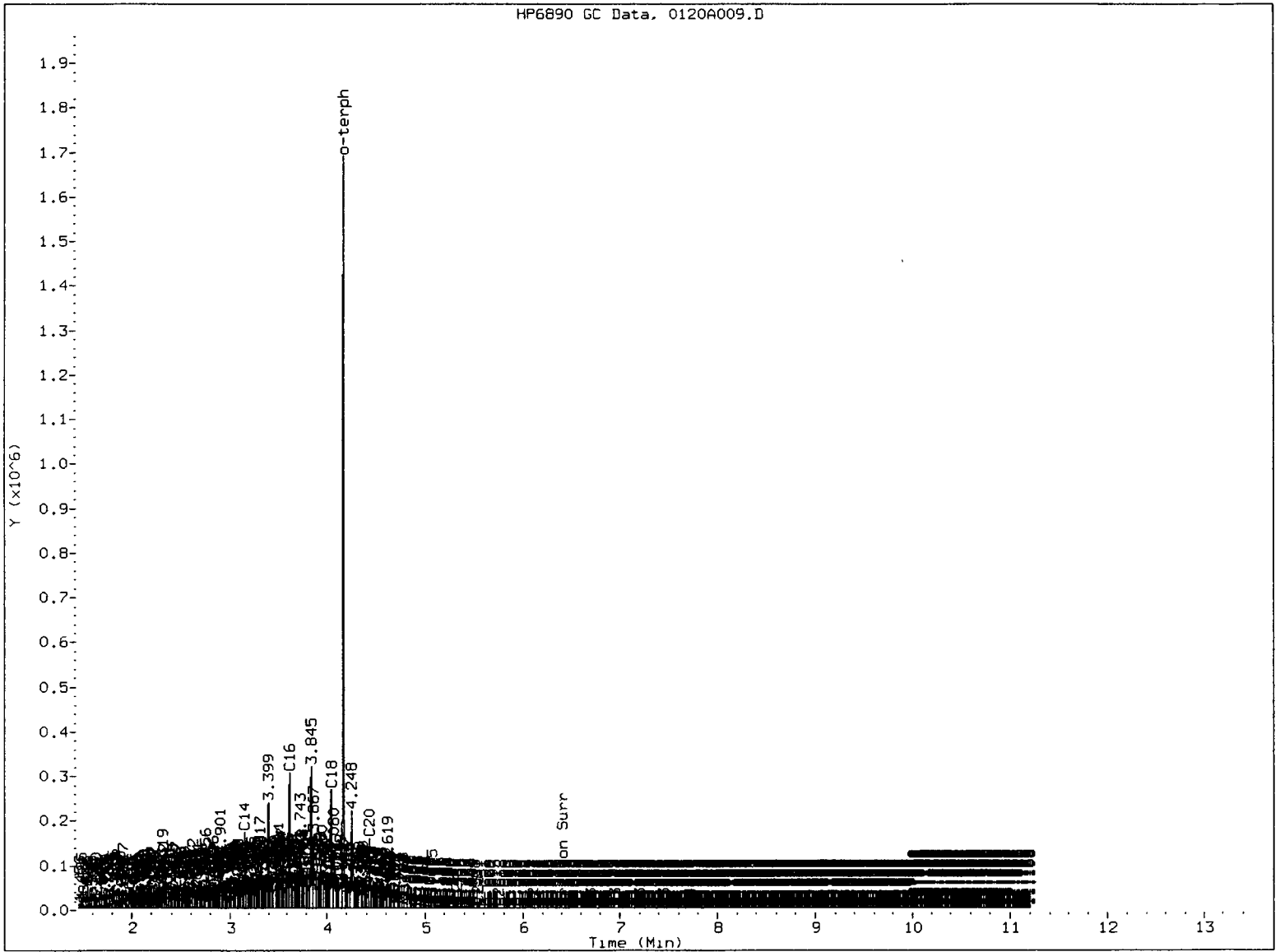
Operator: JR

Column diameter: 0.25

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HP6890 GC Data, 0120A009.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: 4/21/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A010.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: DIESEL 500  
Client ID: DIESEL 500  
Injection: 20-JAN-2011 17:17  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.398	0.095	17869	25462	GAS (Tol-C12)	1776175	85
C8	1.514	-0.005	10549	10477	DIESEL (C12-C24)	11068698	489
C10	1.990	0.001	68837	52395	M.OIL (C24-C38)	109996	8
C12	2.625	0.002	174291	112795	AK-102 (C10-C25)	12428725	487 M
C14	3.159	0.003	325720	204440	AK-103 (C25-C36)	67014	8
C16	3.631	0.004	588845	333085			
C18	4.054	0.004	491538	360935			
C20	4.438	0.002	312537	204051			
C22	4.829	0.001	108927	91605			
C24	5.325	0.001	28104	25796			
C25	5.549	0.001	12072	11710			
C26	5.751	0.002	4559	6993			
C28	6.106	0.002	441	521			
C32	6.692	-0.005	44	18	JP-4 (Tol-C14)	3717778	227
C34	6.955	-0.004	136	31	BUNKERC (C10-C38)	12502293	1478 M
Filter Peak	----						
C36	7.213	0.004	308	87			
C38	7.449	0.001	535	104			
C40	7.727	0.004	758	345			
o-terph	4.180	0.011	2578275	1912252	JET-A (C10-C18)	9190576	665
Triacon Surr	6.419	-0.003	302	246	JP8 (Tol-C16)	6564939	373

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1912252	89.3	198.4
Triacontane	246	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010



Data File: /chem2/fid9.i/20110120.b/0120A010.D

Date: 20-JAN-2011 17:17

Client ID: DIESEL 500

Sample Info: DIESEL 500

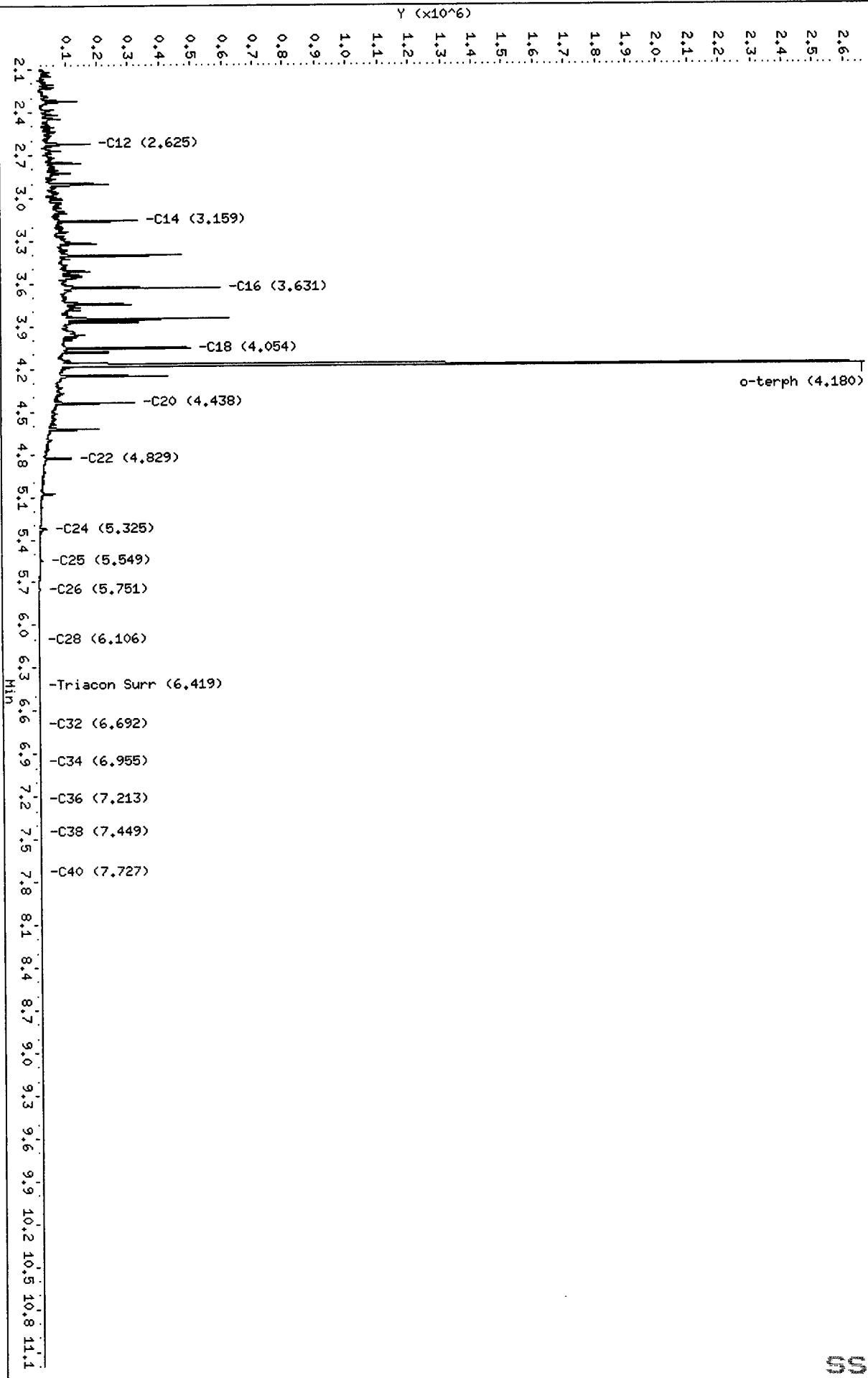
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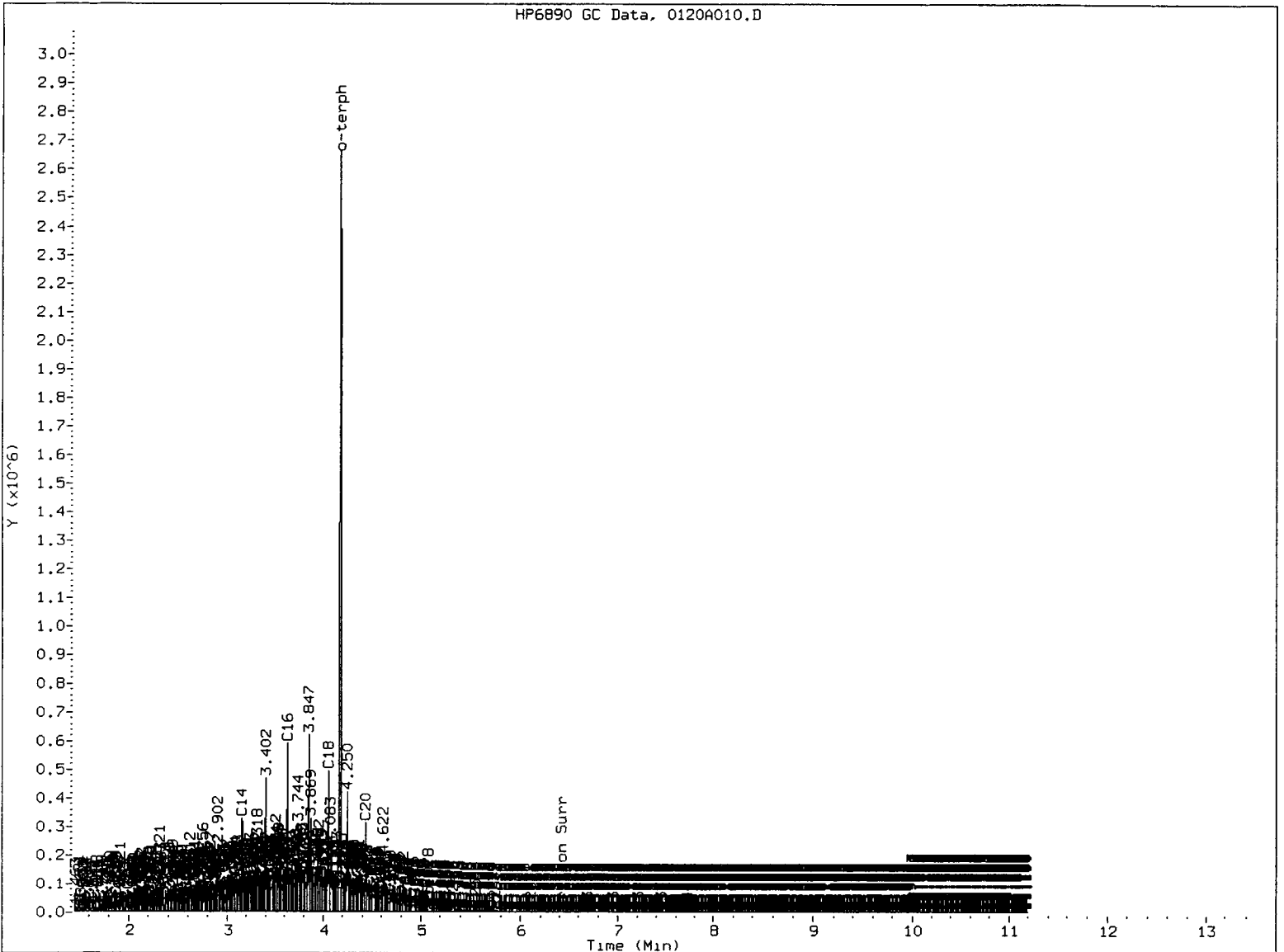
Instrument: fid9.i

Operator: JR

Column diameter: 0.25

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MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other \_\_\_\_\_

Analyst: *[Signature]* Date: *1/31/11*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A011.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: DIESEL 1000  
 Client ID: DIESEL 1000  
 Injection: 20-JAN-2011 17:39  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.339	0.037	8762	8760	GAS (Tol-C12)	3594386	171
C8	1.518	-0.001	27057	15884	DIESEL (C12-C24)	23038155	1017
C10	1.990	0.002	167929	83497	M.OIL (C24-C38)	219685	17
C12	2.624	0.002	354185	174409	AK-102 (C10-C25)	25837848	1012 M
C14	3.160	0.003	609754	427306	AK-103 (C25-C36)	133603	16
C16	3.633	0.007	1068780	958419			
C18	4.058	0.009	864857	707464			
C20	4.441	0.006	605141	435620			
C22	4.832	0.005	224884	186854			
C24	5.325	0.001	58350	55840			
C25	5.547	0.000	26518	36505			
C26	5.750	0.001	10341	13202			
C28	6.105	0.002	1103	1230			
C32	6.695	-0.002	28	7	JP-4 (Tol-C14)	7593788	463
C34	6.964	0.006	325	397	BUNKERC (C10-C38)	25977309	3070 M
Filter Peak	----						
C36	7.209	0.001	234	71			
C38	7.450	0.001	456	432			
C40	7.723	0.000	644	165			
o-terph	4.189	0.020	3635682	3957673	JET-A (C10-C18)	19204582	1390
Triacon Surr	6.417	-0.005	287	303	JP8 (Tol-C16)	13546339	770

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	3957673	184.8	410.6
Triacontane	303	0.0	0.0

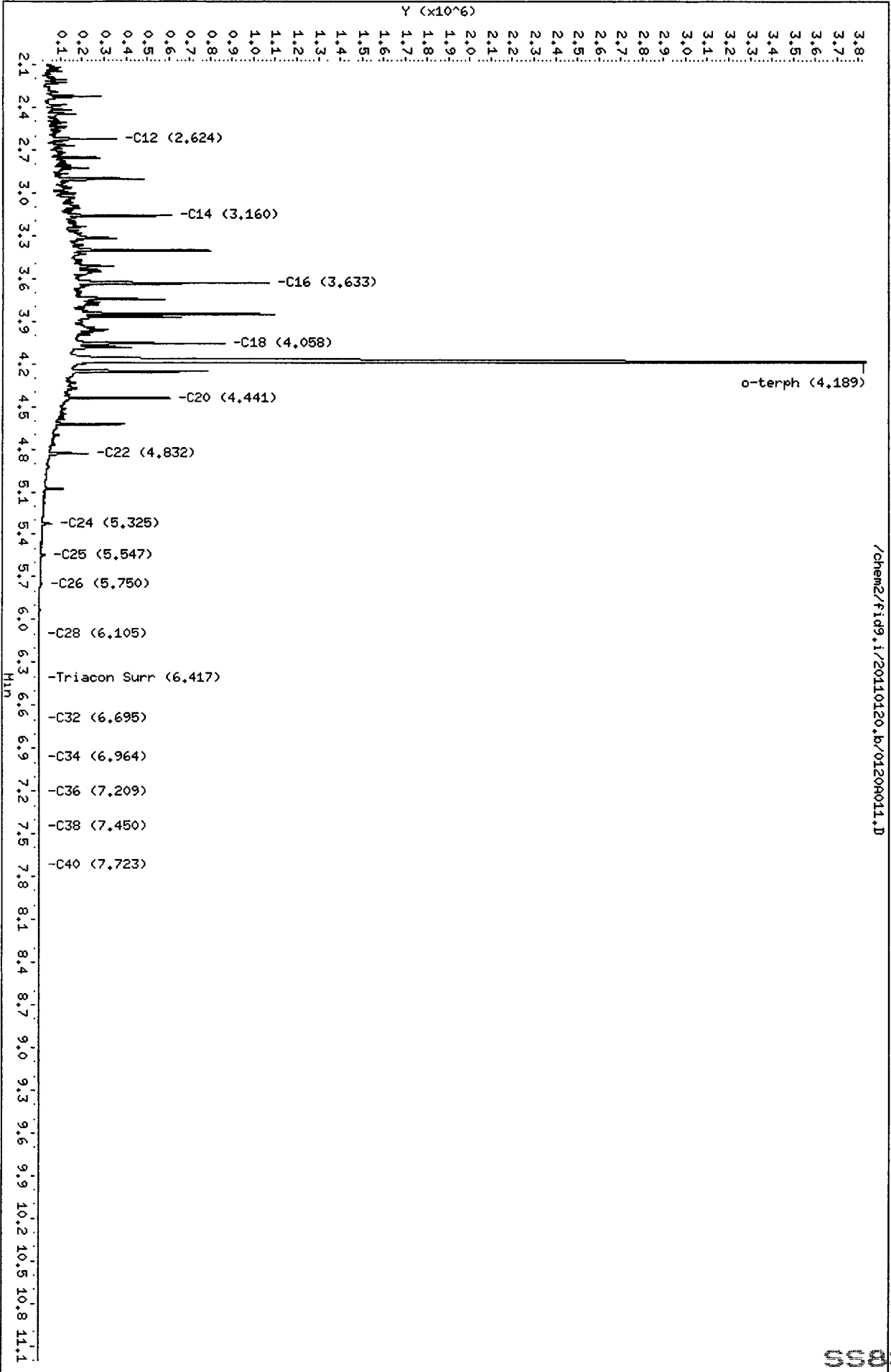
Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

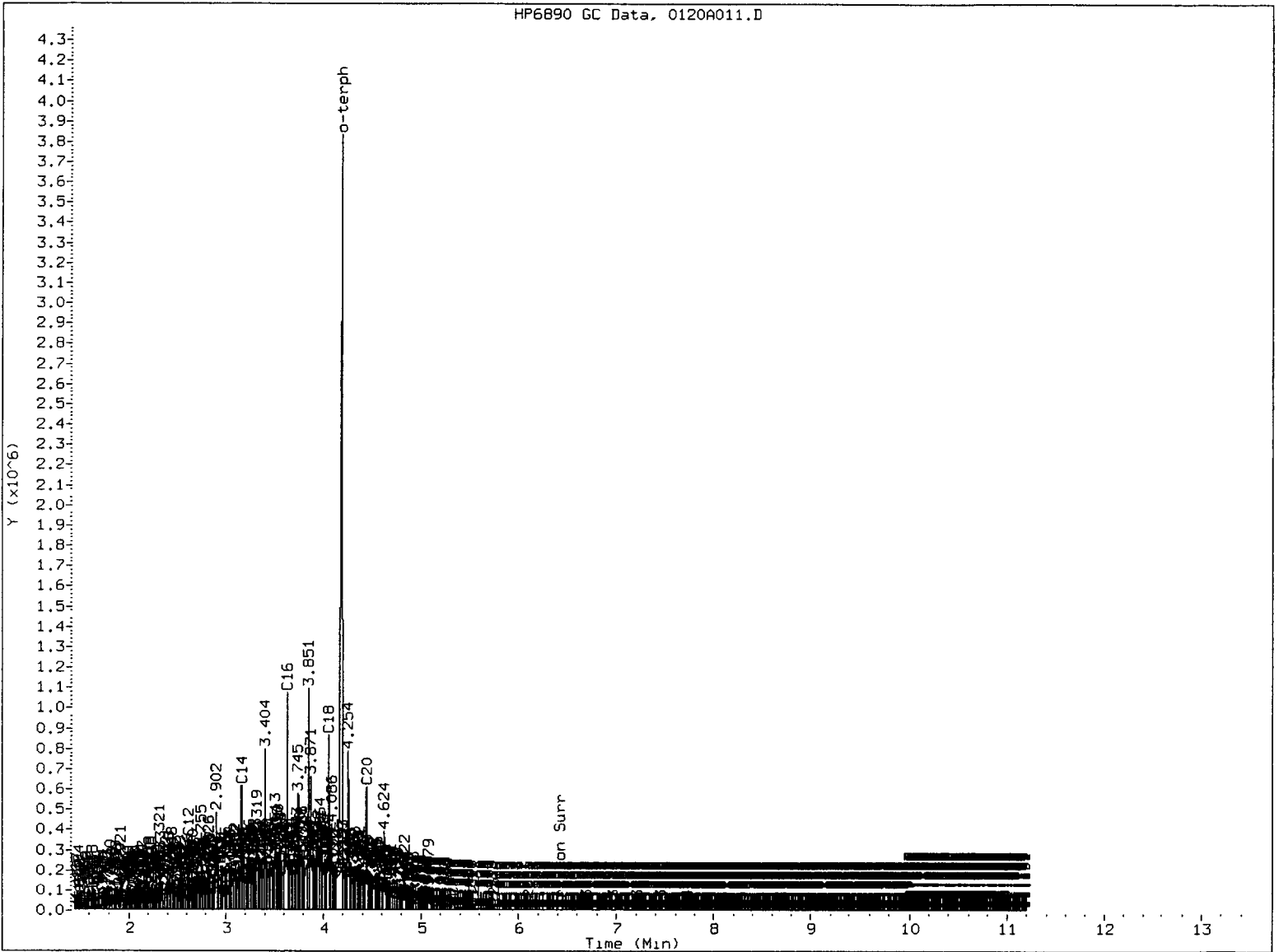
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Date: 20-JAN-2011 17:39  
Client ID: DIESEL 1000  
Sample Info: DIESEL 1000

Column phase: RTX-1

Instrument: fid9.i  
Operator: JR  
Column diameter: 0.25

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MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst:           

Date:           

*[Handwritten signature]*

*[Handwritten date: 1/31/14]*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A014.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: DIESEL 2500  
 Client ID: DIESEL 2500  
 Injection: 20-JAN-2011 18:43  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.330	0.028	48886	26518	GAS (Tol-C12)	8667864	413
C8	1.508	-0.011	190423	87408	DIESEL (C12-C24)	54366154	2400
C10	1.987	-0.001	102013	58742	M.OIL (C24-C38)	543839	41
C12	2.619	-0.004	305381	143525	AK-102 (C10-C25)	61175498	2397 M
C14	3.166	0.009	1051930	1383534	AK-103 (C25-C36)	356328	42
C16	3.629	0.003	853504	782975			
C18	4.072	0.023	1511636	2155998			
C20	4.427	-0.008	328601	332087			
C22	4.818	-0.009	106423	27542			
C24	5.327	0.003	145102	128963			
C25	5.548	0.000	65057	80959			
C26	5.749	0.000	26815	29609			
C28	6.105	0.001	3174	3628			
C32	6.702	0.006	80	45	JP-4 (Tol-C14)	18199514	1110
C34	6.953	-0.006	332	298	BUNKERC (C10-C38)	61535761	7273 M
Filter Peak	----						
C36	7.210	0.001	164	108			
C38	7.451	0.003	415	337			
C40	7.721	-0.002	462	387			
o-terph	4.211	0.043	5440645	9564784	JET-A (C10-C18)	45697491	3307
Triacon Surr	6.414	-0.008	657	826	JP8 (Tol-C16)	32362224	1839

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	9564784	446.6	992.4
Triacontane	826	0.0	0.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/0120A014.D

Date: 20-JAN-2011 18:43

Client ID: DIESEL 2500

Sample Info: DIESEL 2500

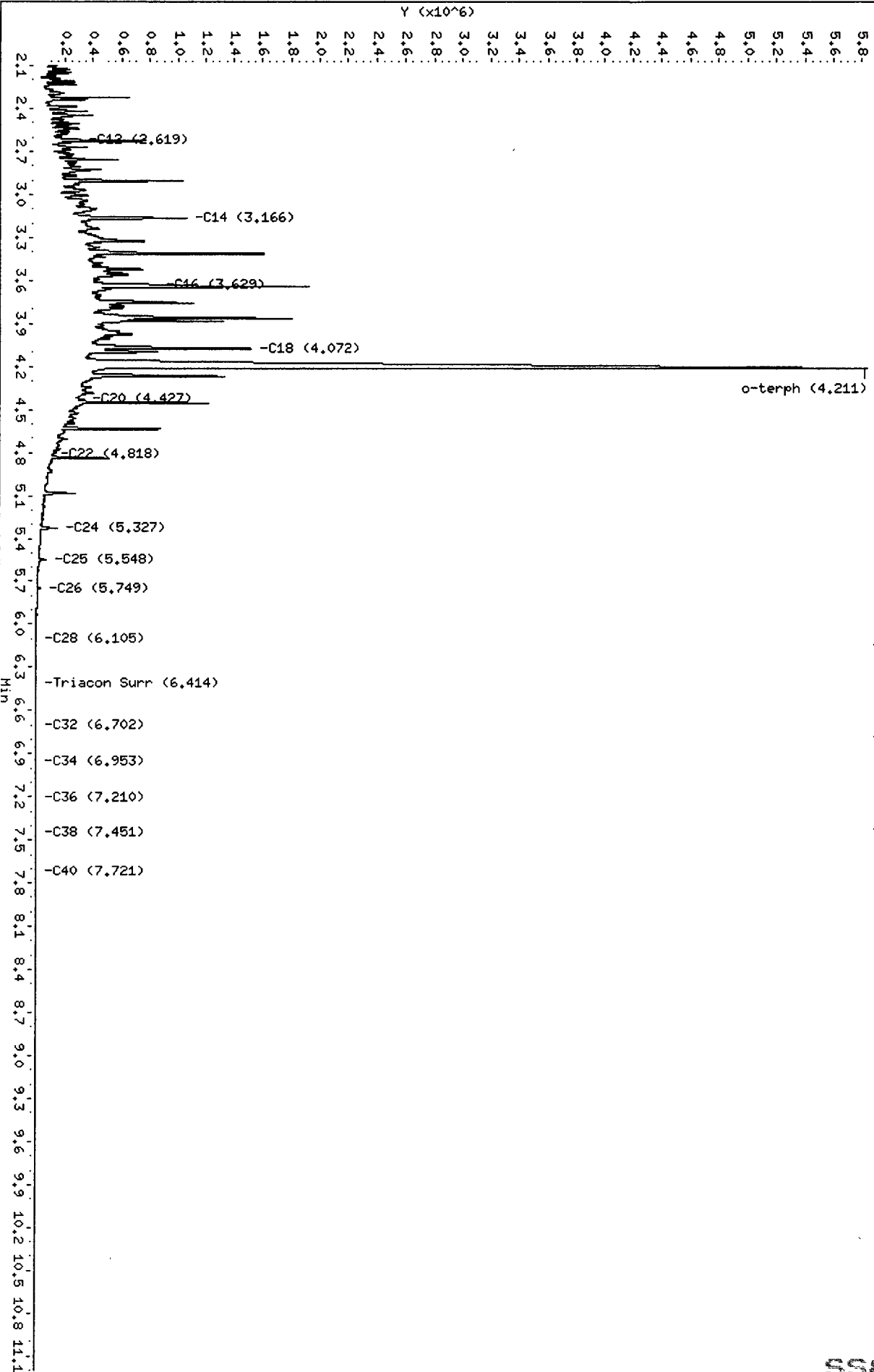
Column phase: RTX-1

Instrument: fid9.i

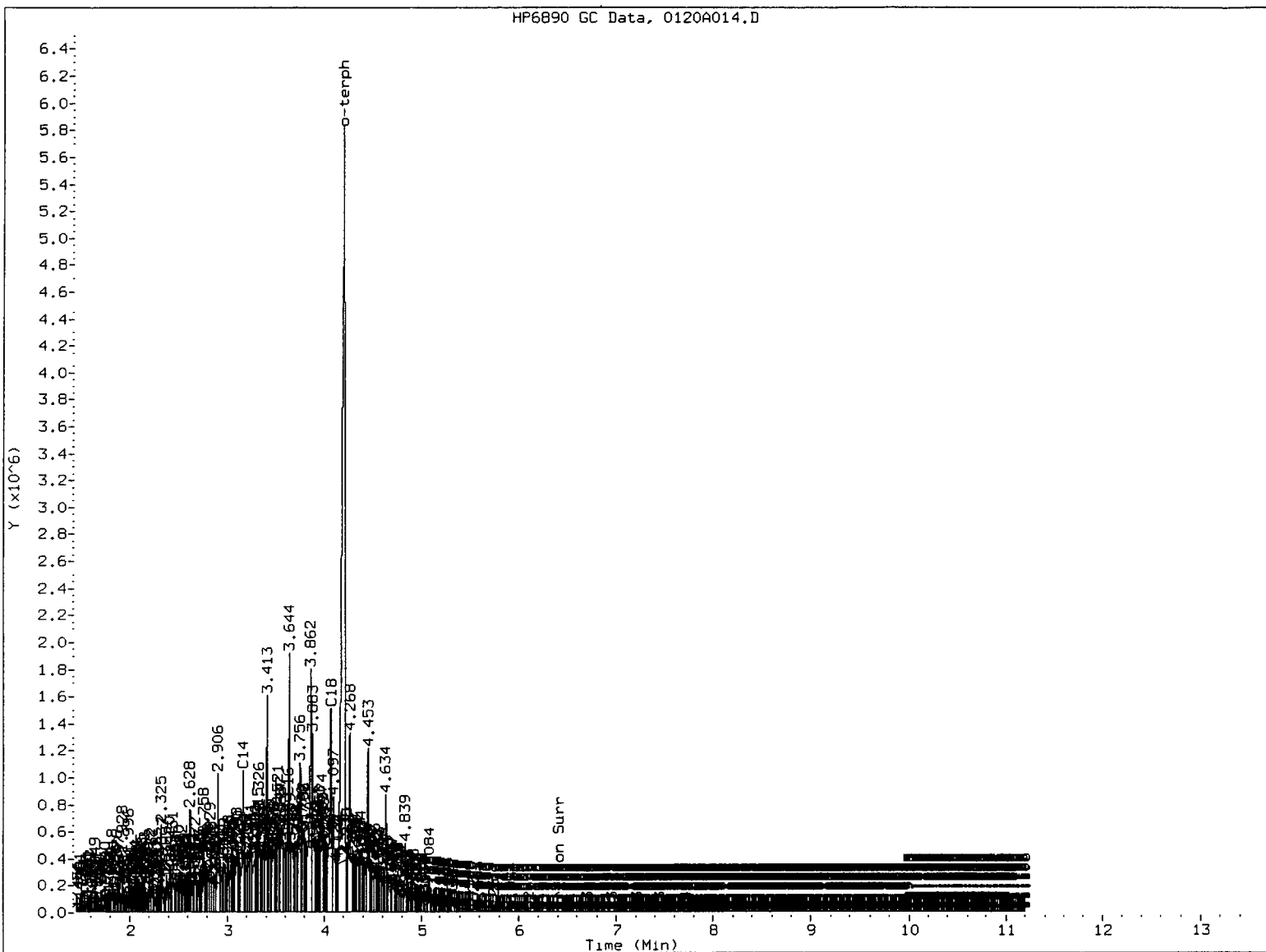
Operator: JR

Column diameter: 0.25

/chem2/fid9.i/20110120.b/0120A014.D



HP6890 GC Data, 0120A014.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst:       *nu*      

Date:       *1/31/11*



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A013.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: DIESEL ICV  
Client ID:  
Injection: 20-JAN-2011 18:22  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.327	0.025	8596	8590	GAS (Tol-C12)	2594437	123
C8	1.523	0.004	6840	3036	DIESEL (C12-C24)	4085957	180
C10	1.988	0.000	72486	51468	M.OIL (C24-C38)	110276	8
C12	2.624	0.002	85424	49972	AK-102 (C10-C25)	5879609	230 M
C14	3.160	0.003	152285	89305	AK-103 (C25-C36)	80325	9
C16	3.629	0.002	166029	96649			
C18	4.050	0.001	135860	89403			
C20	4.437	0.001	78367	50620			
C22	4.829	0.002	30349	28725			
C24	5.326	0.002	12083	12408			
C25	5.548	0.001	7380	9404			
C26	5.751	0.002	4267	5788			
C28	6.106	0.003	995	1156			
C32	6.695	-0.001	53	37	JP-4 (Tol-C14)	3670118	224
C34	6.957	-0.002	297	405	BUNKERC (C10-C38)	5966862	705 M
Filter Peak	----						
C36	7.211	0.003	316	158			
C38	7.449	0.001	554	552			
C40	7.724	0.001	729	493			
o-terph	4.175	0.006	2105422	1323882	JET-A (C10-C18)	4718740	341
Triacon Surr	6.415	-0.007	636	658	JP8 (Tol-C16)	4675611	266

72%  
1000

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1323882	61.8	137.4
Triacontane	658	0.0	0.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/0120A013.D

Date : 20-JAN-2011 18:22

Client ID:

Sample Info: DIESEL ICV

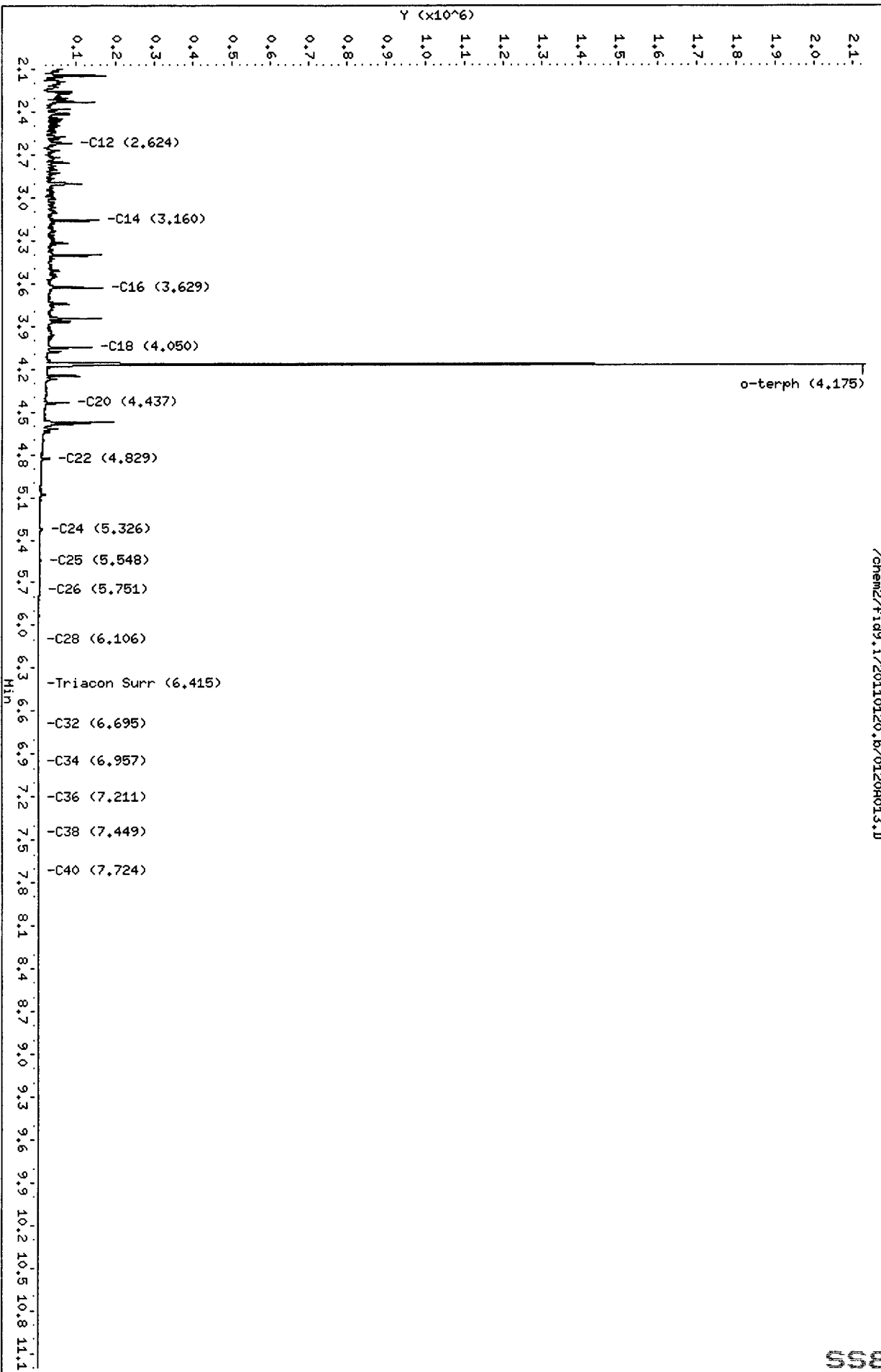
Column phase: RTX-1

Instrument: fid9.i

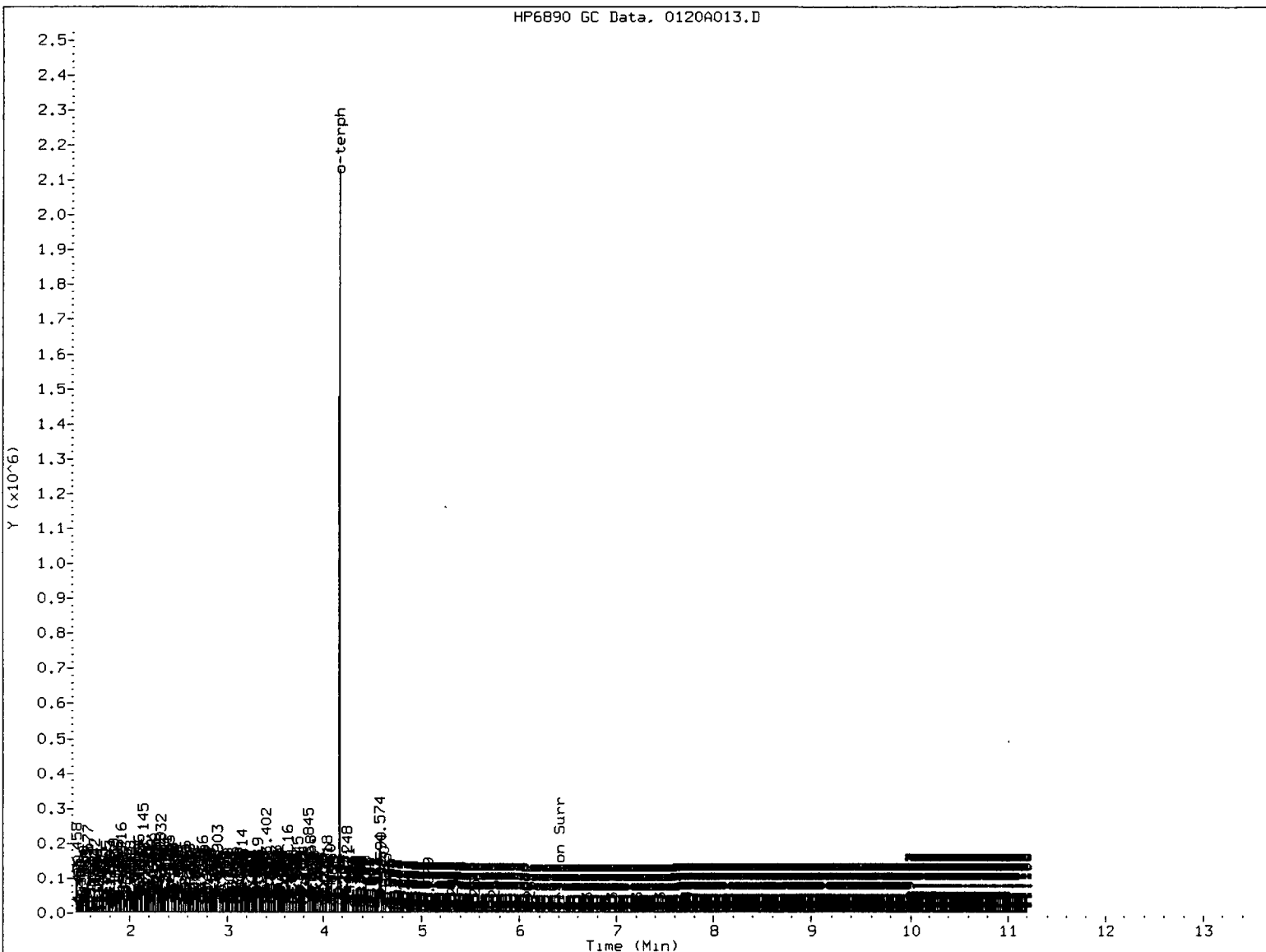
Operator: JR

Column diameter: 0.25

/chem2/fid9.i/20110120.b/0120A013.D



HP6890 GC Data, 0120A013.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst:       *AS*      

Date:       *4/27/11*

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/fid9.i/20110120.b

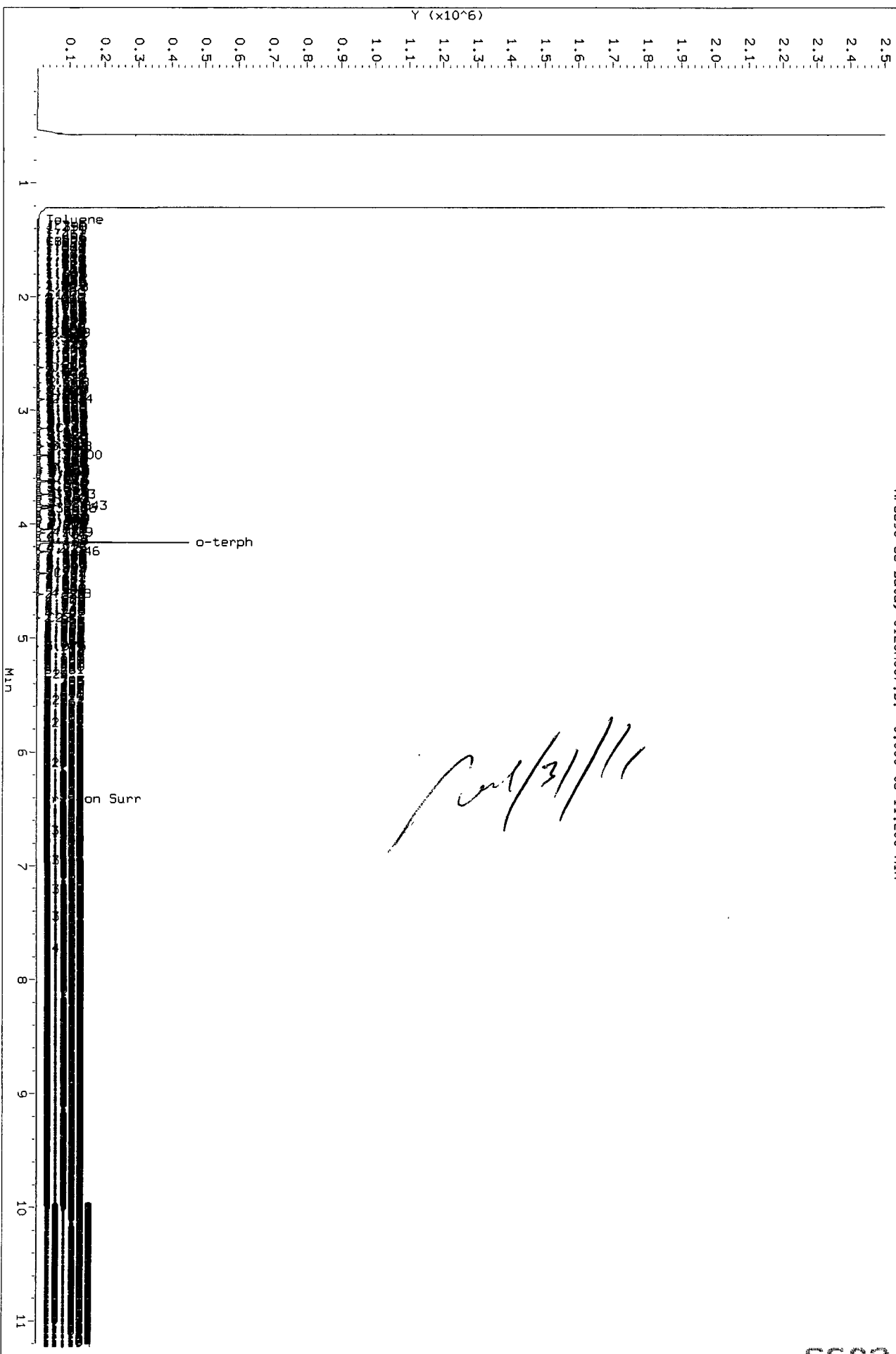
ARI Job No.: DIES Method: ftfphfid9.m Instrument: fid9.i Date: 20-JAN-2011

Time Filename LabID ClientID DF Manually Integrated Compounds

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1613	0120A007.D	DIESEL 50	DIESEL 50	1	o-terph,
1634	0120A008.D	DIESEL 100	DIESEL 100	1	o-terph,
1656	0120A009.D	DIESEL 250	DIESEL 250	1	o-terph,
1717	0120A010.D	DIESEL 500	DIESEL 500	1	o-terph,
1739	0120A011.D	DIESEL 1000	DIESEL 100	1	o-terph,
1800	0120A012.D	Blank		1	NO MANUAL INTEGRATION
1822	0120A013.D	DIESEL ICV		1	o-terph,
1843	0120A014.D	DIESEL 2500	DIESEL 250	1	o-terph,

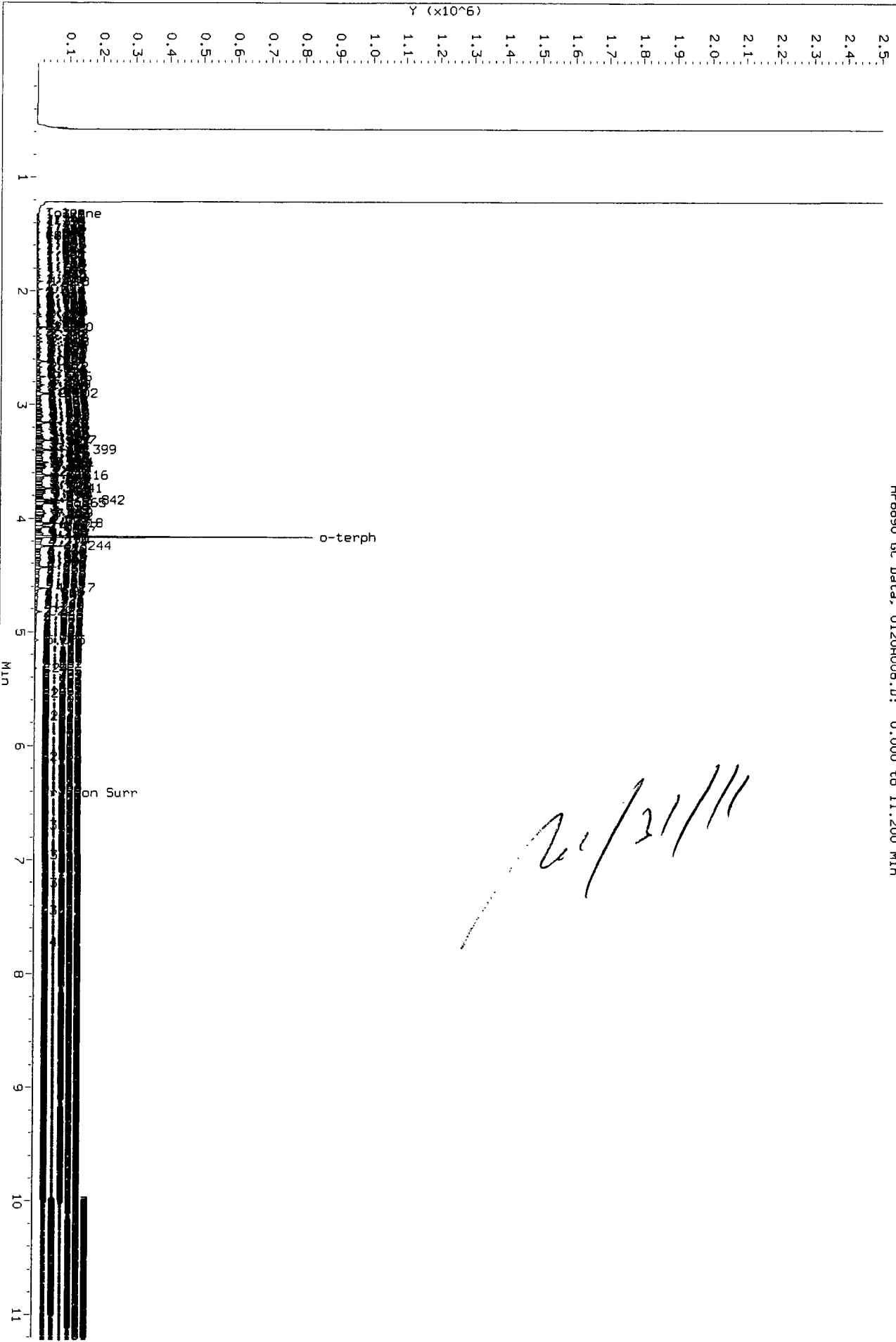
Data File: /chem2/fid9.1/20110120.b/0120A007.D  
Injection Date: 20-JAN-2011 16:13  
Instrument: fid9.1  
Client Sample ID: DIESEL 50

HP6890 GC Data, 0120A007.D: 0.000 to 11.200 Min



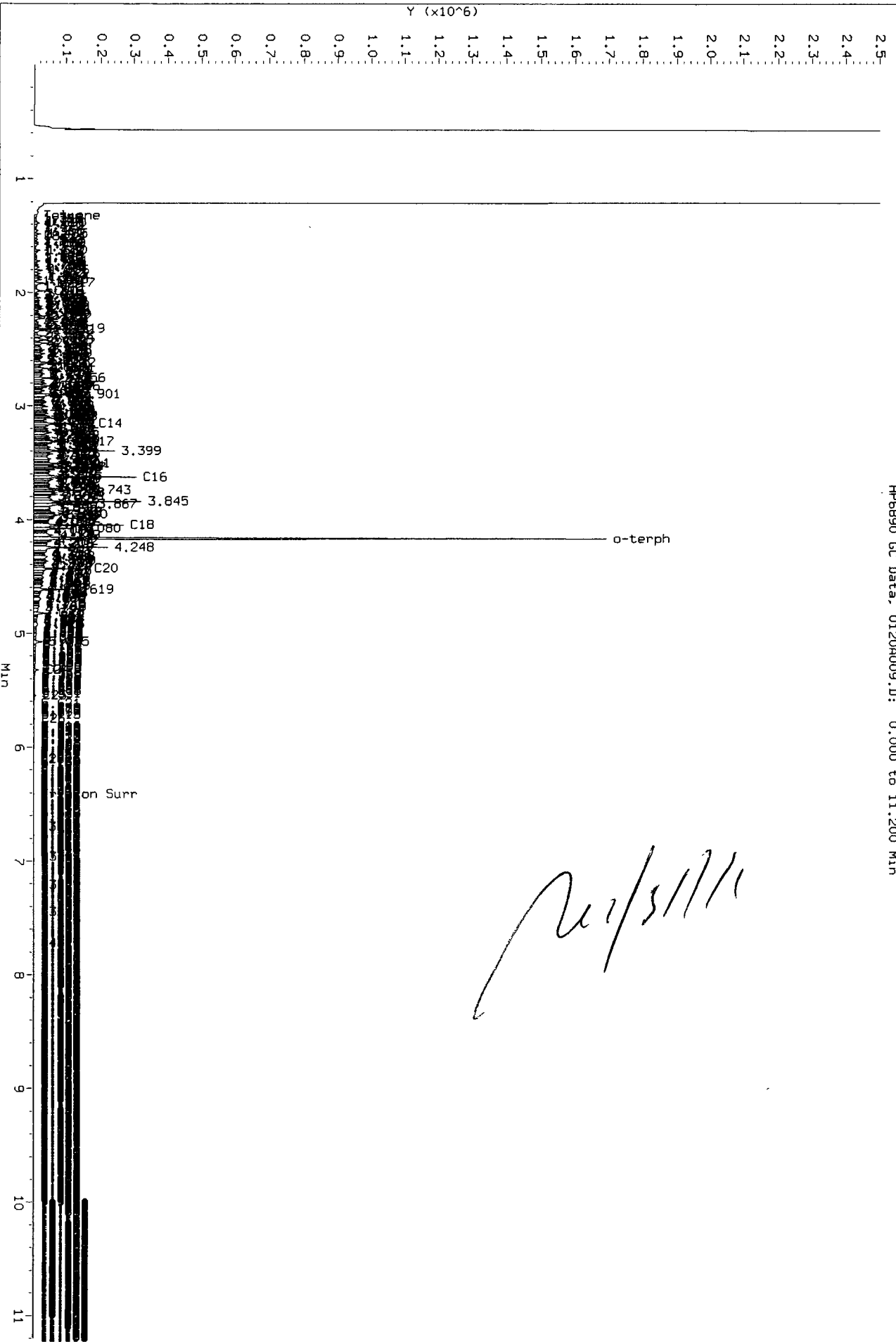
Data File: /chem2/fid9\_1/20110120\_b/01200008.D  
Injection Date: 20-JAN-2011 16:34  
Instrument: fid9\_1  
Client Sample ID: DIESEL 100

HP6890 GC Data, 01200008.D: 0.000 to 11.200 Min



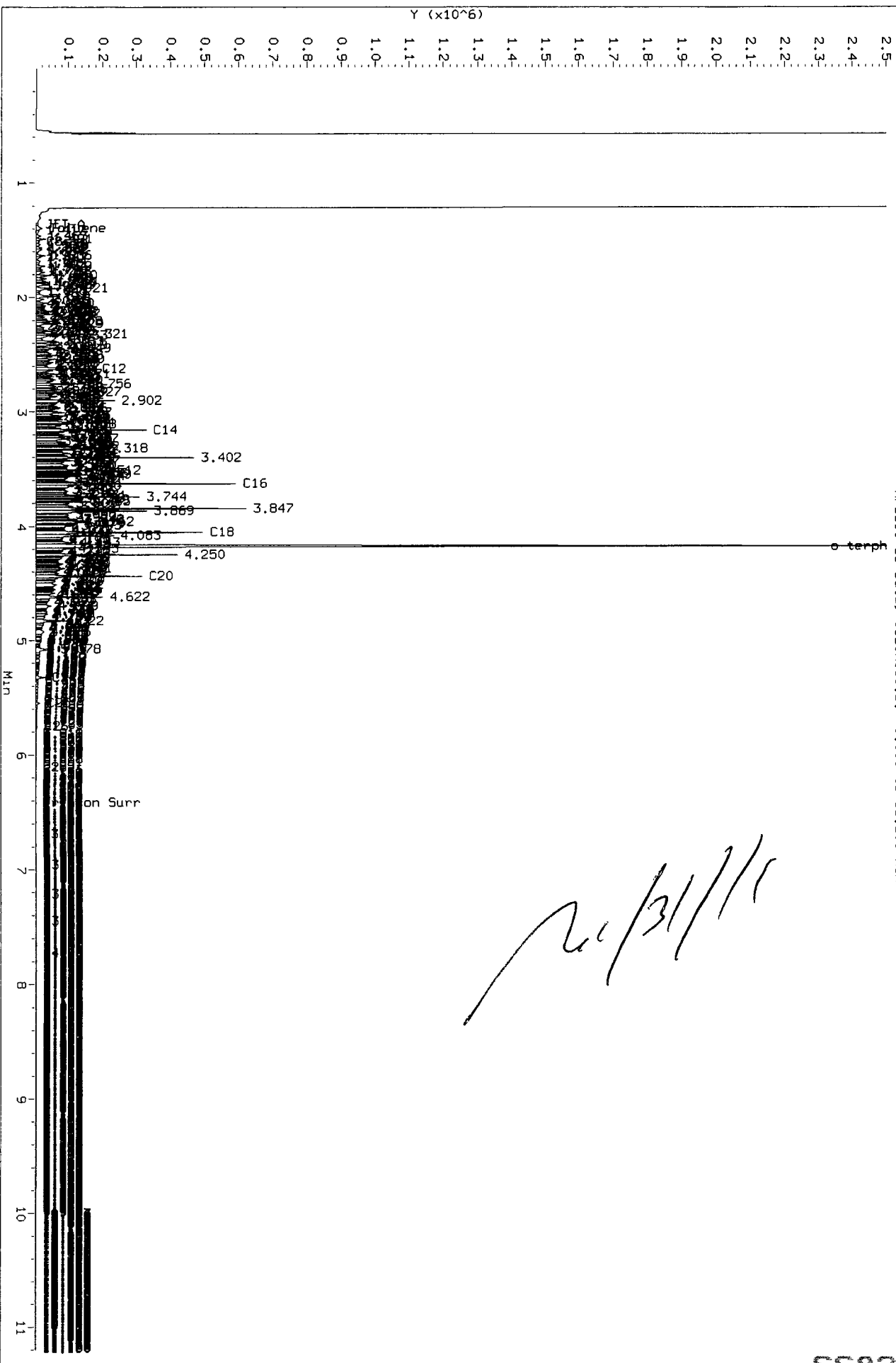
Data File: /chem2/fid9\_1/20110120\_b/0120A009.D  
Injection Date: 20-JAN-2011 16:56  
Instrument: fid9.1  
Client Sample ID: DIESEL 250

HP6890 GC Data, 0120A009.D: 0.000 to 11.200 Min



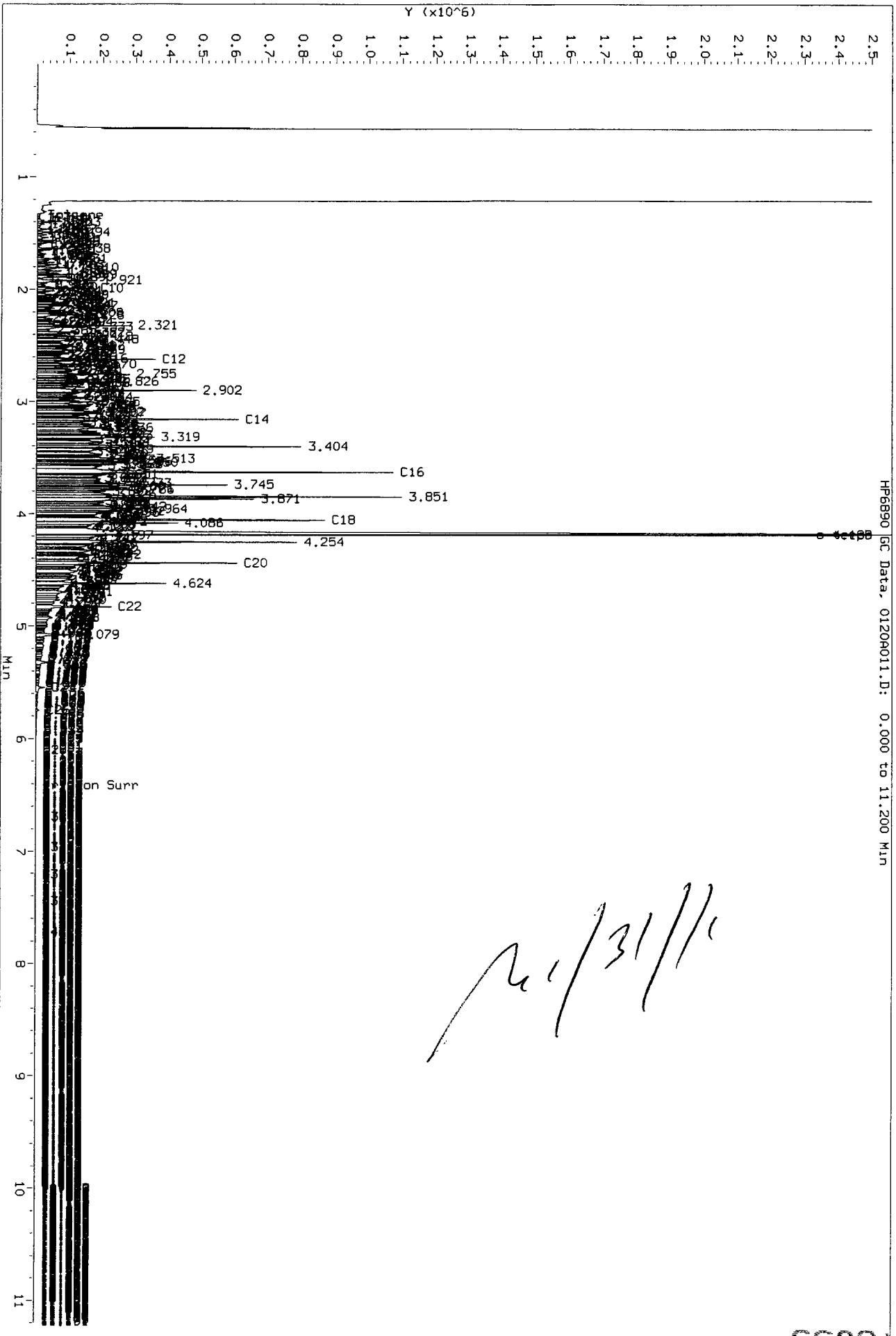
Data File: /chem2/fid9.1/20110120\_b/01200010.D  
Injection Date: 20-JAN-2011 17:17  
Instrument: fid9.1  
Client Sample ID: DIESEL 500

HP6890 GC Data, 01200010.D: 0.000 to 11.200 Min



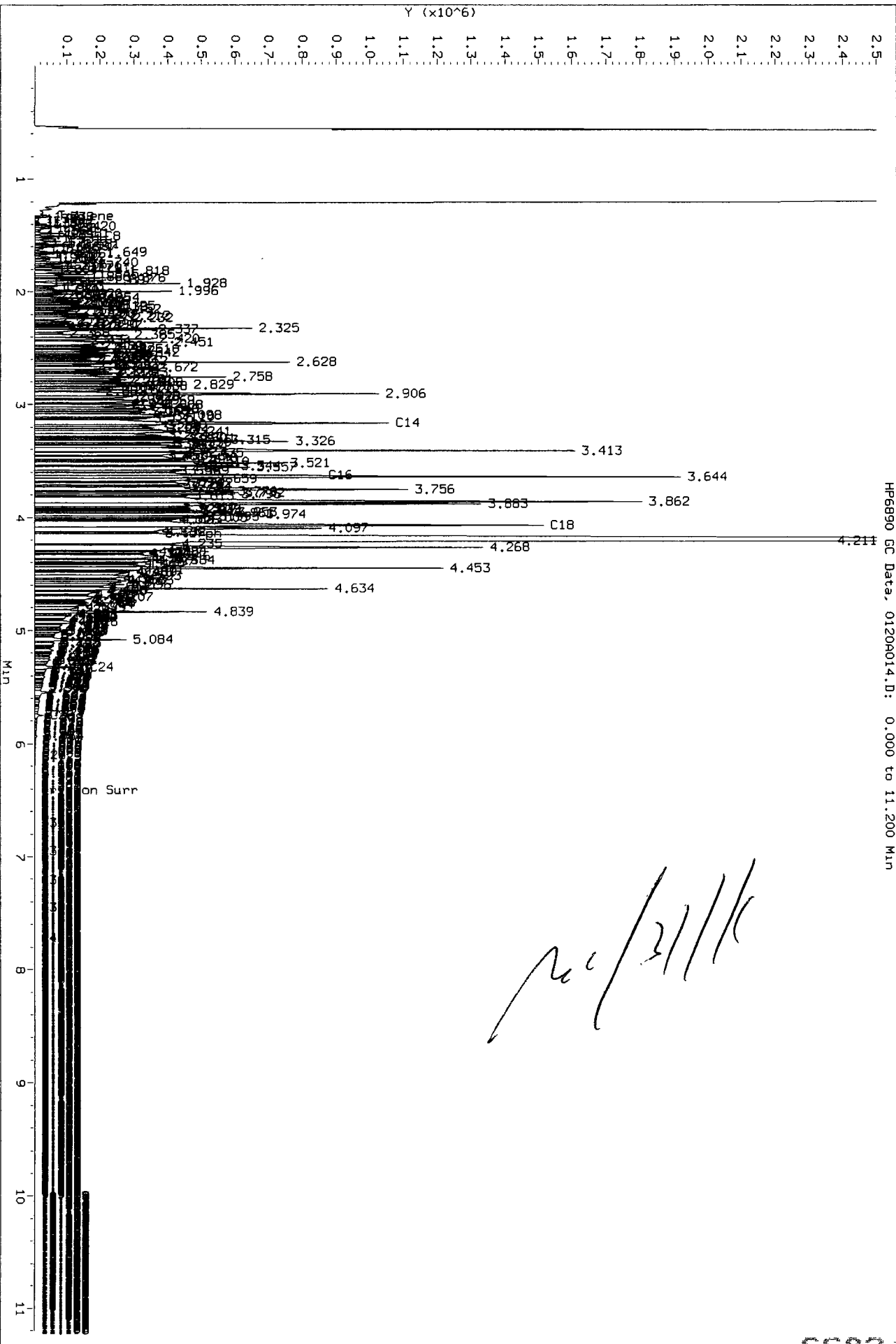


Data File: /chem2/fid9\_1/20110120\_b/0120A011.D  
Injection Date: 20-JAN-2011 17:39  
Instrument: fid9.1  
Client Sample ID: DIESEL 1000



HP6890 GC Data, 0120A011.D: 0.000 to 11.200 Min

Data File: /chem2/fid9\_1/20110120\_b/01200014.D  
Injection Date: 20-JAN-2011 18:43  
Instrument: fid9\_1  
Client Sample ID: DIESEL 2500



HP6890 GC Data, 01200014.D: 0.000 to 11.200 Min



**GC Analyst Notes / Corrective Action Log**

ARI Project ID: M.Oil CURVE Client ID: ARI

ARI SOP: **403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)**  
**427S(Dir Inj) 428S(EPH) 432S(EDB) Other**

Parameter(s): 30 wt. M.Oil, n-Triacontane

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8  
FID-9 ECD-1 ECD-3 ECD-4 ECD-5 ECD-6 ECD-7

Dates: Curve: 1/20/11 Analysis Start: 1/20/11

Endrin/DDT Breakdown <15%?	YES / NO / NA	Method Blank In Control?	YES / NO	<u>N/A</u>
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	YES / NO	
CCal Meets RF & %RSD Criteria?	YES / NO	Surrogate Recovery In Control?	YES / NO	
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	<u>YES</u> / NO	
Internal Standard Meets Criteria?	YES / NO / NA	Special Analysis Criteria Met?	YES / NO	<u>NA</u>

**Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):**

**Additional Details on Reverse: Yes / No** No

Analyst: MD Date: 1/31/11

Reviewer: VB Date: 2-1-11

6a  
NW MOTOR OIL RANGE INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.

Client: 20110120

Instrument: FID9.I

Project: MOIL 5000

Calibration Date: 20-JAN-2011

SDG No.: 20110120

Product Range	RF1 100	RF2 250	RF3 500	RF4 1000	RF5 2500	RF6 5000	Ave RF	%RSD
WA M.Oil C24-C38	11365	12494	12640	13320	13928	15835	13264	11.5
Triac Surr	14163	16198	16626	17913	19039	21819	17626	14.9

*21/31/11*

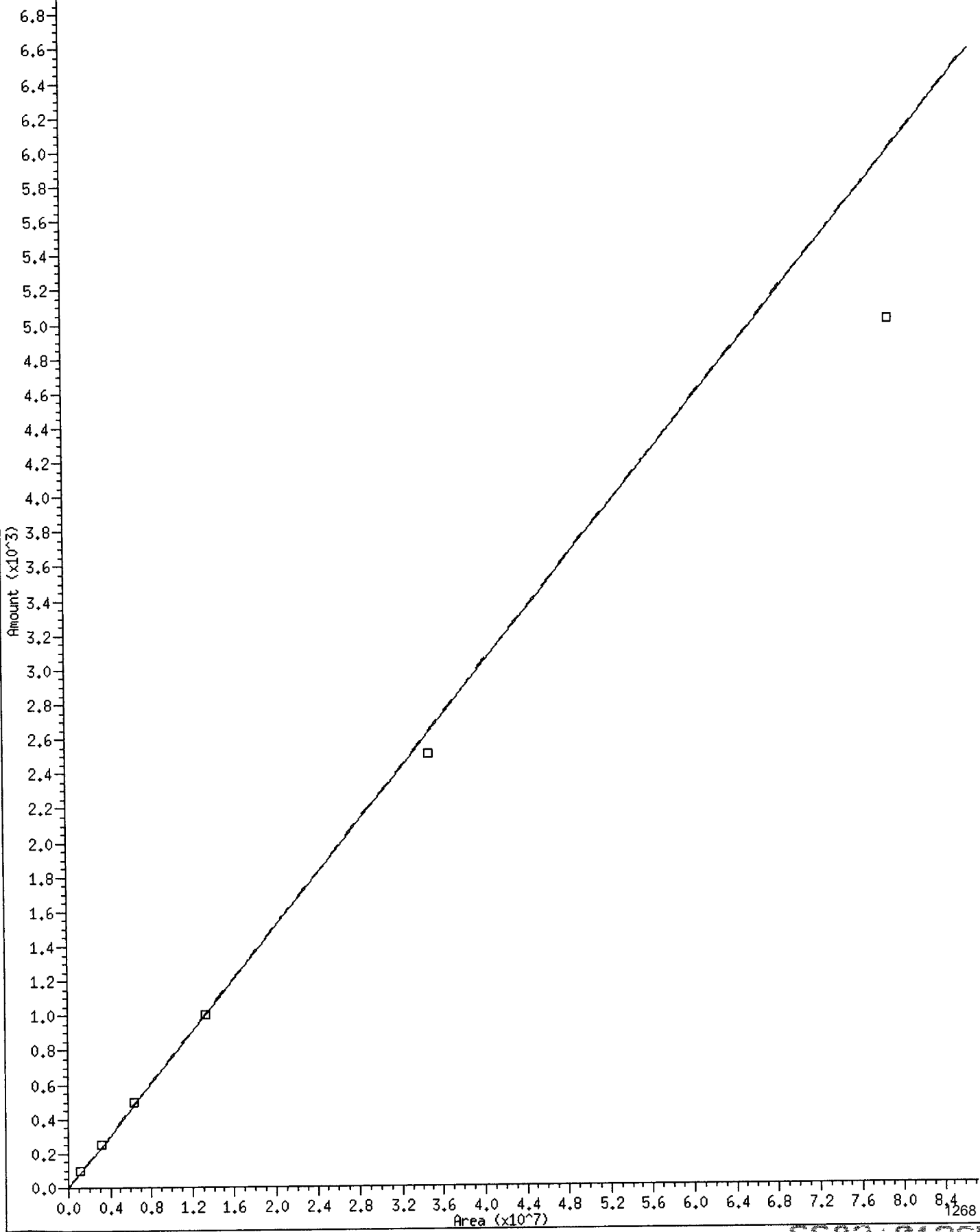
<- Indicates %RSD outside limits  
Surrogate areas are not included in Motor Oil RF calculation.

Calibration Files      Analysis Time

0120A015.D	20-JAN-2011 19:04
0120A016.D	20-JAN-2011 19:26
0120A017.D	20-JAN-2011 19:47
0120A018.D	20-JAN-2011 20:08
0120A019.D	20-JAN-2011 20:30
0120A020.D	20-JAN-2011 20:51

30 NW MO11

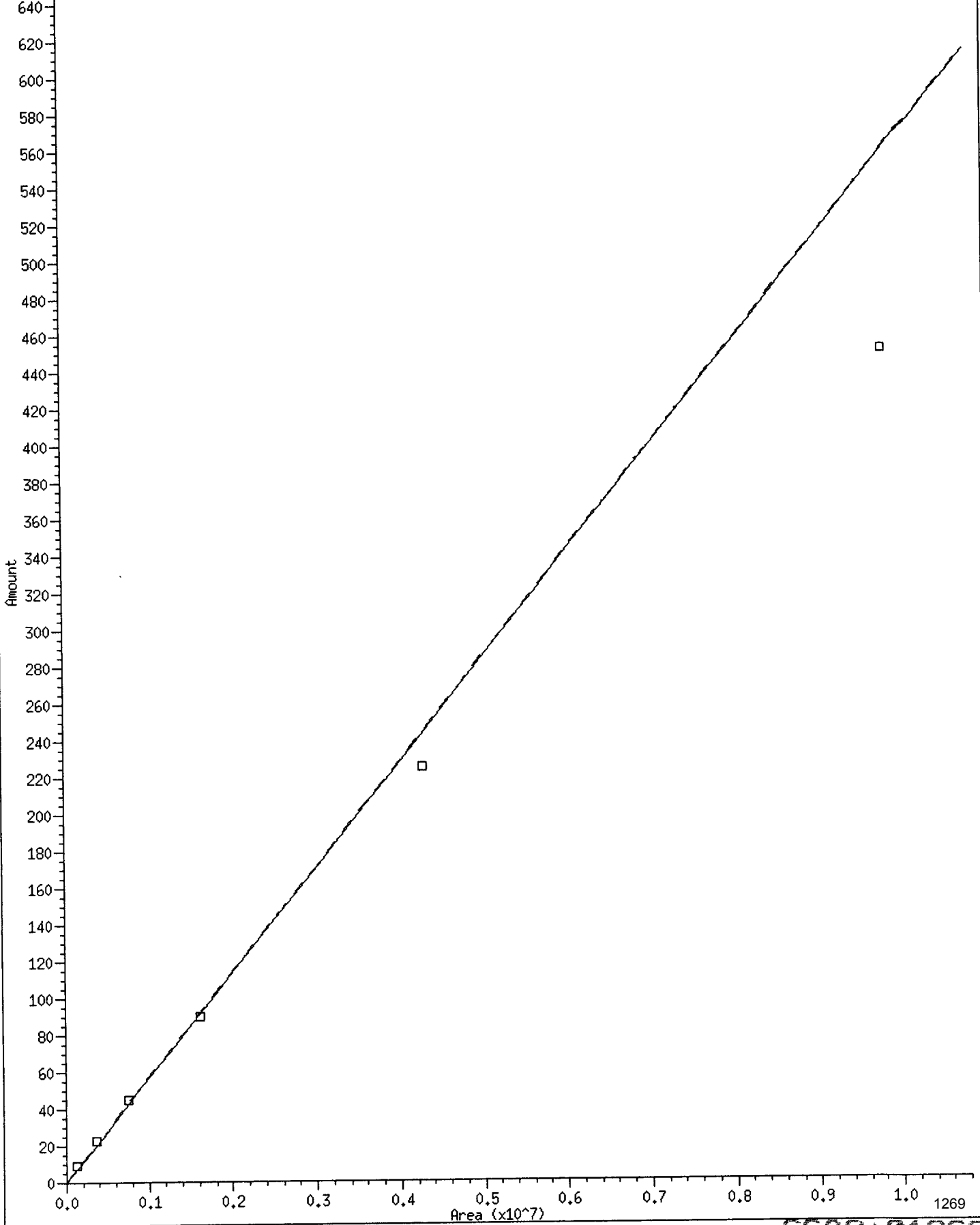
Curve Type: Averaged By-Response  
Amt = Rsp/13263.61  
%RSD: 11.505



5583:01265

\* 15 Triacon Surr

Curve Type: Averaged By-Response  
Amt = Rsp/17626.36  
%RSD: 14.943



5583:01266

**Analytical Resources Inc.: Organics Instrument Log**  
**FID-9 Agilent 6850 - Serial No.: US10404004**

Date: 1/20/11 Analysis: NUSTPHD Analyst: MW  
 GC Program: TPH Column No: 977444 Column Type: V+X-1  
 Instrument Tune (.U or .CT.): \_\_\_\_\_ EM Voltage: \_\_\_\_\_  
 Calibration File: \_\_\_\_\_ Curve Date: 1/20/11

IS/SS	Ical/Ccal	LCS/ICV
	1786-1	
	1787-2	
	1787-3	
	1787-2	

Inject Date/Time	Filename	DF	LabID
1 20-JAN-2011 12:42	0120A001.D	1	RINSE
2 20-JAN-2011 13:03	0120A002.D	1	RINSE
3 20-JAN-2011 13:24	0120A003.D	1	RINSE
4 20-JAN-2011 15:09	0120A004.D	1	RINSE
5 20-JAN-2011 15:30	0120A005.D	1	RT
6 20-JAN-2011 15:52	0120A006.D	1	IB
7 20-JAN-2011 16:13	0120A007.D	1	DIESEL 50
8 20-JAN-2011 16:34	0120A008.D	1	DIESEL 100
9 20-JAN-2011 16:56	0120A009.D	1	DIESEL 250
10 20-JAN-2011 17:17	0120A010.D	1	DIESEL 500
11 20-JAN-2011 17:39	0120A011.D	1	DIESEL 1000
12 20-JAN-2011 18:00	0120A012.D	1	Blank
13 20-JAN-2011 18:22	0120A013.D	1	DIESEL ICV
14 20-JAN-2011 18:43	0120A014.D	1	DIESEL 2500
15 20-JAN-2011 19:04	0120A015.D	1	MOIL 100
16 20-JAN-2011 19:26	0120A016.D	1	MOIL 250
17 20-JAN-2011 19:47	0120A017.D	1	MOIL 500
18 20-JAN-2011 20:08	0120A018.D	1	MOIL 1000
19 20-JAN-2011 20:30	0120A019.D	1	MOIL 2500
20 20-JAN-2011 20:51	0120A020.D	1	MOIL 5000
21 20-JAN-2011 21:12	0120A021.D	1	MOIL ICV
22 20-JAN-2011 21:34	0120A022.D	1	DIESEL#1
23 20-JAN-2011 21:55	0120A023.D	1	MOIL#1
24 20-JAN-2011 22:16	0120A024.D	1	SE57MBW1
25 20-JAN-2011 22:38	0120A025.D	1	SE57LCSW1
26 20-JAN-2011 22:59	0120A026.D	1	SE57LCSDW1
27 20-JAN-2011 23:21	0120A027.D	1	SE57QLS
28 20-JAN-2011 23:42	0120A028.D	1	SE57A
29 21-JAN-2011 00:03	0120A029.D	1	SF16MBS1
30 21-JAN-2011 00:25	0120A030.D	1	SF16LCSS1
31 21-JAN-2011 00:46	0120A031.D	1	SF16LCSDS1
32 21-JAN-2011 01:08	0120A032.D	1	SF16QLS
33 21-JAN-2011 01:29	0120A033.D	10	SF16A
34 21-JAN-2011 01:50	0120A034.D	5	SF16B
35 21-JAN-2011 02:12	0120A035.D	1	DIESEL#2
36 21-JAN-2011 02:33	0120A036.D	1	MOIL#2

*[Large handwritten scribble]*

*[Signature]*

*[Signature]* 1/24/11

**Maintenance / Comments**

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

8  
TPH ANALYTICAL SEQUENCE

Lab Name: ANALYTICAL RESOURCES, INC      Client: ARI  
 SDG No.: 20110120      Project: ARI  
 Instrument ID: FID9      GC Column: RTX-1  
 Run Date: 01/20/11

THE ANALYTICAL SEQUENCE OF BLANKS, SAMPLES, AND STANDARDS,  
 IS GIVEN BELOW:

SURROGATE RT FROM DAILY STANDARD							
		TERPH: 4.17		TRIAC: 6.42			
CLIENT		LAB		DATE			
SAMPLE NO.		SAMPLE ID		ANALYZED			
				TIME			
				ANALYZED			
				TERPH			
				RT #			
				TRIAC			
				RT #			
01	RT	RT		01/20/11	1530	4.17	6.42
02		IB		01/20/11	1552	4.17	6.42
03	MOIL 100	MOIL 100		01/20/11	1904	4.17	6.41
04	MOIL 250	MOIL 250		01/20/11	1926	4.17	6.42
05	MOIL 500	MOIL 500		01/20/11	1947	4.17	6.42
06	MOIL 1000	MOIL 1000		01/20/11	2008	4.17	6.44
07	MOIL 2500	MOIL 2500		01/20/11	2030	4.17	6.46
08	MOIL 5000	MOIL 5000		01/20/11	2051	4.17	6.50*
09		MOIL ICV		01/20/11	2112	4.17	6.42

TERPH = o-terph  
 TRIAC = Triacon Surr

QC LIMITS  
 (+/- 0.05 MINUTES)  
 (+/- 0.05 MINUTES)

*W 1/31/11*

\* Values outside of QC limits.

\*Peak shifting occurs when column plates are close to overloaded.  
 Sample surrogates are spiked at 45ppm. n-Triacontane quants %14.9 RSD and  
 meets Ical criteria. No further corrective action needed.



Report Date : 31-Jan-2011 18:35

Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Method File: /chem2/ftd9.i/20110120.b/ftphfid9a.m  
Batch File: /chem2/ftd9.i/20110120.b  
Inst ID: ftd9.i

ID: RT01 RT02 RT03 RT04 RT05 RT06  
FILENAME: 0120A007 0120A008 0120A009 0120A010 0120A011 0120A014  
INJ. DATE: 20-JAN-2011 20-JAN-2011 20-JAN-2011 20-JAN-2011 20-JAN-2011 20-JAN-2011  
INJ. TIME: 16:13 16:34 16:56 17:17 17:39 18:43

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
1 Toluene	1.325	1.323	1.324	1.398	1.339	1.330	1.303	1.203-1.403	1.340	0.029
37 JET-A	1.375	1.379	1.376	1.364	1.370	1.379	1.370	1.320-1.420	1.374	0.006
2 C8	1.518	1.519	1.507	1.514	1.518	1.508	1.519	1.419-1.619	1.514	0.005
3 C10	1.986	1.986	1.986	1.990	1.990	1.987	1.988	1.938-2.038	1.987	0.002
4 C12	2.624	2.624	2.624	2.625	2.624	2.619	2.623	2.573-2.673	2.623	0.002
5 C14	3.160	3.158	3.158	3.159	3.160	3.166	3.156	3.106-3.206	3.160	0.003
6 C16	3.627	3.626	3.628	3.631	3.633	3.629	3.627	3.577-3.677	3.629	0.003
7 C18	4.048	4.047	4.050	4.054	4.058	4.072	4.049	3.999-4.099	4.055	0.010
8 o-terph	4.162	4.163	4.172	4.180	4.189	4.211	4.168	4.118-4.218	4.179	0.019
9 C20	4.434	4.434	4.436	4.438	4.441	4.427	4.435	4.385-4.485	4.435	0.005
10 C22	4.826	4.825	4.827	4.829	4.832	4.818	4.827	4.777-4.877	4.826	0.005
11 C24	5.323	5.322	5.324	5.325	5.325	5.327	5.324	5.274-5.374	5.324	0.002
12 C25	5.548	5.546	5.547	5.549	5.547	5.548	5.548	5.498-5.598	5.547	0.001
13 C26	5.749	5.749	5.750	5.751	5.750	5.749	5.749	5.699-5.799	5.750	0.001
14 C28	6.100	6.101	6.103	6.106	6.105	6.105	6.104	6.054-6.154	6.103	0.003
15 Triacon Surf	6.413	6.413	6.414	6.419	6.417	6.414	6.422	6.372-6.472	6.415	0.002
16 C32	6.691	6.697	6.699	6.692	6.695	6.702	6.696	6.646-6.746	6.696	0.004

Reviewer 1  
Reviewer 2

Date: 2/11/11  
Date: 2-11-11

Analytical Resources, Inc.  
 RETENTION TIME SUMMARY REPORT

Method File: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Batch File: /chem2/fid9.i/20110120.b  
 Inst ID: fid9.i

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
17 C34	6.953	6.959	6.959	6.955	6.964	6.953	6.959	6.909-7.009	6.957	0.005
18 Filter Peak	+++++	+++++	+++++	+++++	+++++	+++++	12.769	12.669-12.869	+++++	+++++
19 C36	7.210	7.206	7.208	7.213	7.209	7.210	7.209	7.159-7.259	7.209	0.002
20 C38	7.447	7.448	7.449	7.449	7.450	7.451	7.448	7.398-7.498	7.449	0.001
21 C40	7.725	7.725	7.722	7.727	7.723	7.721	7.723	7.673-7.773	7.724	0.002
31 NW Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.513	0.463-0.563	+++++	+++++
32 OR Diesel	+++++	+++++	+++++	+++++	+++++	+++++	0.690	0.640-0.740	+++++	+++++
33 AK Dies 102	+++++	+++++	+++++	+++++	+++++	+++++	0.660	0.610-0.710	+++++	+++++
30 NW MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
34 OR MO11	+++++	+++++	+++++	+++++	+++++	+++++	1.000	0.950-1.050	+++++	+++++
35 AK MO11 103	+++++	+++++	+++++	+++++	+++++	+++++	0.658	0.608-0.708	+++++	+++++
38 Bunker C	+++++	+++++	+++++	+++++	+++++	+++++	0.705	0.655-0.755	+++++	+++++
39 Creosote	+++++	+++++	+++++	+++++	+++++	+++++	0.550	0.500-0.600	+++++	+++++

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A005.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: RT  
 Client ID: RT  
 Injection: 20-JAN-2011 15:30  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.303	0.000	383937	277413	GAS (Tol-C12)	998508	48 M
C8	1.519	0.000	53885	28465	DIESEL (C12-C24)	1655661	73
C10	1.988	0.000	657169	294726	M.OIL (C24-C38)	1825693	138
C12	2.623	0.000	676220	289238	AK-102 (C10-C25)	2271772	89
C14	3.156	0.000	587065	285605	AK-103 (C25-C36)	1573197	185
C16	3.627	0.000	678327	282100			
C18	4.049	0.000	649103	277428			
C20	4.435	0.000	617954	270911			
C22	4.827	0.000	422551	260123			
C24	5.324	0.000	385629	251401			
C25	5.548	0.000	508484	337875			
C26	5.749	0.000	386378	243690			
C28	6.104	0.000	394465	236165			
C32	6.696	0.000	375697	230951	JP-4 (Tol-C14)	1294923	79 M
C34	6.959	0.000	351484	236984	BUNKERC (C10-C38)	4092053	484
Filter Peak	----						
C36	7.209	0.000	339607	248990			
C38	7.448	0.000	272516	232146			
C40	7.723	0.000	188027	195470			
o-terph	4.168	0.000	1676827	913732	JET-A (C10-C18)	1475173	107
Triacon Surr	6.422	0.000	1043688	719648	JP8 (Tol-C16)	1582493	90 M

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	913732	42.7	94.8
Triacontane	719648	40.8	90.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01209005.D

Date : 20-JAN-2011 15:30

Client ID: RT

Sample Info: RT

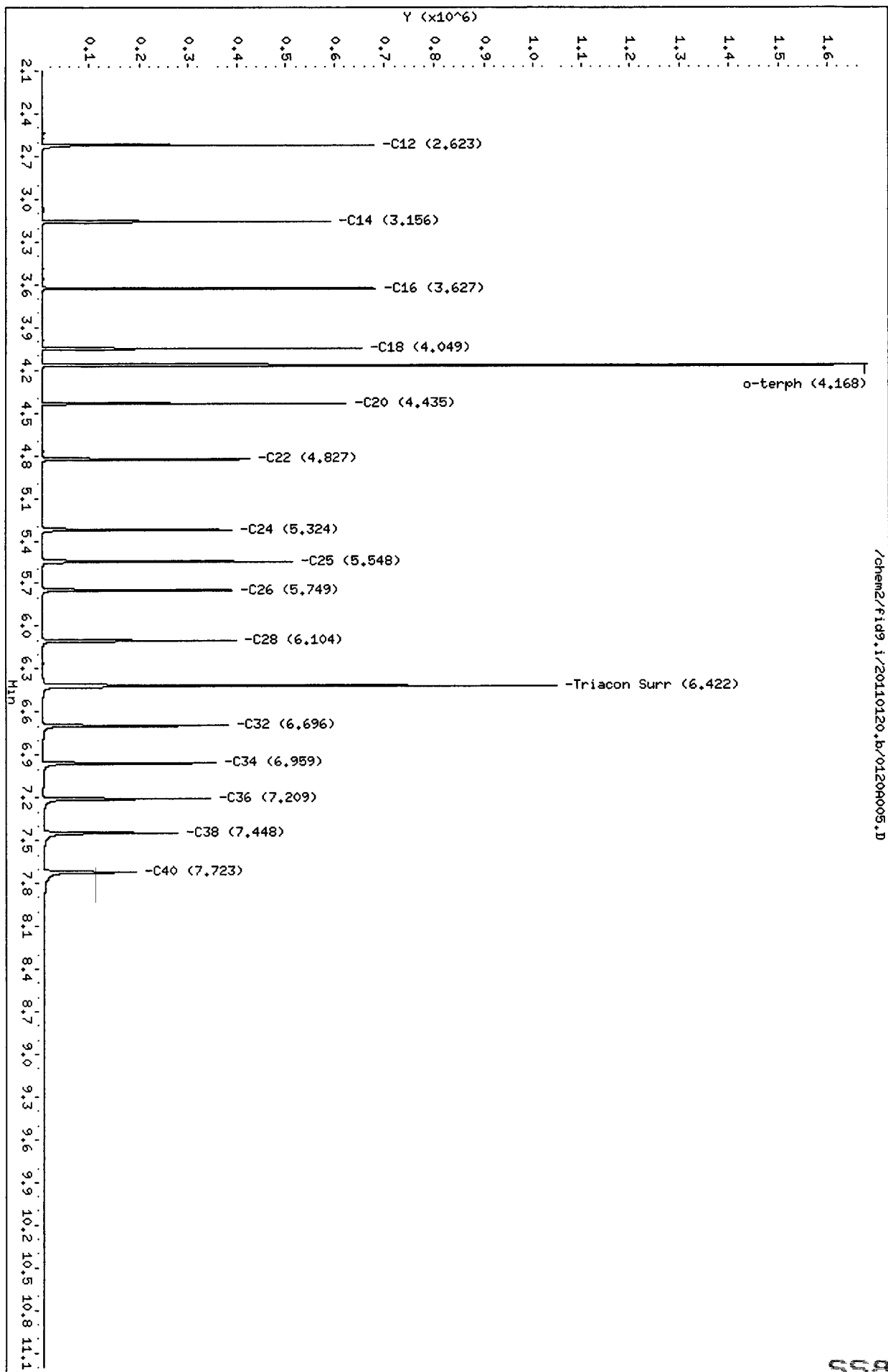
Column phase: RTX-1

Instrument: fid9.i

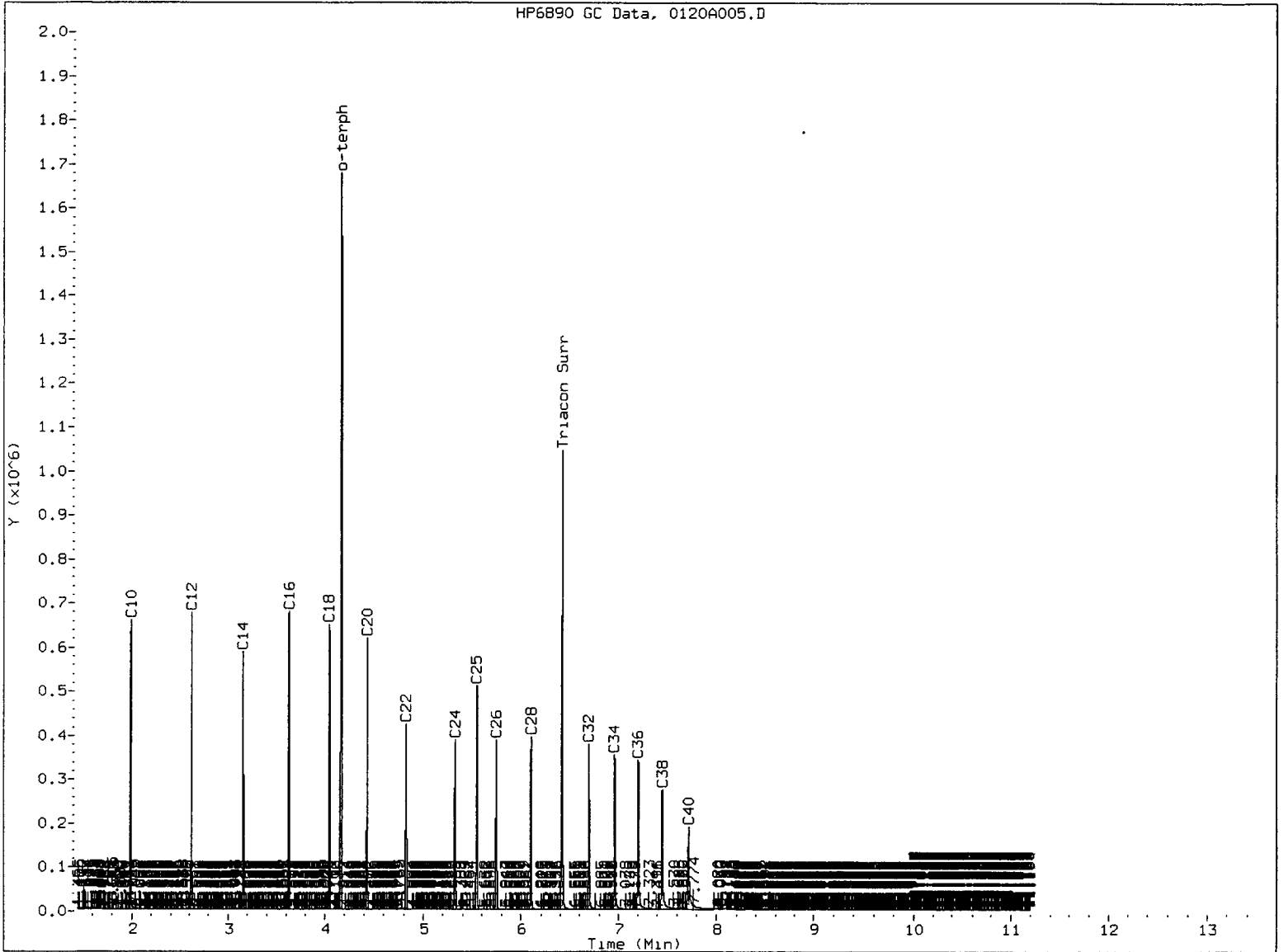
Operator: JR

Column diameter: 0.25

/chem2/fid9.i/20110120.b/01209005.D



HP6890 GC Data, 0120A005.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:       *Sc*      

Date:       7/31/11

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A006.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: IB  
 Client ID:  
 Injection: 20-JAN-2011 15:52  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.322	0.019	63463	64572	GAS (Tol-C12)	139212	7
C8	1.519	0.000	7460	7425	DIESEL (C12-C24)	22665	1
C10	1.987	-0.001	1338	1740	M.OIL (C24-C38)	44620	3
C12	2.612	-0.011	706	1274	AK-102 (C10-C25)	44595	2
C14	3.152	-0.005	306	190	AK-103 (C25-C36)	32471	4
C16	3.625	-0.002	165	22			
C18	4.049	0.000	184	200			
C20	4.437	0.002	136	115			
C22	4.830	0.003	67	18			
C24	5.318	-0.006	33	22			
C25	5.546	-0.002	53	25			
C26	5.745	-0.004	45	34			
C28	6.099	-0.005	256	173			
C32	6.695	-0.001	1292	2211	JP-4 (Tol-C14)	148417	9
C34	6.957	-0.002	875	1419	BUNKERC (C10-C38)	89113	11
Filter Peak	----						
C36	7.209	0.000	656	194			
C38	7.447	-0.001	938	390			
C40	7.718	-0.005	1264	377			
o-terph	4.171	0.003	1830174	1085386	JET-A (C10-C18)	40391	3
Triacon Surr	6.421	-0.001	1029861	732679	JP8 (Tol-C16)	154222	9

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1085386	50.7	112.6
Triacontane	732679	41.6	92.4

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

*20/1/31/11*

Data File: /chem2/fid9.i/20110120.b/01200006.D

Date: 20-JAN-2011 15:52

Client ID:

Sample Info: IB

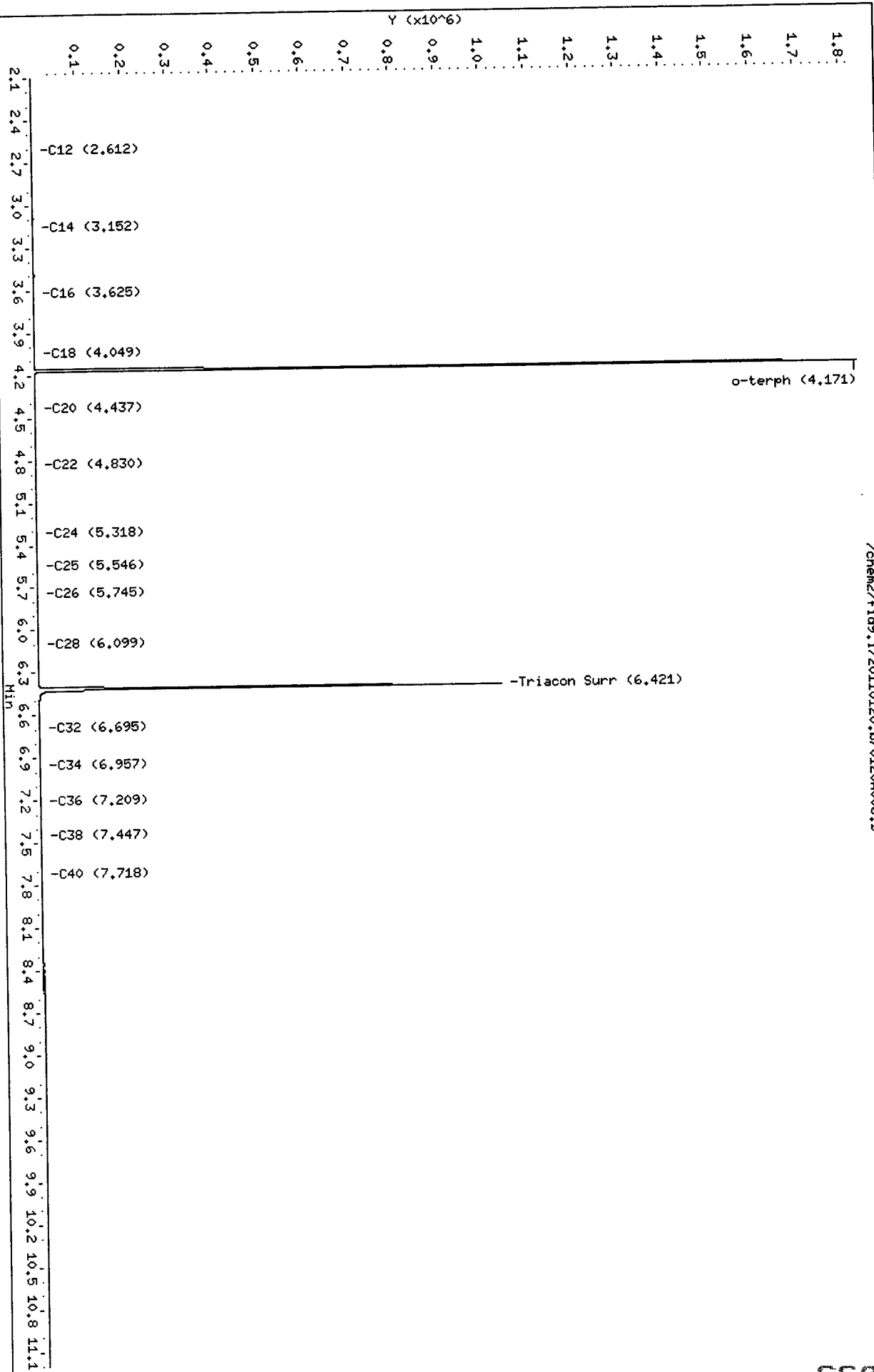
Column phase: RTX-1

Instrument: fid9.i

Operator: JR

Column diameter: 0.25

/chem2/fid9.i/20110120.b/01200006.D



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A015.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: MOIL 100  
 Client ID: MOIL 100  
 Injection: 20-JAN-2011 19:04  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.389	0.087	5706	7708	GAS (Tol-C12)	93925	4
C8	1.520	0.001	2852	4411	DIESEL (C12-C24)	144444	6
C10	1.989	0.001	1022	660	M.OIL (C24-C38)	1136455	86
C12	2.634	0.011	1012	2014	AK-102 (C10-C25)	193252	8
C14	3.146	-0.010	120	106	AK-103 (C25-C36)	953994	112 M
C16	3.622	-0.004	46	22			
C18	4.057	0.008	518	366			
C20	4.438	0.003	947	1071			
C22	4.821	-0.006	1921	1273			
C24	5.322	-0.002	3662	2456			
C25	5.544	-0.004	4924	3028			
C26	5.750	0.001	6100	2283			
C28	6.101	-0.003	8149	3201			
C32	6.693	-0.003	11119	10215	JP-4 (Tol-C14)	99958	6
C34	6.953	-0.006	12526	8399	BUNKERC (C10-C38)	1301044	154 M
Filter Peak	----						
C36	7.214	0.005	11528	8064			
C38	7.451	0.003	10890	5404			
C40	7.731	0.008	7400	1762			
o-terph	4.171	0.003	3037	2005	JET-A (C10-C18)	37543	3
Triacon Surr	6.413	-0.008	240819	127466	JP8 (Tol-C16)	104076	6

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	2005	0.1	0.2
Triacontane	127466	7.2	16.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010



Data File: /chem2/fid9.i/20110120.b/01200015.D

Date: 20-JAN-2011 19:04

Client ID: MOIL 100

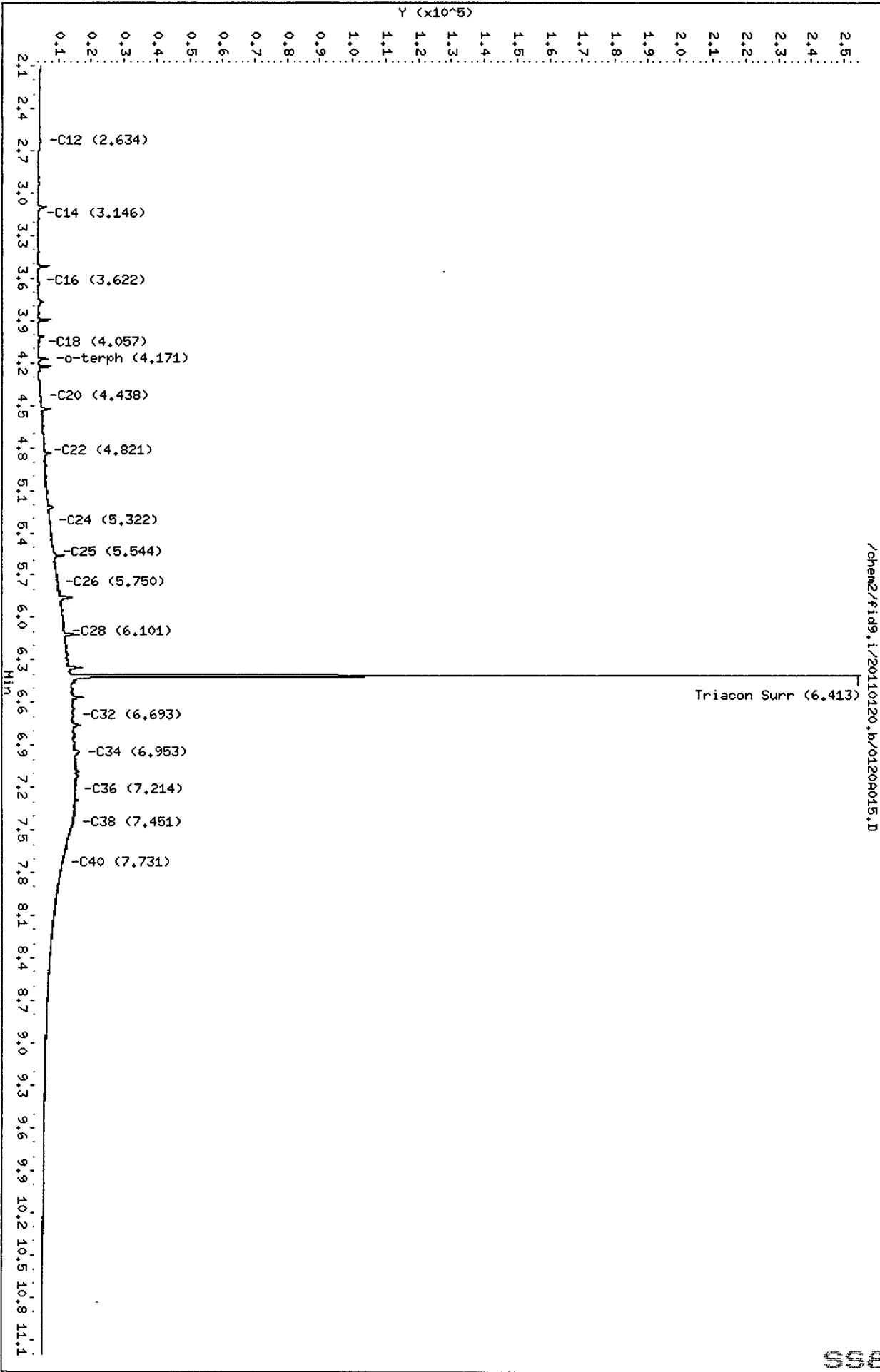
Sample Info: MOIL 100

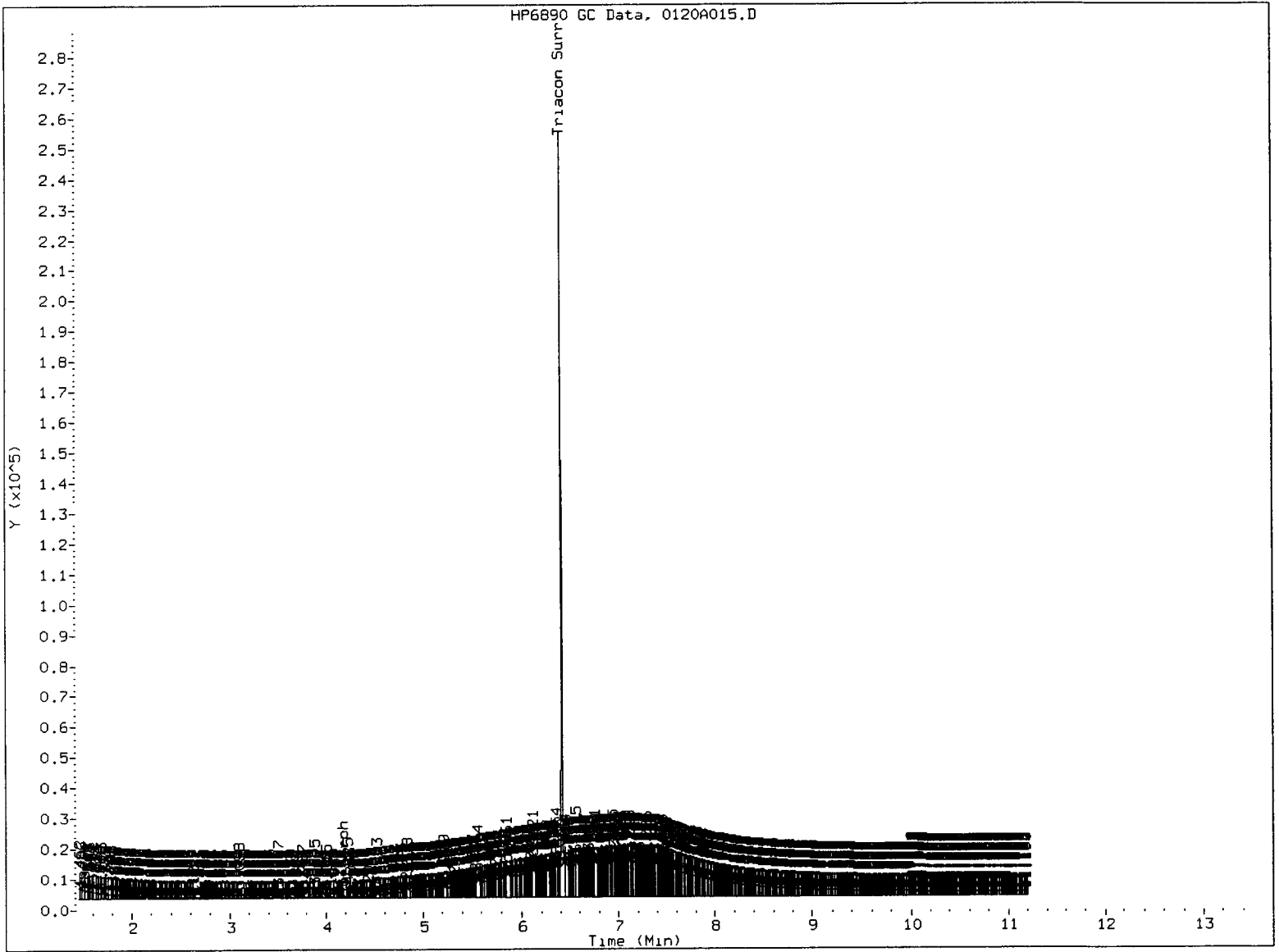
Column phase: RTX-1

Instrument: fid9.i

Operator: JR

Column diameter: 0.25





MANUAL INTEGRATION

0

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst: *MS*

Date: *1/31/15*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A016.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: MOIL 250  
 Client ID: MOIL 250  
 Injection: 20-JAN-2011 19:26  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.321	0.018	24499	34002	GAS (Tol-C12)	114803	5
C8	1.516	-0.003	2675	5530	DIESEL (C12-C24)	373276	16
C10	1.987	-0.001	1203	885	M.OIL (C24-C38)	3123579	235
C12	2.624	0.001	598	824	AK-102 (C10-C25)	480106	19
C14	3.163	0.006	127	50	AK-103 (C25-C36)	2638889	311 M
C16	3.617	-0.010	58	52			
C18	4.054	0.005	452	382			
C20	4.435	0.000	2268	2105			
C22	4.825	-0.002	5668	1790			
C24	5.324	0.000	10732	11256			
C25	5.549	0.002	14199	4769			
C26	5.752	0.003	17383	4783			
C28	6.104	0.000	22804	8180			
C32	6.694	-0.003	31340	34792	JP-4 (Tol-C14)	121010	7
C34	6.958	-0.001	33740	8677	BUNKERC (C10-C38)	3517328	416 M
Filter Peak	----						
C36	7.203	-0.006	32178	16433			
C38	7.447	-0.001	29073	8093			
C40	7.722	0.000	19542	5834			
o-terph	4.170	0.002	1505	1077	JET-A (C10-C18)	38228	3
Triacon Surr	6.419	-0.003	614748	364454	JP8 (Tol-C16)	123044	7

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1077	0.1	0.1
Triacantane	364454	20.7	45.9

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/0120A016.D

Date: 20-JAN-2011 19:26

Client ID: HOIL 250

Sample Info: HOIL 250

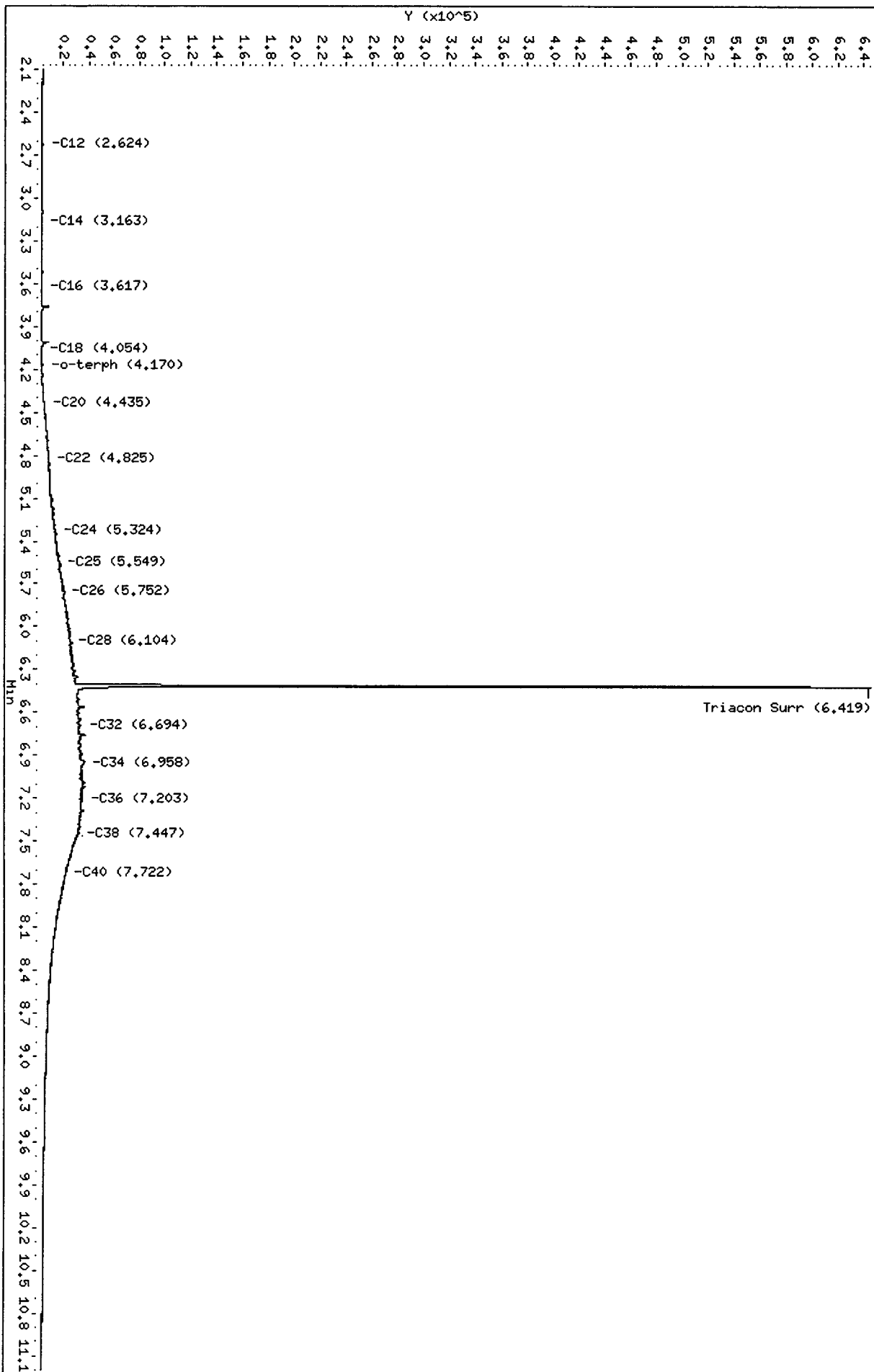
Column phase: RTX-1

Instrument: fid9.i

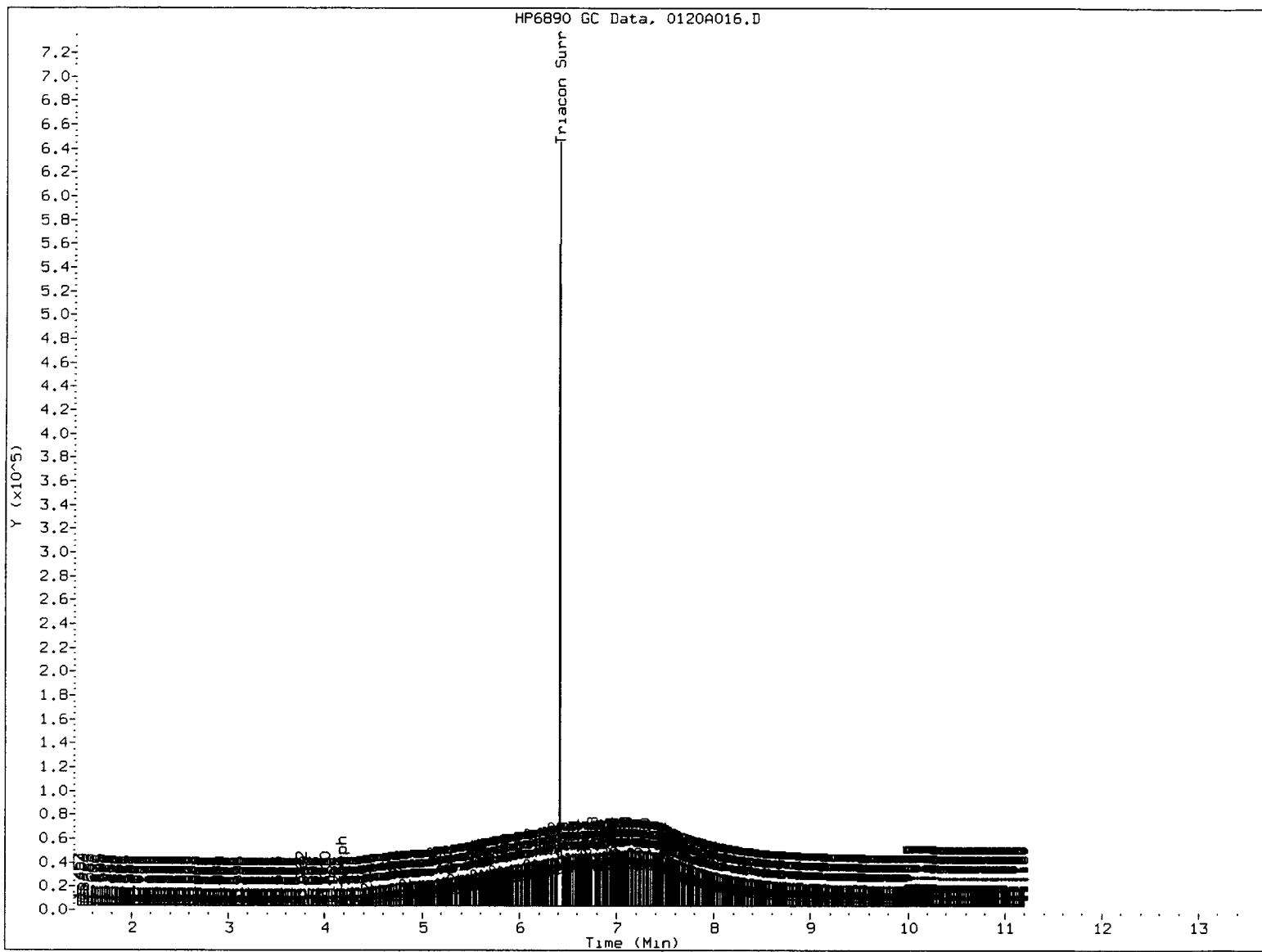
Operator: JR

Column diameter: 0.25

/chem2/fid9.i/20110120.b/0120A016.D



HP6890 GC Data, 0120A016.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *AS*

Date: *1/31/11*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A017.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: MOIL 500  
 Client ID: MOIL 500  
 Injection: 20-JAN-2011 19:47  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.323	0.021	43781	53443	GAS (Tol-C12)	132643	6
C8	1.529	0.010	2512	2544	DIESEL (C12-C24)	765586	34
C10	1.986	-0.002	1542	1015	M.OIL (C24-C38)	6320045	476
C12	2.617	-0.006	678	708	AK-102 (C10-C25)	939777	37
C14	3.148	-0.008	142	100	AK-103 (C25-C36)	5282599	622 M
C16	3.626	-0.001	77	13			
C18	4.052	0.003	831	494			
C20	4.431	-0.005	4546	5044			
C22	4.823	-0.004	11920	8256			
C24	5.320	-0.004	21050	17048			
C25	5.545	-0.002	28543	17168			
C26	5.746	-0.003	34993	21041			
C28	6.106	0.002	46559	26544			
C32	6.694	-0.003	64675	67176	JP-4 (Tol-C14)	139331	8
C34	6.964	0.005	69256	121592	BUNKERC (C10-C38)	7106881	840 M
Filter Peak	----						
C36	7.205	-0.004	65634	19550			
C38	7.447	-0.002	58235	26479			
C40	7.725	0.002	37847	15702			
o-terph	4.168	0.000	2027	1735	JET-A (C10-C18)	49436	4
Triacon Surr	6.424	0.002	1065133	748192	JP8 (Tol-C16)	141822	8

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1735	0.1	0.2
Triacontane	748192	42.4	94.3

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200017.D

Date : 20-JAN-2011 19:47

Client ID: MOIL 500

Sample Info: MOIL 500

Column phase: RTX-1

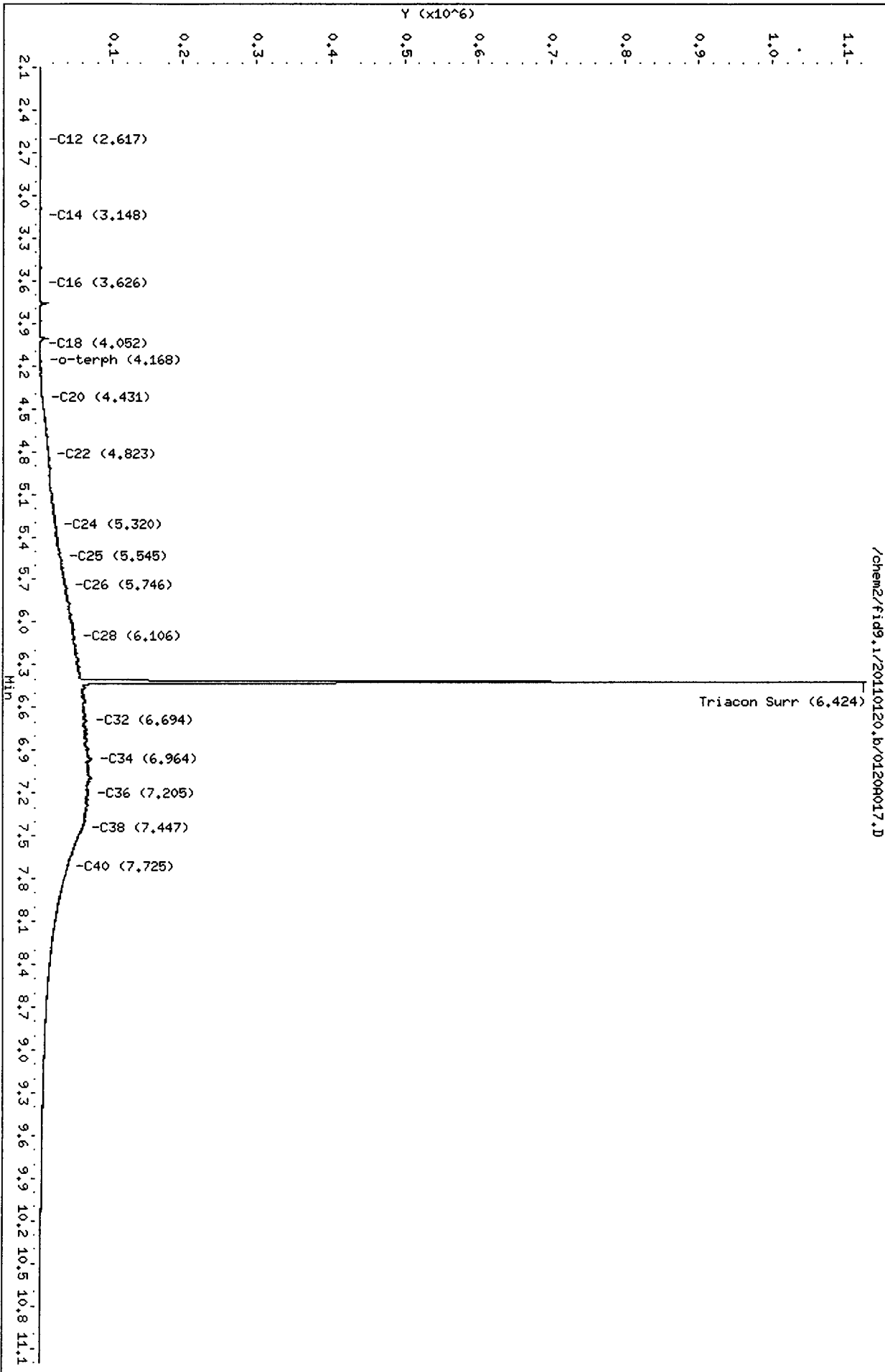
Instrument: fid9.i

Operator: JR

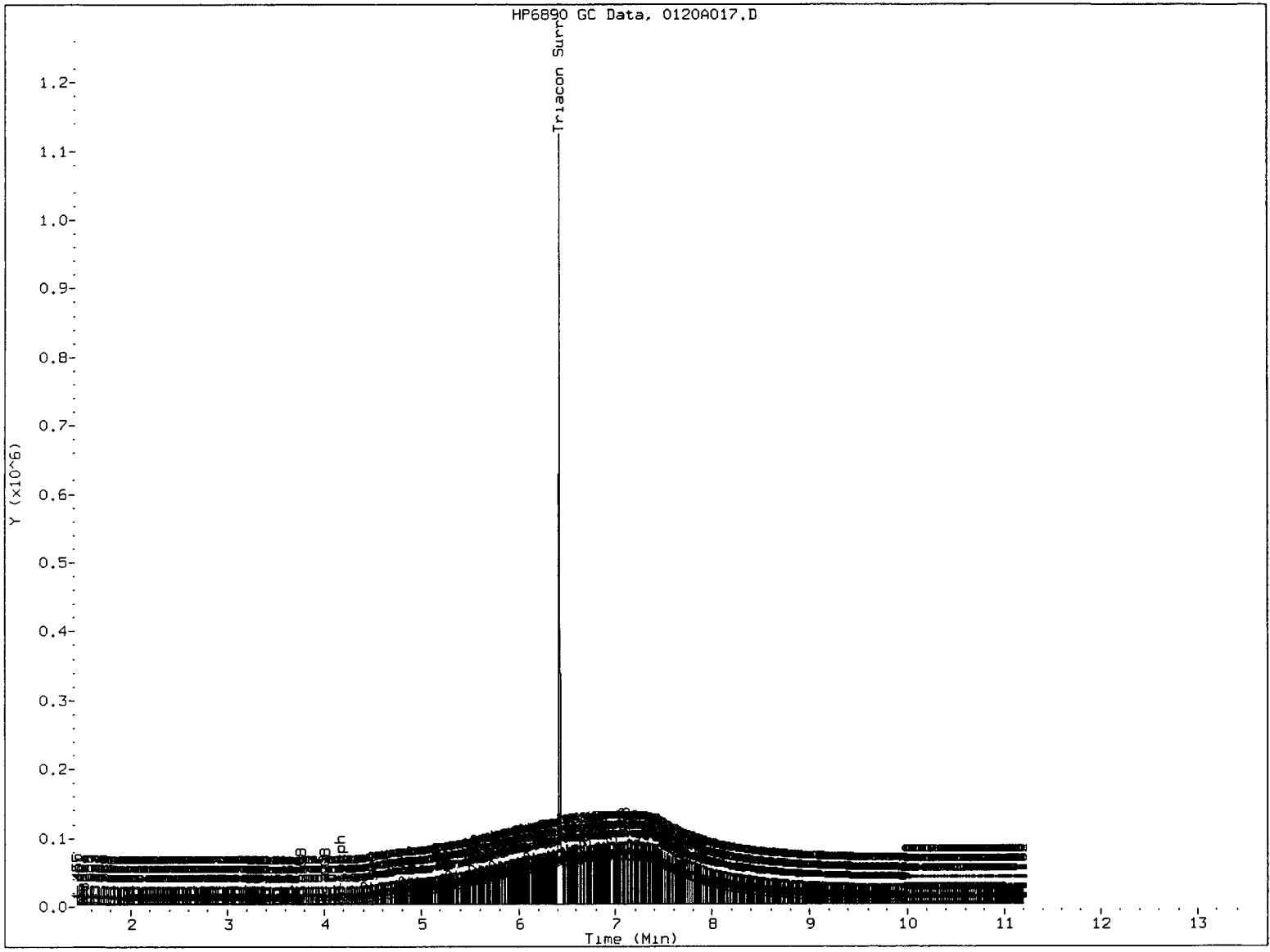
Column diameter: 0.25

Page 1

1286



012000 : 5555



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: 1/27/11



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A018.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: MOIL 1000  
 Client ID: MOIL 1000  
 Injection: 20-JAN-2011 20:08  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.320	0.017	81843	97285	GAS (Tol-C12)	203748	10
C8	1.512	-0.007	3230	2286	DIESEL (C12-C24)	1518852	67
C10	1.988	0.000	2360	1715	M.OIL (C24-C38)	13320247	1004
C12	2.631	0.008	888	1273	AK-102 (C10-C25)	1901920	75
C14	3.147	-0.009	228	186	AK-103 (C25-C36)	11226532	1321 M
C16	3.633	0.006	484	380			
C18	4.052	0.002	1613	1006			
C20	4.436	0.000	8959	3409			
C22	4.828	0.001	23167	5519			
C24	5.329	0.004	43630	18705			
C25	5.550	0.002	58165	21998			
C26	5.746	-0.003	70440	20651			
C28	6.104	0.000	96699	66092			
C32	6.696	0.000	139289	146808	JP-4 (Tol-C14)	213446	13
C34	6.965	0.006	148583	95849	BUNKERC (C10-C38)	14867691	1757 M
Filter Peak	----						
C36	7.209	0.000	140688	112362			
C38	7.456	0.007	118466	87213			
C40	7.719	-0.004	80471	71825			
o-terph	4.169	0.000	2612	2816	JET-A (C10-C18)	78477	6
Triacon Surr	6.435	0.013	1715980	1612172	JP8 (Tol-C16)	216255	12

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
 NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	2816	0.1	0.3
Triacontane	1612172	91.5	203.3

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/0120A018.D

Date : 20-JAN-2011 20:08

Client ID: HOIL 1000

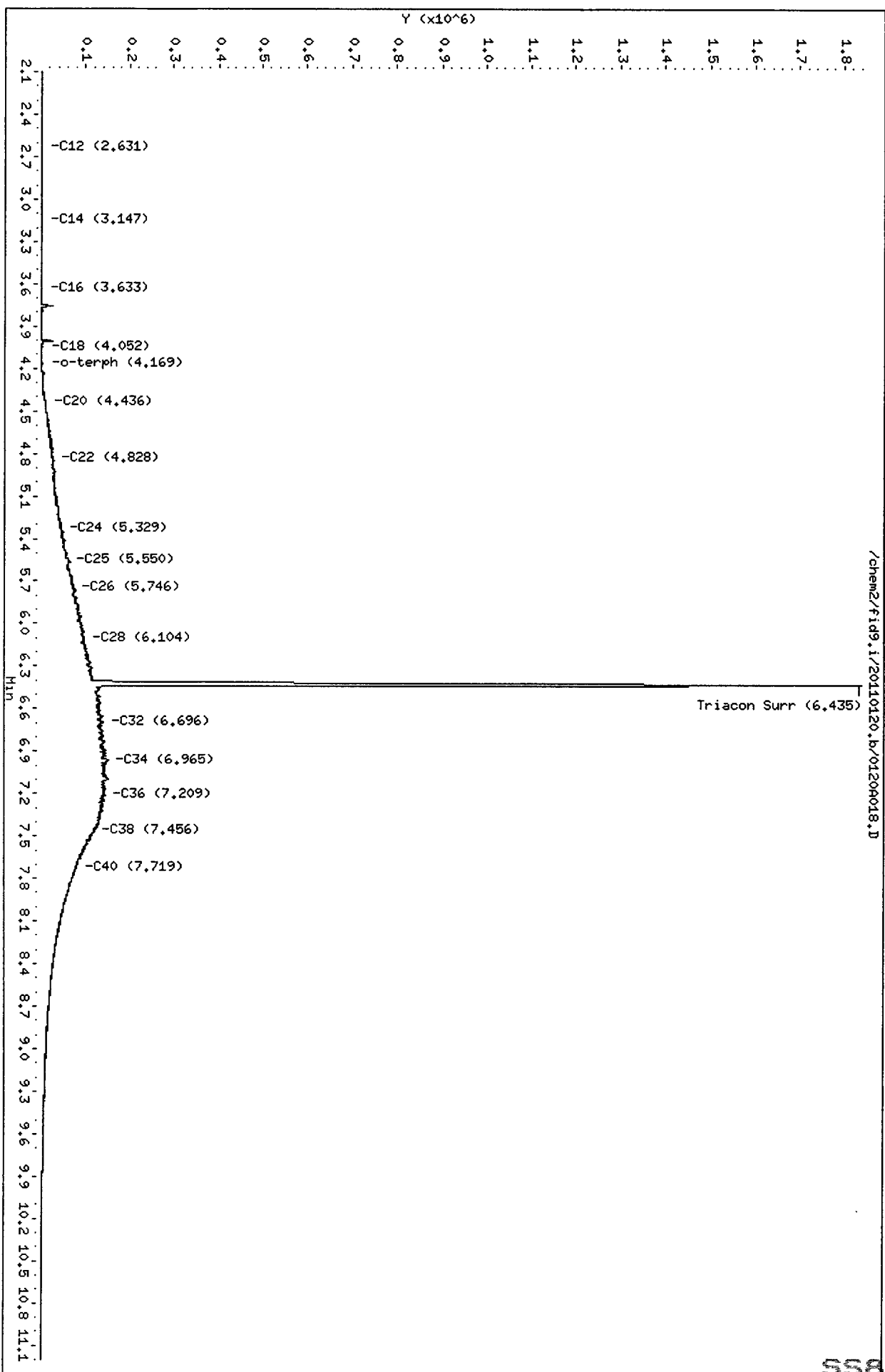
Sample Info: HOIL 1000

Column phase: RTX-1

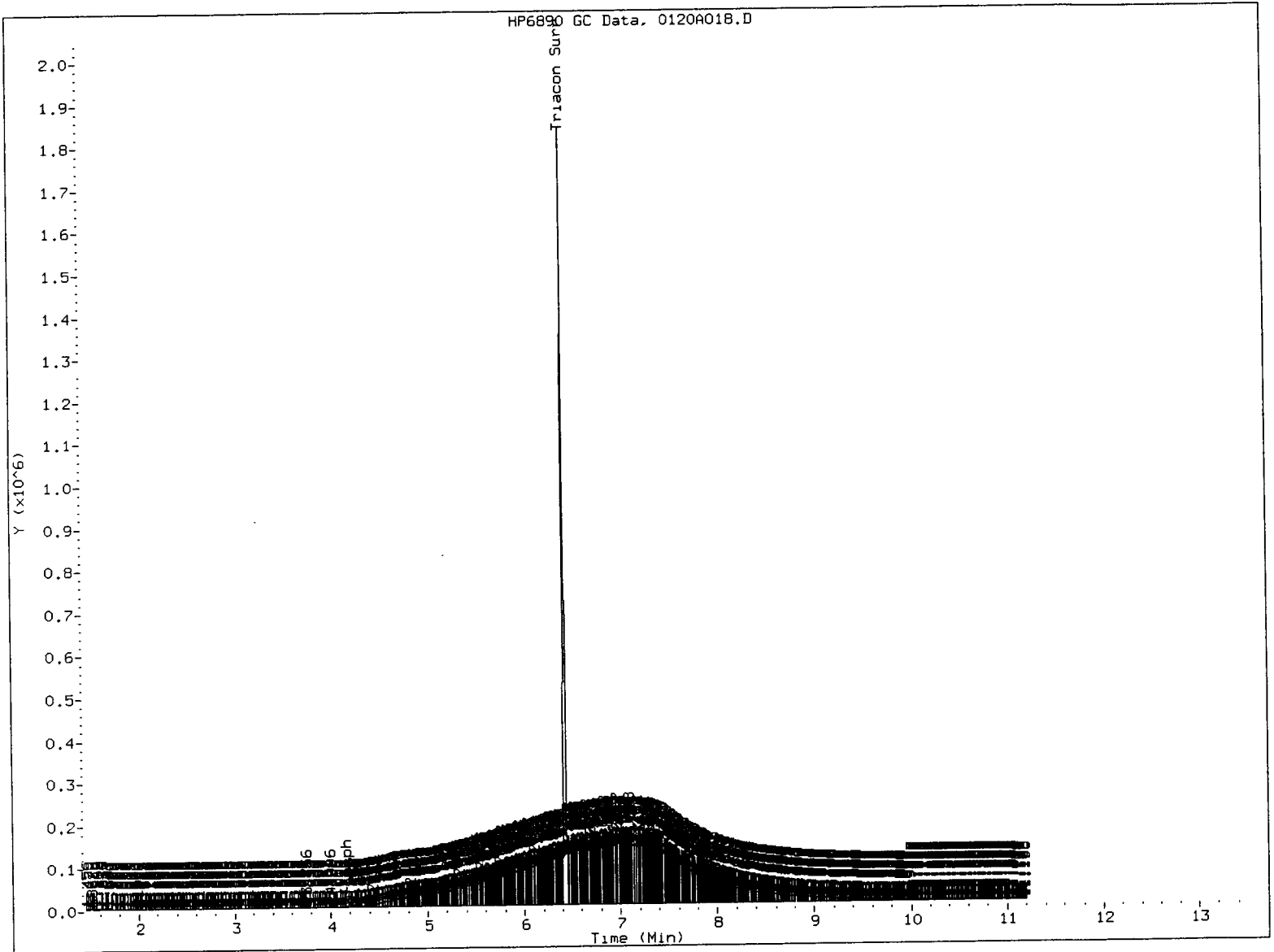
Instrument: fid9.i

Operator: JR

Column diameter: 0.25



0000 : 01200



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: AK

Date: 1/31/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A019.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: MOIL 2500  
Client ID: MOIL 2500  
Injection: 20-JAN-2011 20:30  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.322	0.019	181583	186696	GAS (Tol-C12)	263341	13
C8	1.515	-0.004	2499	4083	DIESEL (C12-C24)	3680611	162
C10	1.988	0.000	3206	3587	M.OIL (C24-C38)	34819034	2625
C12	2.626	0.004	1670	1694	AK-102 (C10-C25)	4557026	179
C14	3.165	0.009	1498	1077	AK-103 (C25-C36)	29454729	3466 M
C16	3.631	0.005	1192	1020			
C18	4.051	0.002	3711	2646			
C20	4.436	0.000	21315	10282			
C22	4.828	0.001	57158	58841			
C24	5.327	0.003	101911	38344			
C25	5.549	0.001	142178	140332			
C26	5.747	-0.002	177672	119296			
C28	6.101	-0.002	241046	47751			
C32	6.693	-0.003	352576	179610	JP-4 (Tol-C14)	273996	17
C34	6.956	-0.003	371047	123726	BUNKERC (C10-C38)	38519660	4553 M
Filter Peak	----						
C36	7.215	0.006	363055	255103			
C38	7.446	-0.002	301713	113104			
C40	7.723	0.000	184864	69317			
o-terph	4.167	-0.002	4283	4343	JET-A (C10-C18)	126434	9
Triacon Surr	6.459	0.037	3154654	4283818	JP8 (Tol-C16)	279224	16

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	4343	0.2	0.5
Triacantane	4283818	243.0	540.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200019.D

Date : 20-JAN-2011 20:30

Client ID: H0IL 2500

Sample Info: H0IL 2500

Column phase: RTX-1

Instrument: fid9.i

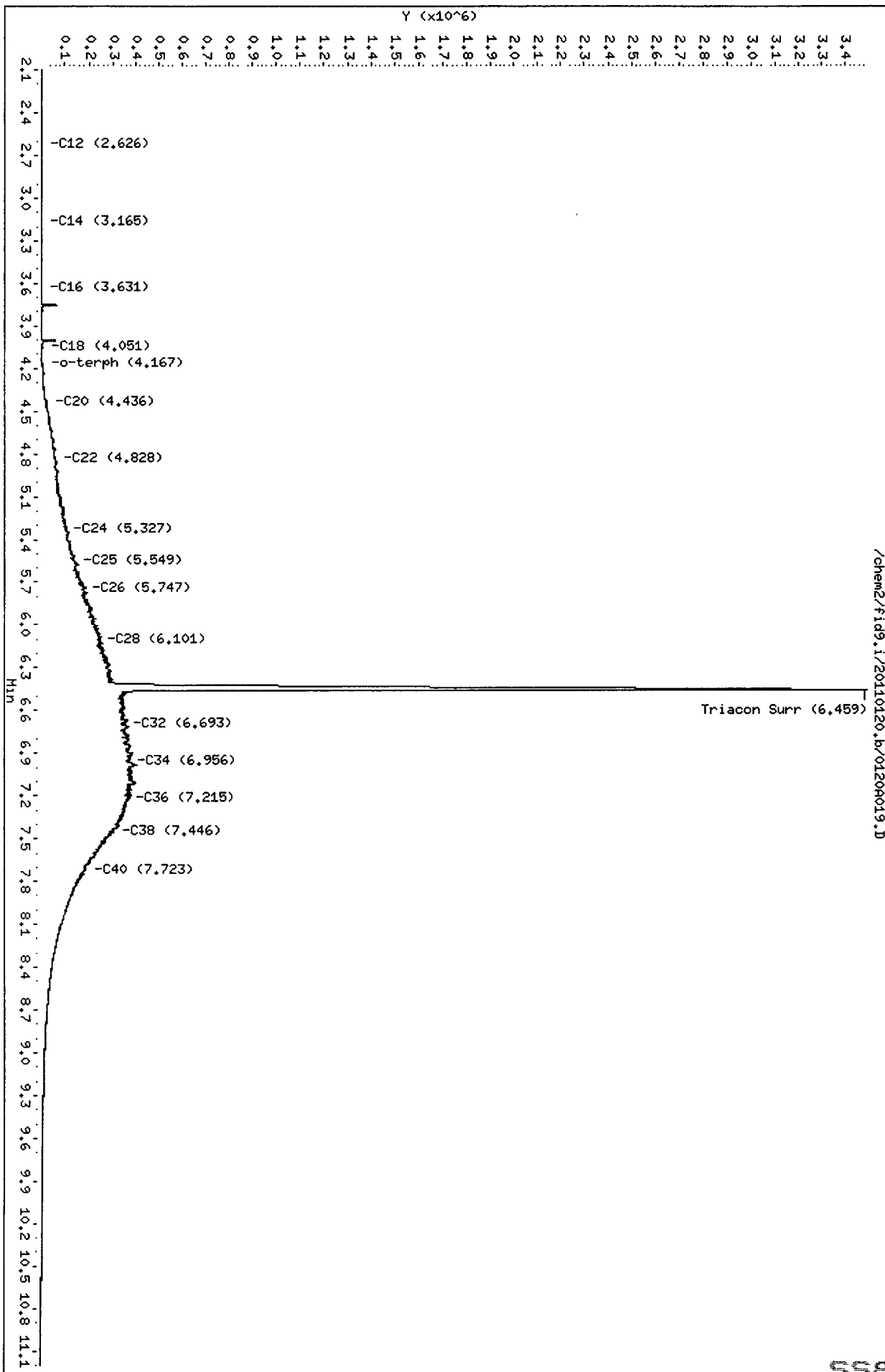
Operator: JR

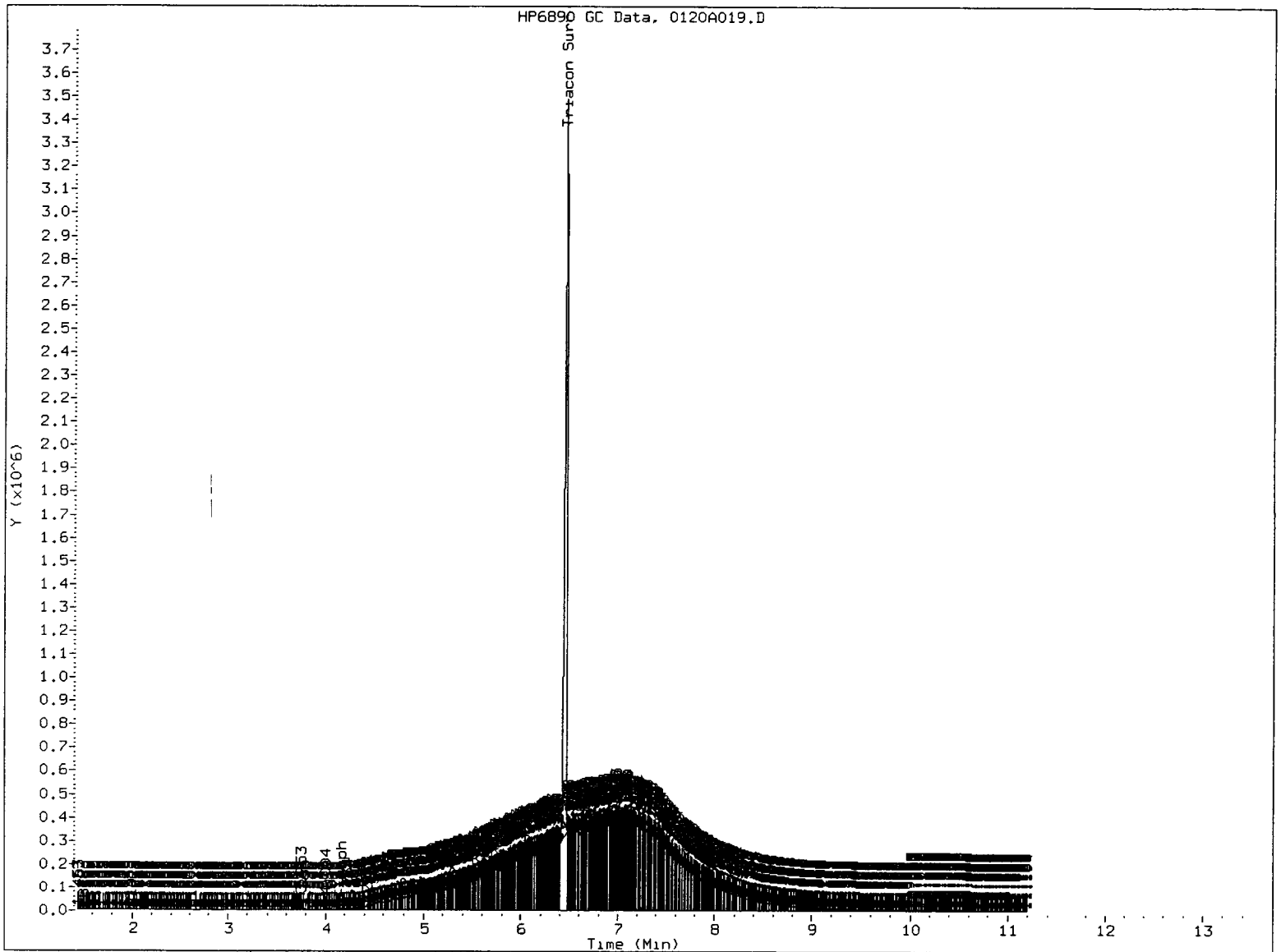
Column diameter: 0.25

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00000 : 01200





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst: [Signature]

Date: 1/31/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A020.D  
Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: JR  
Report Date: 01/31/2011

ARI ID: MOIL 5000  
Client ID: MOIL 5000  
Injection: 20-JAN-2011 20:51  
Dilution Factor: 1  
Macro: 20-JAN-2011

FID:9 RESULTS							
Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.324	0.021	384362	214781	GAS (Tol-C12)	307819	15
C8	1.529	0.010	2486	2344	DIESEL (C12-C24)	8245277	364
C10	1.985	-0.003	8171	4428	M.OIL (C24-C38)	79174165	5969
C12	2.625	0.002	5015	2946	AK-102 (C10-C25)	10265591	402
C14	3.162	0.006	3723	2076	AK-103 (C25-C36)	68553822	8067 M
C16	3.629	0.003	2606	1651			
C18	4.051	0.001	7928	5724			
C20	4.438	0.003	47245	18359			
C22	4.831	0.004	128308	39842			
C24	5.322	-0.002	241324	137531			
C25	5.550	0.002	308754	126492			
C26	5.743	-0.006	457198	467304			
C28	6.106	0.003	566412	190357			
C32	6.698	0.001	855276	348917	JP-4 (Tol-C14)	325031	20
C34	6.958	-0.001	881639	293712	BUNKERC (C10-C38)	87442633	10336 M
Filter Peak	----						
C36	7.214	0.005	801988	376629			
C38	7.452	0.004	563279	502147			
C40	7.722	-0.001	241022	143323			
o-terph	4.166	-0.003	7763	9588	JET-A (C10-C18)	251715	18
Triacon Surr	6.496	0.075	4155743	9818370	JP8 (Tol-C16)	335455	19

M Indicates manual integration within range.

Range Times: NW Diesel(2.623 - 5.324) AK102(1.99 - 5.55) Jet A(1.99 - 4.05)  
NW M.Oil(5.32 - 7.45) AK103(5.55 - 7.21) OR Diesel(1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	9588	0.4	1.0
Triacontane	9818370	557.0	1237.8

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/01200020.D

Date: 20-JAN-2011 20:51

Client ID: MOIL 5000

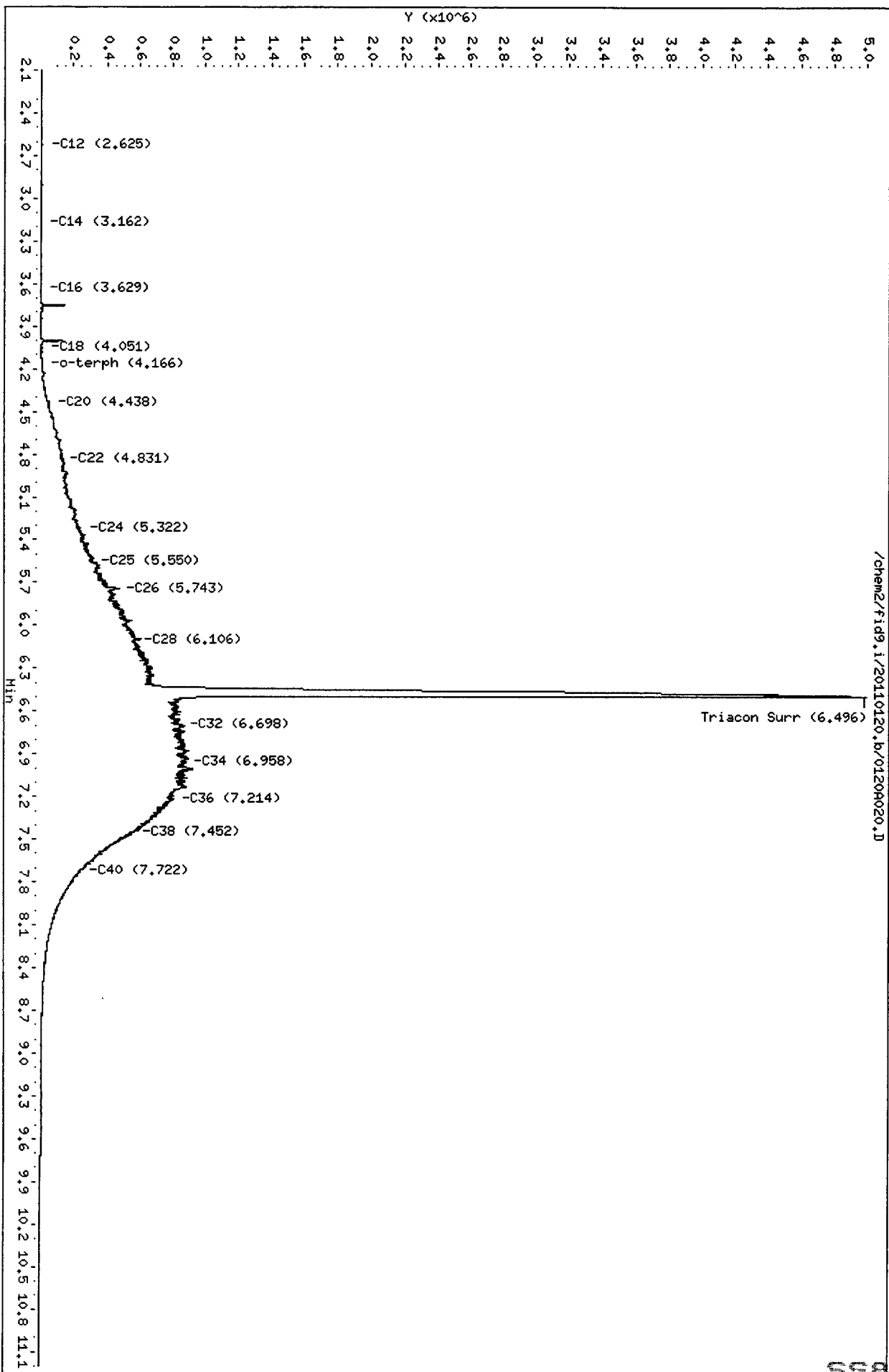
Sample Info: MOIL 5000

Column phase: RTX-1

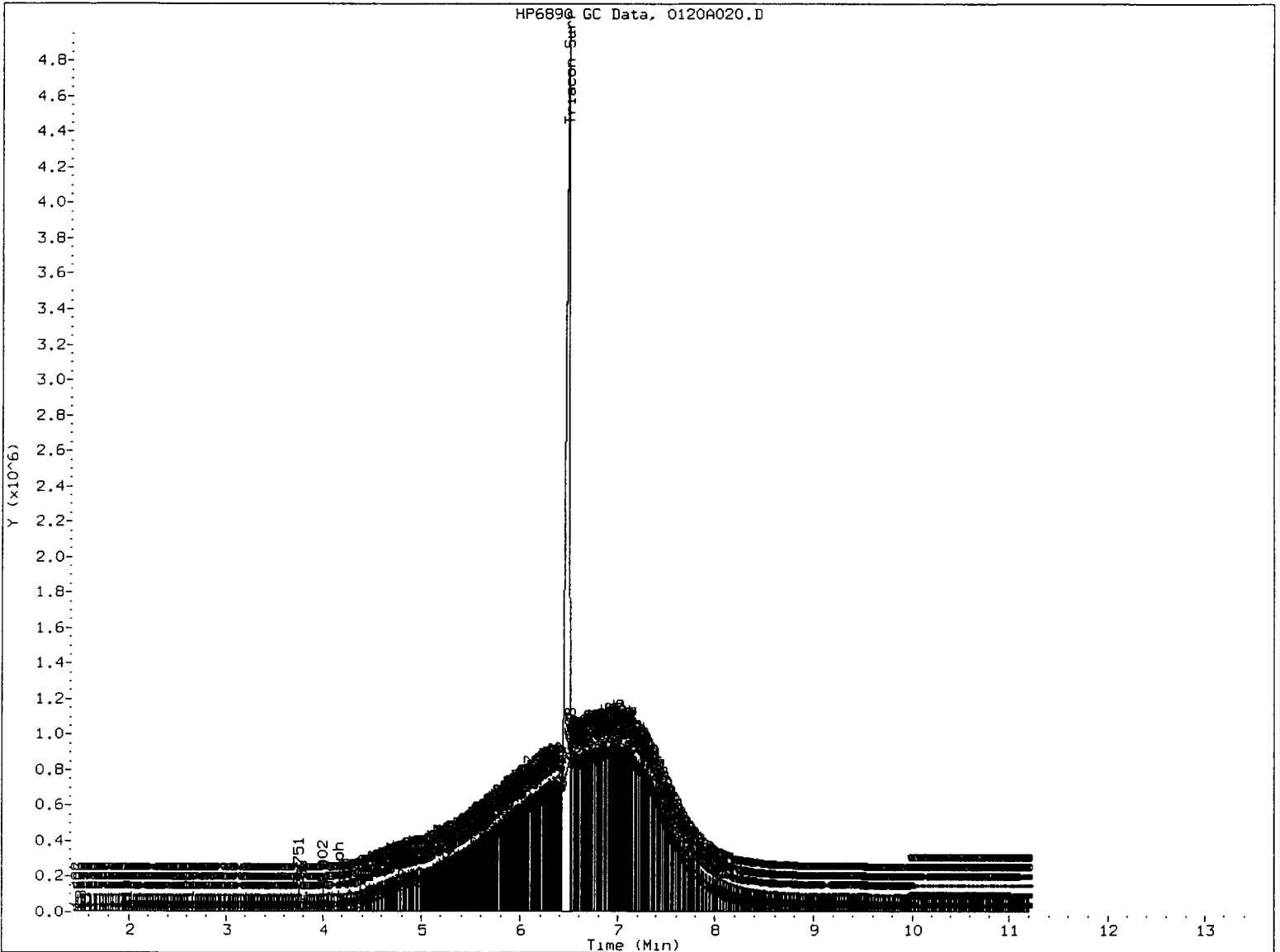
Instrument: fid9.i

Operator: JR

Column diameter: 0.25







MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation

5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: *4/3/10*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110120.b/0120A021.D  
 Method: /chem2/fid9.i/20110120.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: JR  
 Report Date: 01/31/2011

ARI ID: MOIL ICV  
 Client ID:  
 Injection: 20-JAN-2011 21:12  
 Dilution Factor: 1  
 Macro: 20-JAN-2011

FID:9 RESULTS							
Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.324	0.022	44320	50117	GAS (Tol-C12)	136658	7
C8	1.533	0.014	2616	2149	DIESEL (C12-C24)	538793	24
C10	1.989	0.001	1562	1745	M.OIL (C24-C38)	5432551	410 <i>82%</i>
C12	2.609	-0.013	390	355	AK-102 (C10-C25)	689107	27
C14	3.156	-0.001	155	99	AK-103 (C25-C36)	4380704	515 M
C16	3.626	-0.001	82	12			
C18	4.055	0.006	664	630			
C20	4.438	0.003	3115	3440			
C22	4.827	-0.001	8284	2608			
C24	5.325	0.001	15523	16382			
C25	5.549	0.001	20595	10950			
C26	5.747	-0.002	24839	4923			
C28	6.101	-0.003	34160	7461			
C32	6.696	-0.001	53883	31547	JP-4 (Tol-C14)	142919	9
C34	6.960	0.002	64809	30650	BUNKERC (C10-C38)	5992347	708 M
Filter Peak	----						
C36	7.210	0.001	67841	12118			
C38	7.448	0.000	64571	17929			
C40	7.725	0.002	44664	18424			
o-terph	4.171	0.003	1796	1471	JET-A (C10-C18)	46651	3
Triacon Surr	6.416	-0.005	466501	267769	JP8 (Tol-C16)	144649	8

M Indicates manual integration within range.

Range Times: NW Diesel (2.623 - 5.324) AK102 (1.99 - 5.55) Jet A (1.99 - 4.05)  
 NW M.Oil (5.32 - 7.45) AK103 (5.55 - 7.21) OR Diesel (1.99 - 6.10)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1471	0.1	0.2
Triacontane	267769	15.2	33.8

*Low bot Triacontane I.C.V. is not required.*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	8460.3	18-SEPT-2010
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110120.b/0120A021.D  
Date : 20-JAN-2011 21:12  
Client ID:  
Sample Info: MOIL ICV

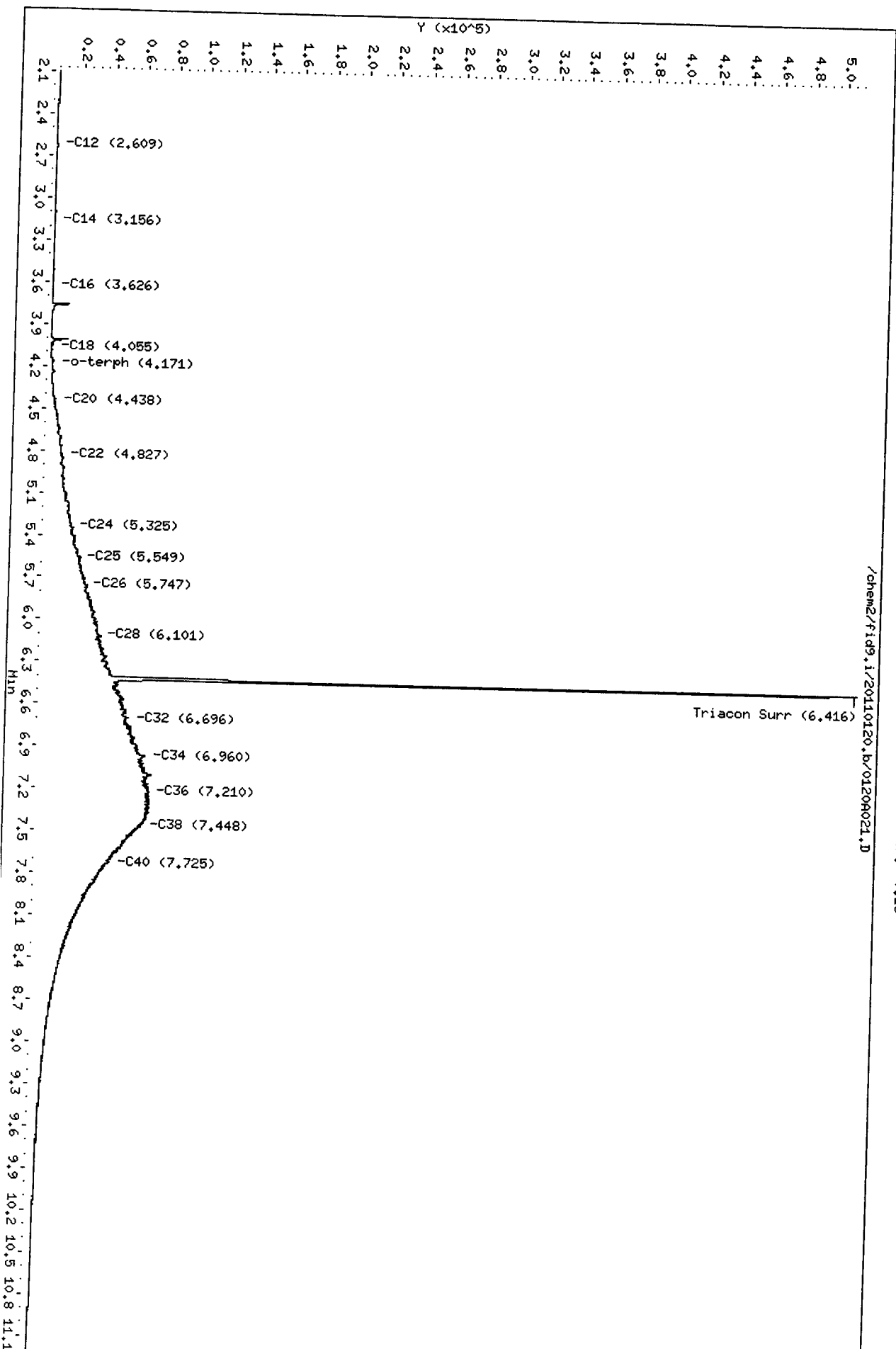
Column phase: RTX-1

Instrument: fid9.i

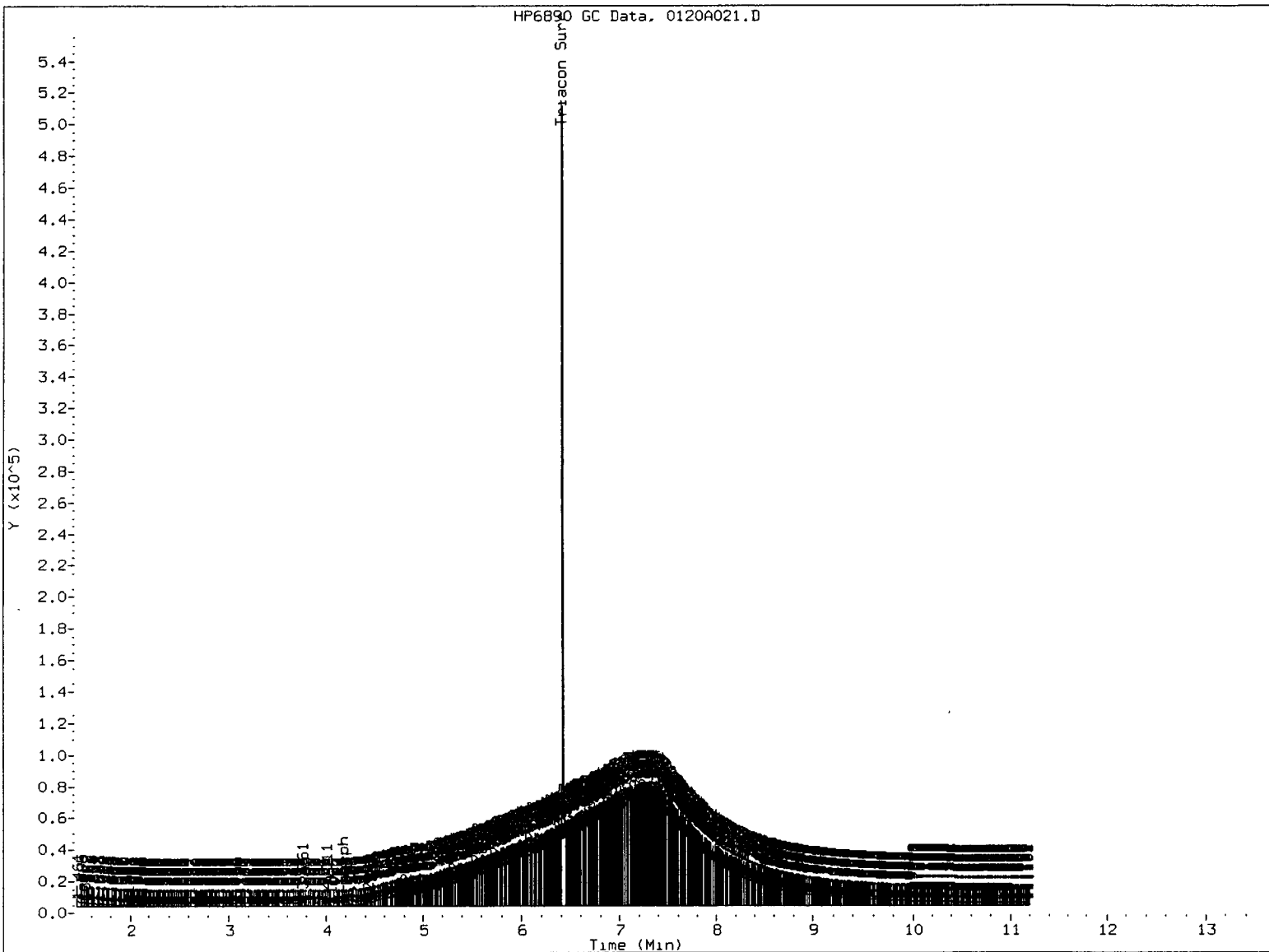
Operator: JR  
Column diameter: 0.25

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100219 : 0120 : 05



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *AK* Date: 1/27/11

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/fid9.i/20110120.b

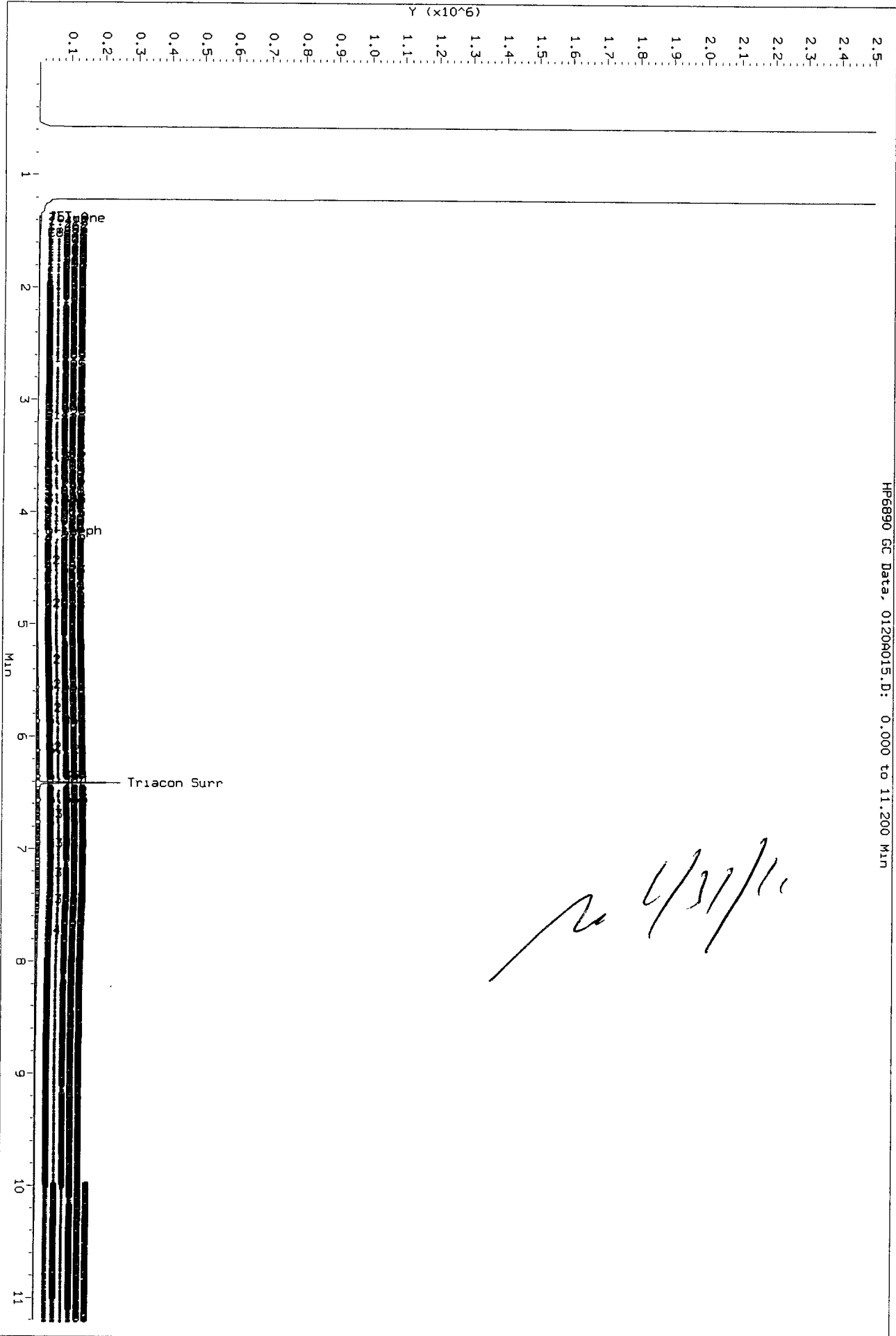
ARI Job No.: MOIL Method: fthphfid9a.m Instrument: fid9.i Date: 20-JAN-2011

Time Filename LabID ClientID DF Manually Integrated Compounds

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1904	0120A015.D	MOIL 100	MOIL 100	1	Triacon Surr,
1926	0120A016.D	MOIL 250	MOIL 250	1	Triacon Surr,
1947	0120A017.D	MOIL 500	MOIL 500	1	Triacon Surr,
2008	0120A018.D	MOIL 1000	MOIL 1000	1	Triacon Surr,
2030	0120A019.D	MOIL 2500	MOIL 2500	1	Triacon Surr,
2051	0120A020.D	MOIL 5000	MOIL 5000	1	Triacon Surr,
2112	0120A021.D	MOIL ICV		1	Triacon Surr,

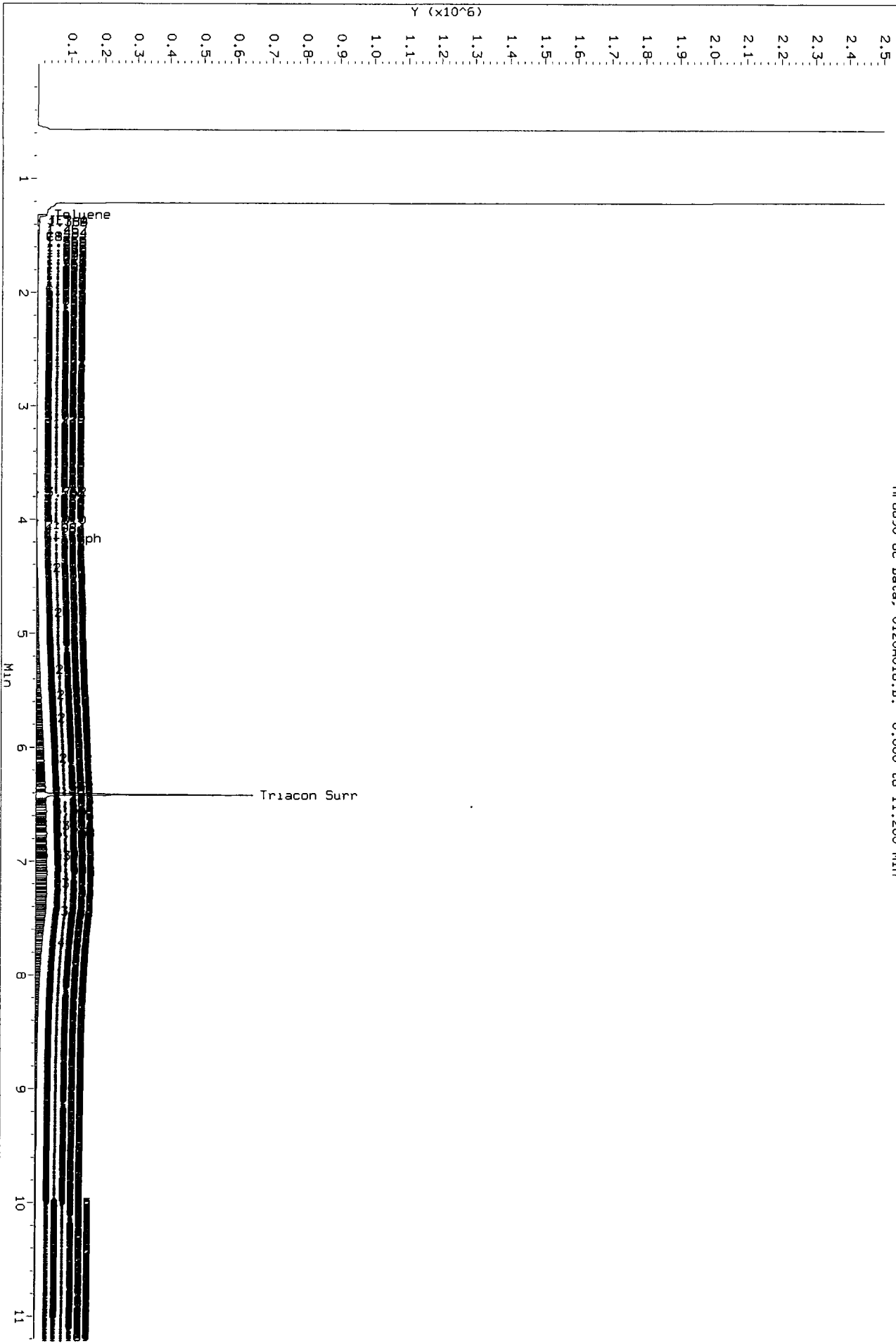
Data File: /chem2/fid9.1/20110120.b/01206015.D  
Injection Date: 20-JAN-2011 19:04  
Instrument: fid9.1  
Client Sample ID: MDIL 100

HP6890 GC Data, 01206015.D: 0.000 to 11.200 Min



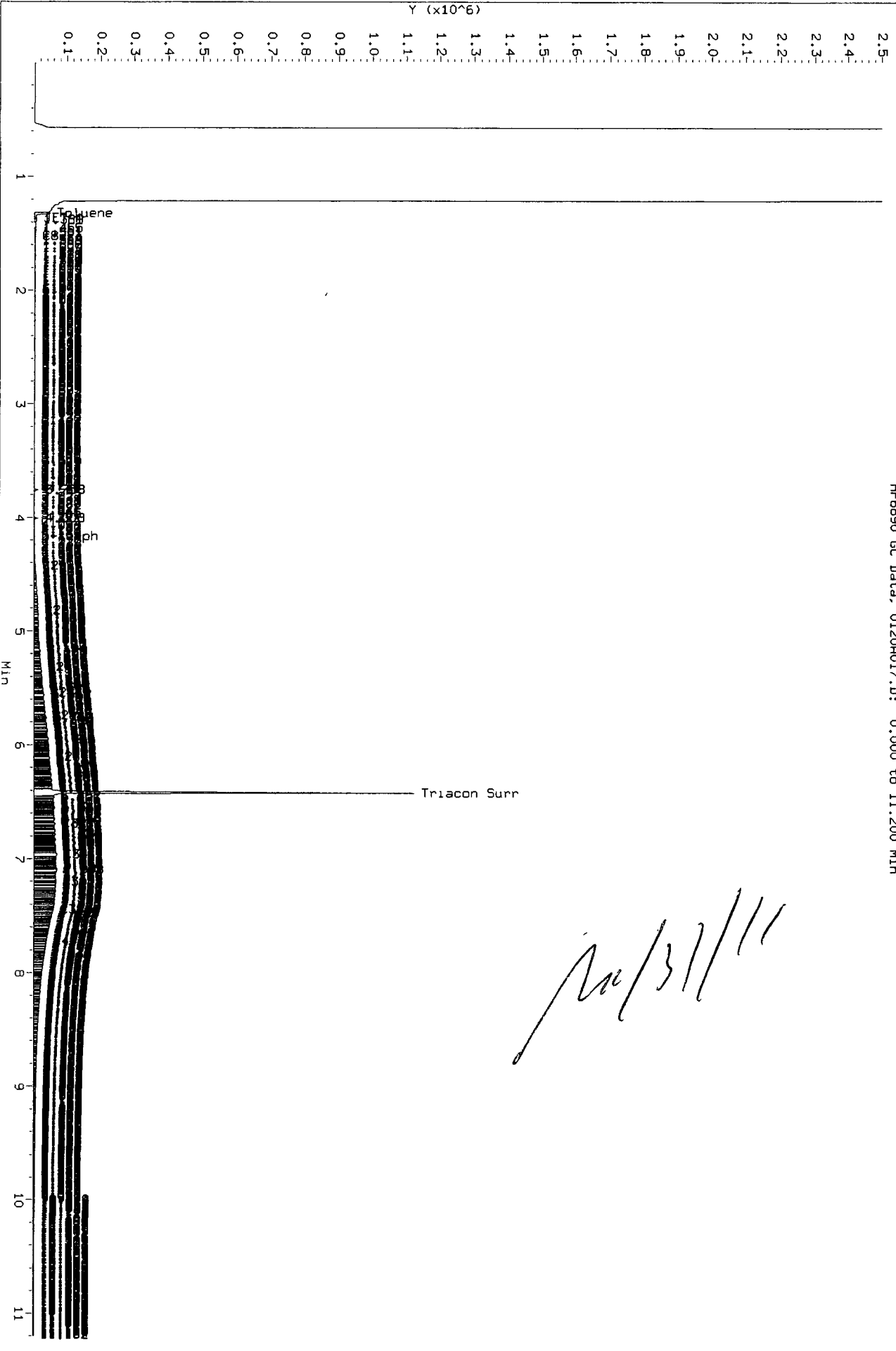
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Injection Date: 20-JAN-2011 19:25  
Instrument: fid9.1  
Client Sample ID: MOIL 250

HP6890 GC Data, 0120A016.D: 0.000 to 11.200 Min



Data File: /chem2/f109.1/20110120.b/0120A017.D  
Injection Date: 20-JAN-2011 19:47  
Instrument: f109.1  
Client Sample ID: MOIL 500

HP6890 GC Data, 0120A017.D: 0.000 to 11.200 Min

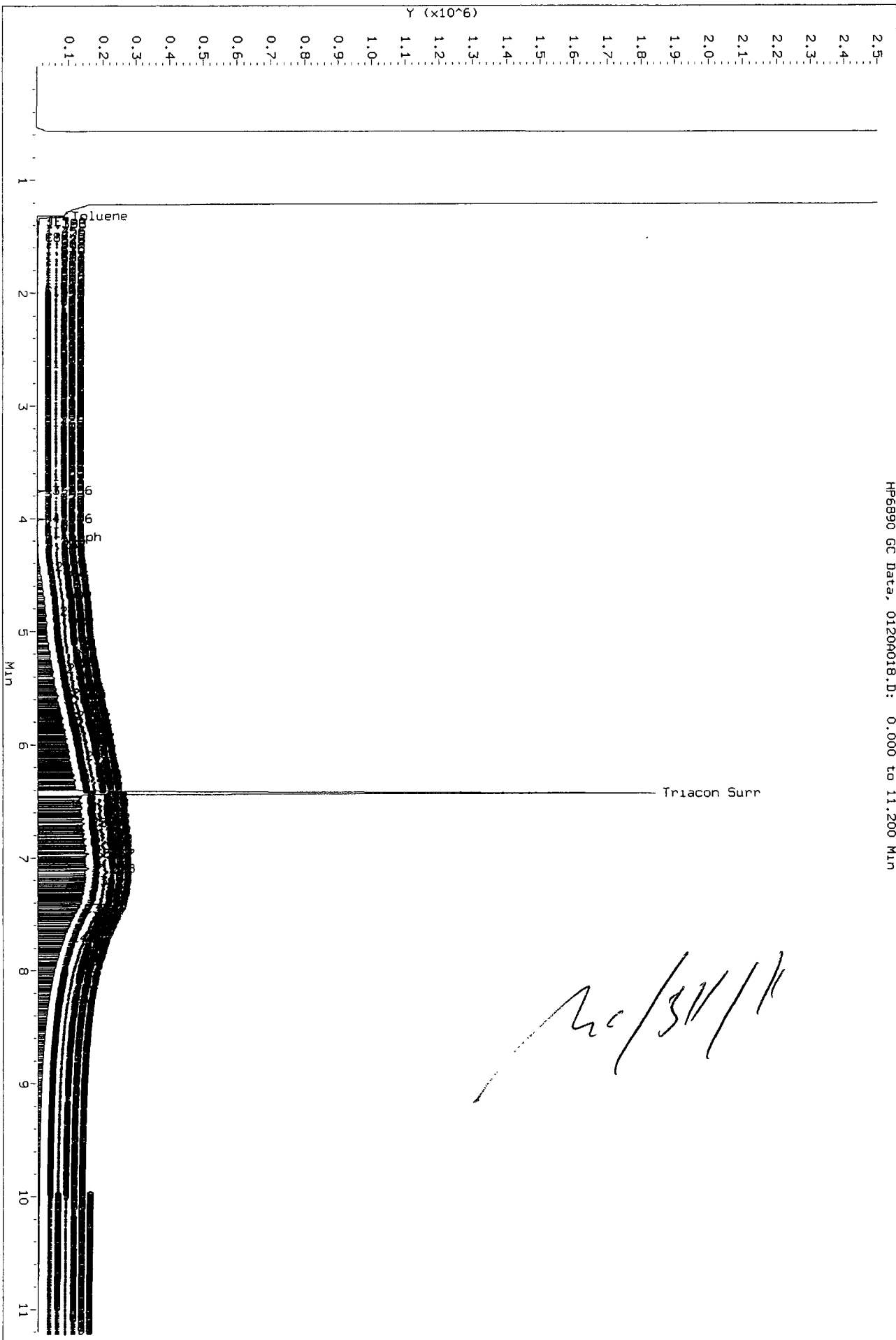


*Handwritten signature*  
Jan 31/11



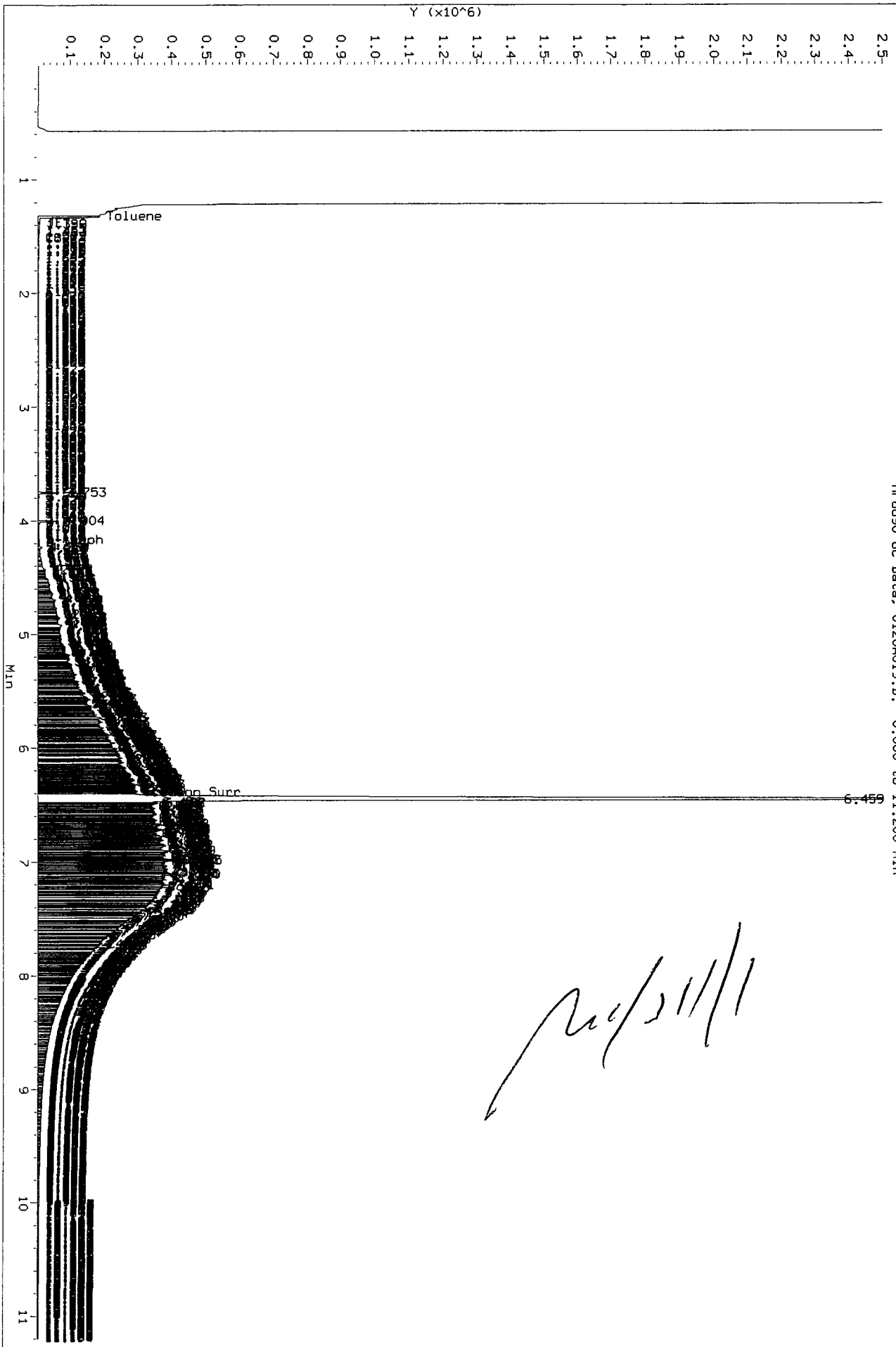
Data File: /chem2/fid9\_1/20110120\_b/01200018.D  
Injection Date: 20-JAN-2011 20:08  
Instrument: fid9\_1  
Client Sample ID: MDIL 1000

HP6890 GC Data, 01200018.D: 0.000 to 11.200 Min

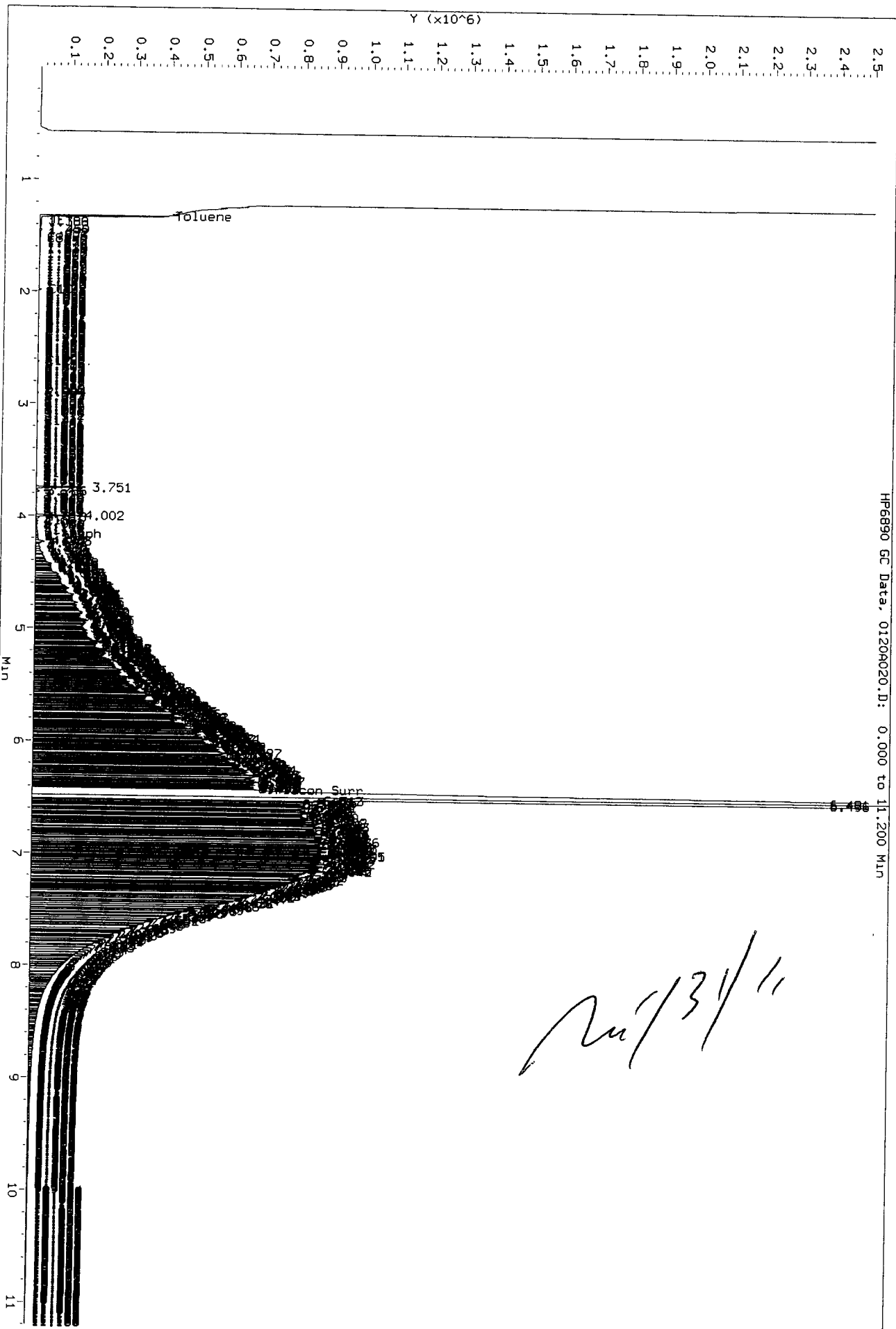


Data File: /chem2/fid9\_1/20110120\_b/0120A019.D  
Injection Date: 20-JAN-2011 20:30  
Instrument: fid9.1  
Client Sample ID: MOIL 2500

HP6890 GC Data, 0120A019.D: 0.000 to 11.200 Min



Data File: /chem2/fid9.1/20110120\_b/0120A020.D  
Injection Date: 20-JAN-2011 20:51  
Instrument: fid9.1  
Client Sample Id: MOIL 5000



HP6890 GC Data, 0120A020.D: 0.000 to 11.200 Min

*Jan 31/11*

**TPHD Raw Data**  
**Run Logs, Continuing Calibrations, and Raw Data**

**ARI Job ID: SS83**



**GC Analyst Notes / Corrective Action Log**

ARI Project ID: SS71, SS83 Client ID: FLOYD SNIDER

ARI SOP: 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)  
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): Diesel, MOI, 0.1 uph

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8  
FID-9 ECD-1 ECD-5 ECD-6 ECD-7

Dates: Curve: 4/13/11, 3/21/11 Analysis Start: 2/25/11

Endrin/DDT Breakdown <15%?	YES / NO / <u>NA</u>	Method Blank In Control?	<u>YES</u> / NO
ICal Meets RF & %RSD Criteria?	<u>YES</u> / NO	LCS/LCSD Recovery In Control?	<u>YES</u> / NO
CCal Meets RF & %RSD Criteria?	<u>YES</u> / NO	Surrogate Recovery In Control?	<u>YES</u> / NO
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	<u>YES</u> / NO
Internal Standard Meets Criteria?	YES / NO / <u>NA</u>	Special Analysis Criteria Met?	YES / NO / <u>NA</u>

**Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):**

**Additional Details on Reverse: Yes / No**

Analyst: [Signature] Date: 4/26/11

Reviewer: [Signature] Date: 4/6/11

# Analytical Resources Inc.: Organics Instrument Log

FID-4A Serial No.: US00003247

Date: 4/25/11

Analysis: NUTRIED

Analyst: ms

GC Program: TRIA

Column No: 977447

Column Type: AP1

Instrument Tune (.U or .CT.): \_\_\_\_\_

EM Voltage: \_\_\_\_\_

Calibration File: \_\_\_\_\_

Curve Date: 4/13/11, 3/21/11

IS/SS	Ical/CCal	LCS/ICV
<del>_____</del>	<u>1286-1</u>	<del>_____</del>
<del>_____</del>	<u>1271-2</u>	<del>_____</del>
<del>_____</del>	<u>1277-3</u>	<del>_____</del>
<del>_____</del>	<u>1277-2</u>	<del>_____</del>

Inject	Date/Time	Filename	DF	LabID	Inject	Date/Time	Filename	DF	LabID
1	25-APR-2011 14:49	0425a001.d	1	RINSE	51	26-APR-2011 10:33	0425a051.d	1	SS71S
2	25-APR-2011 15:12	0425a002.d	1	RT	52	26-APR-2011 10:57	0425a052.d	1	SS71MBW1
3	25-APR-2011 15:36	0425a003.d	1	IB	53	26-APR-2011 11:21	0425a053.d	1	SS71LCSW1
4	25-APR-2011 16:00	0425a004.d	1	DIESEL#1	54	26-APR-2011 11:45	0425a054.d	1	SS71LCSW1
5	25-APR-2011 16:24	0425a005.d	1	MOIL#1	55	26-APR-2011 12:09	0425a055.d	1	SS71QLS1
6	25-APR-2011 16:48	0425a006.d	1	SS71MBS1	56	26-APR-2011 12:33	0425a056.d	1	SS71T
7	25-APR-2011 17:12	0425a007.d	1	SS71LCSS1	57	26-APR-2011 12:57	0425a057.d	1	SS83P
8	25-APR-2011 17:36	0425a008.d	1	SS71QLS	58	26-APR-2011 13:21	0425a058.d	1	DIESEL#6
9	25-APR-2011 17:59	0425a009.d	1	SS71A	59	26-APR-2011 13:45	0425a059.d	1	MOIL#6
10	25-APR-2011 18:23	0425a010.d	1	SS71B	60	26-APR-2011 14:09	0425a060.d	1	BUNKER#1
11	25-APR-2011 18:47	0425a011.d	1	SS71C					
12	25-APR-2011 19:11	0425a012.d	1	SS71D					
13	25-APR-2011 19:35	0425a013.d	1	SS71E					
14	25-APR-2011 19:58	0425a014.d	1	SS71F					
15	25-APR-2011 20:22	0425a015.d	1	SS71G					
16	25-APR-2011 20:46	0425a016.d	1	DIESEL#2					
17	25-APR-2011 21:09	0425a017.d	1	MOIL#2					
18	25-APR-2011 21:33	0425a018.d	1	ST61A					
19	25-APR-2011 21:57	0425a019.d	1	ST61B					
20	25-APR-2011 22:20	0425a020.d	1	ST61C					
21	25-APR-2011 22:44	0425a021.d	1	ST61D					
22	26-APR-2011 23:08	0425a022.d	50	ST61E					
23	26-APR-2011 23:31	0425a023.d	1	ST61F					
24	26-APR-2011 23:55	0425a024.d	1	ST61G					
25	26-APR-2011 00:18	0425a025.d	1	ST61H					
26	26-APR-2011 00:42	0425a026.d	1	ST61I					
27	26-APR-2011 01:06	0425a027.d	1	ST61J					
28	26-APR-2011 01:30	0425a028.d	1	ST61LCSS1					
29	26-APR-2011 01:53	0425a029.d	1	ST61LCSW1					
30	26-APR-2011 02:17	0425a030.d	1	ST61MBS1					
31	26-APR-2011 02:40	0425a031.d	1	DIESEL#3					
32	26-APR-2011 03:04	0425a032.d	1	MOIL#3					
33	26-APR-2011 03:27	0425a033.d	1	SS71H					
34	26-APR-2011 03:51	0425a034.d	1	SS71I					
35	26-APR-2011 04:15	0425a035.d	1	SS71IMS					
36	26-APR-2011 04:38	0425a036.d	1	SS71IMSD					
37	26-APR-2011 05:02	0425a037.d	1	SS71J					
38	26-APR-2011 05:26	0425a038.d	1	SS71K					
39	26-APR-2011 05:49	0425a039.d	1	SS71L					
40	26-APR-2011 06:13	0425a040.d	1	SS71M					
41	26-APR-2011 06:37	0425a041.d	1	SS71N					
42	26-APR-2011 07:00	0425a042.d	1	SS71O					
43	26-APR-2011 07:24	0425a043.d	1	DIESEL#4					
44	26-APR-2011 07:48	0425a044.d	1	MOIL#4					
45	26-APR-2011 08:11	0425a045.d	20	ST61E					
46	26-APR-2011 08:35	0425a046.d	1	DIESEL#5					
47	26-APR-2011 08:59	0425a047.d	1	MOIL#5					
48	26-APR-2011 09:22	0425a048.d	1	SS71P					
49	26-APR-2011 09:46	0425a049.d	1	SS71Q					
50	26-APR-2011 10:10	0425a050.d	1	SS71R					

**Maintenance / Comments**

\_\_\_\_\_

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\_\_\_\_\_

\_\_\_\_\_

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a002.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: RT  
Client ID: RT  
Injection: 25-APR-2011 15:12  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.524	0.000	398463	345325	GAS (Tol-C12)	1058371	53.47
C8	1.885	0.000	208637	234834	DIESEL (C12-C24)	1522269	76.71
C10	3.521	0.000	348818	208744	M.OIL (C24-C38)	1677870	147.25
C12	4.514	0.000	319952	198320	AK-102 (C10-C25)	1961644	88.66
C14	5.288	0.000	323547	211063	AK-103 (C25-C36)	1543677	223.65
C16	5.964	0.000	320462	221632			
C18	6.602	0.000	299338	211622			
C20	7.207	0.000	299785	206456			
C22	7.782	0.000	303734	214934	MSPIRIT (Tol-C12)	1058371	57.60
C24	8.319	0.000	342156	248197			
C25	8.577	0.000	458489	340629			
C26	8.826	0.000	304541	253093			
C28	9.341	0.000	280734	256724			
C32	10.402	0.000	219572	240312			
C34	10.929	0.000	181139	205798	BUNKERC (C10-C38)	3630155	490.46
Filter Peak	12.879	0.000	1071	1059			
C36	11.443	0.000	147054	170101			
C38	11.941	0.000	84561	109925			
C40	12.420	0.000	39932	65343			
o-terph	6.762	0.000	900395	737988	JET-A (C10-C18)	1129006	76.07
Triacon Surr	9.882	0.000	648525	769635			

M Indicates manual integration within range.  
Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	737988	38.1	84.8
Triacontane	769635	45.3	100.7

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

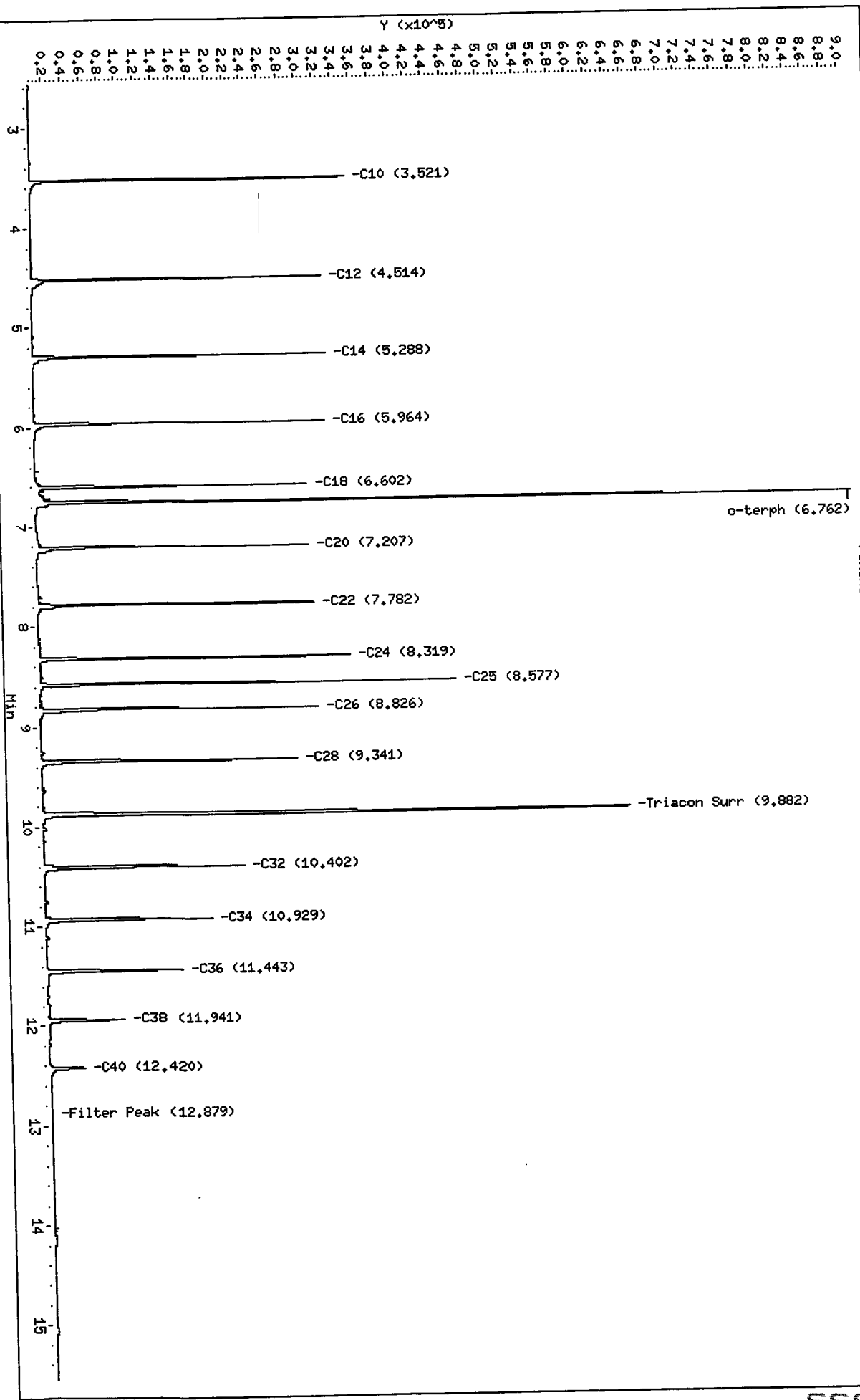
*MS 4/26/11*

Data File: /chem3/fid4a.i/20110425.b/0425a002.d  
Date: 25-APR-2011 15:12  
Client ID: RT  
Sample Info: RT

Column phase: RTX-1

/chem3/fid4a.i/20110425.b/0425a002.d

Instrument: fid4a.i  
Operator: HS  
Column diameter: 0.25





Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a003.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: IB  
Client ID: IB  
Injection: 25-APR-2011 15:36  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.499	-0.025	1689	5046	GAS (Tol-C12)	62408	3.15
C8	1.893	0.009	690	1220	DIESEL (C12-C24)	42375	2.14
C10	3.527	0.007	429	804	M.OIL (C24-C38)	97646	8.57
C12	4.514	0.000	218	62	AK-102 (C10-C25)	61247	2.77
C14	5.288	0.000	154	150	AK-103 (C25-C36)	80390	11.65
C16	5.971	0.008	72	121			
C18	6.597	-0.004	74	59			
C20	7.198	-0.009	239	239			
C22	7.788	0.007	287	348	MSPIRIT (Tol-C12)	62408	3.40
C24	8.313	-0.005	256	289			
C25	8.577	0.001	231	256			
C26	8.822	-0.004	220	166			
C28	9.330	-0.011	244	142			
C32	10.387	-0.014	3608	5003			
C34	10.939	0.010	337	111	BUNKERC (C10-C38)	156010	21.08
Filter Peak	12.880	0.001	1011	1591			
C36	11.454	0.011	2584	4650			
C38	11.945	0.005	477	149			
C40	12.412	-0.008	1624	3954			
o-terph	6.764	0.002	1145224	929503	JET-A (C10-C18)	29907	2.02
Triacon Surr	9.883	0.001	648557	762882			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	929503	48.0	106.8
Triacotane	762882	44.9	99.8

*MS 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a003.d  
Date: 25-APR-2011 15:36  
Client ID: IB  
Sample Info: IB

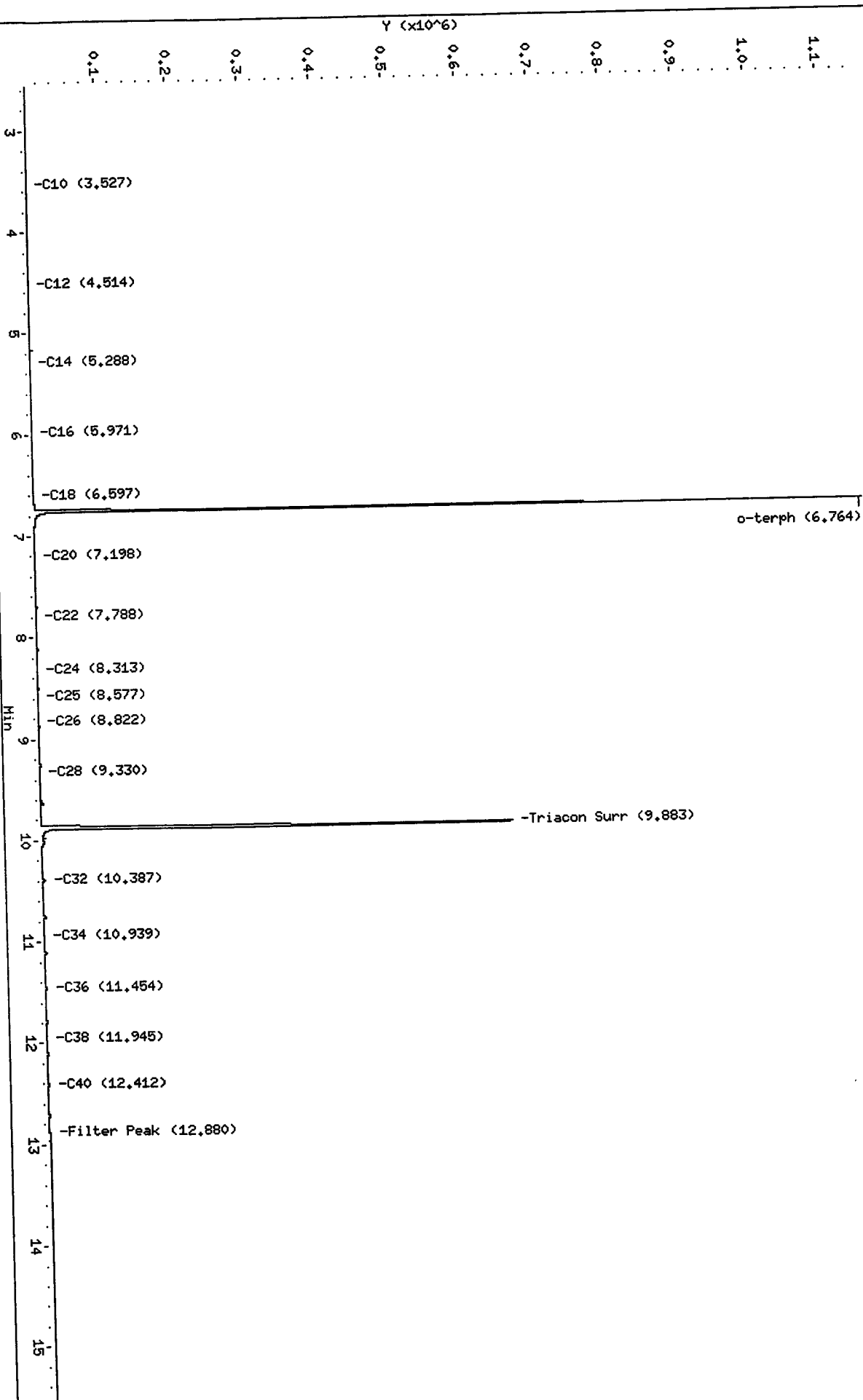
Column phase: RTX-1

Instrument: fid4a.i

Operator: HS

Column diameter: 0.25

/chem3/fid4a.i/20110425.b/0425a003.d



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a046.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL#5  
Client ID: LORA LAKE  
Injection: 26-APR-2011 08:35  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.515	-0.009	493	536	GAS (Tol-C12)	752315	38.01
C8	1.894	0.009	2507	4228	DIESEL (C12-C24)	5407190	272.48
C10	3.521	0.000	18034	11413	M.OIL (C24-C38)	178413	15.66
C12	4.513	-0.002	47902	45658	AK-102 (C10-C25)	5995517	270.98 M
C14	5.285	-0.003	94140	92609	AK-103 (C25-C36)	124194	17.99
C16	5.962	-0.002	181510	155143			
C18	6.598	-0.003	156158	162700			
C20	7.203	-0.005	95787	106225			
C22	7.775	-0.007	41982	48300	MSPIRIT (Tol-C12)	752315	40.95
C24	8.311	-0.008	10308	22631			
C25	8.568	-0.008	4235	13655			
C26	8.823	-0.003	1778	4620			
C28	9.336	-0.006	638	730			
C32	10.378	-0.024	2084	4307			
C34	10.923	-0.006	568	468	BUNKERC (C10-C38)	6144139	830.11 M
Filter Peak	12.894	0.015	6700	10235			
C36	11.443	0.000	1729	3748			
C38	11.935	-0.006	876	718			
C40	12.402	-0.018	1627	4833			
o-terph	6.764	0.001	1073444	925551	JET-A (C10-C18)	4320724	291.11
Triacon Surr	9.877	-0.005	483	838			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	925551	47.8	106.3
Triacotane	838	0.0	0.1

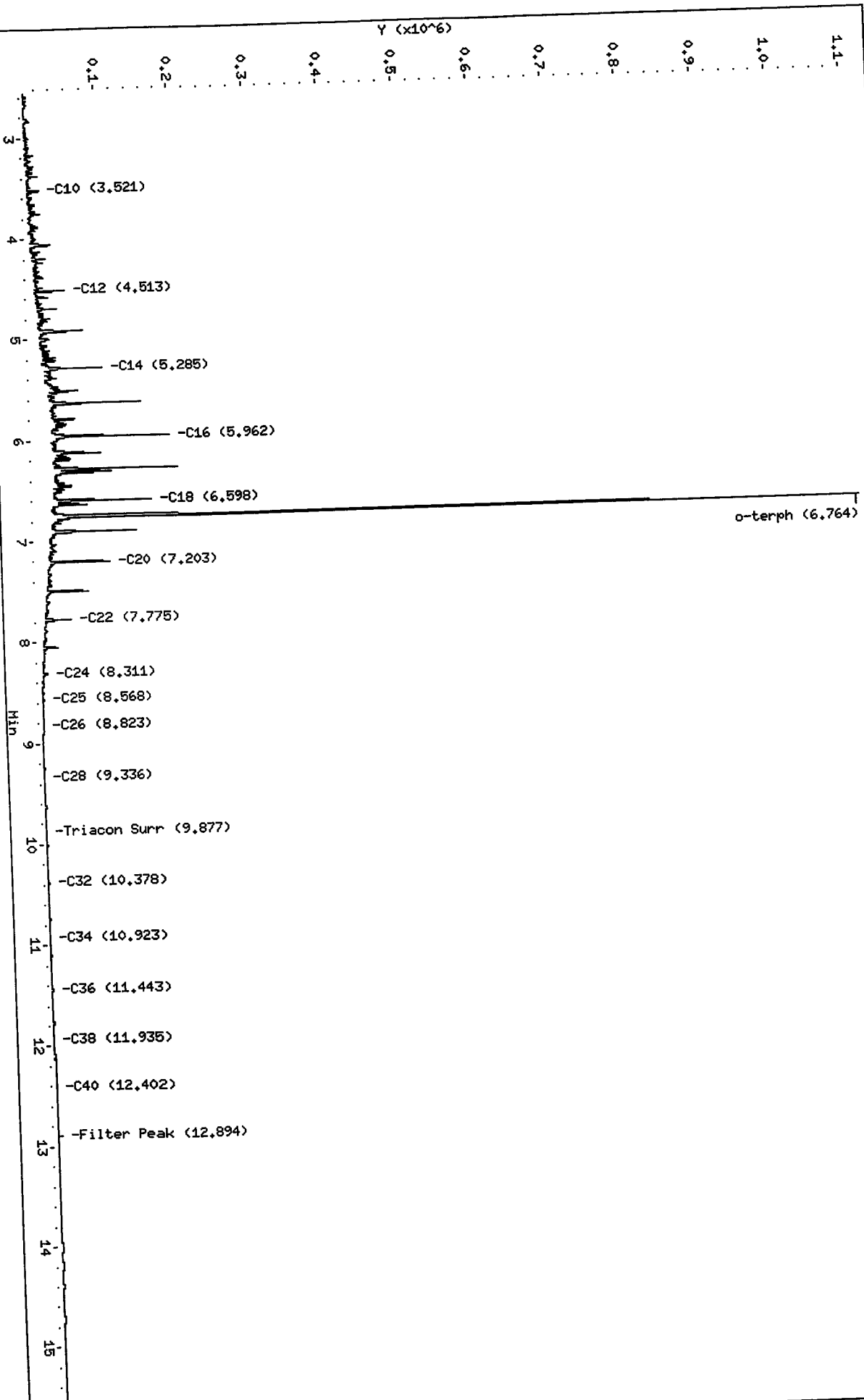
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a046.d  
Date: 26-APR-2011 08:35  
Client ID: LORA LAKE  
Sample Info: DIESEL#5

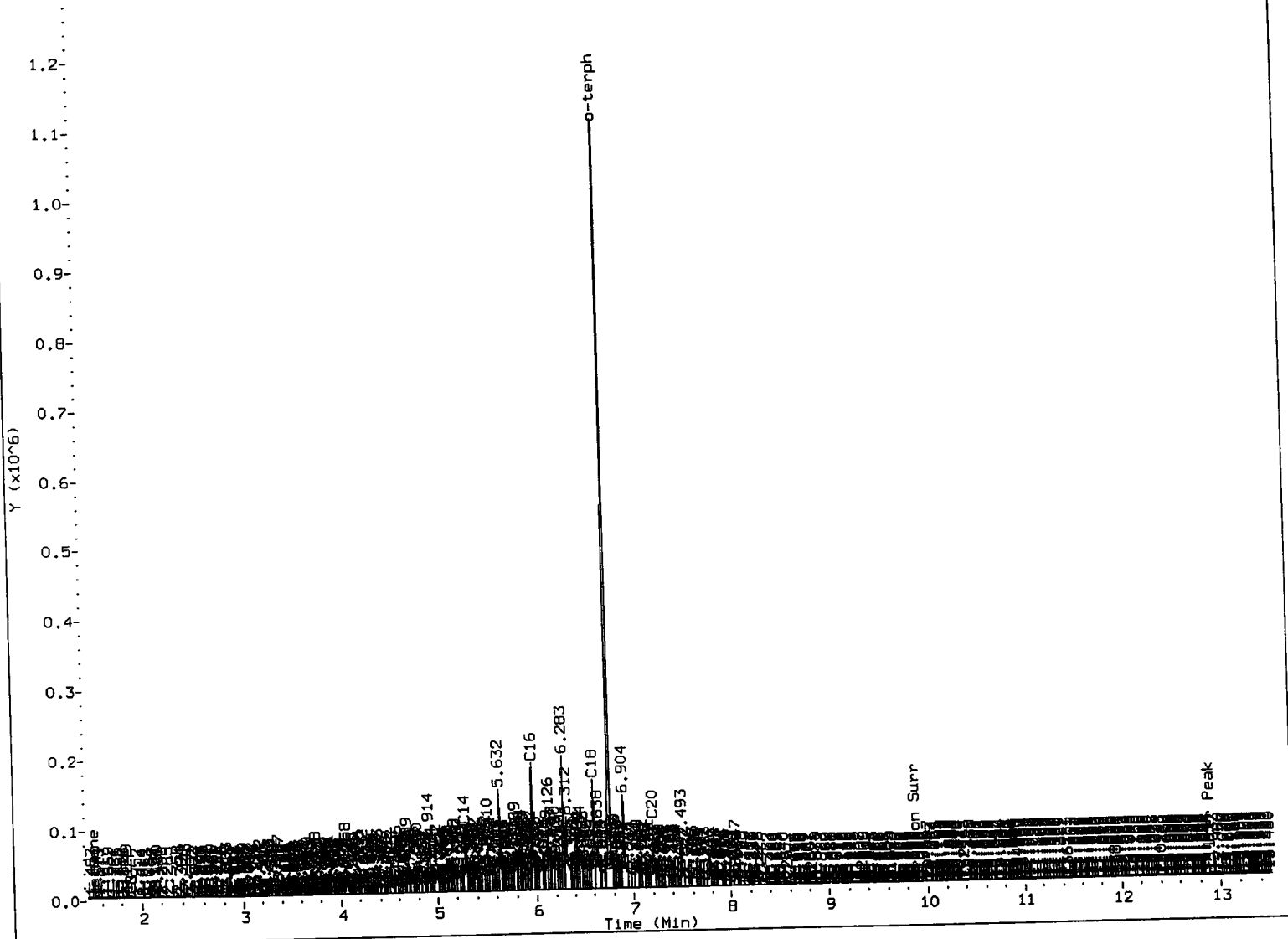
Column phase: RTX-1

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Instrument: fid4a.i  
Operator: HS  
Column diameter: 0.25



HP6890 GC Data, 0425a046.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: \_\_\_\_\_

Date: \_\_\_\_\_

*[Handwritten signature]*      *[Handwritten date: 4/26/11]*

Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a047.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL#5  
Client ID: LORA LAKE  
Injection: 26-APR-2011 08:59  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.529	0.005	724	1130	GAS (Tol-C12)	39093	1.98
C8	1.887	0.003	233	341	DIESEL (C12-C24)	812109	40.92
C10	3.525	0.004	451	615	M.OIL (C24-C38)	5294572	464.64
C12	4.518	0.004	301	162	AK-102 (C10-C25)	1036295	46.84
C14	5.294	0.006	257	396	AK-103 (C25-C36)	4775780	691.93 M
C16	5.967	0.003	5366	1304			
C18	6.598	-0.003	448	888			
C20	7.202	-0.005	2847	3352			
C22	7.779	-0.002	10549	8069	MSPiRiT (Tol-C12)	39093	2.13
C24	8.320	0.002	20305	10066			
C25	8.581	0.005	27821	33651			
C26	8.837	0.011	31433	69862			
C28	9.340	-0.001	33322	12499			
C32	10.418	0.016	28641	27029			
C34	10.940	0.011	22918	34419	BUNKERC (C10-C38)	6124520	827.46 M
Filter Peak	12.877	-0.002	3259	3836			
C36	11.441	-0.002	16546	40101			
C38	11.947	0.006	8493	9899			
C40	12.435	0.016	4690	2499			
o-terph	6.771	0.009	776	855	JET-A (C10-C18)	64643	4.36
Triacon Surr	9.879	-0.003	740806	844840			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	855	0.0	0.1
Triacotane	844840	49.7	110.5

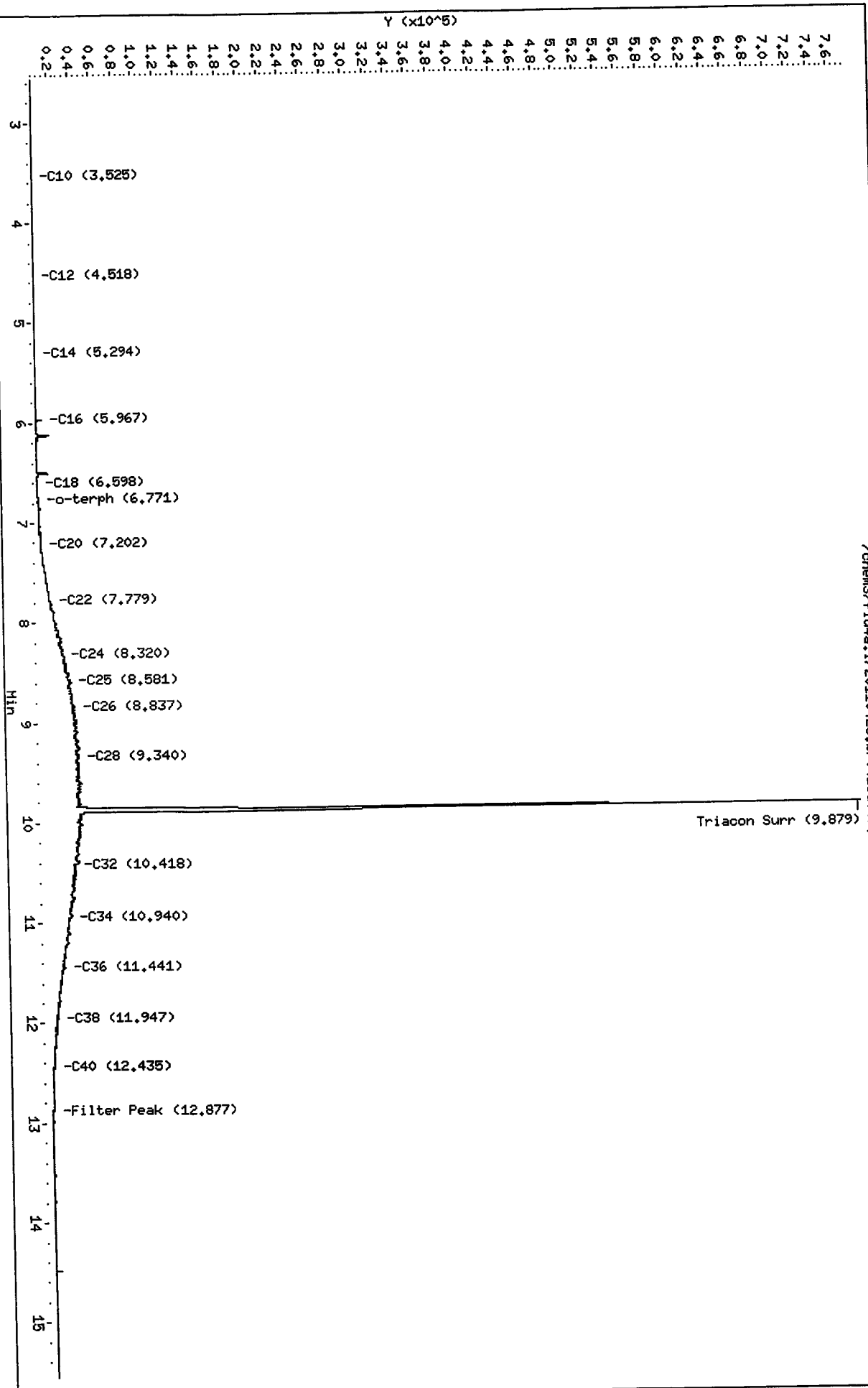
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a047.d  
Date: 26-APR-2011 08:59  
Client ID: LORA LAKE  
Sample Info: H01L#5

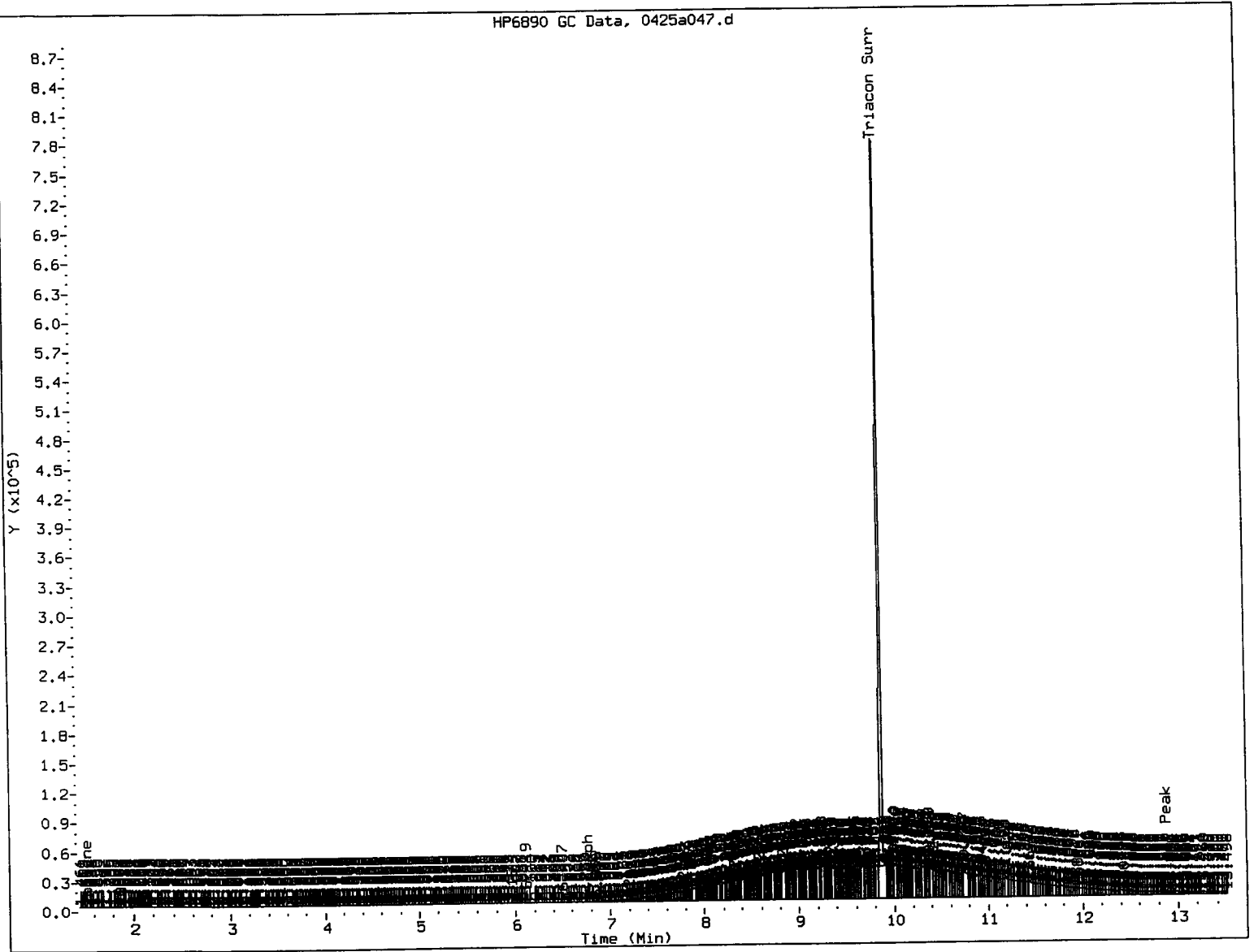
Column phase: RTX-1

Instrument: fid4a.i  
Operator: HS  
Column diameter: 0.25

/chem3/fid4a.i/20110425.b/0425a047.d



HP6890 GC Data, 0425a047.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: Me

Date: 4/26/16



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a052.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: SS71MBW1  
Client ID: SS71MBW1  
Injection: 26-APR-2011 10:57  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.530	0.006	4751	4372	GAS (Tol-C12)	48451	2.45
C8	1.890	0.005	271	716	DIESEL (C12-C24)	252011	12.70
C10	3.526	0.006	257	314	M.OIL (C24-C38)	260468	22.86
C12	4.513	-0.002	278	254	AK-102 (C10-C25)	286015	12.93
C14	5.298	0.009	517	1192	AK-103 (C25-C36)	234154	33.93
C16	5.965	0.002	1161	1579			
C18	6.598	-0.004	1392	1278			
C20	7.220	0.012	1379	1719			
C22	7.769	-0.013	1840	3944	MSPIRIT (Tol-C12)	48451	2.64
C24	8.314	-0.005	1348	1650			
C25	8.579	0.003	1198	2935			
C26	8.828	0.003	1043	1198			
C28	9.334	-0.008	946	1794			
C32	10.380	-0.021	2994	6293			
C34	10.910	-0.019	2085	4144	BUNKERC (C10-C38)	536217	72.45
Filter Peak	12.885	0.006	1040	1237			
C36	11.442	-0.001	3544	12196			
C38	11.951	0.010	618	754			
C40	12.405	-0.015	1611	3969			
o-terph	6.761	-0.001	1037658	855317	JET-A (C10-C18)	178619	12.03
Triacon Surr	9.876	-0.006	656458	736772			

M Indicates manual integration within range.

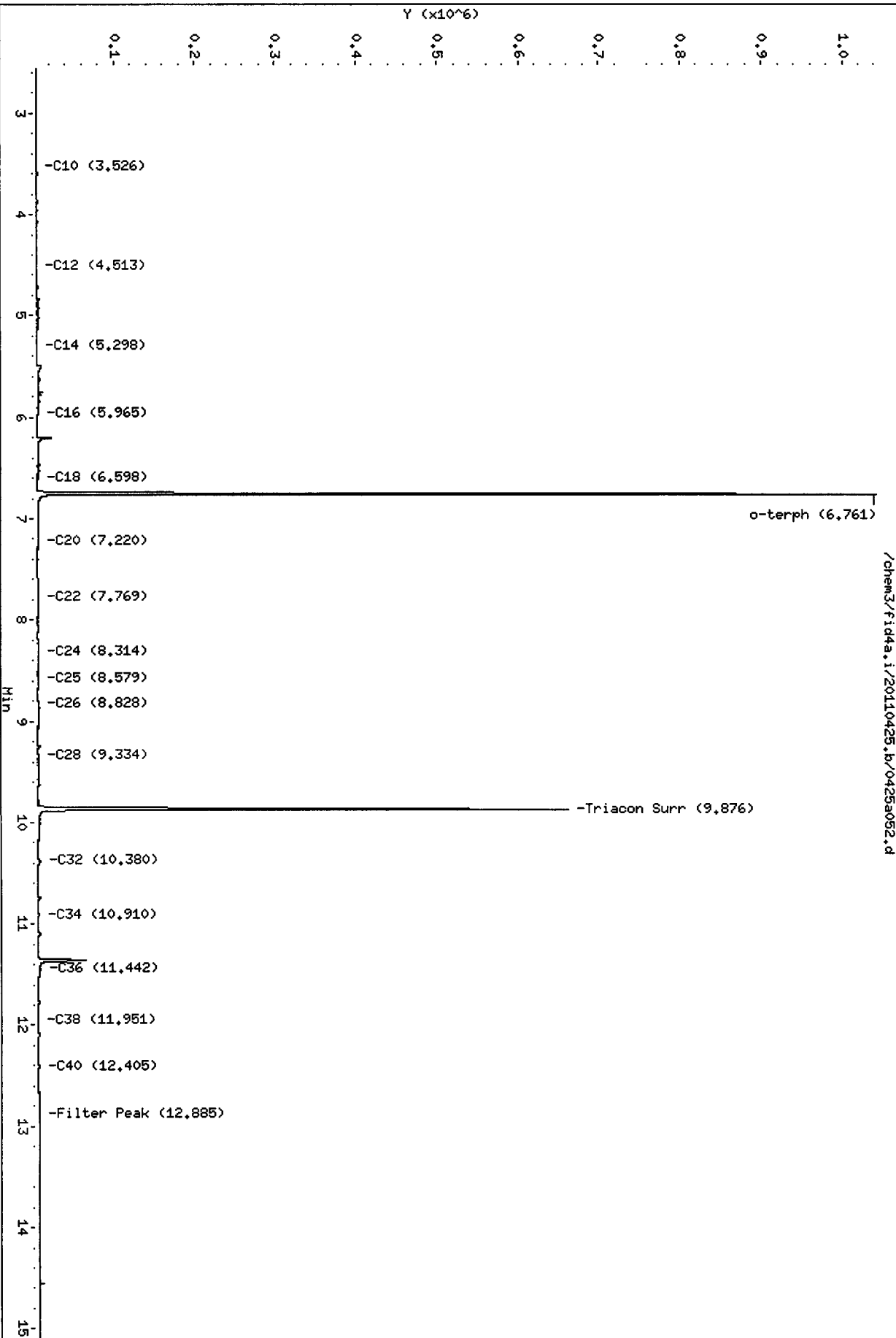
Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	855317	44.2	98.2
Triacontane	736772	43.4	96.4

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a052.d  
Date: 26-APR-2011 10:57  
Client ID: SS71HBM1  
Sample Info: SS71HBM1  
Column phase: RTX-1

Instrument: fid4a.i  
Operator: HS  
Column diameter: 0.25



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a053.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: SS71LCSW1  
Client ID: SS71LCSW1  
Injection: 26-APR-2011 11:21  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.527	0.003	28121	19823	GAS (Tol-C12)	2972522	150.19
C8	1.886	0.001	5907	9340	DIESEL (C12-C24)	26400765	1330.42
C10	3.520	-0.001	80653	49410	M.OIL (C24-C38)	460265	40.39
C12	4.515	0.001	201201	195969	AK-102 (C10-C25)	28797585	1301.59 M
C14	5.292	0.004	398847	554587	AK-103 (C25-C36)	353373	51.20
C16	5.958	-0.006	263631	254367			
C18	6.609	0.007	679685	823536			
C20	7.211	0.004	472799	539698			
C22	7.779	-0.003	233320	287863	MSPIRIT (Tol-C12)	2972522	161.79
C24	8.312	-0.007	71442	90947			
C25	8.566	-0.010	30424	67992			
C26	8.817	-0.009	10551	20878			
C28	9.332	-0.009	2059	6852			
C32	10.381	-0.021	1281	4691			
C34	10.911	-0.019	885	1787	BUNKERC (C10-C38)	29164497	3940.31 M
Filter Peak	12.881	0.001	858	727			
C36	11.439	-0.004	2003	6792			
C38	11.948	0.007	502	263			
C40	12.405	-0.015	930	2315			
o-terph	6.767	0.004	916655	772078	JET-A (C10-C18)	20520502	1382.60
Triacon Surr	9.875	-0.007	658498	715071			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	772078	39.9	88.7
Triacontane	715071	42.1	93.5

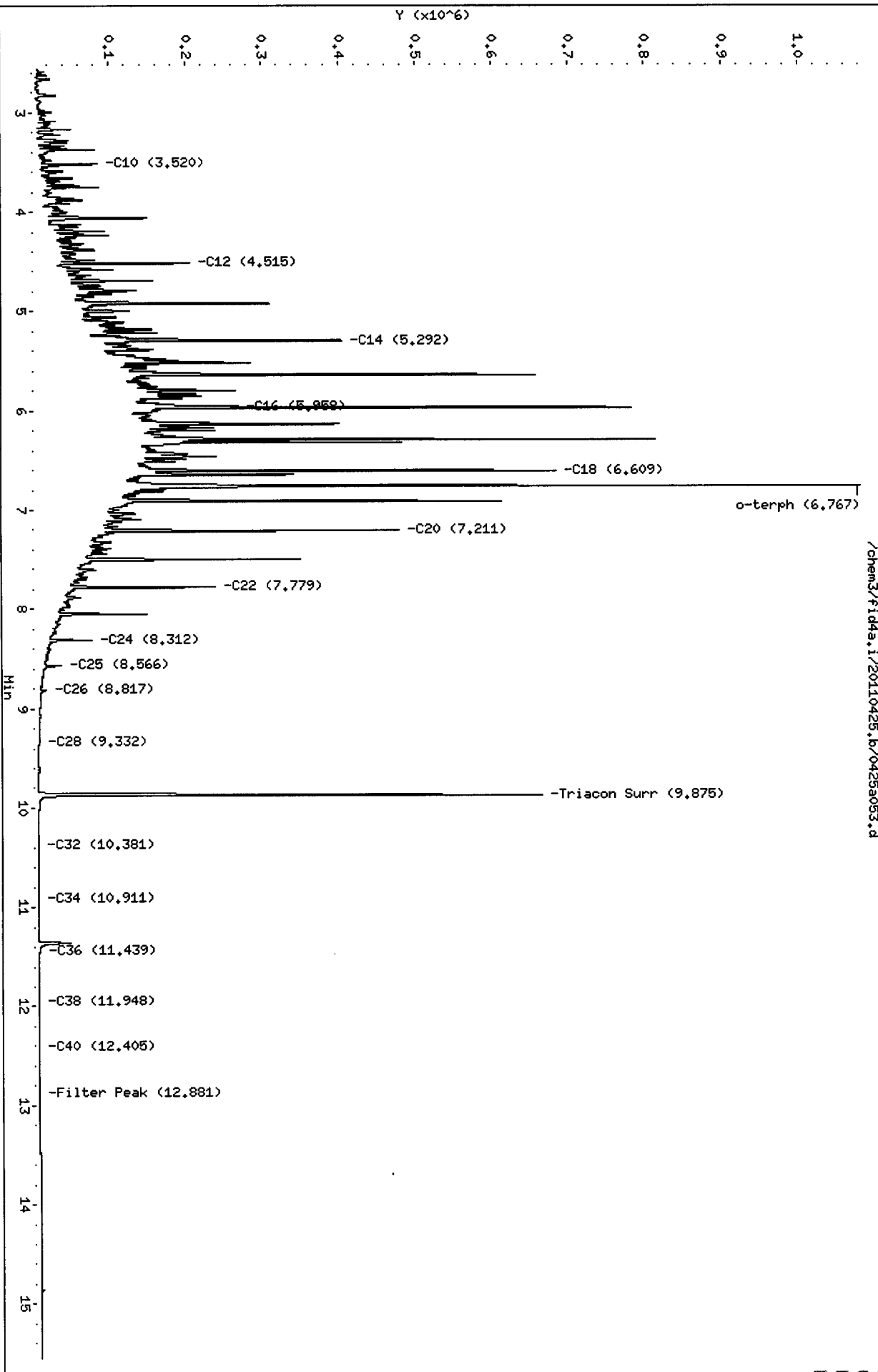
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

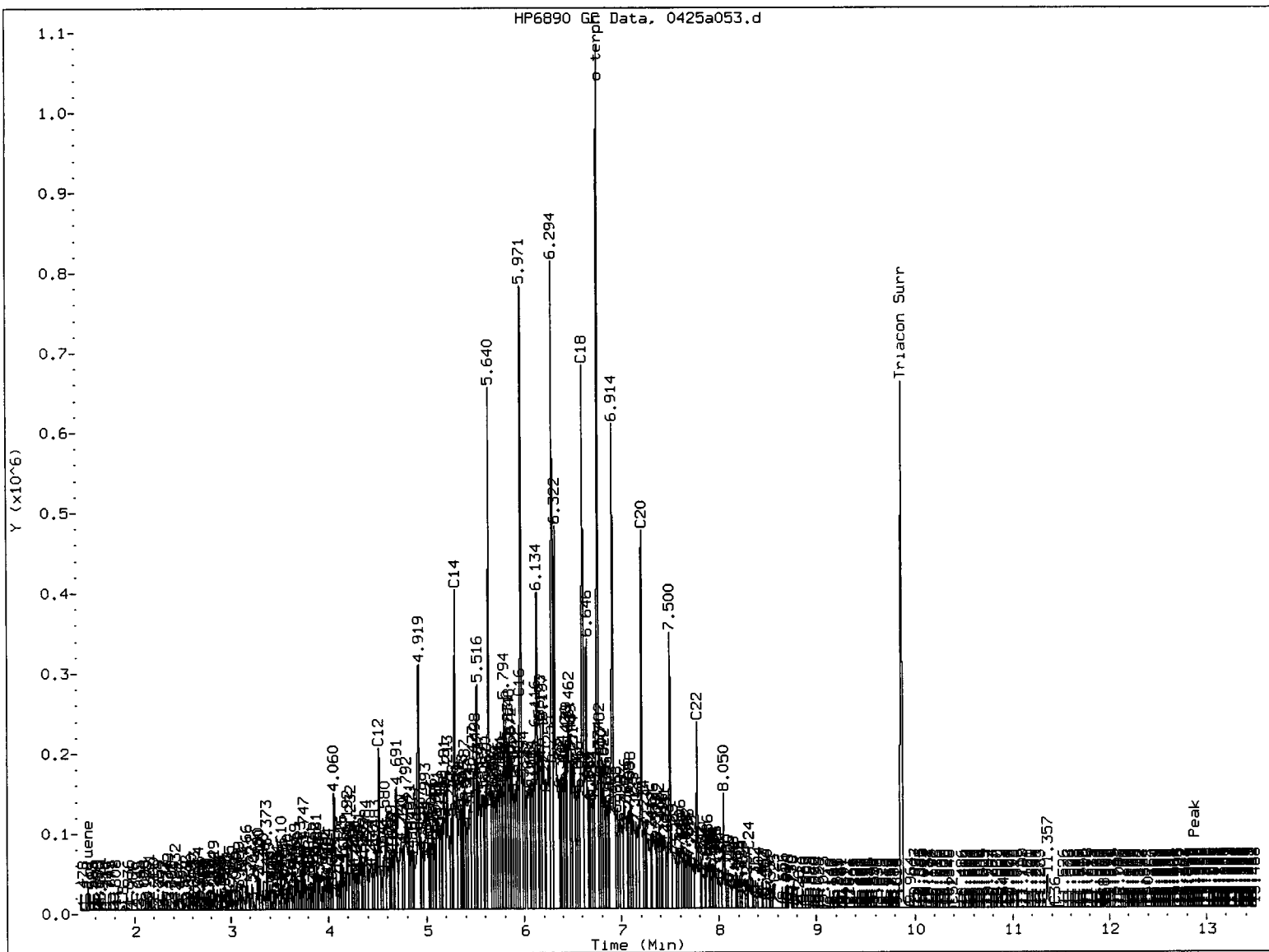
Data File: /chem3/fid4a.i/20110425.b/0425a053.d  
Date: 26-APR-2011 11:21  
Client ID: SS71LCSM1  
Sample Info: SS71LCSM1

Column phase: RTX-1

Instrument: fid4a.i  
Operator: NS  
Column diameter: 0.25

/chem3/fid4a.i/20110425.b/0425a053.d





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: 9/26/11

Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a054.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: SS71LCSDW1  
Client ID: SS71LCSDW1  
Injection: 26-APR-2011 11:45  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.531	0.007	23558	15461	GAS (Tol-C12)	2908985	146.98
C8	1.889	0.005	6048	5868	DIESEL (C12-C24)	26508990	1335.87
C10	3.519	-0.002	81620	48685	M.OIL (C24-C38)	464216	40.74
C12	4.515	0.001	212128	194155	AK-102 (C10-C25)	28874084	1305.04 M
C14	5.292	0.003	413073	526173	AK-103 (C25-C36)	345410	50.04
C16	5.971	0.007	786539	935634			
C18	6.609	0.007	681235	840910			
C20	7.210	0.003	480705	549539			
C22	7.779	-0.003	237656	247083	MSPIRIT (Tol-C12)	2908985	158.33
C24	8.311	-0.008	71126	101890			
C25	8.565	-0.012	30474	58266			
C26	8.816	-0.010	11002	22321			
C28	9.334	-0.007	2081	3396			
C32	10.380	-0.022	1513	4227			
C34	10.909	-0.021	1335	2366	BUNKERC (C10-C38)	29232248	3949.46 M
Filter Peak	12.870	-0.010	788	837			
C36	11.442	-0.001	2072	7433			
C38	11.938	-0.003	482	402			
C40	12.436	0.016	595	511			
o-terph	6.767	0.004	928698	780604	JET-A (C10-C18)	20557442	1385.09
Triacon Surr	9.874	-0.008	663532	716463			

M Indicates manual integration within range.

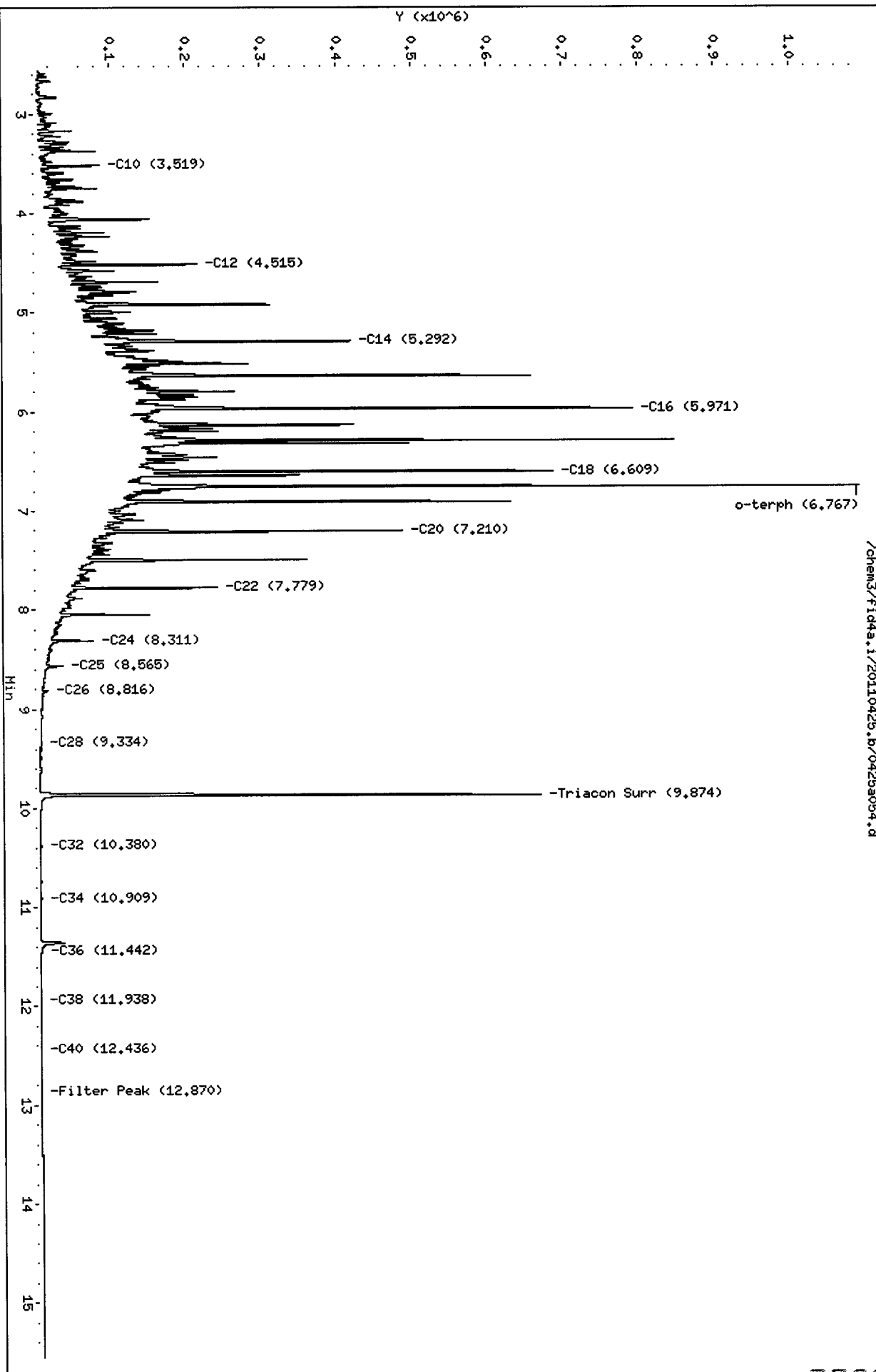
Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	780604	40.3	89.7
Triacontane	716463	42.2	93.7

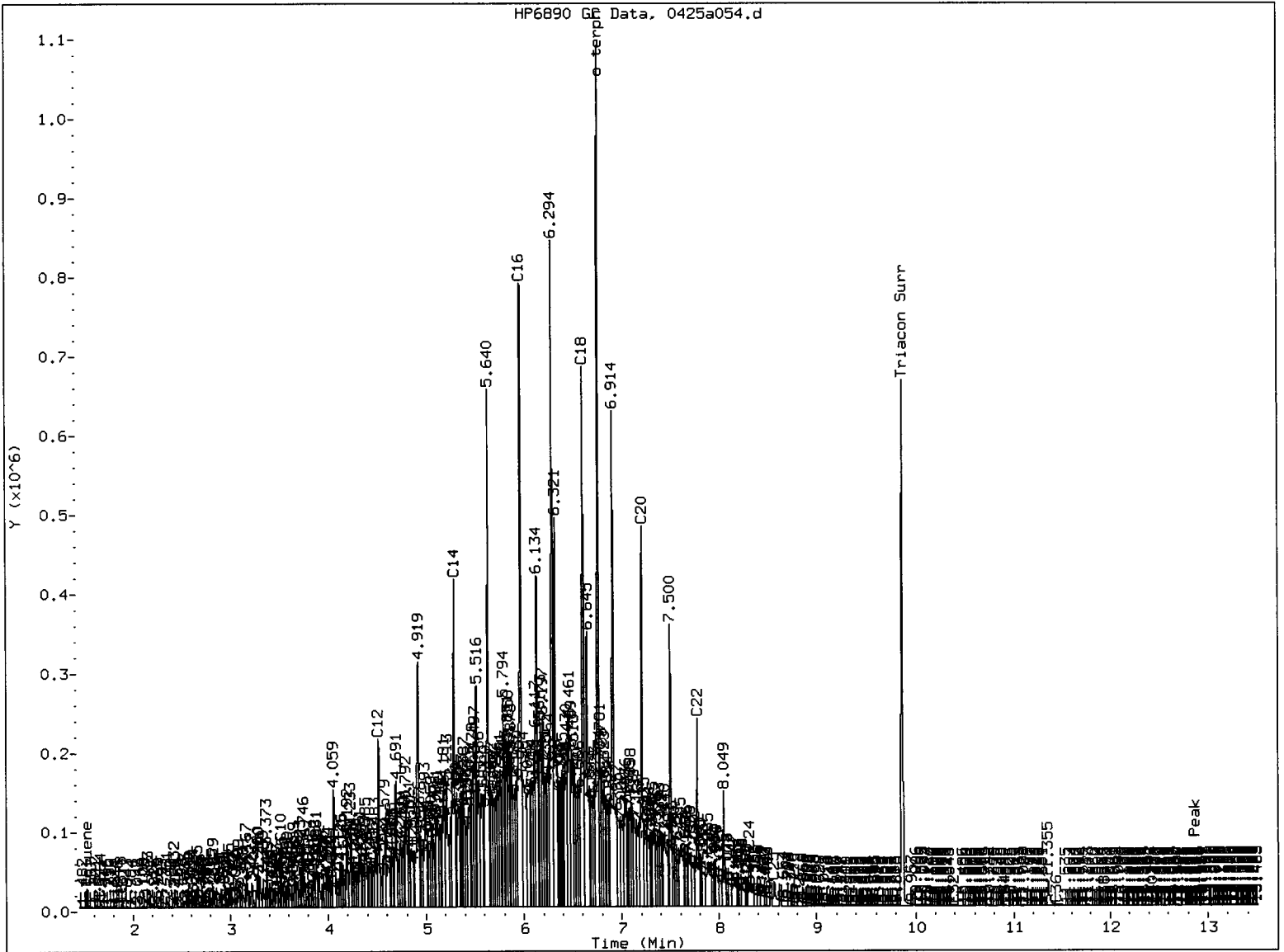
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a054.d  
Date: 26-APR-2011 11:45  
Client ID: SS71LCSDM1  
Sample Info: SS71LCSDM1  
Column phase: RTX-1

Instrument: fid4a.i  
Operator: MS  
Column diameter: 0.25



/chem3/fid4a.i/20110425.b/0425a054.d



MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other \_\_\_\_\_

Analyst:       

Date: 7/20/11



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a057.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: SS83P  
Client ID: DMA-RB-042011  
Injection: 26-APR-2011 12:57  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.530	0.005	4436	5382	GAS (Tol-C12)	37100	1.87
C8	1.891	0.007	304	790	DIESEL (C12-C24)	147644	7.44
C10	3.527	0.006	161	263	M.OIL (C24-C38)	173459	15.22
C12	4.514	0.000	117	75	AK-102 (C10-C25)	168050	7.60
C14	5.297	0.009	246	510	AK-103 (C25-C36)	154973	22.45
C16	5.972	0.008	747	1498			
C18	6.599	-0.003	837	695			
C20	7.184	-0.023	1026	2519			
C22	7.783	0.001	1067	271	MSPIRIT (Tol-C12)	37100	2.02
C24	8.314	-0.005	808	1075			
C25	8.587	0.010	1257	3869			
C26	8.830	0.004	648	922			
C28	9.337	-0.004	718	1342			
C32	10.384	-0.018	1263	4089			
C34	10.914	-0.016	876	1895	BUNKERC (C10-C38)	333648	45.08
Filter Peak	12.883	0.004	766	529			
C36	11.447	0.003	2182	9045			
C38	11.946	0.005	481	236			
C40	12.408	-0.012	925	3259			
o-terph	6.762	-0.001	965110	781211	JET-A (C10-C18)	97763	6.59
Triacon Surr	9.877	-0.005	618976	669138			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	781211	40.4	89.7
Triacontane	669138	39.4	87.5

Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a057.d

Date : 26-APR-2011 12:57

Client ID: DMH-RB-042011

Sample Info: SS83P

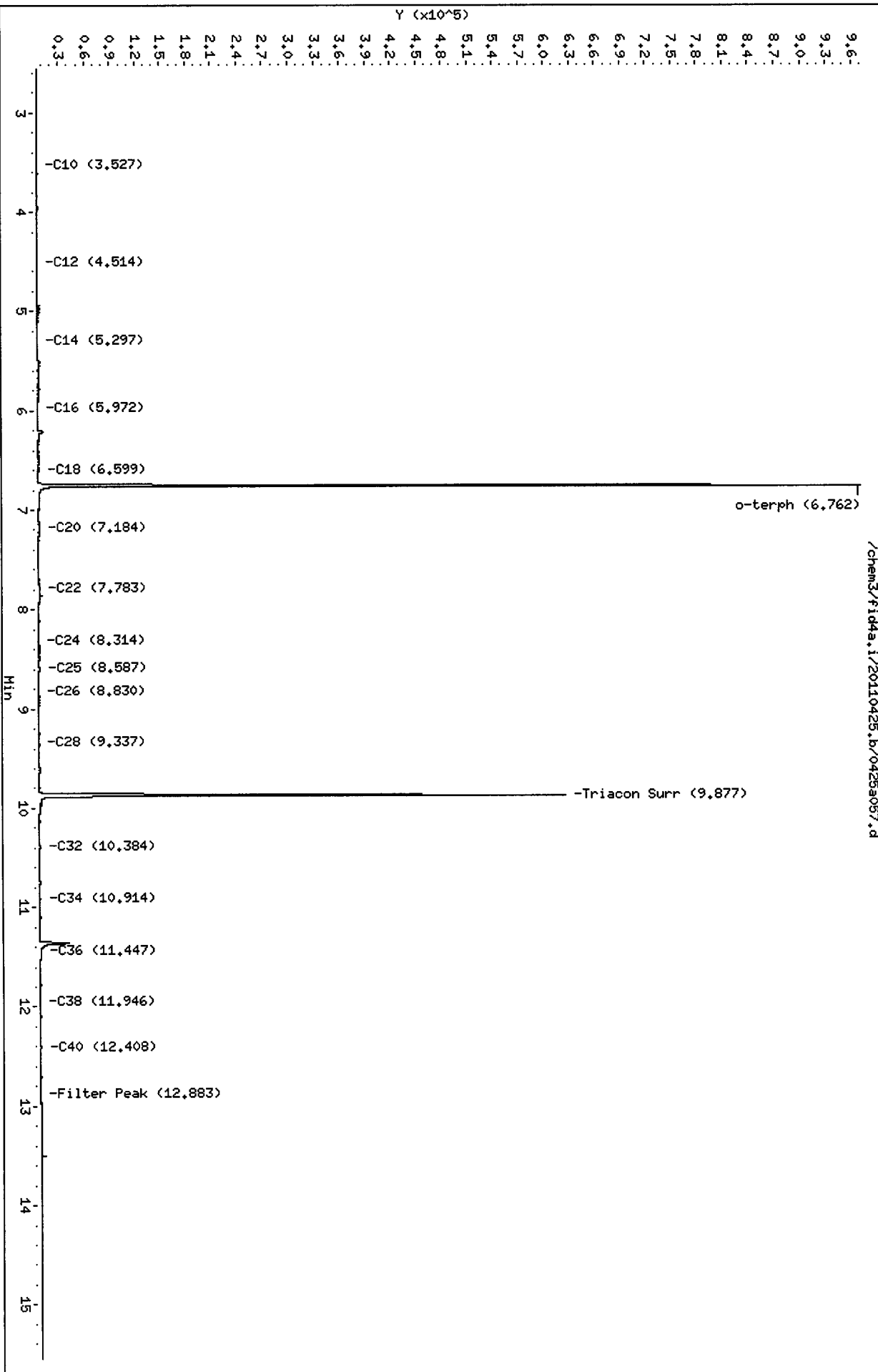
Column phase: RTX-1

Instrument: fid4a.i

Operator: MS

Column diameter: 0.25

Page 1



Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a058.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: DIESEL#6  
Client ID: LORA LAKE  
Injection: 26-APR-2011 13:21  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.536	0.012	4634	4400	GAS (Tol-C12)	712511	36.00
C8	1.892	0.008	2382	3975	DIESEL (C12-C24)	4977888	250.85
C10	3.521	0.000	16302	10614	M.OIL (C24-C38)	136386	11.97
C12	4.514	-0.001	44330	43147	AK-102 (C10-C25)	5531698	250.02 M
C14	5.286	-0.002	86890	122960	AK-103 (C25-C36)	99646	14.44
C16	5.962	-0.002	171034	147276			
C18	6.599	-0.003	146909	141256			
C20	7.203	-0.004	89466	114575			
C22	7.776	-0.006	37920	48778	MSPIRIT (Tol-C12)	712511	38.78
C24	8.314	-0.005	8904	21091			
C25	8.572	-0.005	3555	12268			
C26	8.823	-0.003	1482	2444			
C28	9.344	0.003	516	353			
C32	10.379	-0.023	2409	3720			
C34	10.933	0.003	275	210	BUNKERC (C10-C38)	5642695	762.36 M
Filter Peak	12.883	0.004	738	751			
C36	11.444	0.000	2115	3577			
C38	11.947	0.006	379	145			
C40	12.402	-0.018	1214	2628			
o-terph	6.763	0.001	1015312	835128	JET-A (C10-C18)	3998259	269.39
Triacon Surr	9.886	0.004	380	814			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	835128	43.2	95.9
Triacontane	814	0.0	0.1

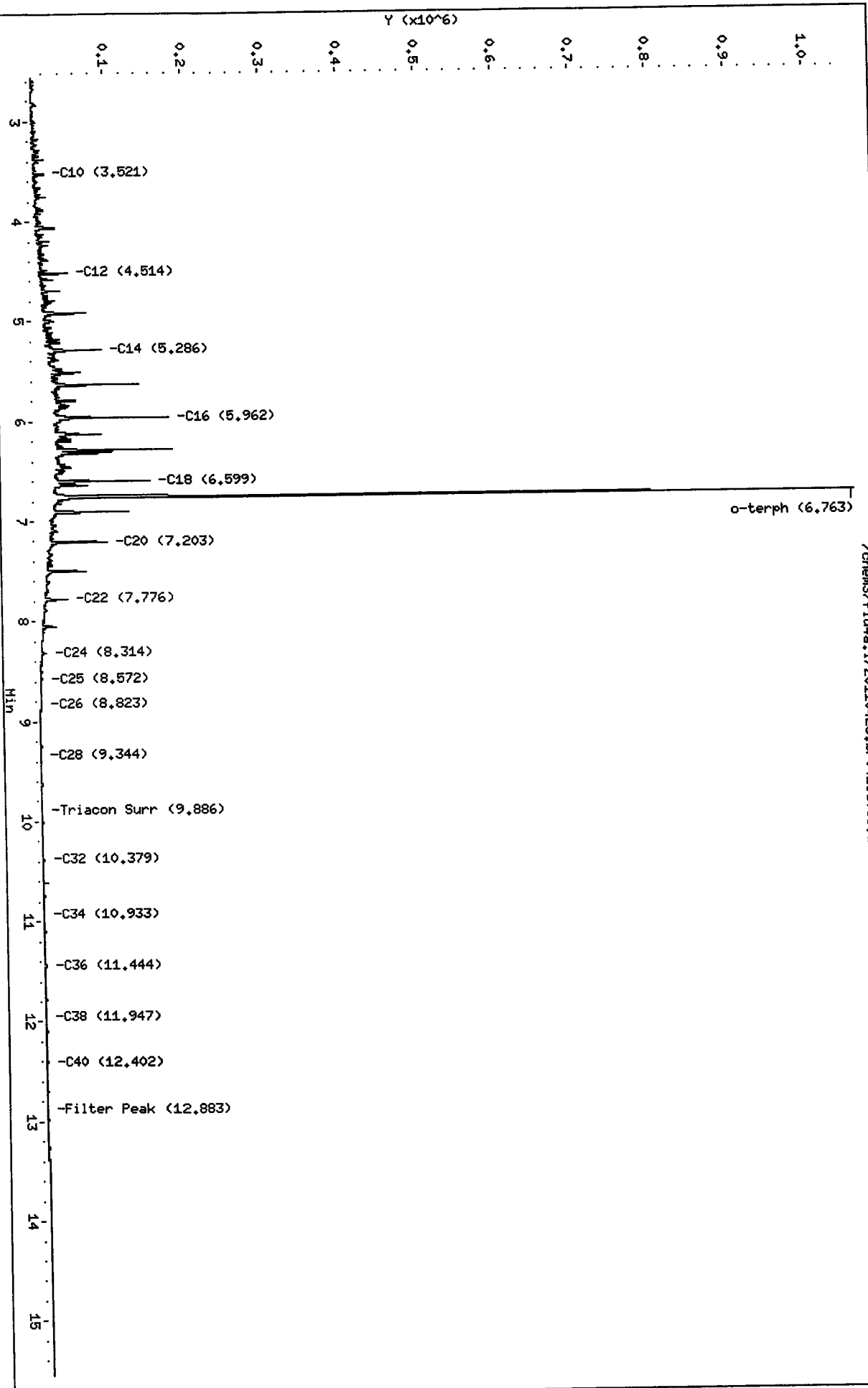
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

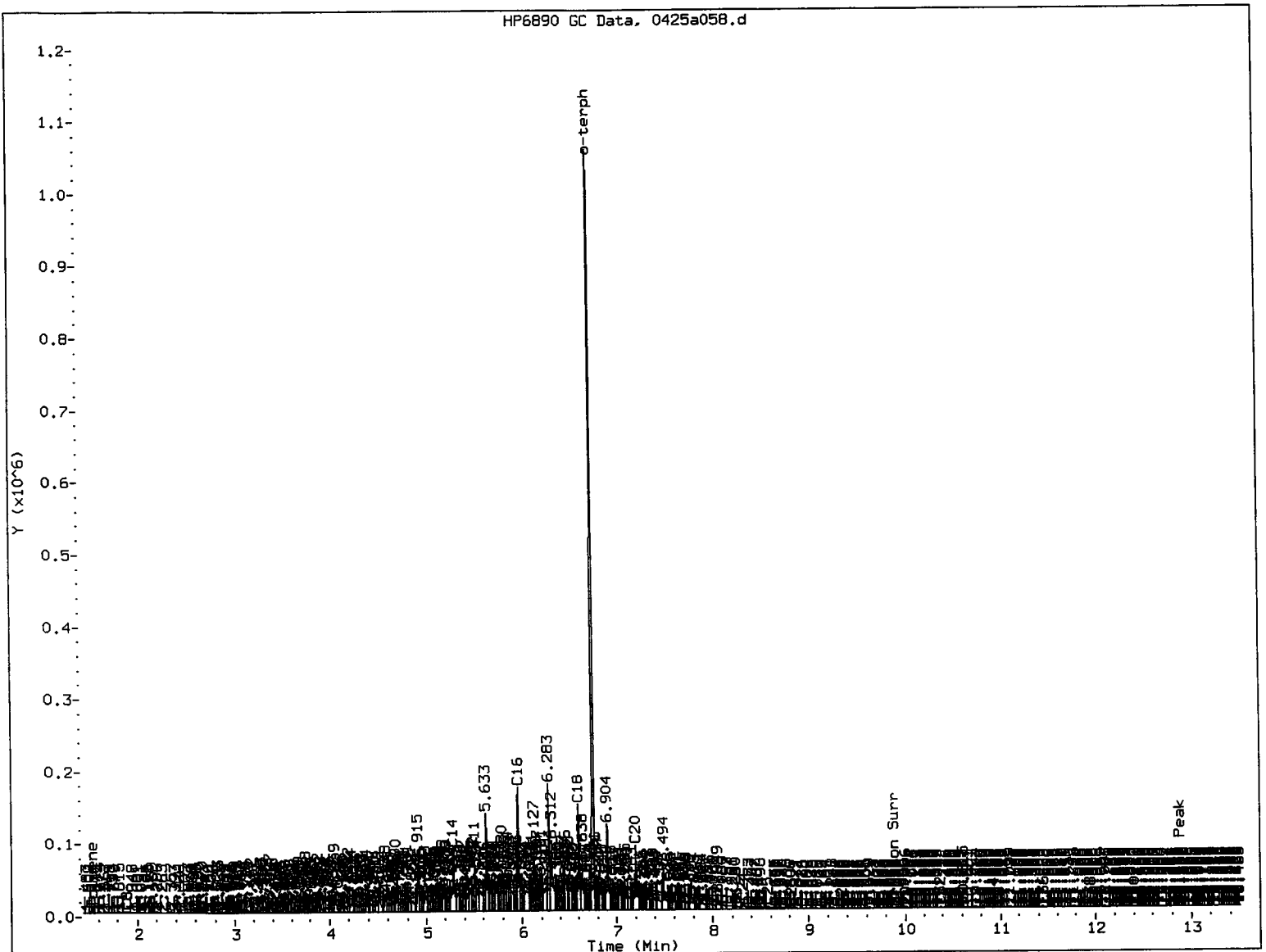
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Date: 26-APR-2011 13:21  
Client ID: LORA LAKE  
Sample Info: DIESEL#6

Column phase: RTX-1

Instrument: fid4a.i  
Operator: HS  
Column diameter: 0.25

/chem3/fid4a.i/20110425.b/0425a058.d





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: me

Date: 4/26/8

Analytical Resources Inc.  
407S TPH Quantitation Report

Data file: /chem3/fid4a.i/20110425.b/0425a059.d  
Method: /chem3/fid4a.i/20110425.b/ftphfid4a.m  
Instrument: fid4a.i  
Operator: MS  
Report Date: 04/26/2011  
Macro: 13-APR-2011  
Calibration Dates: Gas:17-DEC-2010 Diesel:21-MAR-2011 M.Oil:21-MAR-2011

ARI ID: MOIL#6  
Client ID: LORA LAKE  
Injection: 26-APR-2011 13:45  
Dilution Factor: 1

FID:4A RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.519	-0.006	827	792	GAS (Tol-C12)	40613	2.05
C8	1.894	0.010	240	446	DIESEL (C12-C24)	842960	42.48
C10	3.525	0.004	452	709	M.OIL (C24-C38)	5136792	450.79
C12	4.518	0.004	297	434	AK-102 (C10-C25)	1102841	49.85
C14	5.290	0.001	248	343	AK-103 (C25-C36)	4641896	672.54 M
C16	5.962	-0.002	184	122			
C18	6.601	0.000	429	632			
C20	7.199	-0.008	2771	4695			
C22	7.780	-0.002	10413	8972	MSPIRIT (Tol-C12)	40613	2.21
C24	8.320	0.001	20718	17729			
C25	8.577	0.000	27230	28557			
C26	8.835	0.009	31473	81675			
C28	9.334	-0.007	33554	15776			
C32	10.382	-0.020	33444	106429			
C34	10.932	0.003	22398	25895	BUNKERC (C10-C38)	5997934	810.36 M
Filter Peak	12.881	0.001	2606	2951			
C36	11.438	-0.005	15118	30320			
C38	11.950	0.009	7391	5060			
C40	12.432	0.012	4089	3490			
o-terph	6.771	0.009	810	868	JET-A (C10-C18)	64149	4.32
Triacon Surr	9.880	-0.003	736606	823940			

M Indicates manual integration within range.

Range Times: NW Diesel(4.514 - 8.319) AK102(3.52 - 8.58) Jet A(3.52 - 6.60)  
NW M.Oil(8.32 - 11.94) AK103(8.58 - 11.44) OR Diesel(3.52 - 9.34)

Surrogate	Area	Amount	%Rec
o-Terphenyl	868	0.0	0.1
Triacontane	823940	48.5	107.8

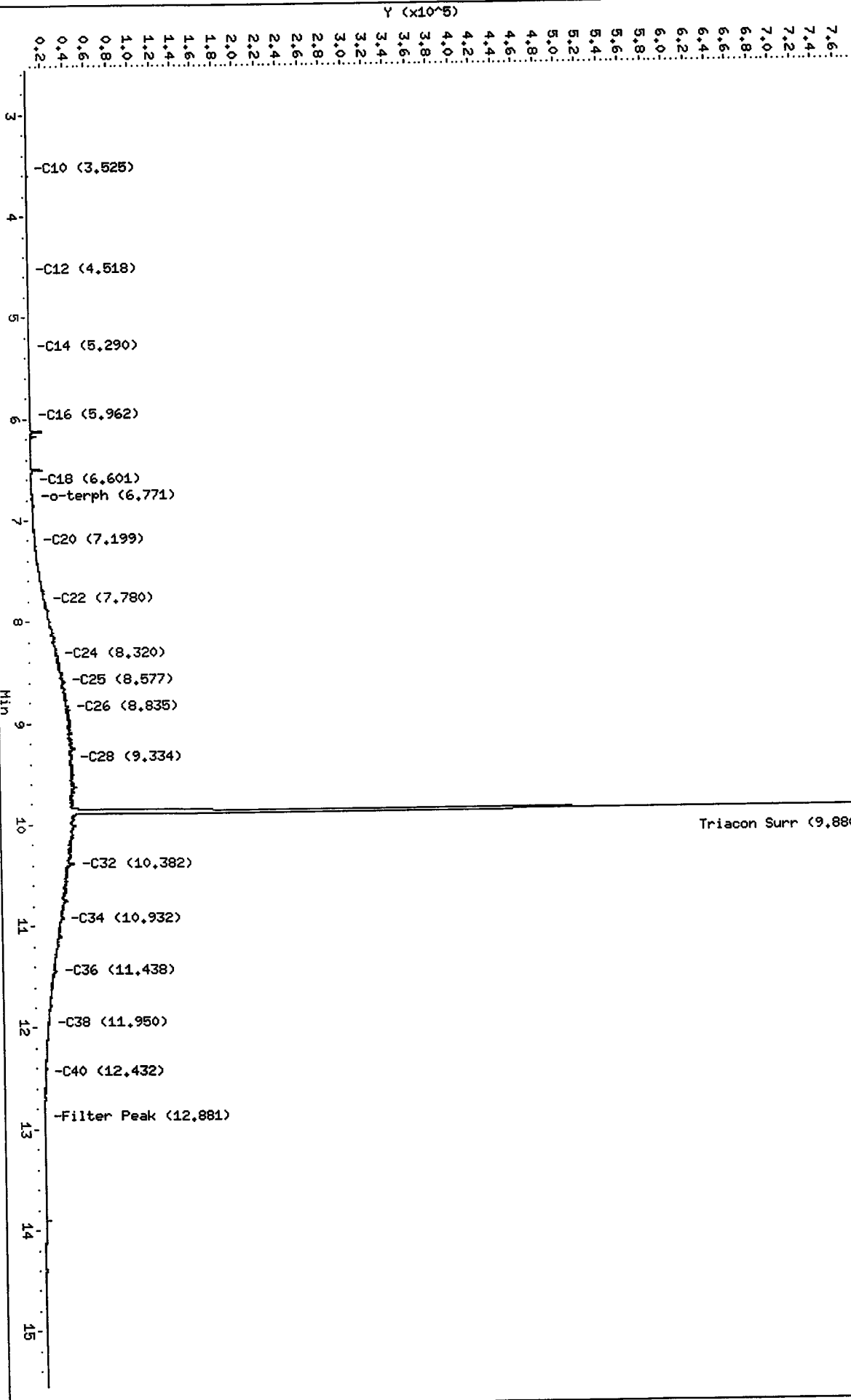
Analyte	RF	Curve Date
o-Terph Surr	19348.3	13-APR-2011
Triacon Surr	16986.4	21-MAR-2011
Gas	19792.1	17-DEC-2010
Diesel	19844.0	21-MAR-2011
Motor Oil	11395.0	21-MAR-2011
AK102	22125.0	21-MAR-2011
AK103	6902.1	10-DEC-2009
JetA	14842.0	13-APR-2011
Min Spirit	18373.2	30-MAR-2011
Bunker C	7401.6	22-DEC-2010

Data File: /chem3/fid4a.i/20110425.b/0425a059.d  
Date: 26-APR-2011 13:45  
Client ID: LORA LAKE  
Sample Info: MOLL#6

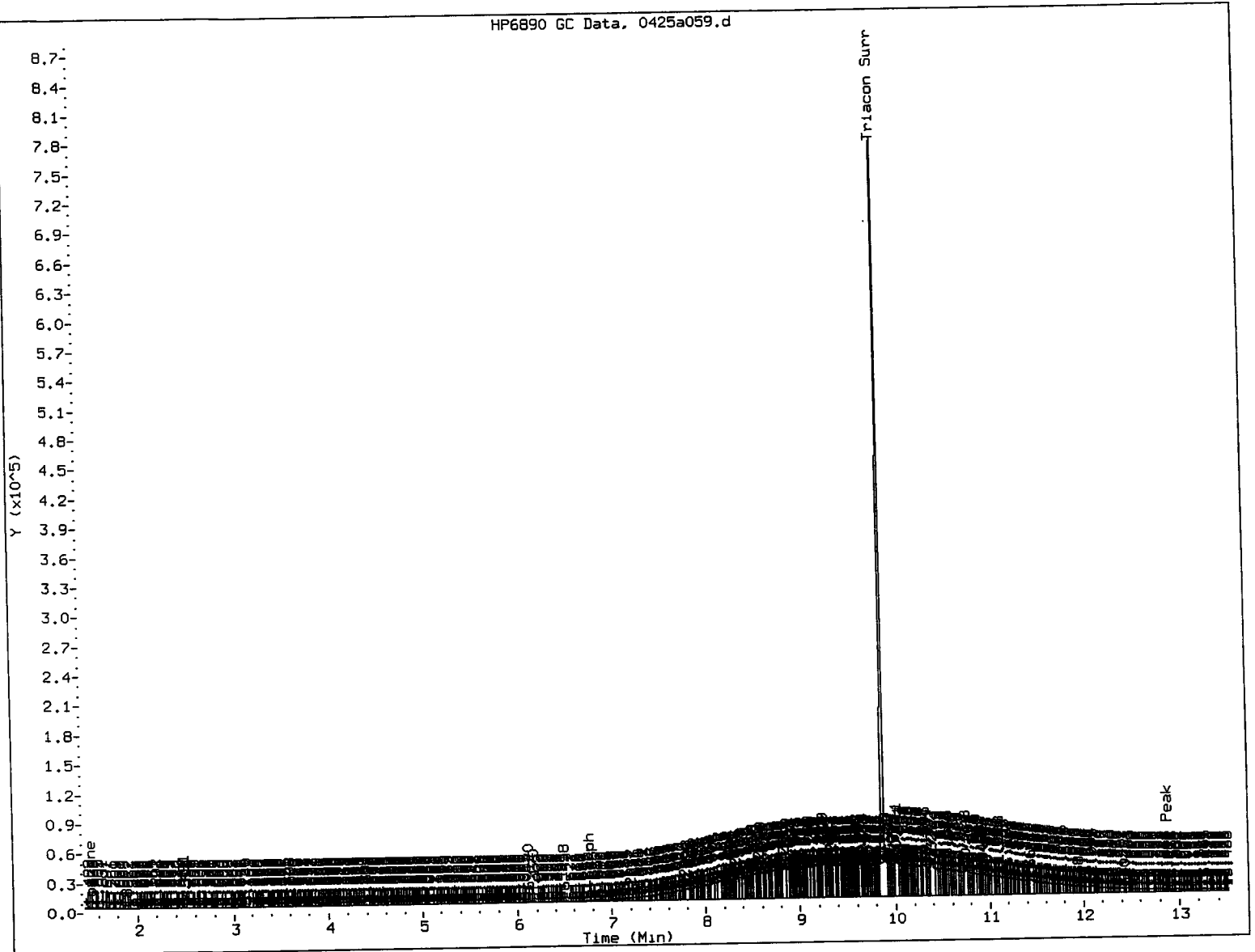
Column phase: RTX-1

Instrument: fid4a.i  
Operator: MS  
Column diameter: 0.25

/chem3/fid4a.i/20110425.b/0425a059.d



HP6890 GC Data, 0425a059.d



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *AMO* Date: *4/26/6*



MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem3/fid4a.i/20110425.b

ARI Job No.: SS71 Method: ftphfid4a.m Instrument: fid4a.i Date: 26-APR-2011

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
1057	0425a052.d	SS71MBW1	SS71MBW1	1	NO MANUAL INTEGRATION
1121	0425a053.d	SS71LCSW1	SS71LCSW1	1	o-terph,
1145	0425a054.d	SS71LCSW1	SS71LCSW1	1	o-terph,
1233	0425a056.d	SS71T	LL-ER-0419	1	NO MANUAL INTEGRATION
1257	0425a057.d	SS83P	DMA-RB-042	1	NO MANUAL INTEGRATION



**GC Analyst Notes / Corrective Action Log**

ARI Project ID: SS83 Client ID: FLOYD-SNIDER-LOCALAKE

ARI SOP: 403S(PCB) 405S(Herb) 407S(TPH-D) 409S(HCID) 412S(PCP) 423S(Pest)  
427S(Dir Inj) 428S(EPH) 432S(EDB) Other

Parameter(s): Diesel m.o.l.o.toph

Instrument: FID-3A FID-3B FID-4A FID-4B FID-5 FID-7 FID-8  
FID-9 ECD-1 ECD-5 ECD-6 ECD-7

Dates: Curve: 1/20/11 Analysis Start: 2/25/11

Endrin/DDT Breakdown <15%? YES / NO / NA Method Blank In Control? YES / NO  
ICal Meets RF & %RSD Criteria? YES / NO LCS/LCSD Recovery In Control? YES / NO  
CCal Meets RF & %RSD Criteria? YES / NO Surrogate Recovery In Control? YES / NO  
Manual Integrations for ICal? YES / NO Manual Integrations for Samples? YES / NO  
Internal Standard Meets Criteria? YES / NO / NA Special Analysis Criteria Met? YES / NO / NA

Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):

Additional Details on Reverse: Yes / No

Analyst: MO Date: 4/26/11

Reviewer: MMW Date: 4/27/11

**Analytical Resources Inc.: Organics Instrument Log**

FID-9 Agilent 6850 - Serial No.: US10404004

Date: 4/25/11 Analysis: NWTRHD Analyst: DMS  
 GC Program: 4P71 Column No: 977444 Column Type: VAP  
 Instrument Tune (.U or .CT.): \_\_\_\_\_ EM Voltage: \_\_\_\_\_  
 Calibration File: \_\_\_\_\_ Curve Date: 1/20/11

IS/SS	Ical/Ccal	LCS/ICV
<del>_____</del>	<u>1786-1</u>	<del>_____</del>
<del>_____</del>	<u>1701-2</u>	<del>_____</del>
<del>_____</del>	<u>1777-3</u>	<del>_____</del>
<del>_____</del>	<u>175-2</u>	<del>_____</del>

	Inject Date/Time	Filename	DF	LabID
1	25-APR-2011 15:38	0425A001.D	1	RINSE
2	25-APR-2011 16:00	0425A002.D	1	RT
3	25-APR-2011 16:22	0425A003.D	1	IB
4	25-APR-2011 16:43	0425A004.D	1	DIESEL#1
5	25-APR-2011 17:05	0425A005.D	1	MOIL#1
6	25-APR-2011 17:27	0425A006.D	1	SS83MBS1
7	25-APR-2011 18:13	0425A008.D	1	RINSE
8	25-APR-2011 18:34	0425A009.D	1	RT
9	25-APR-2011 18:56	0425A010.D	1	IB
10	25-APR-2011 19:18	0425A011.D	1	DIESEL#1
11	25-APR-2011 19:39	0425A012.D	1	MOIL#1
12	25-APR-2011 20:01	0425A013.D	1	SS83MBS1
13	25-APR-2011 20:22	0425A014.D	1	SS83LCSS1
14	25-APR-2011 20:44	0425A015.D	1	SS83QLS
15	25-APR-2011 21:06	0425A016.D	1	SS83A
16	25-APR-2011 21:27	0425A017.D	1	SS83B
17	25-APR-2011 21:48	0425A018.D	1	SS83C
18	25-APR-2011 22:10	0425A019.D	1	SS83D
19	25-APR-2011 22:31	0425A020.D	1	SS83E
20	25-APR-2011 22:53	0425A021.D	1	SS83F
21	25-APR-2011 23:14	0425A022.D	1	SS83G
22	25-APR-2011 23:36	0425A023.D	1	DIESEL#2
23	25-APR-2011 23:57	0425A024.D	1	MOIL#2
24	26-APR-2011 00:19	0425A025.D	1	SS83H
25	26-APR-2011 00:40	0425A026.D	1	SS83I
26	26-APR-2011 01:02	0425A027.D	1	SS83J
27	26-APR-2011 01:23	0425A028.D	1	SS83K
28	26-APR-2011 01:45	0425A029.D	1	SS83L
29	26-APR-2011 02:06	0425A030.D	1	SS83M
30	26-APR-2011 02:28	0425A031.D	1	SS83N
31	26-APR-2011 02:49	0425A032.D	1	SS83O
32	26-APR-2011 03:11	0425A033.D	1	SS83OMS
33	26-APR-2011 03:32	0425A034.D	1	SS83OMSD
34	26-APR-2011 03:54	0425A035.D	1	DIESEL#3
35	26-APR-2011 04:15	0425A036.D	1	MOIL#3

**Maintenance / Comments**

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A009.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: RT  
Client ID: RT  
Injection: 25-APR-2011 18:34  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.601	0.000	752	554	GAS (Tol-C12)	550740	26.21
C8	1.273	0.000	309090	188355	DIESEL (C12-C24)	1592803	70.31
C10	1.978	0.000	512045	265895	M.OIL (C24-C38)	1991109	150.12
C12	2.621	0.000	288910	230707	AK-102 (C10-C25)	2131853	83.52
C14	3.155	0.000	330760	247119	AK-103 (C25-C36)	1699001	199.93
C16	3.621	0.000	405119	258190			
C18	4.038	0.000	476954	258681			
C20	4.426	0.000	494409	259158			
C22	4.815	0.000	383746	256865			
C24	5.308	0.000	385451	253630			
C25	5.531	0.000	514448	348009			
C26	5.732	0.000	406452	250302			
C28	6.087	0.000	440915	250134			
C32	6.677	0.000	428837	243106	JP-4 (Tol-C14)	824313	50.27
C34	6.938	0.000	412363	248498	BUNKERC (C10-C38)	4121215	553.60
Filter Peak	----						
C36	7.188	0.000	420839	261402			
C38	7.426	0.000	371927	251195			
C40	7.693	0.000	271023	249177			
o-terph	4.154	0.000	1436079	865069	JET-A (C10-C18)	1343053	97.19
Triacon Surr	6.405	0.000	1099572	744799	JP8 (Tol-C16)	1092043	62.07

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	865069	40.4	89.8
Triacontane	744799	42.3	93.9

*MS 4/26/11*

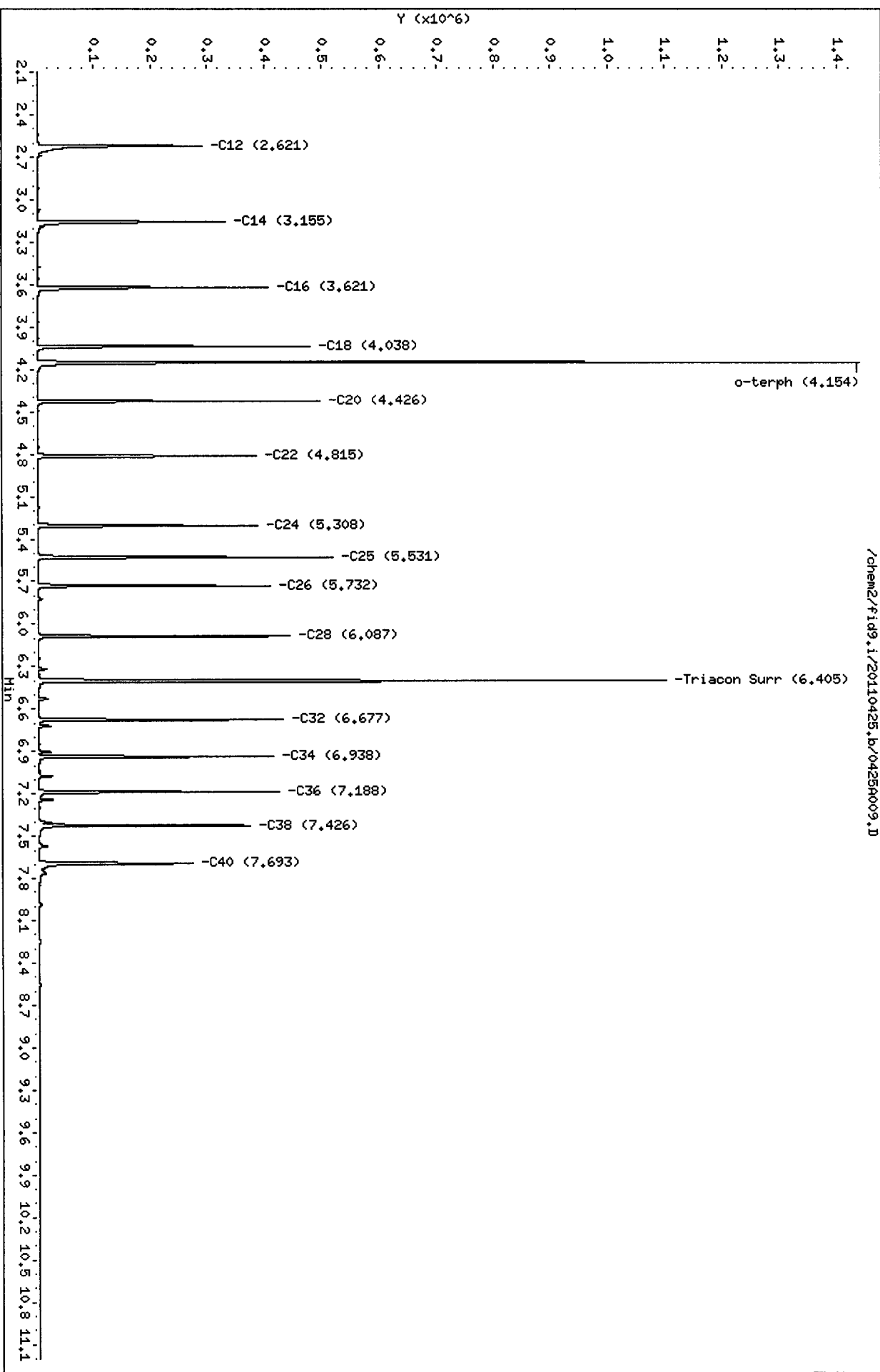
Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

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Date : 25-APR-2011 18:34  
Client ID: RT  
Sample Info: RT

Column phase: RTX-1

Instrument: fid9.i  
Operator: HS  
Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425A009.D



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A010.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: IB  
Client ID: IB  
Injection: 25-APR-2011 18:56  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.610	0.009	1453	1793	GAS (Tol-C12)	27929	1.33
C8	----				DIESEL (C12-C24)	39978	1.76
C10	1.982	0.004	1298	1340	M.OIL (C24-C38)	96089	7.24
C12	2.615	-0.006	970	1660	AK-102 (C10-C25)	57573	2.26
C14	3.155	0.000	319	368	AK-103 (C25-C36)	68390	8.05
C16	3.624	0.003	247	74			
C18	4.039	0.001	155	157			
C20	4.424	-0.002	179	97			
C22	4.809	-0.006	946	715			
C24	5.308	0.000	53	9			
C25	5.524	-0.007	2169	1448			
C26	5.736	0.003	107	58			
C28	6.090	0.003	4972	3343			
C32	6.681	0.004	657	347	JP-4 (Tol-C14)	37232	2.27
C34	6.947	0.009	481	150	BUNKERC (C10-C38)	153547	20.63
Filter Peak	----						
C36	7.187	-0.001	562	433			
C38	7.447	0.021	698	274			
C40	7.690	-0.003	740	278			
o-terph	4.156	0.002	1634694	1052216	JET-A (C10-C18)	38662	2.80
Triacon Surr	6.406	0.001	1088551	771676	JP8 (Tol-C16)	44441	2.53

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1052216	49.1	109.2
Triacontane	771676	43.8	97.3

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

*MS 4/26/11*

Data File: /chem2/fid9.i/20110425.b/0425R010.D

Date: 25-APR-2011 18:56

Client ID: IB

Sample Info: IB

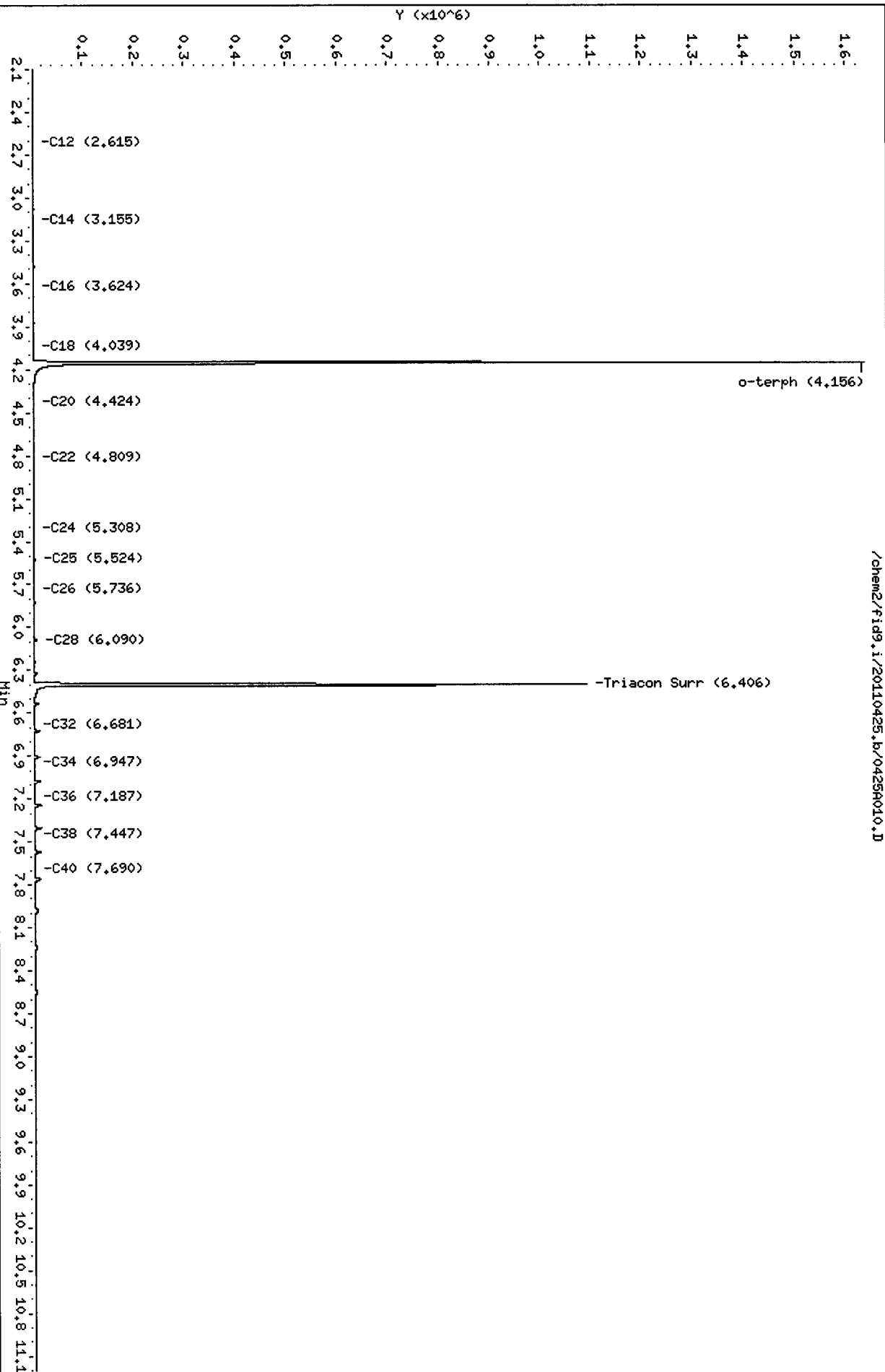
Column phase: RTX-1

Page 1

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A011.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: DIESEL#1  
Client ID: LORA LAKE  
Injection: 25-APR-2011 19:18  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.615	0.014	9528	13598	GAS (Tol-C12)	723535	34.44
C8	1.324	0.051	1584	624	DIESEL (C12-C24)	5052833	223.05
C10	1.976	-0.001	25950	23053	M.OIL (C24-C38)	61360	4.63
C12	2.620	-0.001	61406	48694	AK-102 (C10-C25)	5650824	221.38 M
C14	3.151	-0.004	133024	100010	AK-103 (C25-C36)	39967	4.70
C16	3.616	-0.005	259302	148272			
C18	4.035	-0.003	222180	164777			
C20	4.422	-0.003	138180	92318			
C22	4.810	-0.004	45797	43280			
C24	5.313	0.005	8330	12071			
C25	5.539	0.007	3037	4344			
C26	5.738	0.006	874	204			
C28	6.094	0.007	1405	1205			
C32	6.677	0.000	23	3	JP-4 (Tol-C14)	1590539	97.00
C34	6.934	-0.004	38	24	BUNKERC (C10-C38)	5694192	764.90 M
Filter Peak	----						
C36	7.189	0.001	83	30			
C38	7.438	0.012	181	119			
C40	7.699	0.006	236	136			
o-terph	4.155	0.001	1520873	865999	JET-A (C10-C18)	4179053	302.41
Triacon Surr	6.409	0.003	72	52	JP8 (Tol-C16)	2913137	165.58

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	865999	40.4	89.9
Triacontane	52	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010



Data File: /chem2/fid9.i/20110425.b/0425a011.D

Date : 25-APR-2011 19:18

Client ID: LORA LAKE

Sample Info: DIESEL#1

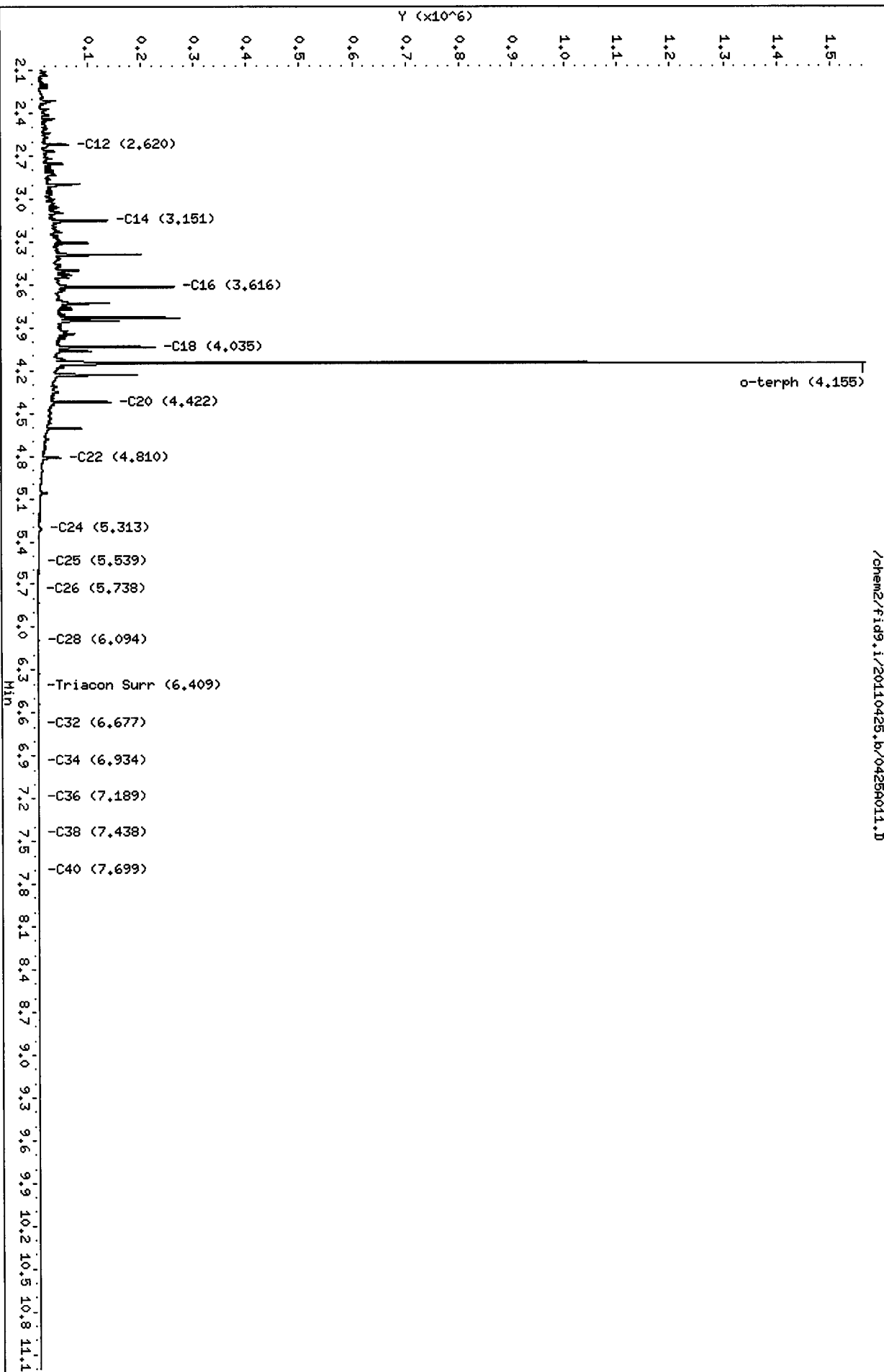
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Instrument: fid9.i

Operator: MS

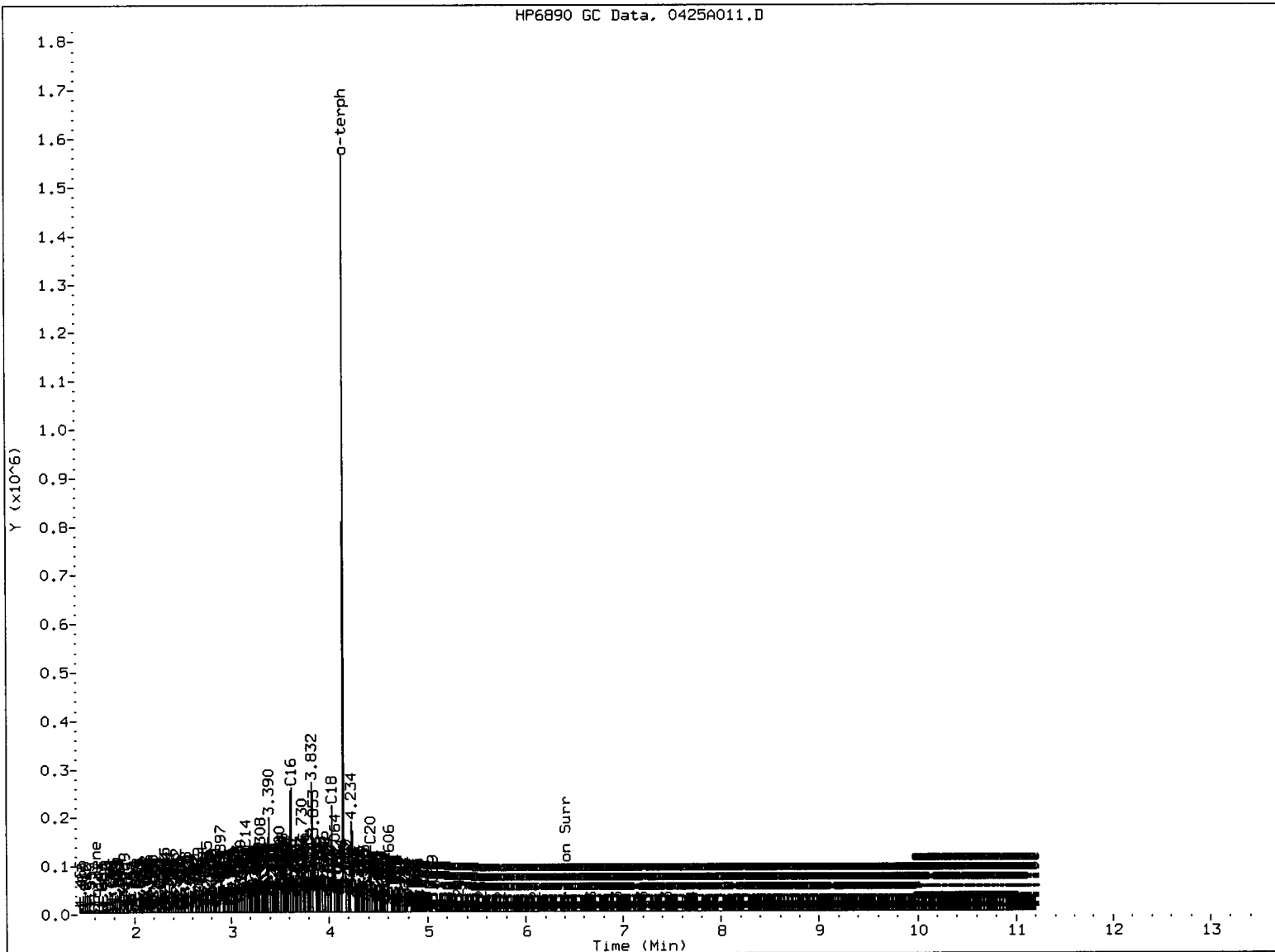
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0104 0055

HP6890 GC Data, 0425A011.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: Mu

Date: 4/26/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A012.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: MOIL#1  
Client ID: LORA LAKE  
Injection: 25-APR-2011 19:39  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.591	-0.010	1301	1121	GAS (Tol-C12)	33642	1.60
C8	----				DIESEL (C12-C24)	767893	33.90
C10	1.984	0.007	1342	1567	M.OIL (C24-C38)	6585340	496.50
C12	2.605	-0.016	769	1391	AK-102 (C10-C25)	960750	37.64
C14	3.155	0.000	113	125	AK-103 (C25-C36)	5537547	651.62 M
C16	3.616	-0.005	30	8			
C18	4.050	0.012	402	358			
C20	4.420	-0.005	4471	4711			
C22	4.813	-0.002	12054	7484			
C24	5.310	0.002	22135	11237			
C25	5.535	0.004	30843	14256			
C26	5.730	-0.002	36517	12817			
C28	6.084	-0.003	51270	19938			
C32	6.674	-0.003	68002	45630	JP-4 (Tol-C14)	39344	2.40
C34	6.934	-0.004	68761	26710	BUNKERC (C10-C38)	7369270	989.91 M
Filter Peak	----						
C36	7.190	0.002	65250	51629			
C38	7.423	-0.003	61331	48071			
C40	7.692	-0.001	44275	17101			
o-terph	4.162	0.008	970	1287	JET-A (C10-C18)	46503	3.37
Triacon Surr	6.408	0.003	1173451	796103	JP8 (Tol-C16)	41411	2.35

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1287	0.1	0.1
Triacantane	796103	45.2	100.4

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9,i/20110425.b/0425R012.D

Date : 25-APR-2011 19:39

Client ID: LORA LAKE

Sample Info: M01L#1

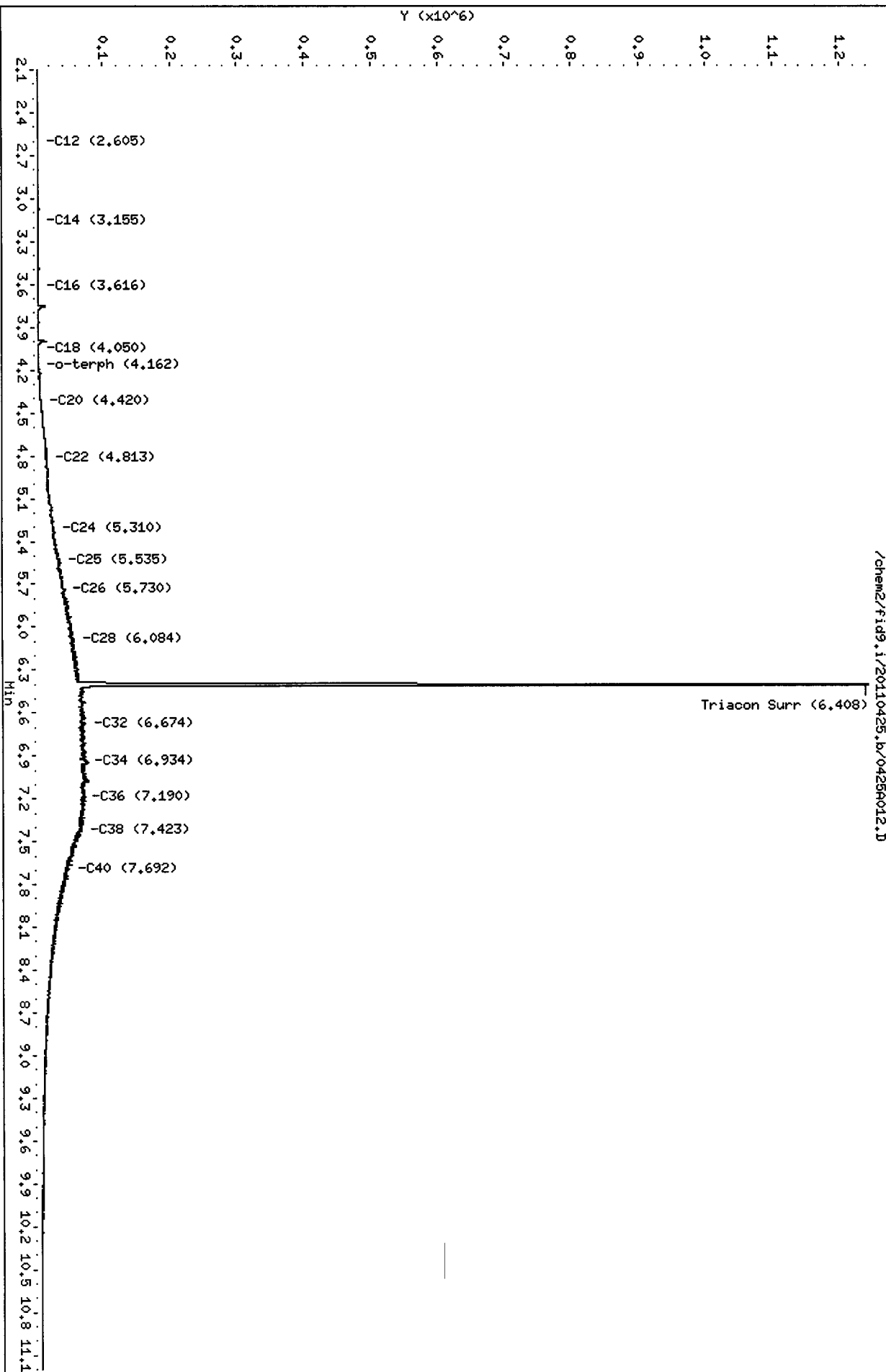
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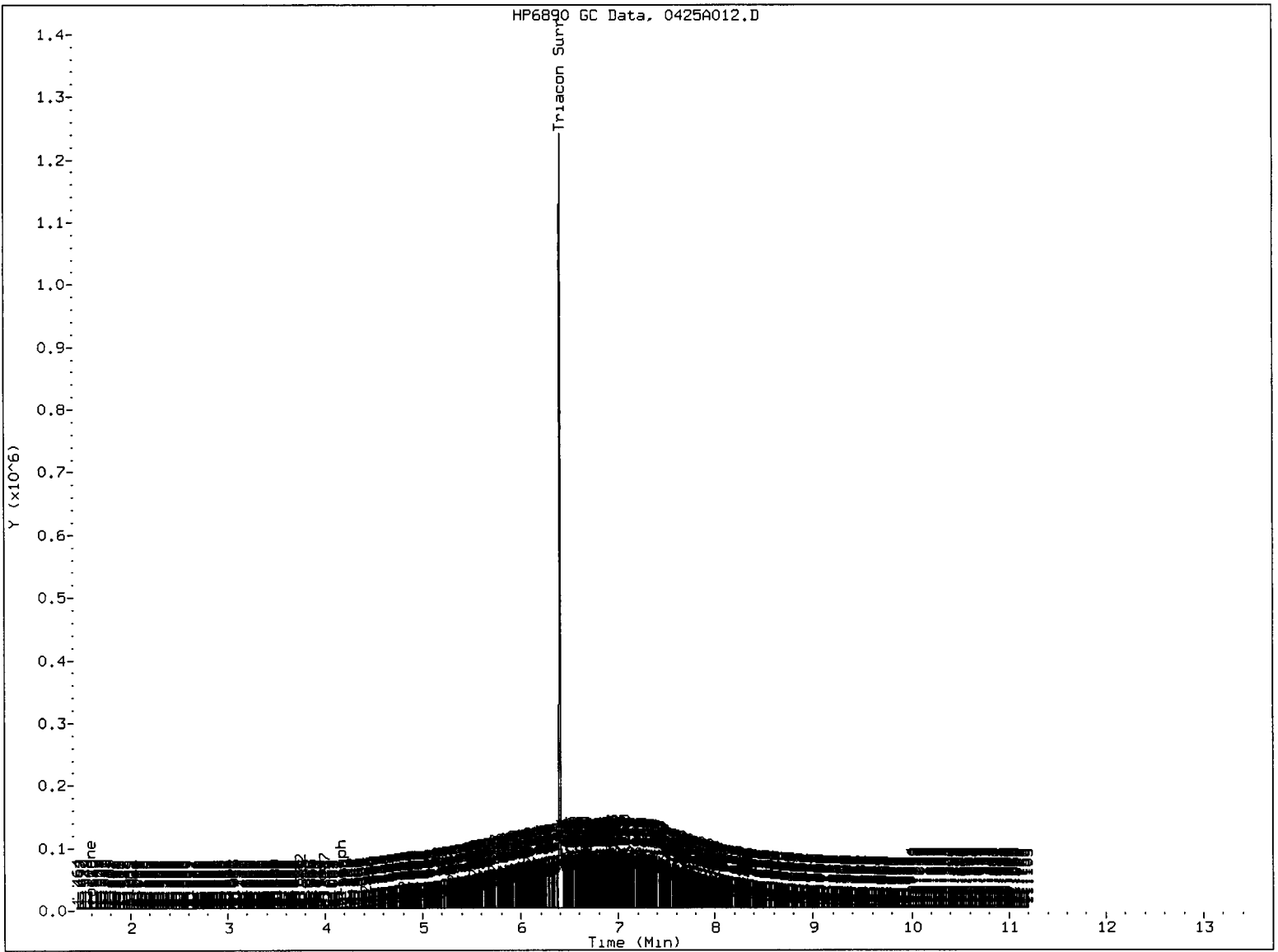
Instrument: fid9,i

Operator: HS

Column diameter: 0.25

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MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *mu* Date: *4/26/11*

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A013.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83MBS1  
Client ID: SS83MBS1  
Injection: 25-APR-2011 20:01  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.588	-0.010	3053	3597	GAS (Tol-C12)	346602	16.50
C8	----				DIESEL (C12-C24)	177088	7.82
C10	1.982	0.007	4303	4433	M.OIL (C24-C38)	63902	4.82
C12	2.602	-0.013	2105	2974	AK-102 (C10-C25)	288465	11.30
C14	3.161	0.006	997	575	AK-103 (C25-C36)	50638	5.96
C16	3.618	-0.002	1866	1828			
C18	4.038	0.000	1337	1733			
C20	4.427	0.001	732	187			
C22	4.807	-0.006	2154	2375			
C24	5.306	-0.001	342	46			
C25	5.524	-0.006	2289	1760			
C26	5.735	0.004	343	280			
C28	6.088	0.002	3833	2734			
C32	6.674	-0.002	646	804	JP-4 (Tol-C14)	399820	24.38
C34	6.939	0.002	406	71	BUNKERC (C10-C38)	351917	47.27
Filter Peak	----						
C36	7.189	0.004	507	148			
C38	7.408	-0.014	4591	3964			
C40	7.688	-0.004	533	382			
o-terph	4.155	0.000	1381203	864509	JET-A (C10-C18)	240706	17.42
Triacon Surr	6.403	-0.001	1021276	700863	JP8 (Tol-C16)	443956	25.23

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	864509	40.4	89.7
Triacontane	700863	39.8	88.4

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

*M 4/26/11*

Data File: /chem2/fid9.i/20110425.b/0425r013.D

Date : 25-APR-2011 20:01

Client ID: S883MBS1

Sample Info: S883MBS1

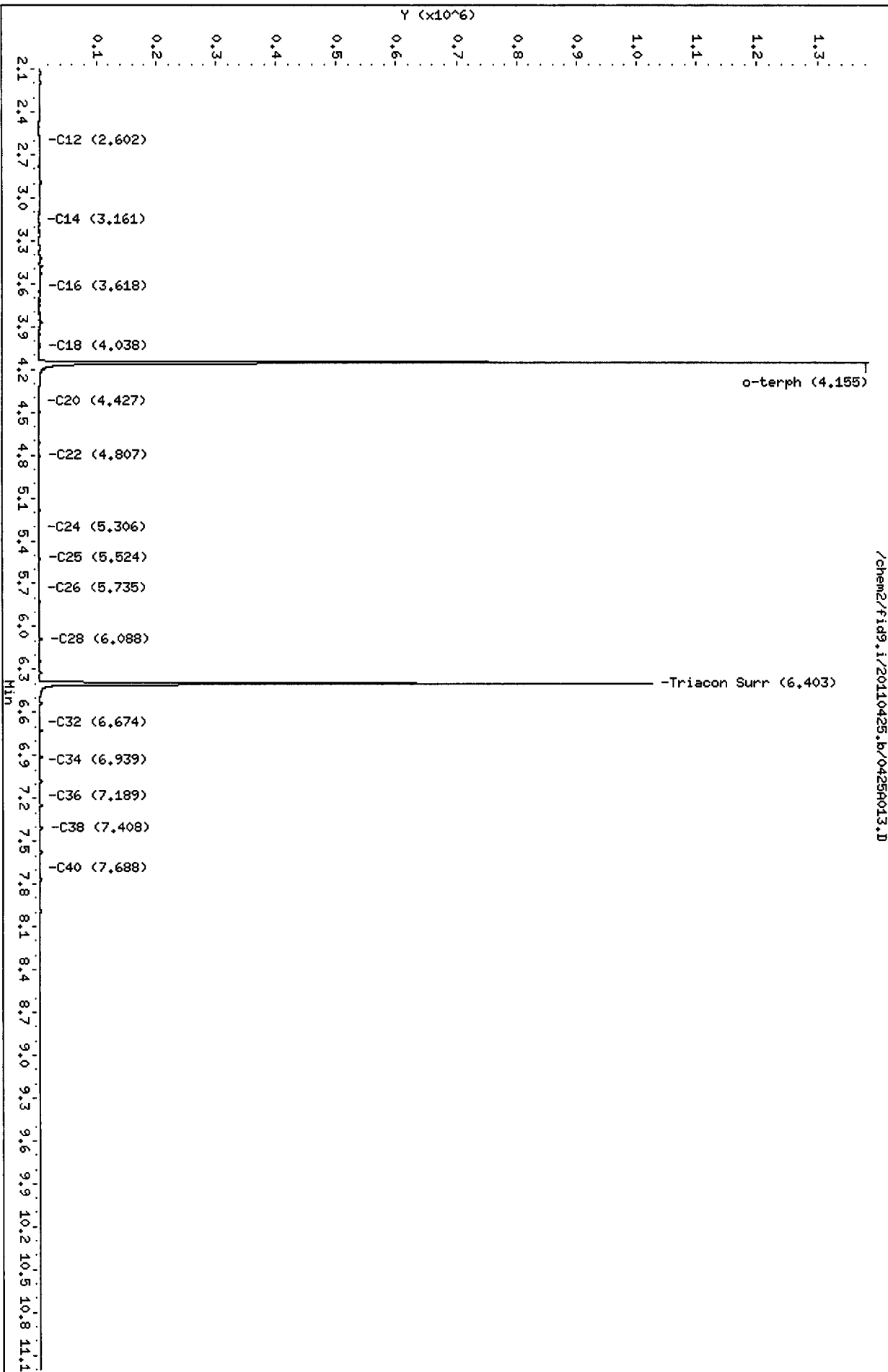
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A014.D  
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 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83LCSS1  
 Client ID: SS83LCSS1  
 Injection: 25-APR-2011 20:22  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.618	0.019	44542	58625	GAS (Tol-C12)	3775045	179.68
C8	1.334	0.061	3449	3217	DIESEL (C12-C24)	28374646	1252.57
C10	1.976	0.001	143143	122567	M.OIL (C24-C38)	372894	28.11
C12	2.613	-0.003	341393	271538	AK-102 (C10-C25)	31562547	1236.49 M
C14	3.147	-0.007	673385	680796	AK-103 (C25-C36)	256463	30.18
C16	3.619	-0.001	1140289	1186026			
C18	4.042	0.004	983054	1030212			
C20	4.425	0.000	711587	579119			
C22	4.810	-0.002	267013	237786			
C24	5.306	-0.001	71406	76703			
C25	5.528	-0.002	36755	36156			
C26	5.732	0.001	14628	14220			
C28	6.090	0.003	4942	6272			
C32	6.688	0.011	1150	2241	JP-4 (Tol-C14)	8520433	519.65
C34	6.931	-0.006	335	136	BUNKERC (C10-C38)	31829656	4275.65 M
Filter Peak	----						
C36	7.186	0.000	458	114			
C38	7.432	0.009	541	397			
C40	7.688	-0.003	296	227			
o-terph	4.157	0.002	1452443	808416	JET-A (C10-C18)	22940610	1660.07
Triacon Surr	6.405	0.001	989011	692436	JP8 (Tol-C16)	15665897	890.41

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	808416	37.7	83.9
Triacontane	692436	39.3	87.3

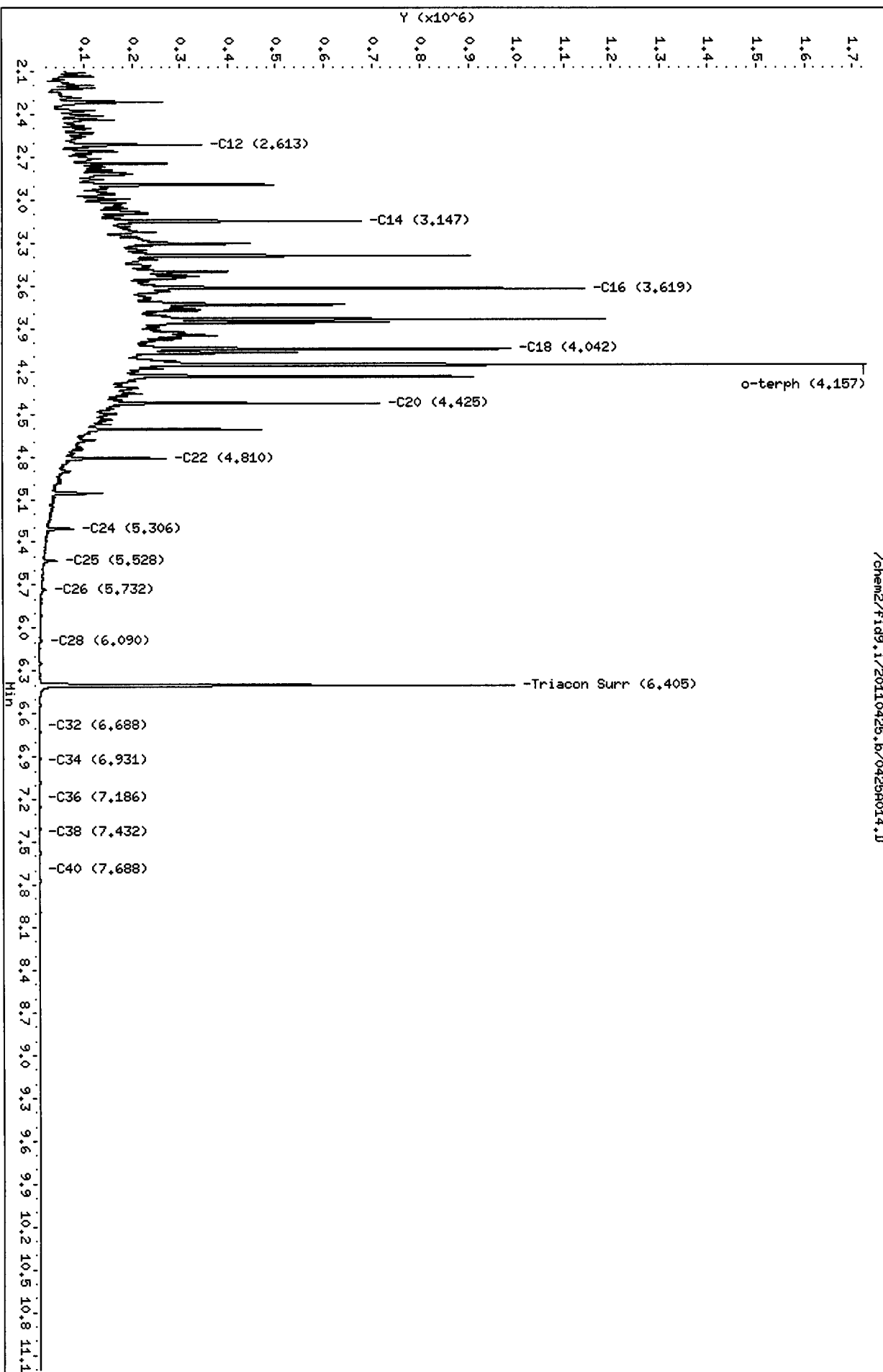
Analyte	RF	Curve Date
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Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010



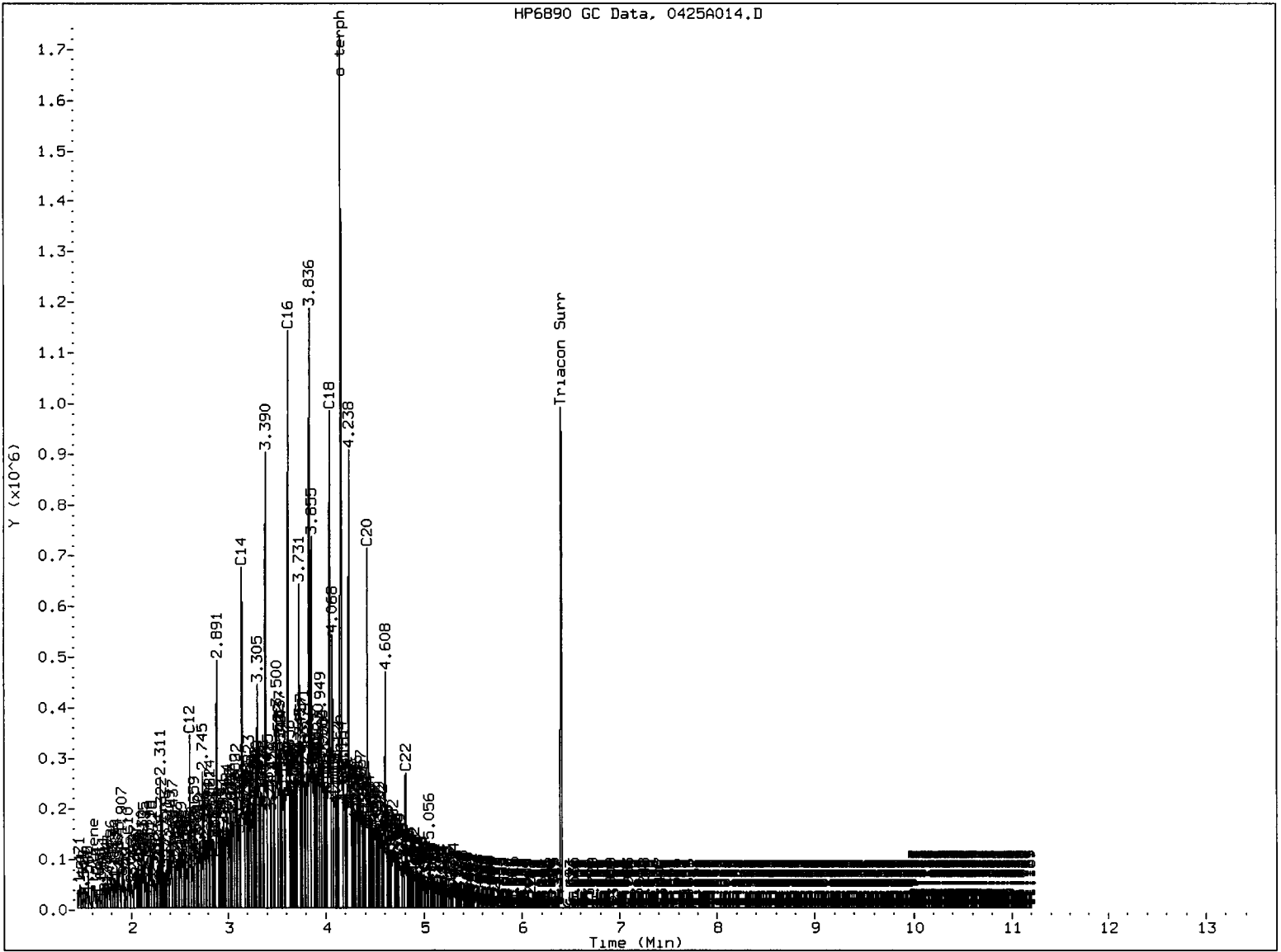
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Sample Info: SS83LCSS1

Column phase: RTX-1

Instrument: fid9.i  
Operator: HS  
Column diameter: 0.25



000000 : 01040



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MM      Date: 4/20/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A016.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83A  
Client ID: DMA-TP1-0-3-041911  
Injection: 25-APR-2011 21:06  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.589	-0.010	1362	1174	GAS (Tol-C12)	162072	7.71
C8	1.353	0.080	10116	12388	DIESEL (C12-C24)	174265	7.69
C10	1.980	0.005	3717	3272	M.OIL (C24-C38)	430274	32.44
C12	2.616	0.001	607	636	AK-102 (C10-C25)	227463	8.91
C14	3.152	-0.003	177	125	AK-103 (C25-C36)	388665	45.74 M
C16	3.617	-0.003	1545	1731			
C18	4.038	0.000	3066	3760			
C20	4.430	0.004	3281	4391			
C22	4.813	0.000	2131	1643			
C24	5.308	0.001	2121	2565			
C25	5.529	-0.001	6328	7128			
C26	5.729	-0.002	3402	3324			
C28	6.084	-0.002	7846	11045			
C32	6.675	-0.001	5494	6637	JP-4 (Tol-C14)	180093	10.98
C34	6.938	0.001	2835	2238	BUNKERC (C10-C38)	650064	87.32 M
Filter Peak	----						
C36	7.187	0.002	2593	2552			
C38	7.424	0.001	2689	2836			
C40	7.691	-0.001	1746	749			
o-terph	4.154	-0.001	1291919	829955	JET-A (C10-C18)	132713	9.60
Triacon Surr	6.403	-0.001	980995	640296	JP8 (Tol-C16)	208019	11.82

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	829955	38.8	86.1
Triacontane	640296	36.3	80.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/04259016.D

Date : 25-APR-2011 21:06

Client ID: DMH-TP1-0-3-041911

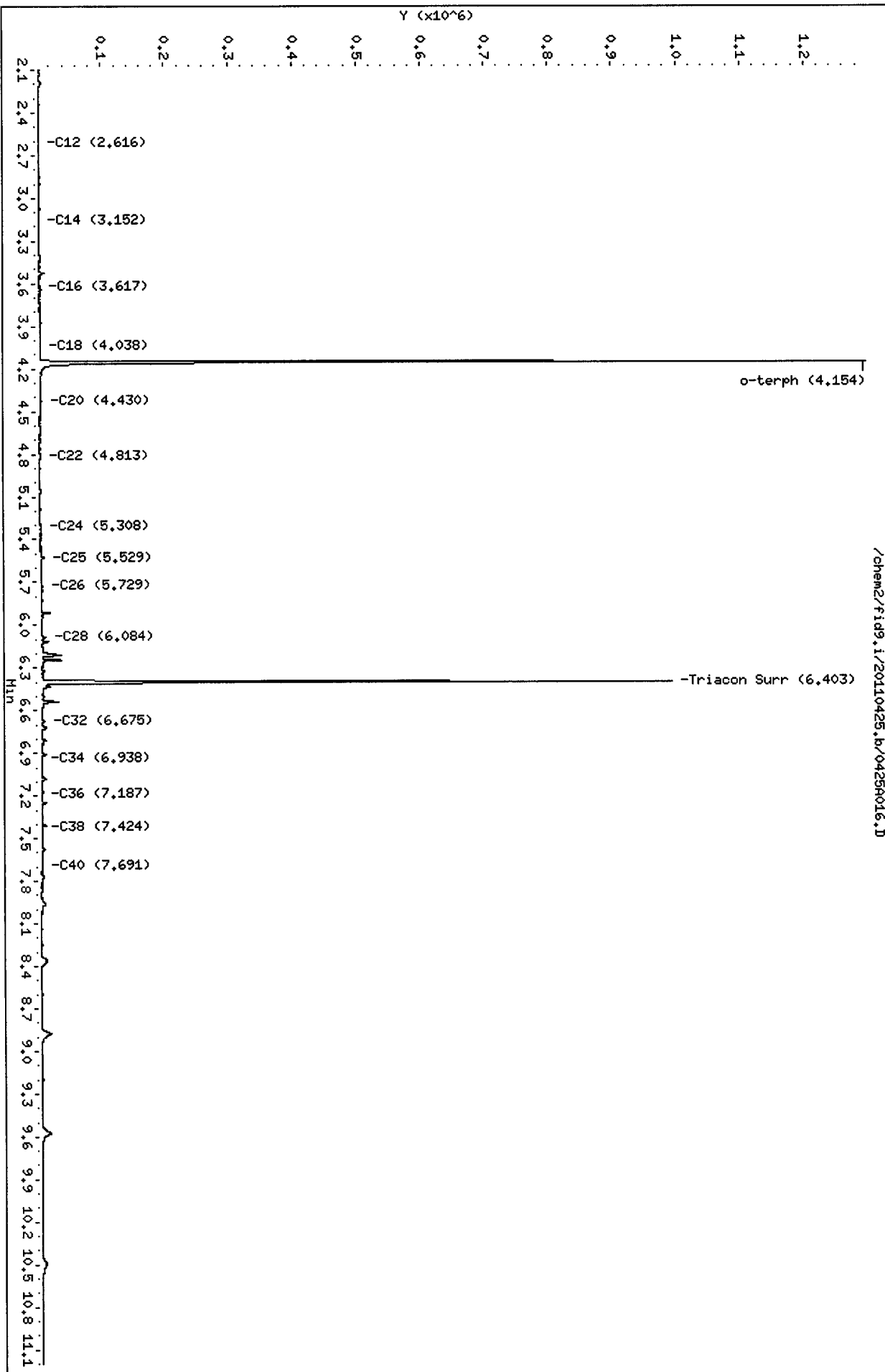
Sample Info: SSS3A

Column phase: RTX-1

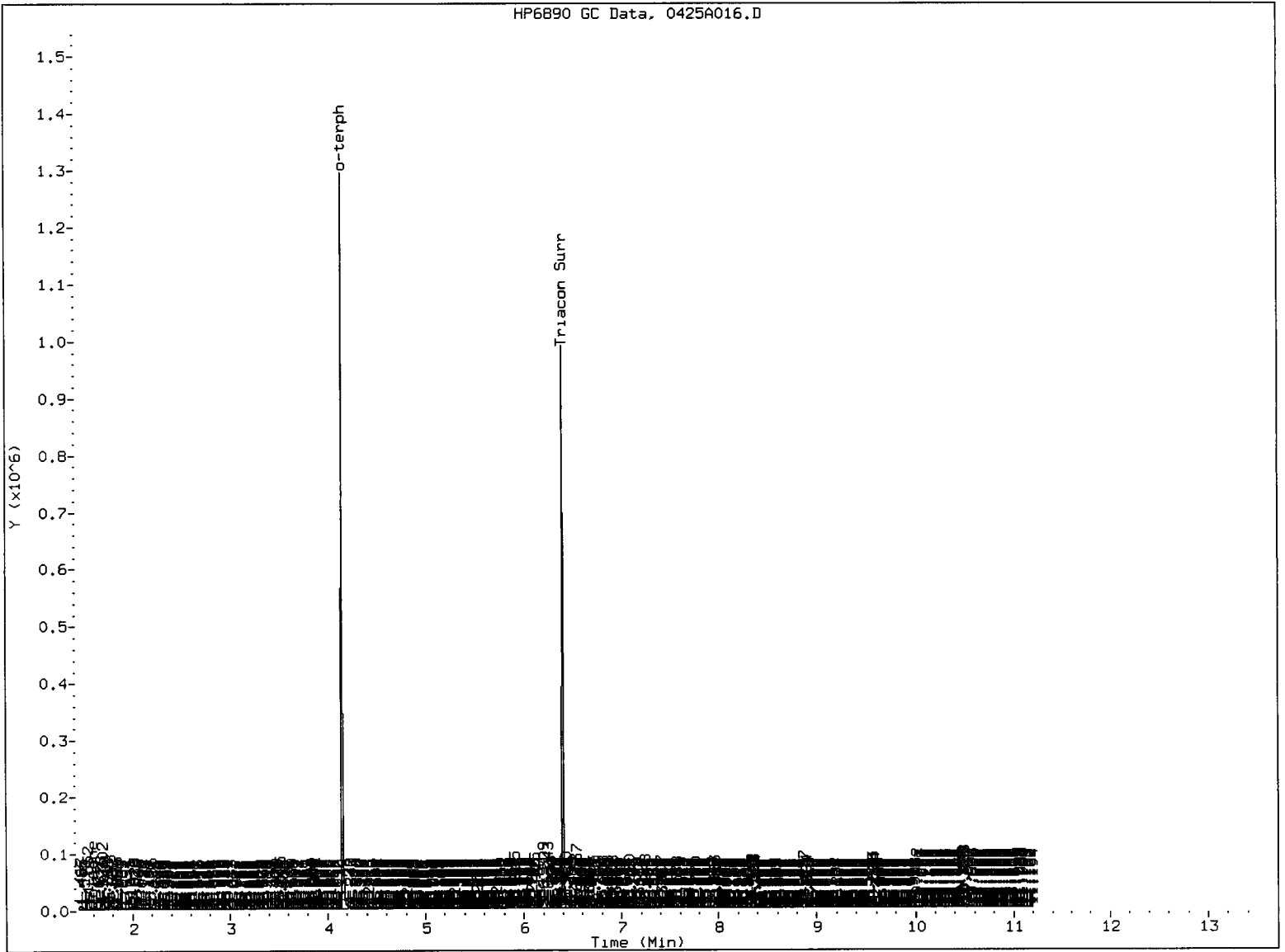
Instrument: fid9.i

Operator: HS  
Column diameter: 0.25

/chem2/fid9.i/20110425.b/04259016.D



HP6890 GC Data, 0425A016.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MM

Date: 4/26/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A017.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83B  
Client ID: DMA-TP1-3-4.5-04191  
Injection: 25-APR-2011 21:27  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.593	-0.006	1565	1351	GAS (Tol-C12)	232355	11.06
C8	1.357	0.083	9334	9753	DIESEL (C12-C24)	388949	17.17
C10	1.981	0.007	3498	2595	M.OIL (C24-C38)	2412671	181.90
C12	2.600	-0.016	955	1233	AK-102 (C10-C25)	495321	19.40
C14	3.152	-0.003	103	36	AK-103 (C25-C36)	2238614	263.42 M
C16	3.627	0.007	2322	1697			
C18	4.035	-0.003	4397	3008			
C20	4.423	-0.003	8390	5871			
C22	4.809	-0.003	12760	10342			
C24	5.302	-0.005	25973	20314			
C25	5.526	-0.004	235406	174757			
C26	5.728	-0.004	40107	35763			
C28	6.083	-0.003	55951	55440			
C32	6.674	-0.002	19864	25551	JP-4 (Tol-C14)	257763	15.72
C34	6.938	0.002	13324	8143	BUNKERC (C10-C38)	2863544	384.66 M
Filter Peak	----						
C36	7.186	0.000	10563	10361			
C38	7.427	0.004	8942	10764			
C40	7.694	0.002	6372	5743			
o-terph	4.153	-0.002	1448754	834905	JET-A (C10-C18)	151903	10.99
Triacon Surr	6.406	0.002	973254	660283	JP8 (Tol-C16)	283553	16.12

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	834905	39.0	86.6
Triacontane	660283	37.5	83.2

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/04256017.D

Date : 25-APR-2011 21:27

Client ID: DMH-TP1-3-4.5-04191

Sample Info: S883B

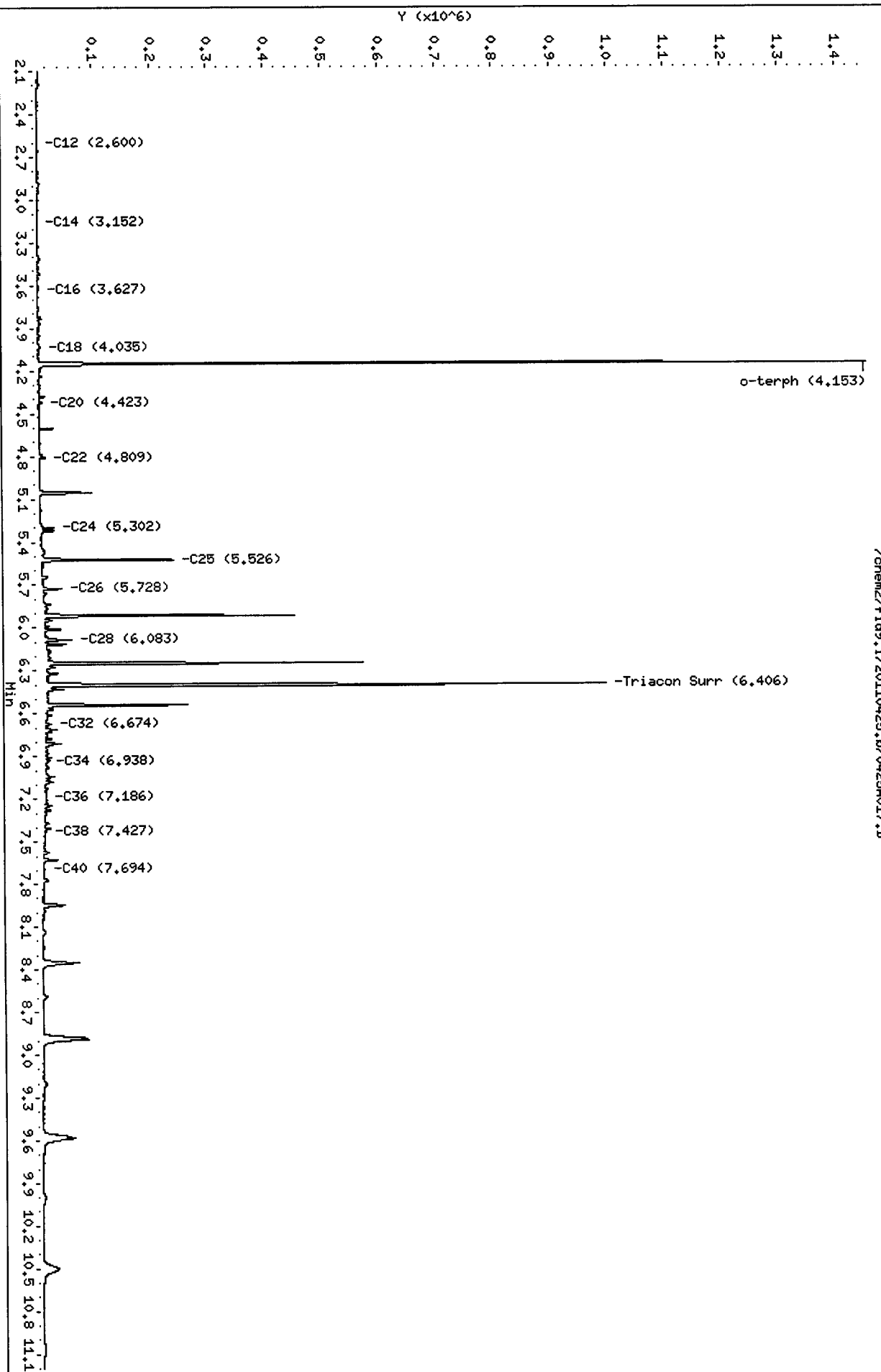
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Instrument: fid9.i

Operator: NS

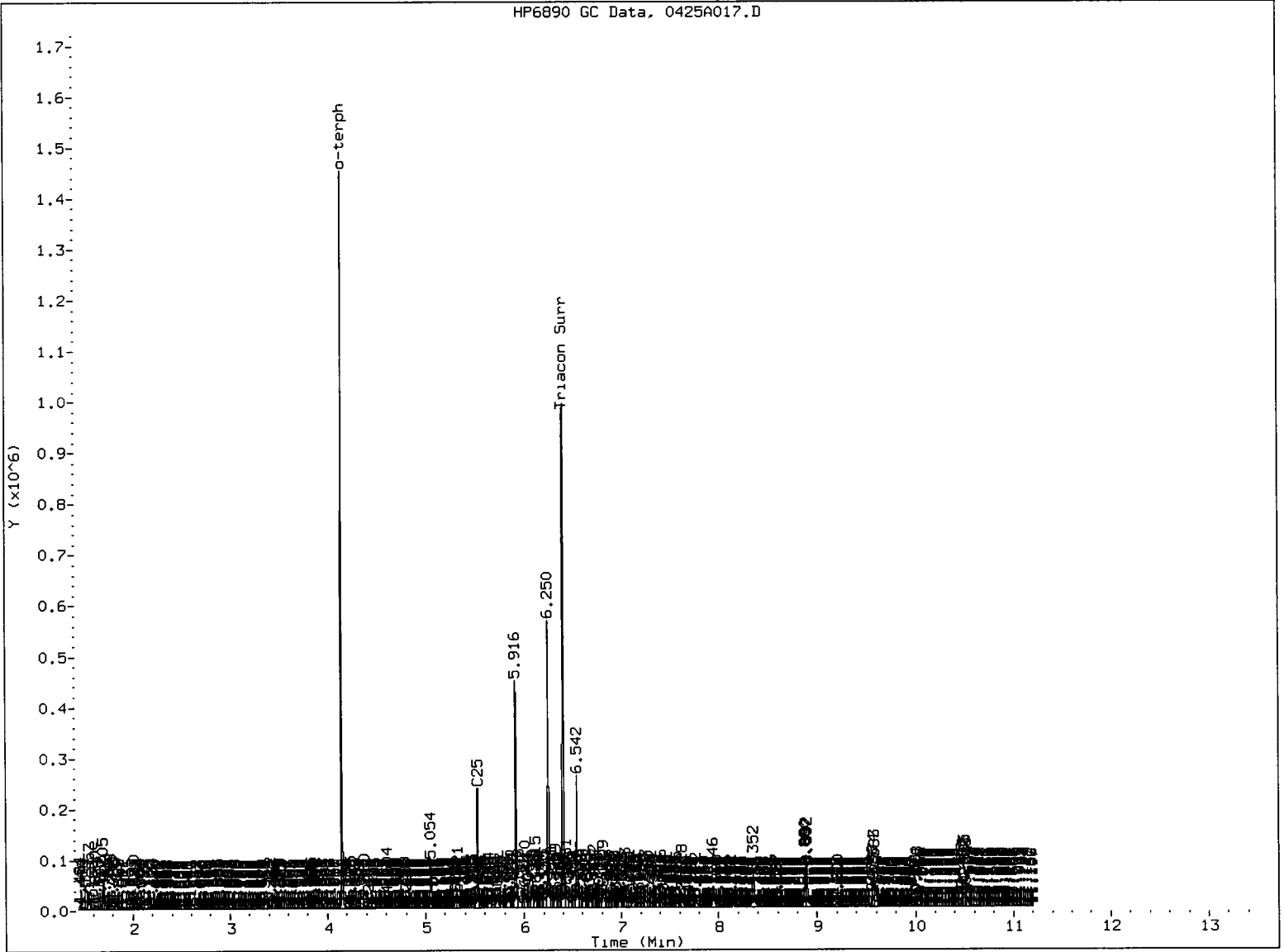
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/chem2/fid9.i/20110425.b/04256017.D



10201020 : 0055

HP6890 GC Data, 0425A017.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *[Signature]*

Date: *4/25/11*



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A018.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83C  
Client ID: DMA-TP1-4.5-5.5-041  
Injection: 25-APR-2011 21:48  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.594	-0.004	1731	1575	GAS (Tol-C12)	213745	10.17
C8	----				DIESEL (C12-C24)	401749	17.73
C10	1.983	0.008	4467	3402	M.OIL (C24-C38)	2712154	204.48
C12	2.612	-0.004	636	254	AK-102 (C10-C25)	529864	20.76
C14	3.157	0.002	97	60	AK-103 (C25-C36)	2292078	269.72 M
C16	3.611	-0.009	1706	1559			
C18	4.037	-0.002	3379	3309			
C20	4.426	0.001	4571	5084			
C22	4.813	0.000	5767	5635			
C24	5.304	-0.003	8691	5002			
C25	5.525	-0.005	17567	21260			
C26	5.729	-0.003	14686	9704			
C28	6.085	-0.002	34242	33034			
C32	6.673	-0.004	27738	31707	JP-4 (Tol-C14)	233244	14.23
C34	6.934	-0.002	24226	10703	BUNKERC (C10-C38)	3177856	426.88 M
Filter Peak	----						
C36	7.186	0.000	25099	18591			
C38	7.420	-0.003	27647	21321			
C40	7.689	-0.003	22258	16139			
o-terph	4.154	-0.001	1388690	869045	JET-A (C10-C18)	142081	10.28
Triacon Surr	6.403	-0.001	1033617	683851	JP8 (Tol-C16)	258049	14.67

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	869045	40.6	90.2
Triacontane	683851	38.8	86.2

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R018.D

Date: 25-APR-2011 21:48

Client ID: DM4-TP1-4.5-5.5-041

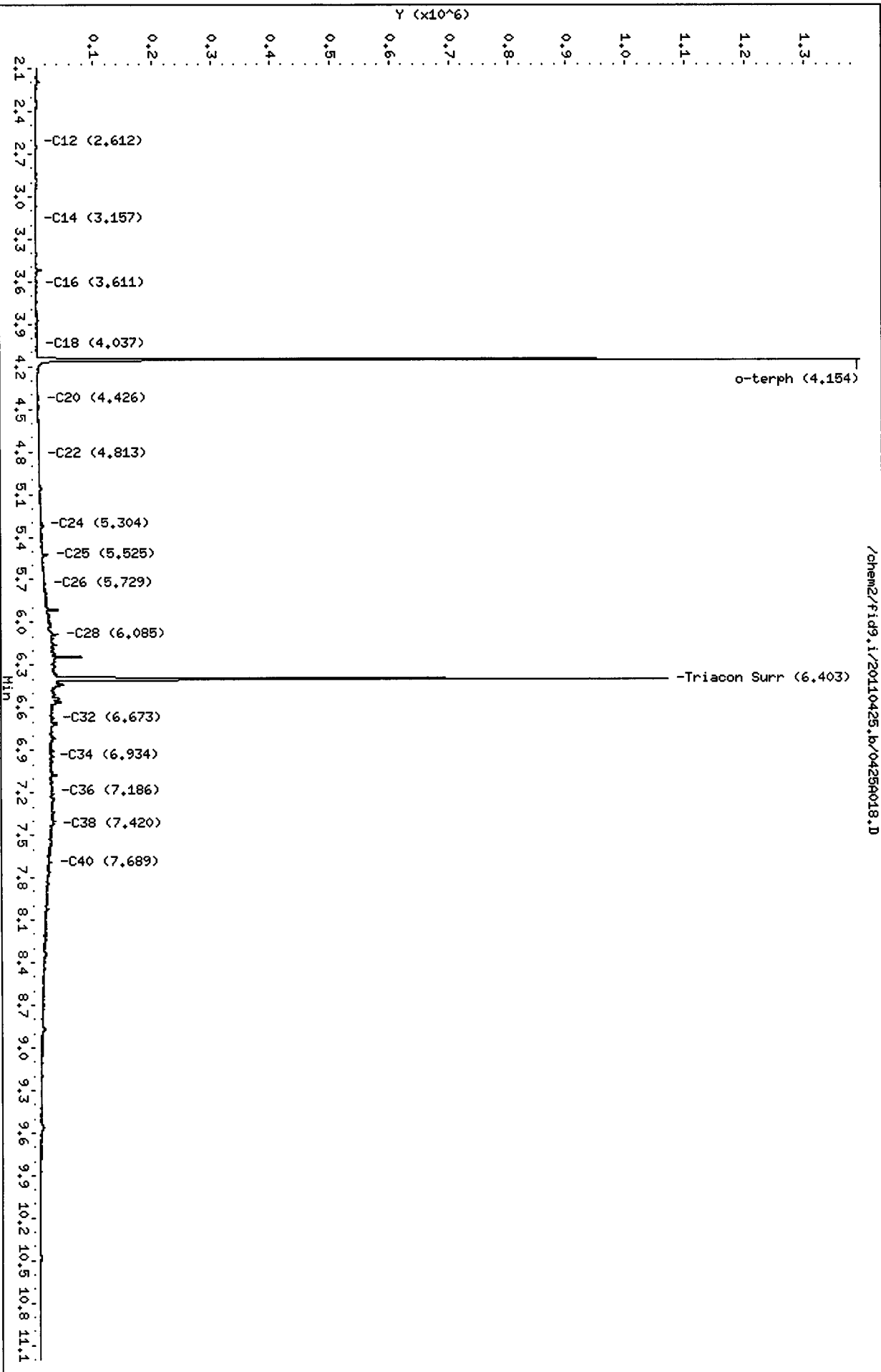
Sample Info: S883C

Column phase: RTX-1

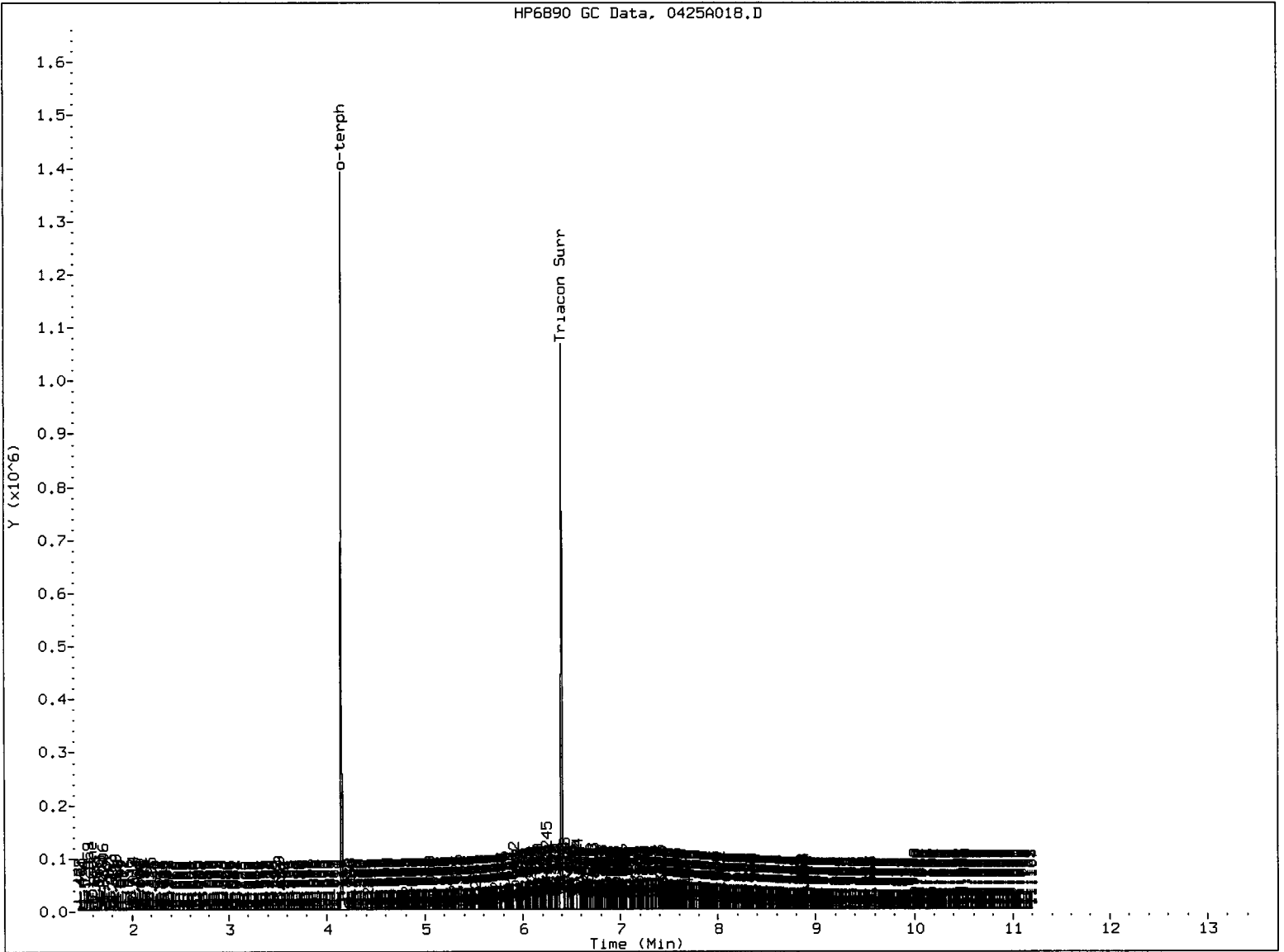
Instrument: fid9.i

Operator: MS

Column diameter: 0.25



HP6890 GC Data, 0425A018.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: M Date: 4/26/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A019.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83D  
Client ID: DMA-TP2-1.5-3-04191  
Injection: 25-APR-2011 22:10  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.596	-0.003	587	305	GAS (Tol-C12)	100752	4.80
C8	----				DIESEL (C12-C24)	544009	24.01
C10	1.985	0.011	3550	2540	M.OIL (C24-C38)	2287885	172.49
C12	2.608	-0.008	755	715	AK-102 (C10-C25)	628883	24.64
C14	3.150	-0.004	935	1085	AK-103 (C25-C36)	2030985	238.99 M
C16	3.628	0.008	4542	4296			
C18	4.037	-0.001	4414	4374			
C20	4.421	-0.004	10486	8061			
C22	4.811	-0.002	12985	11902			
C24	5.301	-0.006	15429	12833			
C25	5.525	-0.005	69118	64124			
C26	5.727	-0.004	19516	22991			
C28	6.083	-0.003	39314	42674			
C32	6.674	-0.003	20814	17995	JP-4 (Tol-C14)	158734	9.68
C34	6.945	0.009	20723	16687	BUNKERC (C10-C38)	2868980	385.39 M
Filter Peak	----						
C36	7.178	-0.007	14788	15418			
C38	7.423	0.001	14407	6140			
C40	7.692	0.000	9886	6678			
o-terph	4.154	-0.001	1452029	840296	JET-A (C10-C18)	228924	16.57
Triacon Surr	6.403	-0.001	1051085	695837	JP8 (Tol-C16)	228772	13.00

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	840296	39.2	87.2
Triacontane	695837	39.5	87.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R019.D

Date: 25-APR-2011 22:10

Client ID: DMA-TP2-1.5-3-04191

Sample Info: SS93D

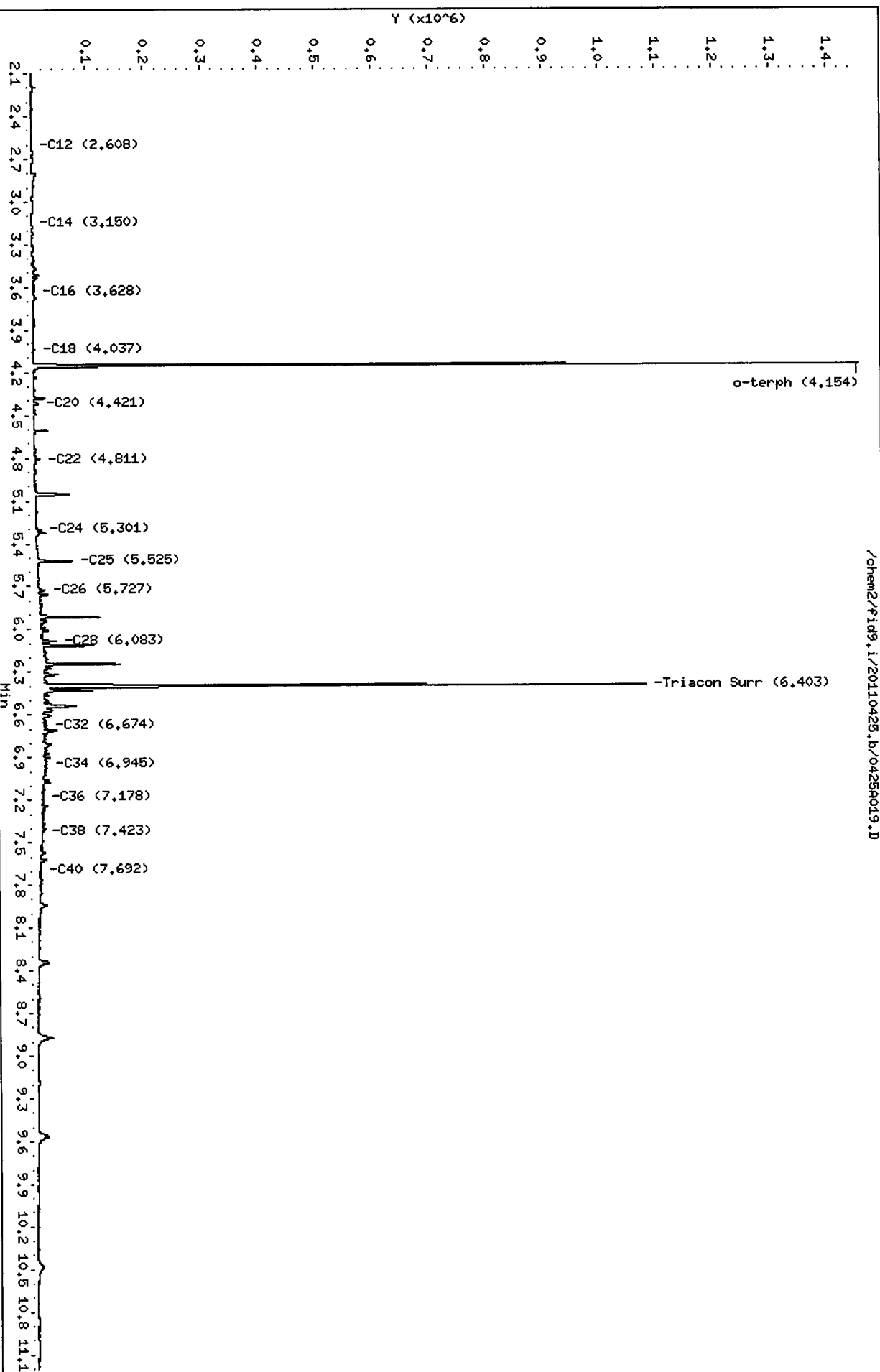
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Instrument: fid9.i

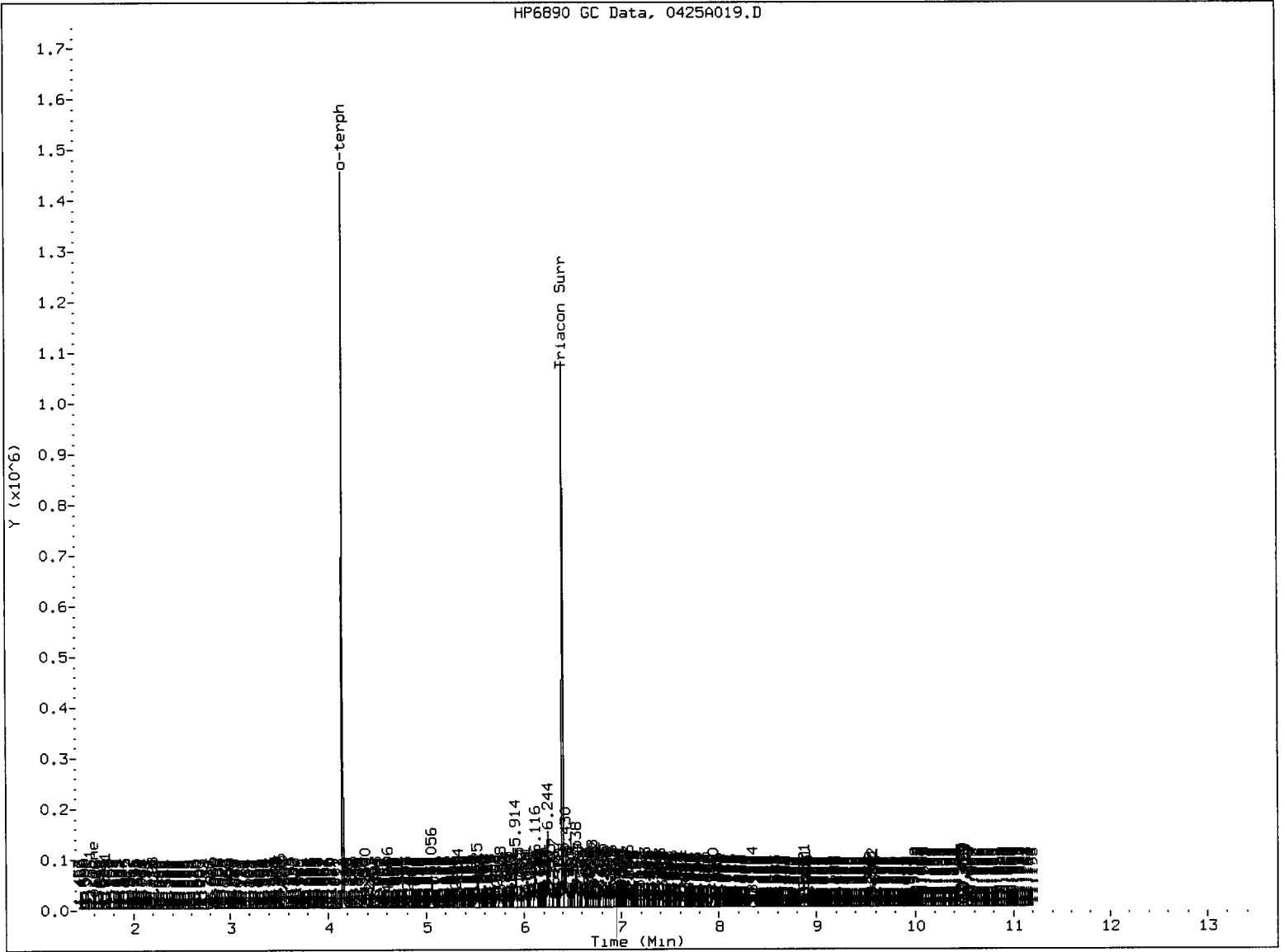
Operator: MS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425R019.D



HP6890 GC Data, 0425A019.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MS

Date: 4/24/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A020.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83E  
Client ID: DMA-TP2-3-4-041911  
Injection: 25-APR-2011 22:31  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.590	-0.008	1245	1408	GAS (Tol-C12)	157385	7.49
C8	----				DIESEL (C12-C24)	156375	6.90
C10	1.983	0.008	3829	3187	M.OIL (C24-C38)	341680	25.76
C12	2.610	-0.005	511	563	AK-102 (C10-C25)	221776	8.69
C14	3.148	-0.007	151	106	AK-103 (C25-C36)	311104	36.61
C16	3.614	-0.006	2497	2158			
C18	4.036	-0.002	2493	2265			
C20	4.430	0.004	1481	1653			
C22	4.816	0.003	1379	1242			
C24	5.305	-0.002	2420	2382			
C25	5.527	-0.003	3722	4369			
C26	5.734	0.002	3893	918			
C28	6.083	-0.004	5091	5915			
C32	6.674	-0.002	4018	4580	JP-4 (Tol-C14)	176577	10.77
C34	6.938	0.001	1983	2031	BUNKERC (C10-C38)	545254	73.24
Filter Peak	----						
C36	7.181	-0.004	1341	944			
C38	7.425	0.003	1011	885			
C40	7.694	0.002	699	665			
o-terph	4.153	-0.002	1412612	868522	JET-A (C10-C18)	127444	9.22
Triacon Surr	6.404	0.000	1097125	725777	JP8 (Tol-C16)	202391	11.50

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	868522	40.6	90.1
Triacontane	725777	41.2	91.5

*ms 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

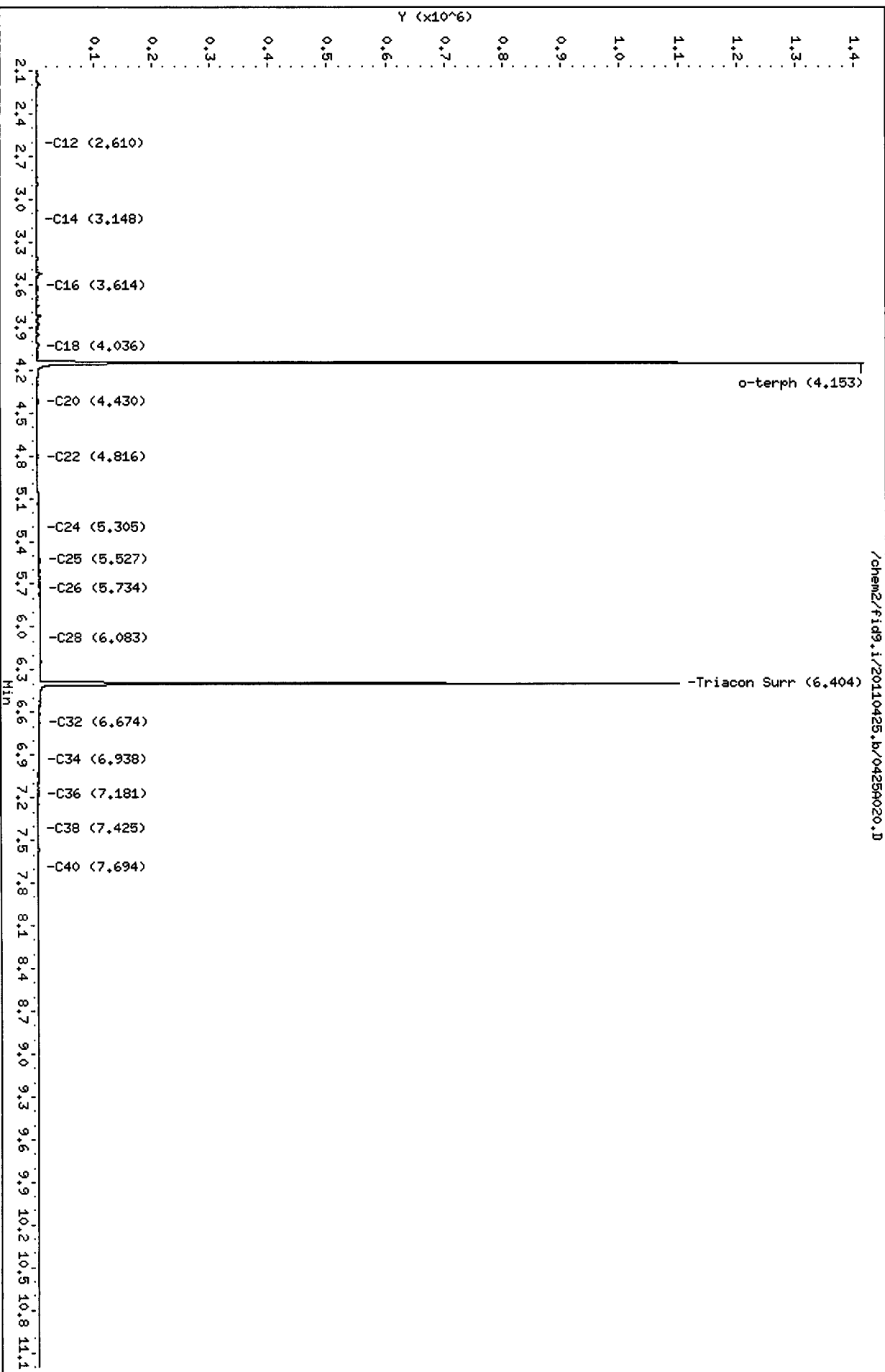
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Date : 25-APR-2011 22:31  
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Sample Info: S883E

Column phase: RTX-1

Instrument: fid9.1

Operator: HS  
Column diameter: 0.25

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11 09 2011 22:31 S883E



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A021.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83F  
 Client ID: DMA-TP6-0-2.5-04191  
 Injection: 25-APR-2011 22:53  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.590	-0.009	1245	1281	GAS (Tol-C12)	122993	5.85
C8	----				DIESEL (C12-C24)	192065	8.48
C10	1.982	0.007	1845	1905	M.OIL (C24-C38)	474628	35.78
C12	2.615	-0.001	495	590	AK-102 (C10-C25)	237569	9.31
C14	3.153	-0.001	114	59	AK-103 (C25-C36)	411678	48.44
C16	3.616	-0.004	1470	1239			
C18	4.036	-0.002	2215	2118			
C20	4.426	0.001	2837	2924			
C22	4.802	-0.010	3661	6506			
C24	5.304	-0.003	2371	2670			
C25	5.523	-0.007	4998	2975			
C26	5.729	-0.002	3463	5144			
C28	6.086	-0.001	9109	9298			
C32	6.676	0.000	5506	5894	JP-4 (Tol-C14)	139992	8.54
C34	6.935	-0.001	4048	1417	BUNKERC (C10-C38)	698998	93.90
Filter Peak	----						
C36	7.181	-0.004	3176	2034			
C38	7.429	0.007	3034	1483			
C40	7.691	0.000	2402	1297			
o-terph	4.151	-0.004	1289114	810975	JET-A (C10-C18)	110636	8.01
Triacon Surr	6.403	-0.001	1037221	664054	JP8 (Tol-C16)	164095	9.33

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	810975	37.9	84.1
Triacontane	664054	37.7	83.7

*M 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/04256021.D

Date : 25-APR-2011 22:53

Client ID: DMH-TP6-0-2.5-04191

Sample Info: S583F

Column phase: RTX-1

Instrument: fid9.i

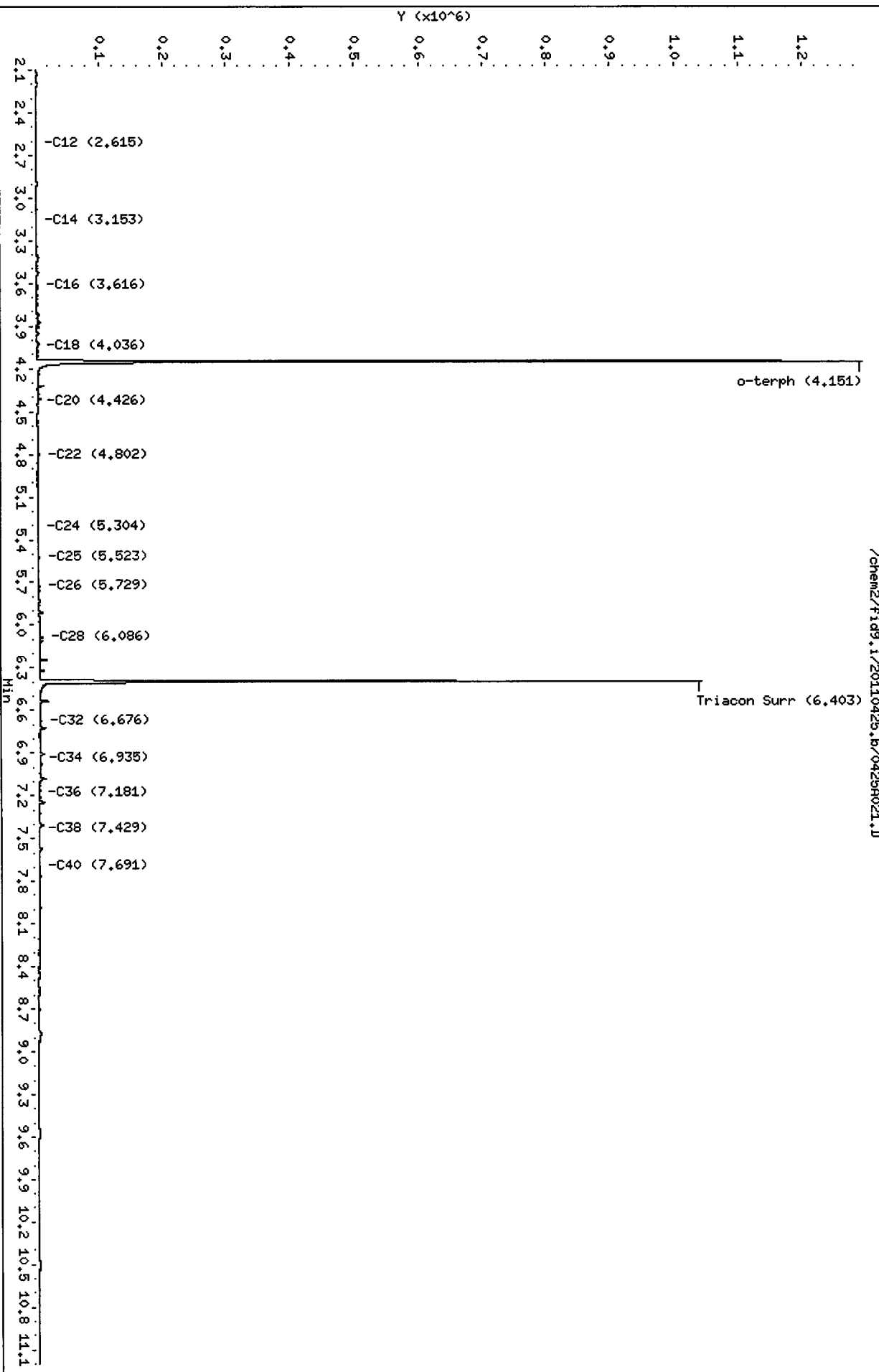
Operator: MS

Column diameter: 0.25

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1369

5583 : 01360



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A022.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83G  
Client ID: DMA-TP6-2.5-5-04191  
Injection: 25-APR-2011 23:14  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.587	-0.012	1077	1111	GAS (Tol-C12)	120506	5.74
C8	----				DIESEL (C12-C24)	313006	13.82
C10	1.980	0.006	3183	2888	M.OIL (C24-C38)	1079017	81.35
C12	2.611	-0.004	514	550	AK-102 (C10-C25)	382903	15.00
C14	3.151	-0.004	200	56	AK-103 (C25-C36)	962223	113.23 M
C16	3.613	-0.007	3101	2776			
C18	4.035	-0.003	4444	4360			
C20	4.424	-0.001	6692	7066			
C22	4.810	-0.003	7003	6997			
C24	5.301	-0.006	5743	6739			
C25	5.525	-0.005	11767	15870			
C26	5.726	-0.006	8233	7662			
C28	6.082	-0.004	16562	18576			
C32	6.673	-0.003	13128	14172	JP-4 (Tol-C14)	138121	8.42
C34	6.937	0.000	8480	3623	BUNKERC (C10-C38)	1430017	192.09 M
Filter Peak	----						
C36	7.183	-0.002	6852	4892			
C38	7.422	-0.001	6146	4657			
C40	7.682	-0.010	4690	4869			
o-terph	4.152	-0.003	1346513	853436	JET-A (C10-C18)	146110	10.57
Triacon Surr	6.403	-0.001	1045162	679498	JP8 (Tol-C16)	168178	9.56

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	853436	39.8	88.6
Triacontane	679498	38.6	85.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R022.D

Date : 25-APR-2011 23:14

Client ID: DMA-TP6-2.5-5-04191

Sample Info: SS83G

Column phase: RTX-1

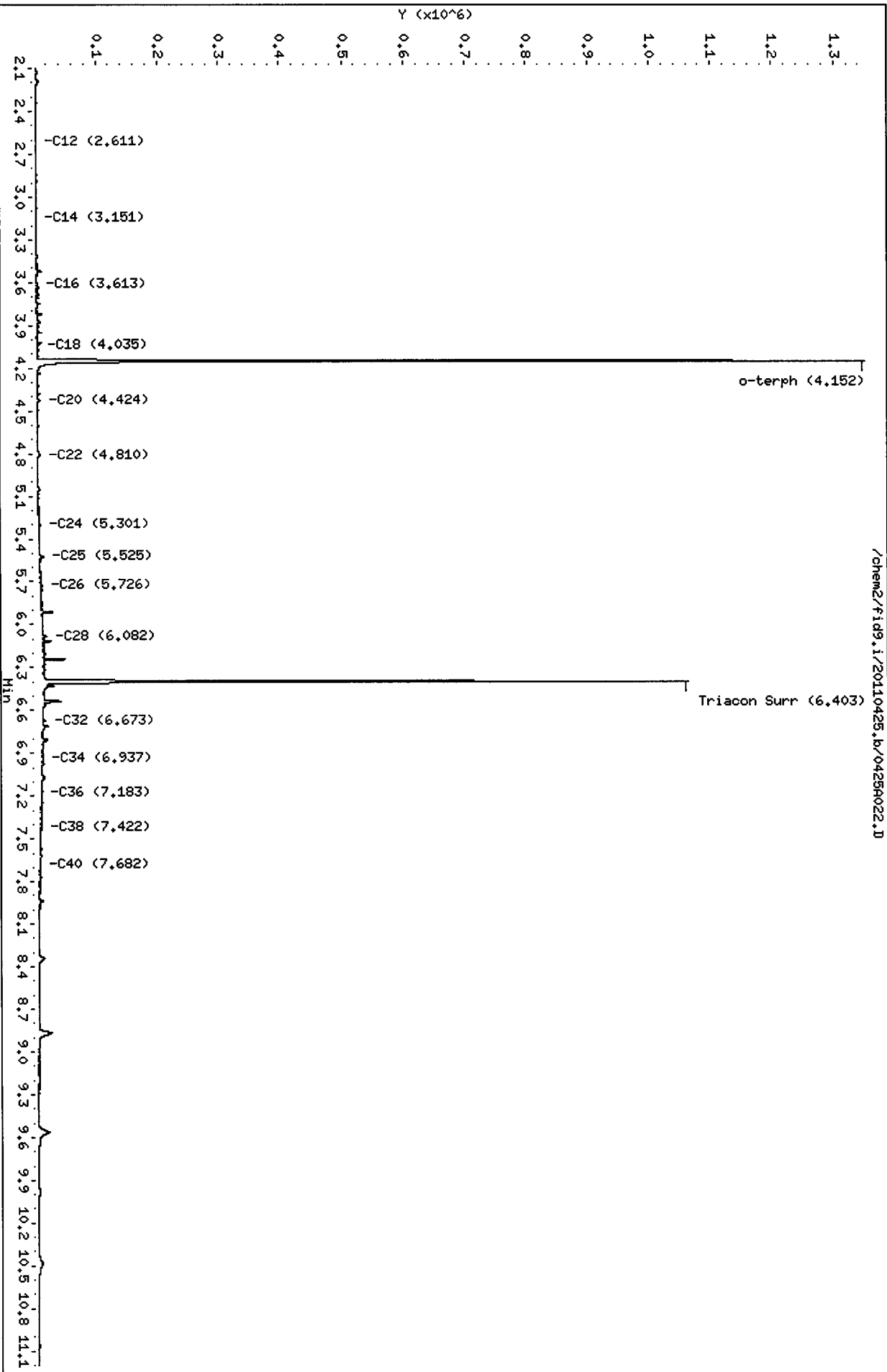
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Operator: NS

Column diameter: 0.25

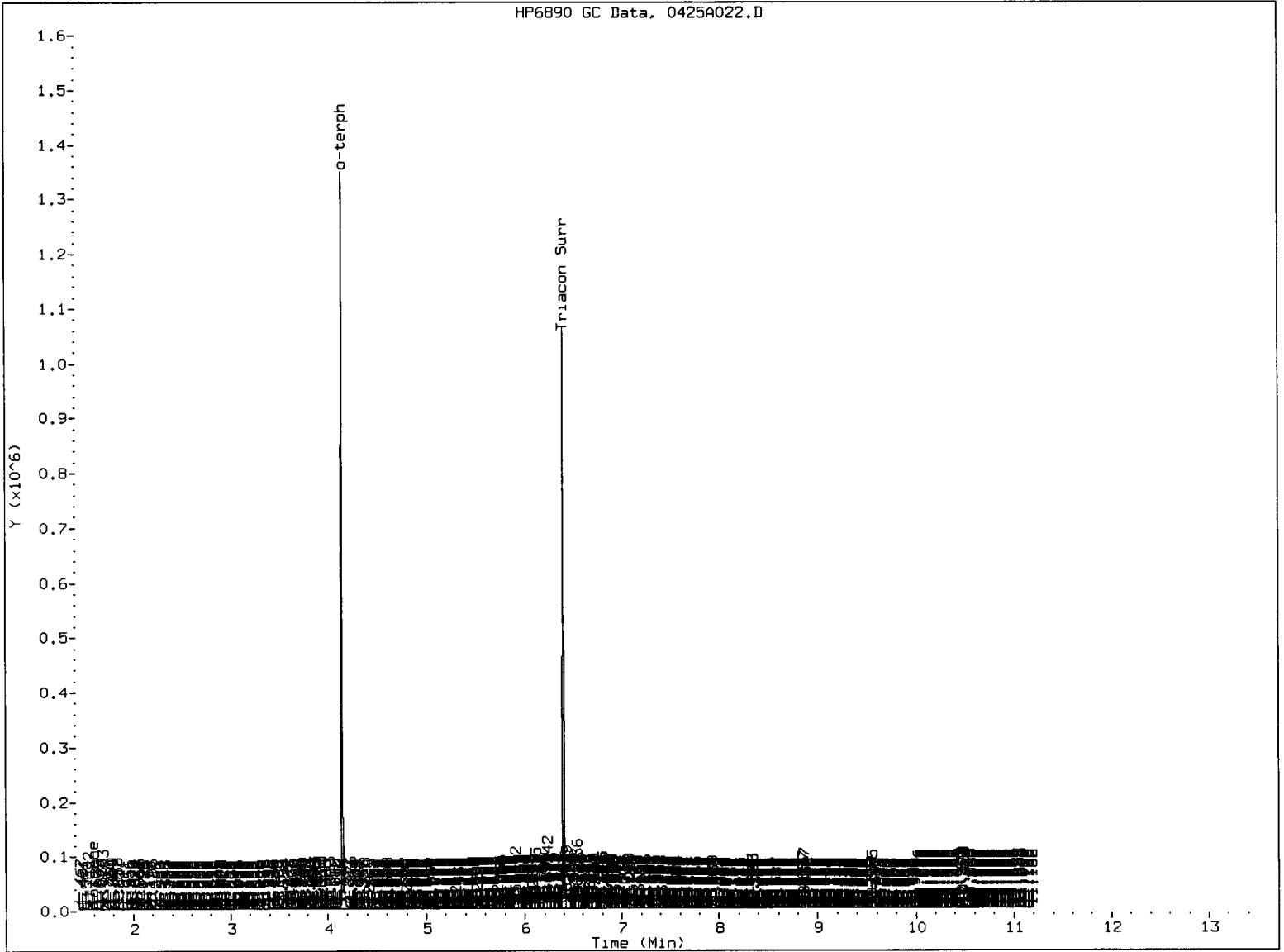
Page 1

1371



000000 : 0100 5583

HP6890 GC Data, 0425A022.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *me*

Date: 4/26/14

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A023.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: DIESEL#2  
Client ID: LORA LAKE  
Injection: 25-APR-2011 23:36  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.617	0.016	10611	10884	GAS (Tol-C12)	759843	36.17
C8	1.321	0.048	2661	793	DIESEL (C12-C24)	5147353	227.23
C10	1.977	0.000	27079	24189	M.OIL (C24-C38)	72944	5.50
C12	2.620	-0.001	62752	49061	AK-102 (C10-C25)	5770439	226.06 M
C14	3.150	-0.006	140556	100462	AK-103 (C25-C36)	48850	5.75
C16	3.614	-0.007	259806	151951			
C18	4.032	-0.006	214182	158550			
C20	4.421	-0.005	140881	100234			
C22	4.810	-0.005	44930	41123			
C24	5.312	0.004	7794	11720			
C25	5.531	0.000	3149	2730			
C26	5.735	0.003	934	362			
C28	6.089	0.002	2193	1838			
C32	6.674	-0.003	51	17	JP-4 (Tol-C14)	1657698	101.10
C34	6.937	-0.001	50	28	BUNKERC (C10-C38)	5824902	782.45 M
Filter Peak	----						
C36	7.186	-0.002	99	69			
C38	7.406	-0.020	2781	2215			
C40	7.691	-0.002	218	69			
o-terph	4.152	-0.002	1548214	869305	JET-A (C10-C18)	4260205	308.28
Triacon Surr	6.406	0.001	86	80	JP8 (Tol-C16)	3005129	170.80

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	869305	40.6	90.2
Triacontane	80	0.0	0.0

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R023.D

Date: 25-APR-2011 23:36

Client ID: LORA LAKE

Sample Info: DIESEL#2

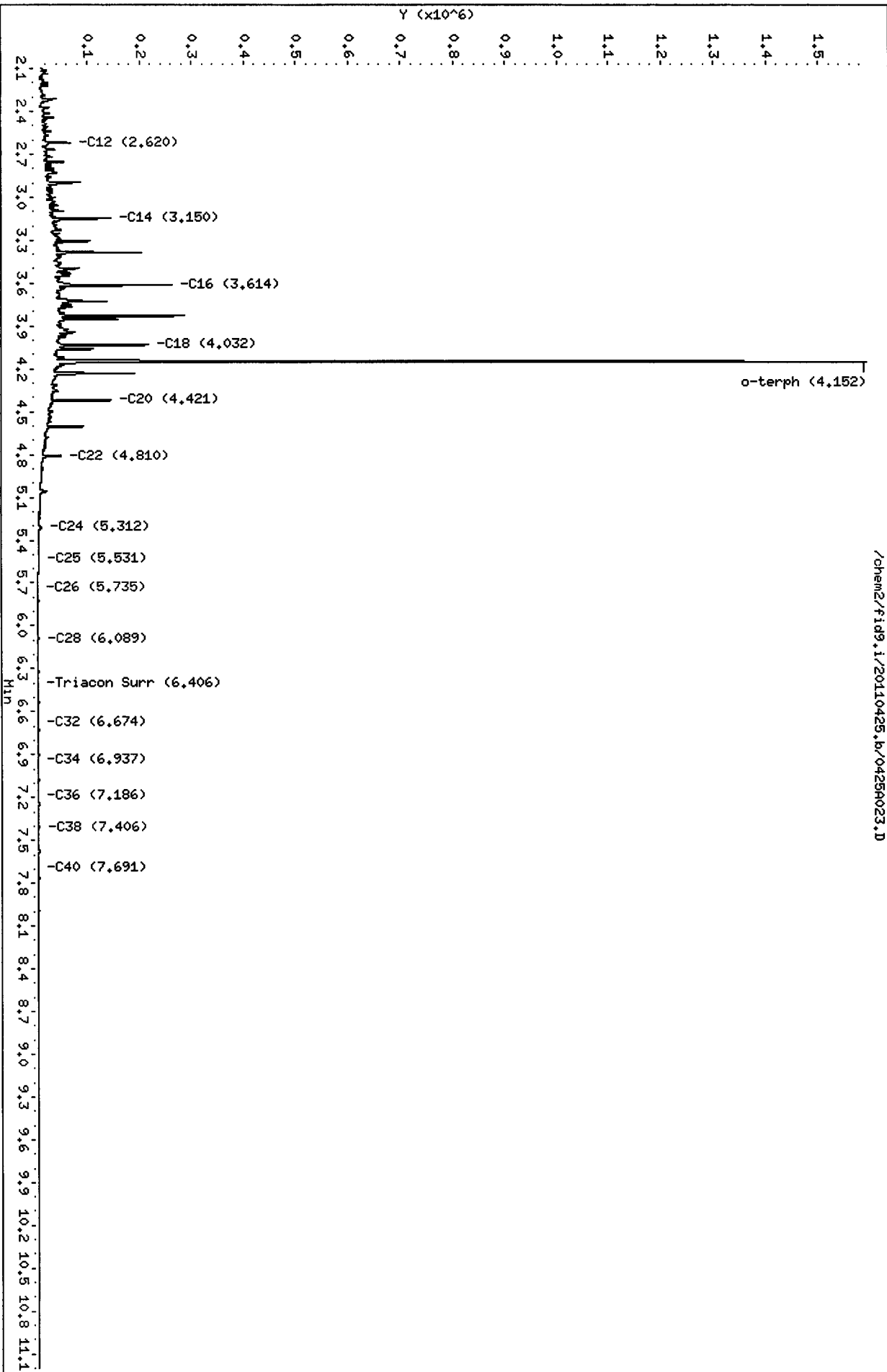
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Instrument: fid9.i

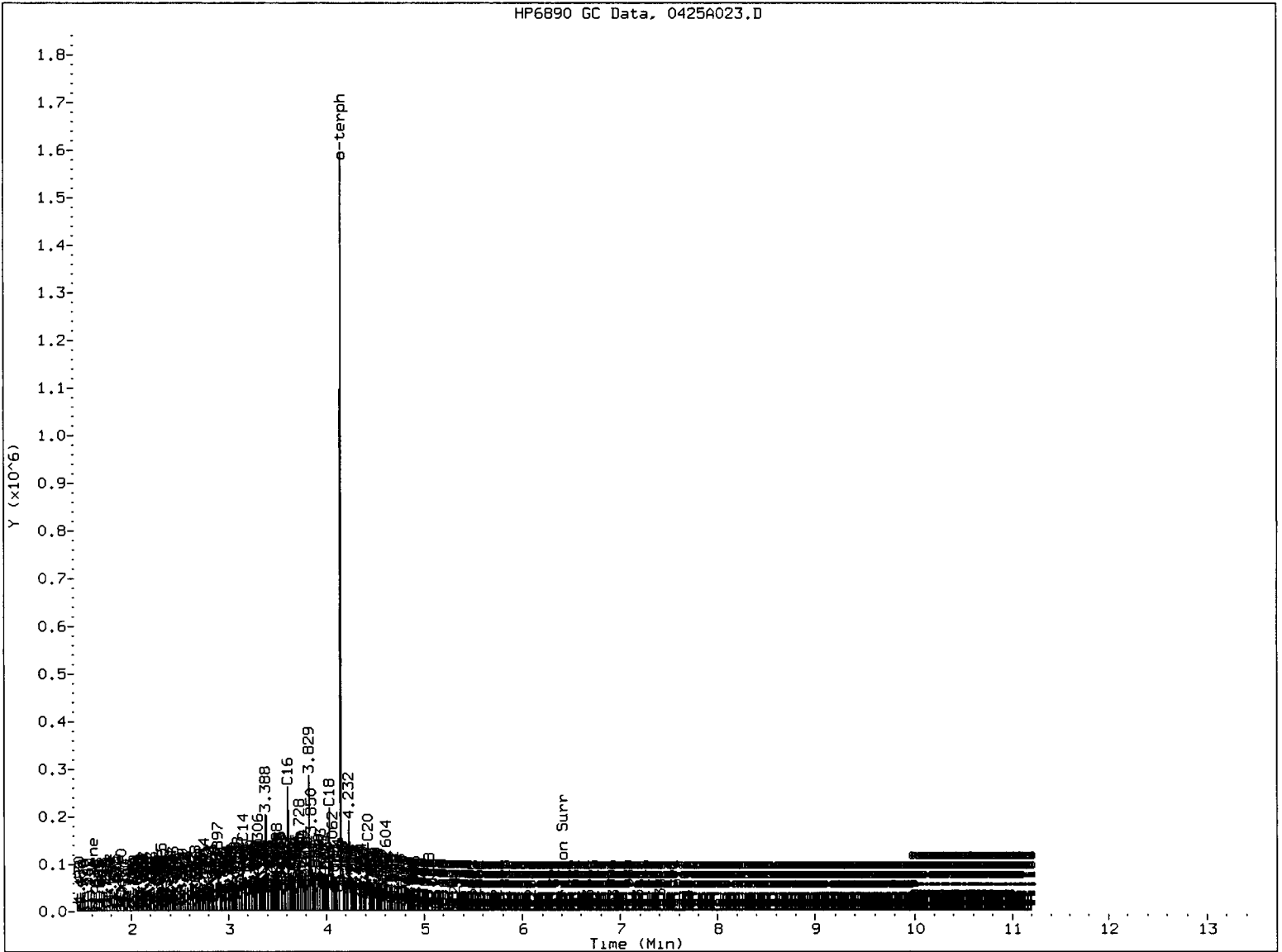
Operator: HS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425R023.D



HP6890 GC Data, 0425A023.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: M

Date: 4/26/11



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A024.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: MOIL#2  
 Client ID: LORA LAKE  
 Injection: 25-APR-2011 23:57  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS							
Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.595	-0.006	684	293	GAS (Tol-C12)	18240	0.87
C8	1.353	0.080	2718	1749	DIESEL (C12-C24)	765109	33.78
C10	1.976	-0.002	791	977	M.OIL (C24-C38)	6667642	502.70
C12	2.605	-0.015	549	857	AK-102 (C10-C25)	957303	37.50
C14	3.150	-0.005	76	55	AK-103 (C25-C36)	5585679	657.28 M
C16	3.618	-0.003	32	11			
C18	4.049	0.011	398	242			
C20	4.420	-0.005	4638	4548			
C22	4.815	0.000	11883	2116			
C24	5.311	0.003	22576	9171			
C25	5.526	-0.005	29945	10556			
C26	5.728	-0.004	36939	14235			
C28	6.091	0.005	50071	17701			
C32	6.678	0.002	67578	60888	JP-4 (Tol-C14)	21782	1.33
C34	6.940	0.003	73260	31042	BUNKERC (C10-C38)	7440982	999.54 M
Filter Peak	----						
C36	7.189	0.001	68281	26845			
C38	7.417	-0.009	62955	21999			
C40	7.684	-0.009	43365	34432			
o-terph	4.163	0.009	1041	1337	JET-A (C10-C18)	34943	2.53
Triacon Surr	6.407	0.002	1151460	825352	JP8 (Tol-C16)	23385	1.33

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
 NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1337	0.1	0.1
Triacantane	825352	46.8	104.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A024.D  
Date: 25-APR-2011 23:57  
Client ID: LORA LAKE  
Sample Info: M01L#2

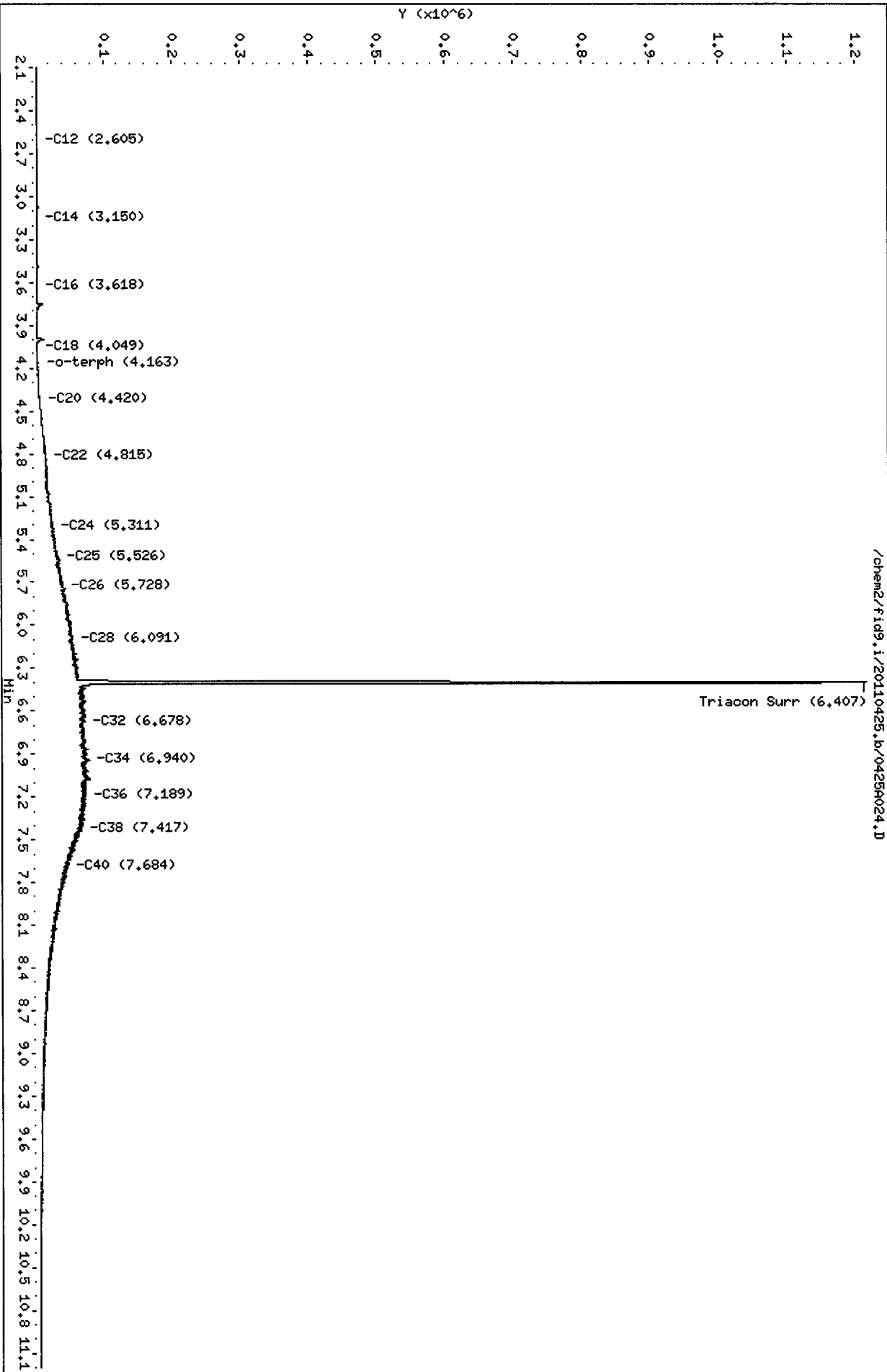
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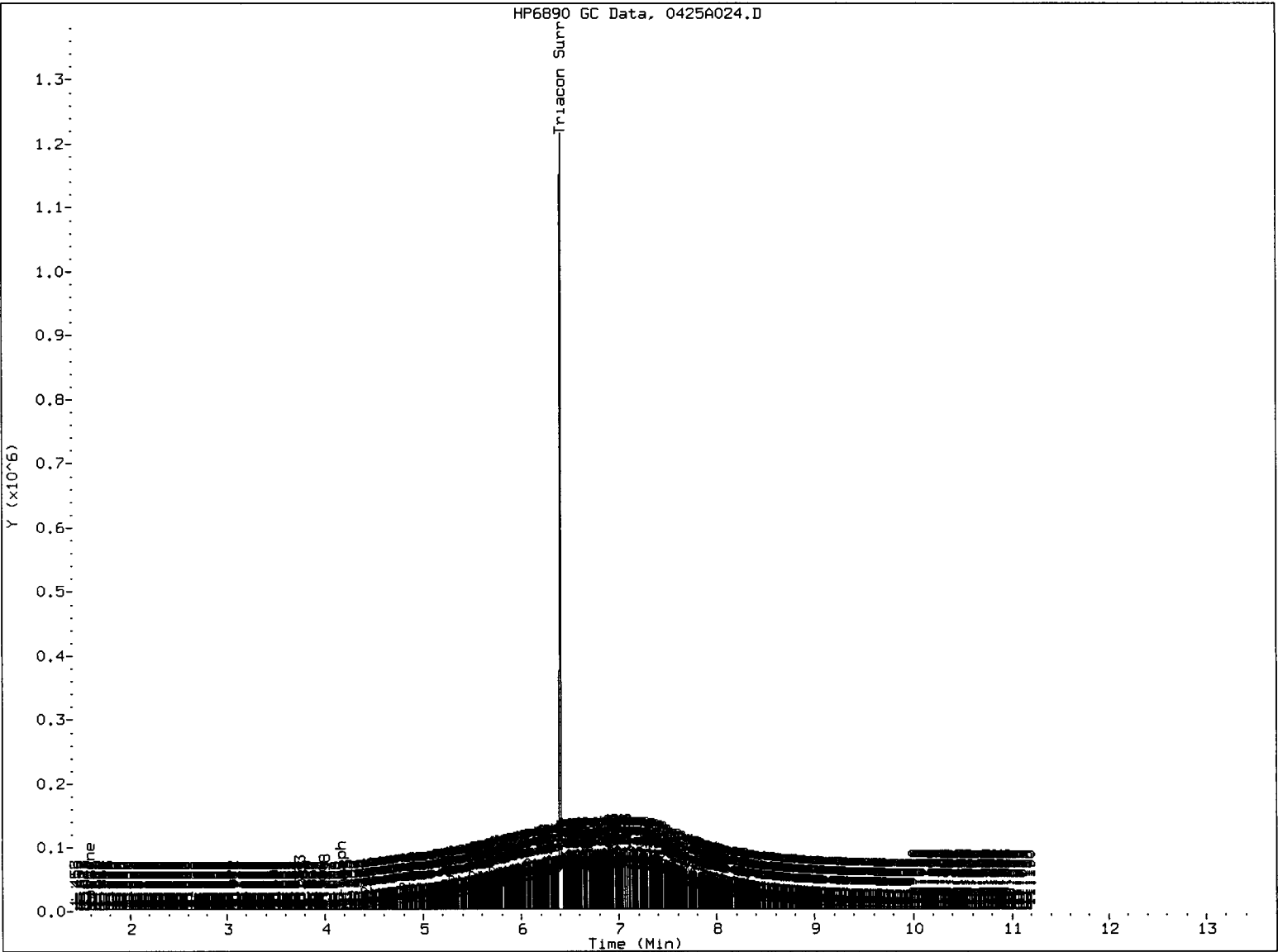
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Instrument: fid9.i

Operator: HS

Column diameter: 0.25





MANUAL INTEGRATION

- 1.  Baseline correction
- 2.  Poor chromatography
- 3.  Peak not found
- 4.  Totals calculation
- 5.  Other \_\_\_\_\_

Analyst: *[Signature]*

Date: *7/20/16*

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A025.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83H  
Client ID: DMA-TP4-0-1.5-04201  
Injection: 26-APR-2011 00:19  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.592	-0.007	1130	951	GAS (Tol-C12)	130761	6.22
C8	----				DIESEL (C12-C24)	1144339	50.52
C10	1.983	0.008	4644	3683	M.OIL (C24-C38)	4601945	346.96
C12	2.616	0.000	620	527	AK-102 (C10-C25)	1287269	50.43 M
C14	3.149	-0.006	739	816	AK-103 (C25-C36)	4181201	492.01 M
C16	3.627	0.007	5023	4631			
C18	4.035	-0.003	7462	7231			
C20	4.421	-0.004	13568	11051			
C22	4.806	-0.007	45762	34696			
C24	5.299	-0.008	57720	46356			
C25	5.524	-0.006	304688	249256			
C26	5.724	-0.007	61814	60971			
C28	6.082	-0.005	89626	104086			
C32	6.675	-0.001	34210	45514	JP-4 (Tol-C14)	166507	10.16
C34	6.945	0.009	29604	9761	BUNKERC (C10-C38)	5790880	777.88 M
Filter Peak	----						
C36	7.188	0.002	24720	7663			
C38	7.427	0.005	22345	16906			
C40	7.691	-0.001	14531	9607			
o-terph	4.151	-0.004	1318160	789538	JET-A (C10-C18)	227959	16.50
Triacon Surr	6.404	0.000	967603	627959	JP8 (Tol-C16)	214950	12.22

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	789538	36.9	81.9
Triacontane	627959	35.6	79.2

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425025.D

Date: 26-APR-2011 00:19

Client ID: DM0-TP4-0-1.5-04201

Sample Info: S583H

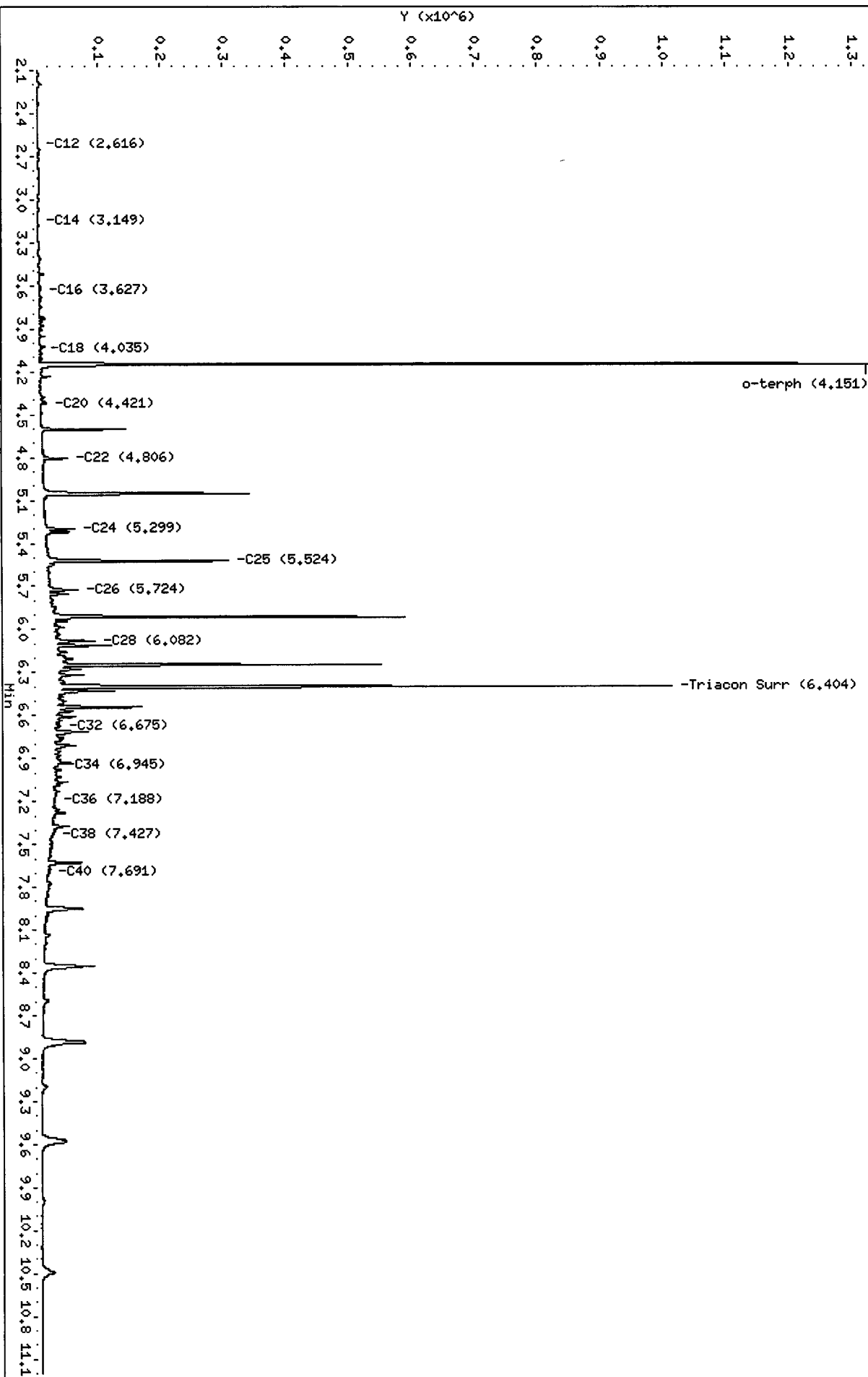
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A026.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83I  
Client ID: DMA-TP4-1.5-2-04201  
Injection: 26-APR-2011 00:40  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.586	-0.012	2320	2472	GAS (Tol-C12)	242437	11.54
C8	----				DIESEL (C12-C24)	218809	9.66
C10	1.978	0.004	4844	4330	M.OIL (C24-C38)	93507	7.05
C12	2.610	-0.005	989	1208	AK-102 (C10-C25)	301966	11.83
C14	3.159	0.005	493	116	AK-103 (C25-C36)	58301	6.86
C16	3.614	-0.006	2510	2390			
C18	4.036	-0.002	2639	2958			
C20	4.426	0.001	1405	1961			
C22	4.805	-0.007	1238	1884			
C24	5.304	-0.003	378	75			
C25	5.525	-0.005	1094	1044			
C26	5.734	0.003	606	583			
C28	6.091	0.005	2395	2014			
C32	6.683	0.007	1490	2154	JP-4 (Tol-C14)	274236	16.73
C34	6.933	-0.004	555	203	BUNKERC (C10-C38)	394663	53.01
Filter Peak	----						
C36	7.189	0.004	906	1275			
C38	7.405	-0.017	6380	5694			
C40	7.681	-0.010	21506	22556			
o-terph	4.152	-0.003	1243931	854388	JET-A (C10-C18)	197818	14.31
Triacon Surr	6.403	-0.001	987790	701857	JP8 (Tol-C16)	309067	17.57

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	854388	39.9	88.7
Triacontane	701857	39.8	88.5

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

*MS 4/26/11*

Data File: /chem2/fid9.i/20110425.b/0425a026.D

Date: 26-APR-2011 00:40

Client ID: DM0-TP4-1.5-2-04201

Sample Info: SS83I

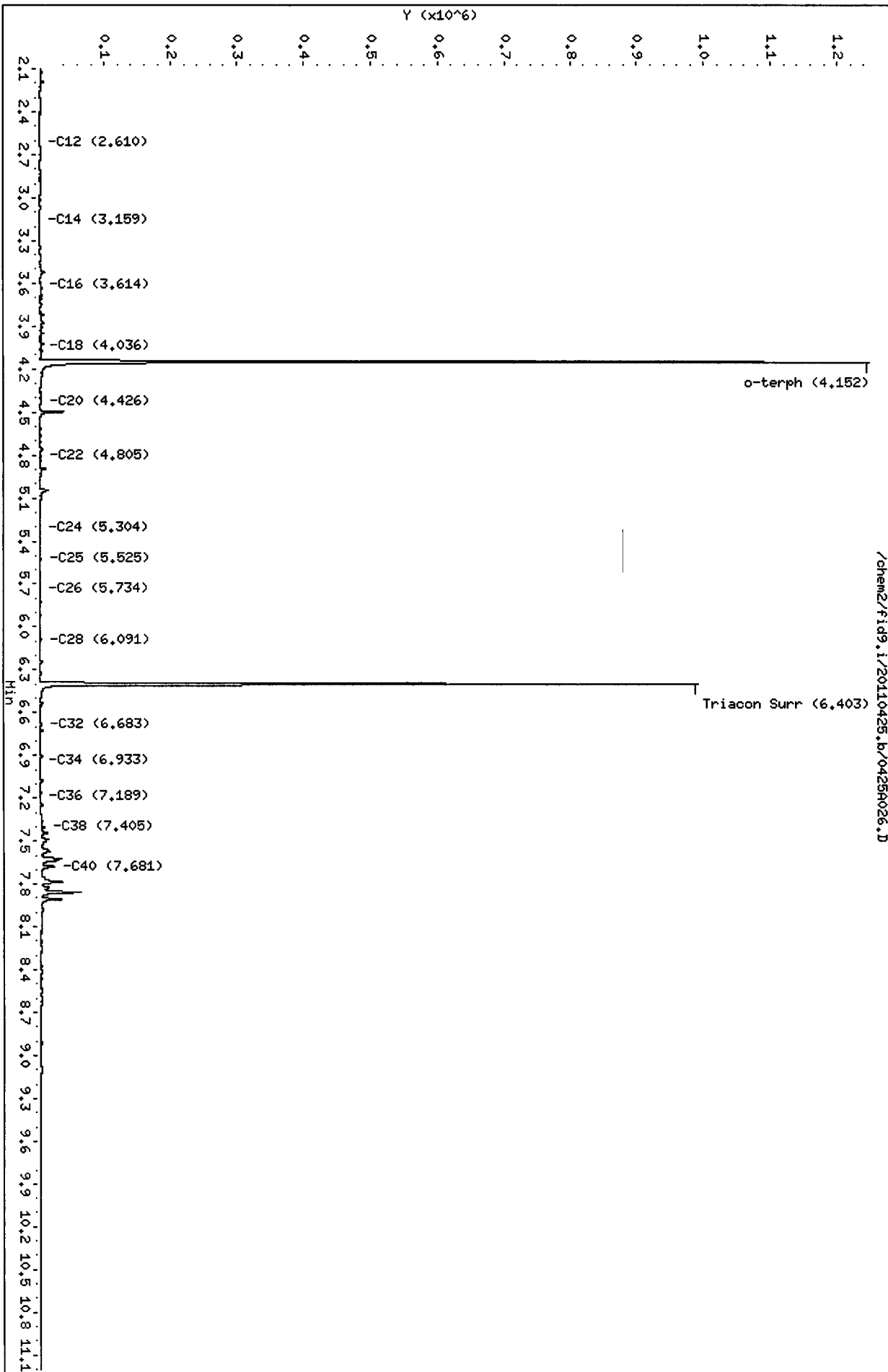
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A027.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83J  
 Client ID: DMA-TP5-1.5-2-04201  
 Injection: 26-APR-2011 01:02  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.594	-0.004	1484	1345	GAS (Tol-C12)	241661	11.50
C8	----				DIESEL (C12-C24)	2372266	104.72
C10	1.983	0.008	3420	2472	M.OIL (C24-C38)	8376624	631.55
C12	2.614	-0.002	786	725	AK-102 (C10-C25)	2678261	104.92 M
C14	3.157	0.002	408	107	AK-103 (C25-C36)	7465414	878.48 M
C16	3.623	0.003	4550	4172			
C18	4.034	-0.004	8986	8399			
C20	4.422	-0.003	25504	22466			
C22	4.809	-0.004	97285	93127			
C24	5.304	-0.003	104449	90401			
C25	5.530	0.000	401294	355560			
C26	5.728	-0.004	98687	127399			
C28	6.084	-0.003	141343	147431			
C32	6.672	-0.004	67632	62850	JP-4 (Tol-C14)	282614	17.24
C34	6.942	0.006	59617	41507	BUNKERC (C10-C38)	10811885	1452.35 M
Filter Peak	----						
C36	7.179	-0.006	52185	41181			
C38	7.422	0.000	46357	37237			
C40	7.690	-0.002	33590	28460			
o-terph	4.153	-0.002	1299504	707528	JET-A (C10-C18)	278884	20.18
Triacon Surr	6.402	-0.002	868963	569732	JP8 (Tol-C16)	333094	18.93

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	707528	33.0	73.4
Triacotane	569732	32.3	71.8

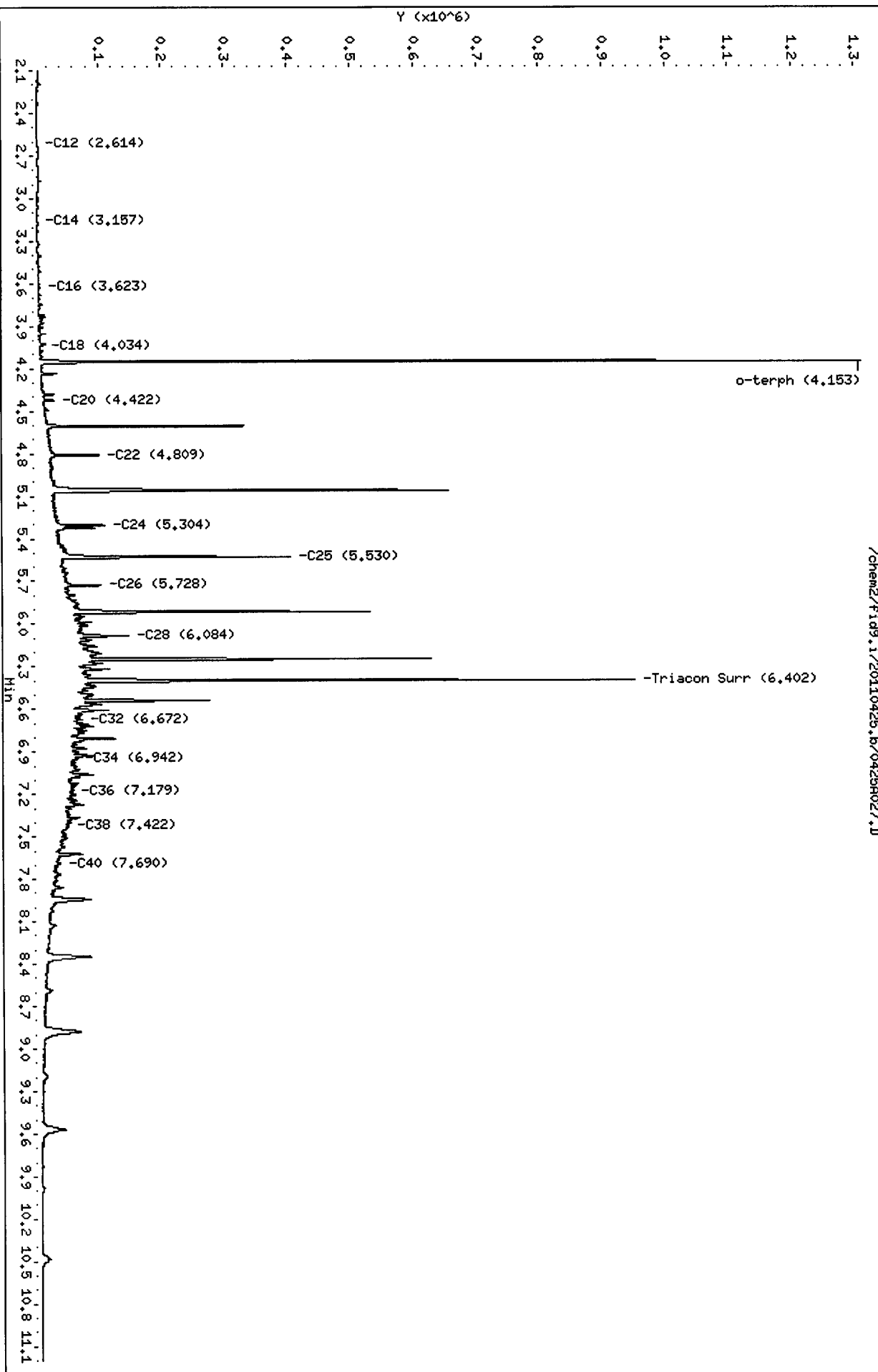
Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425027.D  
Date : 26-APR-2011 01:02  
Client ID: DMH-TP5-1.5-2-04201  
Sample Info: S883J

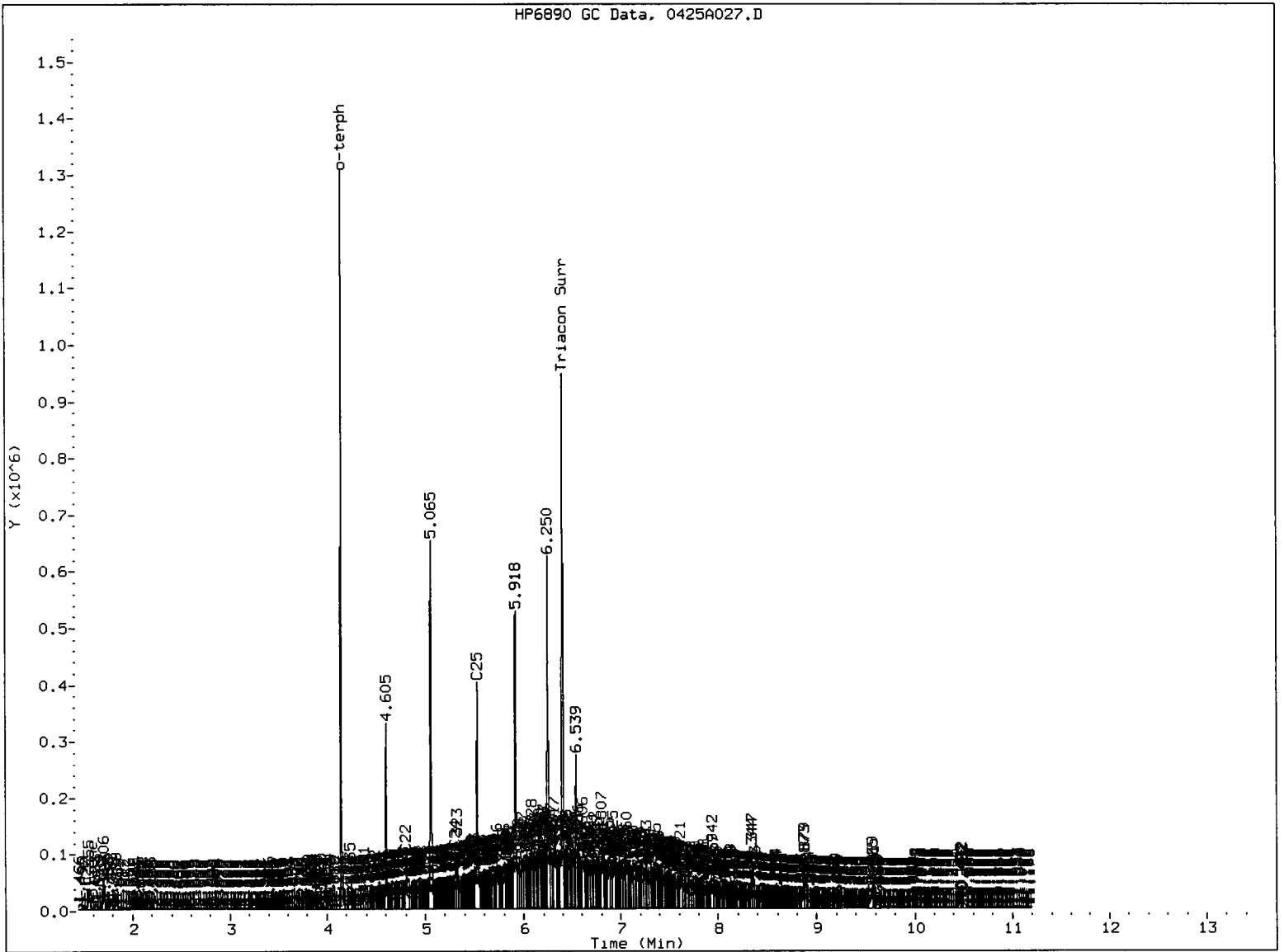
Column phase: RTX-1

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Instrument: fid9.i  
Operator: MS  
Column diameter: 0.25



HP6890 GC Data, 0425A027.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:                     

Date:

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A028.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83K  
Client ID: DMA-TP5-1.5-2-04201  
Injection: 26-APR-2011 01:23  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.592	-0.007	927	717	GAS (Tol-C12)	154079	7.33
C8	1.354	0.081	9145	12388	DIESEL (C12-C24)	2225245	98.23
C10	1.980	0.006	3791	3332	M.OIL (C24-C38)	7210565	543.64
C12	2.612	-0.003	705	714	AK-102 (C10-C25)	2491957	97.62 M
C14	3.143	-0.011	717	876	AK-103 (C25-C36)	6463543	760.58 M
C16	3.623	0.003	4807	4333			
C18	4.034	-0.004	9147	8717			
C20	4.421	-0.005	27206	24868			
C22	4.807	-0.006	91932	73459			
C24	5.303	-0.004	91906	79744			
C25	5.528	-0.002	348045	303783			
C26	5.727	-0.004	88333	117490			
C28	6.083	-0.004	126309	176042			
C32	6.674	-0.002	58555	46968	JP-4 (Tol-C14)	189090	11.53
C34	6.945	0.009	51262	40674	BUNKERC (C10-C38)	9487340	1274.43 M
Filter Peak	----						
C36	7.181	-0.004	42379	29170			
C38	7.422	0.000	40644	24467			
C40	7.693	0.001	28158	6453			
o-terph	4.153	-0.002	1422445	774898	JET-A (C10-C18)	227370	16.45
Triacon Surr	6.403	-0.001	965246	613048	JP8 (Tol-C16)	233820	13.29

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	774898	36.2	80.4
Triacotane	613048	34.8	77.3

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A028.D

Date: 26-APR-2011 01:23

Client ID: DM4-TP5-1.5-2-04201

Sample Info: S583K

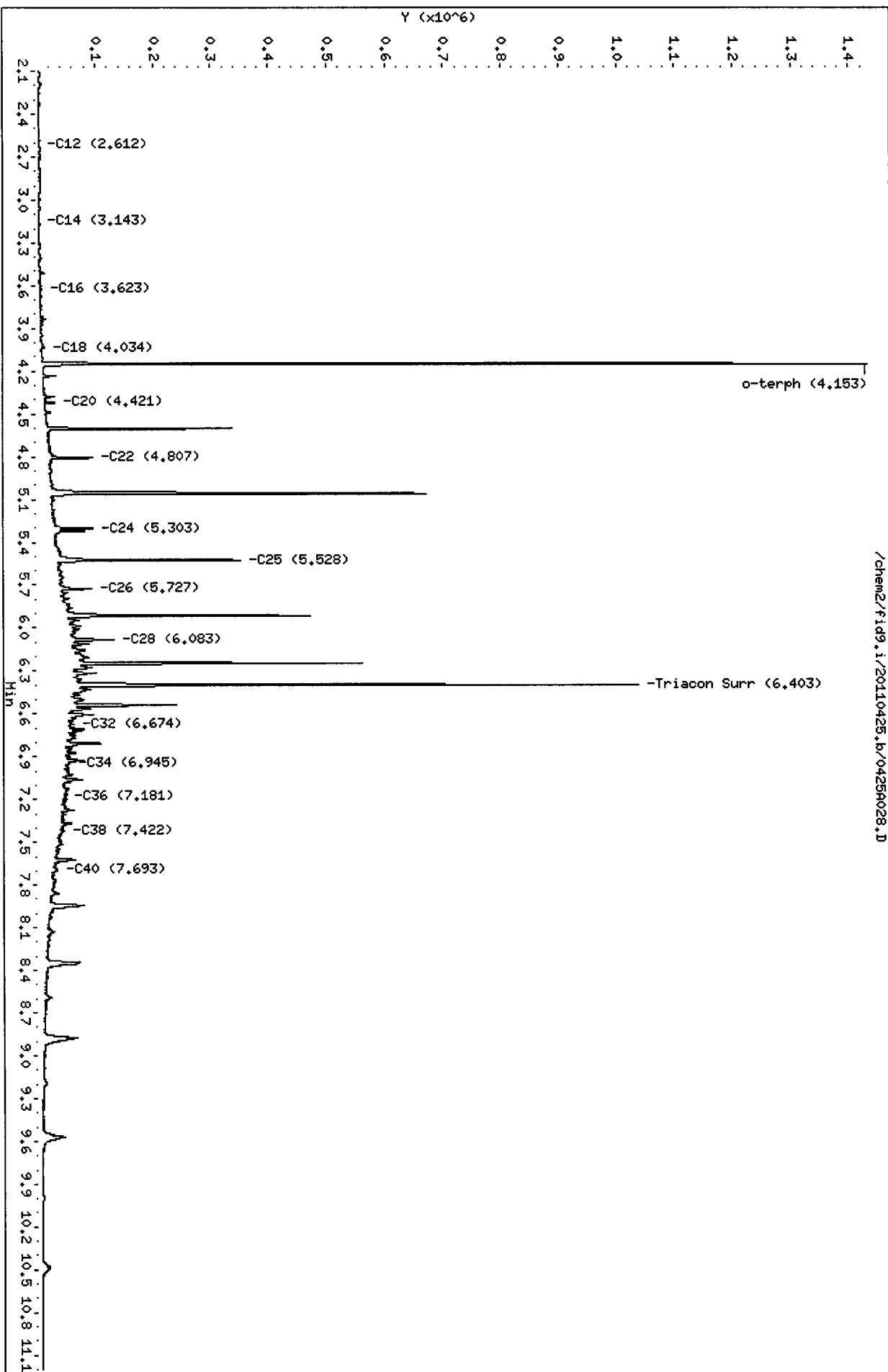
Instrument: fid9.i

Operator: HS

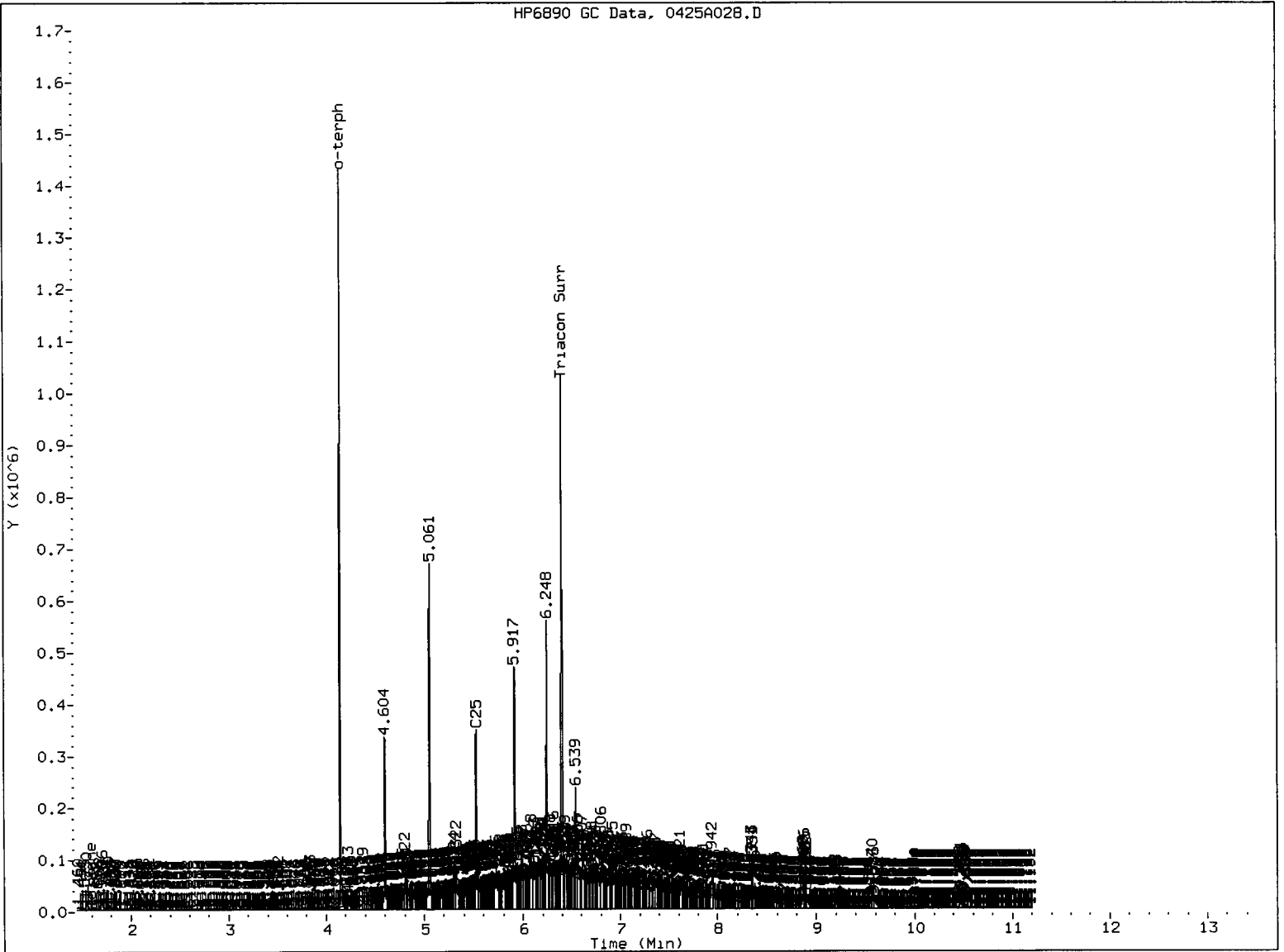
Column diameter: 0.25

Column phase: RTX-1

/chem2/fid9.i/20110425.b/0425A028.D



HP6890 GC Data, 0425A028.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:       me      

Date:       4/26/11

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A029.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83L  
Client ID: DMA-TP5-2-3-042011  
Injection: 26-APR-2011 01:45  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.592	-0.007	2121	2536	GAS (Tol-C12)	236486	11.26
C8	----				DIESEL (C12-C24)	179855	7.94
C10	1.982	0.007	4389	4276	M.OIL (C24-C38)	62990	4.75
C12	2.601	-0.015	1789	2623	AK-102 (C10-C25)	265969	10.42
C14	3.148	-0.006	794	665	AK-103 (C25-C36)	49162	5.79
C16	3.616	-0.004	3232	3014			
C18	4.037	-0.001	2935	3359			
C20	4.423	-0.002	1187	1206			
C22	4.811	-0.002	880	1283			
C24	5.305	-0.002	326	60			
C25	5.530	0.000	777	679			
C26	5.735	0.003	510	432			
C28	6.089	0.003	1776	1705			
C32	6.688	0.012	1453	2977	JP-4 (Tol-C14)	276181	16.84
C34	6.931	-0.005	464	172	BUNKERC (C10-C38)	328643	44.15
Filter Peak	----						
C36	7.193	0.008	833	1185			
C38	7.430	0.007	883	623			
C40	7.686	-0.006	621	446			
o-terph	4.153	-0.002	1272666	853749	JET-A (C10-C18)	224133	16.22
Triacon Surr	6.405	0.001	1052628	709614	JP8 (Tol-C16)	318535	18.10

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	853749	39.9	88.6
Triacontane	709614	40.3	89.5

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

*Ma 4/26/11*

Data File: /chem2/fid9.i/20110425.b/0425a029.D

Date : 26-APR-2011 01:45

Client ID: DM0-TP5-2-3-042011

Sample Info: S583L

Column phase: RTX-1

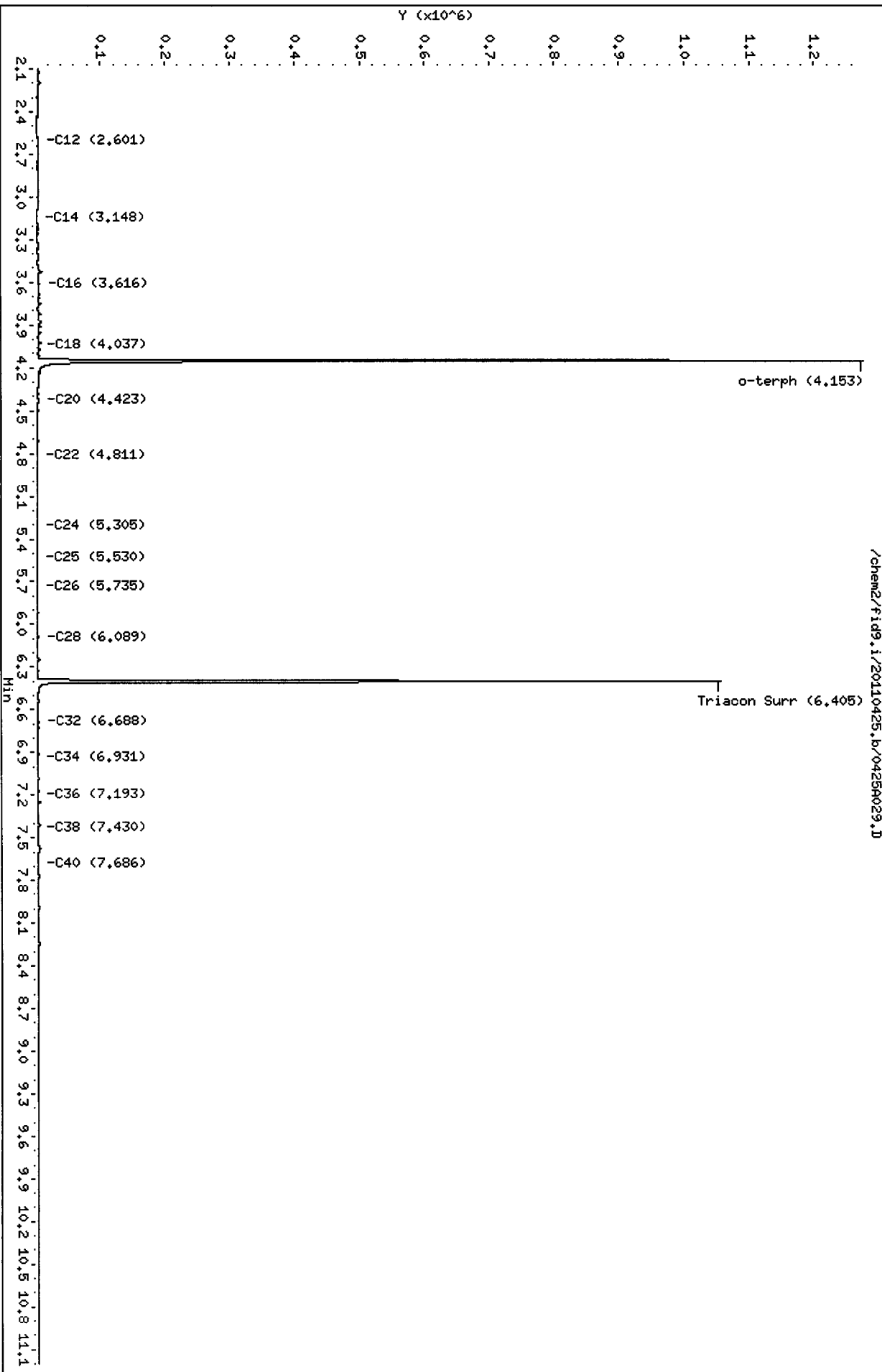
Instrument: fid9.i

Operator: MS

Column diameter: 0.25

Page 1

1391



5580 : 01080



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A030.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83M  
Client ID: DMA-TP3-2-3-042011  
Injection: 26-APR-2011 02:06  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.590	-0.009	1387	1345	GAS (Tol-C12)	183196	8.72
C8	----				DIESEL (C12-C24)	290266	12.81
C10	1.980	0.005	4234	3116	M.OIL (C24-C38)	2097788	158.16
C12	2.610	-0.006	512	462	AK-102 (C10-C25)	370224	14.50
C14	3.153	-0.001	168	51	AK-103 (C25-C36)	1940953	228.40 M
C16	3.612	-0.008	2160	1792			
C18	4.035	-0.003	3523	3432			
C20	4.424	-0.001	4801	4762			
C22	4.811	-0.002	8113	6262			
C24	5.303	-0.004	12930	11327			
C25	5.526	-0.004	91751	70402			
C26	5.727	-0.004	21323	19839			
C28	6.081	-0.006	38101	44003			
C32	6.669	-0.007	18923	21141	JP-4 (Tol-C14)	202045	12.32
C34	6.942	0.005	12491	3356	BUNKERC (C10-C38)	2440884	327.88 M
Filter Peak	----						
C36	7.190	0.004	9917	4060			
C38	7.418	-0.005	10402	5412			
C40	7.697	0.005	7012	3543			
o-terph	4.152	-0.003	1365802	819517	JET-A (C10-C18)	138251	10.00
Triacon Surr	6.402	-0.002	1069765	669009	JP8 (Tol-C16)	228477	12.99

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	819517	38.3	85.0
Triacontane	669009	38.0	84.3

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R030.D

Date: 26-APR-2011 02:06

Client ID: DMA-TP3-2-3-042011

Sample Info: S883M

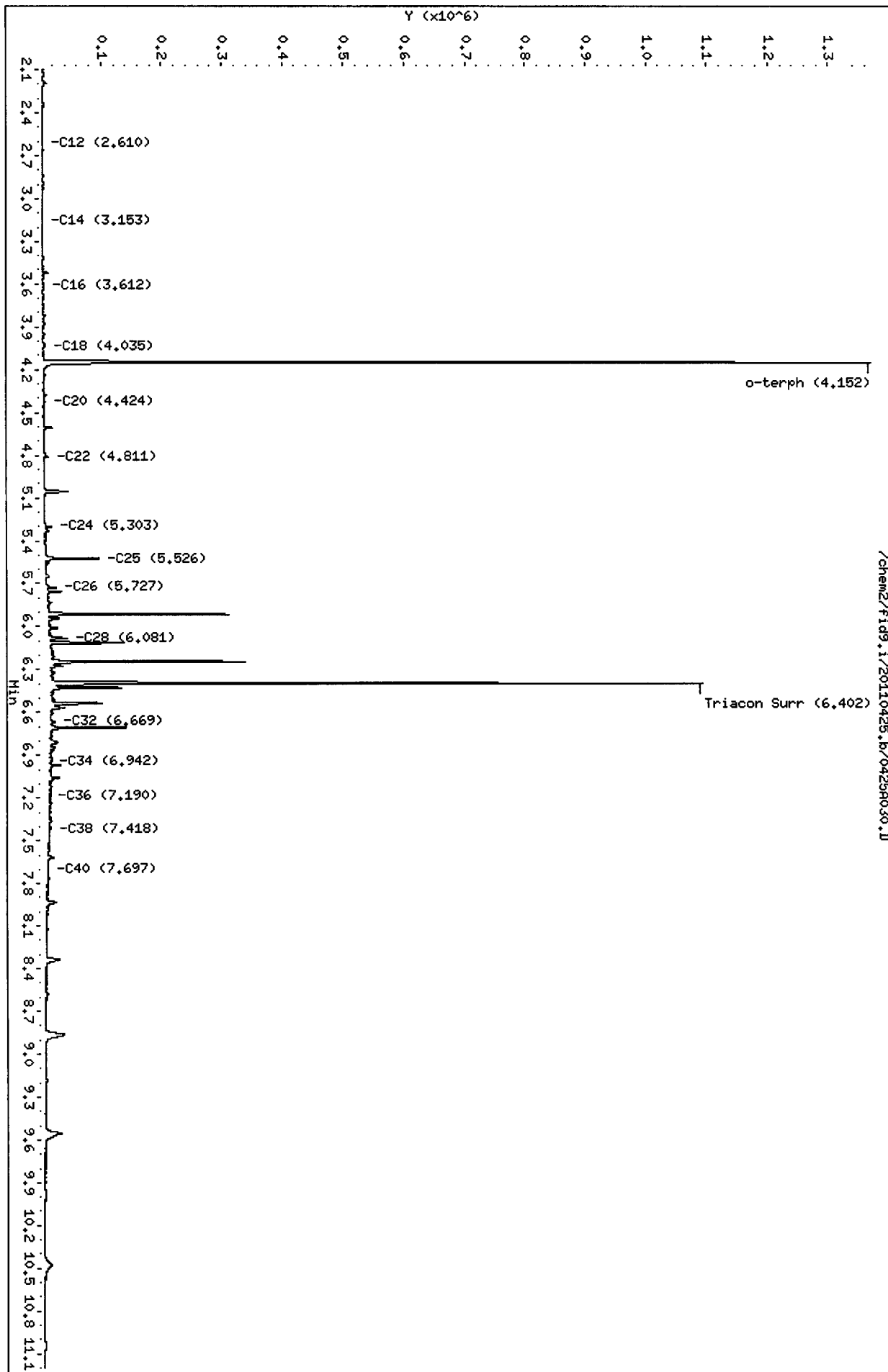
Column phase: RTX-1

Instrument: fid9.i

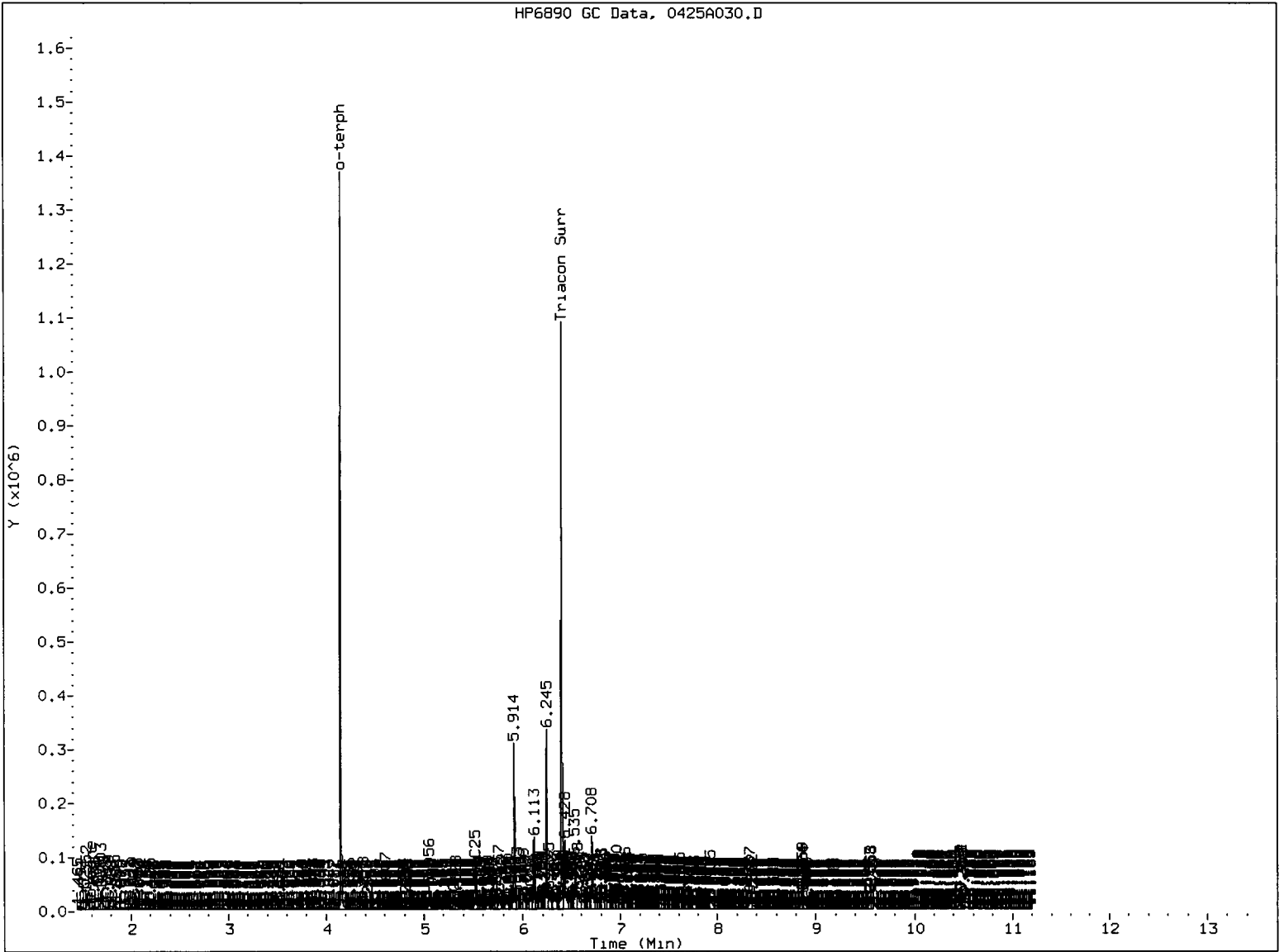
Operator: NS

Column diameter: 0.25

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HP6890 GC Data, 0425A030.D



MANUAL INTEGRATION

1. Baseline correction
2. Poor chromatography
3. Peak not found
4. Totals calculation
5. Other \_\_\_\_\_

Analyst: M4

Date: 4/26/6

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A031.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83N  
Client ID: DMA-TP3-3-4-042011  
Injection: 26-APR-2011 02:28  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.589	-0.010	1126	1017	GAS (Tol-C12)	182454	8.68
C8	----				DIESEL (C12-C24)	1803538	79.62
C10	1.981	0.007	2883	2003	M.OIL (C24-C38)	6187878	466.53
C12	2.614	-0.002	666	475	AK-102 (C10-C25)	2022480	79.23 M
C14	3.157	0.003	625	154	AK-103 (C25-C36)	5574824	656.00 M
C16	3.624	0.004	4631	4066			
C18	4.034	-0.004	7956	7530			
C20	4.421	-0.005	19137	15344			
C22	4.808	-0.004	75569	63391			
C24	5.302	-0.005	83156	72415			
C25	5.529	-0.001	347386	295539			
C26	5.729	-0.002	81022	95425			
C28	6.084	-0.002	112648	133308			
C32	6.674	-0.002	46995	36181	JP-4 (Tol-C14)	226222	13.80
C34	6.926	-0.011	86239	92525	BUNKERC (C10-C38)	8042686	1080.37 M
Filter Peak	----						
C36	7.184	-0.001	34848	11665			
C38	7.423	0.000	30664	20595			
C40	7.689	-0.003	20889	15251			
o-terph	4.152	-0.003	1369711	756896	JET-A (C10-C18)	251547	18.20
Triacon Surr	6.405	0.001	919982	611167	JP8 (Tol-C16)	275634	15.67

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	756896	35.3	78.5
Triacontane	611167	34.7	77.1

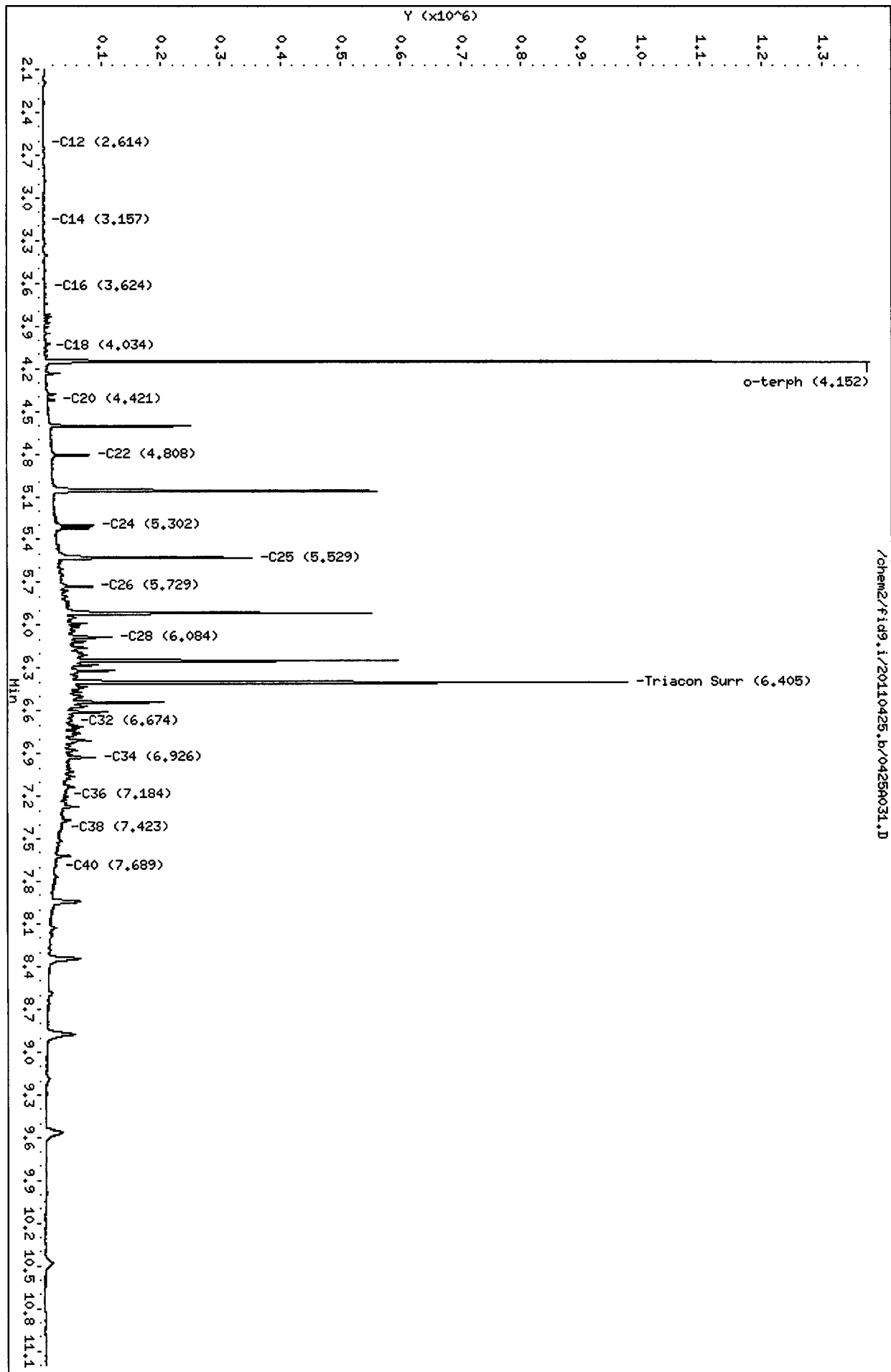
Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A031.D  
Date: 26-APR-2011 02:28  
Client ID: DMA-TP3-3-4-042011  
Sample Info: S583N

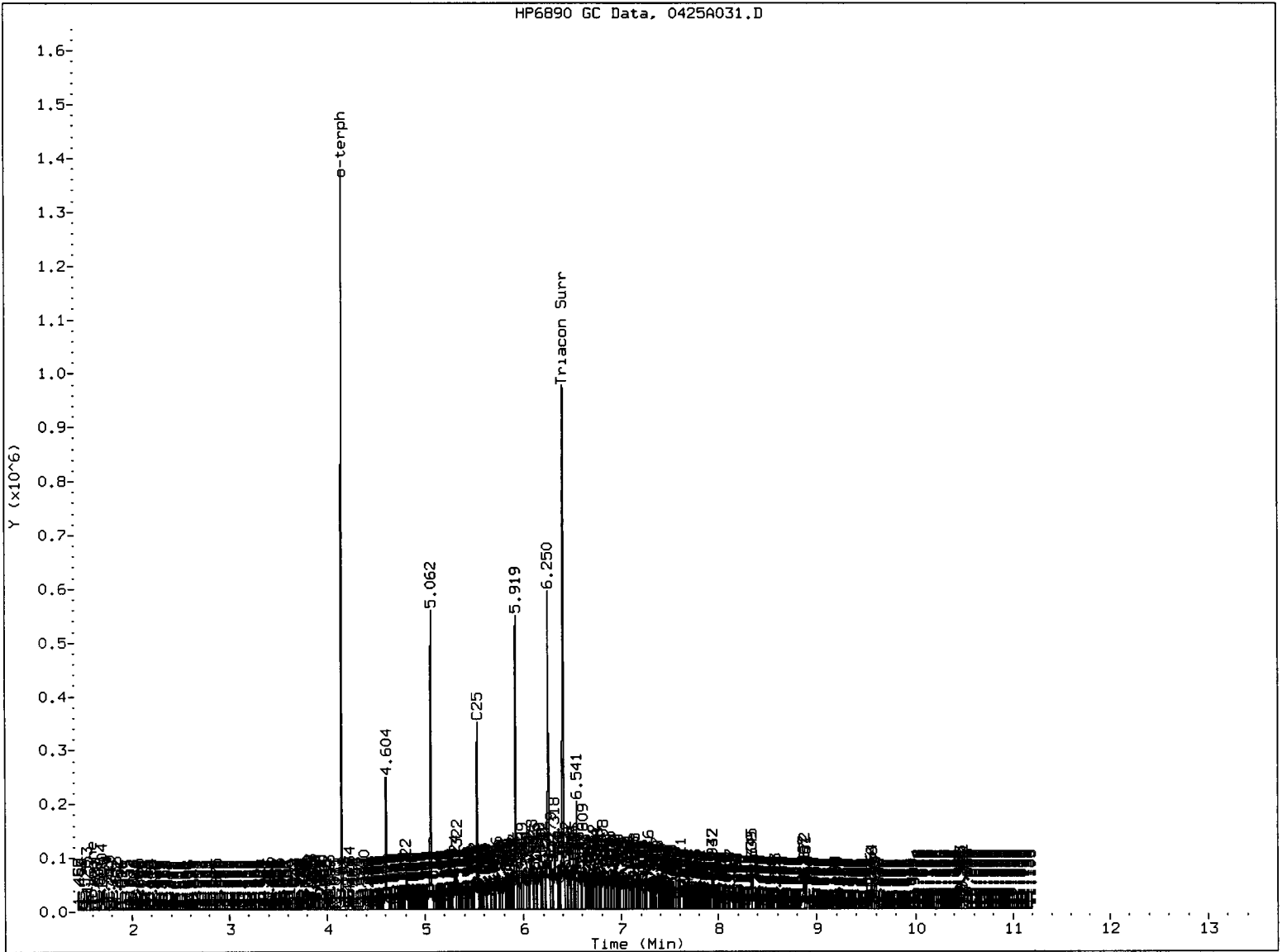
Column phase: RTX-1

/chem2/fid9.i/20110425.b/0425A031.D

Instrument: fid9.i  
Operator: NS  
Column diameter: 0.25



HP6890 GC Data, 0425A031.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: AM Date: 4/20/11

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A032.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS830  
 Client ID: DMA-TP3-5-6-042011  
 Injection: 26-APR-2011 02:49  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.596	-0.003	888	583	GAS (Tol-C12)	96717	4.60
C8	1.321	0.047	8905	9837	DIESEL (C12-C24)	156127	6.89
C10	1.963	-0.012	1767	2279	M.OIL (C24-C38)	110275	8.31
C12	2.619	0.003	798	963	AK-102 (C10-C25)	194993	7.64
C14	3.154	-0.001	545	242	AK-103 (C25-C36)	94903	11.17
C16	3.614	-0.006	2383	2483			
C18	4.036	-0.002	2103	1906			
C20	4.420	-0.005	1194	923			
C22	4.807	-0.006	1925	2345			
C24	5.309	0.002	438	420			
C25	5.525	-0.005	2696	2531			
C26	5.733	0.001	669	587			
C28	6.089	0.002	4374	3669			
C32	6.680	0.003	1684	2598	JP-4 (Tol-C14)	126954	7.74
C34	6.936	0.000	888	691	BUNKERC (C10-C38)	304858	40.95
Filter Peak	----						
C36	7.187	0.002	1184	1278			
C38	7.423	0.000	1044	903			
C40	7.690	-0.002	675	474			
o-terph	4.151	-0.004	1268335	817103	JET-A (C10-C18)	152387	11.03
Triacon Surr	6.403	-0.001	1023690	698395	JP8 (Tol-C16)	170379	9.68

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	817103	38.2	84.8
Triacontane	698395	39.6	88.0

*MS 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425032.D

Date: 26-APR-2011 02:49

Client ID: DM9-TP3-5-6-042011

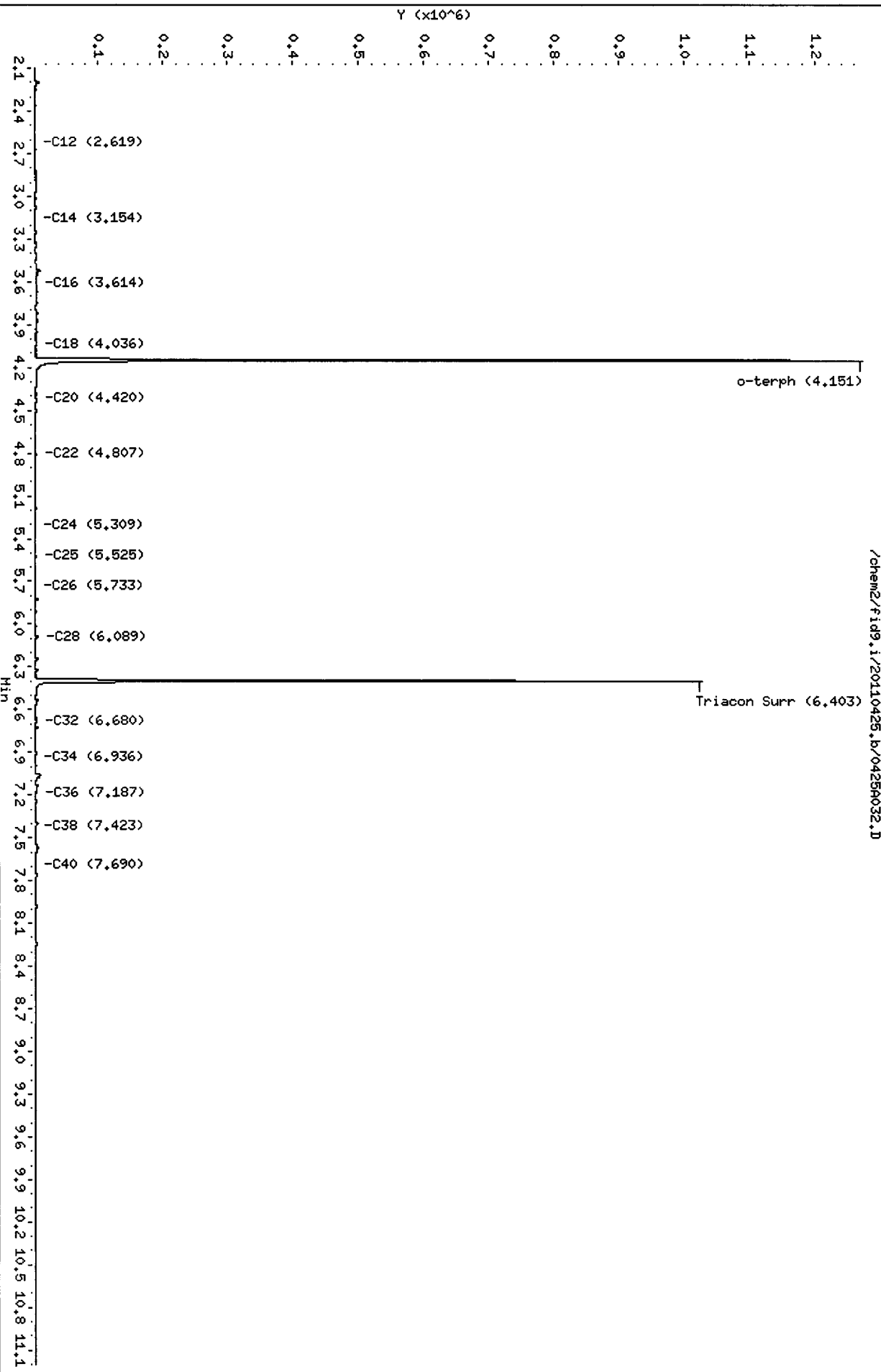
Sample Info: S5830

Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25



5583 . 01000



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A033.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83OMS  
 Client ID: DMA-TP3-5-6-042 MS  
 Injection: 26-APR-2011 03:11  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.585	-0.014	7430	5487	GAS (Tol-C12)	3519878	167.53
C8	----				DIESEL (C12-C24)	25972096	1146.52
C10	1.979	0.004	138802	115282	M.OIL (C24-C38)	406349	30.64
C12	2.615	-0.001	314030	268238	AK-102 (C10-C25)	28853776	1130.37 M
C14	3.147	-0.008	602855	490645	AK-103 (C25-C36)	301673	35.50
C16	3.619	-0.001	1146762	987105			
C18	4.043	0.005	962084	921315			
C20	4.425	-0.001	697873	545184			
C22	4.809	-0.004	260519	238206			
C24	5.302	-0.005	72454	72789			
C25	5.526	-0.004	35421	41164			
C26	5.728	-0.004	15478	17768			
C28	6.085	-0.002	4267	5433			
C32	6.681	0.005	2014	2582	JP-4 (Tol-C14)	7721167	470.90
C34	6.939	0.002	928	957	BUNKERC (C10-C38)	29169941	3918.38 M
Filter Peak	----						
C36	7.184	-0.002	945	149			
C38	7.431	0.008	885	713			
C40	7.688	-0.004	483	216			
o-terph	4.157	0.001	1473763	846300	JET-A (C10-C18)	20798990	1505.09
Triacon Surr	6.404	0.000	1004812	711078	JP8 (Tol-C16)	14363654	816.39

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

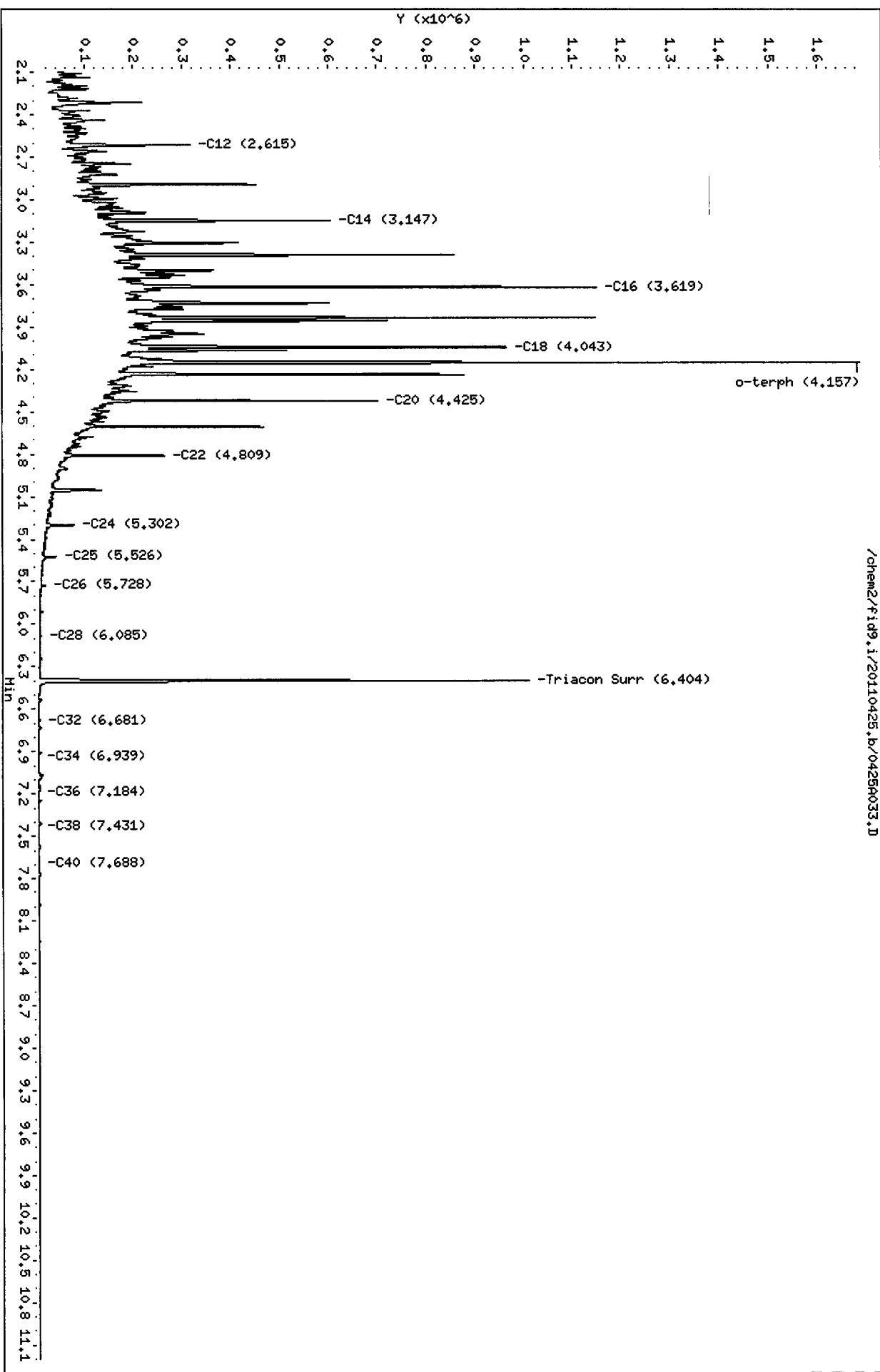
Surrogate	Area	Amount	%Rec
o-Terphenyl	846300	39.5	87.8
Triacontane	711078	40.3	89.6

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A033.D  
Date: 26-APR-2011 03:11  
Client ID: DM4-TP3-5-6-042 MS  
Sample Info: S8830HS

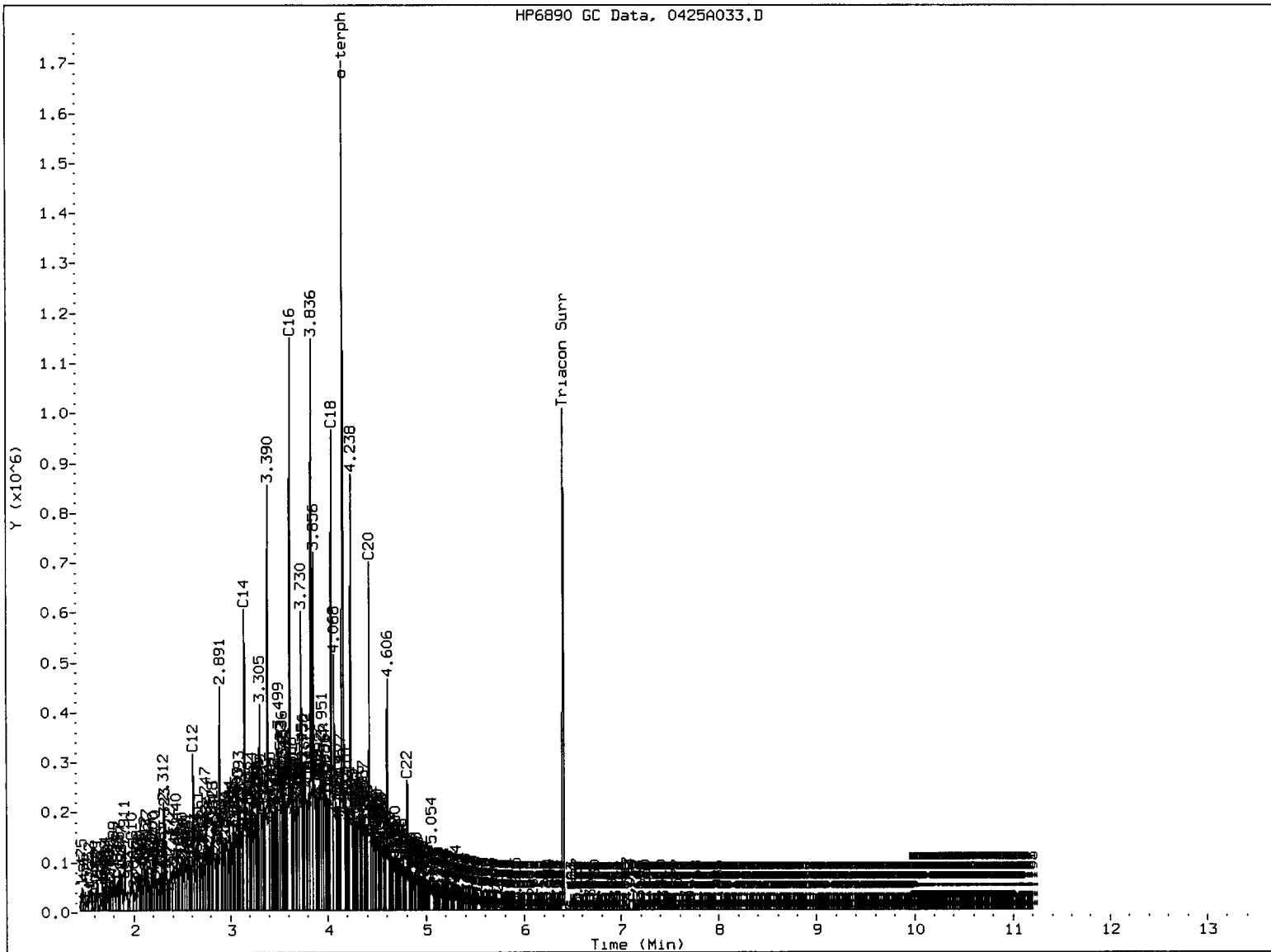
Column phase: RTX-1

Instrument: fid9.i  
Operator: MS  
Column diameter: 0.25



/chem2/fid9.i/20110425.b/0425A033.D

HP6890 GC Data, 0425A033.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: RM

Date: 4/26/61

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A034.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83OMSD  
 Client ID: DMA-TP3-5-6-042 MSD  
 Injection: 26-APR-2011 03:32  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.621	0.023	45610	58253	GAS (Tol-C12)	3618058	172.21
C8	----				DIESEL (C12-C24)	26495770	1169.63
C10	1.980	0.005	132816	118203	M.OIL (C24-C38)	425672	32.09
C12	2.614	-0.002	313543	266518	AK-102 (C10-C25)	29465546	1154.34 M
C14	3.148	-0.007	628327	584006	AK-103 (C25-C36)	311767	36.69
C16	3.619	-0.001	1121832	1068633			
C18	4.042	0.004	987785	925261			
C20	4.425	0.000	652526	536257			
C22	4.811	-0.001	250310	237798			
C24	5.304	-0.003	72528	82744			
C25	5.526	-0.004	35584	43813			
C26	5.729	-0.002	15161	15349			
C28	6.085	-0.001	4528	5781			
C32	6.680	0.003	2464	2864	JP-4 (Tol-C14)	7998527	487.82
C34	6.938	0.002	1219	2010	BUNKERC (C10-C38)	29792437	4002.00 M
Filter Peak	----						
C36	7.187	0.002	1384	1458			
C38	7.436	0.014	737	503			
C40	7.689	-0.002	583	199			
o-terph	4.156	0.001	1392740	799209	JET-A (C10-C18)	21372966	1546.63
Triacon Surr	6.404	0.000	1091455	714914	JP8 (Tol-C16)	14706636	835.89

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	799209	37.3	82.9
Triacotane	714914	40.6	90.1

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425034.D

Date: 26-APR-2011 03:32

Client ID: DMH-TP3-5-6-042 HSD

Sample Info: SSS30HSD

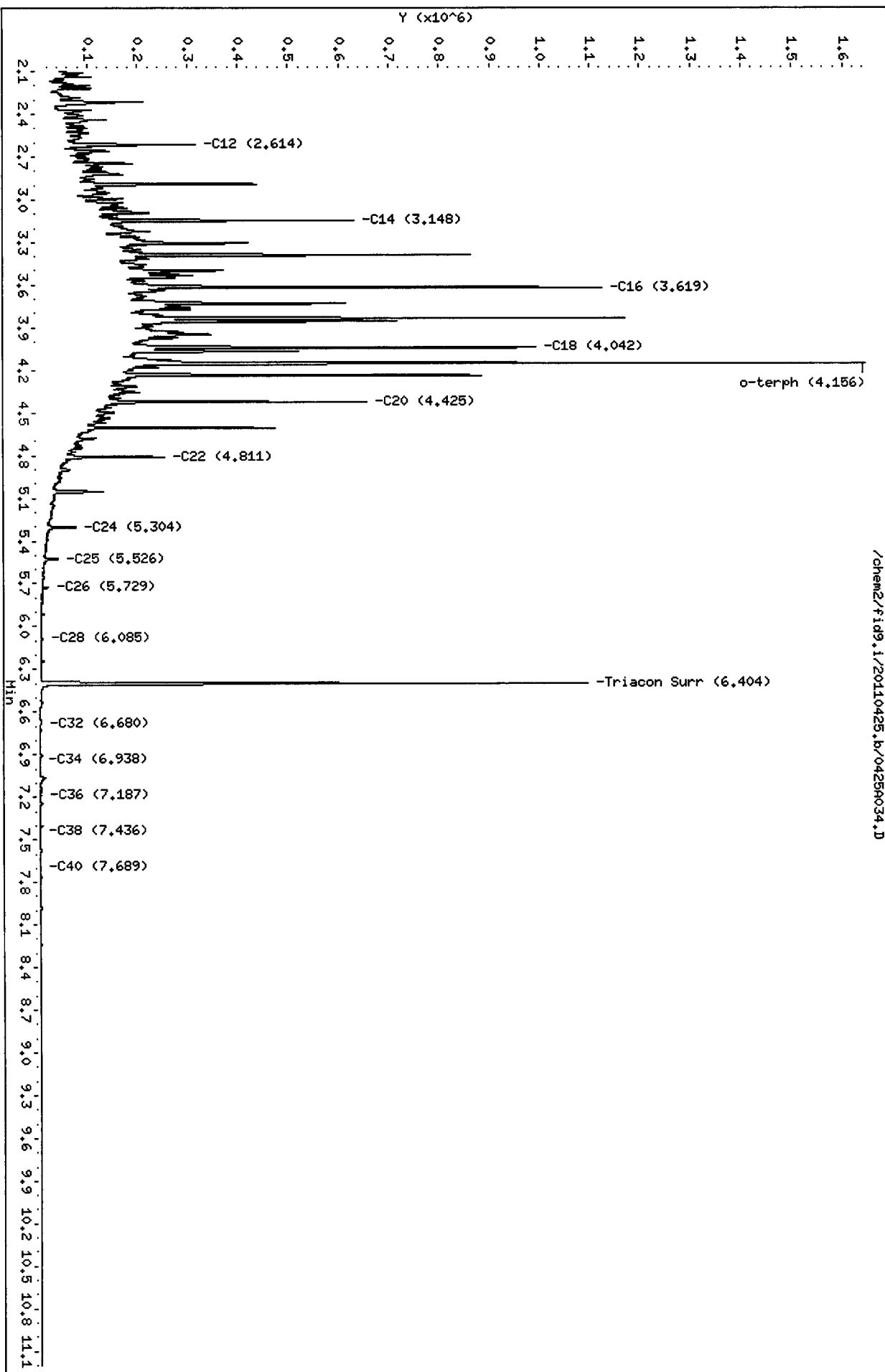
Column phase: RTX-1

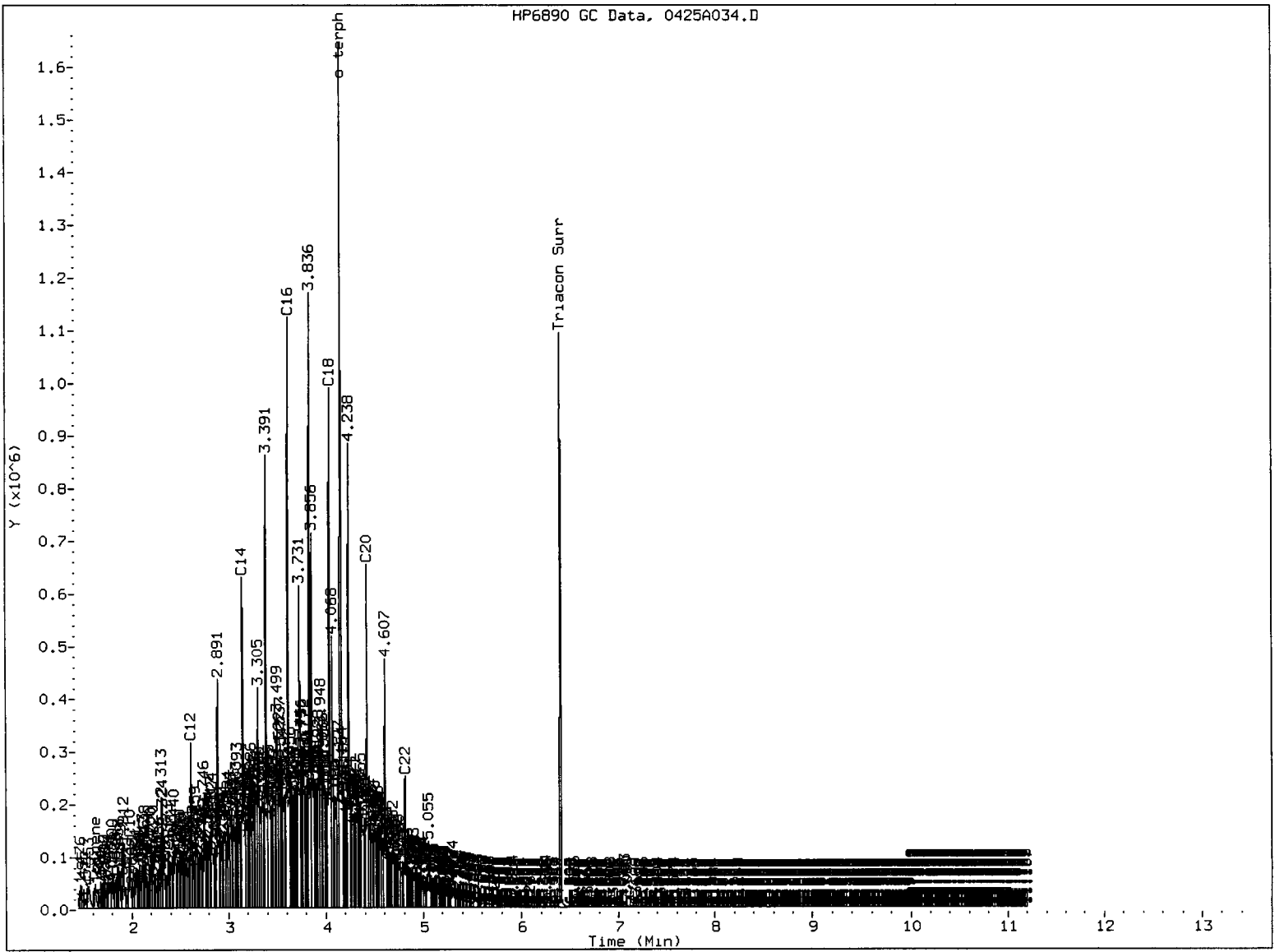
Instrument: fid9.i

Operator: NS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425034.D





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:     *Msa*     Date:     *9/26/16*

Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A035.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: DIESEL#3  
 Client ID: LORA LAKE  
 Injection: 26-APR-2011 03:54  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.618	0.017	10009	13255	GAS (Tol-C12)	748341	35.62
C8	1.332	0.059	2286	2472	DIESEL (C12-C24)	5191194	229.16
C10	1.977	0.000	26391	23997	M.OIL (C24-C38)	103870	7.83
C12	2.620	-0.001	61719	48694	AK-102 (C10-C25)	5803997	227.38 M
C14	3.151	-0.004	140148	100259	AK-103 (C25-C36)	69092	8.13
C16	3.617	-0.004	265095	153647			
C18	4.036	-0.001	218645	159768			
C20	4.423	-0.002	128969	97806			
C22	4.810	-0.004	44098	46217			
C24	5.313	0.005	8583	15467			
C25	5.534	0.002	4129	5168			
C26	5.731	-0.002	943	258			
C28	6.091	0.004	4576	3426			
C32	6.684	0.007	36	16	JP-4 (Tol-C14)	1646371	100.41
C34	6.952	0.014	41	17	BUNKERC (C10-C38)	5890155	791.22 M
Filter Peak	----						
C36	7.189	0.000	86	72			
C38	7.404	-0.022	10567	8006			
C40	7.687	-0.007	228	193			
o-terph	4.156	0.002	1565359	874308	JET-A (C10-C18)	4268529	308.89
Triacon Surr	6.404	-0.001	86	29	JP8 (Tol-C16)	2984241	169.62

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
 NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	874308	40.8	90.7
Triacontane	29	0.0	0.0

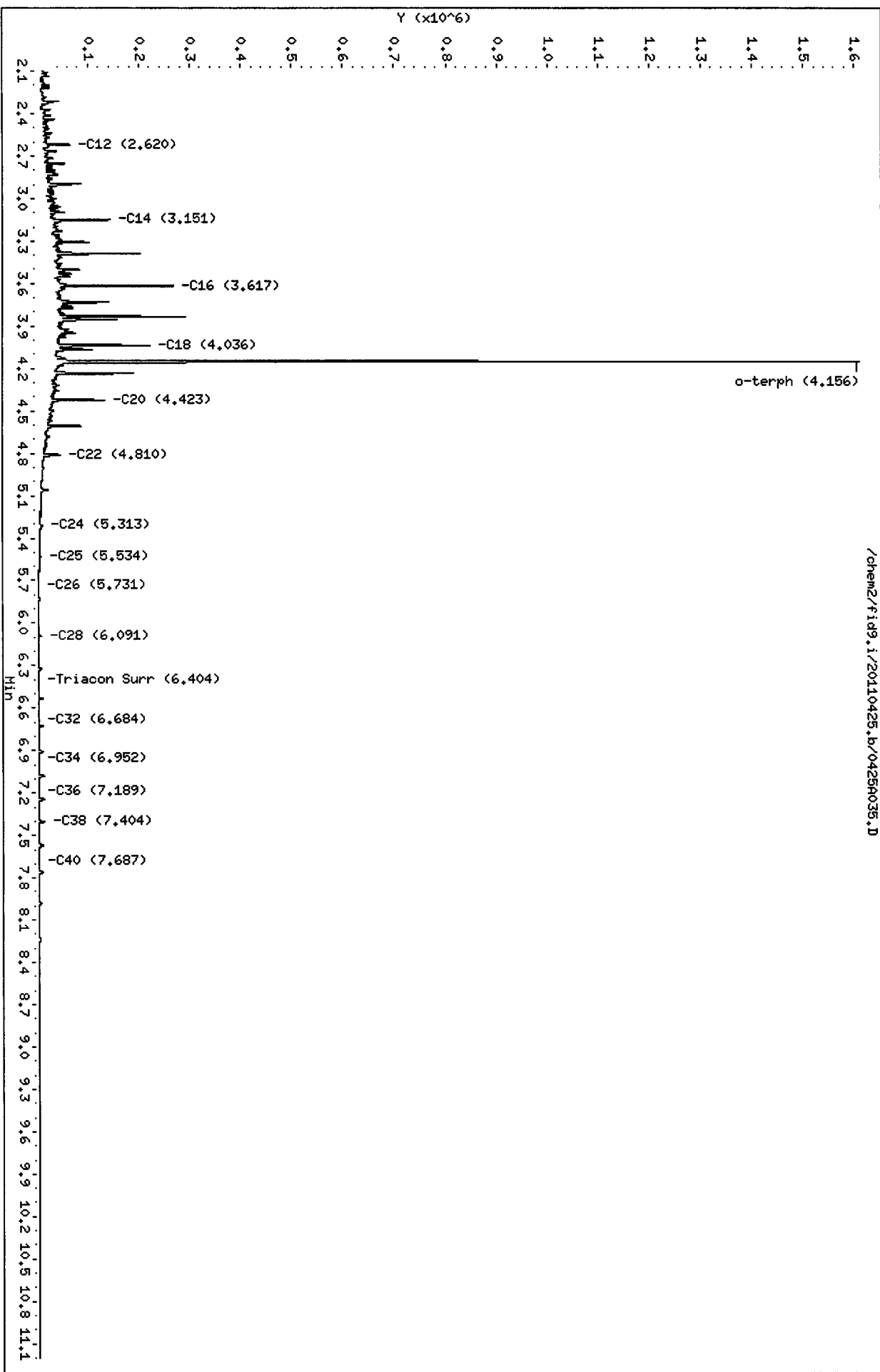
Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A035.D  
Date: 26-APR-2011 03:54  
Client ID: LORA LAKE  
Sample Info: DIESEL#3

Column phase: RTX-1

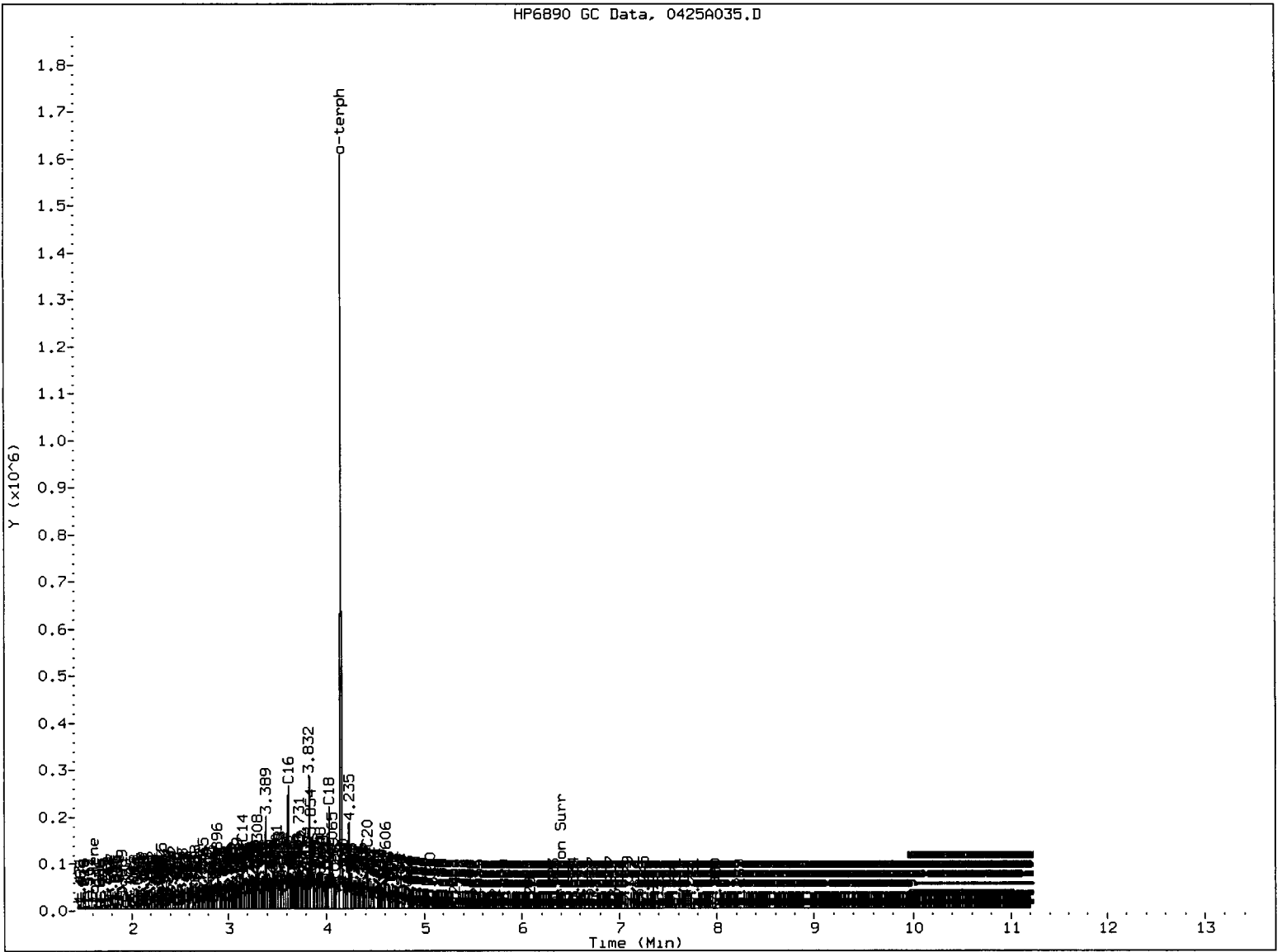
Instrument: fid9.i  
Operator: HS  
Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425A035.D





HP6890 GC Data, 0425A035.D



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *Mu*

Date: *4/26/11*

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A036.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: MOIL#3  
Client ID: LORA LAKE  
Injection: 26-APR-2011 04:15  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.598	-0.003	698	165	GAS (Tol-C12)	18775	0.89
C8	----				DIESEL (C12-C24)	785071	34.66
C10	1.976	-0.002	859	989	M.OIL (C24-C38)	7116992	536.58
C12	2.606	-0.015	583	867	AK-102 (C10-C25)	975949	38.23
C14	3.155	0.000	75	55	AK-103 (C25-C36)	5971309	702.66 M
C16	3.620	-0.001	32	7			
C18	4.049	0.012	413	293			
C20	4.421	-0.004	4699	3986			
C22	4.812	-0.002	12826	4448			
C24	5.307	-0.001	23425	18857			
C25	5.525	-0.006	31207	6729			
C26	5.733	0.001	37916	9676			
C28	6.086	-0.001	55681	35006			
C32	6.674	-0.003	75290	20123	JP-4 (Tol-C14)	21985	1.34
C34	6.939	0.002	79679	33954	BUNKERC (C10-C38)	7910245	1062.58 M
Filter Peak	----						
C36	7.185	-0.003	73884	50136			
C38	7.421	-0.005	67943	47420			
C40	7.694	0.001	42060	33639			
o-terph	4.163	0.009	1078	1428	JET-A (C10-C18)	34420	2.49
Triacon Surr	6.405	0.000	1225278	884421	JP8 (Tol-C16)	23567	1.34

M Indicates manual integration within range.

Range Times: NW Diesel(2.621 - 5.308) AK102(1.98 - 5.53) Jet A(1.98 - 4.04)  
NW M.Oil(5.31 - 7.43) AK103(5.53 - 7.19) OR Diesel(1.98 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1428	0.1	0.1
Triacontane	884421	50.2	111.5

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425036.D

Date: 26-APR-2011 04:15

Client ID: LORA LAKE

Sample Info: M01L#3

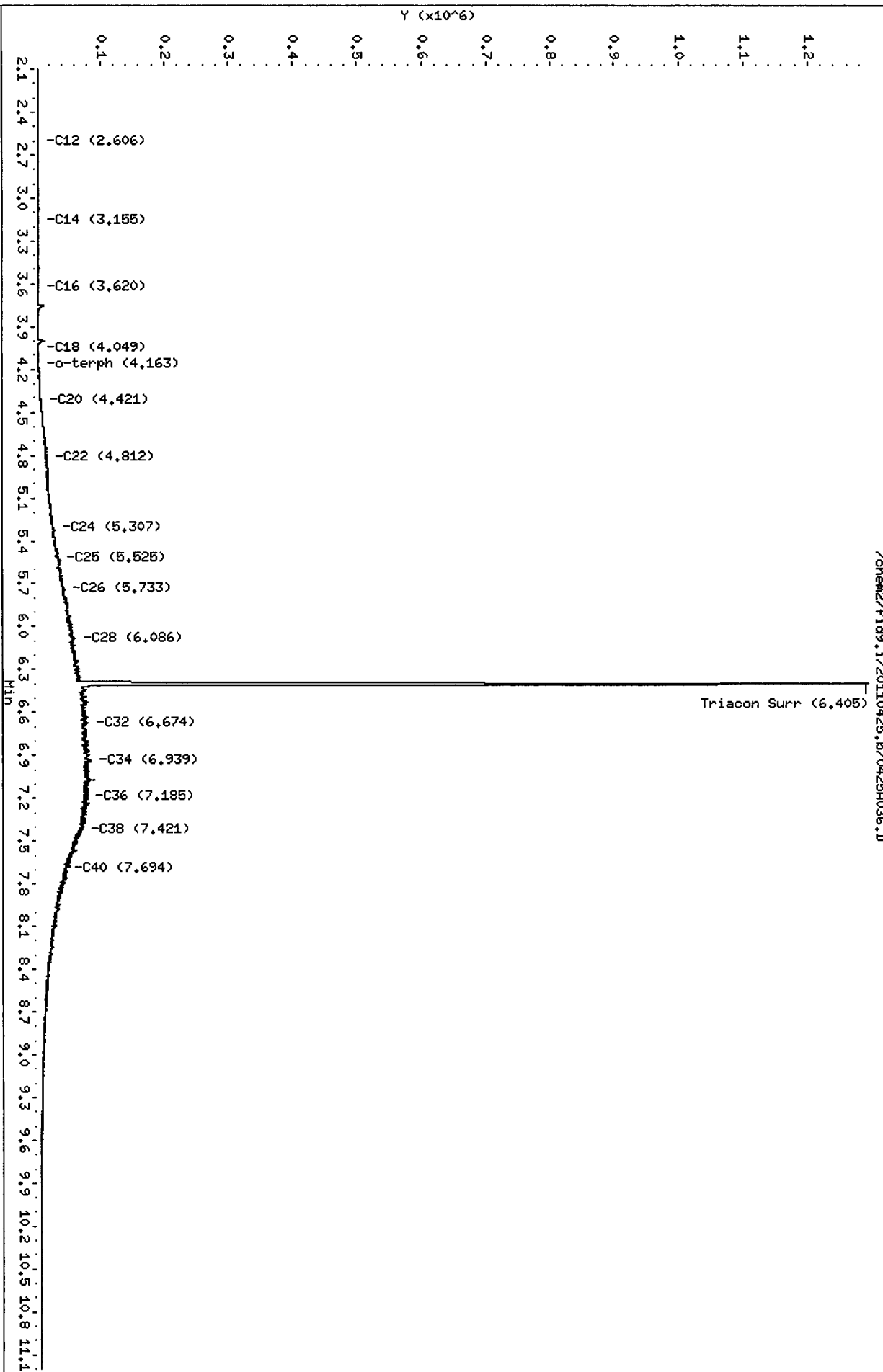
Column phase: RTX-1

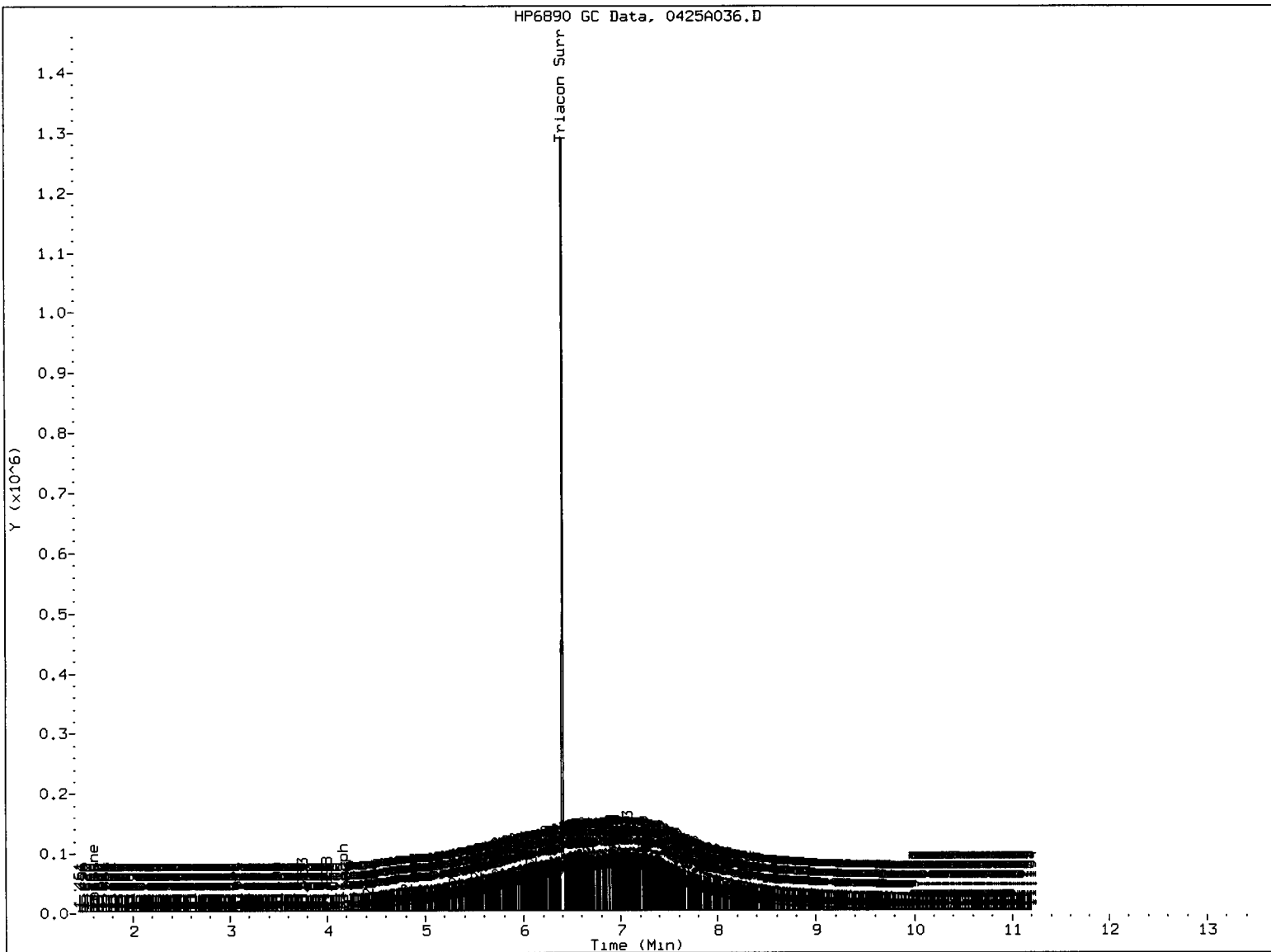
Instrument: fid9.i

Operator: HS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425036.D





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: *M*

Date: 4/26/04

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/fid9.i/20110425.b

ARI Job No.: RINS Method: ftphfid9a.m Instrument: fid9.i Date: 25-APR-2011

Time	Filename	LabID	Clientid	DF	Manually Integrated Compounds
1538	0425A001.D	RINSE		1	NO MANUAL INTEGRATION
1600	0425A002.D	RT		1	C8,
1622	0425A003.D	IB		1	NO MANUAL INTEGRATION
1643	0425A004.D	DIESEL#1		1	o-terph,
1705	0425A005.D	MOIL#1		1	Triacon Surr,
1727	0425A006.D	SS83MBS1		1	NO MANUAL INTEGRATION
1813	0425A008.D	RINSE		1	Triacon Surr,
1834	0425A009.D	RT		1	C8,
1856	0425A010.D	IB		1	NO MANUAL INTEGRATION
1918	0425A011.D	DIESEL#1		1	o-terph,
1939	0425A012.D	MOIL#1		1	Triacon Surr,
2001	0425A013.D	SS83MBS1		1	NO MANUAL INTEGRATION
2022	0425A014.D	SS83LCSS1		1	o-terph,
2044	0425A015.D	SS83QLS		1	o-terph,
2106	0425A016.D	SS83A	DMA-TP1-0-	1	Triacon Surr,
2127	0425A017.D	SS83B	DMA-TP1-3-	1	Triacon Surr,
2148	0425A018.D	SS83C	DMA-TP1-4.	1	Triacon Surr,
2210	0425A019.D	SS83D	DMA-TP2-1.	1	Triacon Surr,
2231	0425A020.D	SS83E	DMA-TP2-3-	1	NO MANUAL INTEGRATION
2253	0425A021.D	SS83F	DMA-TP6-0-	1	NO MANUAL INTEGRATION
2274	0425A022.D	SS83G	DMA-TP6-2.	1	Triacon Surr,

MANUAL INTEGRATION SUMMARY FOR DATABATCH - /chem2/fid9.i/20110425.b

Time	Filename	LabID	ClientID	DF	Manually Integrated Compounds
2336	0425A023.D DIESEL#2		1	o-terph,	
2357	0425A024.D MOIL#2		1	Triacon Surr,	
0019	0425A025.D SS83H	DMA-TP4-0-	1	o-terph, Triacon Surr,	
0040	0425A026.D SS83I	DMA-TP4-1.	1	NO MANUAL INTEGRATION	
0102	0425A027.D SS83J	DMA-TP5-1.	1	o-terph, Triacon Surr,	
0123	0425A028.D SS83K	DMA-TP5-1.	1	o-terph,	
0145	0425A029.D SS83L	DMA-TP5-2-	1	NO MANUAL INTEGRATION	
0206	0425A030.D SS83M	DMA-TP3-2-	1	Triacon Surr,	
0228	0425A031.D SS83N	DMA-TP3-3-	1	Triacon Surr,	
0249	0425A032.D SS83O	DMA-TP3-5-	1	NO MANUAL INTEGRATION	
0311	0425A033.D SS83OMS	DMA-TP3-5-	1	o-terph,	
0332	0425A034.D SS83OMSD	DMA-TP3-5-	1	o-terph,	
0354	0425A035.D DIESEL#3		1	o-terph,	
0415	0425A036.D MOIL#3		1	Triacon Surr,	

Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A014.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83LCSS1  
Client ID: SS83LCSS1  
Injection: 25-APR-2011 20:22  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.618	0.019	44542	58625	GAS (Tol-C12)	3775045	179.68
C8	1.334	0.061	3449	3217	DIESEL (C12-C24)	27748601	1224.94
C10	1.976	0.001	143143	122567	M.OIL (C24-C38)	372894	28.11
C12	2.613	-0.003	341393	271538	AK-102 (C10-C25)	30936502	1211.96
C14	3.147	-0.007	673385	680796	AK-103 (C25-C36)	256463	30.18
C16	3.619	-0.001	1140289	1186026			
C18	4.042	0.004	983054	1030212			
C20	4.425	0.000	711587	579119			
C22	4.810	-0.002	267013	237786			
C24	5.306	-0.001	71406	76703			
C25	5.528	-0.002	36755	36156			
C26	5.732	0.001	14628	14220			
C28	6.090	0.003	4942	6272			
C32	6.688	0.011	1150	2241	JP-4 (Tol-C14)	8520433	519.65
C34	6.931	-0.006	335	136	BUNKERC (C10-C38)	31203611	4191.56
Filter Peak	----						
C36	7.186	0.000	458	114			
C38	7.432	0.009	541	397			
C40	7.688	-0.003	296	227			
o-terph	4.157	0.002	1724993	1429726	JET-A (C10-C18)	22940610	1660.07
Triacon Surr	6.405	0.001	989011	692436	JP8 (Tol-C16)	15665897	890.41

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

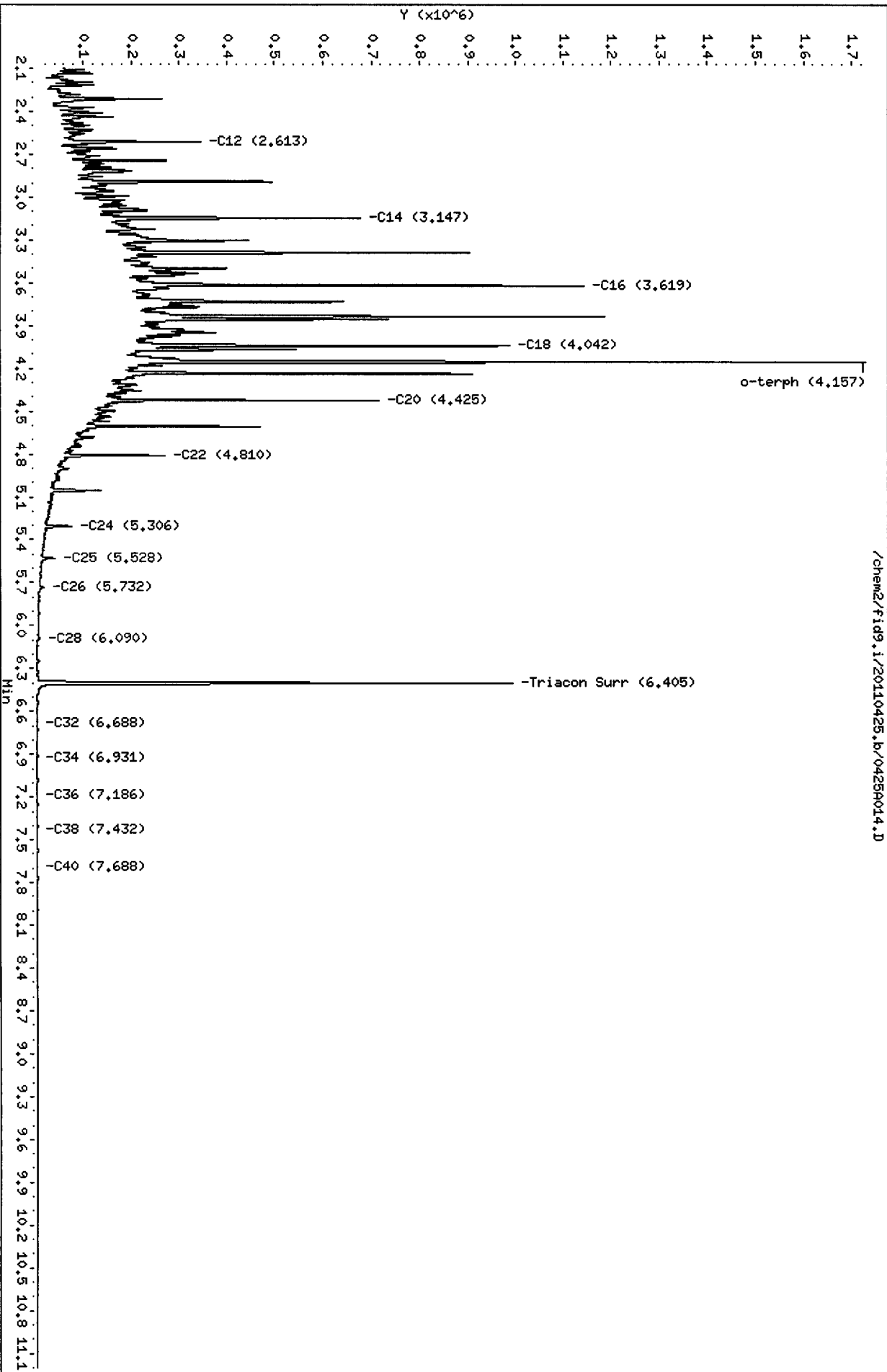
Surrogate	Area	Amount	%Rec
o-Terphenyl	1429726	66.8	148.3
Triacontane	692436	39.3	87.3

*MS 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.1/20110425.b/0425R014.D  
 Date: 25-APR-2011 20:22  
 Client ID: SS83LCSS1  
 Sample Info: SS83LCSS1  
 Column phase: RTX-1

Instrument: fid9.1  
 Operator: HS  
 Column diameter: 0.25



0425R014.D



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A016.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83A  
Client ID: DMA-TP1-0-3-041911  
Injection: 25-APR-2011 21:06  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.589	-0.010	1362	1174	GAS (Tol-C12)	162072	7.71
C8	1.353	0.080	10116	12388	DIESEL (C12-C24)	174265	7.69
C10	1.980	0.005	3717	3272	M.OIL (C24-C38)	412382	31.09
C12	2.616	0.001	607	636	AK-102 (C10-C25)	227463	8.91
C14	3.152	-0.003	177	125	AK-103 (C25-C36)	370773	43.63
C16	3.617	-0.003	1545	1731			
C18	4.038	0.000	3066	3760			
C20	4.430	0.004	3281	4391			
C22	4.813	0.000	2131	1643			
C24	5.308	0.001	2121	2565			
C25	5.529	-0.001	6328	7128			
C26	5.729	-0.002	3402	3324			
C28	6.084	-0.002	7846	11045			
C32	6.675	-0.001	5494	6637	JP-4 (Tol-C14)	180093	10.98
C34	6.938	0.001	2835	2238	BUNKERC (C10-C38)	632172	84.92
Filter Peak	----						
C36	7.187	0.002	2593	2552			
C38	7.424	0.001	2689	2836			
C40	7.691	-0.001	1746	749			
o-terph	4.154	-0.001	1291919	829955	JET-A (C10-C18)	132713	9.60
Triacon Surr	6.403	-0.001	988074	658065	JP8 (Tol-C16)	208019	11.82

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	829955	38.8	86.1
Triacontane	658065	37.3	83.0

*Handwritten signature: m ypb/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R016.D

Date : 25-APR-2011 21:06

Client ID: DM4-TP1-0-3-041911

Sample Info: S583A

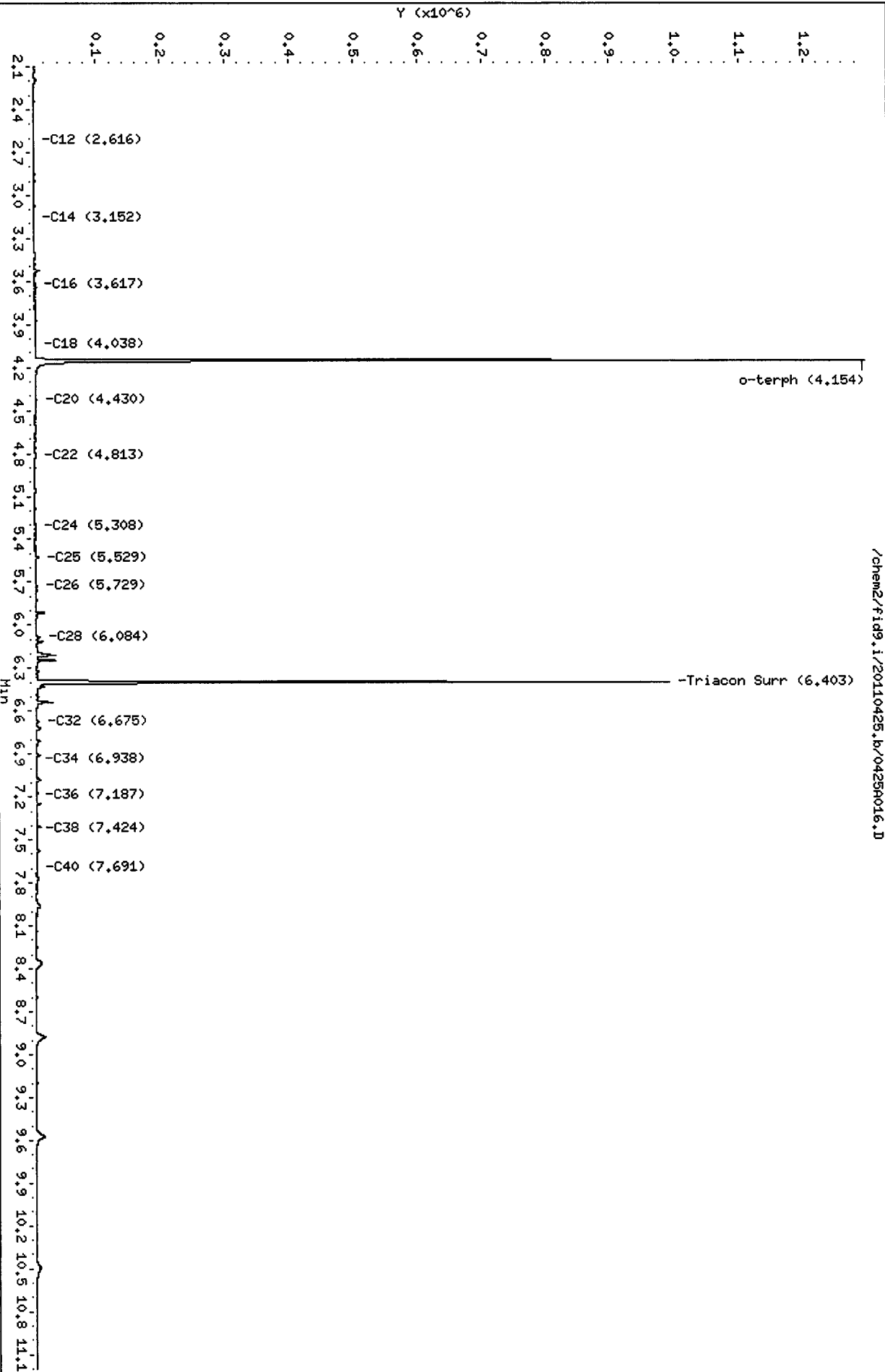
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A017.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83B  
Client ID: DMA-TP1-3-4.5-04191  
Injection: 25-APR-2011 21:27  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.593	-0.006	1565	1351	GAS (Tol-C12)	232355	11.06
C8	1.357	0.083	9334	9753	DIESEL (C12-C24)	388949	17.17
C10	1.981	0.007	3498	2595	M.OIL (C24-C38)	2367340	178.48
C12	2.600	-0.016	955	1233	AK-102 (C10-C25)	495321	19.40
C14	3.152	-0.003	103	36	AK-103 (C25-C36)	2193283	258.09
C16	3.627	0.007	2322	1697			
C18	4.035	-0.003	4397	3008			
C20	4.423	-0.003	8390	5871			
C22	4.809	-0.003	12760	10342			
C24	5.302	-0.005	25973	20314			
C25	5.526	-0.004	235406	174757			
C26	5.728	-0.004	40107	35763			
C28	6.083	-0.003	55951	55440			
C32	6.674	-0.002	19864	25551	JP-4 (Tol-C14)	257763	15.72
C34	6.938	0.002	13324	8143	BUNKERC (C10-C38)	2818213	378.57
Filter Peak	----						
C36	7.186	0.000	10563	10361			
C38	7.427	0.004	8942	10764			
C40	7.694	0.002	6372	5743			
o-terph	4.153	-0.002	1448754	834905	JET-A (C10-C18)	151903	10.99
Triacon Surr	6.406	0.002	991738	705290	JP8 (Tol-C16)	283553	16.12

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	834905	39.0	86.6
Triacontane	705290	40.0	88.9

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425a017.D

Date : 25-APR-2011 21:27

Client ID: DM-TP1-3-4.5-04191

Sample Info: S583B

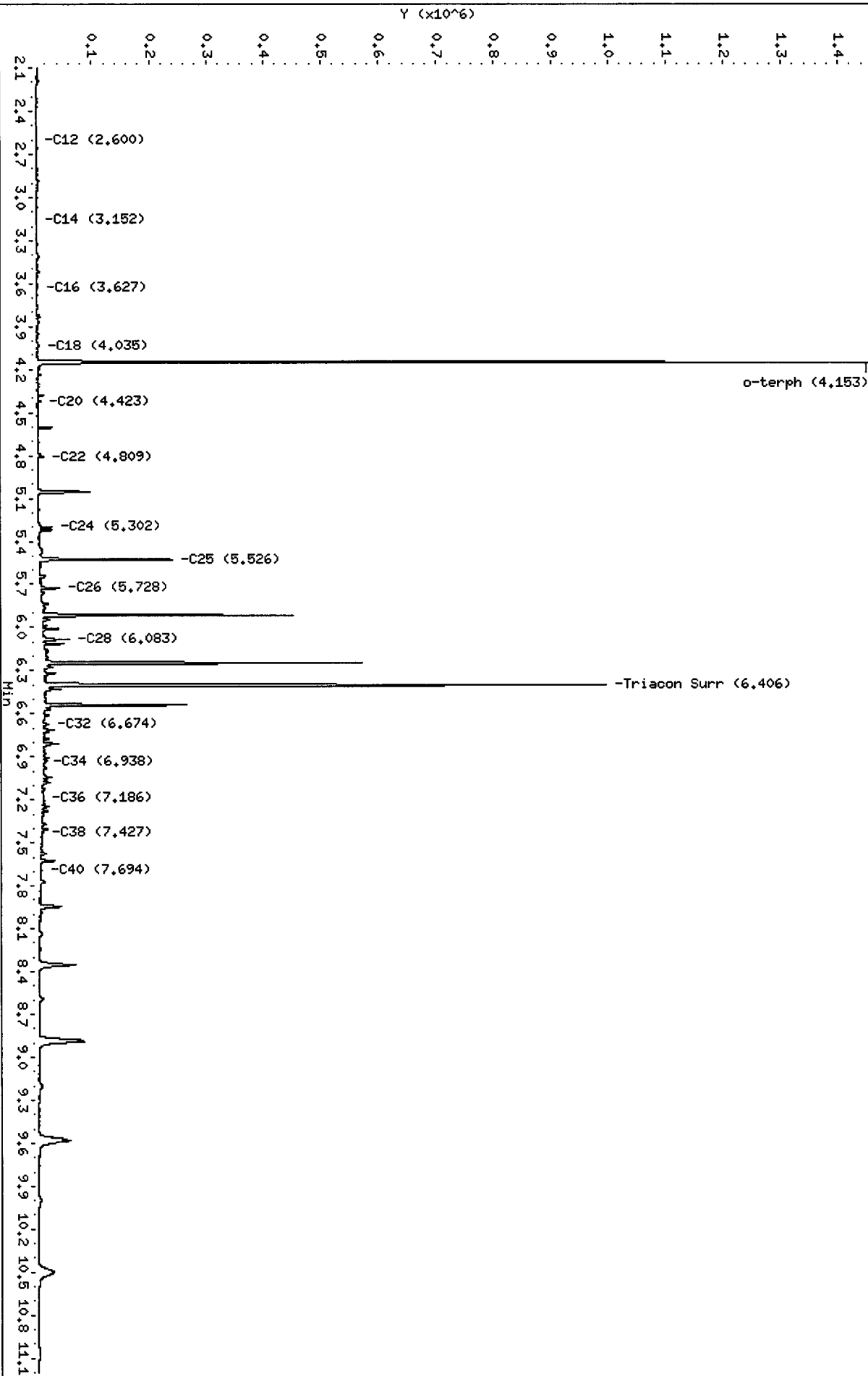
Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A018.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83C  
Client ID: DMA-TP1-4.5-5.5-041  
Injection: 25-APR-2011 21:48  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.594	-0.004	1731	1575	GAS (Tol-C12)	213745	10.17
C8	----				DIESEL (C12-C24)	401749	17.73
C10	1.983	0.008	4467	3402	M.OIL (C24-C38)	2624057	197.84
C12	2.612	-0.004	636	254	AK-102 (C10-C25)	529864	20.76
C14	3.157	0.002	97	60	AK-103 (C25-C36)	2203981	259.35
C16	3.611	-0.009	1706	1559			
C18	4.037	-0.002	3379	3309			
C20	4.426	0.001	4571	5084			
C22	4.813	0.000	5767	5635			
C24	5.304	-0.003	8691	5002			
C25	5.525	-0.005	17567	21260			
C26	5.729	-0.003	14686	9704			
C28	6.085	-0.002	34242	33034			
C32	6.673	-0.004	27738	31707	JP-4 (Tol-C14)	233244	14.23
C34	6.934	-0.002	24226	10703	BUNKERC (C10-C38)	3089758	415.05
Filter Peak	----						
C36	7.186	0.000	25099	18591			
C38	7.420	-0.003	27647	21321			
C40	7.689	-0.003	22258	16139			
o-terph	4.154	-0.001	1388690	869045	JET-A (C10-C18)	142081	10.28
Triacon Surr	6.403	-0.001	1065491	771333	JP8 (Tol-C16)	258049	14.67

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	869045	40.6	90.2
Triacontane	771333	43.8	97.2

*M 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A018.D

Date: 25-APR-2011 21:48

Client ID: DM9-TP1-4.5-5.5-041

Sample Info: SS83C

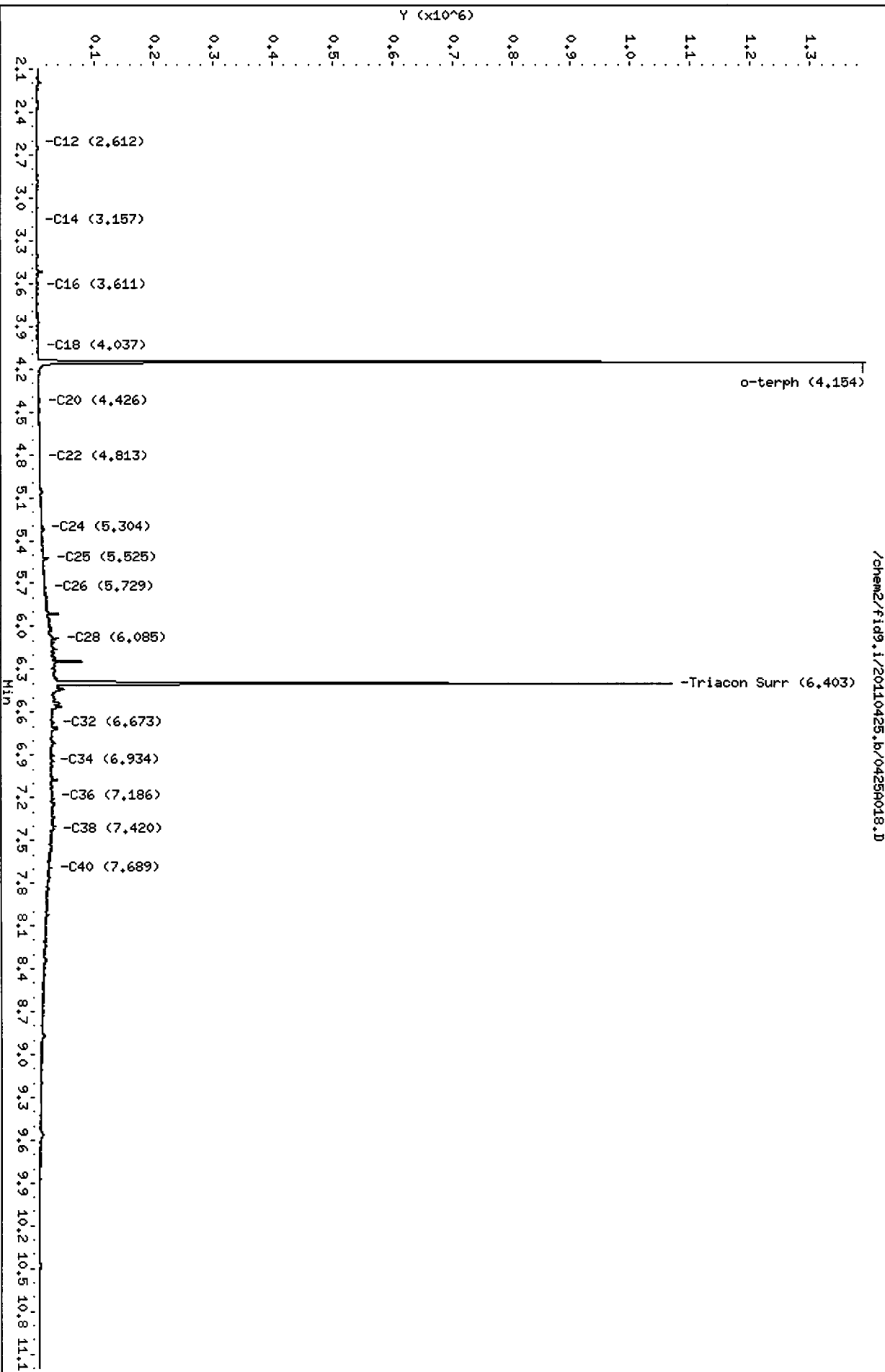
Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A019.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83D  
Client ID: DMA-TP2-1.5-3-04191  
Injection: 25-APR-2011 22:10  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.596	-0.003	587	305	GAS (Tol-C12)	100752	4.80
C8	----				DIESEL (C12-C24)	544009	24.01
C10	1.985	0.011	3550	2540	M.OIL (C24-C38)	2226641	167.88
C12	2.608	-0.008	755	715	AK-102 (C10-C25)	628883	24.64
C14	3.150	-0.004	935	1085	AK-103 (C25-C36)	1969741	231.78
C16	3.628	0.008	4542	4296			
C18	4.037	-0.001	4414	4374			
C20	4.421	-0.004	10486	8061			
C22	4.811	-0.002	12985	11902			
C24	5.301	-0.006	15429	12833			
C25	5.525	-0.005	69118	64124			
C26	5.727	-0.004	19516	22991			
C28	6.083	-0.003	39314	42674			
C32	6.674	-0.003	20814	17995	JP-4 (Tol-C14)	158734	9.68
C34	6.945	0.009	20723	16687	BUNKERC (C10-C38)	2807736	377.16
Filter Peak	----						
C36	7.178	-0.007	14788	15418			
C38	7.423	0.001	14407	6140			
C40	7.692	0.000	9886	6678			
o-terph	4.154	-0.001	1452029	840296	JET-A (C10-C18)	228924	16.57
Triacon Surr	6.403	-0.001	1076928	756640	JP8 (Tol-C16)	228772	13.00

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	840296	39.2	87.2
Triacontane	756640	42.9	95.4

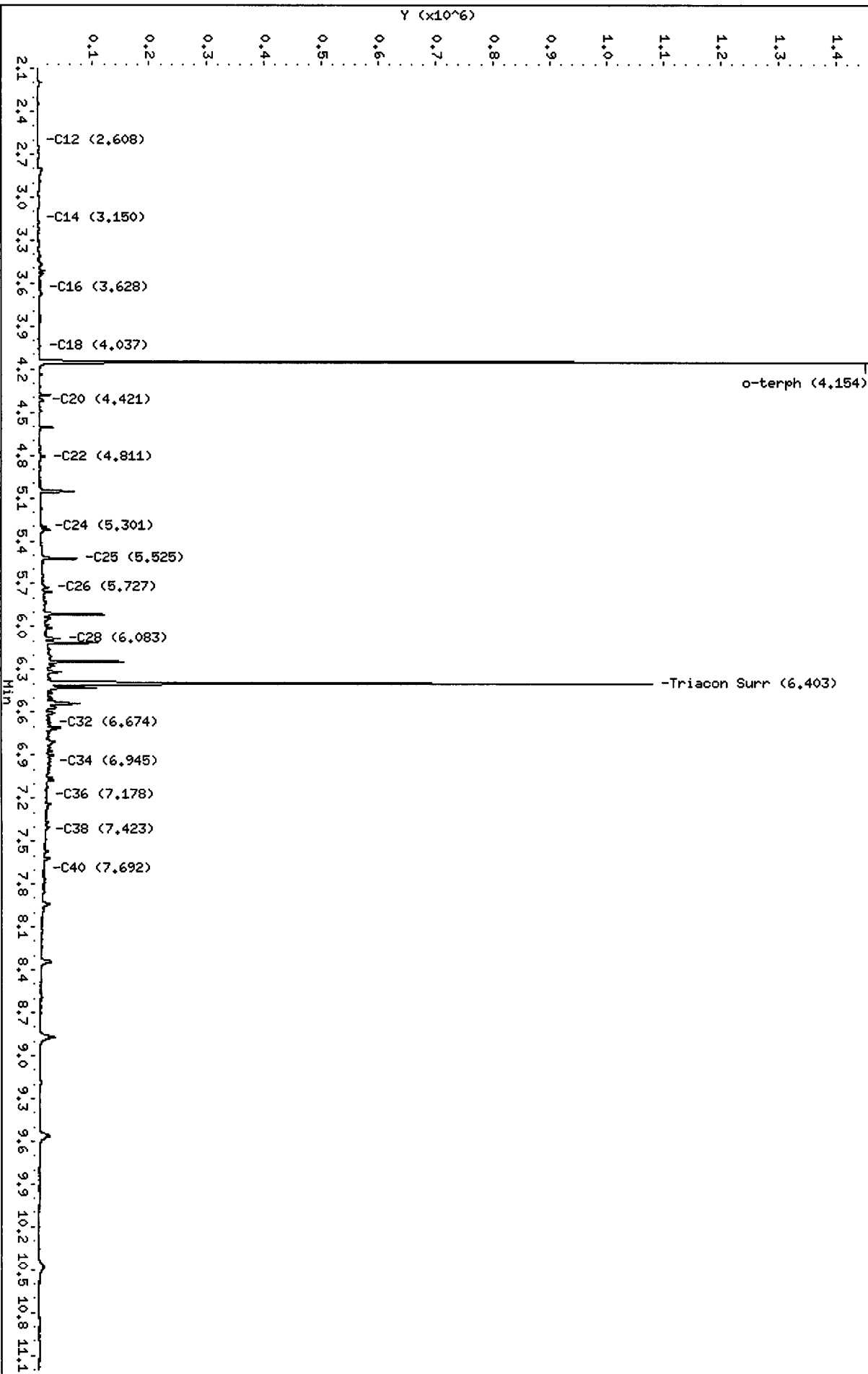
*M y p 11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A019.D  
Date: 25-APR-2011 22:10  
Client ID: DMA-TP2-1.5-3-04191  
Sample Info: S583D  
Column phase: RTX-1

Instrument: fid9.i  
Operator: HS  
Column diameter: 0.25

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Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A022.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83G  
 Client ID: DMA-TP6-2.5-5-04191  
 Injection: 25-APR-2011 23:14  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.587	-0.012	1077	1111	GAS (Tol-C12)	120506	5.74
C8	----				DIESEL (C12-C24)	313006	13.82
C10	1.980	0.006	3183	2888	M.OIL (C24-C38)	1040663	78.46
C12	2.611	-0.004	514	550	AK-102 (C10-C25)	382903	15.00
C14	3.151	-0.004	200	56	AK-103 (C25-C36)	923870	108.71
C16	3.613	-0.007	3101	2776			
C18	4.035	-0.003	4444	4360			
C20	4.424	-0.001	6692	7066			
C22	4.810	-0.003	7003	6997			
C24	5.301	-0.006	5743	6739			
C25	5.525	-0.005	11767	15870			
C26	5.726	-0.006	8233	7662			
C28	6.082	-0.004	16562	18576			
C32	6.673	-0.003	13128	14172	JP-4 (Tol-C14)	138121	8.42
C34	6.937	0.000	8480	3623	BUNKERC (C10-C38)	1391664	186.94
Filter Peak	----						
C36	7.183	-0.002	6852	4892			
C38	7.422	-0.001	6146	4657			
C40	7.682	-0.010	4690	4869			
o-terph	4.152	-0.003	1346513	853436	JET-A (C10-C18)	146110	10.57
Triacon Surr	6.403	-0.001	1059645	717580	JP8 (Tol-C16)	168178	9.56

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	853436	39.8	88.6
Triacontane	717580	40.7	90.5

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A022.D

Date: 25-APR-2011 23:14

Client ID: DM4-TP6-2.5-5-04191

Sample Info: S583G

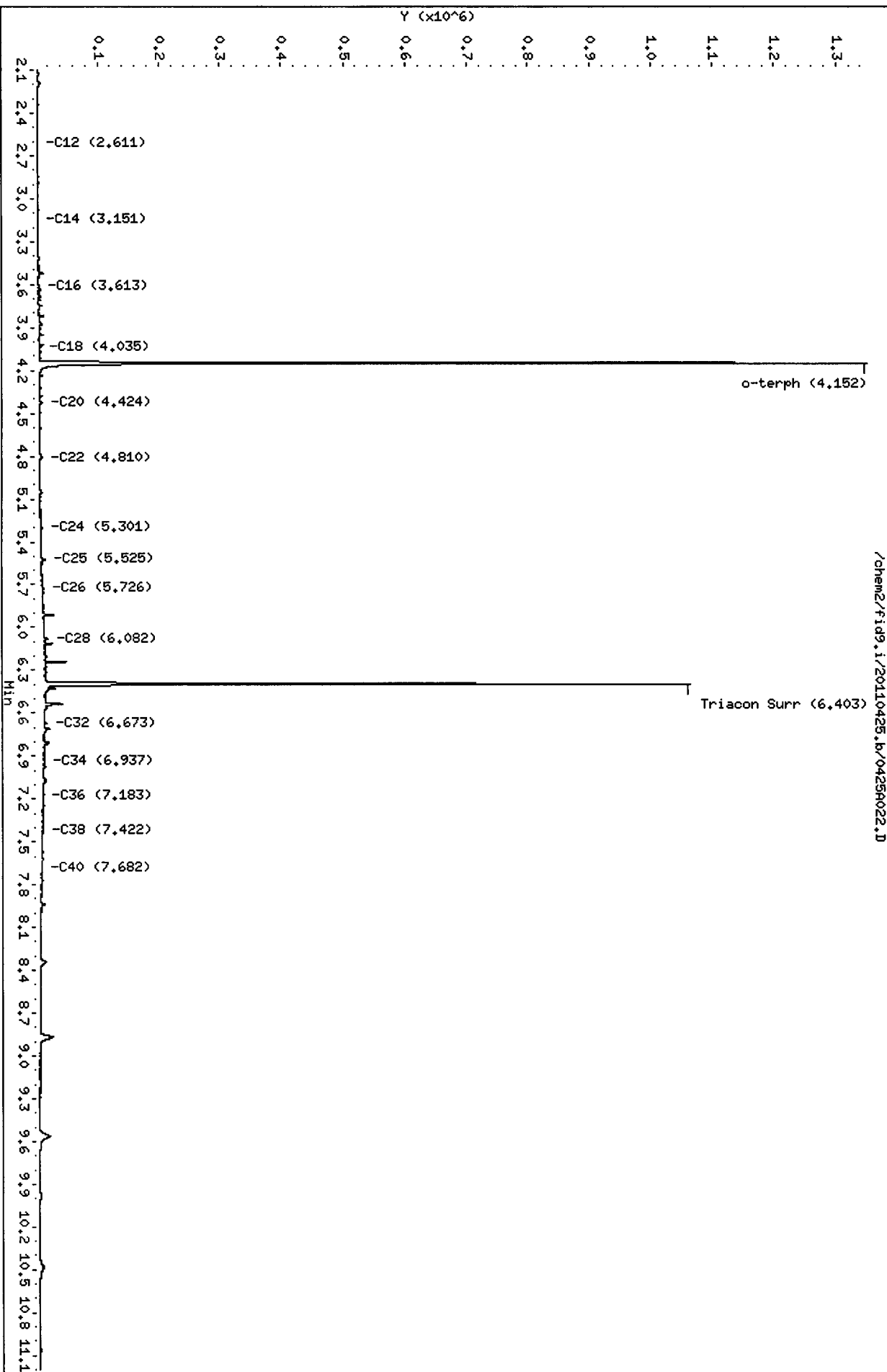
Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A025.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83H  
Client ID: DMA-TP4-0-1.5-04201  
Injection: 26-APR-2011 00:19  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.592	-0.007	1130	951	GAS (Tol-C12)	130761	6.22
C8	----				DIESEL (C12-C24)	1127444	49.77
C10	1.983	0.008	4644	3683	M.OIL (C24-C38)	4499204	339.21
C12	2.616	0.000	620	527	AK-102 (C10-C25)	1270374	49.77
C14	3.149	-0.006	739	816	AK-103 (C25-C36)	4078461	479.92
C16	3.627	0.007	5023	4631			
C18	4.035	-0.003	7462	7231			
C20	4.421	-0.004	13568	11051			
C22	4.806	-0.007	45762	34696			
C24	5.299	-0.008	57720	46356			
C25	5.524	-0.006	304688	249256			
C26	5.724	-0.007	61814	60971			
C28	6.082	-0.005	89626	104086			
C32	6.675	-0.001	34210	45514	JP-4 (Tol-C14)	166507	10.16
C34	6.945	0.009	29604	9761	BUNKERC (C10-C38)	5671244	761.81
Filter Peak	----						
C36	7.188	0.002	24720	7663			
C38	7.427	0.005	22345	16906			
C40	7.691	-0.001	14531	9607			
o-terph	4.151	-0.004	1323091	806347	JET-A (C10-C18)	227959	16.50
Triacon Surr	6.404	0.000	1010332	729984	JP8 (Tol-C16)	214950	12.22

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	806347	37.6	83.7
Triacontane	729984	41.4	92.0

*M 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425H025.D

Date: 26-APR-2011 00:19

Client ID: DM9-TP4-0-1.5-04201

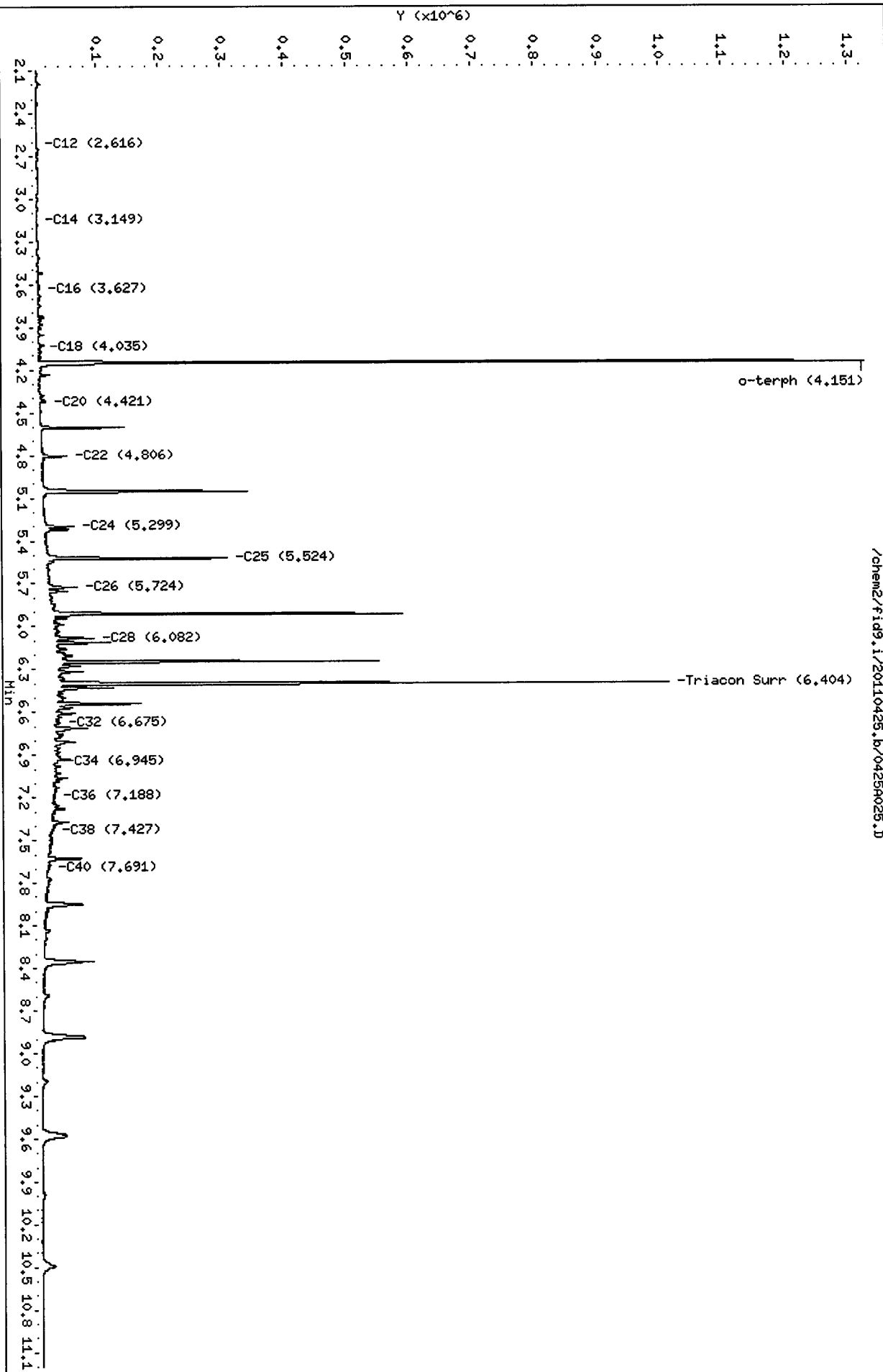
Sample Info: S583H

Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A027.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83J  
Client ID: DMA-TP5-1.5-2-04201  
Injection: 26-APR-2011 01:02  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.594	-0.004	1484	1345	GAS (Tol-C12)	241661	11.50
C8	----				DIESEL (C12-C24)	2352398	103.84
C10	1.983	0.008	3420	2472	M.OIL (C24-C38)	8180656	616.77
C12	2.614	-0.002	786	725	AK-102 (C10-C25)	2658393	104.14
C14	3.157	0.002	408	107	AK-103 (C25-C36)	7269447	855.42
C16	3.623	0.003	4550	4172			
C18	4.034	-0.004	8986	8399			
C20	4.422	-0.003	25504	22466			
C22	4.809	-0.004	97285	93127			
C24	5.304	-0.003	104449	90401			
C25	5.530	0.000	401294	355560			
C26	5.728	-0.004	98687	127399			
C28	6.084	-0.003	141343	147431			
C32	6.672	-0.004	67632	62850	JP-4 (Tol-C14)	282614	17.24
C34	6.942	0.006	59617	41507	BUNKERC (C10-C38)	10596050	1423.36
Filter Peak	----						
C36	7.179	-0.006	52185	41181			
C38	7.422	0.000	46357	37237			
C40	7.690	-0.002	33590	28460			
o-terph	4.153	-0.002	1305613	727282	JET-A (C10-C18)	278884	20.18
Triacon Surr	6.402	-0.002	945839	764202	JP8 (Tol-C16)	333094	18.93

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	727282	34.0	75.5
Triacontane	764202	43.4	96.3

*msy/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/04250027.D

Date: 26-APR-2011 01:02

Client ID: DM4-TP5-1.5-2-04201

Sample Info: SS83J

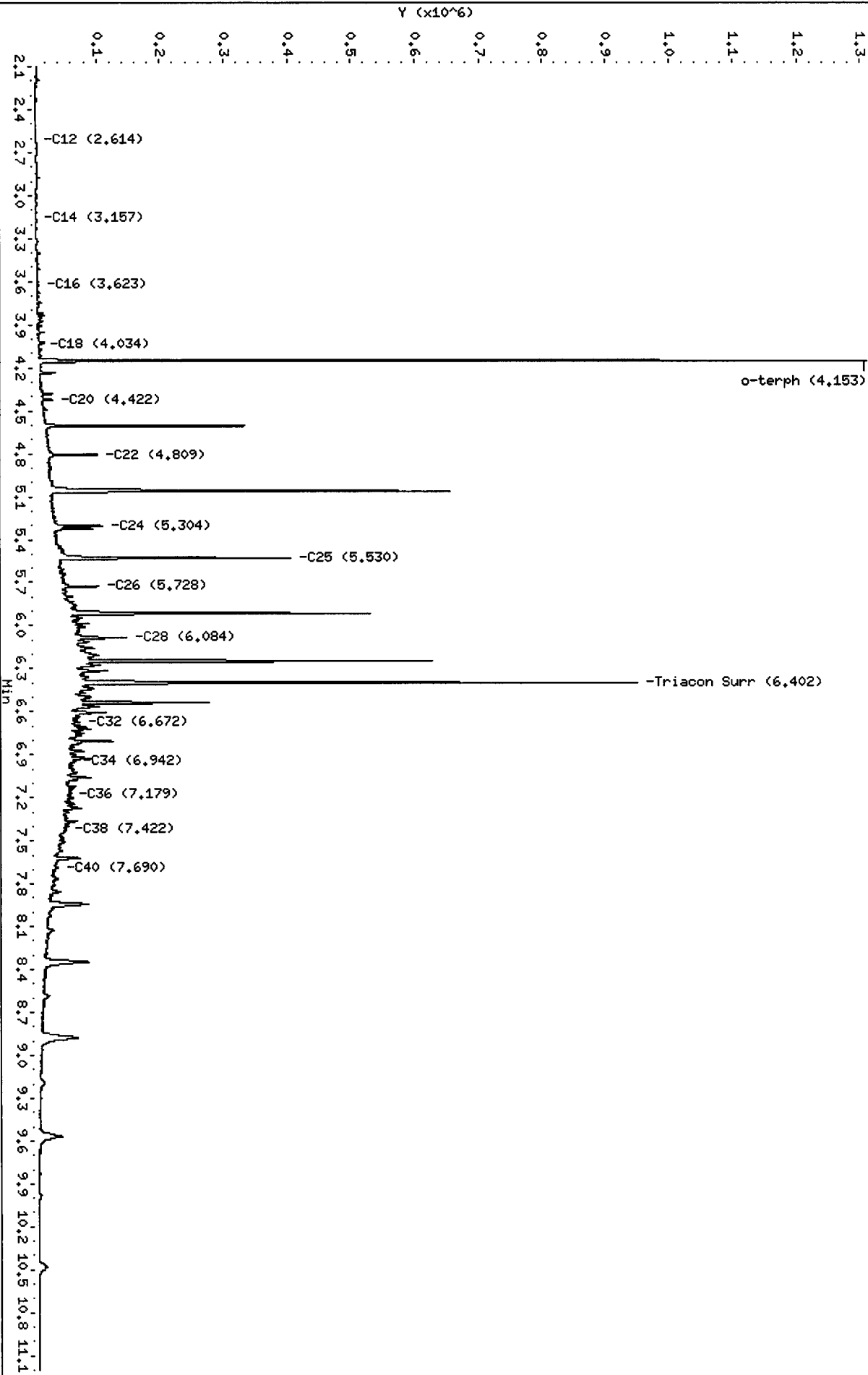
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A028.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83K  
Client ID: DMA-TP5-1.5-2-04201  
Injection: 26-APR-2011 01:23  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.592	-0.007	927	717	GAS (Tol-C12)	154079	7.33
C8	1.354	0.081	9145	12388	DIESEL (C12-C24)	2205237	97.35
C10	1.980	0.006	3791	3332	M.OIL (C24-C38)	7057639	532.11
C12	2.612	-0.003	705	714	AK-102 (C10-C25)	2471948	96.84
C14	3.143	-0.011	717	876	AK-103 (C25-C36)	6310616	742.59
C16	3.623	0.003	4807	4333			
C18	4.034	-0.004	9147	8717			
C20	4.421	-0.005	27206	24868			
C22	4.807	-0.006	91932	73459			
C24	5.303	-0.004	91906	79744			
C25	5.528	-0.002	348045	303783			
C26	5.727	-0.004	88333	117490			
C28	6.083	-0.004	126309	176042			
C32	6.674	-0.002	58555	46968	JP-4 (Tol-C14)	189090	11.53
C34	6.945	0.009	51262	40674	BUNKERC (C10-C38)	9314405	1251.20
Filter Peak	----						
C36	7.181	-0.004	42379	29170			
C38	7.422	0.000	40644	24467			
C40	7.693	0.001	28158	6453			
o-terph	4.153	-0.002	1428442	794792	JET-A (C10-C18)	227370	16.45
Triacon Surr	6.403	-0.001	1033751	764641	JP8 (Tol-C16)	233820	13.29

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	794792	37.1	82.5
Triacontane	764641	43.4	96.4

*MS/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A028.D

Date: 26-APR-2011 01:23

Client ID: DMA-TP5-1.5-2-04201

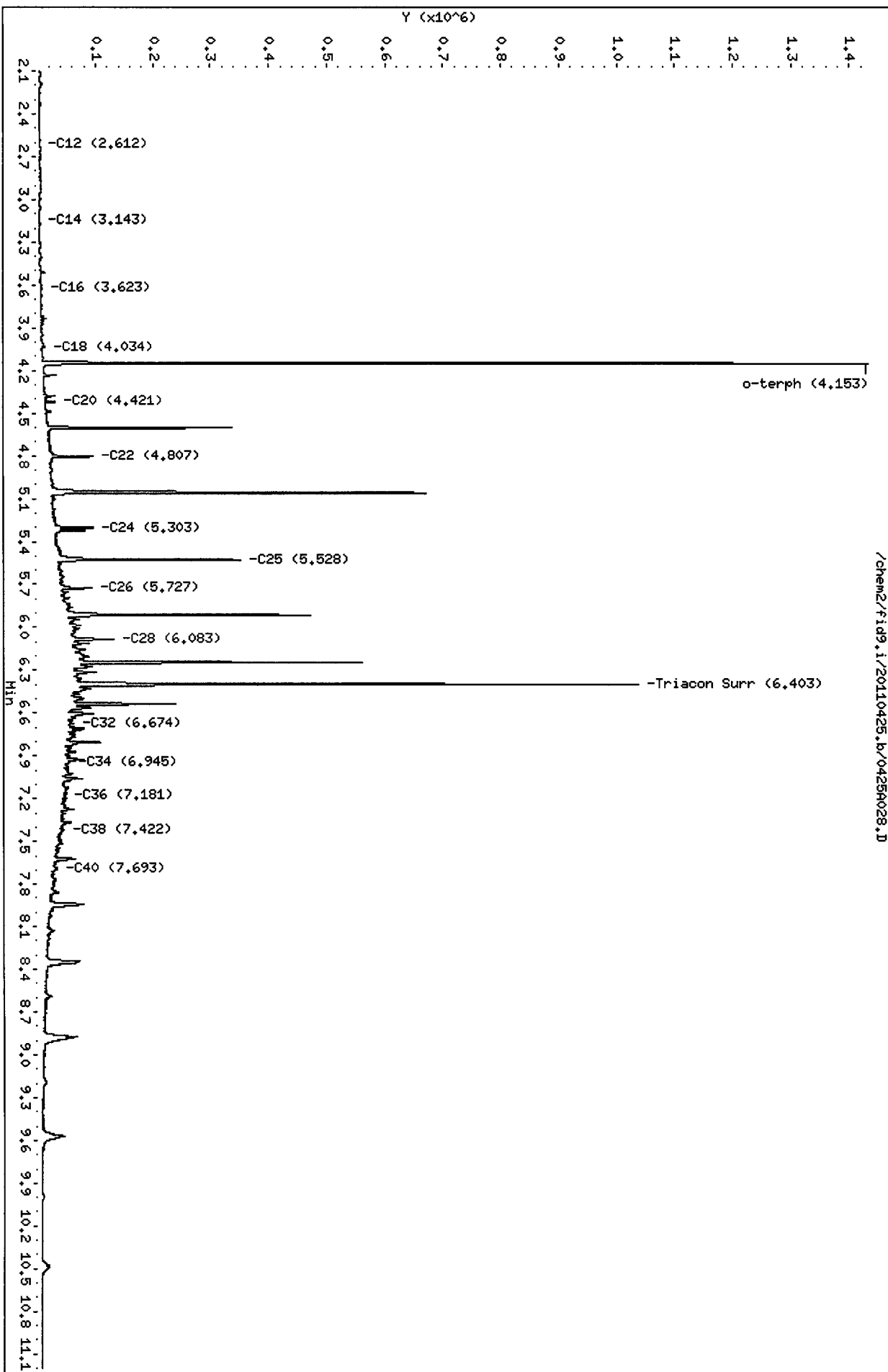
Sample Info: S583K

Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25



01 APR 2011 11:55:00



Analytical Resources Inc.  
 NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A030.D  
 Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
 Instrument: fid9.i  
 Operator: MS  
 Report Date: 04/26/2011

ARI ID: SS83M  
 Client ID: DMA-TP3-2-3-042011  
 Injection: 26-APR-2011 02:06  
 Dilution Factor: 1  
 Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.590	-0.009	1387	1345	GAS (Tol-C12)	183196	8.72
C8	----				DIESEL (C12-C24)	290266	12.81
C10	1.980	0.005	4234	3116	M.OIL (C24-C38)	2051365	154.66
C12	2.610	-0.006	512	462	AK-102 (C10-C25)	370224	14.50
C14	3.153	-0.001	168	51	AK-103 (C25-C36)	1894529	222.93
C16	3.612	-0.008	2160	1792			
C18	4.035	-0.003	3523	3432			
C20	4.424	-0.001	4801	4762			
C22	4.811	-0.002	8113	6262			
C24	5.303	-0.004	12930	11327			
C25	5.526	-0.004	91751	70402			
C26	5.727	-0.004	21323	19839			
C28	6.081	-0.006	38101	44003			
C32	6.669	-0.007	18923	21141	JP-4 (Tol-C14)	202045	12.32
C34	6.942	0.005	12491	3356	BUNKERC (C10-C38)	2394460	321.65
Filter Peak	----						
C36	7.190	0.004	9917	4060			
C38	7.418	-0.005	10402	5412			
C40	7.697	0.005	7012	3543			
o-terph	4.152	-0.003	1365802	819517	JET-A (C10-C18)	138251	10.00
Triacon Surr	6.402	-0.002	1088845	715080	JP8 (Tol-C16)	228477	12.99

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
 NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	819517	38.3	85.0
Triacontane	715080	40.6	90.2

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A030.D

Date : 26-APR-2011 02:06

Client ID: DM9-TP3-2-3-042011

Sample Info: S583H

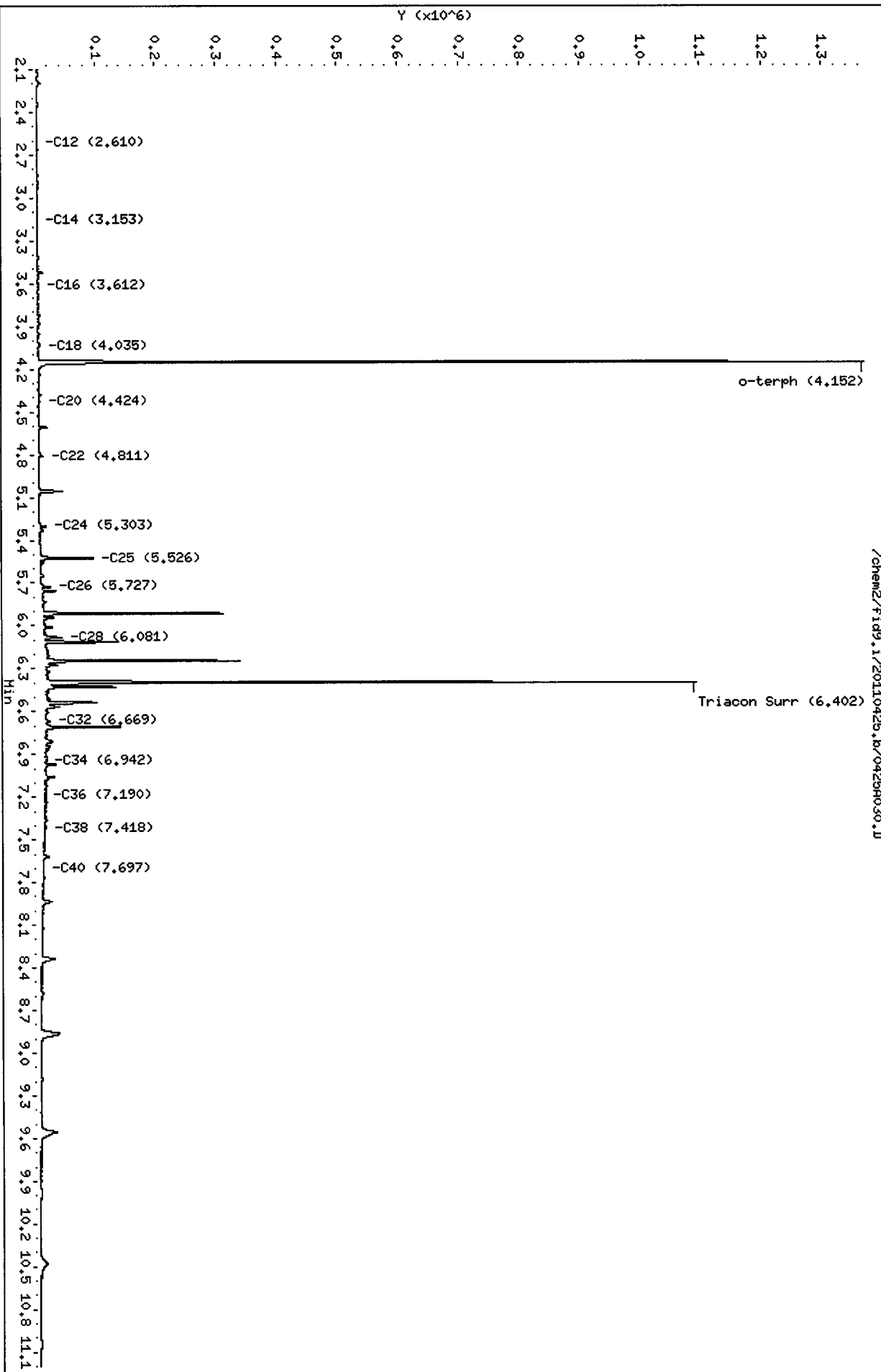
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A031.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83N  
Client ID: DMA-TP3-3-4-042011  
Injection: 26-APR-2011 02:28  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.589	-0.010	1126	1017	GAS (Tol-C12)	182454	8.68
C8	----				DIESEL (C12-C24)	1788522	78.95
C10	1.981	0.007	2883	2003	M.OIL (C24-C38)	6062968	457.11
C12	2.614	-0.002	666	475	AK-102 (C10-C25)	2007464	78.64
C14	3.157	0.003	625	154	AK-103 (C25-C36)	5449914	641.31
C16	3.624	0.004	4631	4066			
C18	4.034	-0.004	7956	7530			
C20	4.421	-0.005	19137	15344			
C22	4.808	-0.004	75569	63391			
C24	5.302	-0.005	83156	72415			
C25	5.529	-0.001	347386	295539			
C26	5.729	-0.002	81022	95425			
C28	6.084	-0.002	112648	133308			
C32	6.674	-0.002	46995	36181	JP-4 (Tol-C14)	226222	13.80
C34	6.926	-0.011	86239	92525	BUNKERC (C10-C38)	7902760	1061.57
Filter Peak	----						
C36	7.184	-0.001	34848	11665			
C38	7.423	0.000	30664	20595			
C40	7.689	-0.003	20889	15251			
o-terph	4.152	-0.003	1374287	771826	JET-A (C10-C18)	251547	18.20
Triacon Surr	6.405	0.001	974219	735050	JP8 (Tol-C16)	275634	15.67

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	771826	36.0	80.1
Triacontane	735050	41.7	92.7

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/04256031.D

Date : 26-APR-2011 02:28

Client ID: DM0-TP3-3-4-042011

Sample Info: S583N

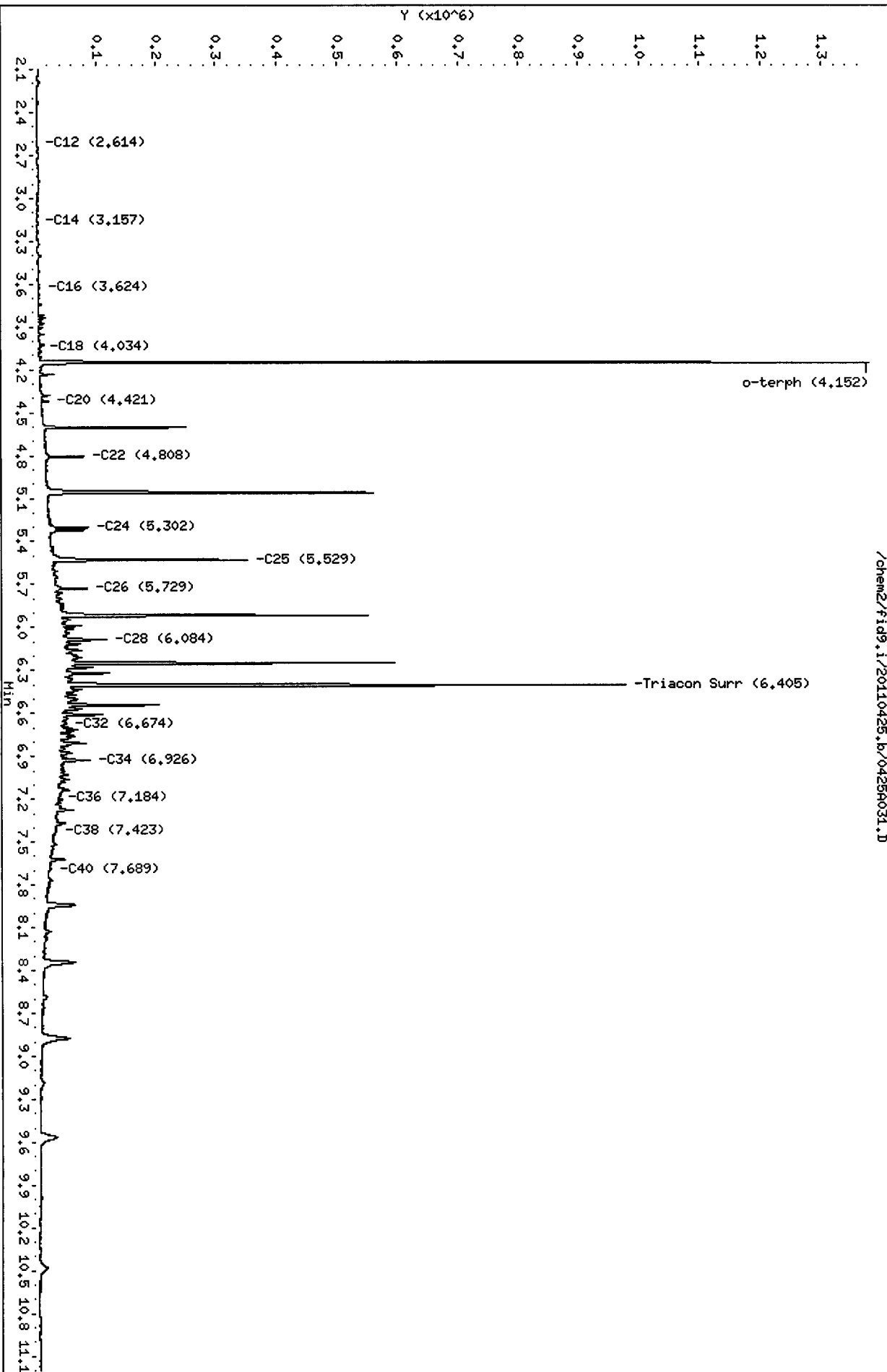
Column phase: RTX-1

Instrument: fid9.i

Operator: MS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/04256031.D



Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A033.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS83OMS  
Client ID: DMA-TP3-5-6-042 MS  
Injection: 26-APR-2011 03:11  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.585	-0.014	7430	5487	GAS (Tol-C12)	3519878	167.53
C8	----				DIESEL (C12-C24)	25455504	1123.71
C10	1.979	0.004	138802	115282	M.OIL (C24-C38)	406349	30.64
C12	2.615	-0.001	314030	268238	AK-102 (C10-C25)	28337183	1110.13
C14	3.147	-0.008	602855	490645	AK-103 (C25-C36)	301673	35.50
C16	3.619	-0.001	1146762	987105			
C18	4.043	0.005	962084	921315			
C20	4.425	-0.001	697873	545184			
C22	4.809	-0.004	260519	238206			
C24	5.302	-0.005	72454	72789			
C25	5.526	-0.004	35421	41164			
C26	5.728	-0.004	15478	17768			
C28	6.085	-0.002	4267	5433			
C32	6.681	0.005	2014	2582	JP-4 (Tol-C14)	7721167	470.90
C34	6.939	0.002	928	957	BUNKERC (C10-C38)	28653348	3848.98
Filter Peak	----						
C36	7.184	-0.002	945	149			
C38	7.431	0.008	885	713			
C40	7.688	-0.004	483	216			
o-terph	4.157	0.001	1684177	1358721	JET-A (C10-C18)	20798990	1505.09
Triacon Surr	6.404	0.000	1004812	711078	JP8 (Tol-C16)	14363654	816.39

M Indicates manual integration within range.

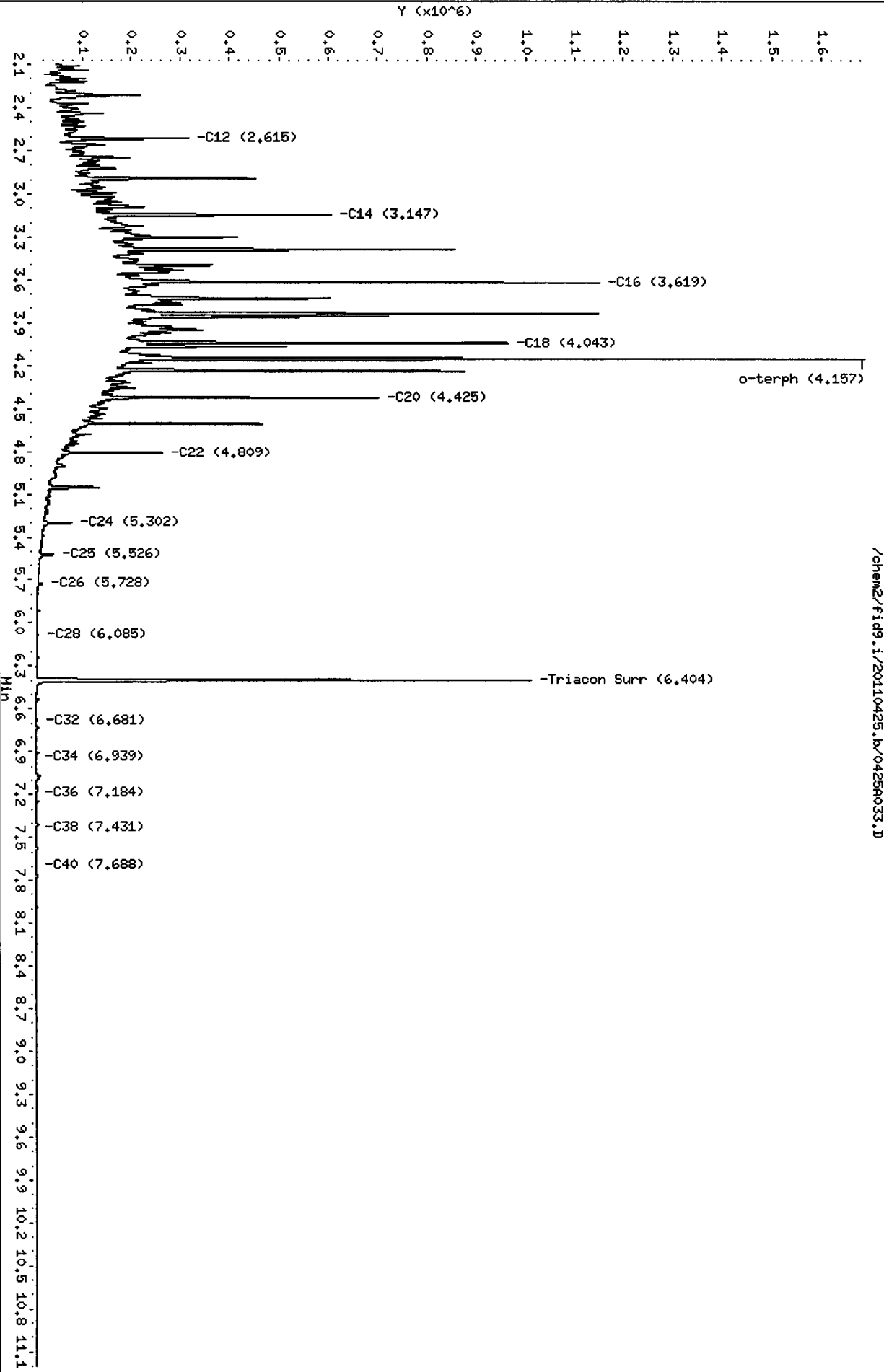
Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1358721	63.4	141.0
Triacontane	711078	40.3	89.6

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425A033.D  
Date: 26-APR-2011 03:11  
Client ID: DMA-TP3-5-6-042 HS  
Sample Info: S8330HS  
Column phase: RTX-1

Instrument: fid9.i  
Operator: HS  
Column diameter: 0.25



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Analytical Resources Inc.  
NWTPH Quantitation Report

Data file: /chem2/fid9.i/20110425.b/0425A034.D  
Method: /chem2/fid9.i/20110425.b/ftphfid9a.m  
Instrument: fid9.i  
Operator: MS  
Report Date: 04/26/2011

ARI ID: SS830MSD  
Client ID: DMA-TP3-5-6-042 MSD  
Injection: 26-APR-2011 03:32  
Dilution Factor: 1  
Macro: 15-FEB-2011

FID:9 RESULTS

Compound	RT	Shift	Height	Area	Range	Total Area	Conc
Toluene	1.621	0.023	45610	58253	GAS (Tol-C12)	3618058	172.21
C8	----				DIESEL (C12-C24)	25922601	1144.33
C10	1.980	0.005	132816	118203	M.OIL (C24-C38)	425672	32.09
C12	2.614	-0.002	313543	266518	AK-102 (C10-C25)	28892377	1131.88
C14	3.148	-0.007	628327	584006	AK-103 (C25-C36)	311767	36.69
C16	3.619	-0.001	1121832	1068633			
C18	4.042	0.004	987785	925261			
C20	4.425	0.000	652526	536257			
C22	4.811	-0.001	250310	237798			
C24	5.304	-0.003	72528	82744			
C25	5.526	-0.004	35584	43813			
C26	5.729	-0.002	15161	15349			
C28	6.085	-0.001	4528	5781			
C32	6.680	0.003	2464	2864	JP-4 (Tol-C14)	7998527	487.82
C34	6.938	0.002	1219	2010	BUNKERC (C10-C38)	29219268	3925.00
Filter Peak	----						
C36	7.187	0.002	1384	1458			
C38	7.436	0.014	737	503			
C40	7.689	-0.002	583	199			
o-terph	4.156	0.001	1640975	1368066	JET-A (C10-C18)	21372966	1546.63
Triacon Surr	6.404	0.000	1091455	714914	JP8 (Tol-C16)	14706636	835.89

M Indicates manual integration within range.

Range Times: NW Diesel(2.616 - 5.307) AK102(1.97 - 5.53) Jet A(1.97 - 4.04)  
NW M.Oil(5.31 - 7.42) AK103(5.53 - 7.19) OR Diesel(1.97 - 6.09)

Surrogate	Area	Amount	%Rec
o-Terphenyl	1368066	63.9	141.9
Triacontane	714914	40.6	90.1

*MS 4/26/11*

Analyte	RF	Curve Date
o-Terph Surr	21417.1	20-JAN-2011
Triacon Surr	17626.4	20-JAN-2011
Gas	21009.8	15-JUN-2010
Diesel	22653.1	20-JAN-2011
Motor Oil	13263.6	20-JAN-2011
AK102	25525.9	20-JAN-2011
AK103	8498.1	07-SEP-2010
JP4	16396.5	09-JUN-2010
JetA	13819.1	11-JUN-2010
Bunker C	7444.4	15-FEB-2011
JP-8	17594.0	25-MAY-2010

Data File: /chem2/fid9.i/20110425.b/0425R034.D

Date: 26-APR-2011 03:32

Client ID: DMH-TP3-5-6-042 HSD

Sample Info: S8830HSD

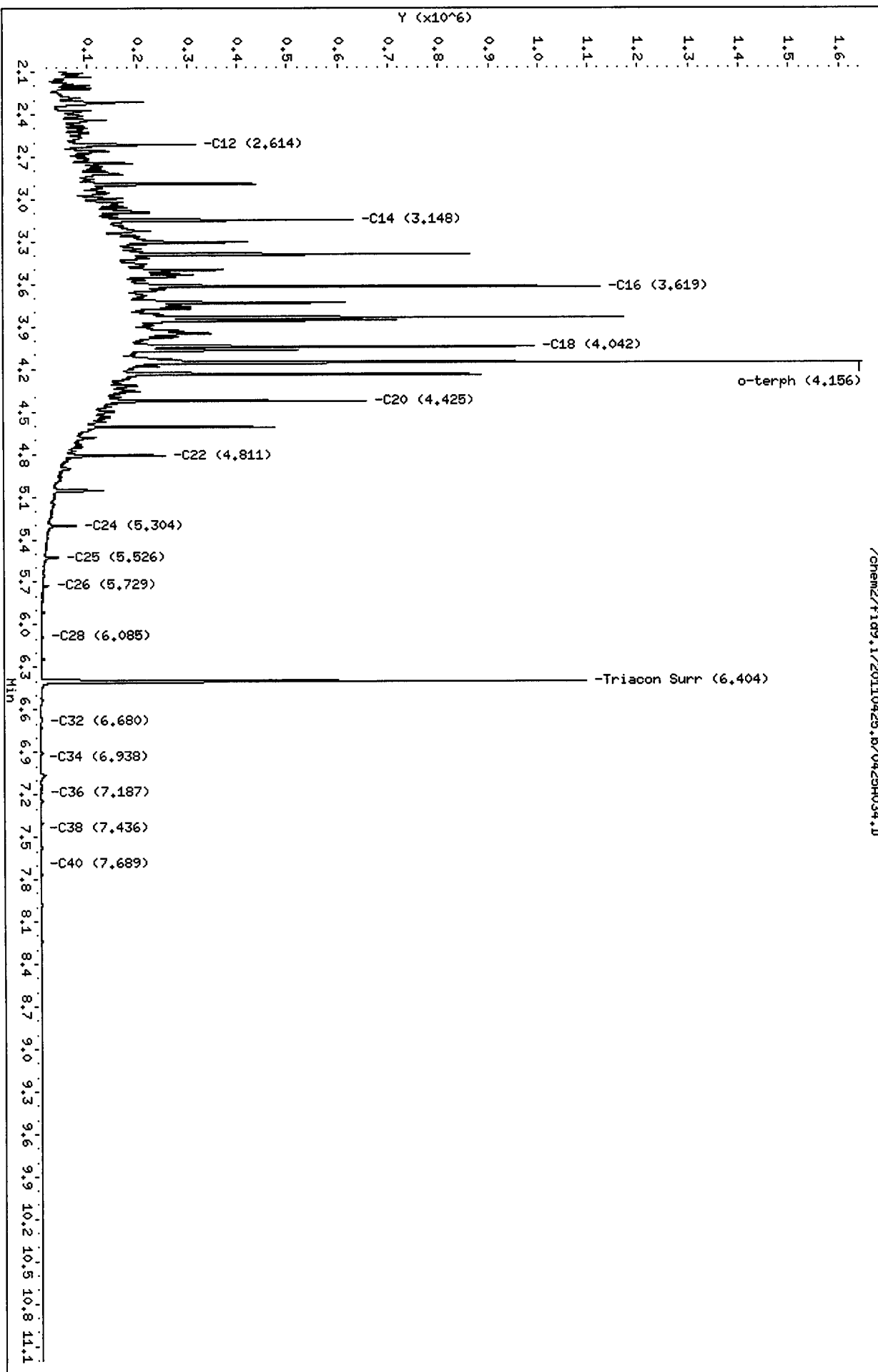
Column phase: RTX-1

Instrument: fid9.i

Operator: HS

Column diameter: 0.25

/chem2/fid9.i/20110425.b/0425R034.D





**TPHG/BETX Raw Data  
Preparation Log**

**ARI Job ID: SS83**



ARI Project No.

Client ID/Project

Extraction Date

MeOH Lot No.

Analyst

1<sup>st</sup> Extraction:

2<sup>nd</sup> Extraction:

Lab ID	Vial No.	Preservative		Method 5035 Sample Weight					Comments	
		NaHSO <sub>3</sub>	CH <sub>3</sub> OH	Vial Weight	Tare (from vial)	Sample Weight	Extract Volume	MeOH Split Volume		
1	2		X	36.29	28.226	8.064	5	900		
2	2		X	35.39	28.309	7.081				
3	2		X	36.36	28.012	8.348				
4	4		X	35.89	28.330	7.560				
5	5		X	35.49	28.151	7.339				
6	2		X	36.63	27.856	8.774				
7	5		X	37.73	27.956	9.774				
8	5		X	33.58	28.038	5.542				
9	2		X	37.36	28.250	9.110				
10	4		X	34.31	27.959	6.351				
11	2		X	34.12	27.984	6.136				
12	4		X	36.69	28.007	8.683				
13	4		X	36.93	28.078	8.852				
14	2		X	33.56	27.823	5.737				
15	5		X	38.42	28.021	10.399				ms/lmsd
16										
17										
18										
19										
20										
Balance ID:										

Surrogate:

Solution ID

Concentration

Amount Spiked

Analyst

Witness

1441

5583 : 01438

**TPHG/BETX Raw Data  
Initial Calibration Notes and Raw Data**

**ARI Job ID: SS83**



### VOA Analyst Notes / Corrective Action Log

ARI Project ID: GAS/BETX Curve Client ID: \_\_\_\_\_

ARI SOP: ~~404S(Gas)~~ ~~410S(BTEX)~~ ~~430S(VPH)~~ ~~700S(8260C)~~ ~~703S(SIM)~~ ~~706S(524.2)~~ ~~710S(RSK-175)~~

Parameter(s): GAS/BETX

Instrument: NT-3 NT-5 NT-7 NT-9 NT-10 PID-1 PID-2 PID-3 FID-6 FINN-5

Purge Volume (mL) 5 Curve Date: 4/16/11 Analysis Start Date: 4/16/11

pH ≤ 2.0	YES / NO <u>NA</u>	Method Blank In Control?	<u>YES</u> / NO
BFB Tune Meets Criteria?	YES / NO <u>NA</u>	LCS / LCSD Recovery In Control?	<u>YES</u> / NO
Internal Standard Meets Criteria?	YES / NO <u>NA</u>	Surrogate Recovery In Control?	<u>YES</u> / NO
ICal acceptable?	<u>YES</u> / NO	CCal acceptable?	<u>YES</u> / NO
Q flag applied?	YES / NO <u>NA</u>	Q flag applied?	YES / NO <u>NA</u>
Manual Integrations for ICal?	<u>YES</u> / NO	Manual Integrations for Samples?	Yes <u>NO</u>
Special Analysis Criteria Met?	YES / NO / NA		

Bubbles/Headspace: None SM (≤ 2mm ●) PB (2-4mm) LG (> 4mm ●) Head Space

**Detail problems, corrective actions and/or other pertinent information below (use reverse side when necessary):**

Gas ICV Targeted 2.5 WAGA? 2.724 108.96% 801S 2.069 82.76%  
 BETX ICV Targeted 25 AK101 1.934 77.4% NWTP46 2.623 104.92%

TFT Gas 20 Taken out due to saturation, no a curve point, Surrogates curved from BETX curve -  
 ICV acceptance limit per AR101 ≤ 25%

Additional Details on Reverse: Yes / No

Analyst: [Signature] Date: 4/18/11

Reviewer: [Signature] Date: 4/18/11

# Analytical Resources Inc.: Organics Instrument Log

PID-1 Serial No.: 2750A-17141

Date: 4/16/11 Analysis: NWTPHC/BETX Analyst: MAH

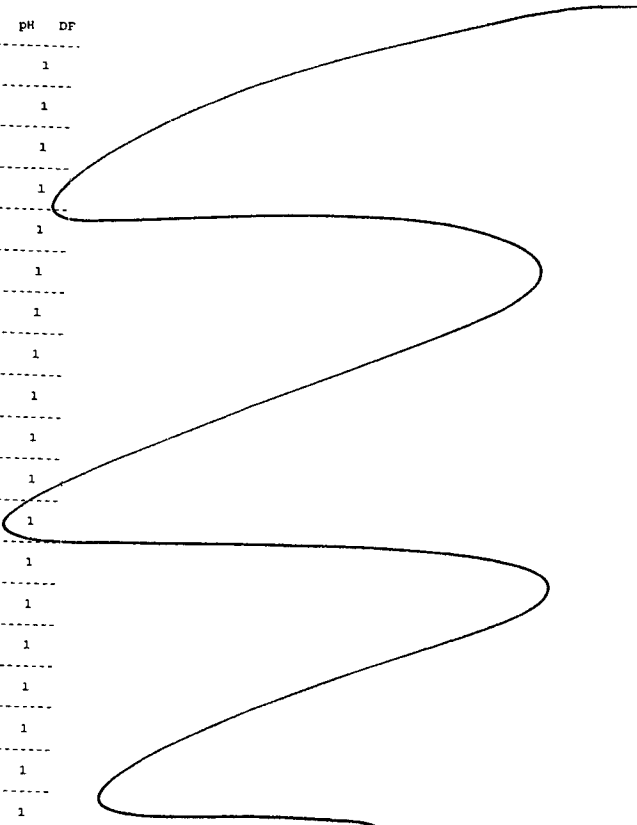
GC Program: BETX Column No: 821726 Column Type: RTX502-Z

Instrument Tune (.U or .CT.):                      EM Voltage:                     

Calibration File:                      Curve Date: 4/16/11

IS/SS	Ical/CCal	LCS/ICV
<u>VW683-2</u>	<u>VW666-1</u>	<u>VW681-3</u>
	<u>VW683-3</u>	
	<u>VW681-3</u>	

Time	Filename	LabID	ClientID	Vial#	pH	DF
1	0900	0416a001.d	RINSE			1
2	0929	0416a002.d	RT-BCAL 1			1
3	0958	0416a003.d	RINSE			1
4	1027	0416a004.d	BETX 25			1
5	1056	0416a005.d	BETX 5			1
6	1126	0416a006.d	BETX 5			1
7	1155	0416a007.d	BETX 25			1
8	1224	0416a008.d	BETX 50			1
9	1253	0416a009.d	BETX 100			1
10	1322	0416a010.d	BETX 200			1
11	1352	0416a011.d	BETX ICV			1
12	1421	0416a012.d	RINSE			1
13	1450	0416a013.d	GAS 1			1
14	1519	0416a014.d	GAS 25			1
15	1548	0416a015.d	GAS 1			1
16	1617	0416a016.d	GAS 2 5			1
17	1647	0416a017.d	GAS 5			1
18	1716	0416a018.d	GAS 20			1
19	1745	0416a019.d	RINSE			1
20	1814	0416a020.d	GAS ICV			1



MAH  
4/18/11

**Maintenance / Comments**

**Maintenance Verification** (Identify ICal or CCal that demonstrates the instrument is in control):

Every line must contain information or be lined out. Make all entries legible. Start a new page for each QC period.

6a  
GAS INITIAL CALIBRATION

Lab Name: ANALYTICAL RESOURCES, INC.  
Instrument/Det: PID1.I/RTX 502-2 FID  
Calibration Date: 16-APR-2011

Client: vpcc0416-1  
Project:  
SDG No.: vpcc0416-1

Gas Range	RF1 0.1	RF2 0.25	RF3 1.0	RF4 2.5	RF5 5.0	RF6 20	Ave RF	%RSD
WA Gas	473250	380984	347138	343150	344223	359894	374773	13.4
AK Gas	727610	621608	562218	550059	548531	614349	604063	11.3
NW Gas	520635	420932	371165	363968	364413	379420	403422	15.2
Cal Gas	903420	770886	701902	689102	686110	751141	750427	11.0
8015Gas	881800	768758	703324	689546	685838	752838	747017	10.0

Surrogates Rel. Rec.	RF1 22	RF2 44	RF3 67	RF4 100	RF5 133	RF6 178	Ave RF	%RSD

<- Indicates %RSD outside limits  
Surrogate areas are not included in RF calculation.

Quant Ranges :   WA Gas    Toluene - nC12  
                  AK Gas    nC6 - nC10  
                  NW Gas    Toluene - Naphthalene  
                  Cal Gas    nC6 - nC12  
                  8015 Gas   2-Methylpentane - 1,2,4-Trimethylbenzene

Calibration Files      Analysis Time

---

0416a013.d	16-APR-2011 14:50
0416a014.d	16-APR-2011 15:19
0416a015.d	16-APR-2011 15:48
0416a016.d	16-APR-2011 16:17
0416a017.d	16-APR-2011 16:47
0416a018.d	16-APR-2011 17:16

144  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a002.d      ARI ID: RT+BCAL 1  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a002.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 09:29  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
7.903	0.000	2860	38897	101.1	TFT(Surr)
15.449	-0.001	2053	17468	98.4	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	522809	1.395
8015B 2MP-TMB ( 4.17 to 16.23)	747017	592583	0.793
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	416924	0.690
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	595802	1.477

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
7.901	0.000	6694	102.8	TFT(Surr)
15.449	-0.001	13426	99.6	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
7.060	-0.002	10845	24.74	Benzene
9.946	-0.004	10051	25.70	Toluene
12.851	-0.007	9018	26.40	Ethylbenzene
13.012	-0.013	19467	53.01	M/P-Xylene
13.970	-0.007	7735	27.01	O-Xylene
4.530	0.000	4689	27.62	MTBE

A Indicates Peak Area was used for quantitation instead of Height

N Indicates peak peak was manually integrated

Data File: /chem3/pid1.i/vpcc0416-1.b/0416a002.d  
Date: 16-APR-2011 09:29

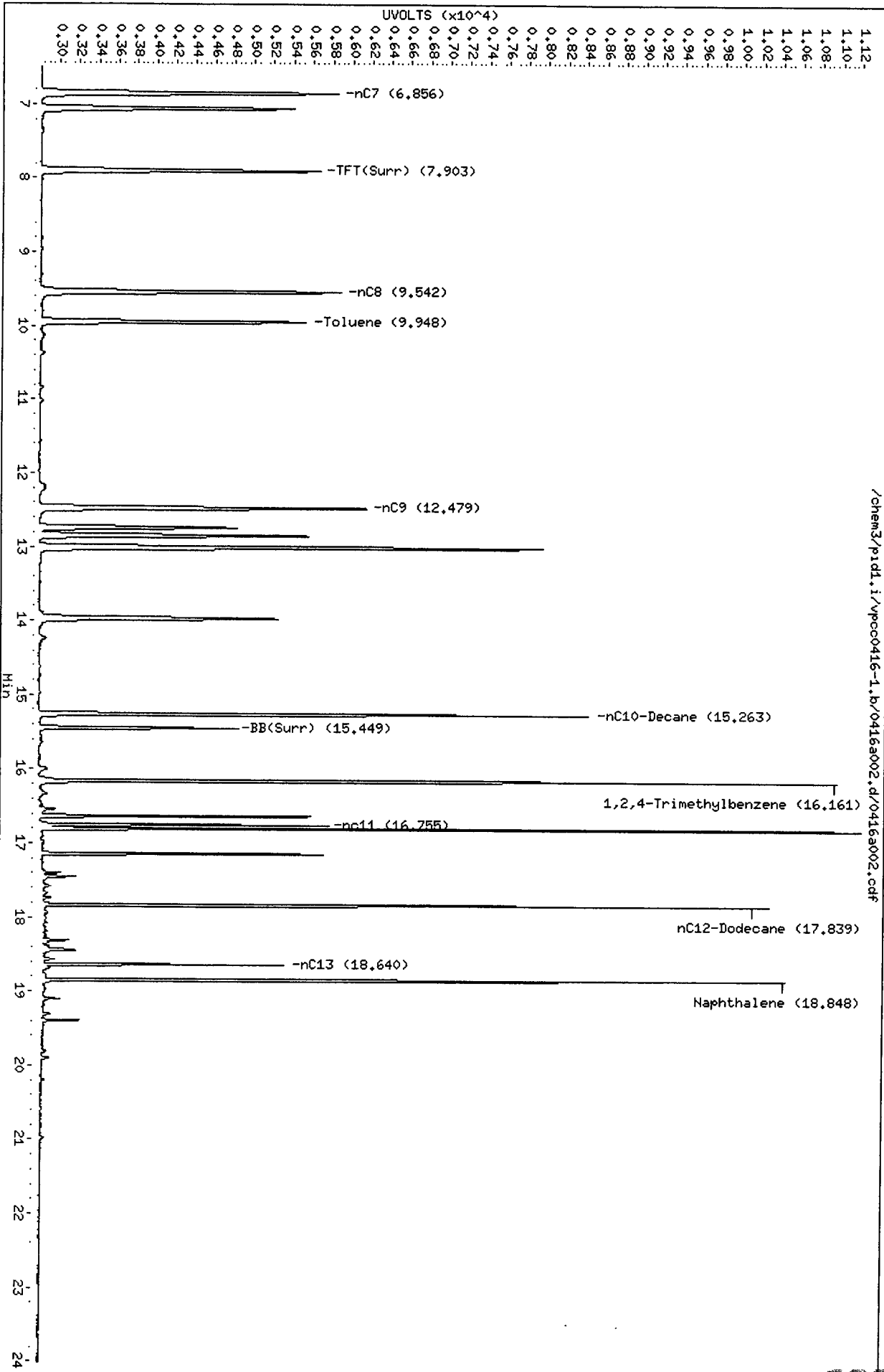
Client ID:  
Sample Info: RT+BCAL 1

Column phase: RTX 502-2 FID

Instrument: pid1.i

Operator: MH  
Column diameter: 0.18

/chem3/pid1.i/vpcc0416-1.b/0416a002.d/0416a002.cdf

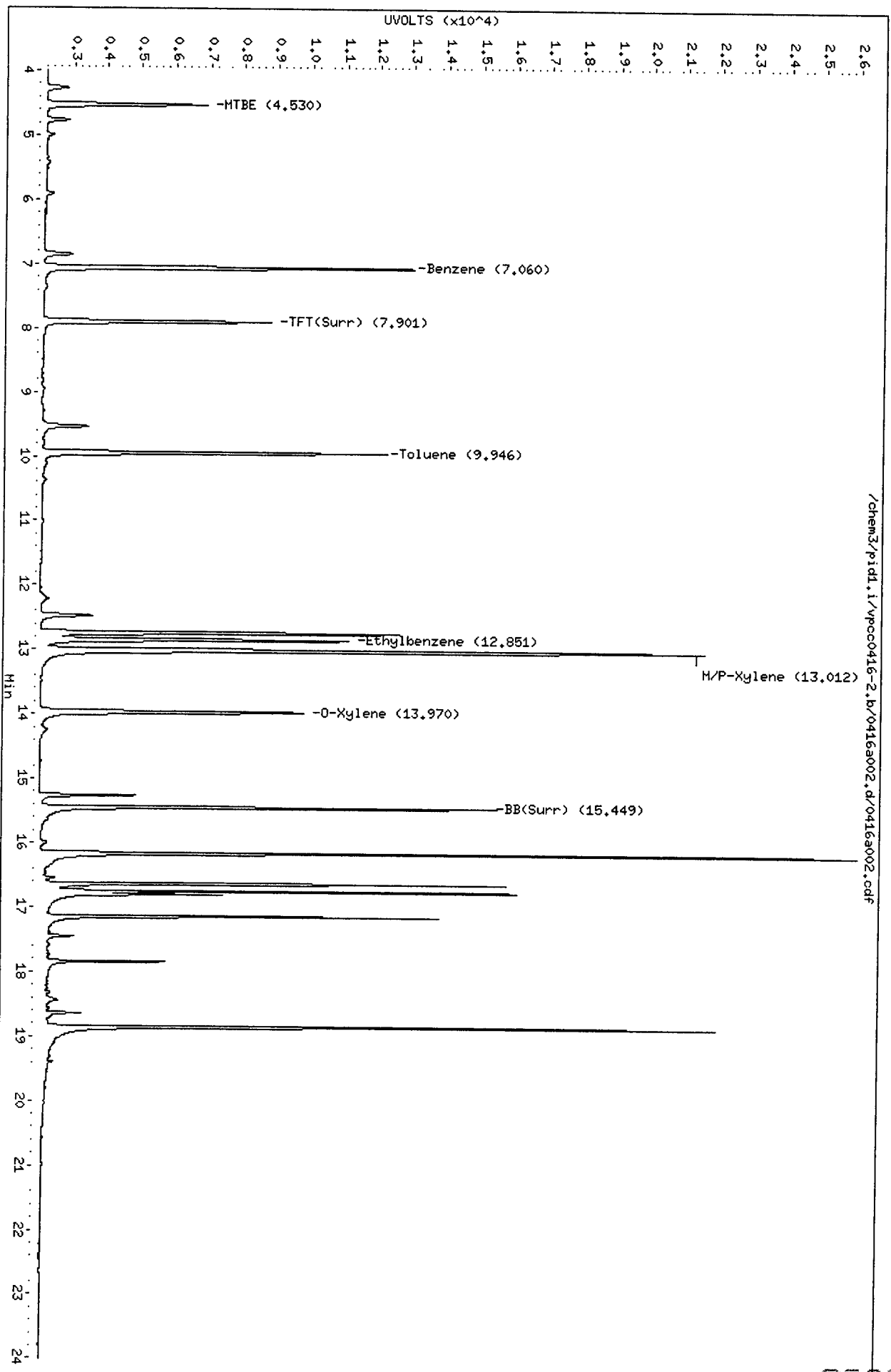




Data File: /chem3/pid1.i/vpcc0416-2.b/0416a002.d  
Date : 16-APR-2011 09:29  
Client ID:  
Sample Info: RT+BCAL 1

Column phase: RTX 502-2 PID

Instrument: pid1.i  
Operator: MH  
Column diameter: 0.18



/chem3/pid1.i/vpcc0416-2.b/0416a002.d/0416a002.cdf

MH  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a013.d      ARI ID: GAS .1  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a013.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 14:50  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	----	----	-----
7.903	0.000	2771	38384	97.9	TFT(Surr)
15.450	0.000	2043	17440	98.0	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	47325	0.126 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	88180	0.118 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	72761	0.120 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	52064	0.129 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	----	-----
7.901	0.000	6335	97.3	TFT(Surr)
15.450	-0.001	13443	99.7	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
--	----	-----	----	-----
7.047	-0.015	193	0.44	Benzene
9.947	-0.003	1481	3.79	Toluene
12.851	-0.008	380	1.11	Ethylbenzene
13.013	-0.012	1466	3.99	M/P-Xylene
13.970	-0.008	516	1.80	O-Xylene
ND	---	---	---	MTBE

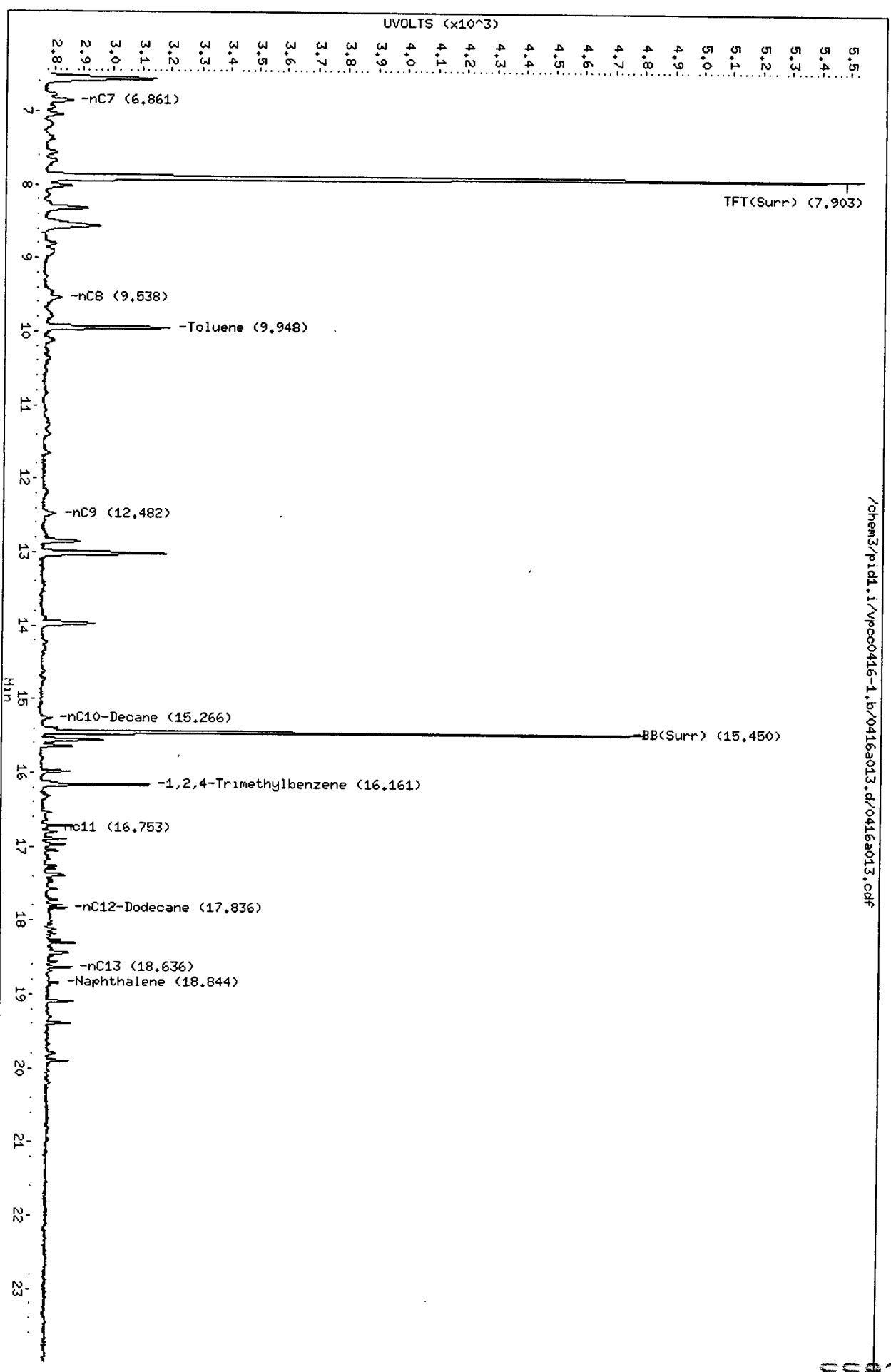
A Indicates Peak Area was used for quantitation instead of Height  
N Indicates peak peak was manually integrated

Data File: /chem3/pid1.1/vpcc0416-1.b/0416a013.d  
Date : 16-APR-2011 14:50  
Client ID:  
Sample Info: GAS .1

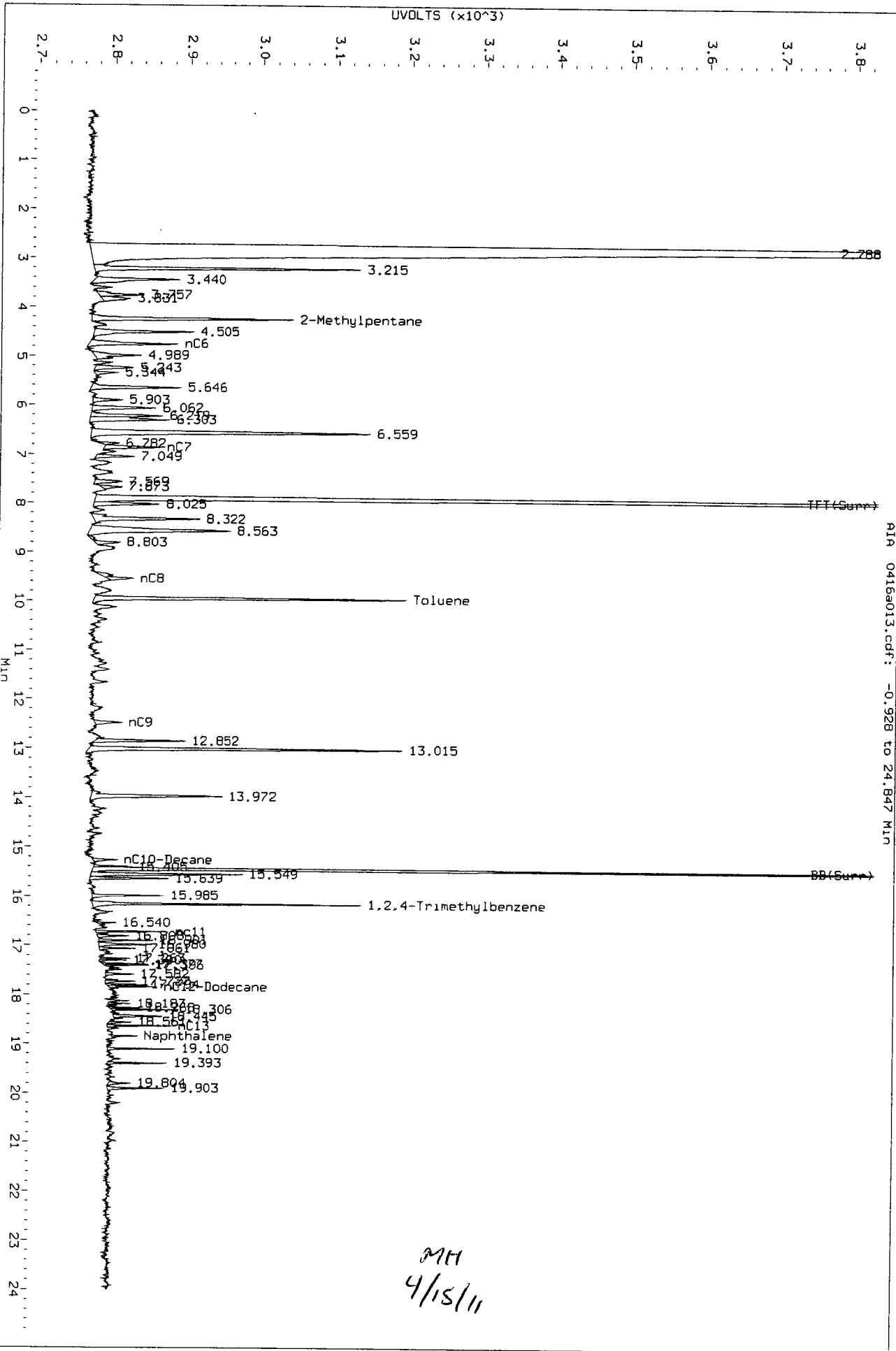
Column phase: RTX 502-2 FID

Instrument: pid1.1  
Operator: HH  
Column diameter: 0.18

/chem3/pid1.1/vpcc0416-1.b/0416a013.d/0416a013.cdf

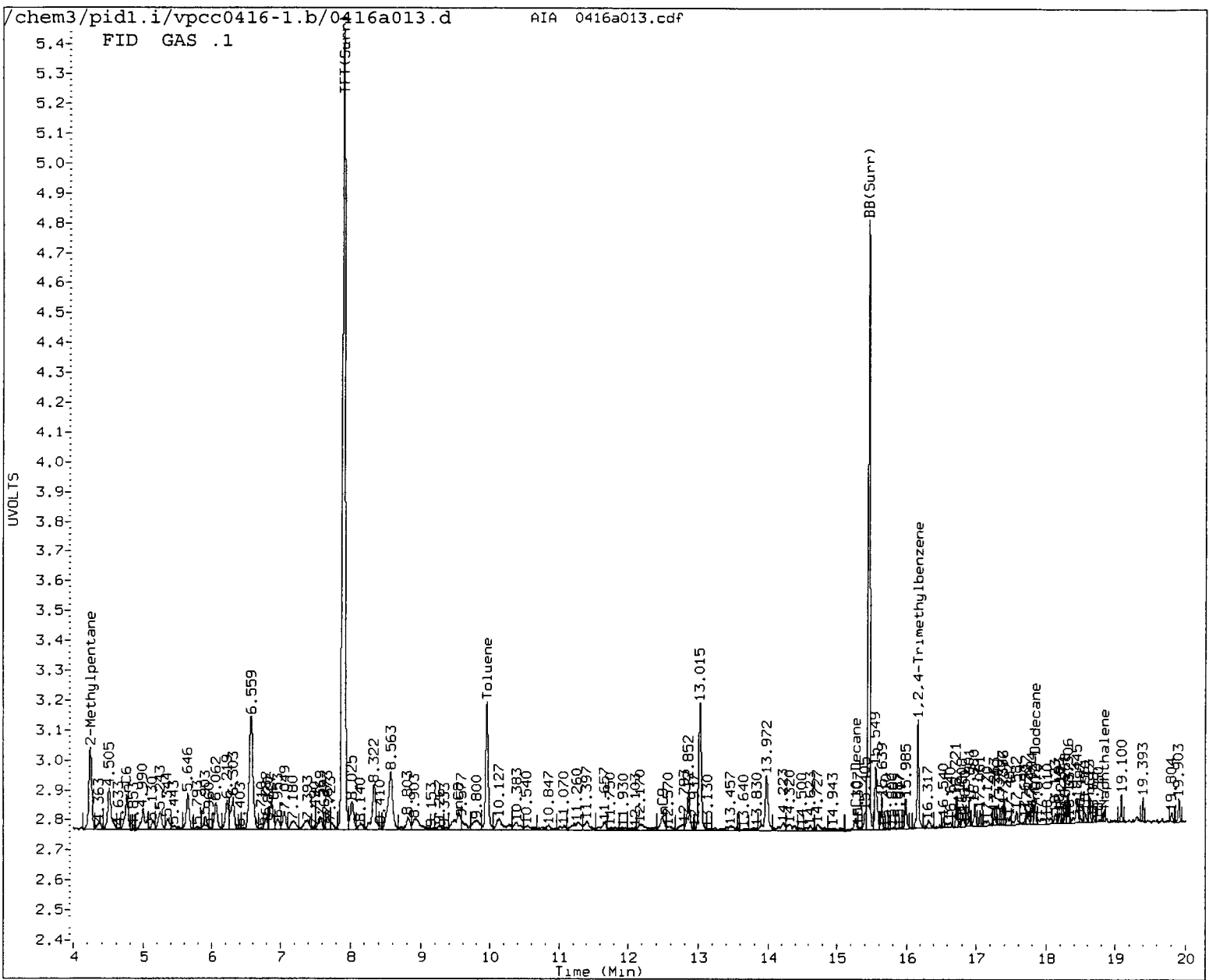


Data File: /chem3/pud1.1/vpcc0416-1.b/0416a013.d/0416a013.cdf  
Injection Date: 16-Apr-2011 14:50  
Instrument: pud1.1  
Client Sample ID:



R1A 0416a013.cdf: -0.928 to 24.847 MIN

MH  
4/15/11



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MH Date: 4/18/11

MH  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a014.d      ARI ID: GAS .25  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a014.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 15:19  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
7.903	0.000	2677	38042	94.6	TFT(Surr)
15.450	0.000	2012	17210	96.5	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	95246	0.254 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	192190	0.257 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	155402	0.257 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	105233	0.261 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
7.901	0.000	6153	94.5	TFT(Surr)
15.450	-0.001	13197	97.9	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
7.048	-0.014	421	0.96	Benzene
9.946	-0.004	3686	9.43	Toluene
12.851	-0.008	923	2.70	Ethylbenzene
13.014	-0.012	3623	9.87	M/P-Xylene
13.970	-0.008	1313	4.59	O-Xylene
ND	---	---	---	MTBE

A Indicates Peak Area was used for quantitation instead of Height  
N Indicates peak peak was manually integrated

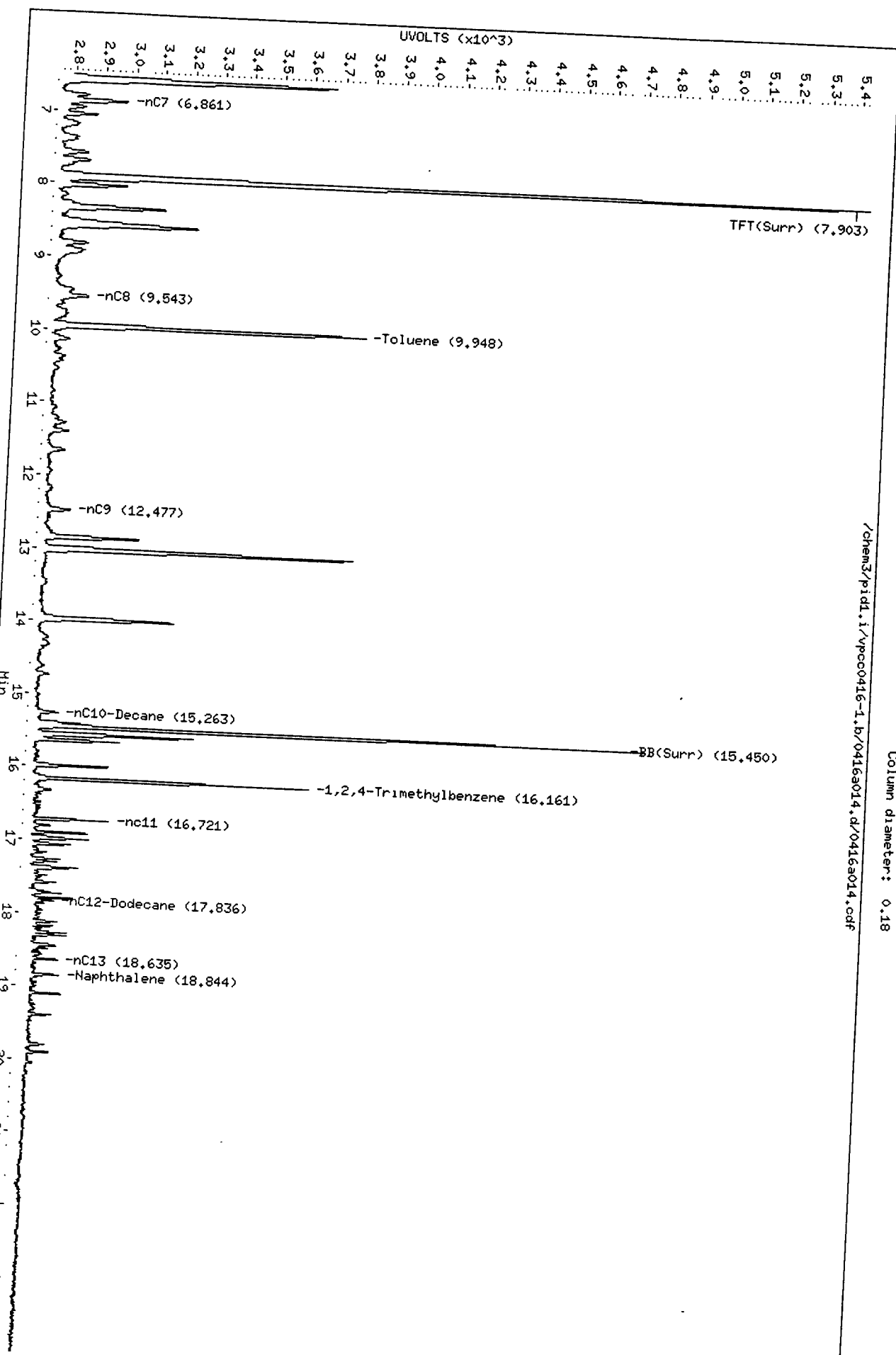
Data File: /chem3/pid1.i/vpcc0416-1.b/0416a014.d  
Date: 16-APR-2011 15:19  
Client ID:  
Sample Info: GAS .25

Column phase: RTX 502-2 FID

Instrument: pid1.i

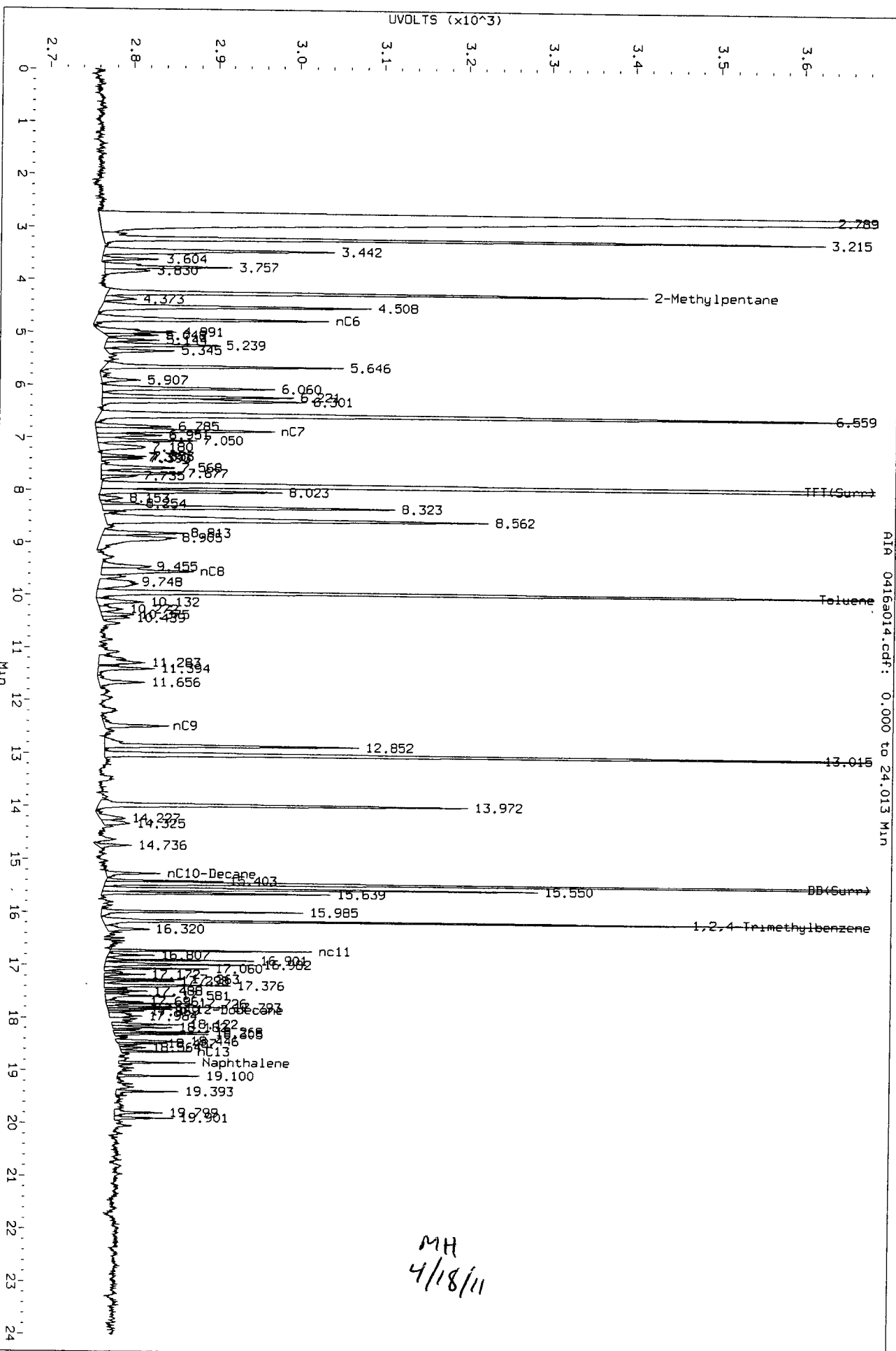
Operator: MH  
Column diameter: 0.18

/chem3/pid1.i/vpcc0416-1.b/0416a014.d/0416a014.cdf



Data File: /chem3/pid1.1/vpcc0416-1.b/0416a014.d/0416a014.cdf  
Injection Date: 16-APR-2011 15:19  
Instrument: pid1.1  
Client Sample ID:

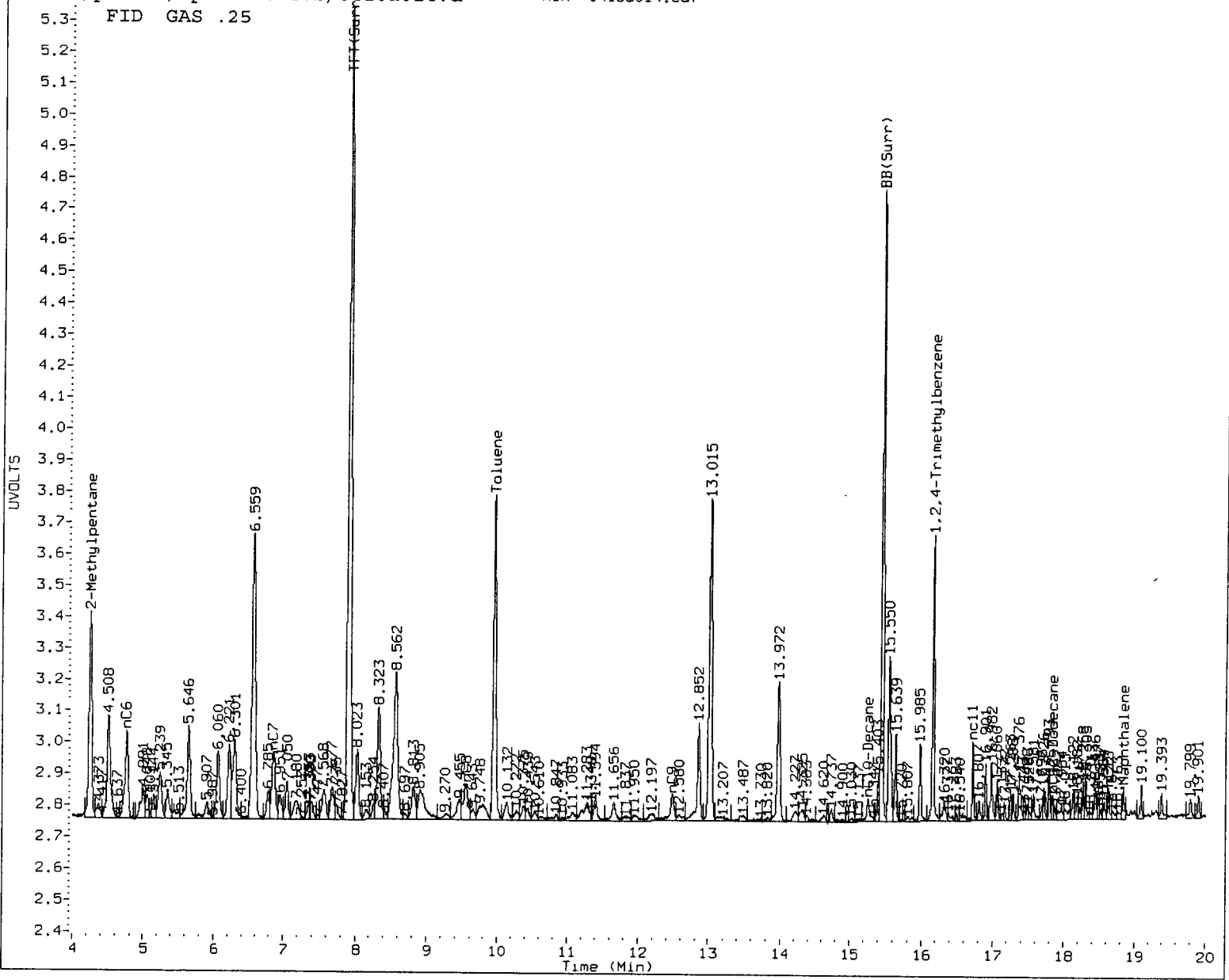
AIA 0416a014.cdf: 0.000 to 24.013 MIN



MH  
4/18/11



FID GAS .25



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MH

Date: 4/18/11

MH  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a015.d      ARI ID: GAS 1  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a015.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 15:48  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

=====  
FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	-----	----	-----
7.903	0.000	2766	42400	97.8	TFT(Surr)
15.449	-0.001	2003	17577	96.0	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
-----	----	-----	-----
WAGas Tol-C12 ( 9.85 to 17.94)	374773	347138	0.926 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	703324	0.942 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	562218	0.931 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	370573	0.919 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

=====  
PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	----	-----
7.902	0.000	6233	95.7	TFT(Surr)
15.449	-0.001	13119	97.3	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
--	----	-----	-----	-----
7.055	-0.007	1513	3.45	Benzene
9.947	-0.003	14957	38.25	Toluene
12.850	-0.008	3706	10.85	Ethylbenzene
13.014	-0.011	14647	39.89	M/P-Xylene
13.970	-0.008	5266	18.39	O-Xylene
4.520	-0.010	293	1.73	MTBE

A Indicates Peak Area was used for quantitation instead of Height  
N Indicates peak peak was manually integrated

Data File: /chem3/pid1.i/vpcc0416-1.b/0416a015.d

Date: 16-APR-2011 15:48

Client ID:

Sample Info: GAS 1

Column phase: RTX 502-2 FID

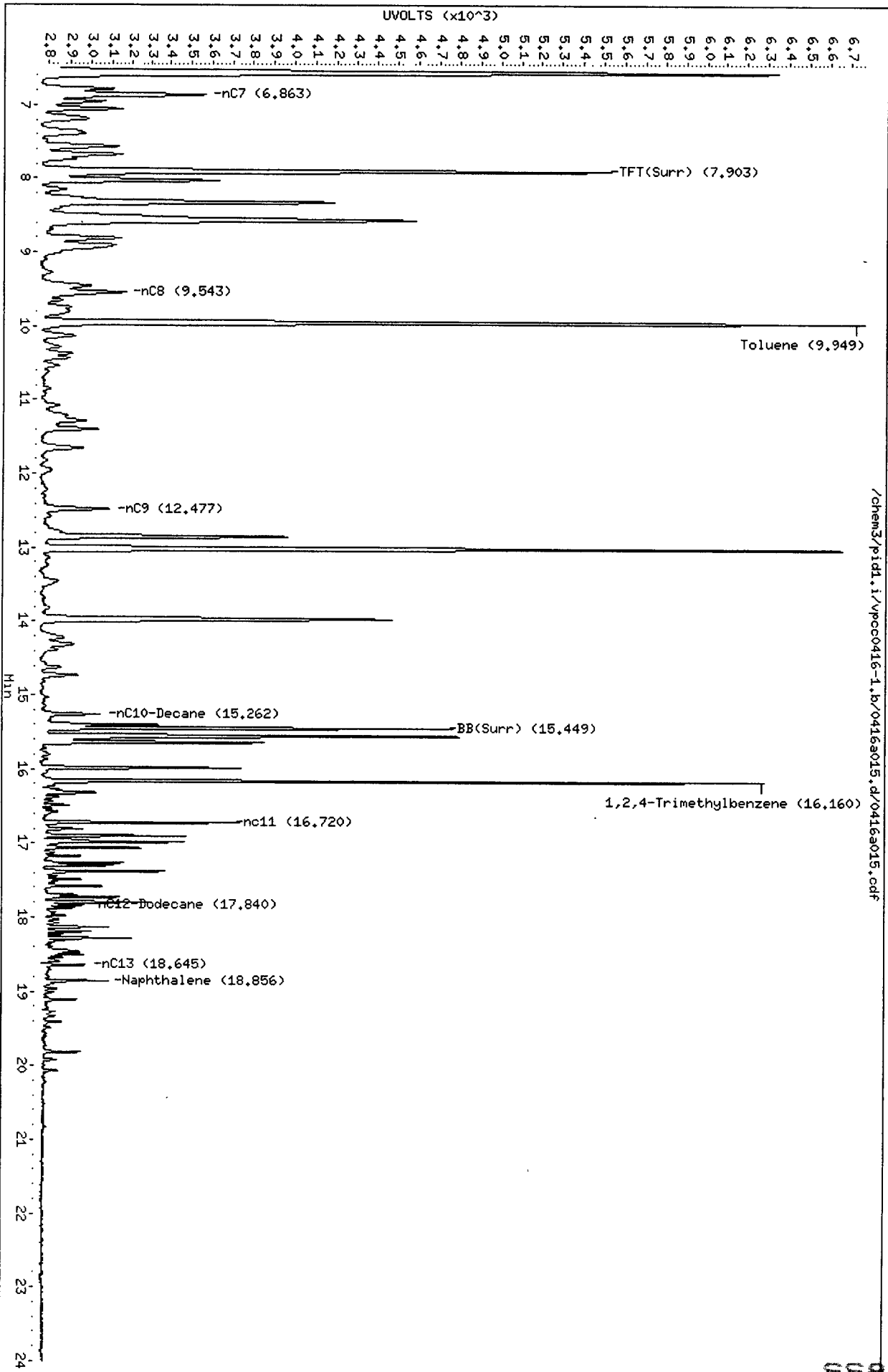
Instrument: pid1.i

Operator: HH

Column diameter: 0.18

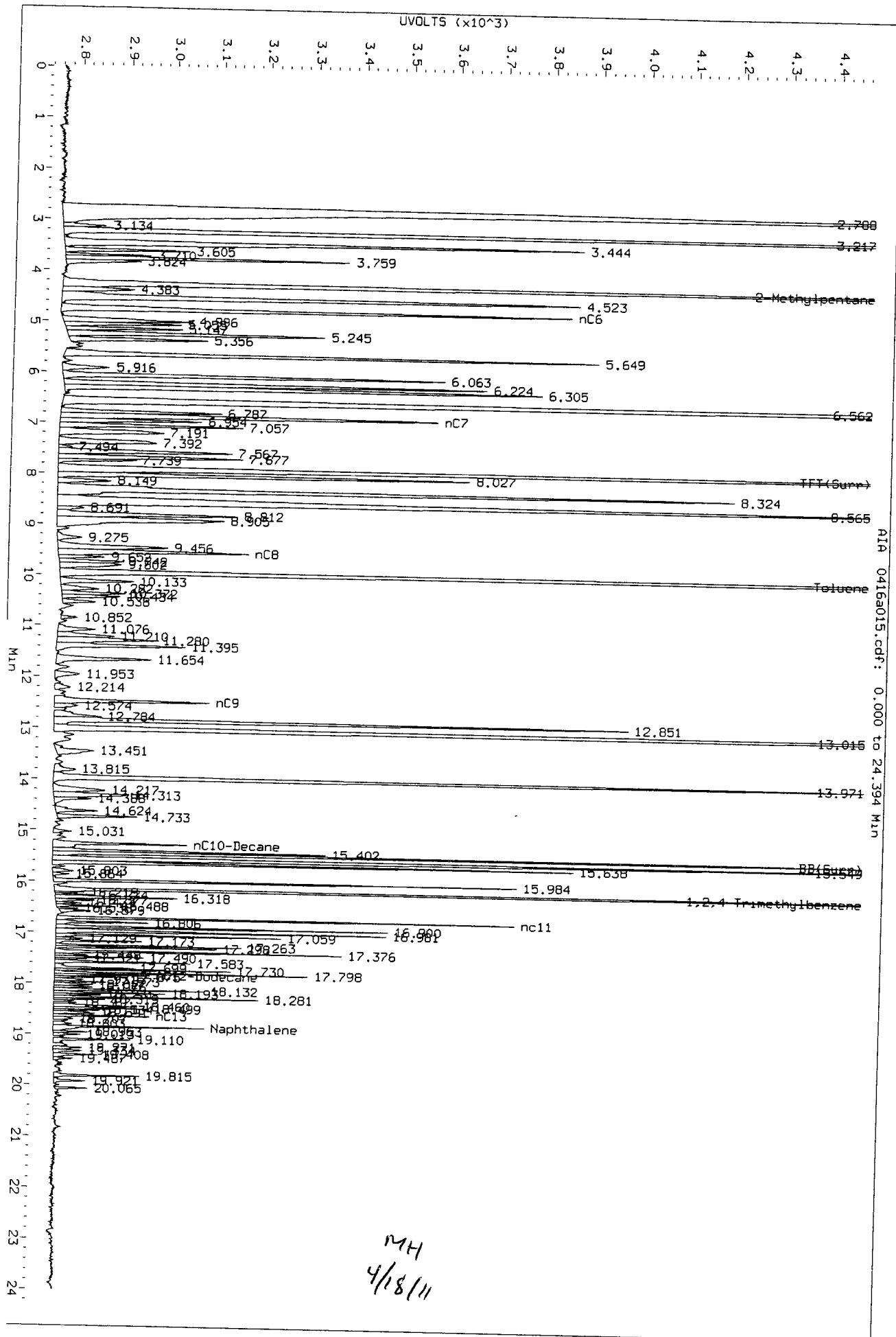
Page 1

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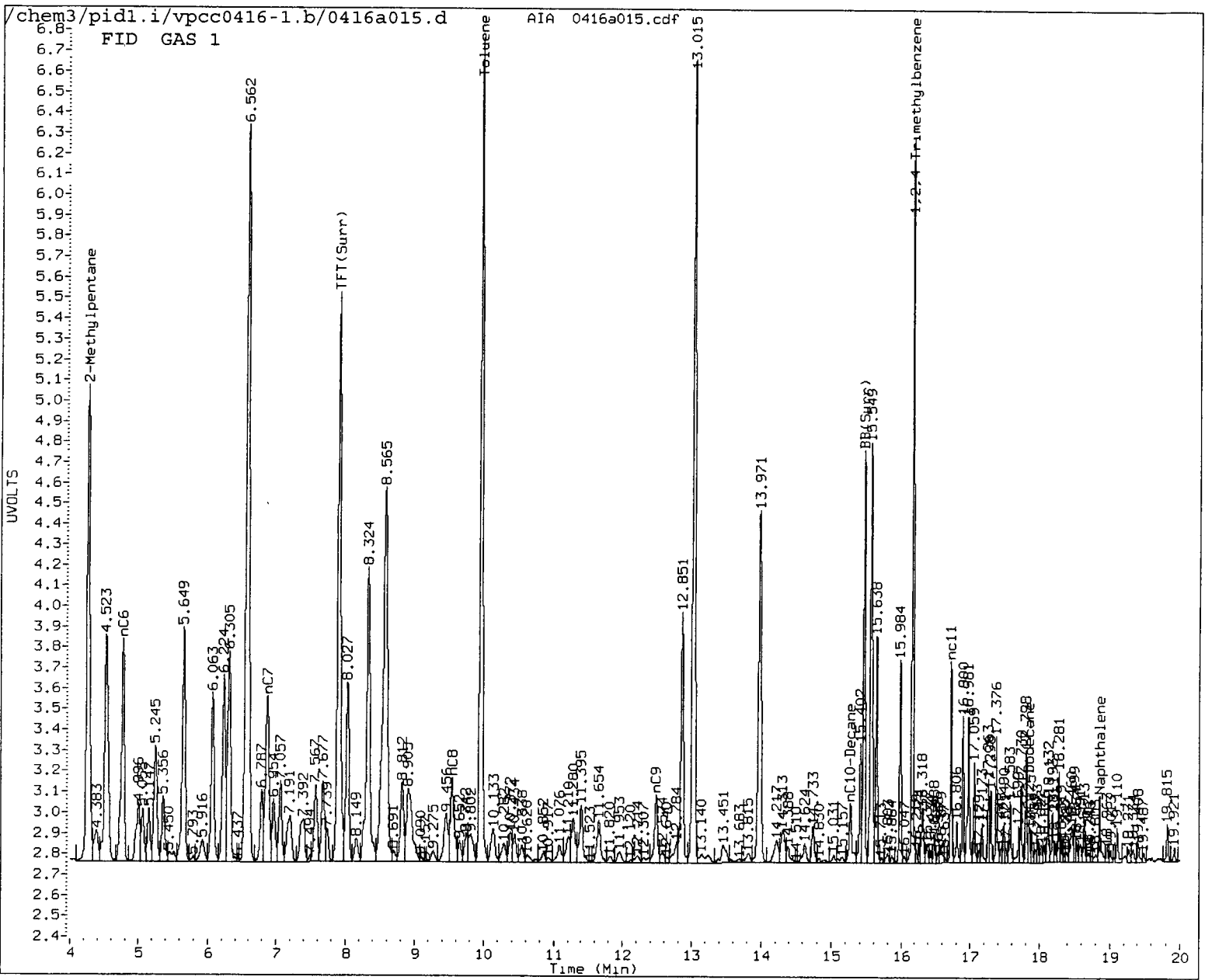


1458

Data File: /chem3/pid1.1/vpcc0416-1.b/0416a015.d/0416a015.cdf  
Injection Date: 16-APR-2011 15:48  
Instrument: pid1.1  
Client Sample ID:



MH  
4/18/11



MANUAL INTEGRATION

- Baseline correction
- Poor chromatography
- Peak not found
- Totals calculation

5. Other \_\_\_\_\_

Analyst: MH

Date: 4/18/11

M.L.  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a016.d  
 Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a016.d  
 Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m  
 Instrument: pid1.i  
 Gas Ical Date: 16-APRIL-2011  
 BETX Ical Date: 16-APR-2011

ARI ID: GAS 2.5  
 Client ID:  
 Injection Date: 16-APR-2011 16:17  
 Matrix: WATER  
 Dilution Factor: 1.000

=====

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	----	----	-----
7.901	-0.002	3070	53283	108.5	TFT(Surr)
15.449	-0.001	2096	19504	100.5	BB(Surr)

-----

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
-----	----	-----	-----
WAGas Tol-C12 ( 9.85 to 17.94)	374773	857874	2.289 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	1723866	2.308 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	1375148	2.276 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	908701	2.252 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
 Range marker RT's are set by daily RT standard

=====

PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	----	-----
7.901	-0.001	6775	104.0	TFT(Surr)
15.450	-0.001	13761	102.1	BB(Surr)

-----

SW8021 (PID)

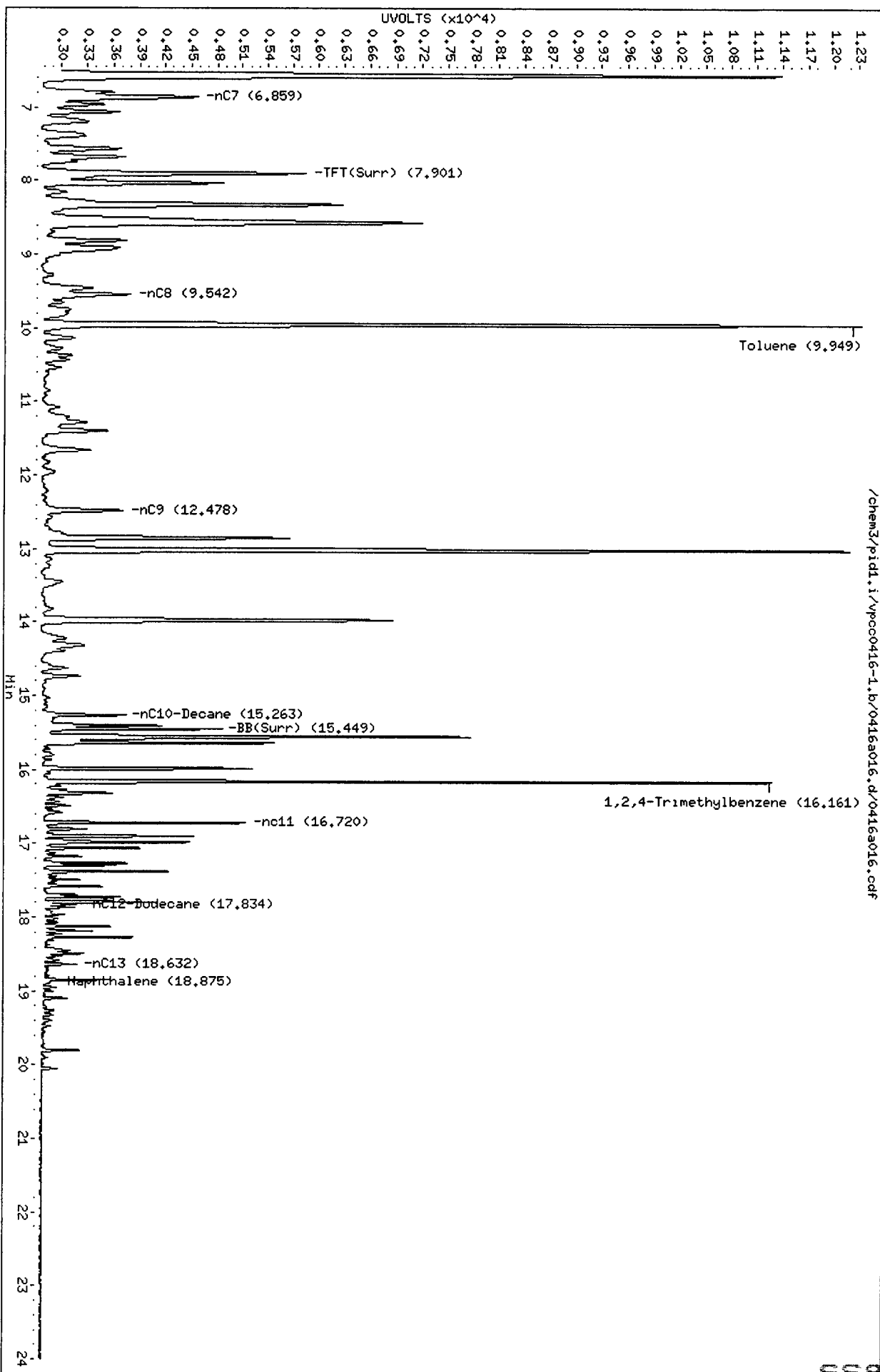
RT	Shift	Response	Amount	Compound
--	----	-----	-----	-----
7.059	-0.002	3597	8.21	Benzene
9.948	-0.002	37082	94.84	Toluene
12.851	-0.007	9206	26.95	Ethylbenzene
13.016	-0.009	36727	100.01	M/P-Xylene
13.971	-0.007	13172	46.00	O-Xylene
4.529	-0.002	724	4.26	MTBE

Indicates Peak Area was used for quantitation instead of Height  
 Indicates peak peak was manually integrated

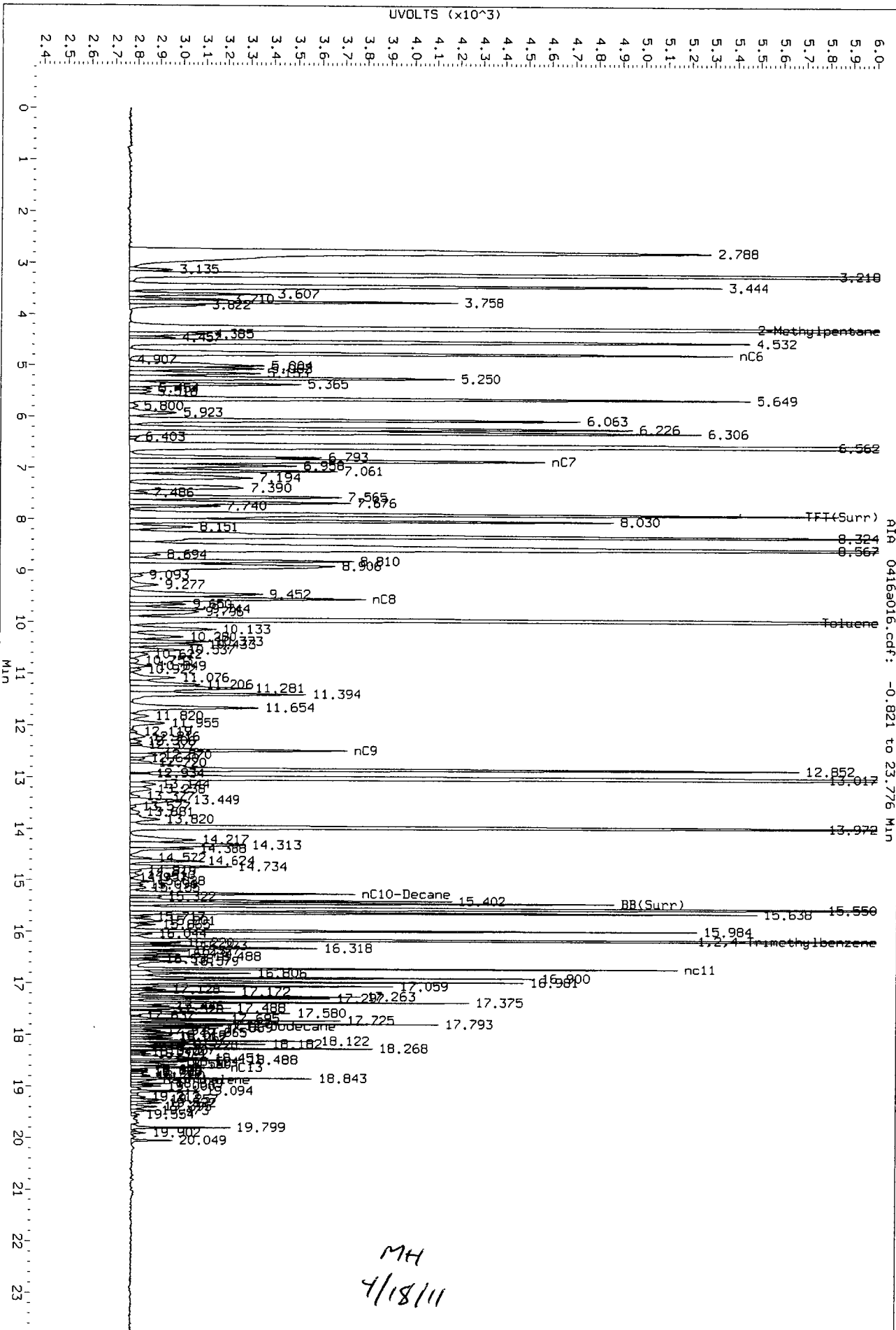
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Date: 16-APR-2011 16:17  
Client ID:  
Sample Info: GAS 2.5

Column phase: RTX 502-2 FID

Instrument: pid1.i  
Operator: HH  
Column diameter: 0.18



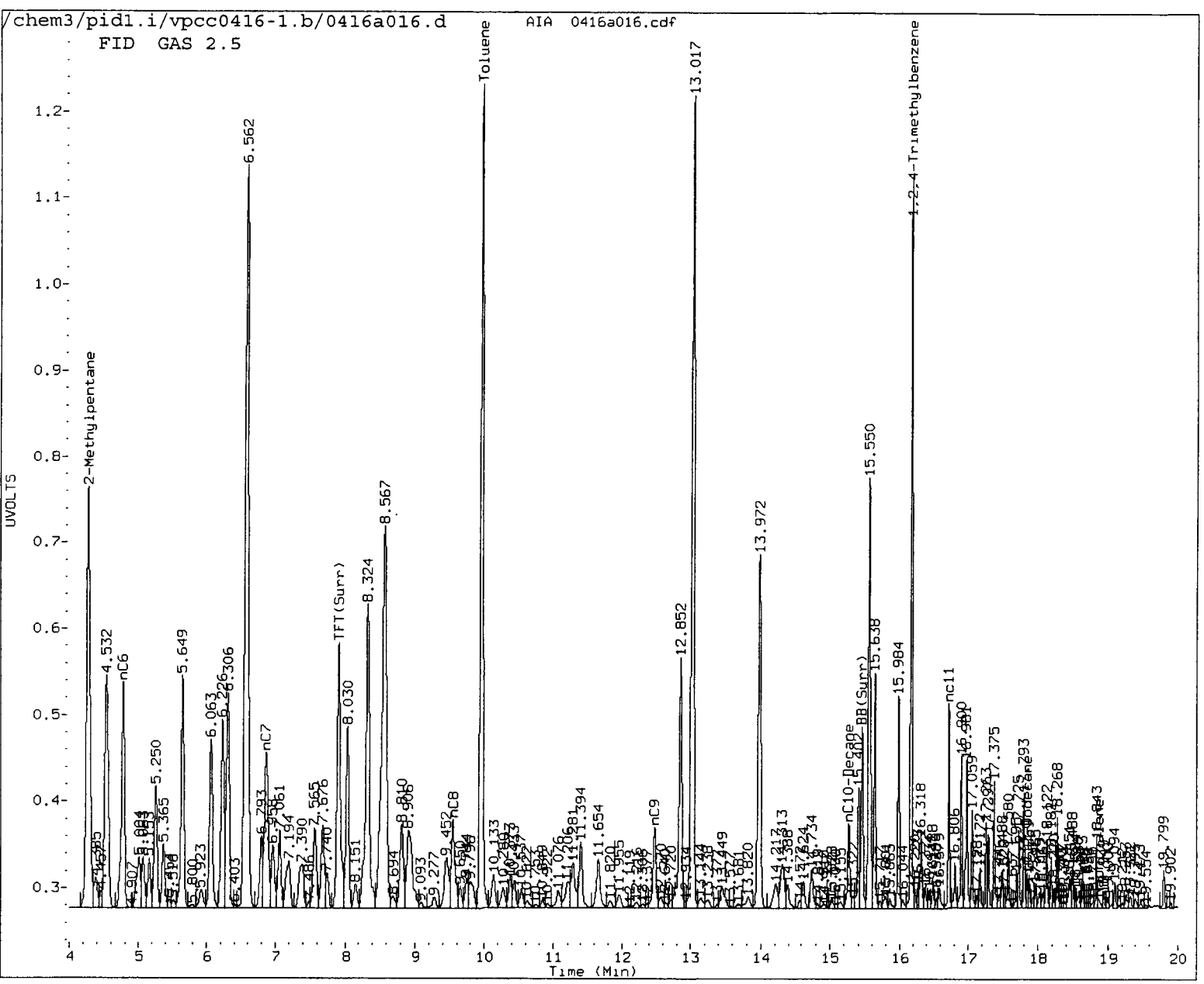
Data File: /chem3/pid1.1/vpcc0416-1.b/0416a016.d/0416a016.cdf  
Injection Date: 16-APR-2011 16:17  
Instrument: pid1.1  
Client Sample ID:



AIA 0416a016.cdf: -0.821 to 23.776 Min

MH  
4/18/11





MANUAL INTEGRATION

- Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst:   MH  

Date:   4/18/11

24  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a017.d      ARI ID: GAS 5  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a017.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 16:47  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	-----	-----	-----
7.900	-0.003	3412	56035	120.6	TFT(Surr)
15.450	0.000	2226	20622	106.7	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	1721114	4.592
8015B 2MP-TMB ( 4.17 to 16.23)	747017	3429189	4.591 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	2742657	4.540 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	1819633	4.510

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	-----	-----
7.900	-0.002	7158	109.9	TFT(Surr)
15.450	-0.001	14426	107.0	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
--	----	-----	-----	-----
7.061	-0.001	7211	16.45	Benzene
9.950	0.000	74619	190.83	Toluene
12.852	-0.006	18578	54.39	Ethylbenzene
13.020	-0.006	74830	203.77	M/P-Xylene
13.973	-0.004	26653	93.07	O-Xylene
4.530	0.000	1424	8.39	MTBE

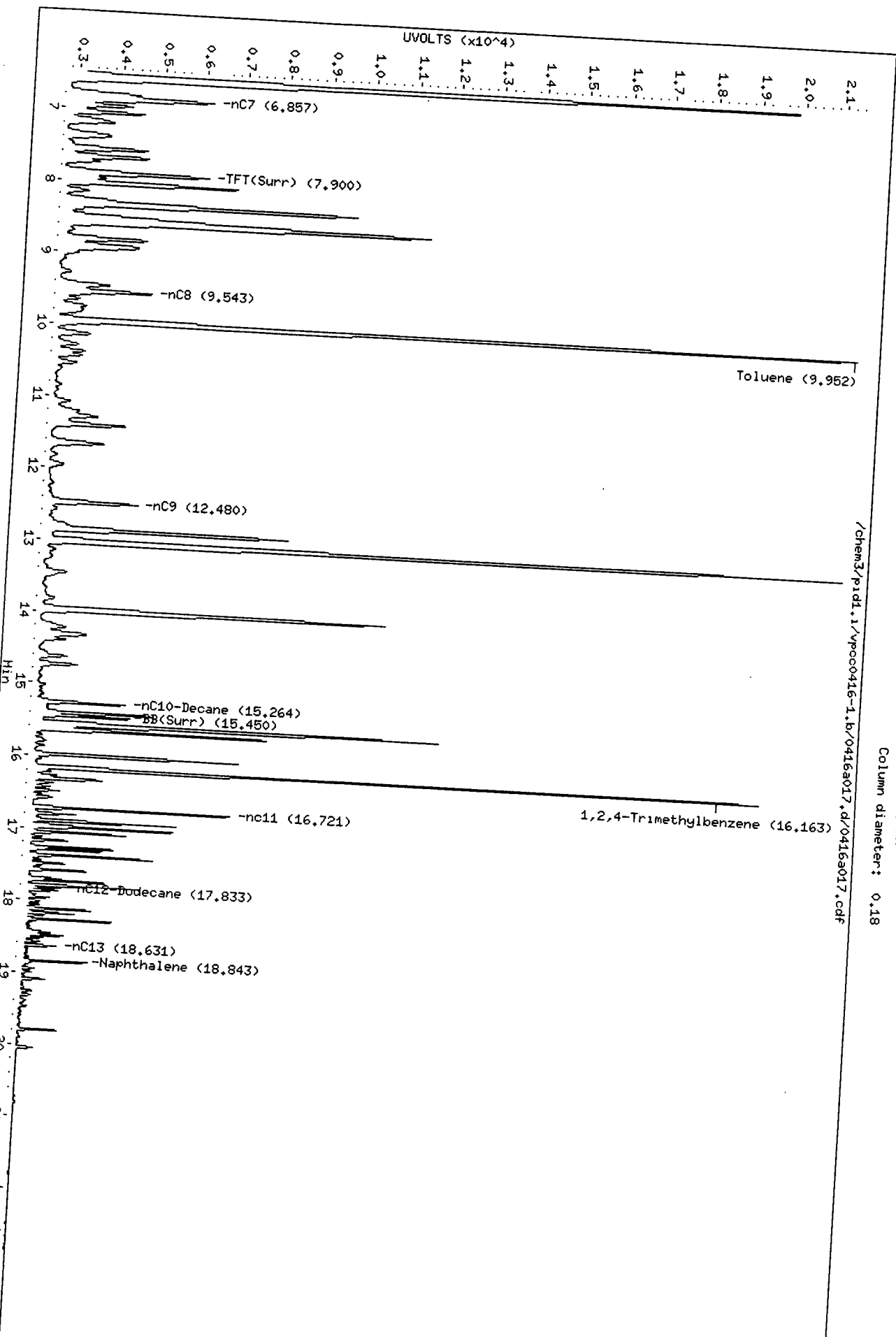
A Indicates Peak Area was used for quantitation instead of Height

N Indicates peak peak was manually integrated

Data File: /chem3/pidl.i/vpcc0416-1.b/0416a017.d  
Date: 16-APR-2014 16:47  
Client ID:  
Sample Info: GAS 5

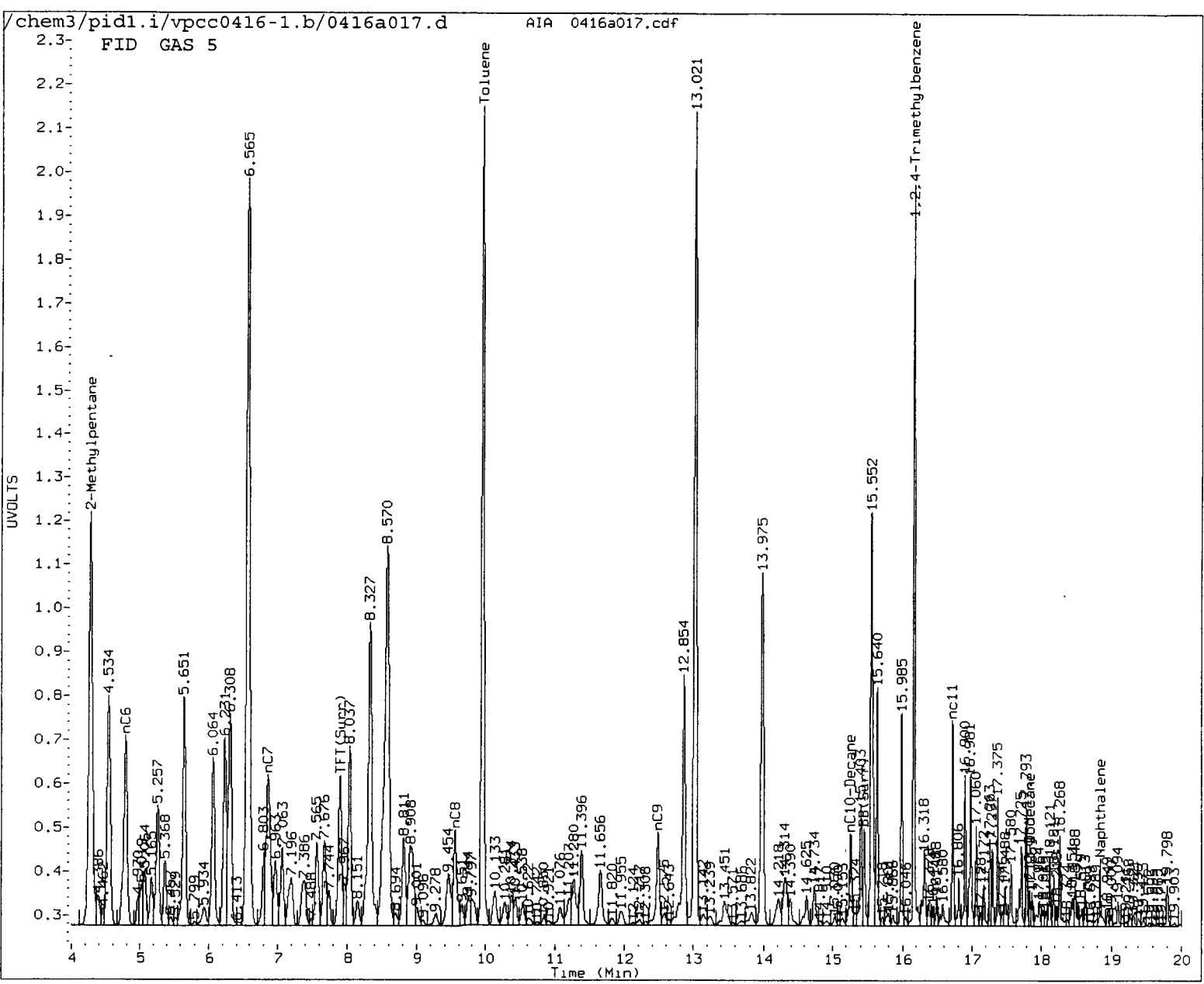
Column phase: RTX 502-2 FID

Instrument: pidl.i  
Operator: HH  
Column diameter: 0.18



/chem3/pidl.i/vpcc0416-1.b/0416a017.d/0416a017.cdf





MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MH Date: 4/18/11

M4  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a018.d  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a018.d  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m  
Instrument: pid1.i  
Gas Ical Date: 16-APRIL-2011  
BETX Ical Date: 16-APR-2011

ARI ID: GAS 20  
Client ID:  
Injection Date: 16-APR-2011 17:16  
Matrix: WATER  
Dilution Factor: 1.000

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	-----	-----	-----
ND	---	---	---	TFT (Surr)	---
15.450	0.000	1985	15553	95.2	BB (Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	7197871	19.206 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	15056764	20.156 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	12286971	20.341 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	7578599	18.786 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	-----	-----
7.896	-0.006	11999	184.2	TFT (Surr)
15.450	0.000	17429	129.3	BB (Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
--	----	-----	-----	-----
7.067	0.005	28653	65.36	Benzene
9.964	0.014	283233	724.35	Toluene
12.862	0.004	74550	218.26	Ethylbenzene
13.043	0.018	274298	746.95	M/P-Xylene
13.987	0.009	106639	372.39	O-Xylene
4.537	0.006	5593	32.95	MTBE

Indicates Peak Area was used for quantitation instead of Height  
Indicates peak peak was manually integrated

Data File: /chem3/pid1.1/vpcc0416-1.b/0416a018.d  
Date: 16-APR-2011 17:16  
Client ID:  
Sample Info: GAS 20

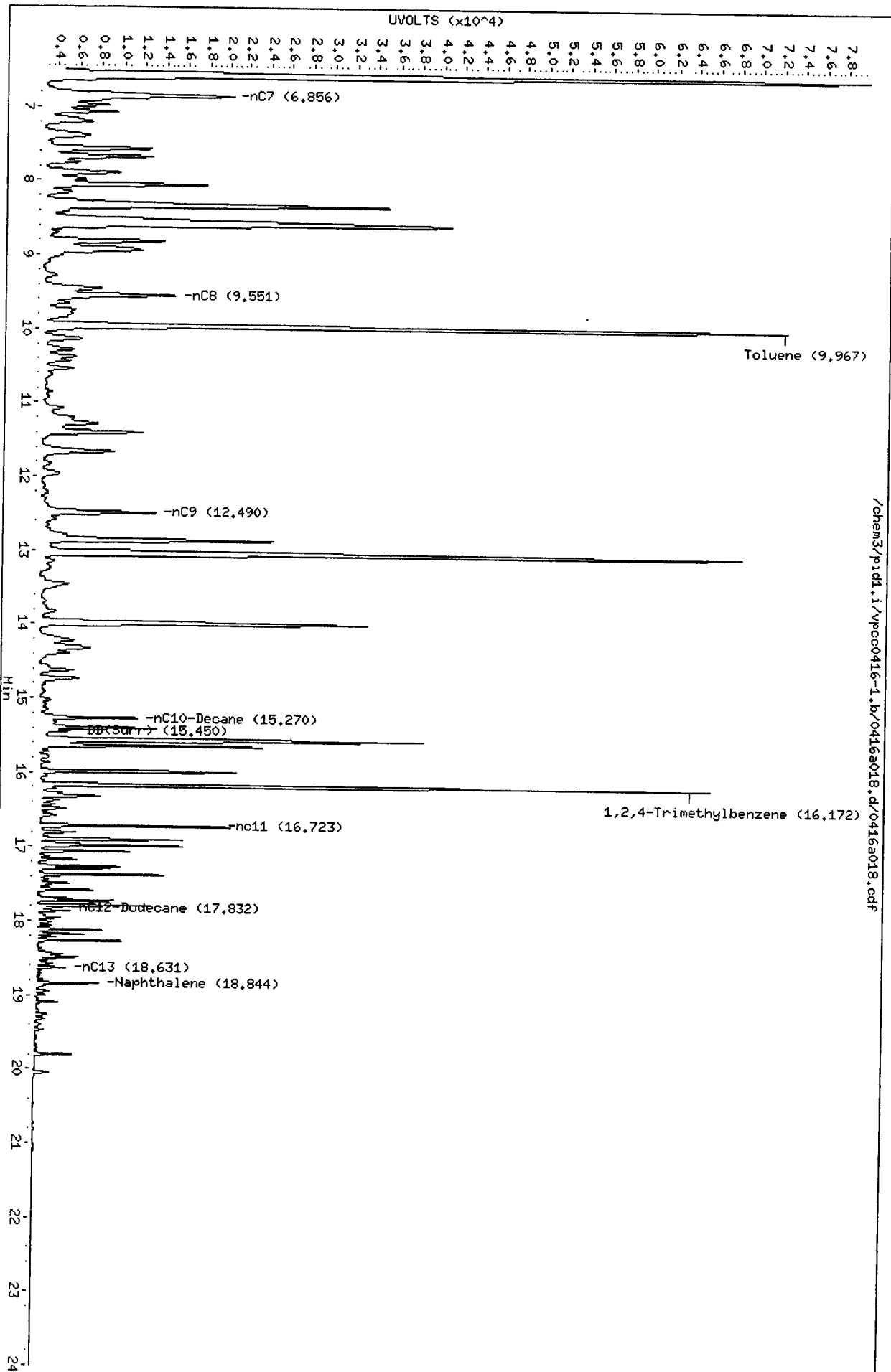
Instrument: pid1.1

Page 1

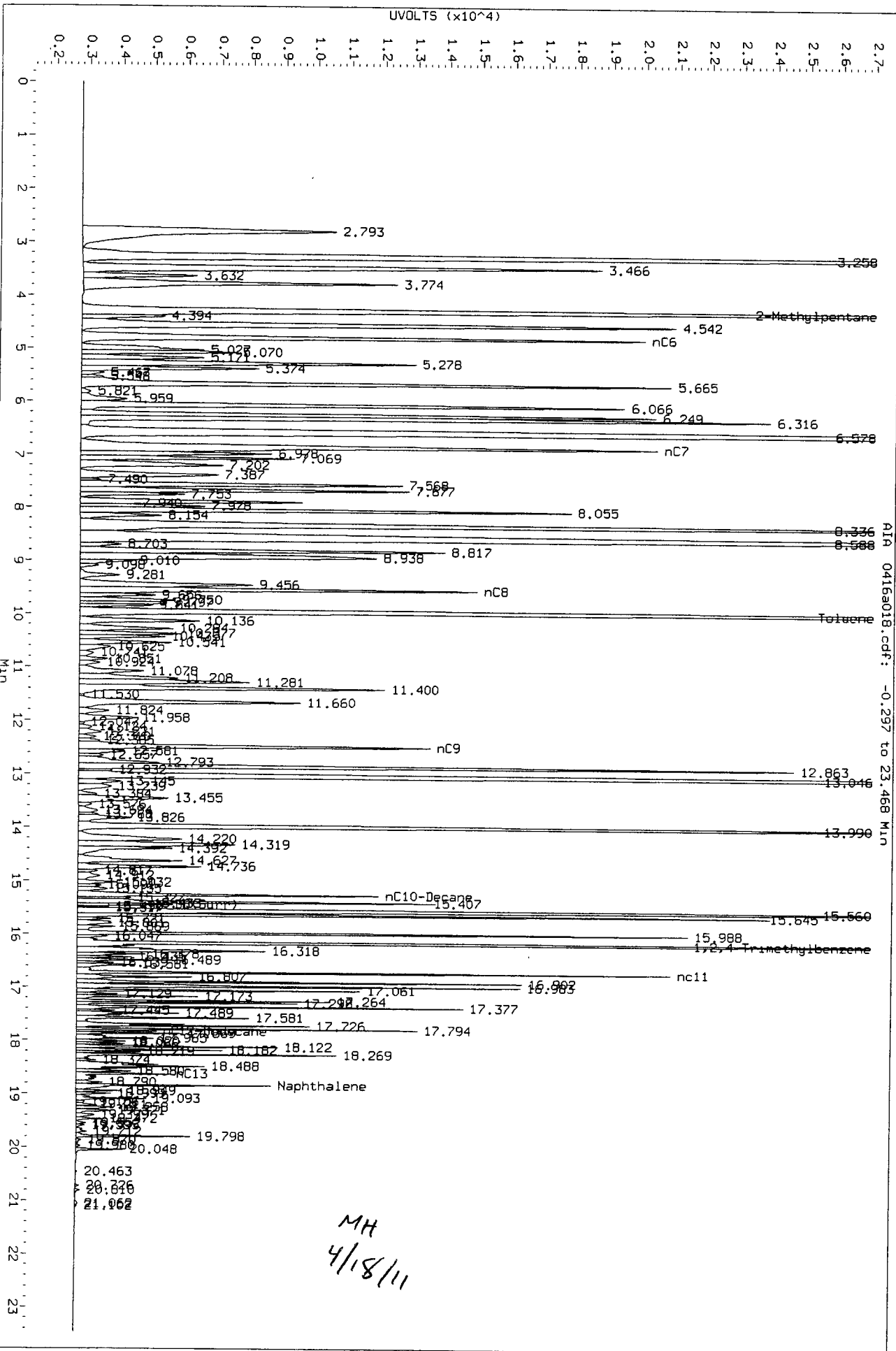
Column phase: RTX 502-2 FID

Operator: HH  
Column diameter: 0.18

/chem3/pid1.1/vpcc0416-1.b/0416a018.d/0416a018.cdf



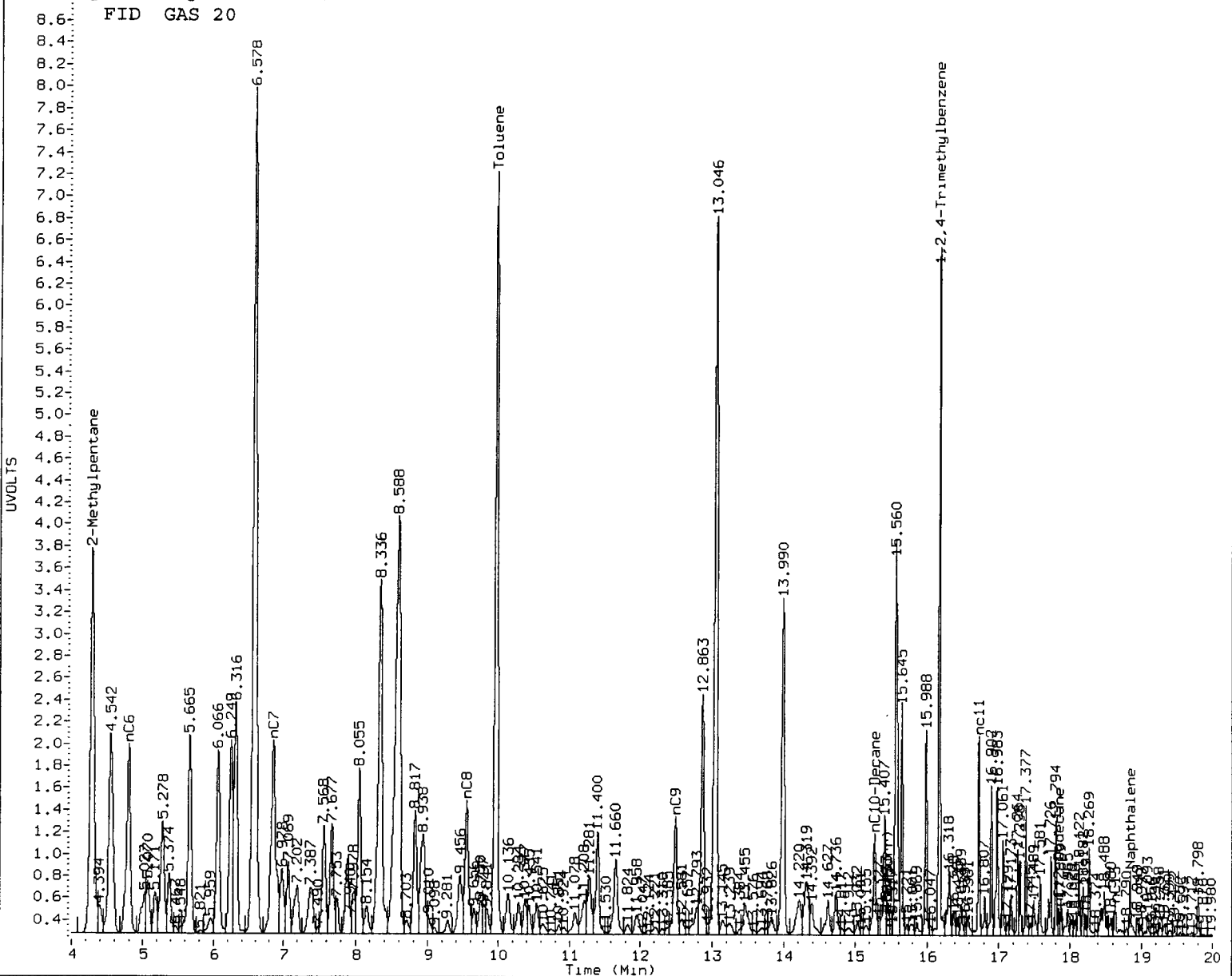
Data File: /chem3/prd1.1/vpcc0416-1.b/0416a018.d/0416a018.cdf  
Injection Date: 16-APR-2011 17:16  
Instrument: prd1.1  
Client Sample ID:



AIR 0416a018.cdf: -0.297 to 23.468 MIN

MH  
4/18/11





MANUAL INTEGRATION

- Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MH

Date: 4/18/11

MH  
4/18/11

Analytical Resources Inc.  
BETX/Gas Quantitation Report

Data file 1: /chem3/pid1.i/vpcc0416-1.b/0416a020.d      ARI ID: GAS ICV  
Data file 2: /chem3/pid1.i/vpcc0416-2.b/0416a020.d      Client ID:  
Method: /chem3/pid1.i/vpcc0416-2.b/PIDB.m              Injection Date: 16-APR-2011 18:14  
Instrument: pid1.i    Matrix: WATER  
Gas Ical Date: 16-APRIL-2011                                  Dilution Factor: 1.000  
BETX Ical Date: 16-APR-2011

FID Surrogates

RT	Shift	Height	Area	%Rec	Compound
--	----	-----	----	----	-----
7.904	-0.001	2756	42761	97.4	TFT(Surr)
15.450	0.000	2078	18061	99.6	BB(Surr)

PETROLEUM HYDROCARBONS (FID)

Range	RF	Total Area*	Amount
WAGas Tol-C12 ( 9.85 to 17.94)	374773	1020774	2.724 M
8015B 2MP-TMB ( 4.17 to 16.23)	747017	1545334	2.069 M
AK101 nC6-nC10 ( 4.67 to 15.17)	604063	1168472	1.934 M
NWTPHG Tol-Nap ( 9.85 to 18.95)	403422	1058178	2.623 M

M Indicates manual integration within range

\* Surrogate areas are subtracted from Total Area  
Range marker RT's are set by daily RT standard

PID Surrogates

RT	Shift	Response	%Rec	Compound
--	----	-----	----	-----
7.902	0.001	6301	96.8	TFT(Surr)
15.449	-0.001	13925	103.3	BB(Surr)

SW8021 (PID)

RT	Shift	Response	Amount	Compound
--	----	-----	----	-----
7.062	0.000	10567	24.10	Benzene
9.951	0.001	78751	201.40	Toluene
12.852	-0.006	14691	43.01	Ethylbenzene
13.018	-0.008	58588	159.54	M/P-Xylene
13.971	-0.006	19252	67.23	O-Xylene
4.530	0.000	697	4.11	MTBE

A Indicates Peak Area was used for quantitation instead of Height

N Indicates peak peak was manually integrated

Data File: /chem3/pid1.i/vpcc0416-1.b/0416a020.d

Date: 16-APR-2011 18:14

Client ID:

Sample Info: GAS ICV

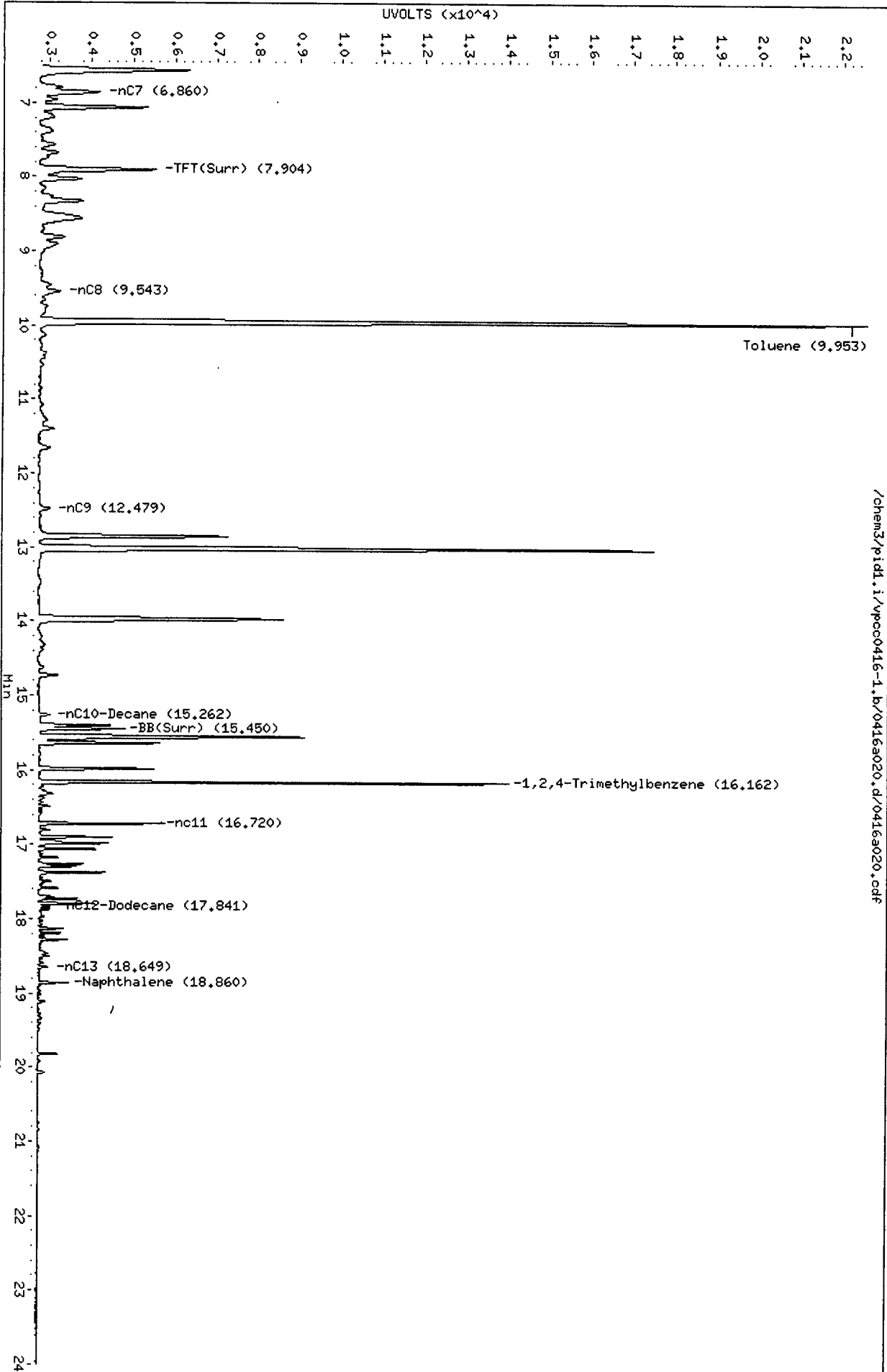
Column phase: RTX 502-2 FID

Instrument: pid1.1

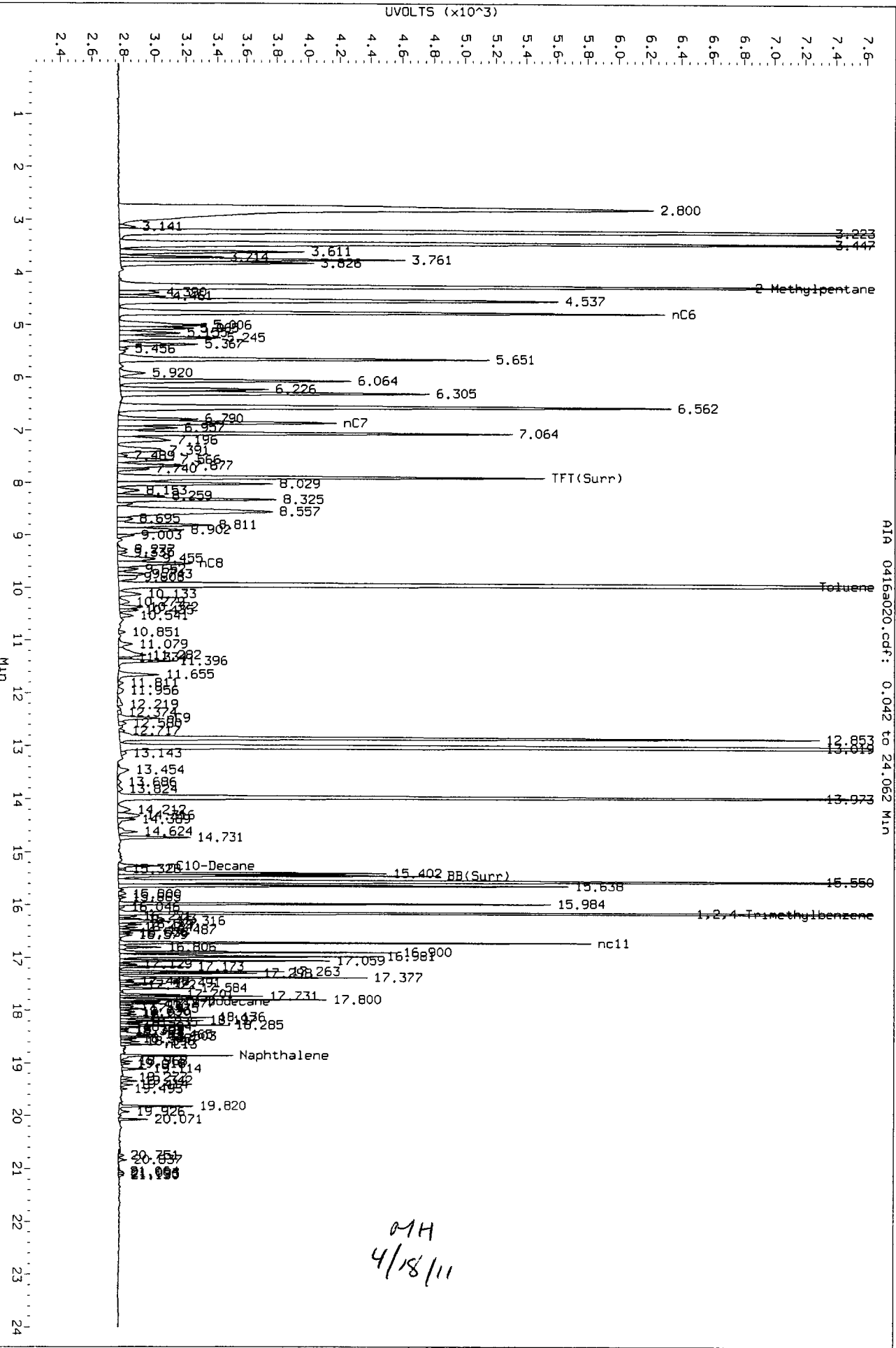
Operator: HH

Column diameter: 0.18

/chem3/pid1.i/vpcc0416-1.b/0416a020.d/0416a020.cdf



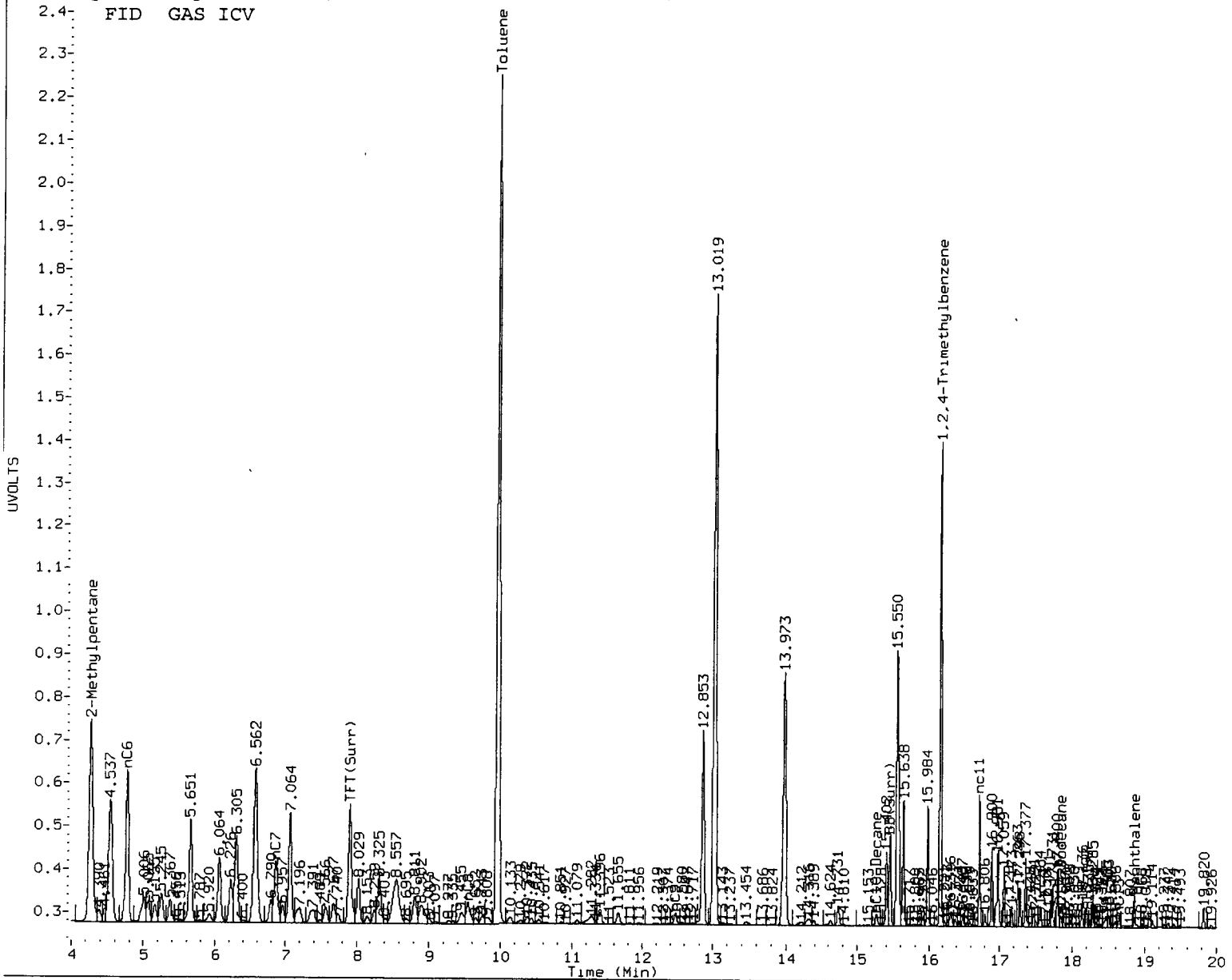
Data File: /chem3/p1d1.1/vpcc0416-1.b/0416a020.d/0416a020.cdf  
 Injection Date: 16-APR-2011 18:14  
 Instrument: p1d1.1  
 Client Sample ID:



01H  
4/18/11

AIA 0416a020.cdf: 0.042 to 24.062 Min

FID GAS ICV



MANUAL INTEGRATION

- 1. Baseline correction
- 2. Poor chromatography
- 3. Peak not found
- 4. Totals calculation
- 5. Other \_\_\_\_\_

Analyst: MH

Date: 4/18/11

Report Date : 18-Apr-2011 11:11

Analytical Resources, Inc.  
RETENTION TIME SUMMARY REPORT

Page 1

Method File: /chem3/pid1.i/vpcc0416-1.b/FID.m  
Batch File: /chem3/pid1.i/vpcc0416-1.b  
Inst ID: pid1.i

ID: RT01 RT02 RT03 RT04 RT05 RT06  
FILENAME: 0416a013 0416a014 0416a015 0416a016 0416a017 0416a018  
INJ. DATE: 16-APR-2011 16-APR-2011 16-APR-2011 16-APR-2011 16-APR-2011 16-APR-2011  
INJ. TIME: 14:50 15:19 15:48 16:17 16:47 17:16

Compound	RT01	RT02	RT03	RT04	RT05	RT06	EXPEC RT	RT WINDOW	AVG RT	STD DEV
18 NMTPHG	+++++	+++++	+++++	+++++	+++++	+++++	0.492	0.422-0.562	+++++	+++++
20 WAGAS	+++++	+++++	+++++	+++++	+++++	+++++	0.937	0.867-1.007	+++++	+++++
19 AK101	+++++	+++++	+++++	+++++	+++++	+++++	1.251	1.181-1.321	+++++	+++++
21 8015GAS	+++++	+++++	+++++	+++++	+++++	+++++	1.539	1.469-1.609	+++++	+++++
1 2-Methylpentane	4.242	4.245	4.258	4.266	4.270	4.280	4.280	4.199-4.339	4.260	0.015
2 nC6	4.753	4.757	4.765	4.771	4.781	4.794	4.770	4.700-4.840	4.770	0.015
3 nC7	6.861	6.861	6.863	6.859	6.857	6.856	6.856	6.786-6.926	6.860	0.002
4 TPT(Surr)	7.903	7.903	7.903	7.901	7.900	0.000	7.903	7.833-7.973	6.585	3.226
5 nC8	9.538	9.543	9.543	9.542	9.543	9.551	9.527	9.457-9.597	9.544	0.004
6 Toluene	9.948	9.948	9.949	9.949	9.952	9.967	9.952	9.882-10.022	9.952	0.007
7 nC9	12.482	12.477	12.477	12.478	12.480	12.490	12.483	12.413-12.553	12.481	0.005
8 nC10-Decane	15.266	15.263	15.262	15.263	15.264	15.270	15.265	15.195-15.335	15.265	0.003
9 BB(Surr)	15.450	15.450	15.449	15.449	15.450	15.450	15.450	15.380-15.520	15.450	0.000
10 1,2,4-Trimethylbenzene	16.161	16.161	16.160	16.161	16.163	16.172	16.125	16.055-16.195	16.163	0.004
11 nC11	16.753	16.721	16.720	16.720	16.721	16.723	16.759	16.689-16.829	16.726	0.013
12 nC12-Dodecane	17.836	17.836	17.840	17.834	17.833	17.832	17.837	17.767-17.907	17.835	0.003

cut due to extraction.

Reviewer 1  
Reviewer 2

Date: 4/18/11  
Date:

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-APR-2011 10:27  
 End Cal Date : 16-APR-2011 13:22  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : HP Genie  
 Method file : /chem3/pidl.i/vpcc0416-2.b/PIDB.m  
 Cal Date : 18-Apr-2011 05:11 monicah  
 Curve Type : Average

Calibration File Names:

Level 1: /chem3/pidl.i/vpcc0416-2.b/0416a004.d/0416a004.cdf  
 Level 2: /chem3/pidl.i/vpcc0416-2.b/0416a005.d/0416a005.cdf  
 Level 3: /chem3/pidl.i/vpcc0416-2.b/0416a006.d/0416a006.cdf  
 Level 4: /chem3/pidl.i/vpcc0416-2.b/0416a007.d/0416a007.cdf  
 Level 5: /chem3/pidl.i/vpcc0416-2.b/0416a008.d  
 Level 6: /chem3/pidl.i/vpcc0416-2.b/0416a009.d/0416a009.cdf  
 Level 7: /chem3/pidl.i/vpcc0416-2.b/0416a010.d/0416a010.cdf

Compound	0.25000	0.50000	5.000	25.000	50.000	100.000	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		
1 MTBE	148 173	166	172	178	177	174	170	6.118
2 Benzene	524 397	488	441	415	406	398	438	11.305
4 Toluene	412 377	408	378	389	387	386	391	3.521
15 Chlorobenzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++
5 Ethylbenzene	352 334	340	331	350	345	340	342	2.265
6 M/P-Xylene	376 360	364	353	374	372	372	367	2.344

Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-APR-2011 10:27  
 End Cal Date : 16-APR-2011 13:22  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : HP Genie  
 Method file : /chem3/pid1.i/vpcc0416-2.b/PIDB.m  
 Cal Date : 18-Apr-2011 05:11 monicah  
 Curve Type : Average

Compound	0.25000	0.50000	5.000	25.000	50.000	100.000	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		
	200.000							
	Level 7							
7 O-Xylene	260 296	270	284	300	298	297	286	5.518
13 1,3,5 Trimethyl Benzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
14 1,2,4 Trimethyl Benzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
16 1,3 Dichlorobenzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
17 1,4 Dichlorobenzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
18 1,2 Dichlorobenzene	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
\$ 3 TFT(Surr)	69.36364 63.05000	66.95455	62.01493	64.69000	64.92481	64.88202	65.12571	3.739
\$ 19 BFB(Surr)	++++ ++++	++++	++++	++++	++++	++++	++++	++++ <-
\$ 8 BB(Surr)	138 134	135	127	134	136	138	135	2.699



Analytical Resources, Inc.

INITIAL CALIBRATION DATA

Start Cal Date : 16-APR-2011 10:27  
 End Cal Date : 16-APR-2011 13:22  
 Quant Method : ESTD  
 Origin : Disabled  
 Target Version : 3.50  
 Integrator : HP Genie  
 Method file : /chem3/pid1.i/vpcc0416-1.b/FID.m  
 Cal Date : 18-Apr-2011 05:23 monicah  
 Curve Type : Average

Compound	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	0.000e+00	RRF	% RSD
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6		
	0.000e+00							
	Level 7							
14 Naphthalene	++++	++++	++++	++++	++++	++++	++++	++++
	++++						++++	++++
\$ 4 TFT(Surr)	31.27273	29.79545	27.23881	28.27000	27.63910	27.41011		
	26.40500						28.29017	5.953
\$ 22 BFB(Surr)	++++	++++	++++	++++	++++	++++	++++	++++
	++++						++++	++++
\$ 9 BB(Surr)	22.59091	21.52273	20.02985	21.00000	20.45113	20.64607		
	19.74500						20.85510	4.632