Cleanup Action and Site Restoration Completion Report

Irondale Iron and Steel Plant
Irondale, Washington

for
Washington State Department of Ecology

November 4, 2015

GeoEngineers
Earth Science + Technology

APPENDIX E
Chemical Analytical Data

(Part 1 of 2)

Table E-1

Libby Environmental and Fremont Analytical Sample Data Group Cross-Reference

Irondale Iron and Steel Plant
Irondale, Washington

Libby Sample Data Group (Listed Chronologically)		
Libby Environmental Sample Data Group	**Sample ID**	**Fremont Analytical Sample Data Group**
L120910-30		
L120910-30	SRZ-EB0-91012	--
L120910-30	SRZ-EB2-91012	1210080
L120910-30	SRZ-NSW1.5-91012	--
L120911-30		
L120911-30	SRZ-B02-91112	--
L120911-30	SRZ-NSW01-91112	--
L120911-30	SRZ-OX1-91112	--
L120911-30	SURZ-B01-91112	--
L120911-30	SURZ-SSW3-91012	--
L120911-30	SURZ-SSW4-91012	--
L120912-30		
L120912-30	SRZ-B03-91212	--
L120912-30	SRZ-B04-91212	--
L120912-30	SRZ-ESW01-91212	1210080
L120912-30	SRZ-WSW01-91212	1210080
L120918-30		
L120918-30	DW1-091812	--
L120921-30		
L120921-30	SURZ-SB1-92112	--
L120921-30	SURZ-SB2-92112	--
L120921-30	SURZ-SB3-92112	--
L120921-30	SURZ-SB4-92112	--
L120921-30	SURZ-WSW1-92112	--
L120921-5		
--	Topsoil 091112	1209144
-	Road 091112	1209144
L120924-30		
L120924-30	IRZ-B1-92412	1209149
L120924-30	IRZ-B2-92412	--
L120924-30	IRZ-B3-92412	--
L120924-30	IRZ-B4-92412	--
L120924-30	IRZ-ESW1-92412	1209149
L120924-30	IRZ-ESW2-92412	--
L120924-30	IRZ-ESW3-92412	--
L120924-30	IRZ-SSW1-92412	--
L120925-30		
L120925-30	IRZ-B1-92512	--
L120925-30	IRZ-B2-92512	--
L120925-30	IRZ-B3-92512	--
L120925-30	IRZ-B4-92512	1209174
L120925-30	IRZ-B5-92512	1209174
L120925-30	IRZ-ESW1-92512	1209174
L120925-30	IRZ-WSW1-92512	1209174
L120925-30	DW2-92512	--
L120926-30		
L120926-30	IRZ-B1-92612	--
L120926-30	IRZ-B2-92612	--
L120926-30	IRZ-B3-92612	--
L120926-30	IRZ-DUPE1-92612	--
L120926-30	IRZ-ESW1-92612	--
L120926-30	IRZ-WSW1-92612	1209172
L120926-30	IRZ-WSW2-92612	1209172
--	Topsoil 1-92112	127454 (Twiss SDG)
L120927-30		
L120927-30	IRZ-B1-92712	--
L120927-30	IRZ-B2-92712	1209190
L120927-30	IRZ-B3-92712	1209190
L120927-30	IRZ-B4-92712	--
L120927-30	IRZ-DUPE1-92712	--
L120927-30	IRZ-ESW1-92712	1209173
L120927-30	IRZ-ESW2-92712	--
L120927-30	IRZ-ESW3-92712	--
L120927-30	IRZ-WSW1-92712	--

Libby Sample Data Group (Listed Chronologically)		
Libby Environmental Sample Data Group	**Sample ID**	**Fremont Analytical Sample Data Group**
L120928-30		
L120928-30	DW3-92812	--
L120928-30	IRZ-B1-92812	--
L120928-30	IRZ-B2-92812	1210030
L120928-30	IRZ-B3-92812	--
L120928-30	IRZ-NESW1-92812	1209190
L120928-30	IRZ-NESW2-92812	--
L120928-30	IRZ-NSW1-92812	--
L120928-30	IRZ-NSW2-92812	--
L120928-30	IRZ-NWSW1-92812	--
--	Sand Import Profile	1209188
L121001-30		
L121001-30	IMPORT-01-100112	--
L121001-30	IRZ-01-100112	--
L121001-30	IRZ-02-100112	--
L121001-30	STP-01-100112	--
L121001-30	STP-02-100112	--
L121001-30	STP-03-100112	--
L121001-30	STP-04-100112	--
L121002-30		
L121002-30	DW4-100212	--
L121002-30	F15B1-10212	--
L121002-30	F15B2-10212	1210029
L121002-30	F15NSW1-10212	--
L121002-30	IRZ-COM1-100212	--
L121002-30	SURZ-F14B1-100212	--
L121002-30	SURZ-F14B2-100212	1210029
L121002-30	SURZ-SSW1-10212	--
L121002-30	SURZ-WSW1-10212	--
L121002-30	SURZ-WSW2-10212	--
--	NRZ-NWB1-10312	1210029
--	NRZ-NWB2-10312	1210029
--	NRZ-NWSW1-10312	1210029
--	NRZ-SSW1-10312	1210029
--	NRZ-SSW2-10312	1210029
--	NRZ-NSW1-10312	1210029
--	NRZ-NSW2-10312	1210029
L121003-30		
--	F15B2-10212	1210029
--	SURZ-F14B2-100212	1210029
--	NRZ-NWB1-10312	1210029
--	NRZ-NWB2-10312	1210029
--	NRZ-NWSW1-10312	1210029
--	NRZ-SSW1-10312	1210029
--	NRZ-SSW2-10312	1210029
--	NRZ-NSW1-10312	1210029
--	NRZ-NSW2-10312	1210029
L121004-30		
L121004-30	DW5-100412	--
L121004-30	SURZ-NSW1-10412	--
L121004-30	SURZ-SSW1-10412	--
L121004-30	SURZ-WSW1-10412	--
L121008-30		
L121008-30	K08-B1-10812	
L121008-30	K18-B1-10812	--
L121008-30	K18-WSW1-10812	--
L121008-30	SURZ-B1-10812	1210089
L121008-30	SURZ-B2-10812	--
L121008-30	SURZ-ESW1-10812	--
L121008-30	SURZ-NSW1-10812	--
L121008-30	SURZ-NSW2-10812	--
L121008-30	SURZ-SSW1-10812	--
L121008-30	SURZ-WB1-10812	--
L121008-30	SURZ-WSW2-10812	--
L121008-30	SURZ-WSW3-10812	--
--	K08-B1-10912	1210089

Libby Sample Data Group (Listed Chronologically)		
Libby Environmental Sample Data Group	**Sample ID**	**Fremont Analytical Sample Data Group**
L121009-30		
--	SURZ-B1-10812	1210089
L121009-30	DW6-10912	--
L121009-30	K08-B1-10912	1210089
L121009-30	K08-B2-10912	--
L121009-30	K08-ESW1-10912	--
L121009-30	K08-SSW1-10912	--
L121009-30	K08-SSW2-10912	--
L121009-30	K08-WSW1-10912	--
L121010-30		
L121010-30	K08-B1-101012	--
L121010-30	KILN-1-101012	--
L121011-30		
L121011-30	IRZ-B1-101112	--
L121011-30	IRZ-ESW1-101112	--
L121011-30	IRZ-SSW1-101112	--
L121011-30	SURZ-ESW1-101012	--
L121012-30		
L121012-30	K17-B1-101212	--
L121015-30		
L121015-30	K17-B1-101512	--
L121015-30	K17-B2-101512	--
L121015-30	K17-SSW1-101512	--
L121015-30	K17-WSW1-101512	--
L121015-30	SURZ-B1-101512	--
L121015-30	SURZ-B2-101512	--
L121017-30		
L121017-30	IRZ-B1-101712	--
L121017-30	IRZ-B2-101712	--
L121017-30	IRZ-ESW1-101712	
L121017-30	SURZ-WSW1-101812	--
L121017-30	CON-01-101812	1211093
L121018-30		
L121018-30	W-BULKHEAD-101812	1210176
L121019-30		
L121019-30	DW7-101912	--
L121019-30	SURZ-SSWB-101912	--
L121019-30	IRZ-Stockpile A	--
L121023-6		
L121023-6	MRZ-B1-102212	--
L121023-6	MRZ-B1-102310	1210200
L121023-6	MRZ-B2-102212	1211095
L121023-6	MRZ-B3-102212	--
L121023-6	MRZ-B4-102212	--
L121023-6	MRZ-ESW1-102310	--
L121023-6	MRZ-NSW1-102212	--
L121023-6	MRZ-NSW1-102310	1210200
L121023-6	MRZ-NSW2-102212	--
L121023-6	MRZ-WSW1-102212	--
L121024-8		
L121024-8	MRZ-B2-102312	--
L121024-8	MRZ-B3-102312	1210223
L121024-8	MRZ-ESW2-102312	1210223
L121024-8	TP8-Stockpile	1210223
L121024-8	MRZ-B1-102412	1210223
L121024-8	MRZ-B2-102412	1210223
L121024-8	MRZ-B3-102412	1210223
L121025-3		
--	MRZ-B1-102512	1210233
--	MRZ-B2-102512	1210233
--	MRZ-B3-102512	1210233
--	MRZ-B4-102512	1210233
L121029-3		
--	MRZ-B5-102512	1210248
--	MRZ-B1-102612	1210248
--	MRZ-B2-102612	1210248
--	MRZ-B3-102612	1210248
--	MRZ-B4-102612	1210248
--	MRZ-B5-102612	1210248

Libby Sample Data Group (Listed Chronologically)		
Libby Environmental Sample Data Group	**Sample ID**	**Fremont Analytical Sample Data Group**
L121031-11		
L121031-11	DW8-103112	--
--	MRZ-B1-102912	1210265
--	MRZ-B2-102912	1210265
--	ROAD-1-103012	1210265
--	ROAD-2-103012	1210265
L121105-2		
L121105-2	TANK 1-110112	--
L121105-2	TANK 2-110112	--
--	MRZ-B1-110312	1211031
--	MRZ-B2-110312	1211031
--	MRZ-B3-110312	1211031
L121127-3		
L121127-3	SURZ-NSW-112112	--
L121127-3	SURZ-WSW-112112	--
L121127-3	SURZ-SSW-112112	--

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 5, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 9 & 12, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120910-30
Date: 11-5-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

The Diesel & Oil Range results for samples SRZ-EB0-91012 and SRZ-EB2-91012 were entered incorrectly – having been transposed. The final data has been corrected.

The cPAH report includes data results from Libby project L120912-30.

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/10/12 Page: 1 of 1

Client: GEOENGINEERS
Project Manager: NEIL MORTON
Address: 600 Stewart St, Suite 1700 Seattle
Project Name: FLOUDALE
Phone: 206 728 2674 Fax: 206 728 2732
Location: FLOUDALE City: WA
Client Project # 0405-042-02
Collector: PAUL ROBINETTE Date of Collection: 9/10/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SRZ-EBD-91012	3	0750	SED	4 oz							X	X						
2 SRZ-EBZ-91012	3	0815	SED	4 oz							X	X	(X)					10-8-12 run cPAH per Neil via email
3 SRZ-NSW1.5-91012	1.5	0850	SED	4 oz							X	X						Standard TAT
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/10/12 855	[signature]	9-10-12 855
Relinquished by	Date / Time	Received by	Date / Time
Relinquished by	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	Y
Cold?	Y
Seals Intact?	N/A
Total Number of Containers	3

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120910-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120910-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/10/12	79	nd	nd
LCS	9/10/12	int	95%	
LCSD	9/10/12	int	90%	
SRZ-EB0-91012	9/10/12	124	nd	63.8
SRZ-EB2-91012	9/10/12	113	nd	40.5
SRZ-NSW1.5-91012	9/10/12	int	<150	25300
SRZ-NSW1.5-91012 Dup	9/10/12	int	<200	23600
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

 PB 9-10-12

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 09/10/12

Libby Job #: L120910-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	7:45:59	C96	3 µl	int	506		
500 ppm Diesel 791	7:45:59	D94	3 µl	int	465		
500 ppm LCS 306	8:21:54	C97	3 µl	int	473		
500 ppm Dx 791	8:21:54	D95	3 µl	int	501		
500 ppm LCSD 306	8:59:19	C98	3 µl	int	449		
500 ppm LCS 306	8:59:19	D96	3 µl	int	452		
Method Blank	9:31:33	C95	3 µl	15.8	nd	nd	nd
Method Blank	9:31:33	D97	3 µl	14.3	nd	nd	nd
SRZ-EB2-91012	10:09:59	C100	3 µl	24.8	40.1	nd	nd
SRZ-EB0-91012	10:09:59	D98	3 µl	22.6	62.9	nd	nd
SRZ-NSW1.5-91012 1:6	11:18:50	C101	3 µl	int	nd	nd	22400
SRZ-NSW1.5-91012 1:8 Dup	11:18:50	D99	3 µl	int	nd	nd	20900
Blank	11:56:38	C102	3 µl	16.3			
Blank	11:56:38	D100	3 µl	15.7			
Blank	12:51:09	C103	3 µl	15.2			
Blank	12:51:09	D101	3 µl	16.0			
500 ppm Diesel 791	14:14:46	C104	3 µl	int	506		
500 ppm Diesel 791	14:14:46	D102	3 µl	int	511		
			3 µl				
			3 µl				
			3 µl				

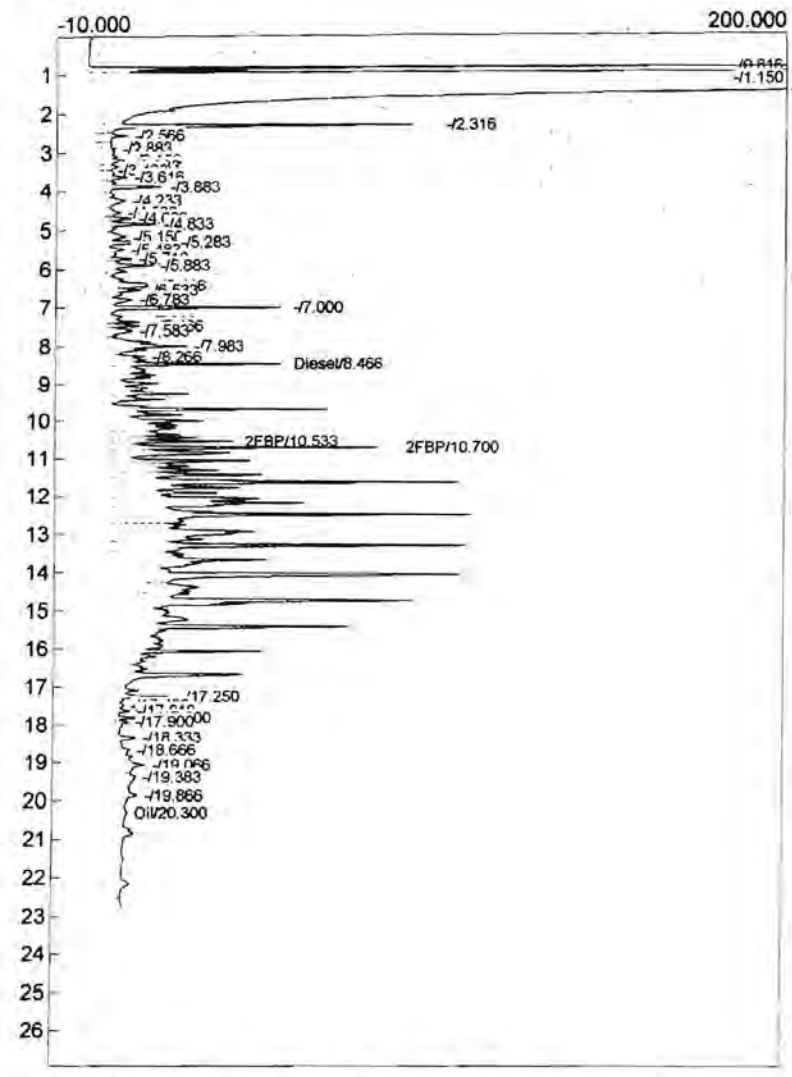
Analysis date: 09/10/2012 07:45:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C96.CHR ()
Sample: 5000 PPM Diesel 791
Operator: Paul Burke

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	8.466	10274.9465	50.407	506.2985	ppm
FBP	10.533	121.5530	36.199	3.9853	ppm
FBP	10.700	265.6930	82.516	8.7112	ppm
il	20.300	261.0575	2.945	12.8346	ppm
		10923.2500		531.8296	

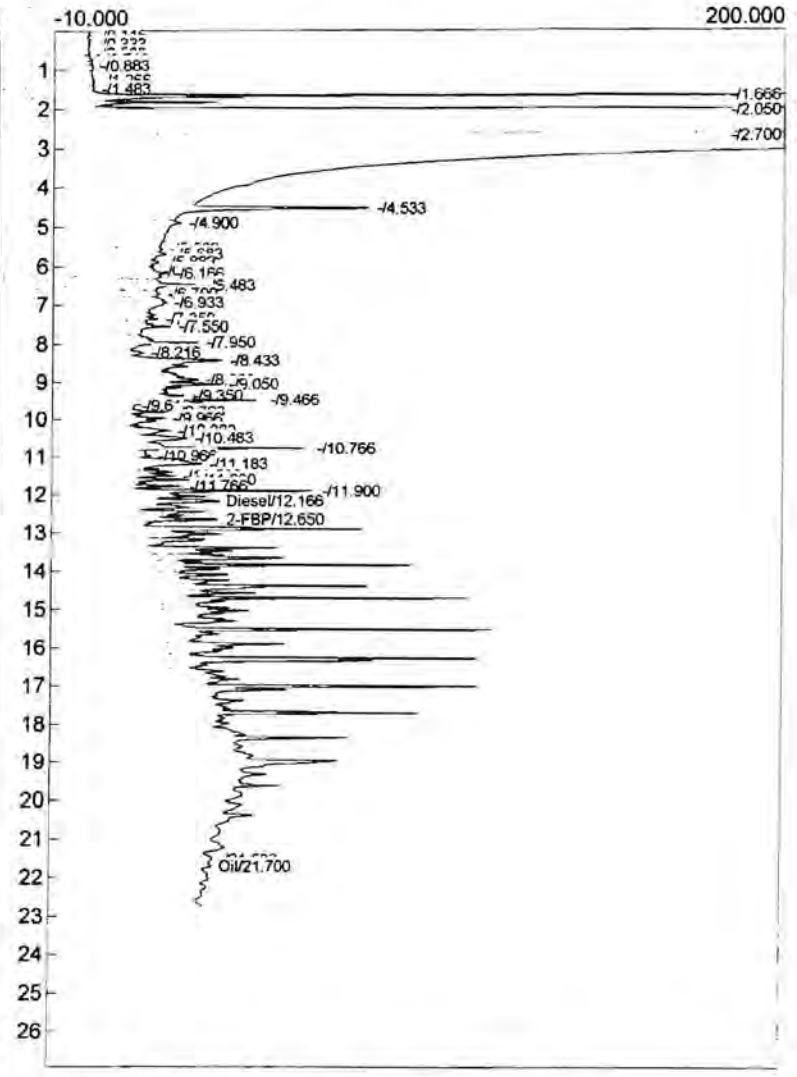
Analysis date: 09/10/2012 07:45:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D94.CHR ()
Sample: 5000 PPM Diesel 791
Operator: Paul Burke

Temperature program: NOT used

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	12.166	8768.7035	20.478	465.2838	ppm
2-FBP	12.650	69.9640	20.005	2.7986	ppm
Oil	21.700	121.0550	4.288	6.3927	ppm
		8959.7225		474.4751	

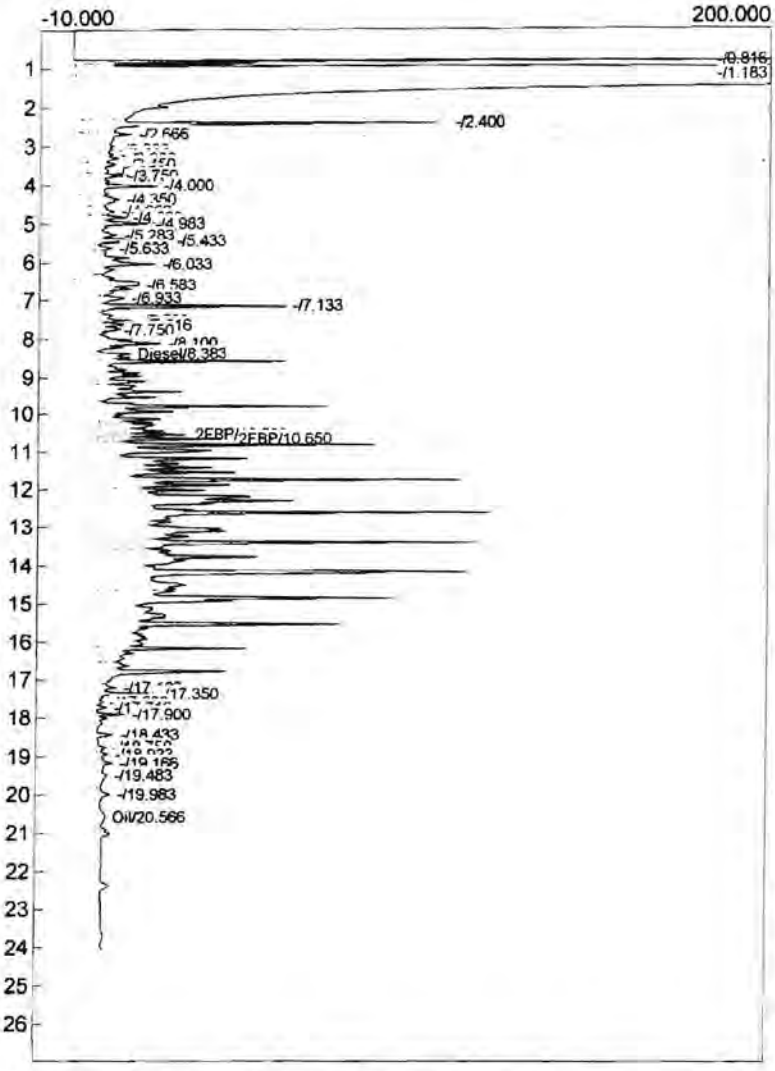
Lab Name: Libby Environmental
Analysis date: 09/10/2012 08:21:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C97.CHR ()
Sample: 500 PPM LCS 306
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.383	10007.2025	9.053	493.0618	ppm
FBP	10.533	99.1640	25.549	3.2513	ppm
FBP	10.650	125.1060	38.149	4.1018	ppm
Oil	20.566	240.0120	2.154	11.7999	ppm
		10471.4845		512.2149	

int 493-20
= 473 ppm Diesel

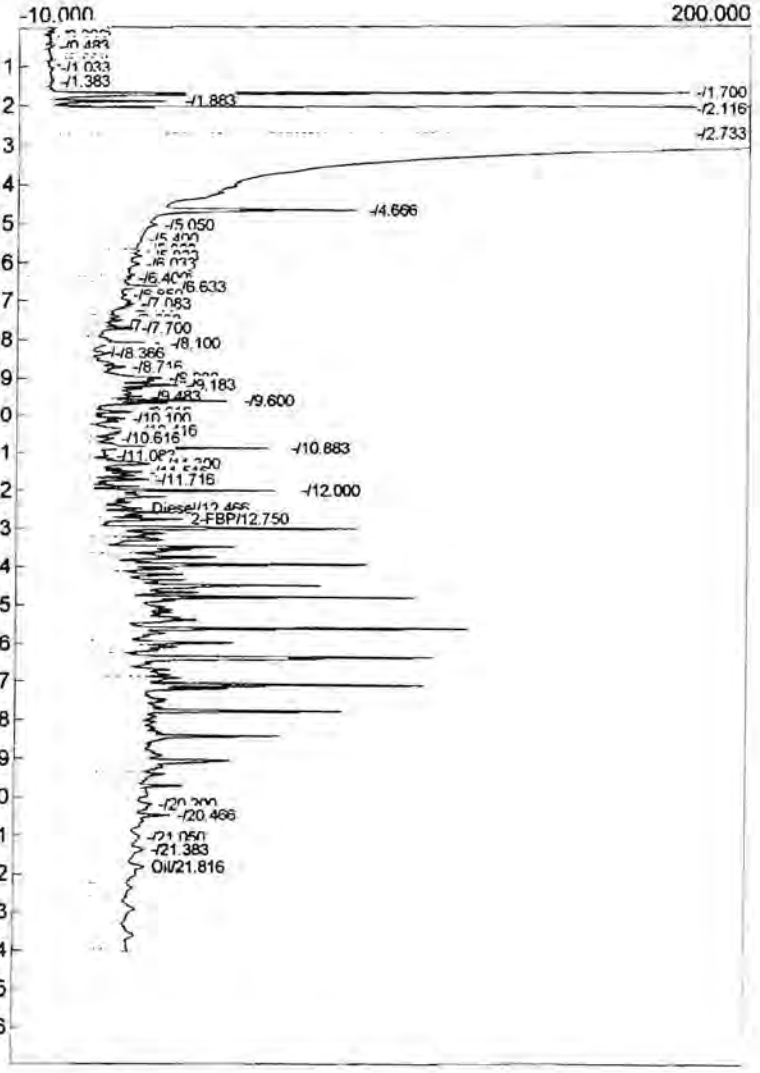
Lab Name: Libby Environmental
Analysis date: 09/10/2012 08:21:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D95.CHR ()
Sample: 500 PPM Diesel 791
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	12.466	9805.8140	15.649	520.7982	ppm
2-FBP	12.750	127.6160	26.898	5.1046	ppm
Oil	21.816	1524.8090	15.455	80.5229	ppm
		11458.2390		606.4257	

int

501 ppm Dx

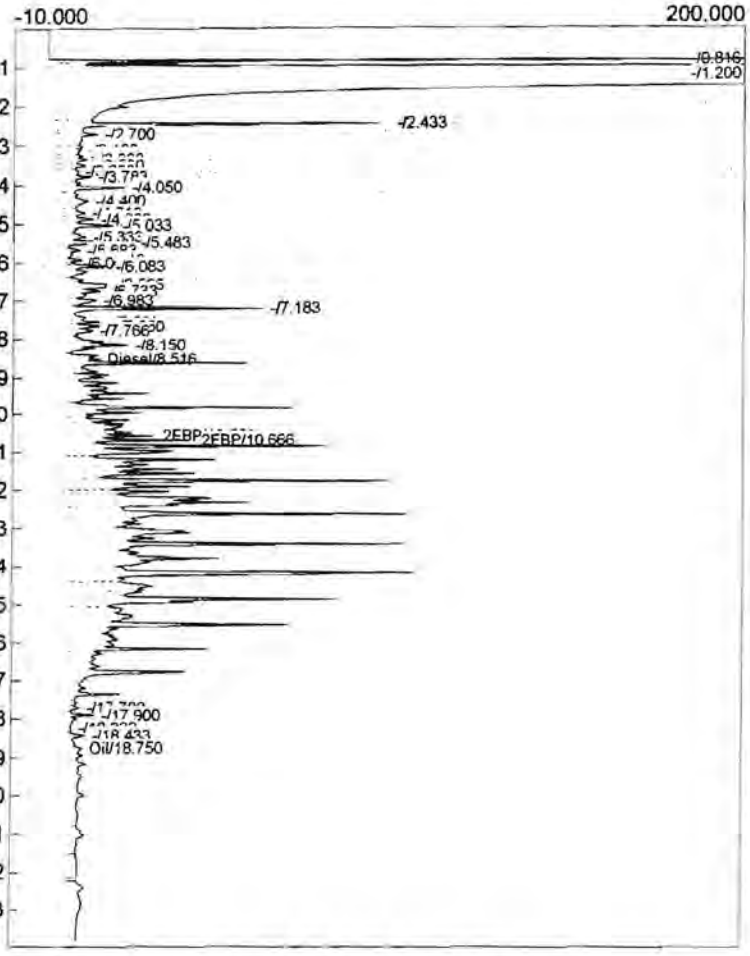
Lab name: Libby Environmental
Analysis date: 09/10/2012 08:59:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C98.CHR ()
Sample: 500 PPM LCSD 306
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.516	9527.4150	8.602	469.3423	ppm
2FBP	10.550	190.2060	24.557	6.2363	ppm
2FBP	10.666	119.4510	35.754	3.9164	ppm
Oil	18.750	648.0390	3.434	31.8601	ppm
		10485.1110		511.3550	

int

~~469~~

449 ppm Diesel

Lab name: Libby Environmental
Analysis date: 09/10/2012 08:59:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D96.CHR ()
Sample: 500 PPM LCS 306
Operator: Paul Burke

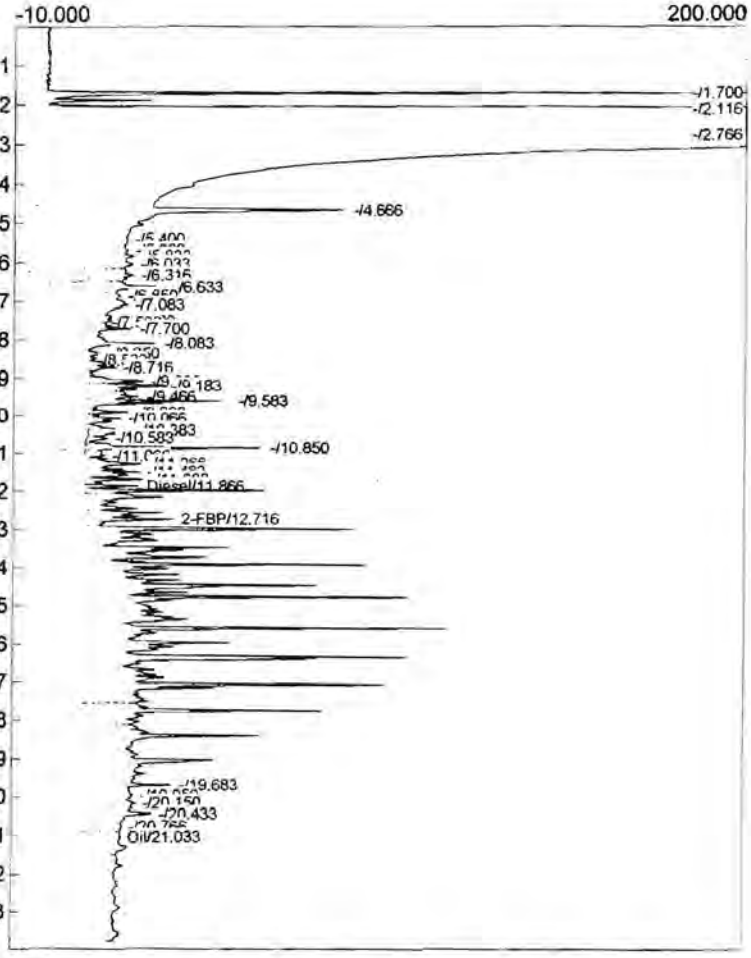
Not used

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	11.866	8897.6250	14.921	472.1847	ppm
2-FBP	12.716	116.3160	24.931	4.6526	ppm
Oil	21.033	1576.8510	10.468	83.2711	ppm
		10590.7920		560.1085	

int 452 ppm Diesel

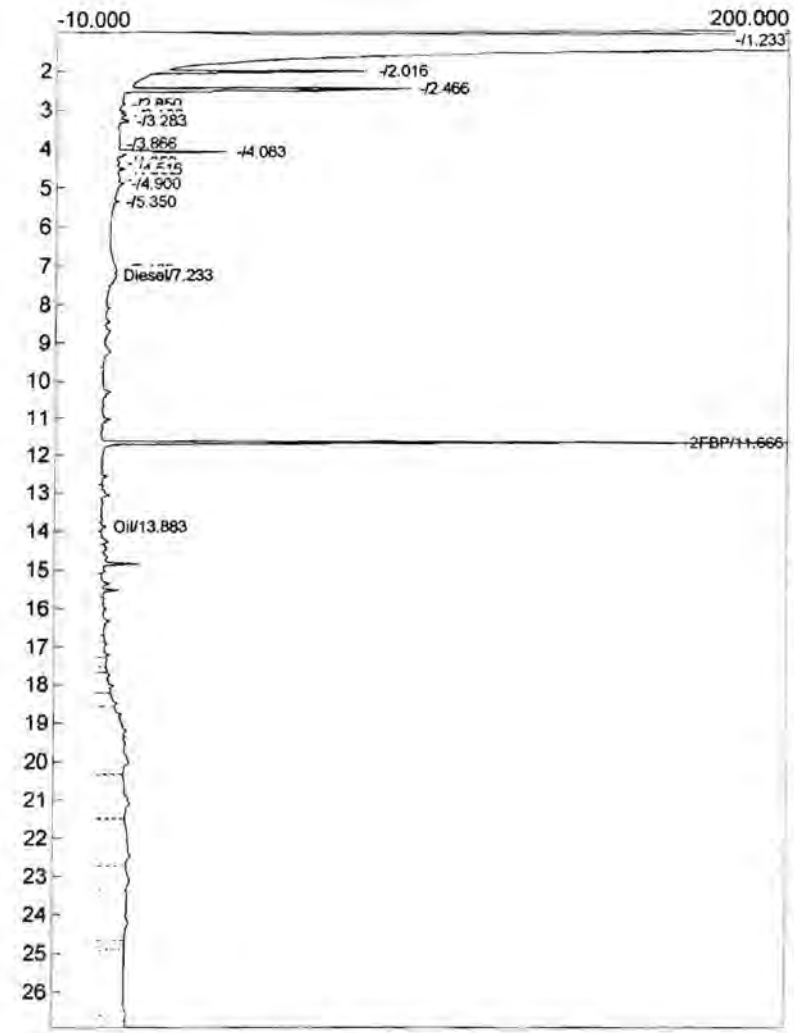
Analysis date: 09/10/2012 09:31:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C99.CHR ()
Sample: Method Blank
Operator: Paul Burke

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.233	665.7105	0.554	32.7289	ppm
2FBP	11.666	536.2305	232.182	15.7715	ppm
Oil	13.883	3911.3200	1.683	192.2956	ppm
		5113.2610		240.7959	

19%

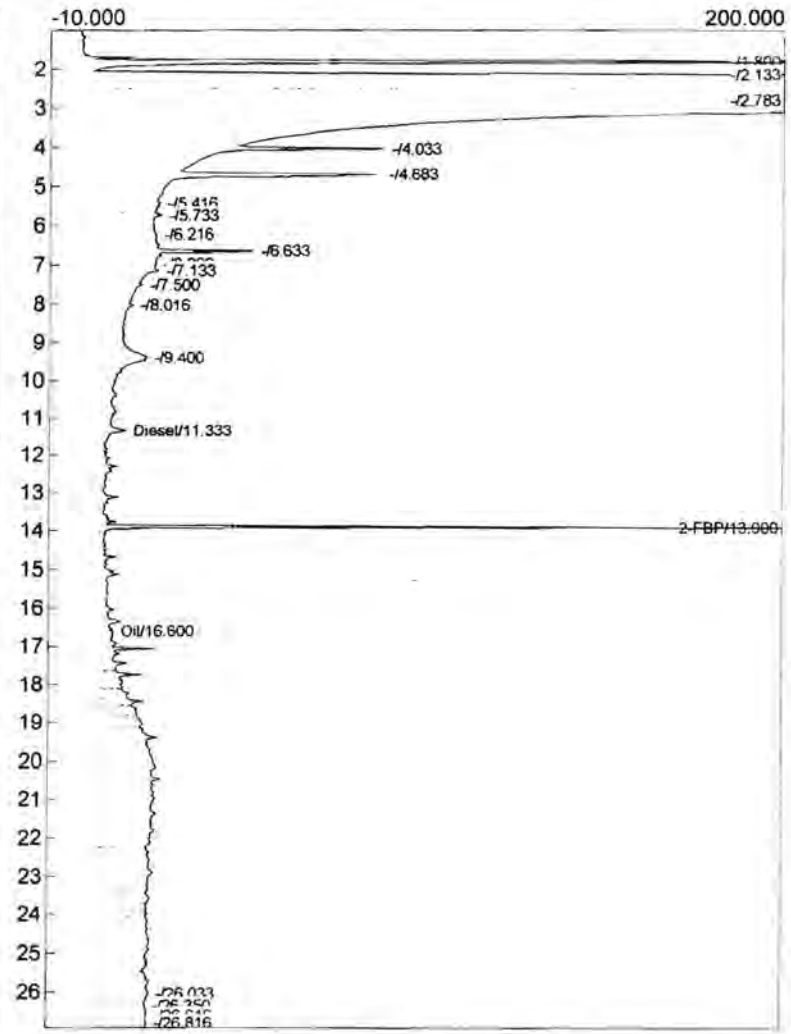
Analysis date: 09/10/2012 09:31:33
Method: Syringe Injection
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D97.CHR ()
Sample: Method Blank
Operator: Paul Burke

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	11.333	553.2740	5.554	29.2176	ppm
2-FBP	13.900	500.1880	230.694	14.2911	ppm
Oil	16.600	6201.3230	3.276	328.3452	ppm
		7254.7850		371.8538	

71%

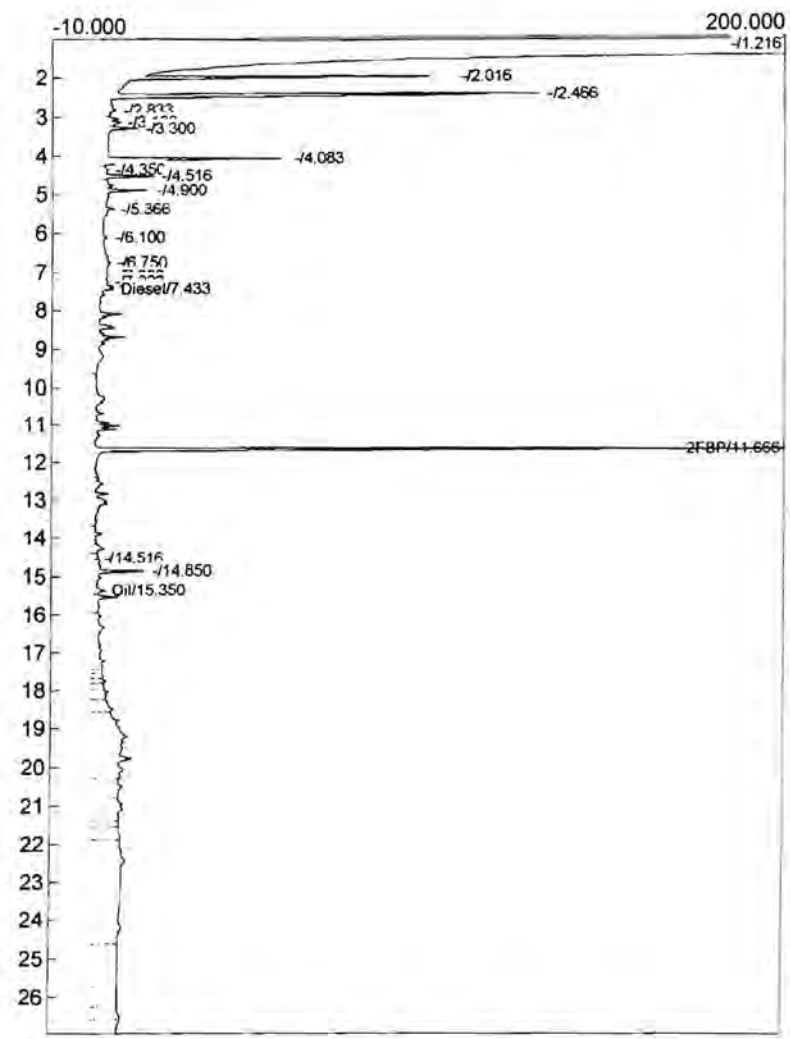
Analysis date: 09/10/2012 10:09:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C100.CHR ()
Sample: SRZ-EB2-91012
Operator: Paul Burke

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	7.433	1222.0890	2.842	60.0826	ppm
FBP	11.666	844.8520	350.297	24.8486	ppm
il	15.350	3871.6590	2.915	190.3457	ppm
		5938.6000		275.2769	

124%

40.1 ppm Diesel

Soil moisture factor 1.0107

(=40.5)

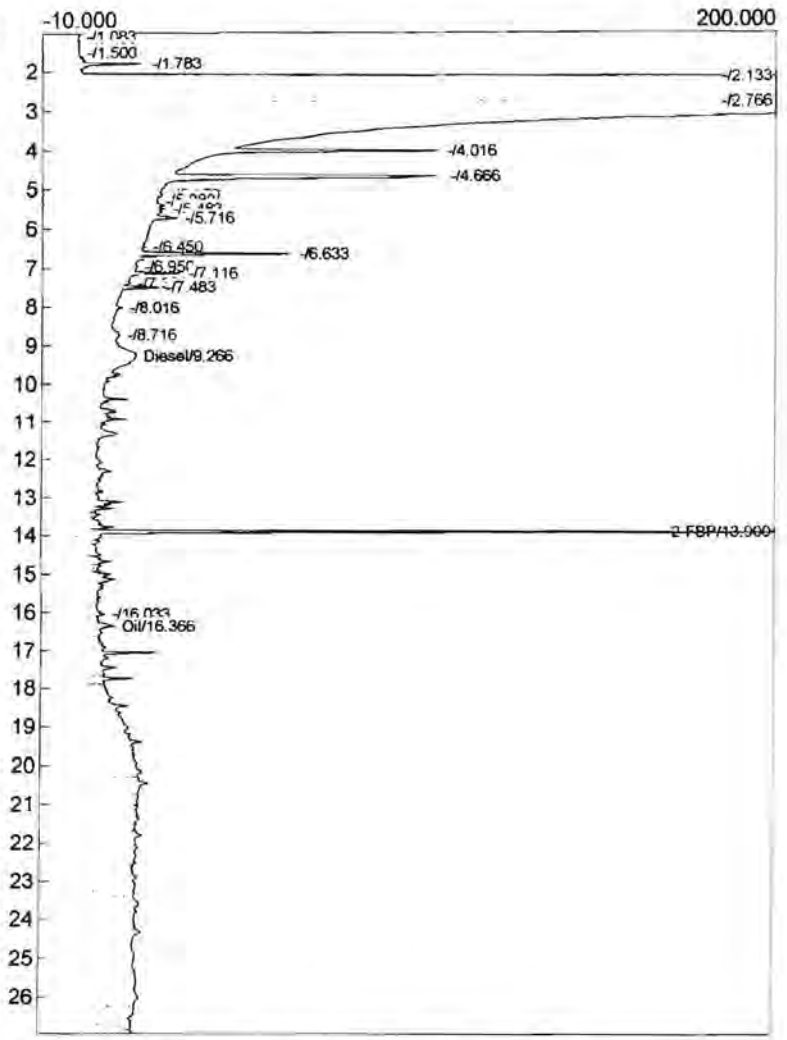
Analysis date: 09/10/2012 10:09:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D98.CHR ()
Sample: SRZ-EB0-91012
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.266	1570.7185	8.562	62.9473	ppm
2-FBP	13.900	792.2640	360.282	22.6361	ppm
Oil	16.366	6321.8340	6.203	334.7522	ppm
		8684.8165		440.3356	

113%

62.9 ppm Diesel

Soil moisture factor 1.0143 =

(63.8)

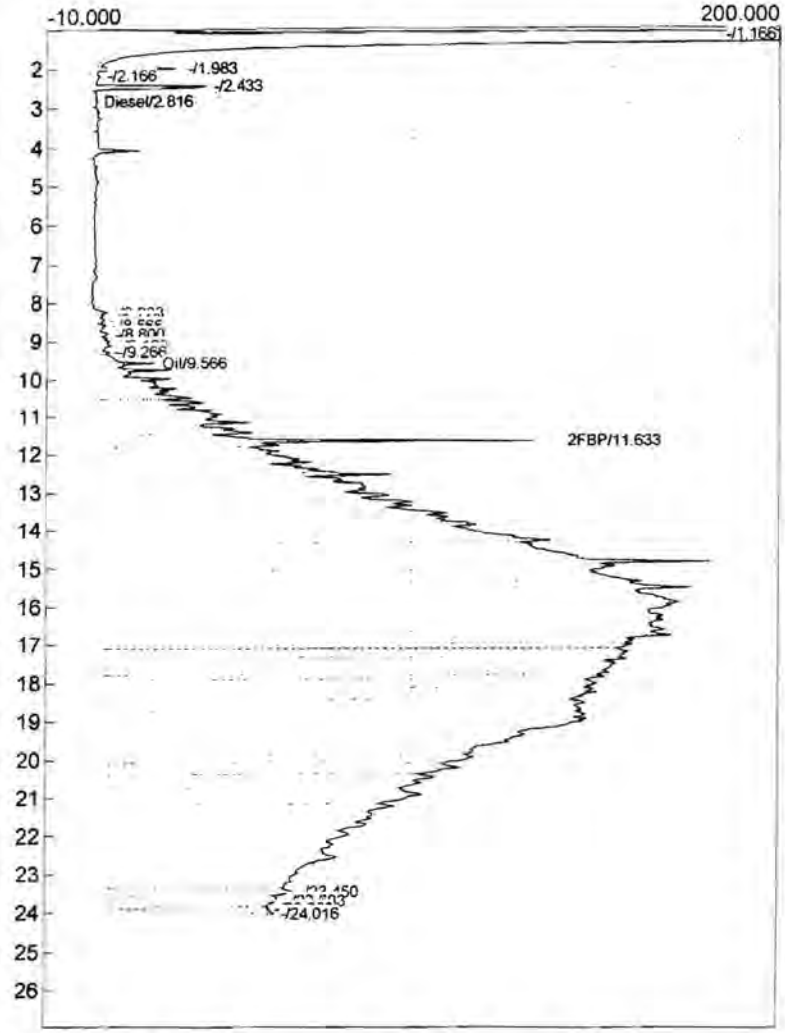
s date: 09/10/2012 11:18:50
Method:
cription: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C101.CHR ()
Sample: SRZ--NSW1.5-91012 1:6
Operator: Paul Burke

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	2.816	124.8880	0.390	6.1400	ppm
il	9.566	77865.3050	14.974	3929.6842	ppm
FBP	11.633	1042.0040	131.035	30.6472	ppm
		79032.1970		3966.4713	

3930-192
int =3738(6)
=2240 ppm Oil
Soil moisture factor = 1.13
=25319

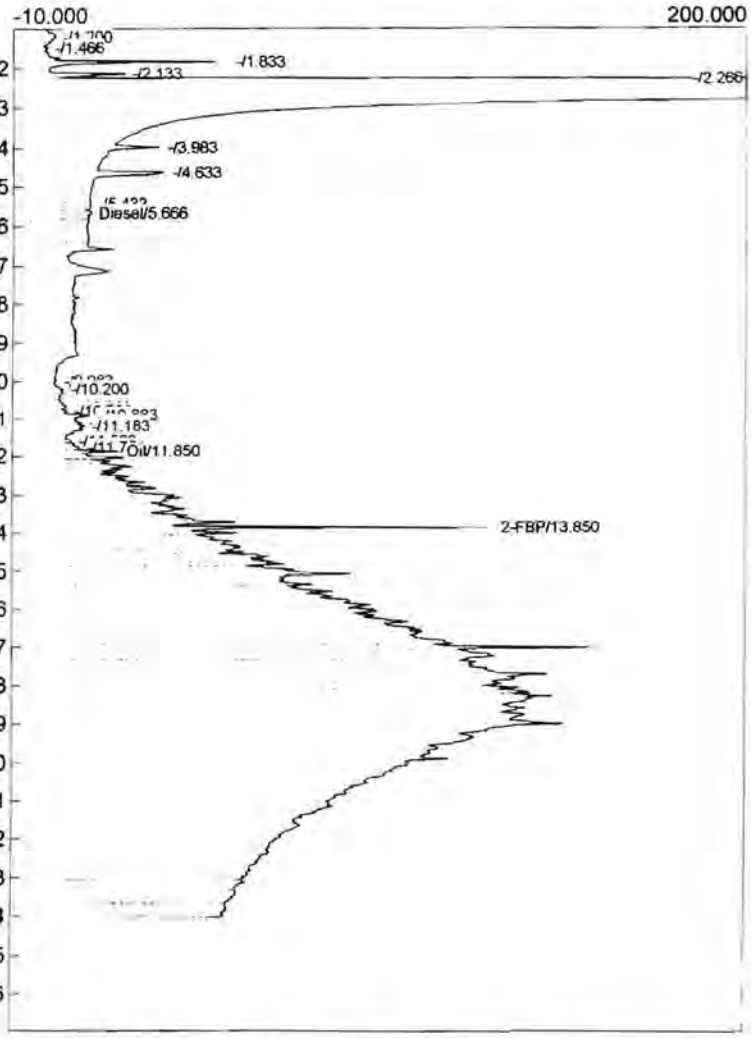
Analysis date: 09/10/2012 11:18:50
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D99.CHR ()
Sample: SRZ--NSW1.5-91012 Dup 1:8
Operator: Paul Burke

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.666	859.9950	7.776	34.8533	ppm
Oil	11.850	53108.6650	14.658	2940.0874	ppm
2-FBP	13.850	531.4970	121.957	15.1856	ppm
		54300.1570		2990.1264	

2940-328
~~int~~ PB
~~76%~~ PB
int =2612(8)
=20900 ppm oil
Soil moisture ~~factor~~ = 1.13
=(23624)

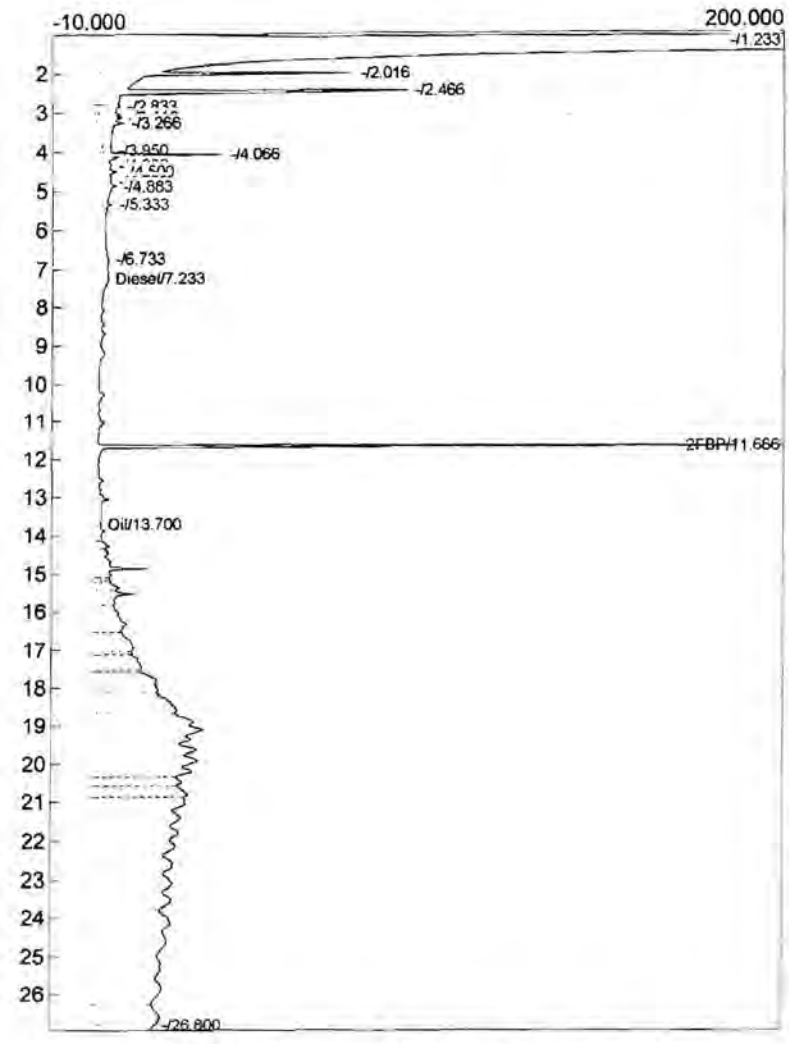
Analysis date: 09/10/2012 11:56:38
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C102.CHR ()
Sample: Blank
Operator: Paul Burke

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	7.233	740.5320	0.666	36.4074	ppm
:FBP	11.666	555.7840	230.892	16.3466	ppm
)il	13.700	13390.4480	1.272	660.4900	ppm
		14686.7840		713.2440	

7 2 %

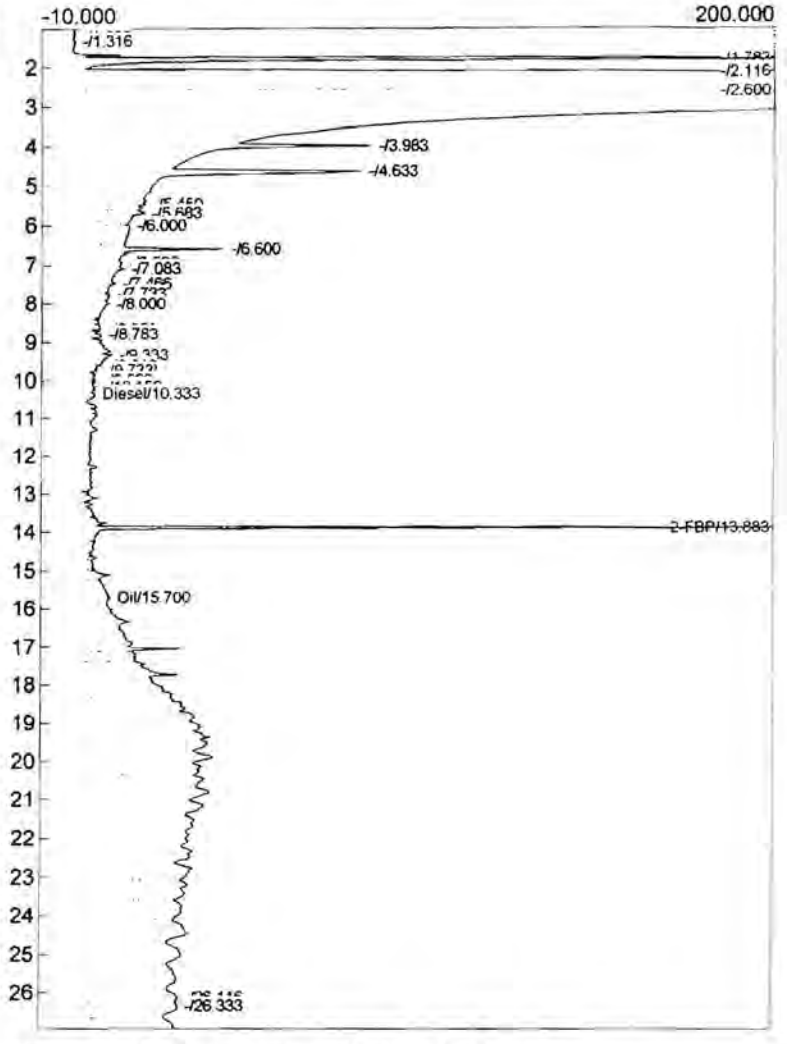
Analysis date: 09/10/2012 11:56:38
Method: Syringe Injection
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D100.CHR ()
Sample: Blank
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.333	858.8365	1.401	45.3539	ppm
2-FBP	13.883	548.3085	239.551	15.6660	ppm
Oil	15.700	15102.6785	6.426	805.7698	ppm
		16509.8235		866.7897	

78%

Lab name: Libby Environmental

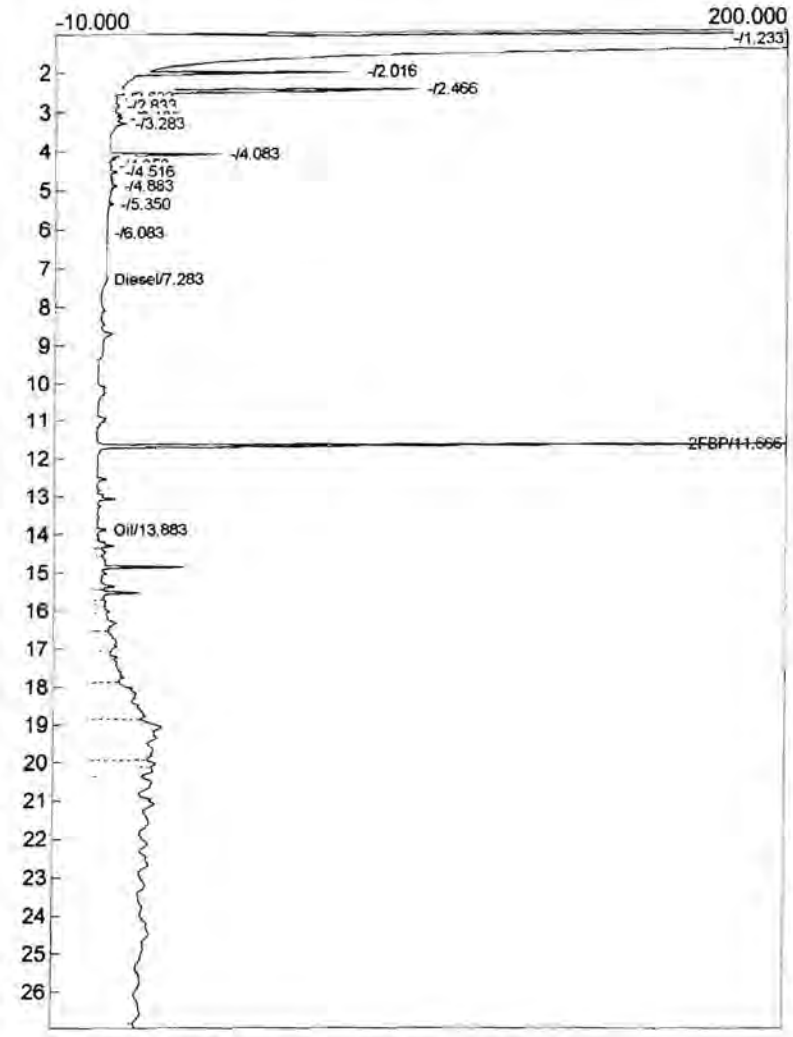
Analysis date: 09/10/2012 12:51:09
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C103.CHR ()
Sample: ~~Method Blank~~ Blank P.B 9/10/12
Operator: Paul Burke

emperature program:

Init temp	Hold	Ramp	Final temp

vents:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.283	740.8215	0.912	36.4216	ppm
2FBP	11.666	549.5610	249.297	16.1636	ppm
Oil	13.883	8535.6800	2.919	420.3132	ppm
		9826.0625		472.8984	

Lab name: Libby Environmental

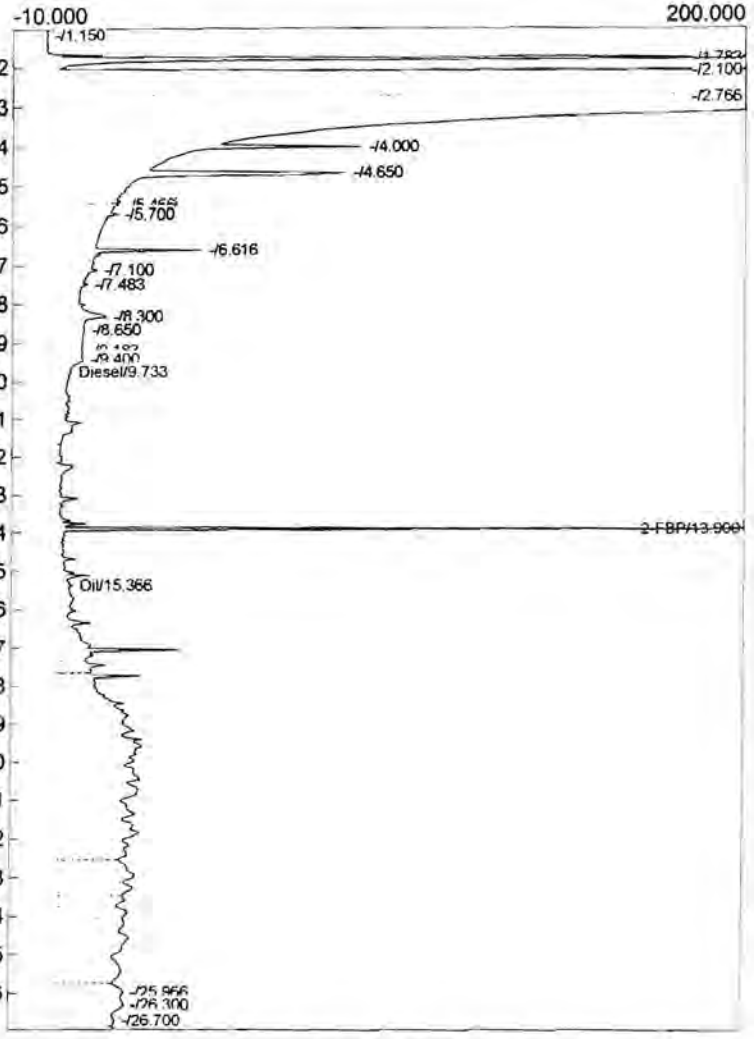
Analysis date: 09/10/2012 12:51:09
Method: Syringe Injection
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D101.CHR ()
Sample: ~~Method Blank~~ Blank P.B 9/10/12
Operator: Paul Burke

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.733	784.1010	0.591	41.4072	ppm
2-FBP	13.900	561.3600	251.982	16.0389	ppm
Oil	15.366	9852.2920	3.226	523.2861	ppm
		11197.7530		580.7321	

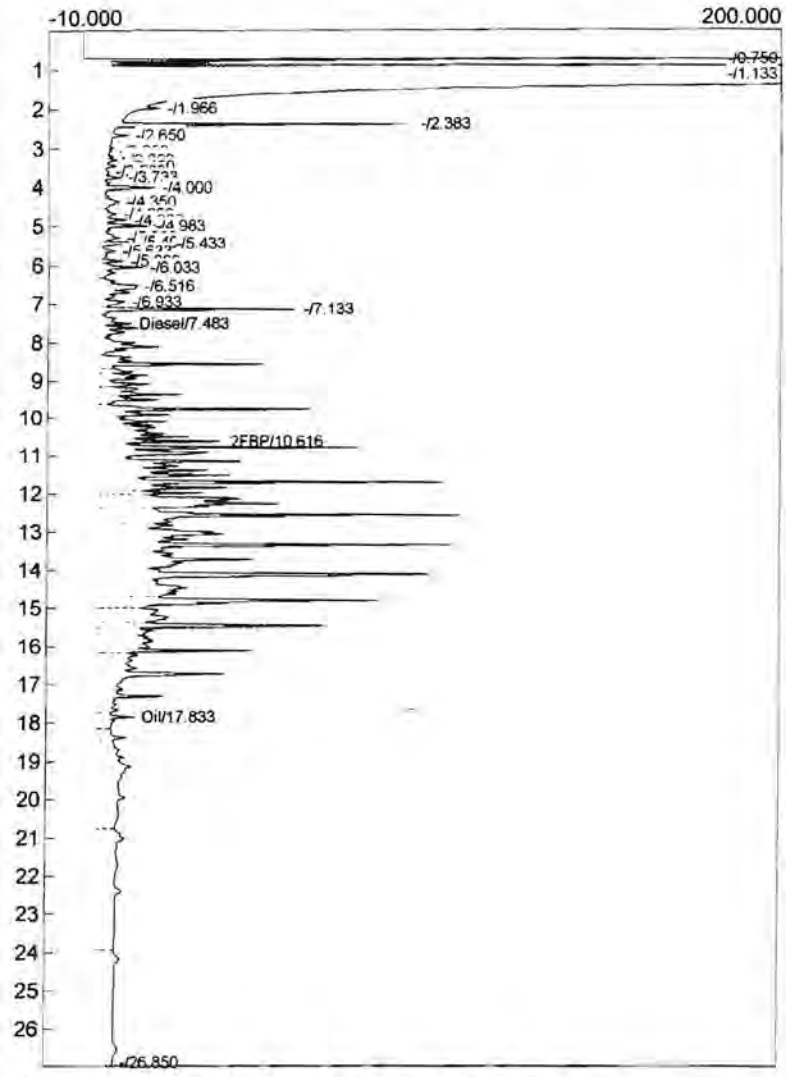
Analysis date: 09/10/2012 14:14:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C104.CHR ()
Sample: 500 PPM Diesel 791
Operator: JD

emperature program:

it temp Hold Ramp Final temp

/ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	7.483	10264.1450	8.761	505.7645	ppm
FBP	10.616	121.3580	34.882	3.5694	ppm
il	17.833	2612.6705	9.803	128.4489	ppm
		12998.1735		637.7828	

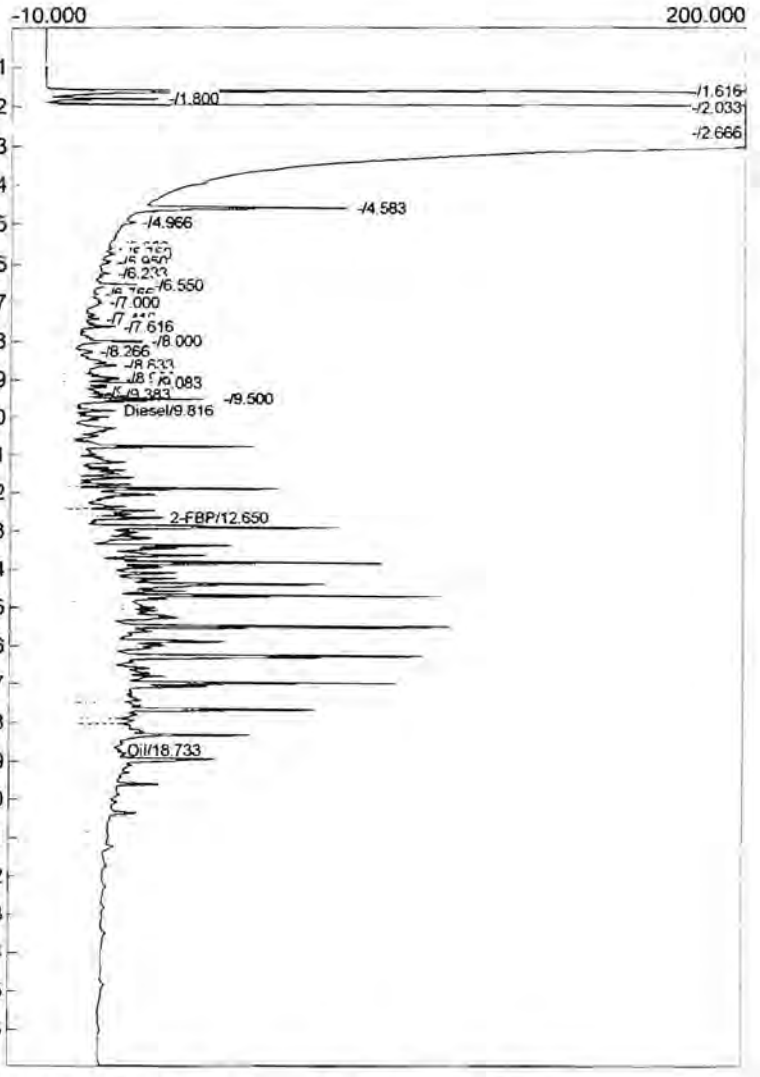
Analysis date: 09/10/2012 14:14:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D102.CHR ()
Sample: 500 ppm Diesel 791
Operator: JD

Temperature program:

Init temp Hold Ramp Final temp

Events:

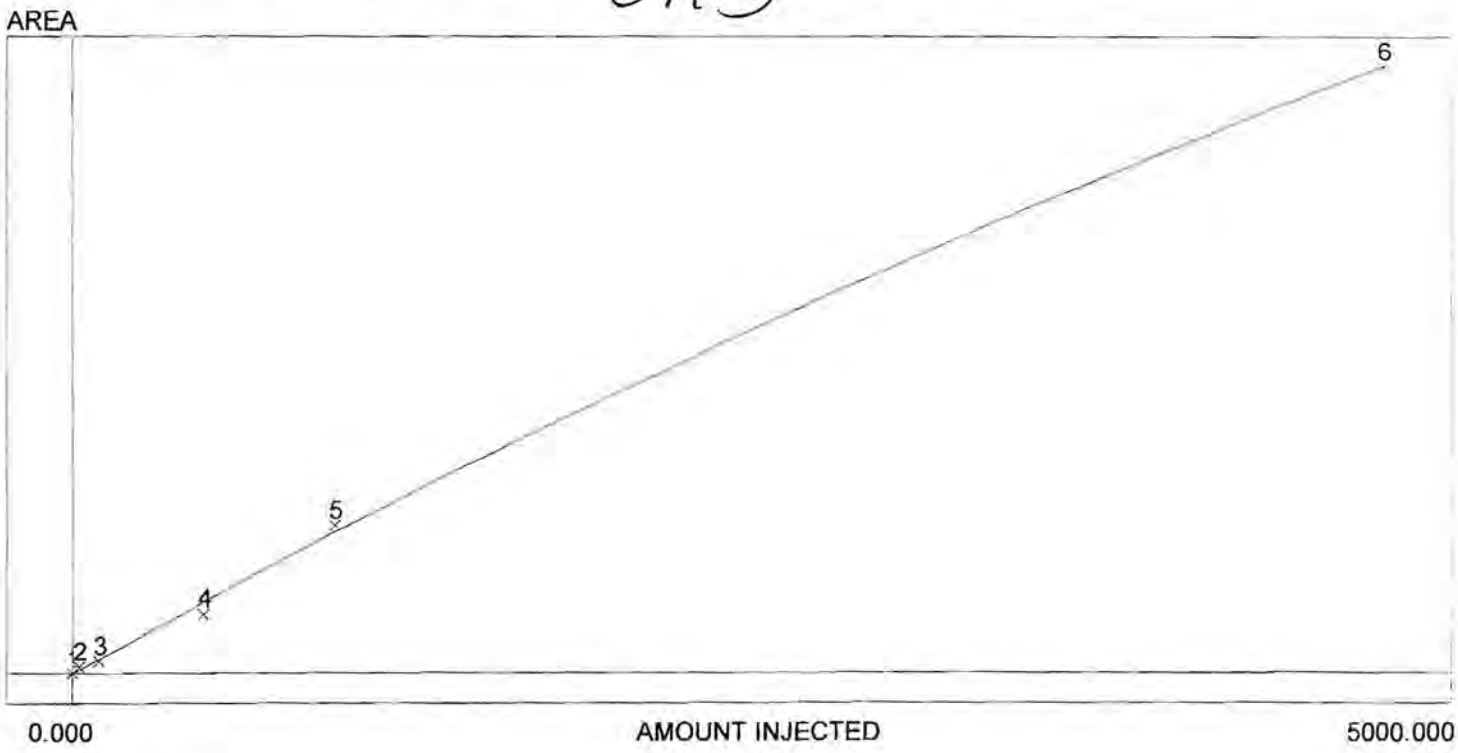
Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.816	9614.7500	14.907	510.5709	ppm
2-FBP	12.650	144.9520	26.469	4.1415	ppm
Oil	18.733	2199.7600	10.671	116.1660	ppm
		11959.4620		630.8785	

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

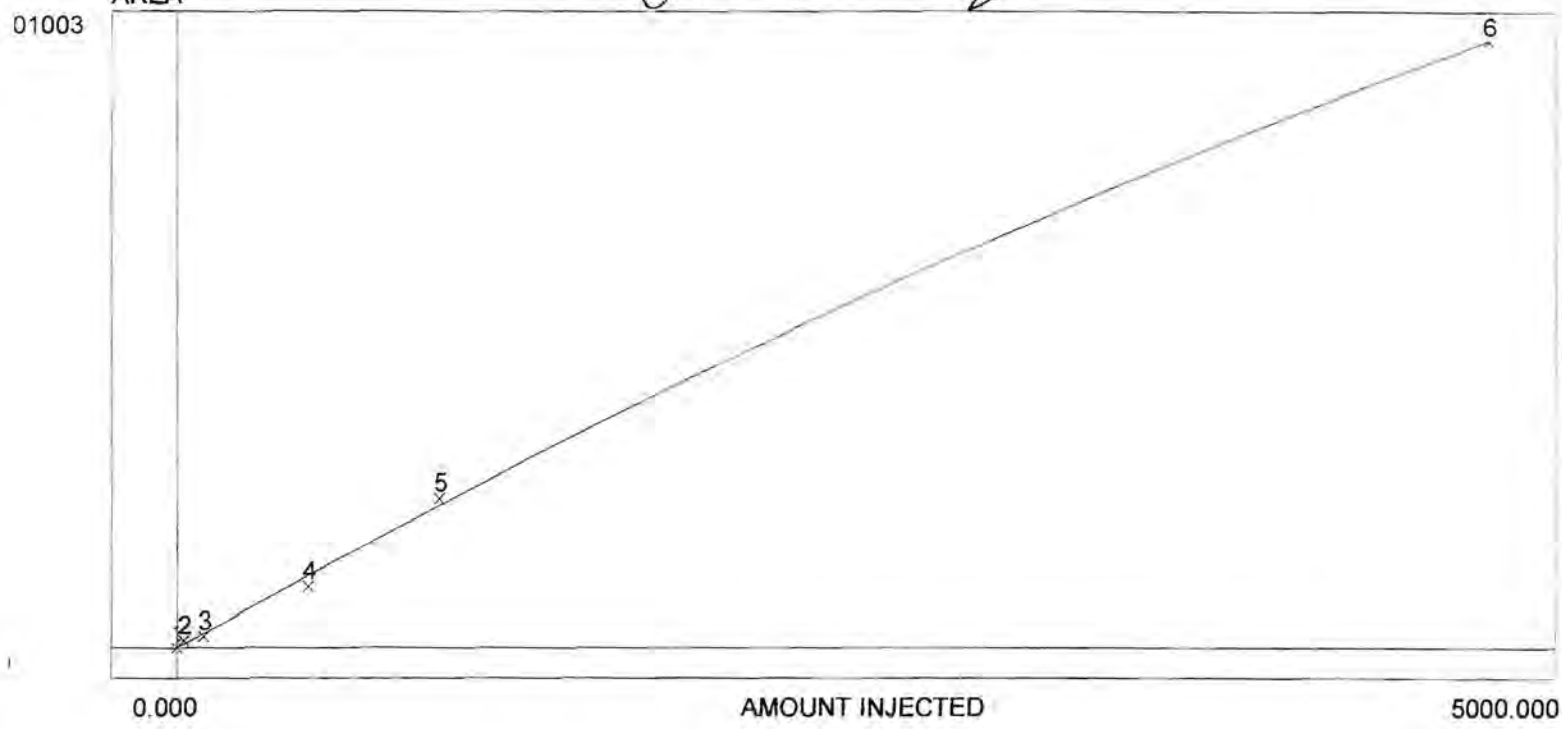


vg slope of curve: 25.03
-axis intercept: 0.00
inearity: 0.86
lumber of levels: 6
SD/rel SD of CF's: 18.0/66.9
=-0.0009X^a+29.3544X
2: 0.9993
ast calibrated: Wed Mar 14 13:52:31 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1410.471	25.000	56.419	1410.471	N/A	N/A
2574.179	100.000	25.742	2574.179	N/A	N/A
12043.265	500.000	24.087	12043.265	N/A	N/A
29871.863	1000.000	29.872	29871.863	N/A	N/A
125124.670	5000.000	25.025	125124.670	N/A	N/A

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 4

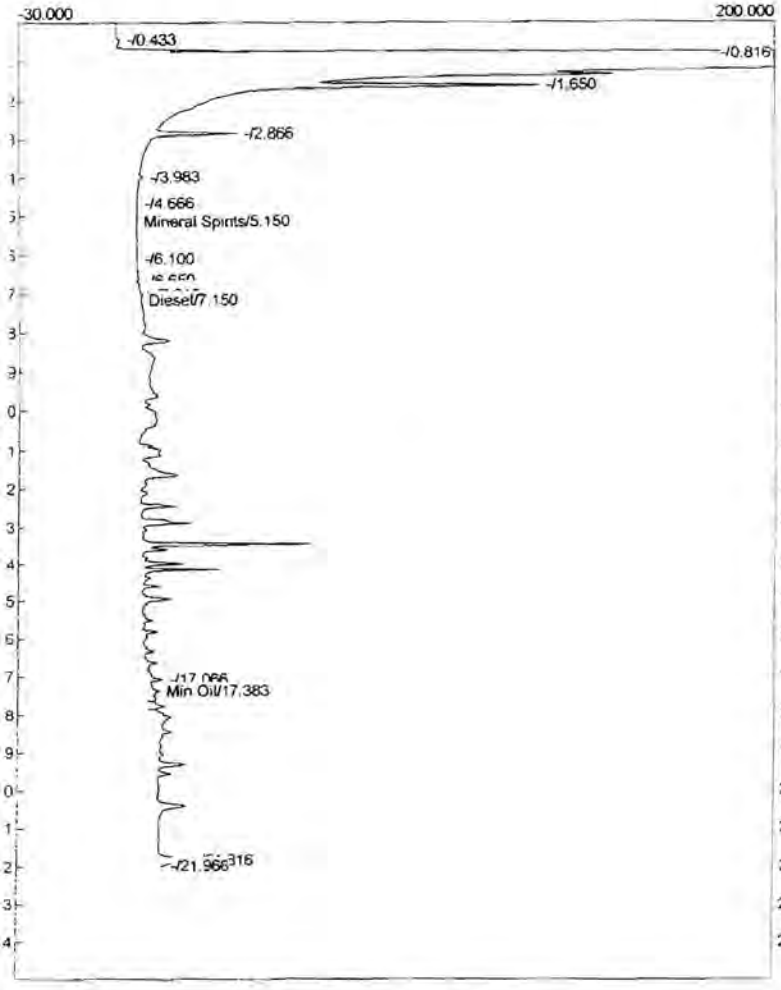


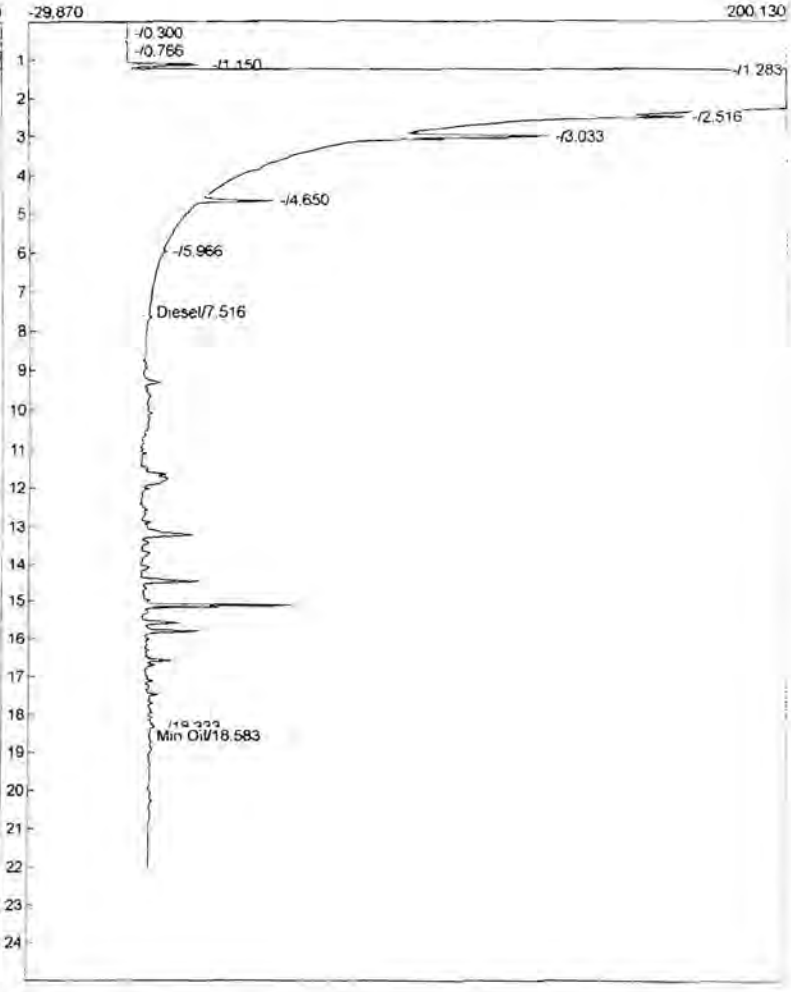
\vg slope of curve: 20.21
'-axis intercept: 0.00
.inearity: 0.84
lumber of levels: 6
SD/rel SD of CF's: 16.3/72.6
'=-0.0008X^a+24.2883X
2: 0.9993
.ast calibrated: Wed Mar 14 13:57:45 2012

.vl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
	0.000	0.000	0.000	0.000	N/A	N/A
:	1271.716	25.000	50.869	1271.716	N/A	N/A
;	1927.394	100.000	19.274	1927.394	N/A	N/A
-	10086.605	500.000	20.173	10086.605	N/A	N/A
(	24554.042	1000.000	24.554	24554.042	N/A	N/A
;	101002.720	5000.000	20.201	101002.720	N/A	N/A

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

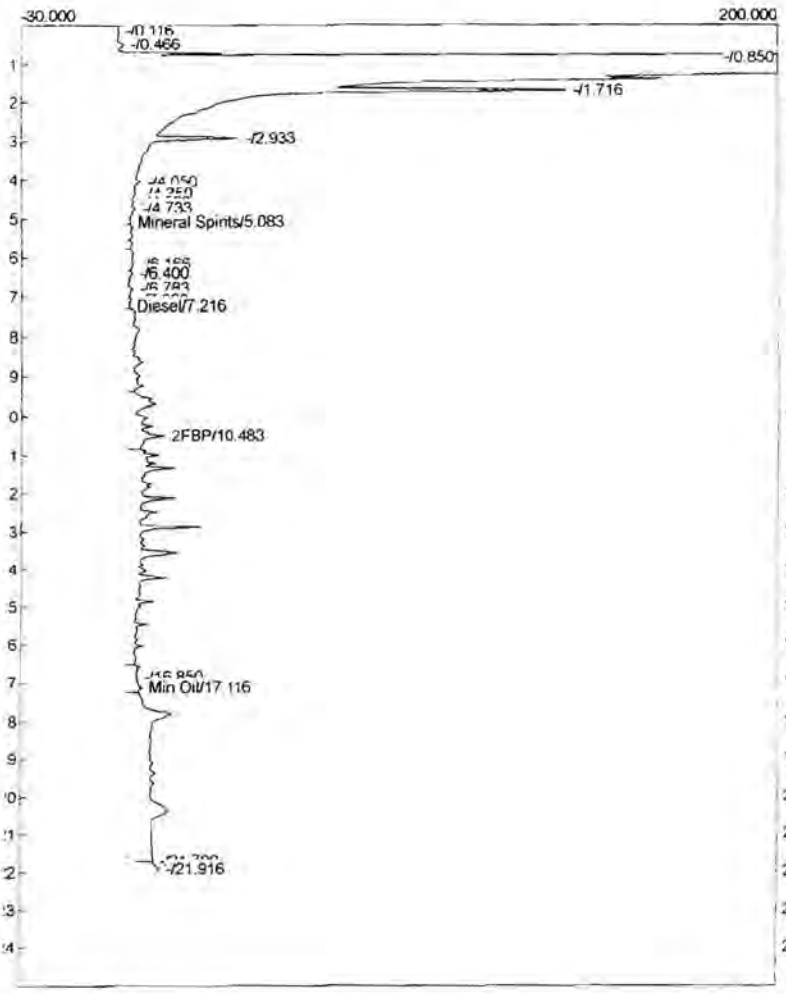




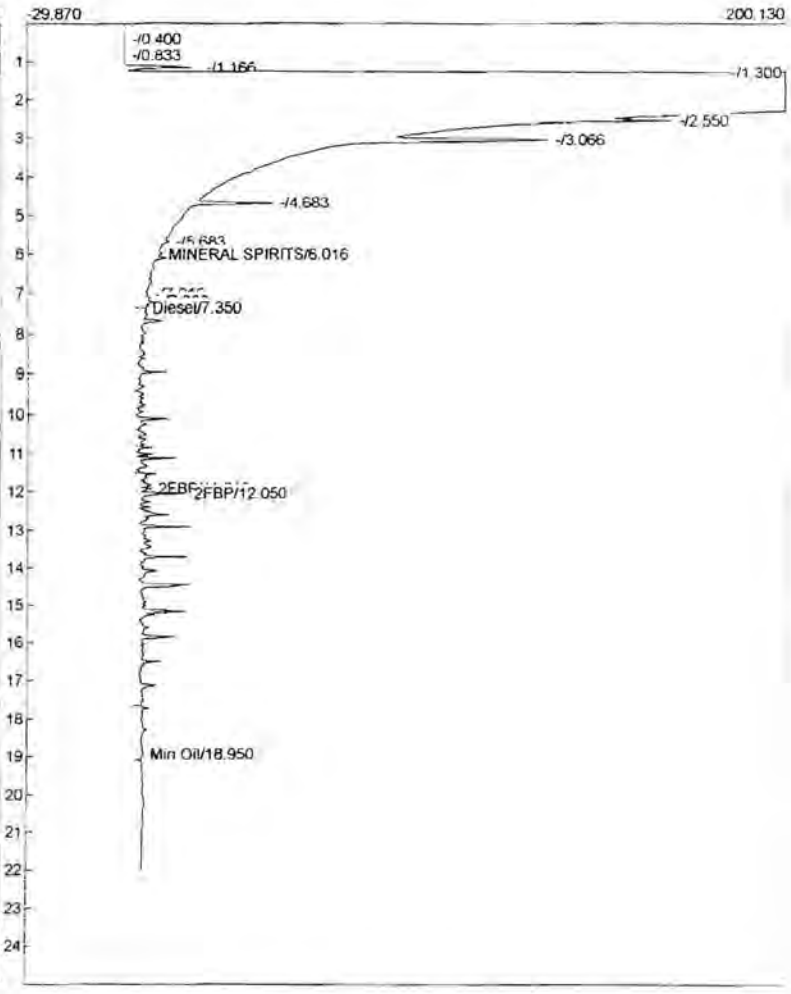
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPI
Diesel	7.150	1410.4710	0.518	13.6936	ppm
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppm
Min Oil	18.583	209.2665	1.582	14.7689	ppm
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW

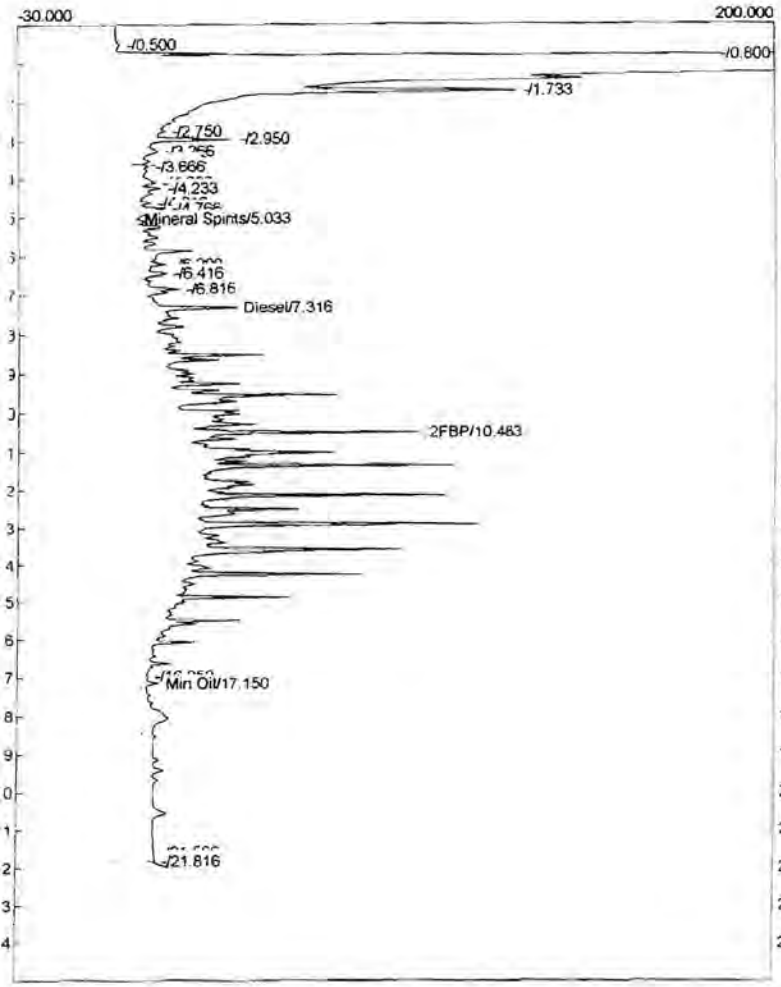


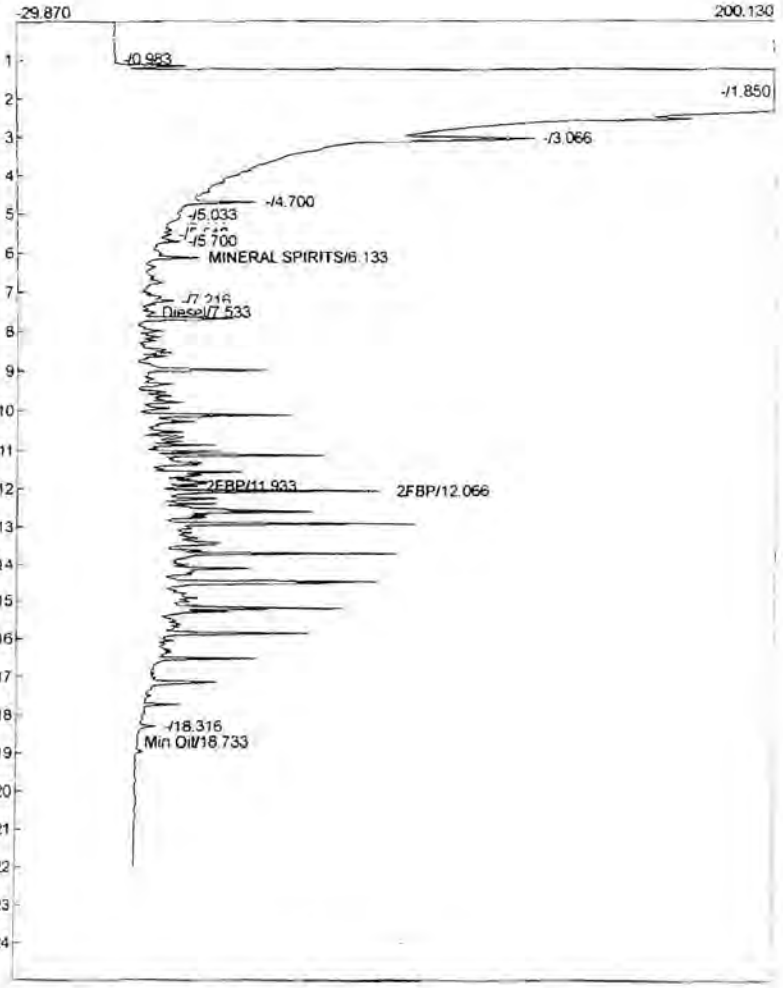
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



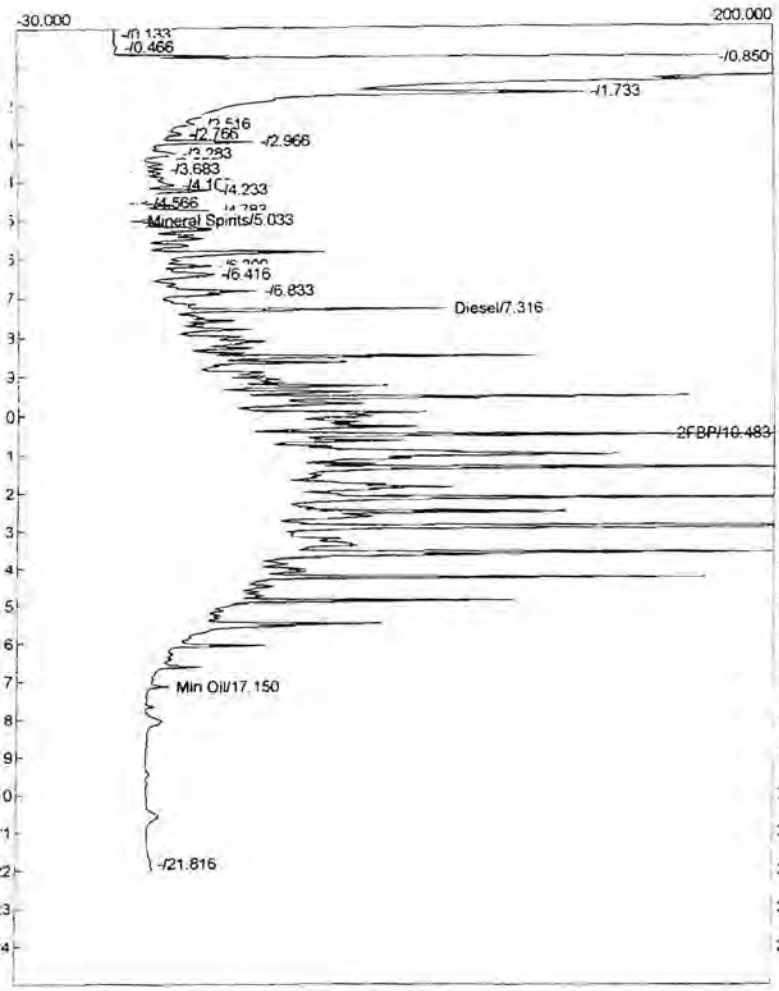


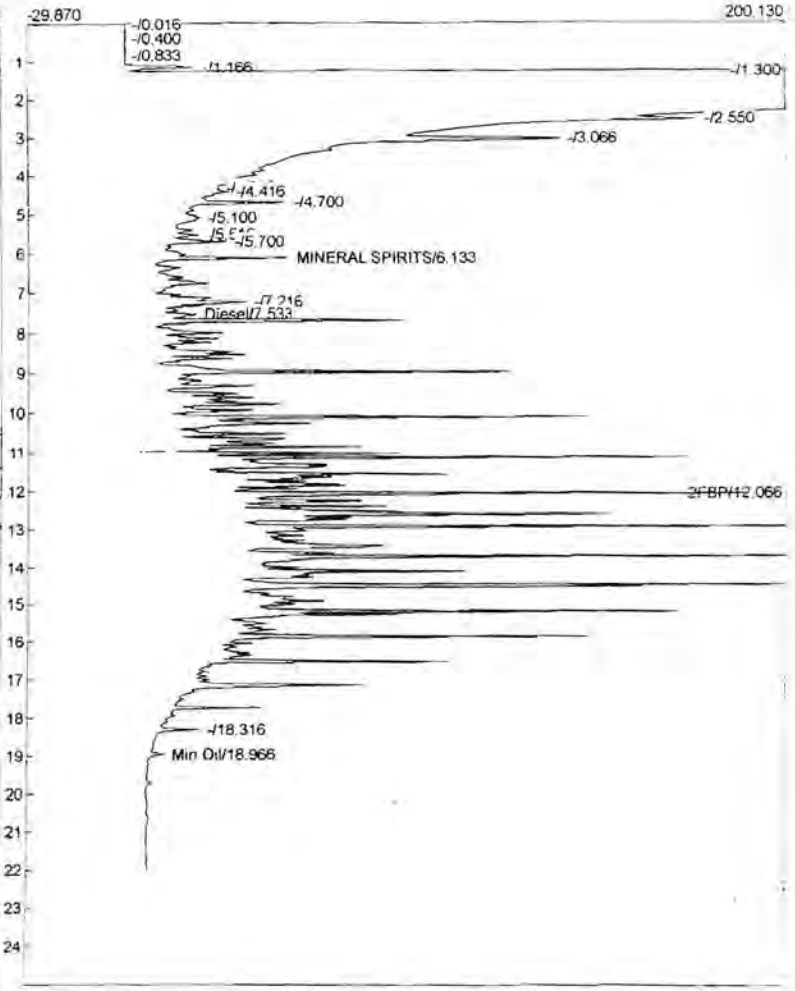
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	
		13327.5880		605.4694	

Component	Retention	Area	Height	External	Un
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



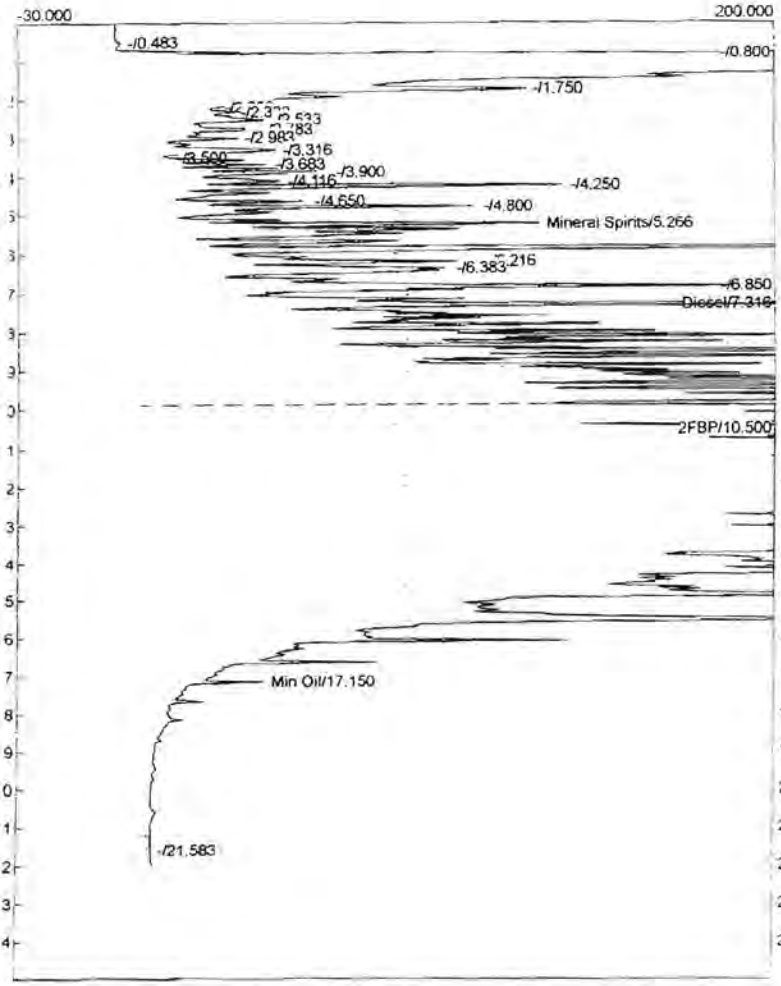


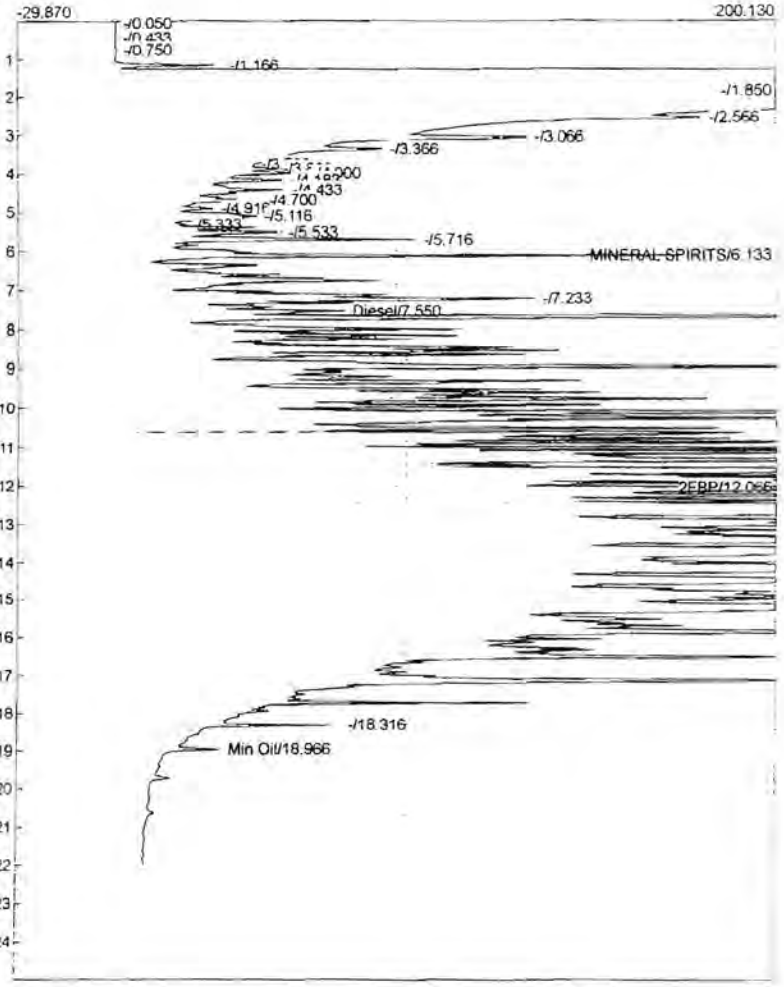
Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP	MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp	Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp	2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	17.150	221.1300	7.549	0.0000		Min Oil	18.966	300.3670	6.980	21.1982	pp
		31088.3290		1512.0877				25578.2480		1778.8751	

Lab name: Libby Environmental

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

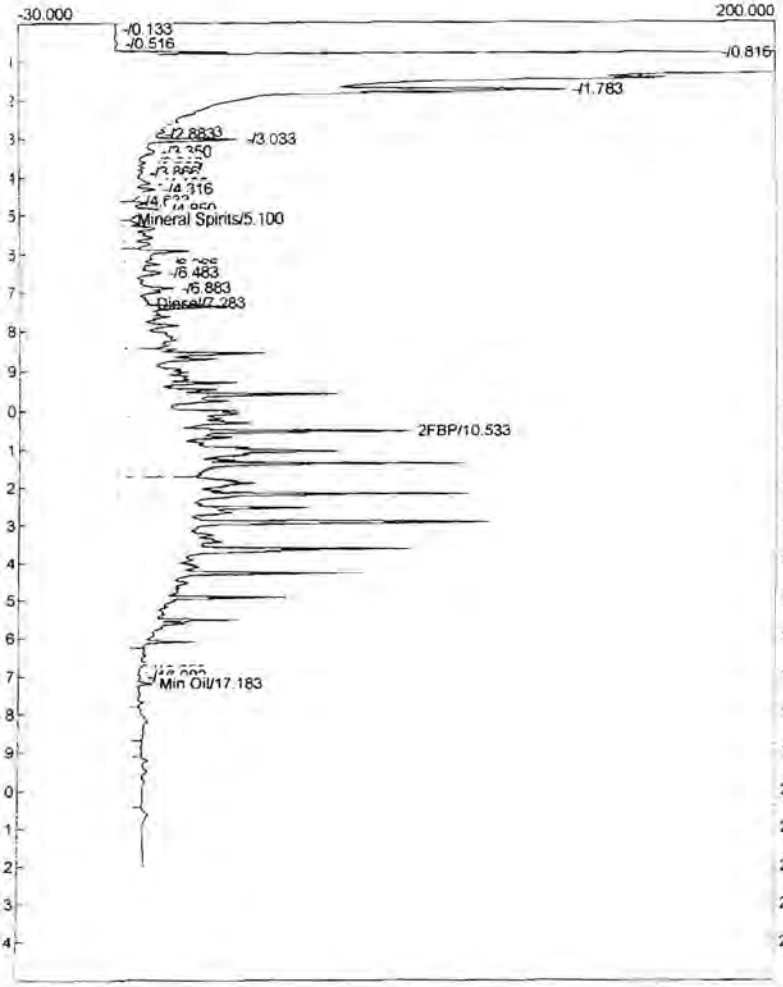




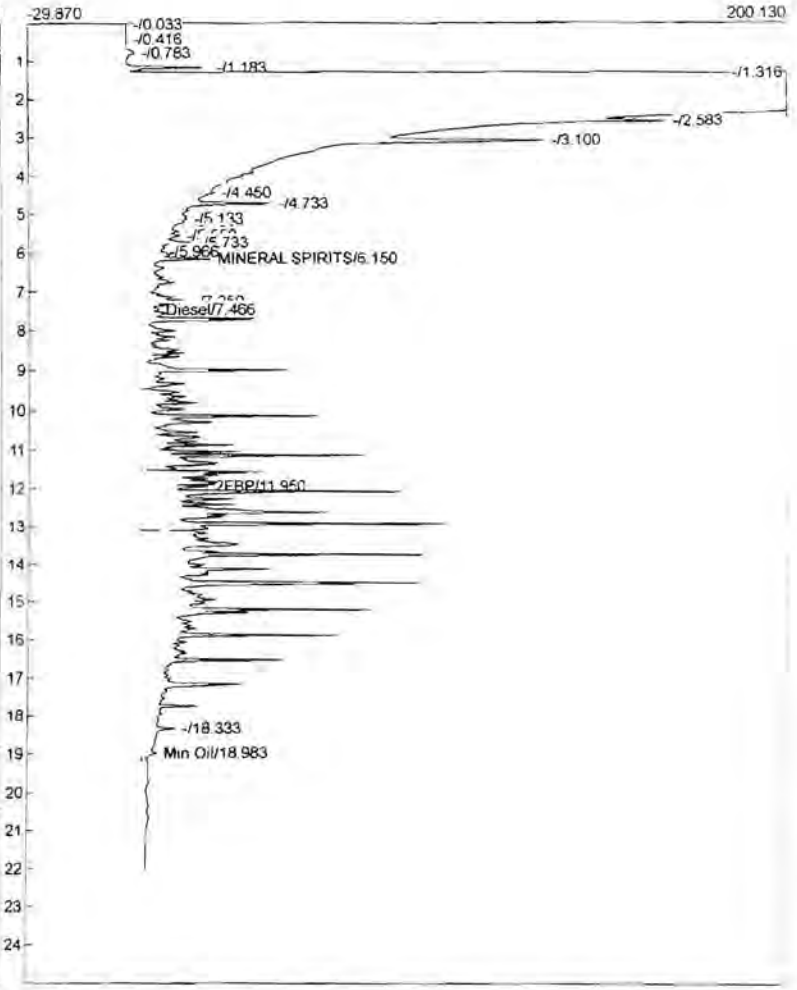
Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

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Seattle, WA 98103
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info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1210080

October 18, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 3 sample(s) on 10/10/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1210080

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1210080-001	SRZ-WSW01-91212	09/12/2012 7:10 AM	10/10/2012 8:10 AM
1210080-002	SRZ-ESW01-91212	09/12/2012 7:30 AM	10/10/2012 8:10 AM
1210080-003	SRZ-EB2-91012	09/10/2012 8:15 AM	10/10/2012 8:10 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1210080**
Date: **10/18/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/12/2012 7:10:00 AM

Project: Irondale

Lab ID: 1210080-001 **Matrix:** Soil

Client Sample ID: SRZ-WSW01-91212

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	47.3	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
Benzo(a)pyrene	ND	47.3	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
2,4-Dimethylphenol	ND	27.4	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
Surr: 2-Fluorobiphenyl	92.6	50.4-142	H	%REC	1	10/12/2012 4:52:00 PM
Surr: Phenol-d6	76.8	48.2-143	H	%REC	1	10/12/2012 4:52:00 PM
Surr: Terphenyl-d14 (surr)	83.3	48.8-157	H	%REC	1	10/12/2012 4:52:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	12.0		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/12/2012 7:30:00 AM

Project: Irondale

Lab ID: 1210080-002 **Matrix:** Soil

Client Sample ID: SRZ-ESW01-91212

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	46.2	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
Benzo(a)pyrene	ND	46.2	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
2,4-Dimethylphenol	ND	26.8	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
Surr: 2-Fluorobiphenyl	98.4	50.4-142	H	%REC	1	10/12/2012 5:42:00 PM
Surr: Phenol-d6	86.4	48.2-143	H	%REC	1	10/12/2012 5:42:00 PM
Surr: Terphenyl-d14 (surr)	94.1	48.8-157	H	%REC	1	10/12/2012 5:42:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	18.7		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/10/2012 8:15:00 AM

Project: Irondale

Lab ID: 1210080-003 **Matrix:** Soil

Client Sample ID: SRZ-EB2-91012

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	46.4	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
Benzo(a)pyrene	ND	46.4	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
2,4-Dimethylphenol	ND	26.9	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
Surr: 2-Fluorobiphenyl	95.9	50.4-142	H	%REC	1	10/12/2012 6:08:00 PM
Surr: Phenol-d6	83.4	48.2-143	H	%REC	1	10/12/2012 6:08:00 PM
Surr: Terphenyl-d14 (surr)	93.0	48.8-157	H	%REC	1	10/12/2012 6:08:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	17.1		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3406**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICB**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3406**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICV**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	514		500.0		103	50.4	142				
Surr: Phenol-d6	979		1,000		97.9	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.1	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1210080-001ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **SRZ-WSW01-91212**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121811**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	49.3						0	0	30	H
Benzo(a)pyrene	ND	49.3						0	0	30	H
2,4-Dimethylphenol	ND	28.6						0	0	30	H
Surr: 2-Fluorobiphenyl	477		493.0		96.8	50.4	142		0		H
Surr: Phenol-d6	785		986.0		79.7	48.2	143		0		H
Surr: Terphenyl-d14 (surr)	442		493.0		89.6	48.8	157		0		H

Sample ID: **CCV-3406B**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121813**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	80	120				
Benzo(a)pyrene	1,030	50.0	1,000	0	103	80	120				
2,4-Dimethylphenol	1,020	29.0	1,000	0	102	80	120				
Surr: 2-Fluorobiphenyl	498		500.0		99.6	50.4	142				
Surr: Phenol-d6	1,000		1,000		100	48.2	143				
Surr: Terphenyl-d14 (surr)	455		500.0		91.1	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3406A**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121814**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	974	50.0	1,000	0	97.4	80	120				
Benzo(a)pyrene	996	50.0	1,000	0	99.6	80	120				
2,4-Dimethylphenol	1,010	29.0	1,000	0	101	80	120				
Surr: 2-Fluorobiphenyl	485		500.0		97.1	50.4	142				
Surr: Phenol-d6	959		1,000		95.9	48.2	143				
Surr: Terphenyl-d14 (surr)	522		500.0		104	48.8	157				

Sample ID: **CCB-3406A**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121815**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	494		500.0		98.9	50.4	142				
Surr: Phenol-d6	923		1,000		92.3	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **MB-3406**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **MBLKS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	470		500.0		93.9	50.4	142				
Surr: Phenol-d6	868		1,000		86.8	48.2	143				
Surr: Terphenyl-d14 (surr)	485		500.0		97.0	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-3406**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **MBLKS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-3406**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **LCSS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121817**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	879	50.0	1,000	0	87.9	76.1	123				
Benzo(a)pyrene	823	50.0	1,000	0	82.3	58.1	146				
2,4-Dimethylphenol	849	29.0	1,000	0	84.9	50	150				
Surr: 2-Fluorobiphenyl	491		500.0		98.2	50.4	142				
Surr: Phenol-d6	935		1,000		93.5	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **1210089-004AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **BATCH**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **122226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	715	43.5	869.4	0	82.3	45.2	146				
Benzo(a)pyrene	682	43.5	869.4	6.077	77.7	34.4	179				
2,4-Dimethylphenol	696	25.2	869.4	0	80.0	50	150				
Surr: 2-Fluorobiphenyl	428		434.7		98.4	50.4	142				
Surr: Phenol-d6	767		869.4		88.2	48.2	143				
Surr: Terphenyl-d14 (surr)	464		434.7		107	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1210080**
Logged by: **Clare Griggs**	Date Received: **10/10/2012 8:10:00 AM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☑	No	☐	NA	☐
5.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA	☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☑	No	☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☐	No	☑		

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks/Disrepancies

Collection date not noted on COC. Used sample dates from sample containers.

Item Information

Item #	Temp ºC	Condition
Cooler	9.7	Good

Libby Environmental, Inc.

Chain of Custody Record 1210080

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 10/9/12 Page: 1 of 1

Client: Libby Environmental
Project Manager: JAMIE DEYMAN
Address: SEE ABOVE
Project Name: IRON DALE
City: State: Zip:
Location: City, State:
Phone: Fax:
Collector: Date of Collection:
Client Project #
Email:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SRZ WSW01-91212		7:10	Soil	4oz JAR									X					
2 SRZ-ESW01-91212		7:30	↓	↓									↓					
3 SRZ-EBZ-91012		8:15	↓	↓									↓					
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	10/9/12	[signature]	10.10.12 8:10AM
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - File, Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

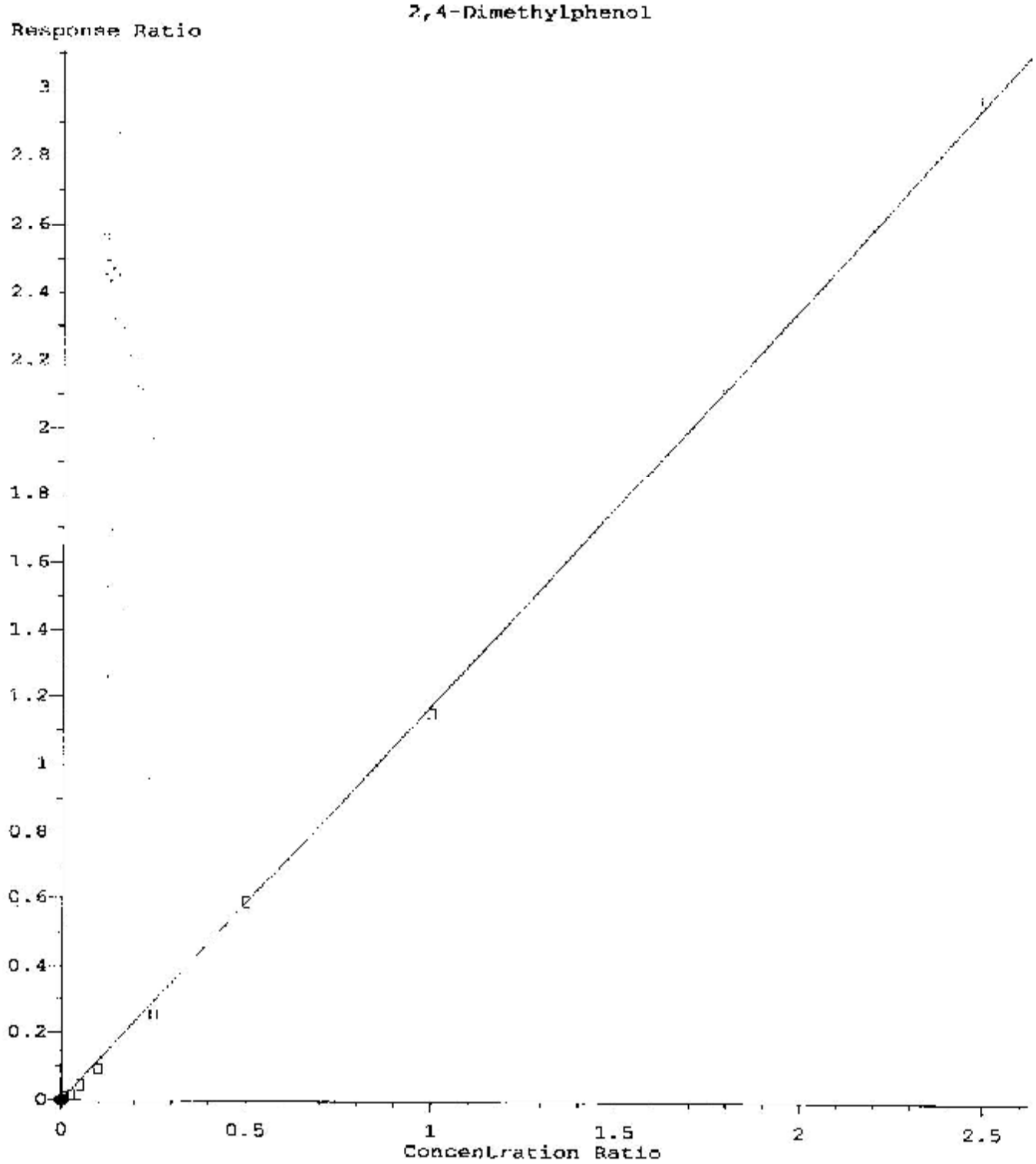
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

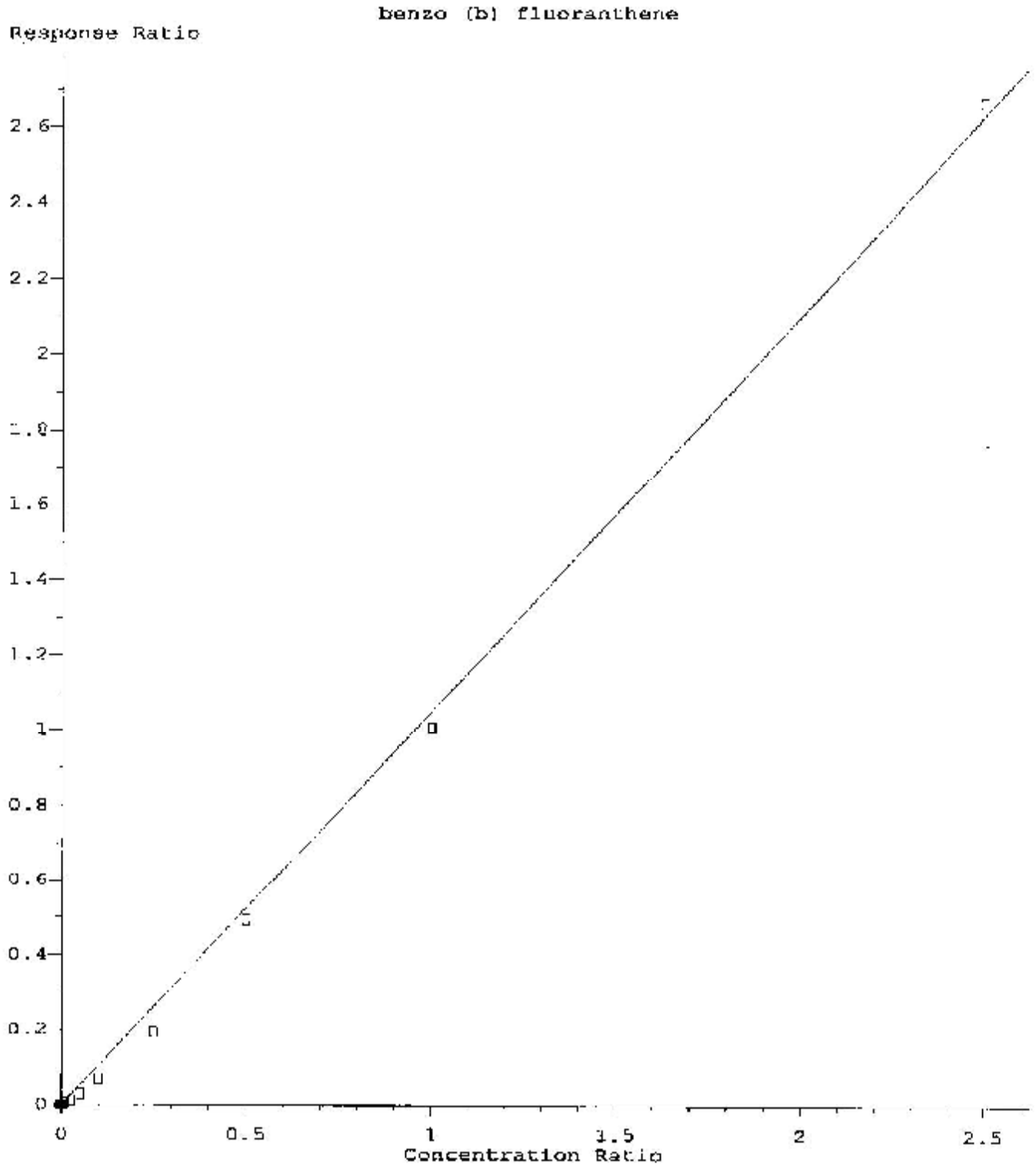
25)	I	Perylene-d12 (IS)	----------ISTD----------								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

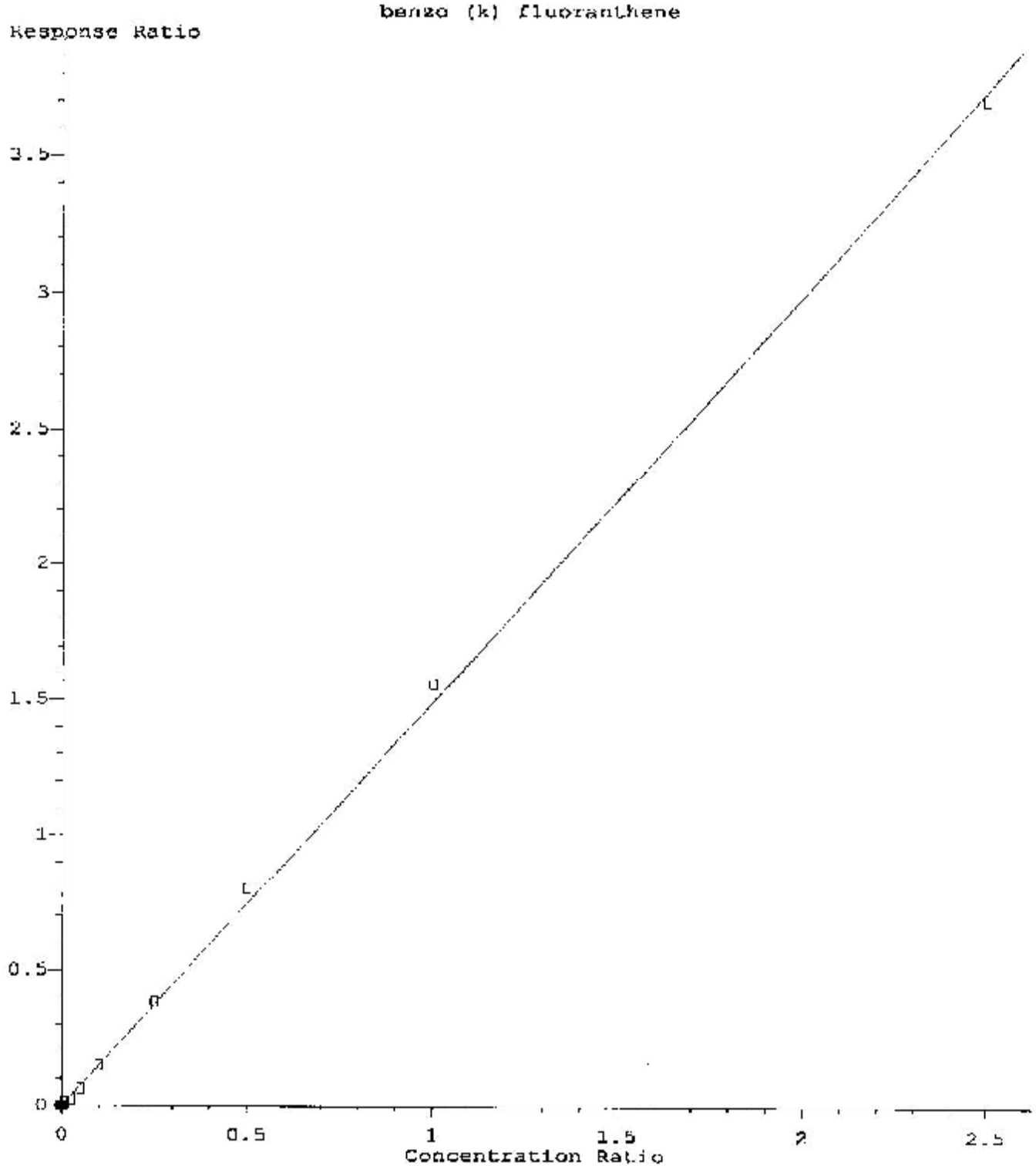
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



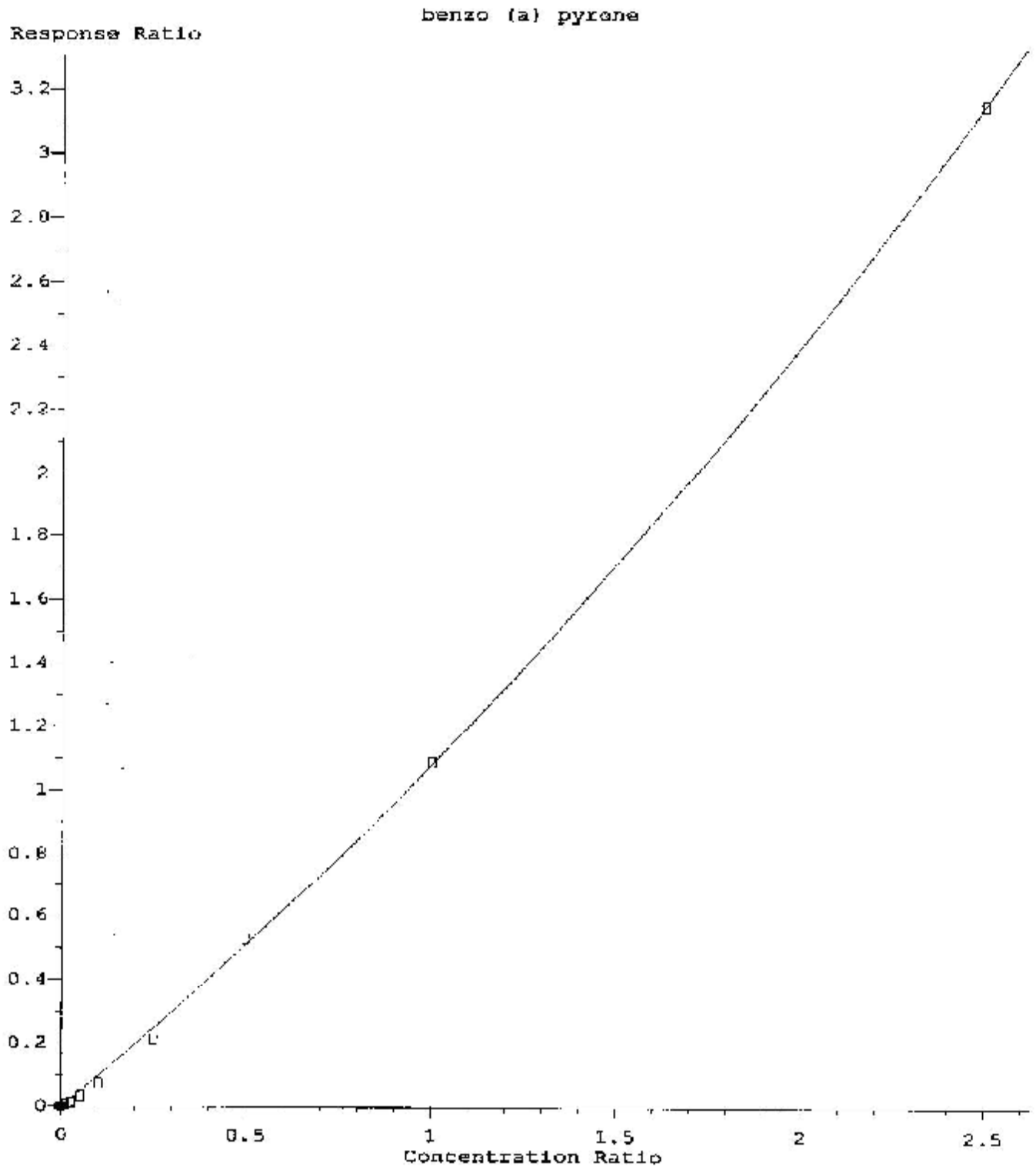
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



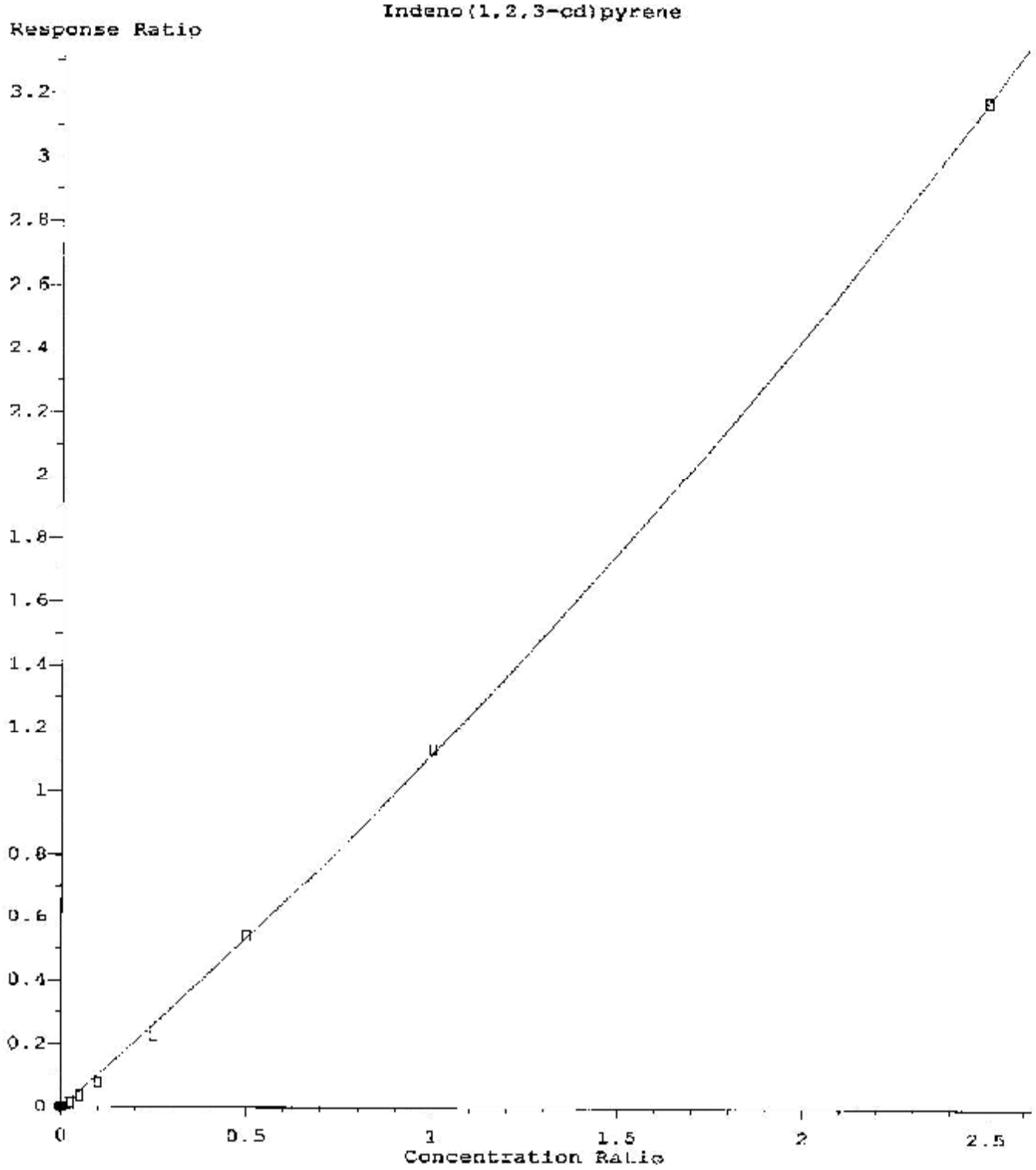
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



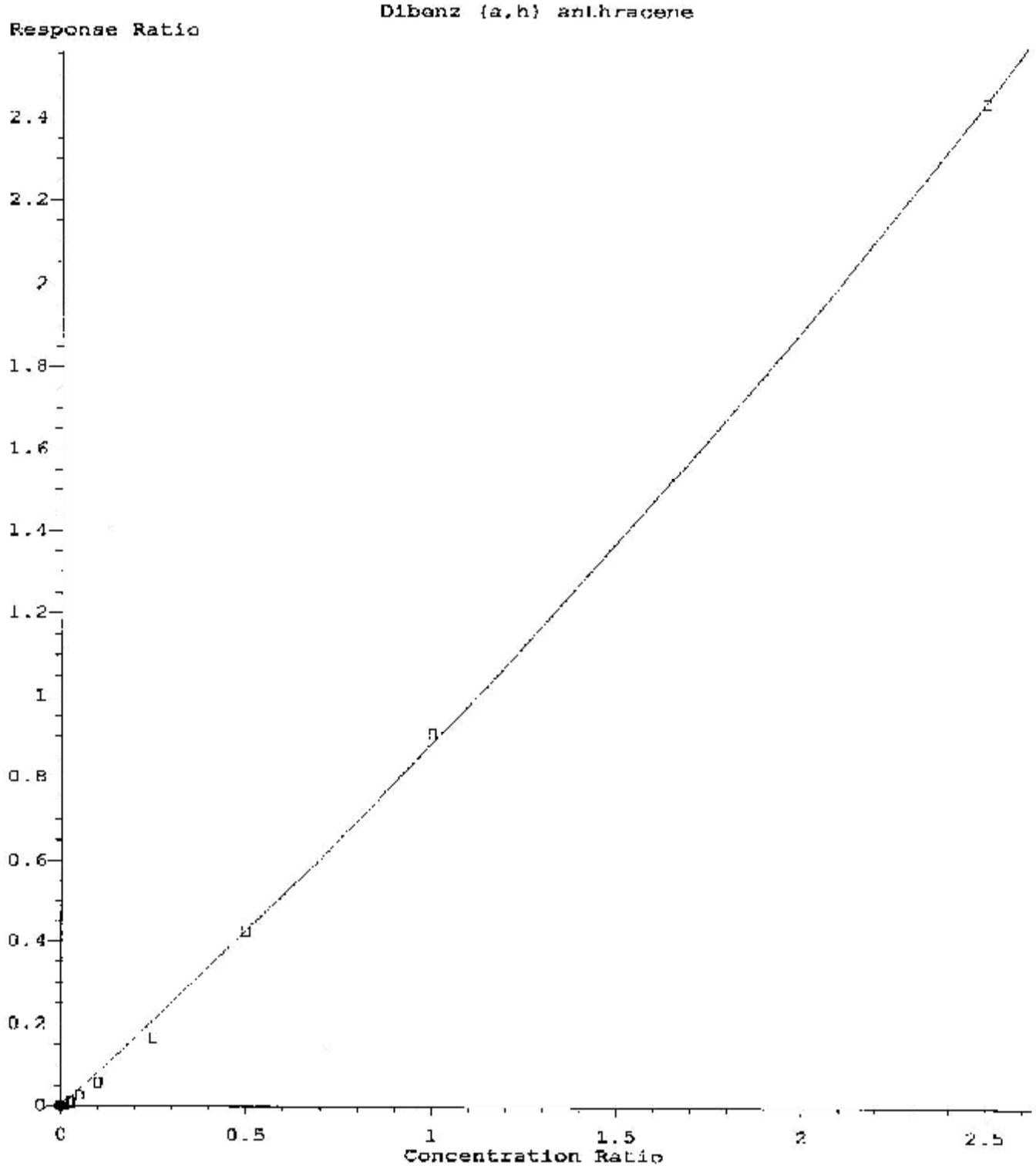
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



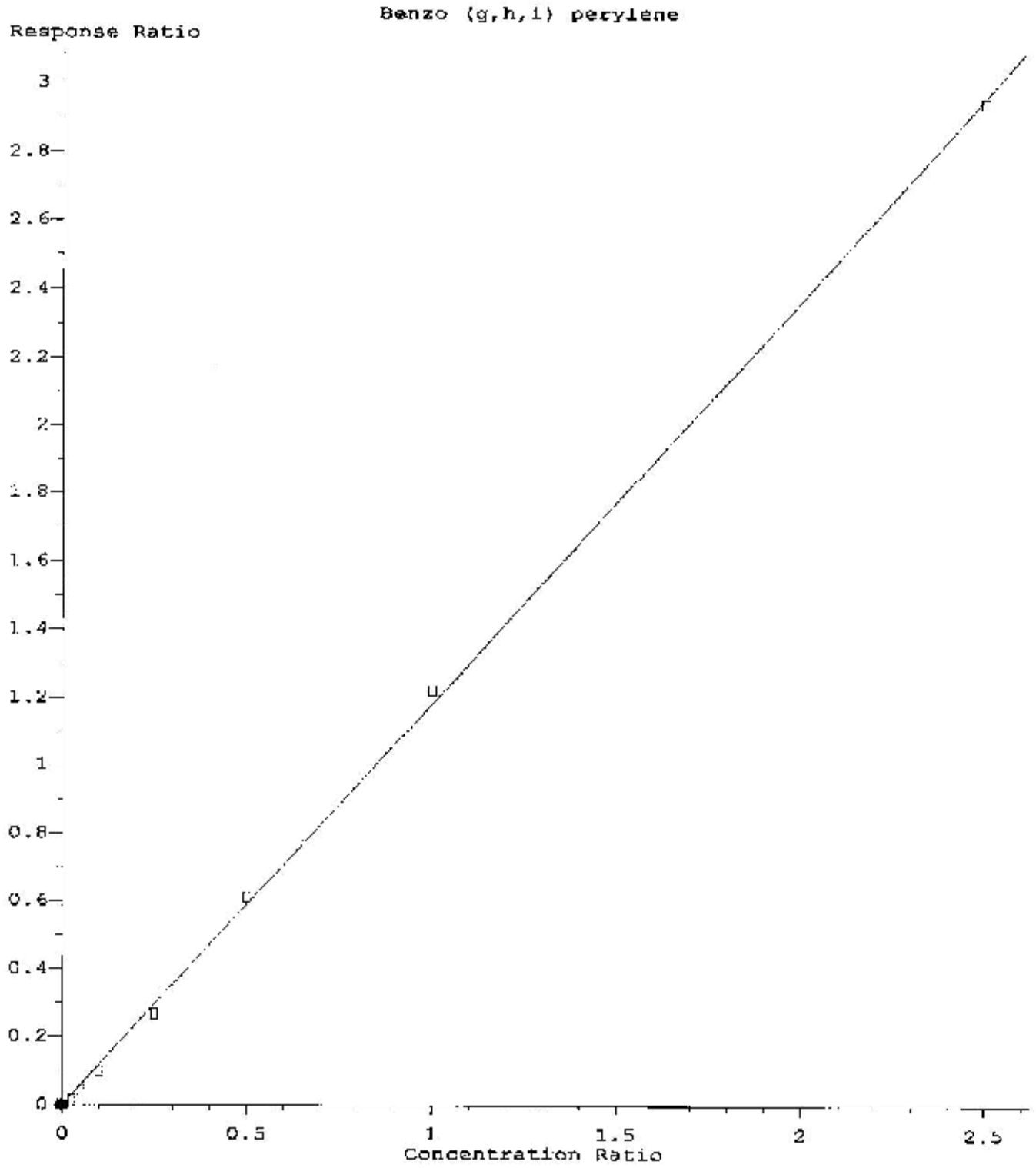
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

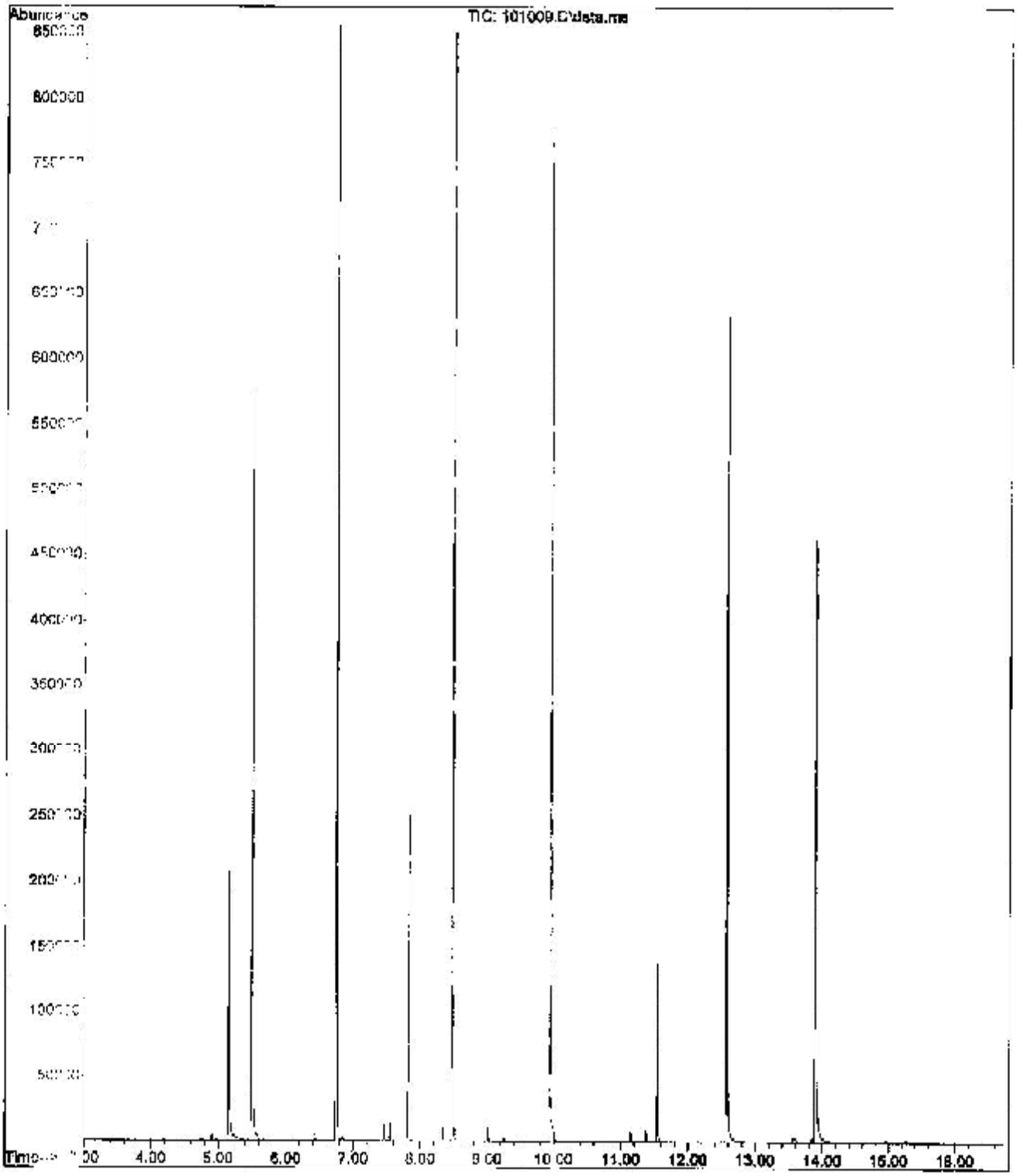
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	155780	971.54	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.430	107	1703m	13.70	ug/L		
5] Naphthalene	6.766	128	9729	22.54	ug/L		100
6] 2-Methylnaphthalene	7.455	142	5421	21.44	ug/L		100
7] 1-Methylnaphthalene	7.550	142	5172	21.59	ug/L		100
9] Acenaphthylene	8.338	152	7063	20.38	ug/L		100
11] Acenaphthene	8.508	152	2661	23.37	ug/L		99
12] Fluorene	9.021	166	5847	22.40	ug/L		97
14] Phenanthrene	9.967	178	8863	23.95	ug/L		100
15] Anthracene	10.020	178	6894	20.35	ug/L		97
17] Fluoranthene	11.145	202	6586	19.76	ug/L	#	94
18] Pyrene	11.368	202	6766	19.42	ug/L	#	85
19] Benzo (a) anthracene	12.559	228	6945	23.77	ug/L	#	100
21] Chrysene	12.592	228	8752m	25.21	ug/L		
22] benzo (b) fluoranthene	13.556	252	2936	11.32	ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	5957	16.17	ug/L		99
24] benzo (a) pyrene	13.835	252	2906	12.19	ug/L	#	52
26] Indeno(1,2,3-cd)pyrene	14.943	276	3867m	14.51	ug/L		
27] Dibenz (a,h) anthracene	14.967	278	2052m	14.50	ug/L		
28] Benzo (g,h,i) perylene	15.256	276	3732m	18.27	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

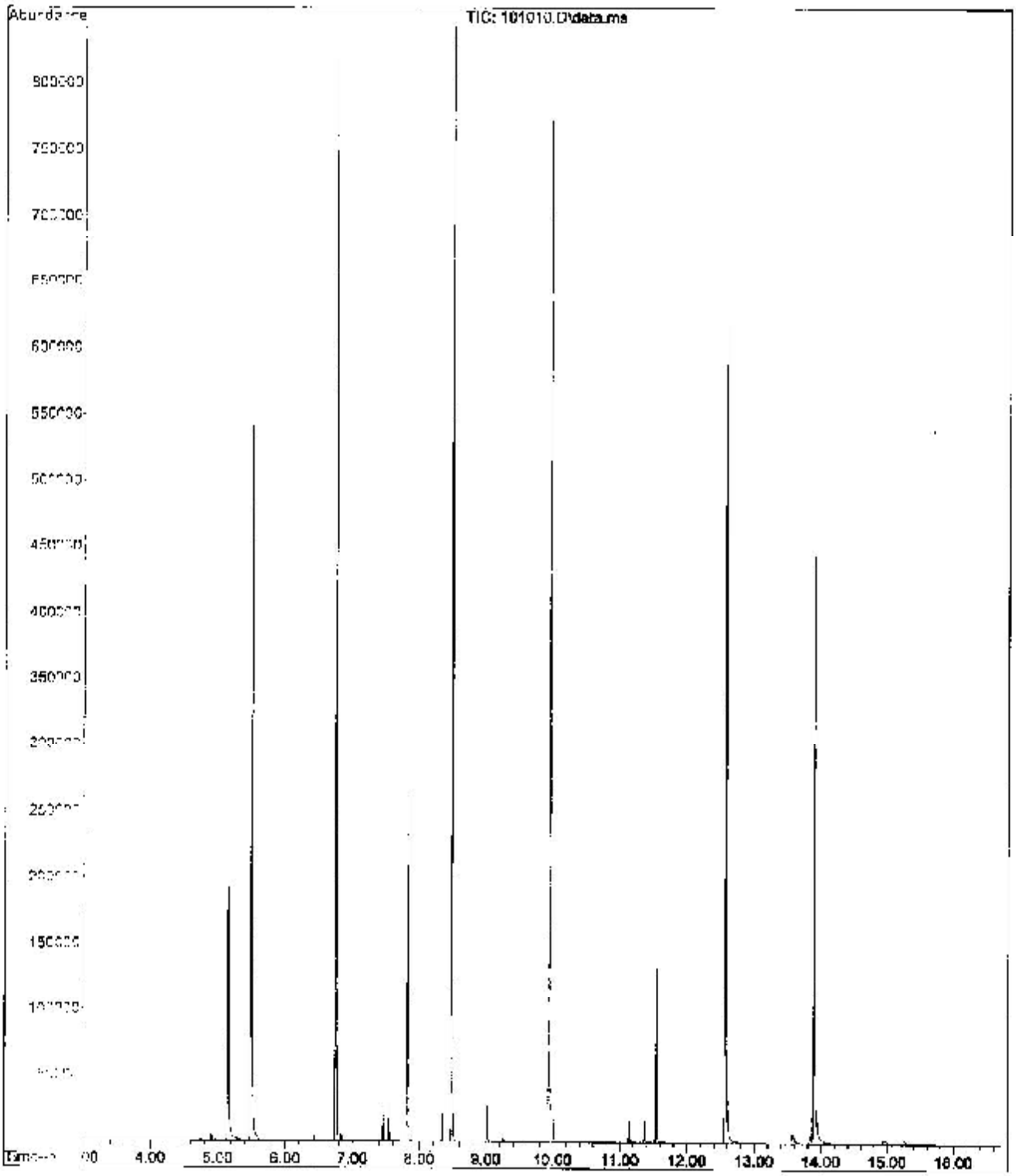
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mednchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo(a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo(b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo(k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo(a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz(a,h) anthracene	14.964	278	3702m	28.18 ug/L	
28) Benzo(g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 ... .M Thu Oct 11 09:27:4... 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

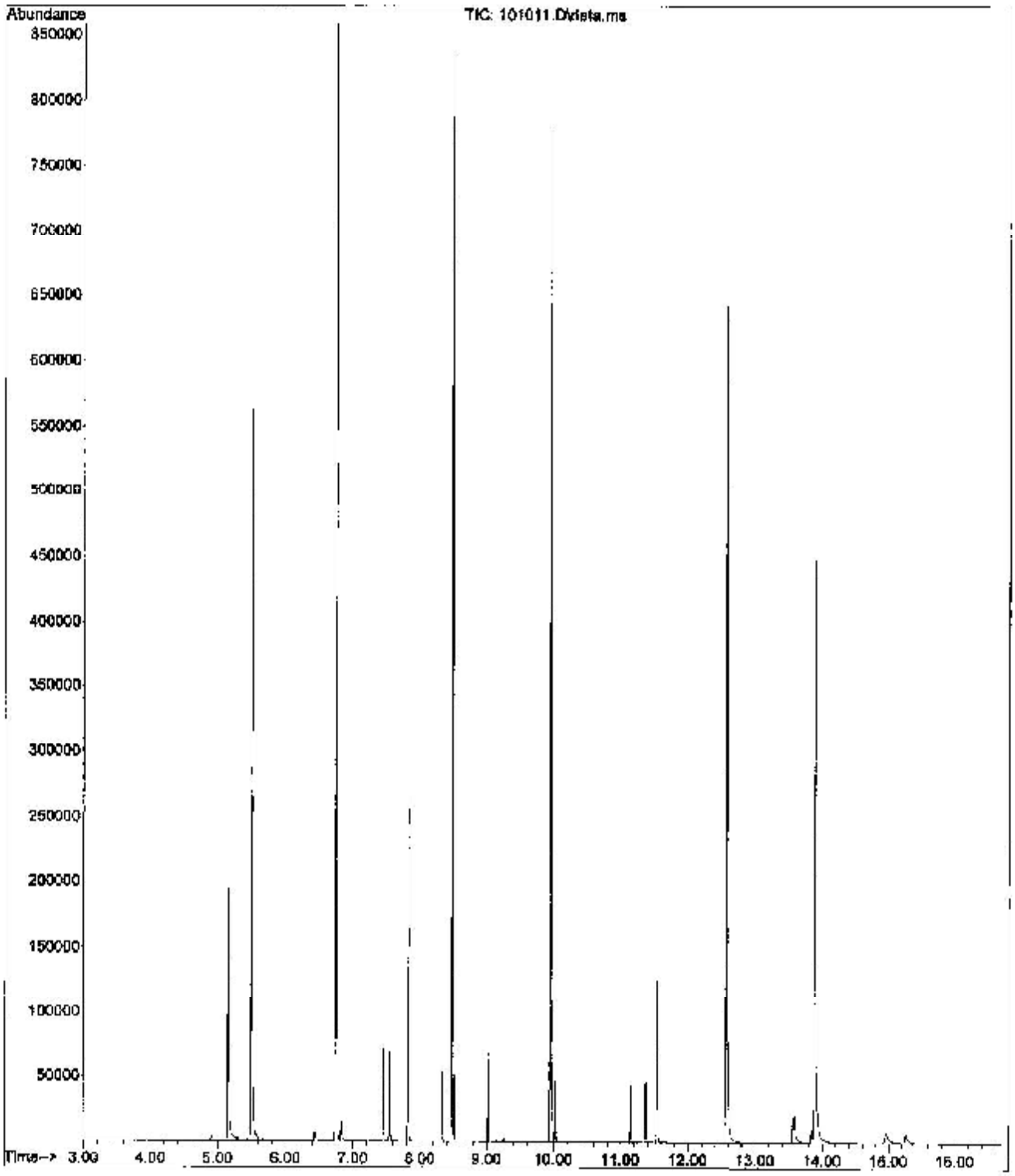
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

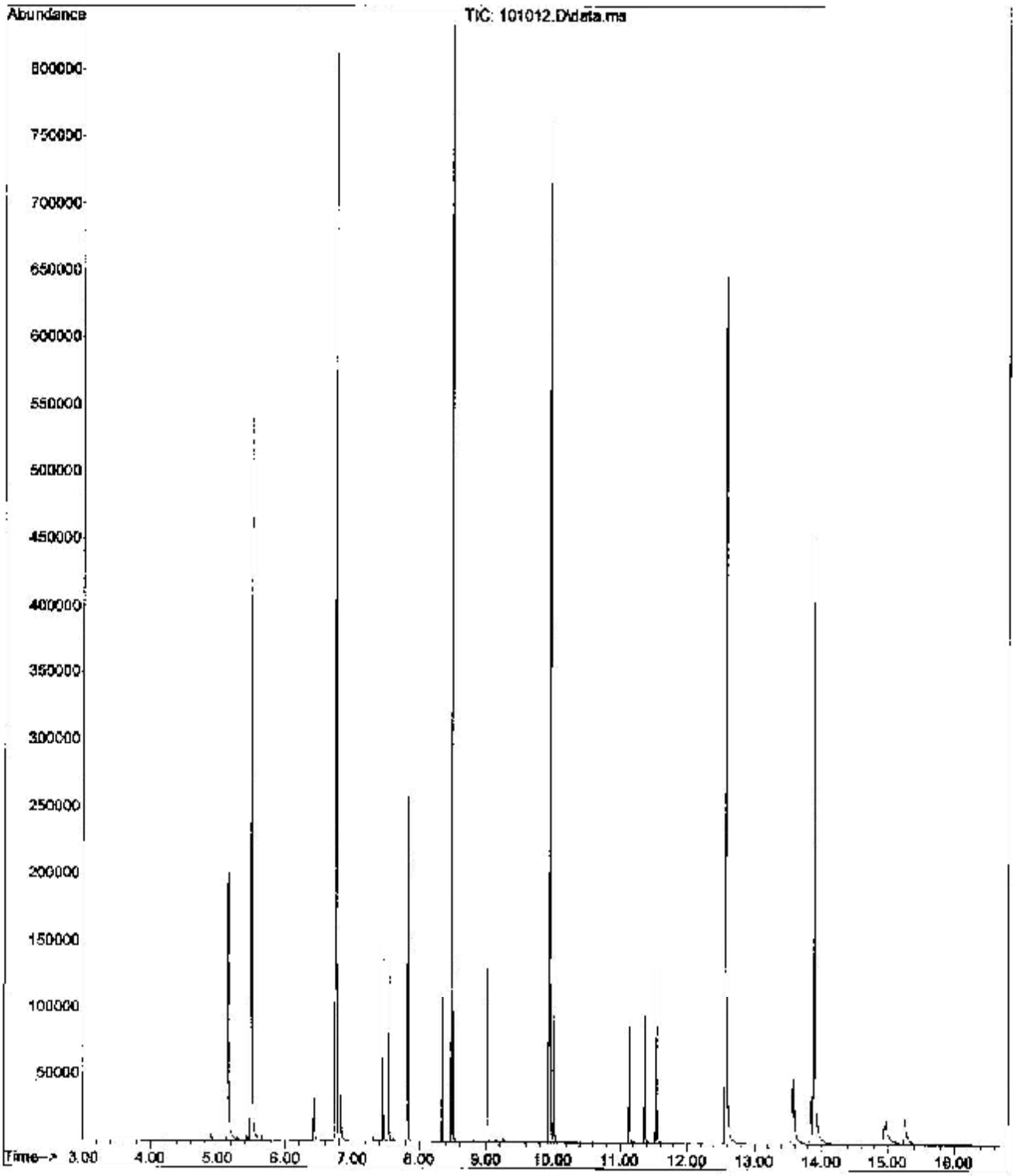
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PFB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

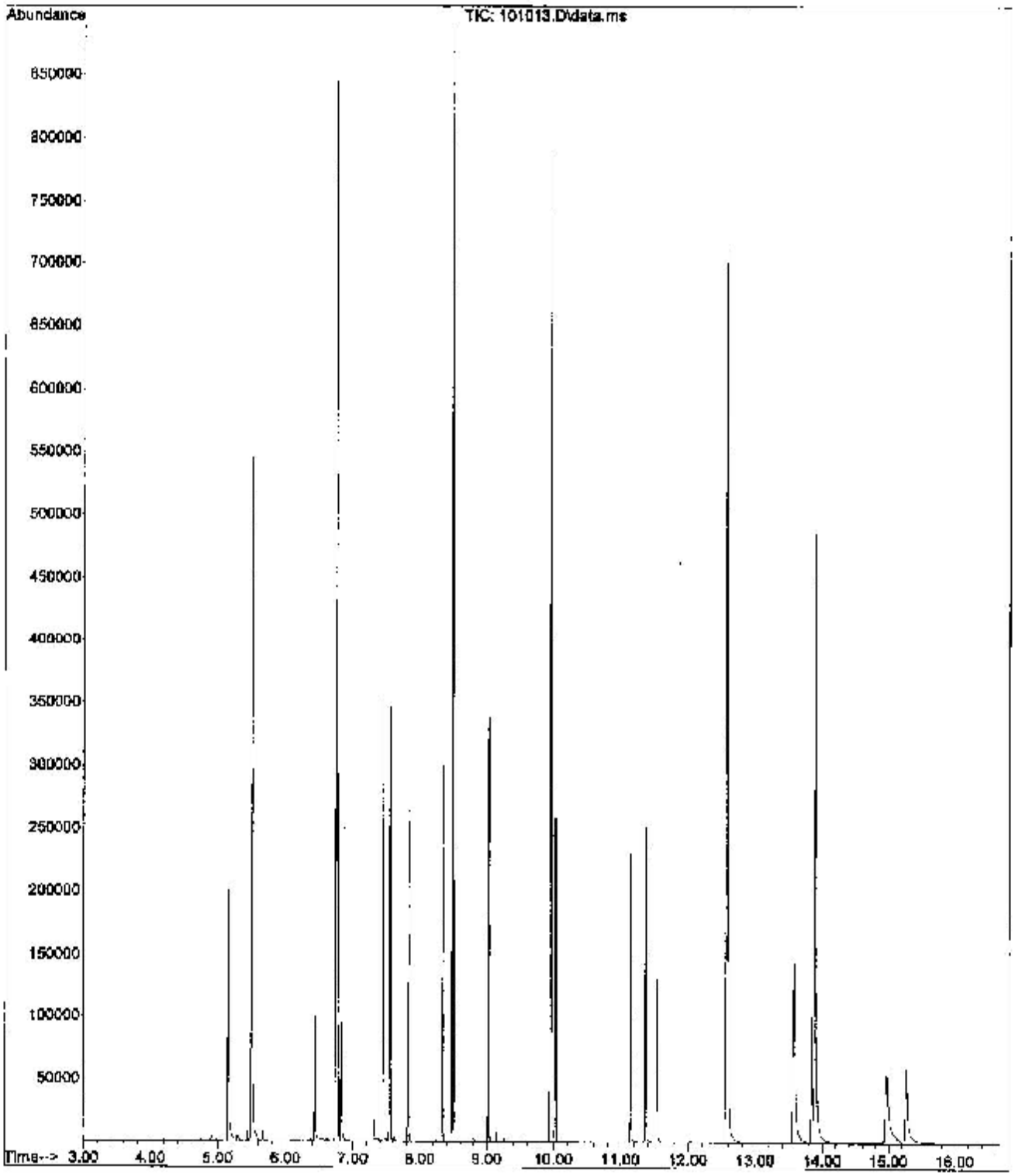
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.150	99	155773	999.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L		
5) Naphthalene	6.767	128	210515	496.23 ug/L		100
6) 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L		98
7) 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L		97
9) Acenaphthylene	8.338	152	176929	519.35 ug/L		100
11) Acenaphthene	8.509	152	56451	496.90 ug/L		99
12) Fluorene	9.022	166	132700	509.61 ug/L		97
14) Phenanthrene	9.969	178	184698	505.37 ug/L		100
15) Anthracene	10.019	178	169453	506.64 ug/L		98
17) Fluoranthene	11.146	202	171838	522.16 ug/L		95
18) Pyrene	11.360	202	181345	527.17 ug/L		94
19) Benzo (a) anthracene	12.559	228	140369	486.48 ug/L	#	100
21) Chrysene	12.593	228	176026	496.99 ug/L		95
22) benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L	#	100
23) benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L		99
24) benzo (a) pyrene	13.837	252	108063	433.23 ug/L	#	89
26) Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L		
28) Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

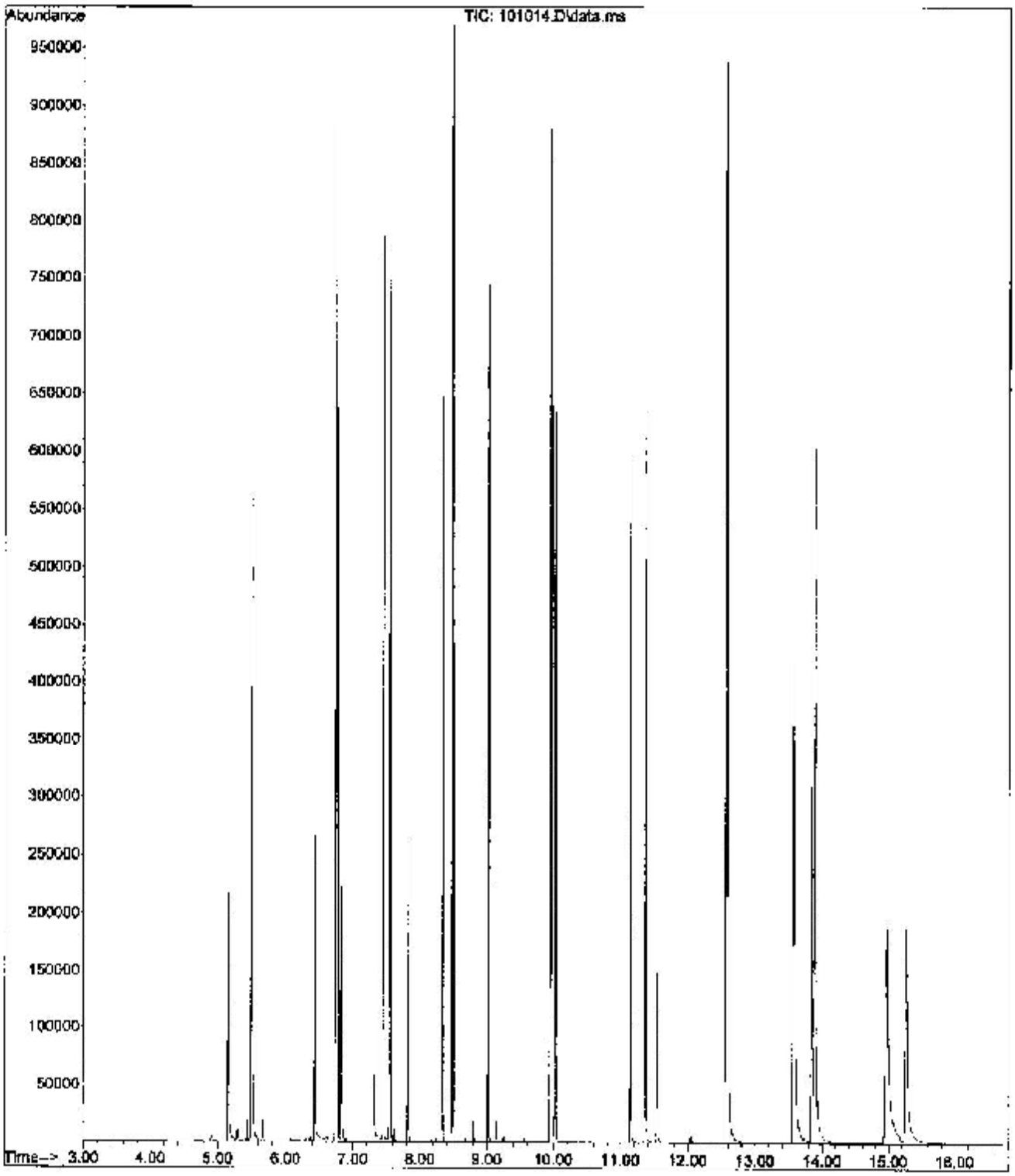
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

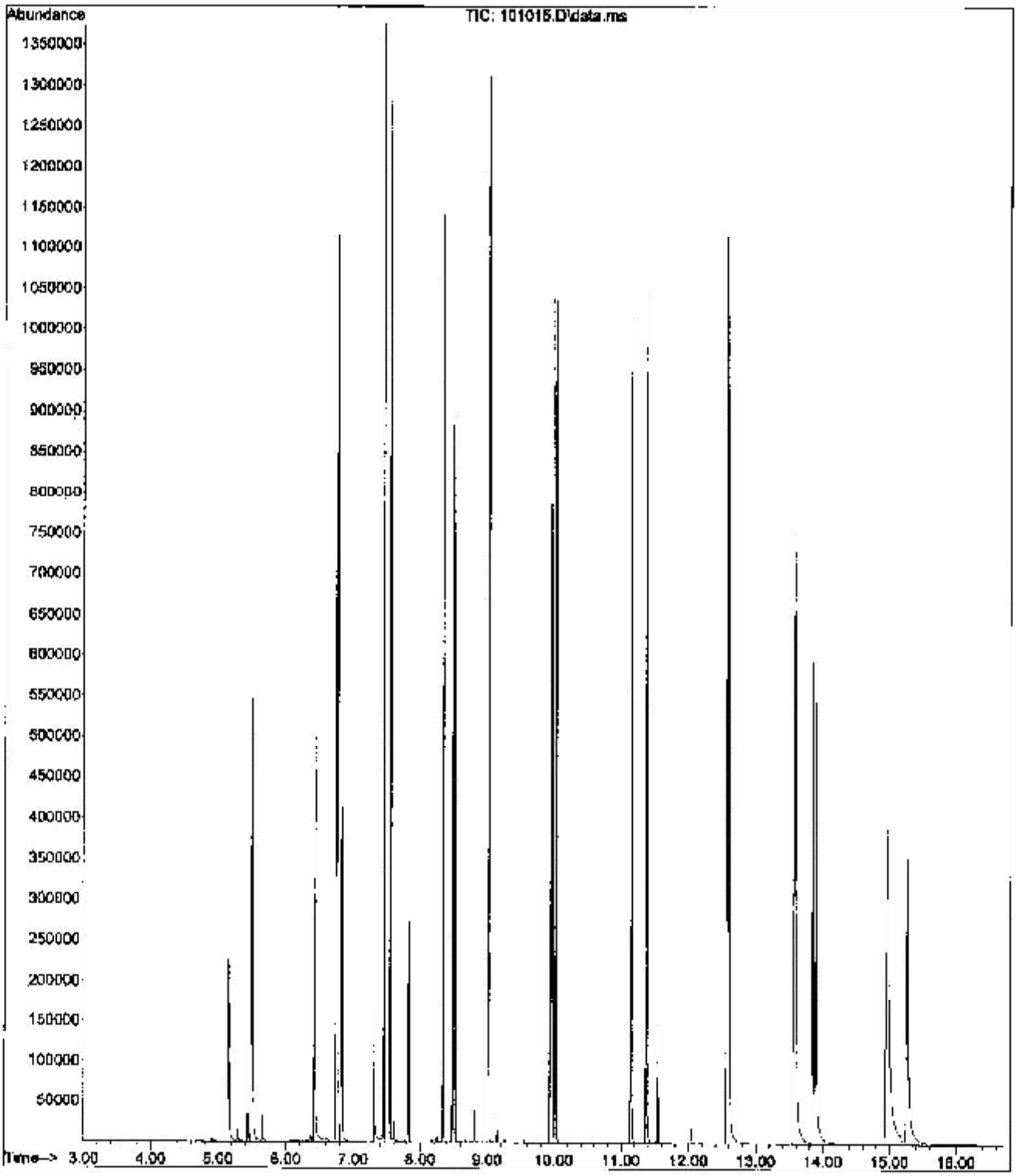
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

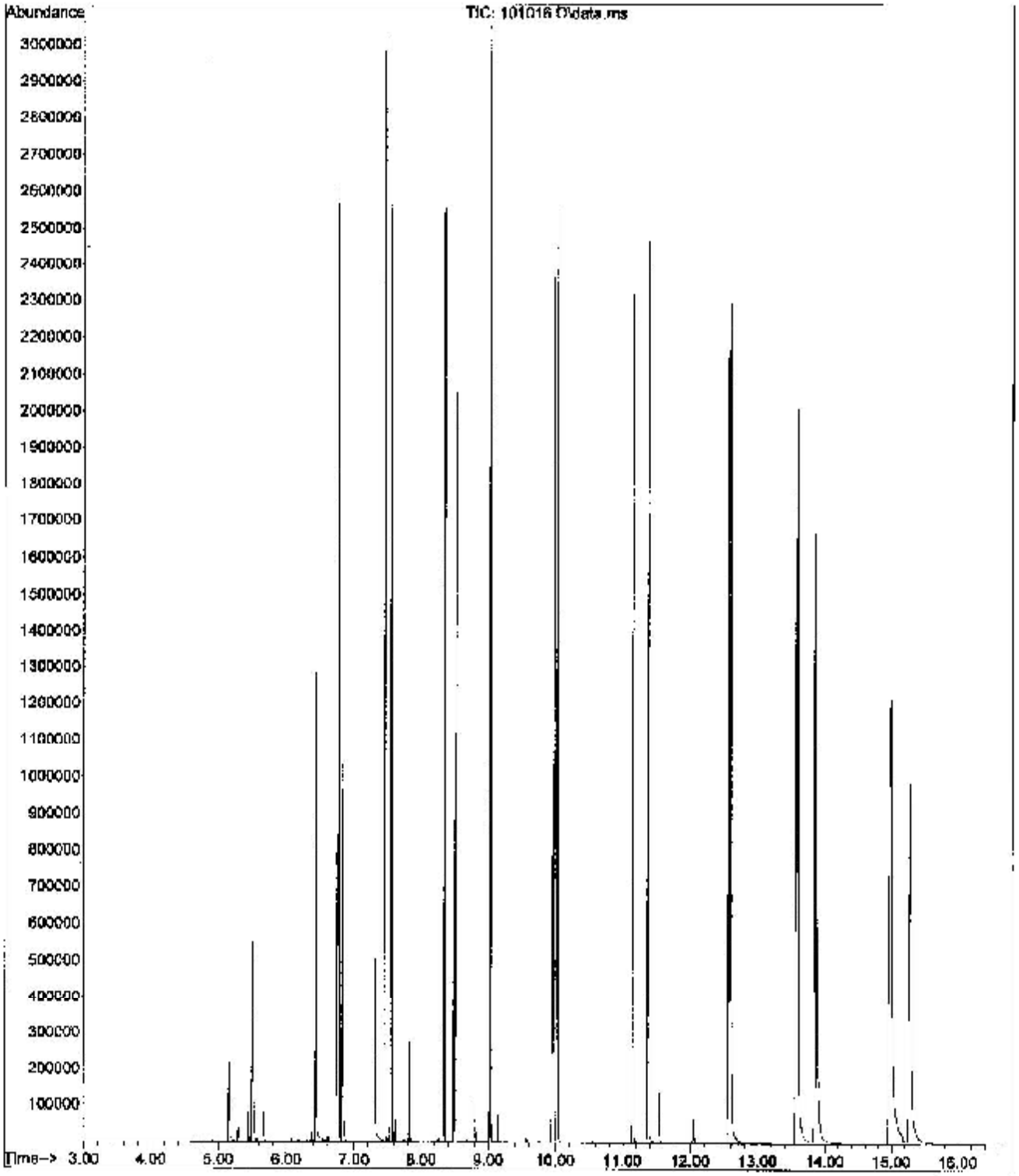
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 19 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

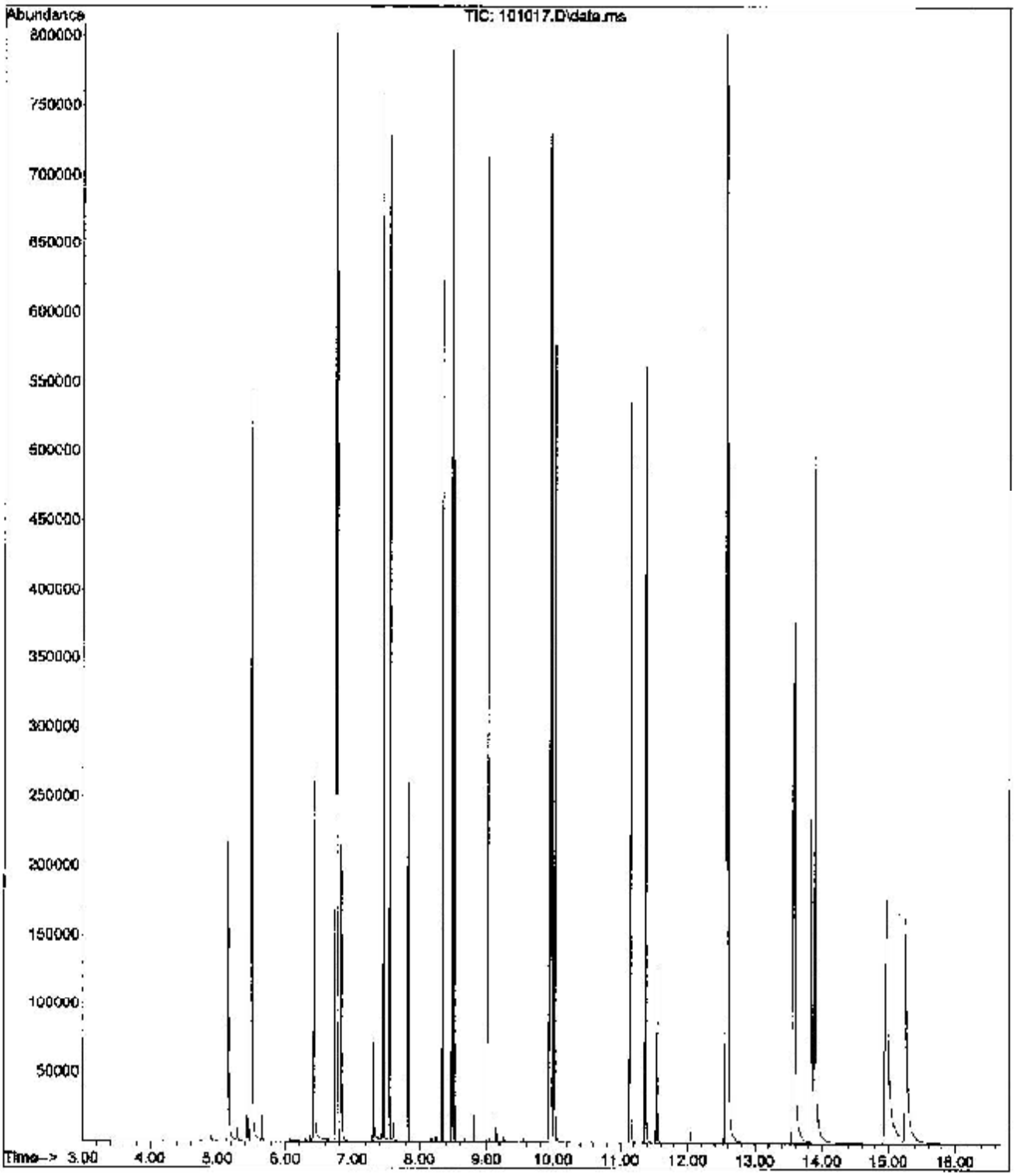
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

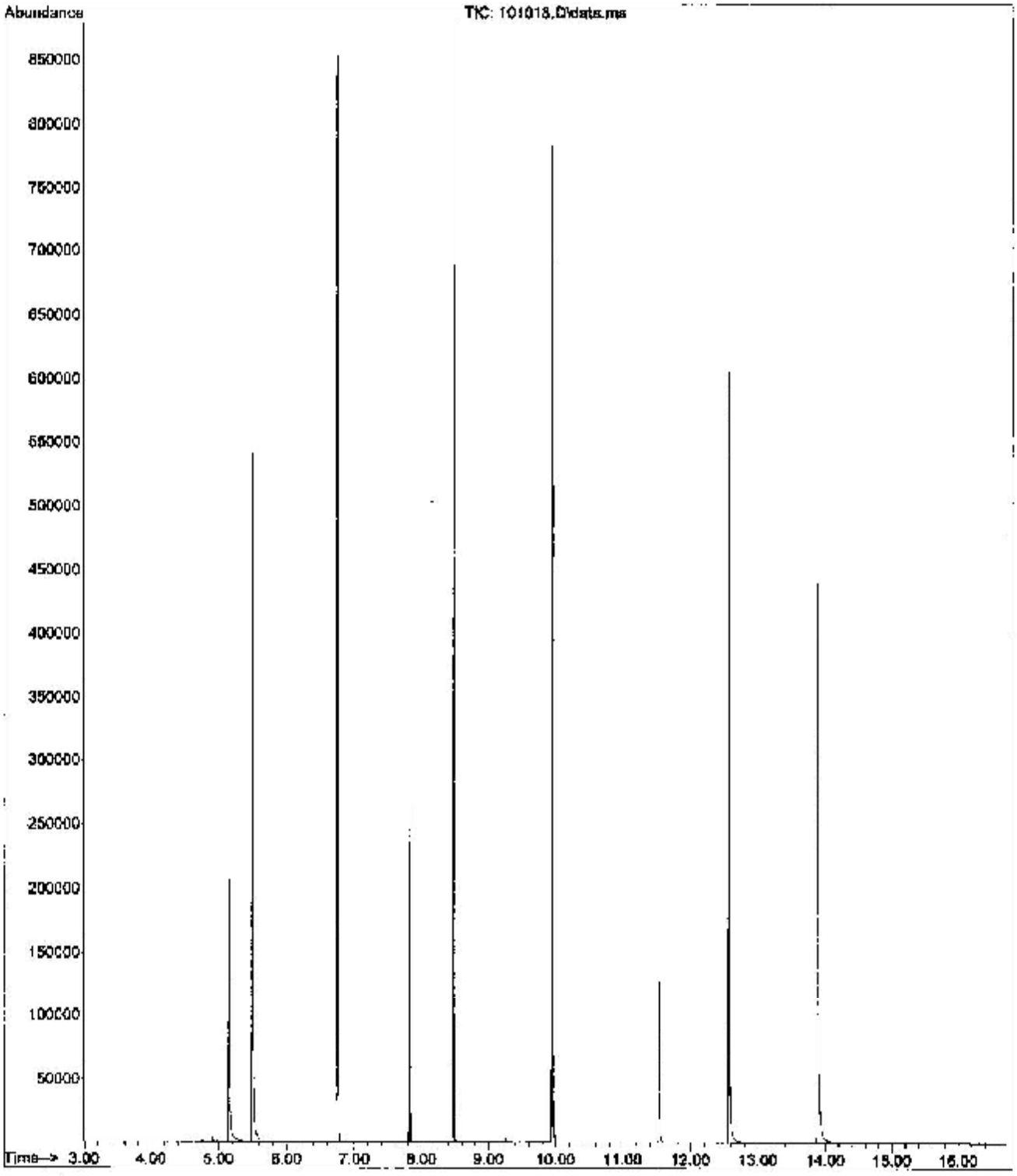
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 19 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

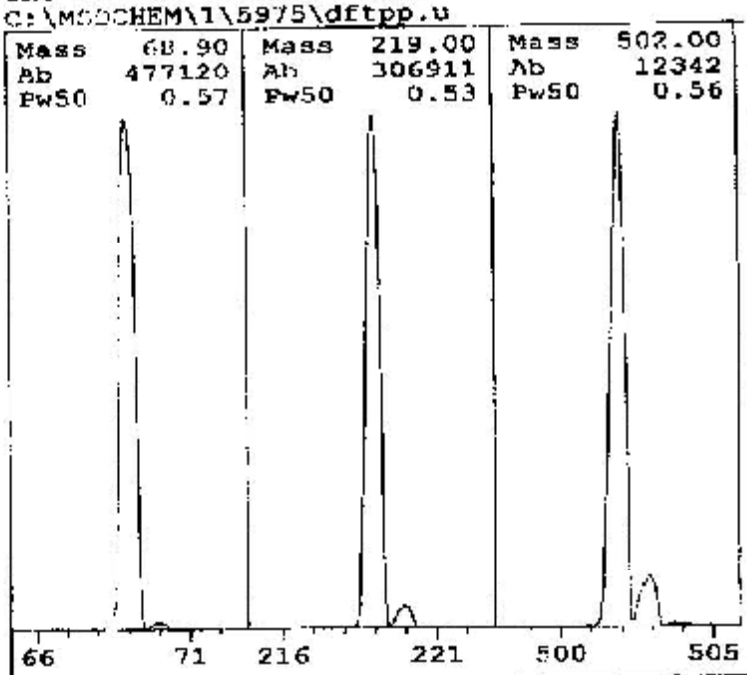


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

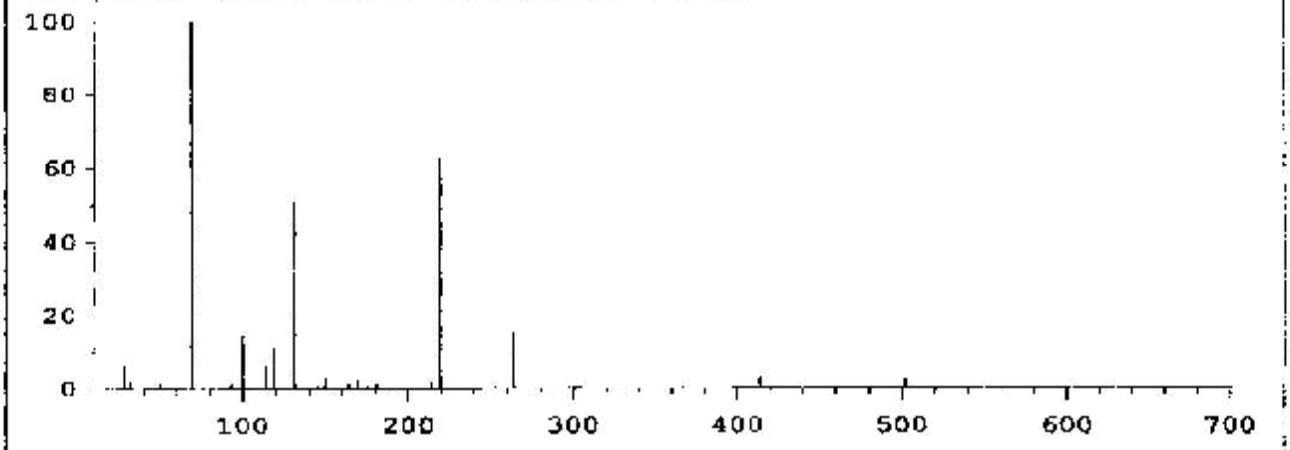


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O-0.56% N2-6.00% O2-1.93% CO2-0.18% N2/H2O-1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

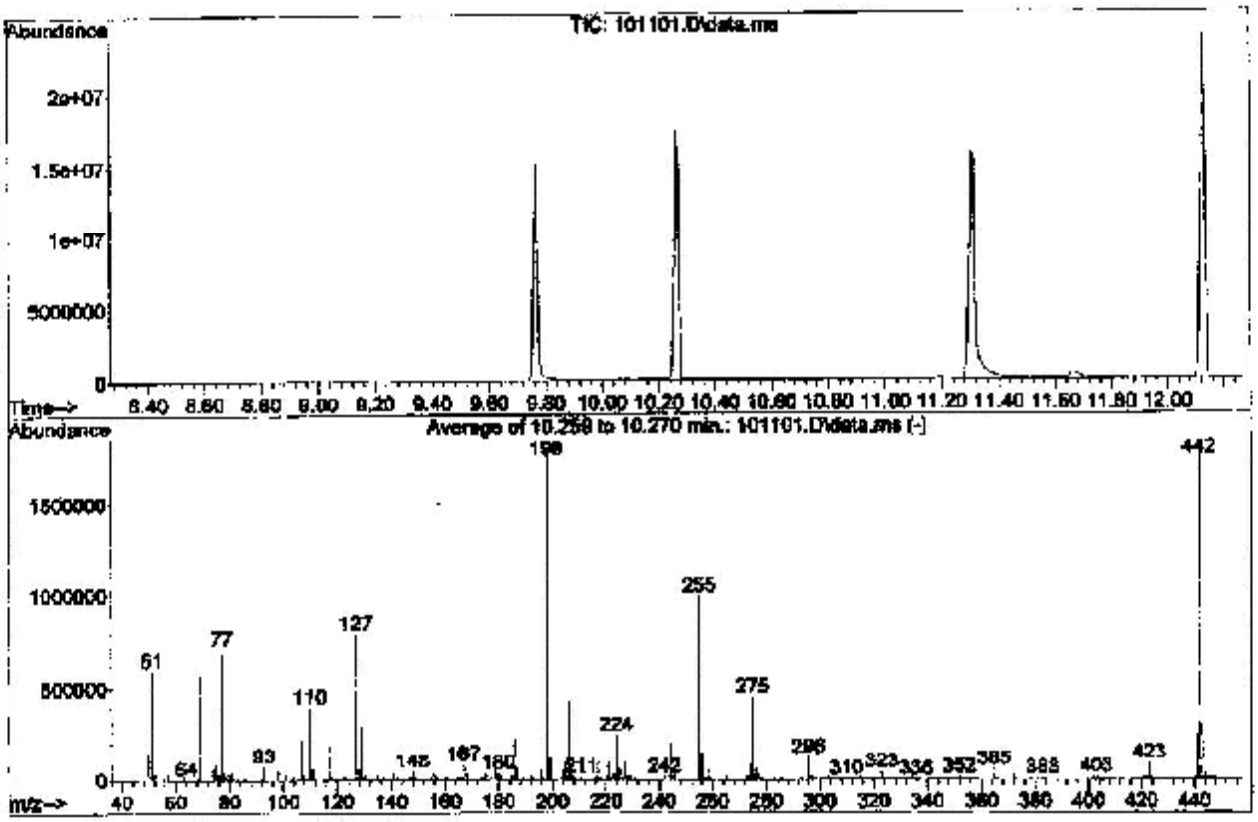
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

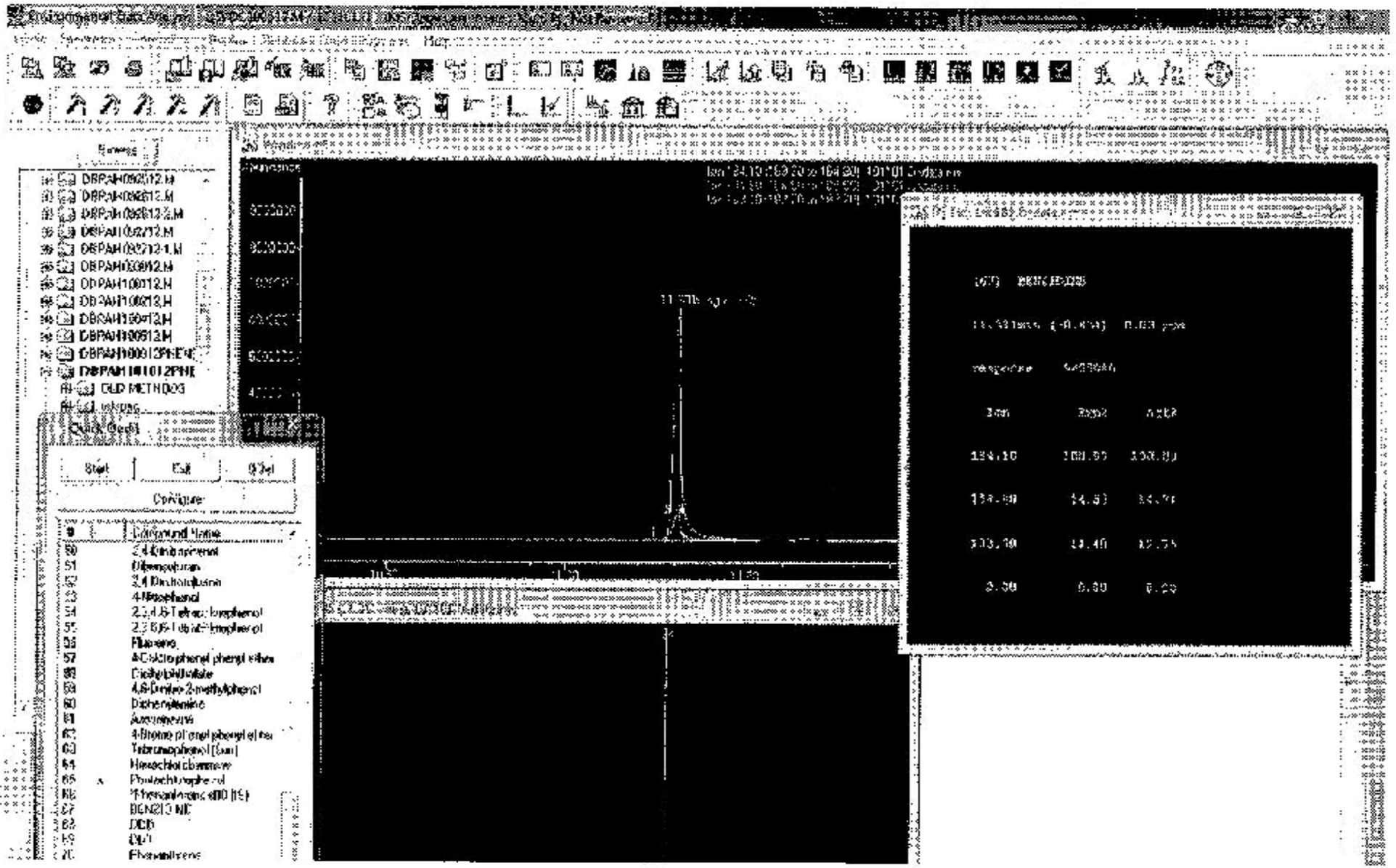
Integration File: RTEINTSG8270.P

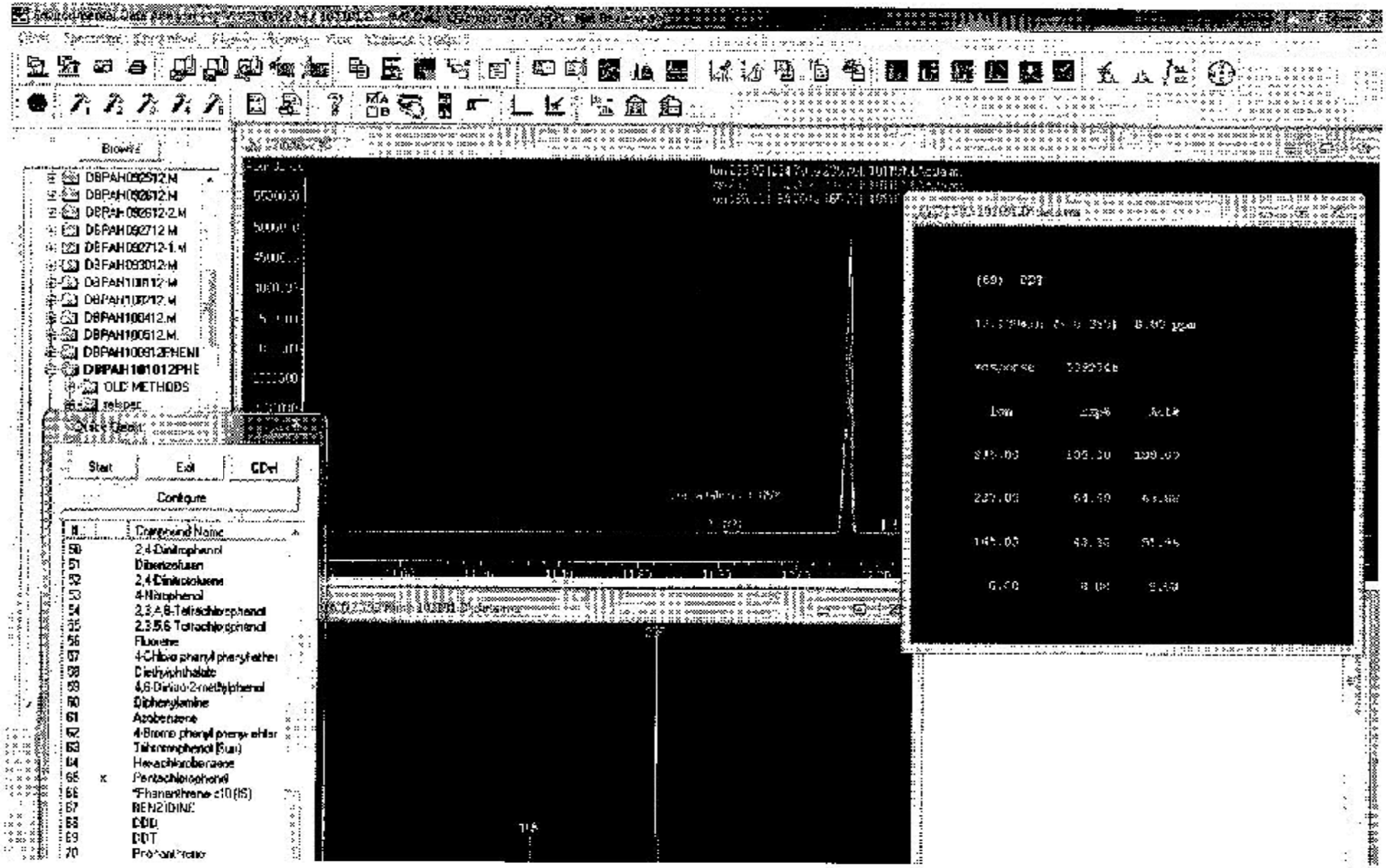
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

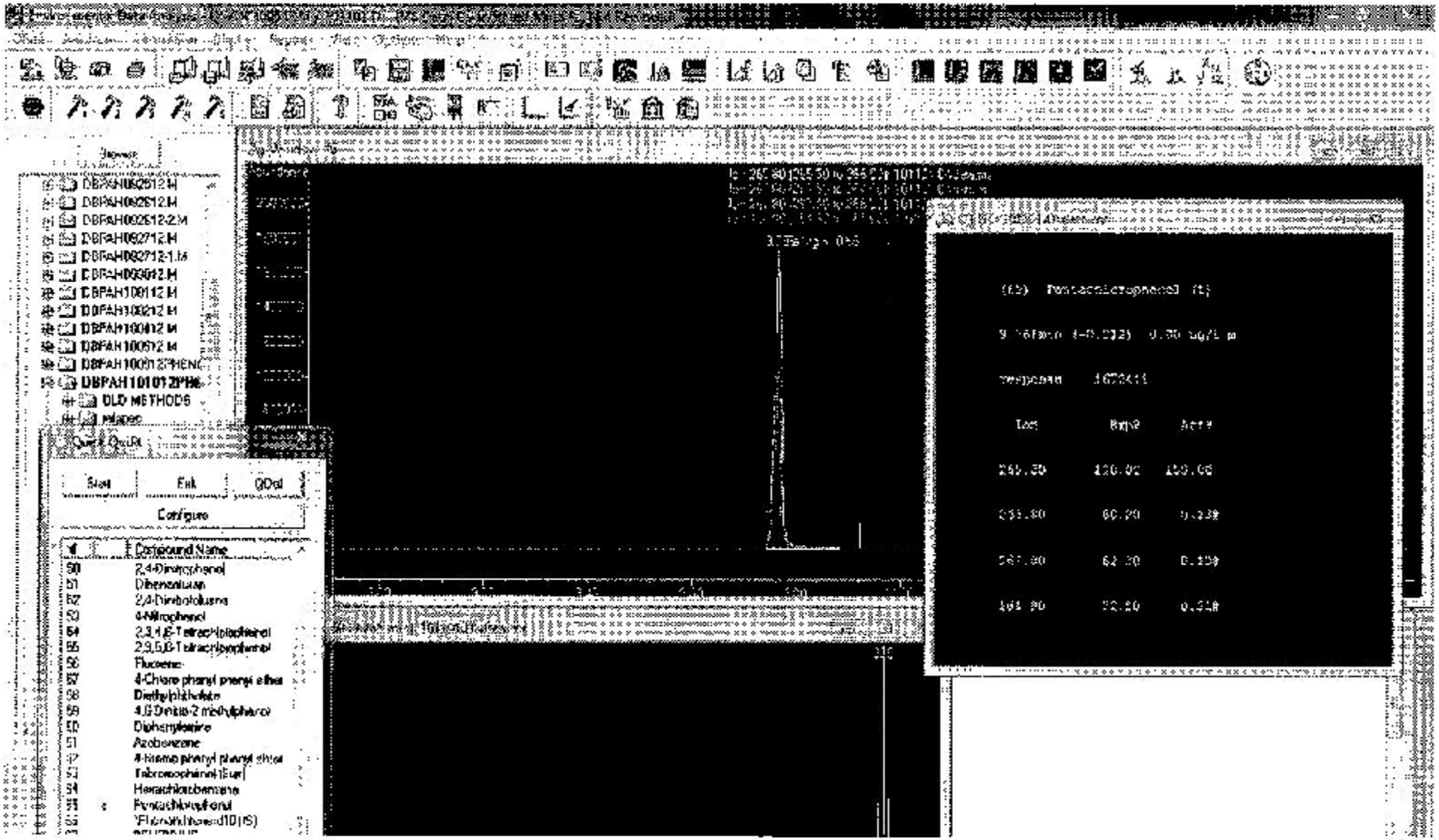


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl phenyl ether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


DBPAH100512.M
DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQual
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Response 1672411
Conc Resp0 Area
250.00 120.00 150.00
250.00 60.00 0.238
250.00 64.20 0.256
250.00 52.80 0.211

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

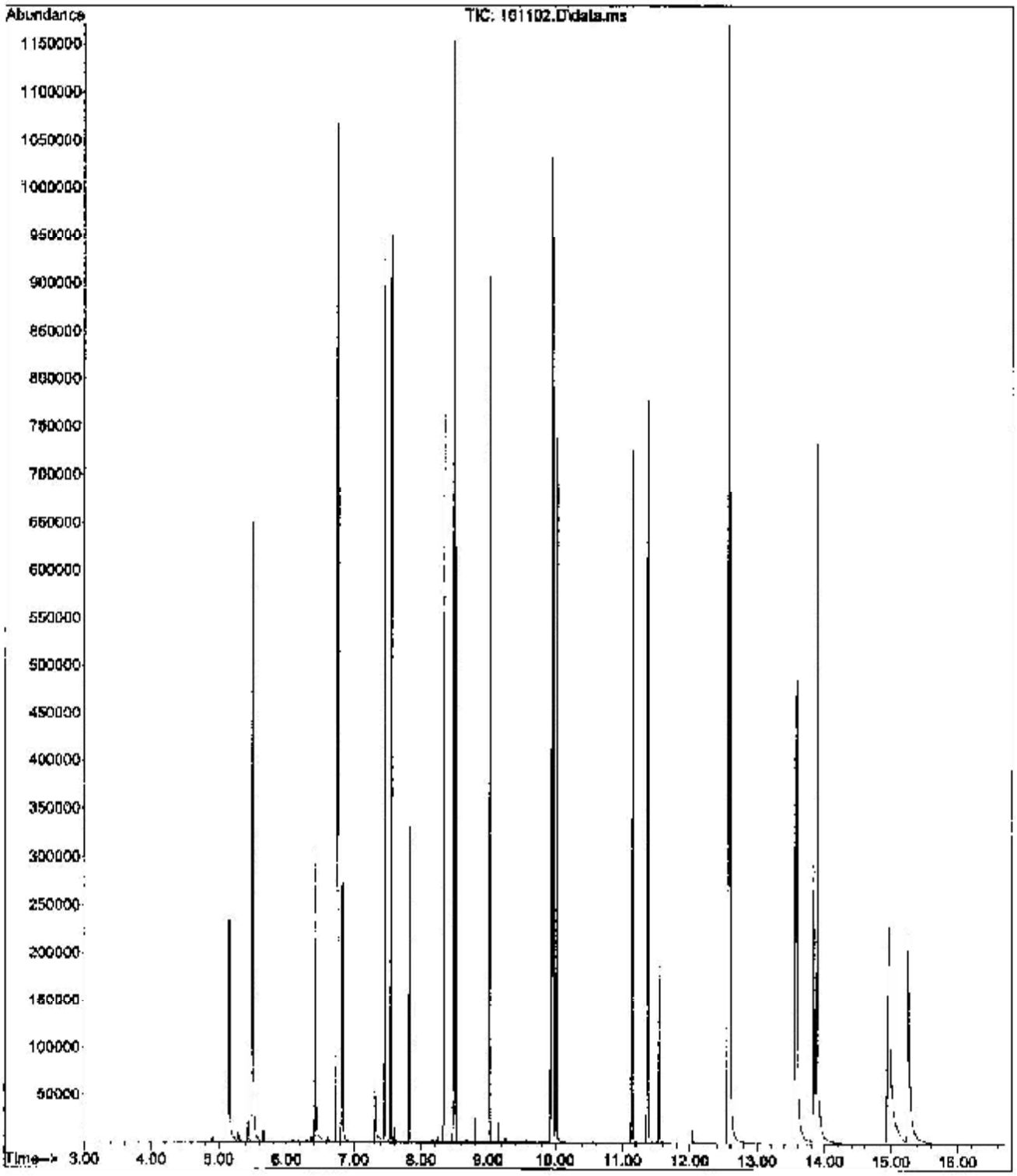
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

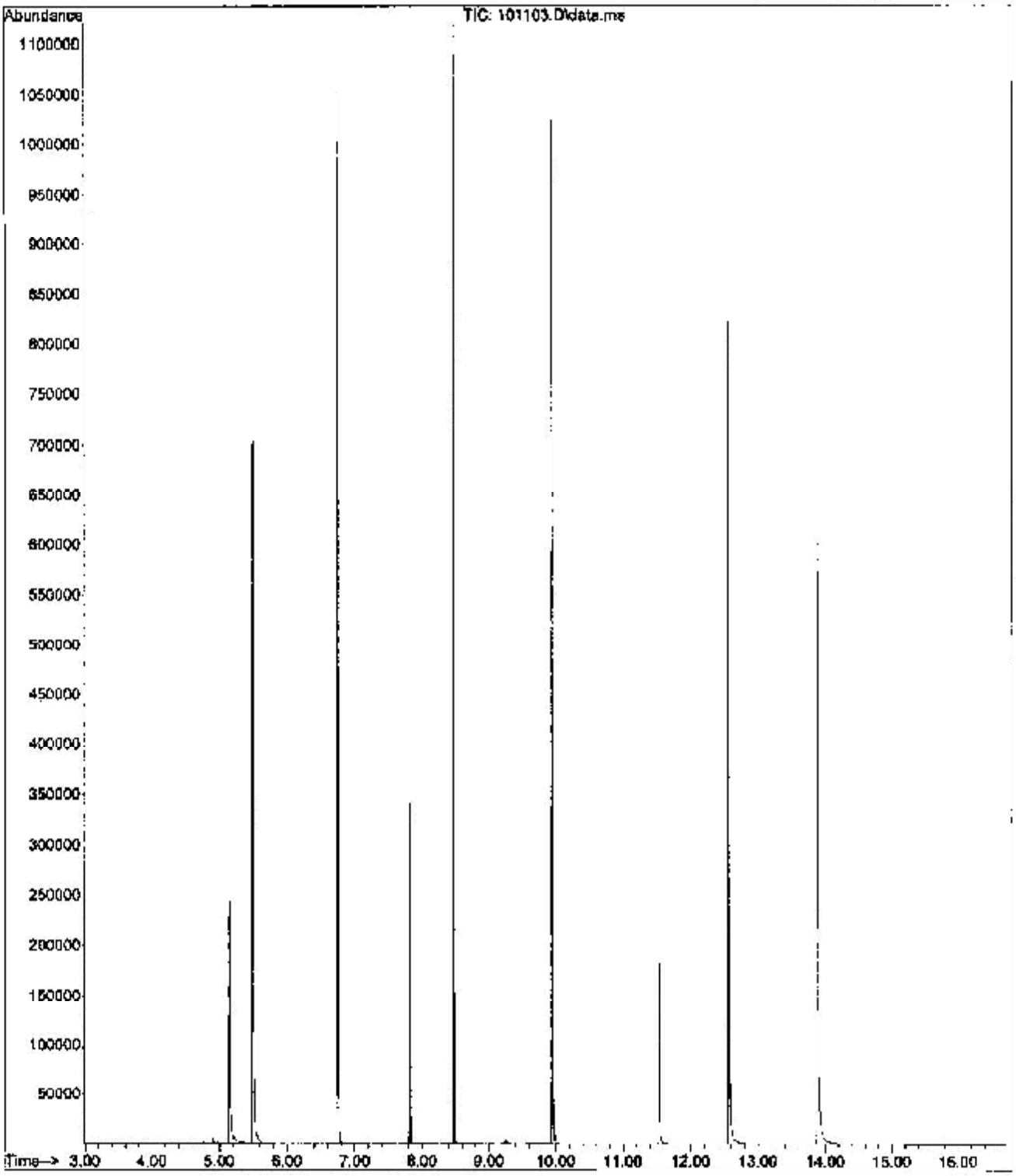
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: 10/10/2012 3:59:36
Prep End Date: 10/10/2012 3:59:36

Prep Batch ID 3406 Prep Code: PREP-PAH-S Technician: Paul Ho

Prep Factor Units: mL / g

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAm1	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
LCS-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
1210030-001A	IRZ-B2-92812	Soil			12.49	0	0	10	0.801	10/10/2012	10/10/2012
1210030-002A	IRZ-NESW2-92812	Soil			12.57	0	0	10	0.796	10/10/2012	10/10/2012
1210030-003A	IRZ-NSW1-92812	Soil			13.81	0	0	10	0.724	10/10/2012	10/10/2012
1210030-004A	IRZ-NSW2-92812	Soil			13.53	0	0	10	0.739	10/10/2012	10/10/2012
1210030-005A	IRZ-B3-92812	Soil			12.23	0	0	10	0.818	10/10/2012	10/10/2012
1210030-005ADUP		Soil			12.76	0	0	10	0.784	10/10/2012	10/10/2012
1210079-001A	SURZ-SSW1-10412	Soil			13.29	0	0	10	0.752	10/10/2012	10/10/2012
1210079-002A	SURZ-NSW1-10412	Soil			12.84	0	0	10	0.779	10/10/2012	10/10/2012
1210079-002ADUP		Soil			12.59	0	0	10	0.794	10/10/2012	10/10/2012
1210079-002AMS		Soil			13.48	0	0	10	0.742	10/10/2012	10/10/2012
1210080-001A	SRZ-WSW01-91212	Soil			12.02	0	0	10	0.832	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-001ADUP		Soil			11.53	0	0	10	0.867	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-002A	SRZ-ESW01-91212	Soil			13.32	0	0	10	0.751	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-003A	SRZ-EBZ-91012	Soil			12.99	0	0	10	0.770	10/10/2012	10/10/2012
Prep hold time was exceeded by 17 day(s)											
1210089-001A	SURZ-WB1-10812	Soil			13.75	0	0	10	0.727	10/10/2012	10/10/2012
1210089-002A	K18-B1-10812	Soil			13.31	0	0	10	0.751	10/10/2012	10/10/2012
1210089-003A	SURZ-B1-10812	Soil			13.17	0	0	10	0.759	10/10/2012	10/10/2012
1210089-004A	K08-B1-10812	Soil			11.41	0	0	10	0.876	10/10/2012	10/10/2012
1210089-004ADUP		Soil			12.11	0	0	10	0.826	10/10/2012	10/10/2012
1210089-004AMS		Soil			12.56	0	0	10	0.796	10/10/2012	10/10/2012
1210089-005A	K06-B2-10912	Soil			13.34	0	0	10	0.750	10/10/2012	10/10/2012

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

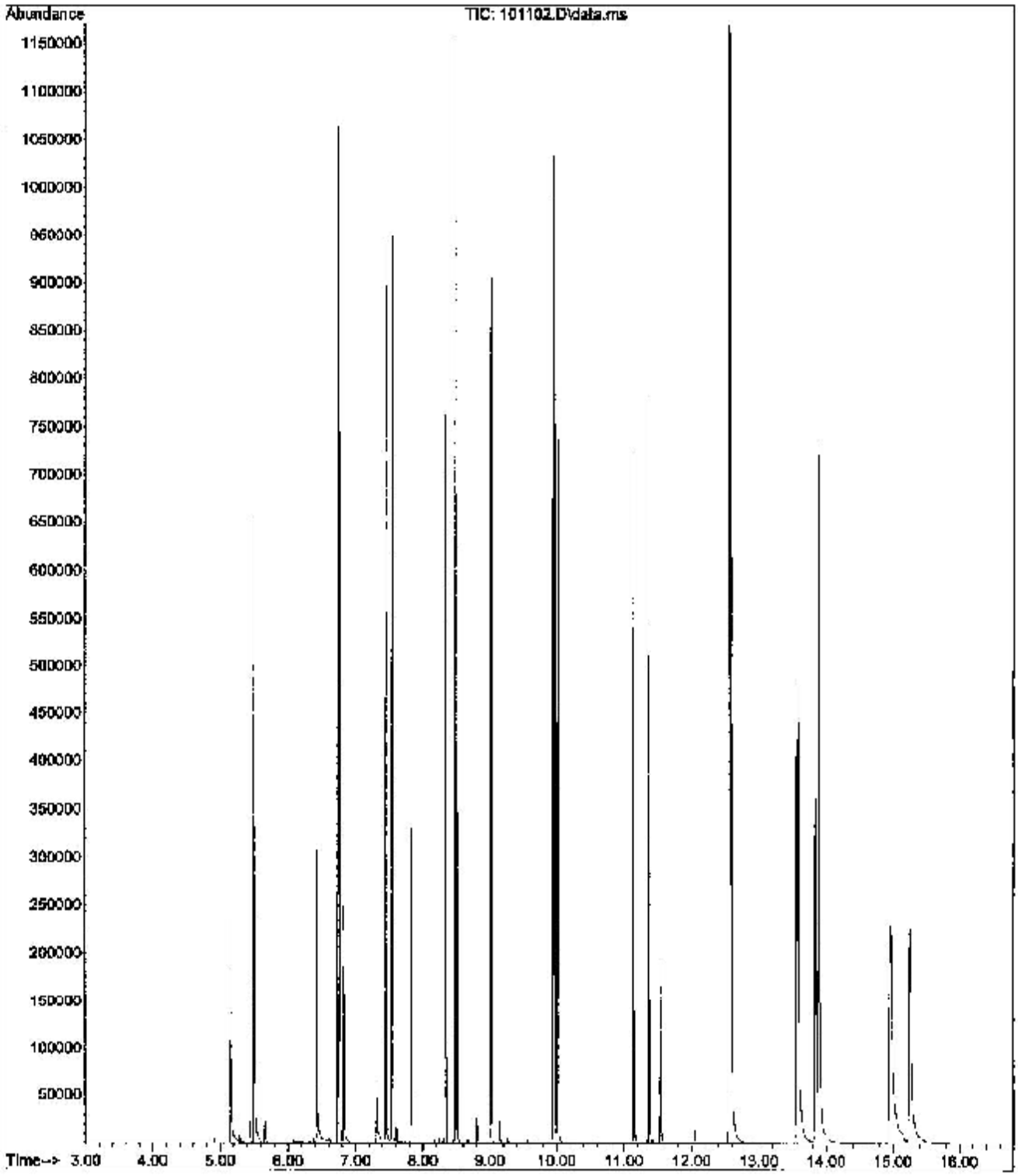
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		96
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.369	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403938	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:20 2012 PAH

File :D:\Data\SVOC\101112\101102.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

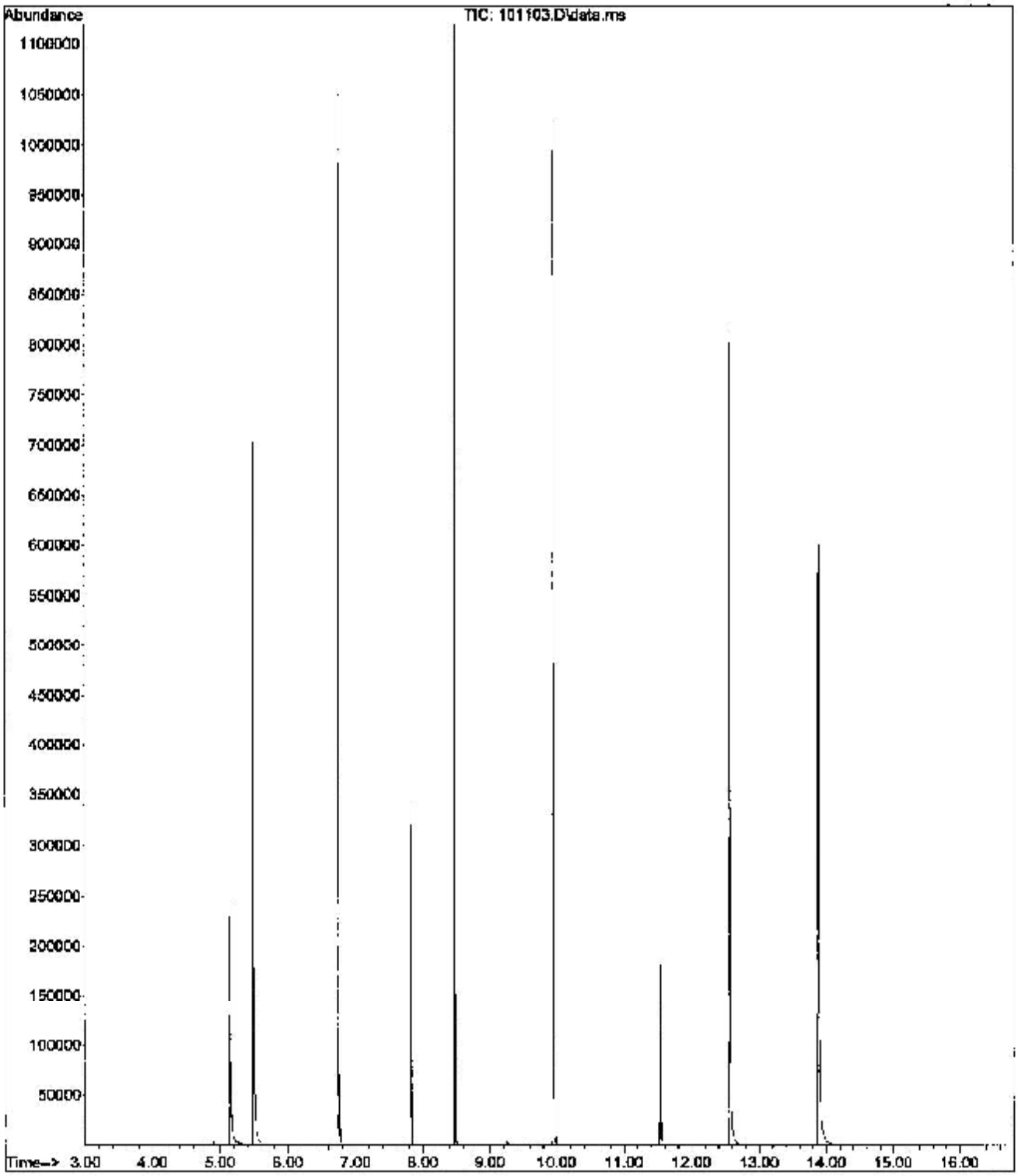
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	718040	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.566	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:34 2012 PAH

File :D:\Data\SVOC\101112\102103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101112.D
Acq On : 11 Oct 2012 2:07 pm
Operator :
Sample : MB-3406
Misc : MBLK 0-PAH-S-SIM
ALS Vial : 121 Sample Multiplier: 1

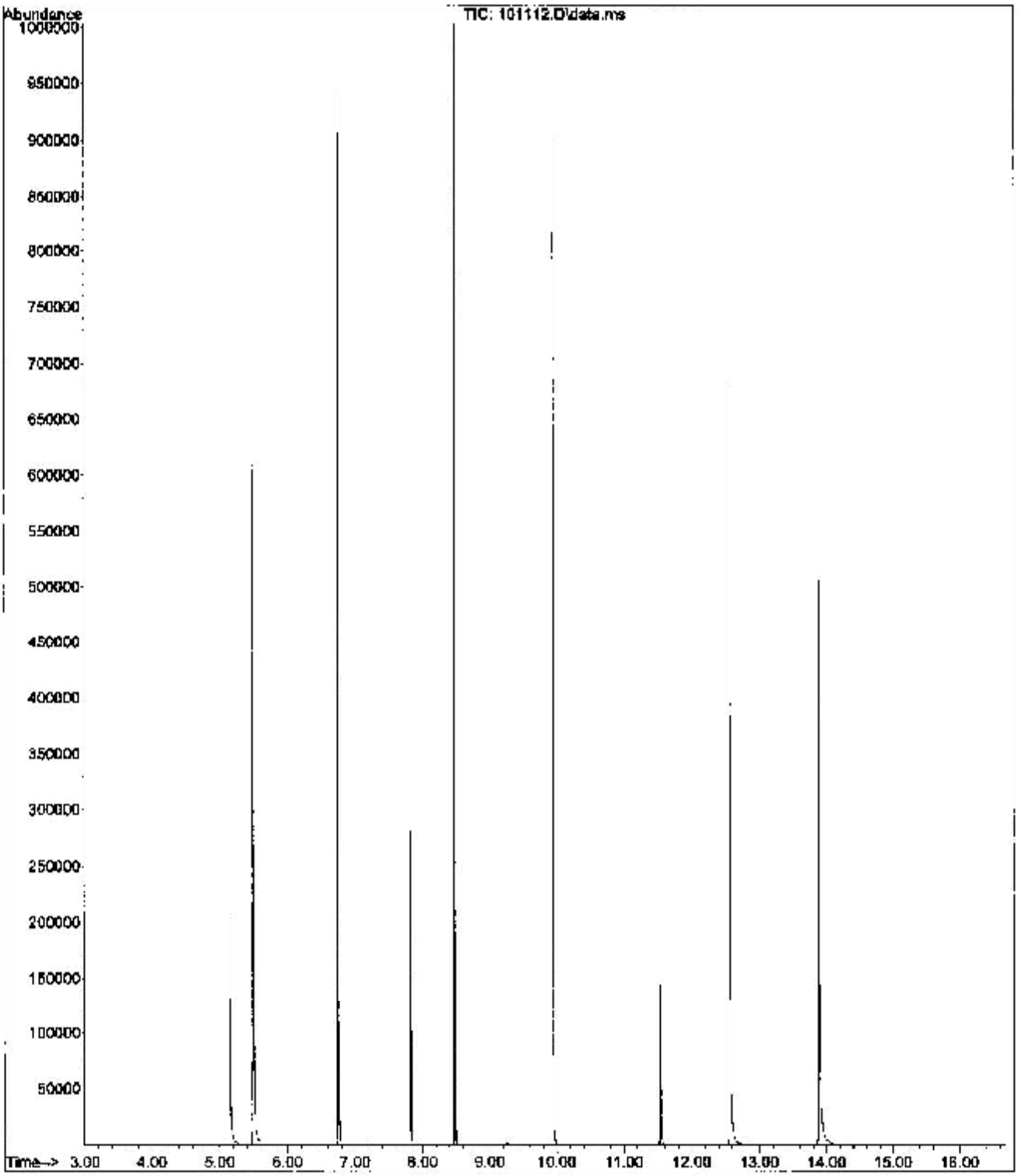
Quant Time: Oct 11 14:28:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	236069	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	760891	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	382016	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	626677	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.566	240	569492	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	535333	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	155611	867.77 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	157914	469.66 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	112073	485.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.401	107	12	N.D.	
5) Naphthalene	6.766	128	78	N.D.	
6) 2-Methylnaphthalene	7.459	142	38	N.D.	
7) 1-Methylnaphthalene	7.550	142	26	N.D.	
9) Acenaphthylene	8.337	152	1	N.D.	
11) Acenaphthene	8.511	152	12	N.D.	
12) Fluorene	8.022	166	16	N.D.	
14) Phenanthrene	9.968	178	160	N.D.	
15) Anthracene	10.020	178	9	N.D.	
17) Fluoranthene	11.148	202	9	N.D.	
18) Pyrene	11.370	202	13	N.D.	
19) Benzo (a) anthracene	12.566	228	1480	N.D.	
21) Chrysene	12.566	228	1300	N.D.	
22) benzo (b) fluoranthene	13.560	252	34	N.D.	
23) benzo (k) fluoranthene	13.579	252	98	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	19	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	13	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:32 2012 PAH

File : D:\Data\SVOC\101112\101112.D
Operator :
Acquired : 11 Oct 2012 2:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3406
Misc Info : MBLK 8-PAH-S-SIM
Vial Number: 121



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101113.D
Acq On : 11 Oct 2012 2:32 pm
Operator :
Sample : LCS-3406
Misc : LCS O-PAH-S-SIM
ALS Vial : 122 Sample Multiplier: 1

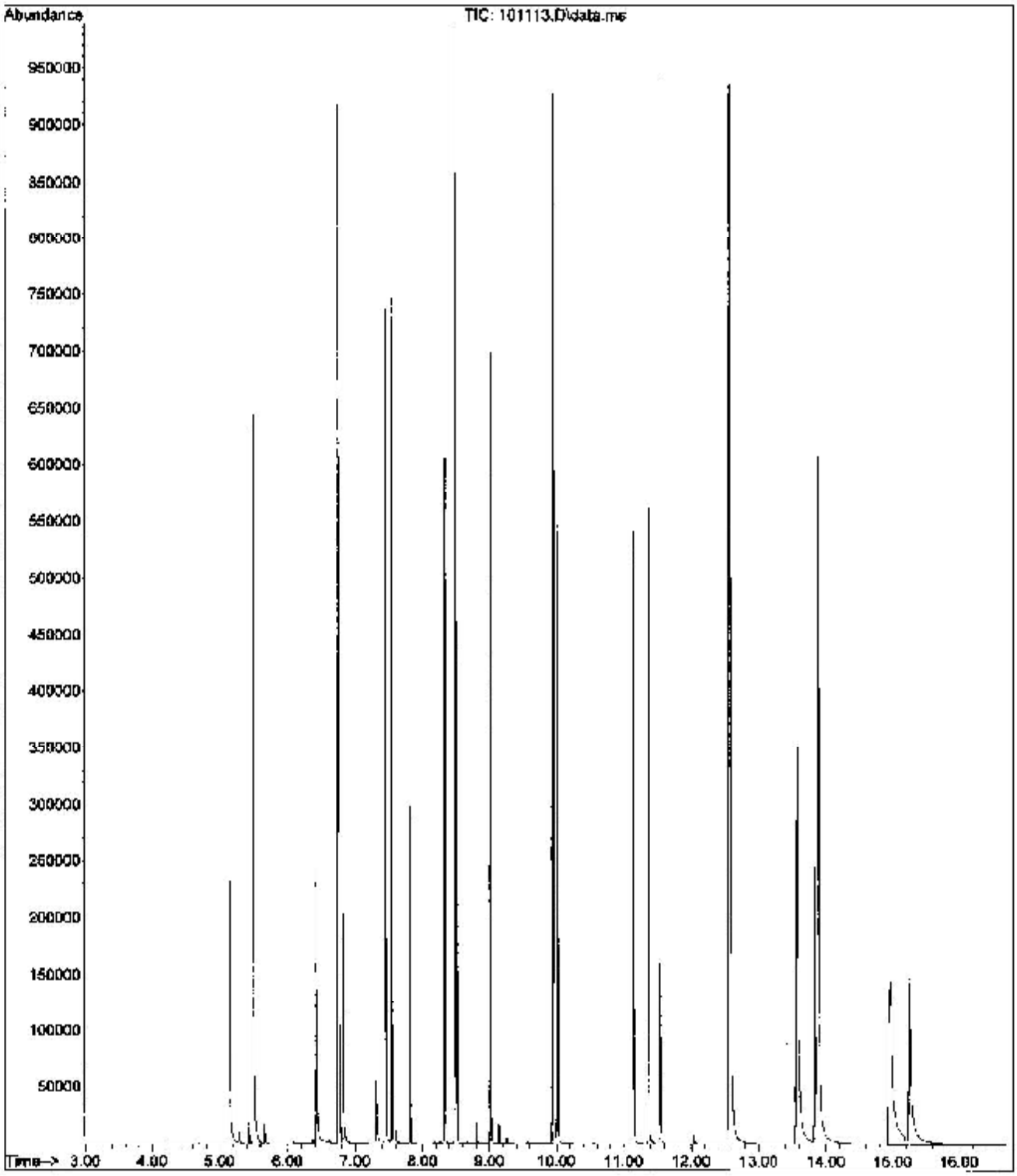
Quant Time: Oct 11 14:52:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	233245	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	760779	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	395162	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	635812	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	615718	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	591424	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	165613	934.73	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	165027	490.89	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	119639	510.47	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	116674	849.48	ug/L		99
5) Naphthalene	6.766	128	439410	910.43	ug/L		100
6) 2-Methylnaphthalene	7.453	142	262805	929.42	ug/L		100
7) 1-Methylnaphthalene	7.548	142	246187	920.14	ug/L		100
9) Acenaphthylene	8.338	152	374755	966.90	ug/L		100
11) Acenaphthene	8.509	152	117270	882.49	ug/L		100
12) Fluorene	9.022	166	274064	899.80	ug/L		100
14) Phenanthrene	9.967	178	385884	889.38	ug/L		100
15) Anthracene	10.019	178	367321	947.66	ug/L		100
17) Fluoranthene	11.146	202	381235	976.11	ug/L		99
18) Pyrene	11.367	202	401153	982.67	ug/L		100
19) Benzo (a) anthracene	12.557	228	315122	920.49	ug/L	#	100
21) Chrysene	12.590	228	391174	879.34	ug/L	#	98
22) benzo (b) fluoranthene	13.555	252	235344	727.95	ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	420747	916.19	ug/L		100
24) benzo (a) pyrene	13.835	252	256637	823.15	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.948	276	264235	842.49	ug/L		98
27) Dibenz (a,h) anthracene	14.967	278	188469	753.47	ug/L		99
28) Benzo (g,h,i) perylene	15.257	276	285737	818.14	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:37 2012 PAH

File : D:\Data\SVOC\101112\101113.D
Operator :
Acquired : 11 Oct 2012 2:32 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3406
Misc Info : LCS O-PAH-S-SIM
Vial Number: 122



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101115.D
Acq On : 11 Oct 2012 3:23 pm
Operator :
Sample : 1210089-004A
Misc : SAMP O-PAH-S-SIM
ALS Vial : 124 Sample Multiplier: 1

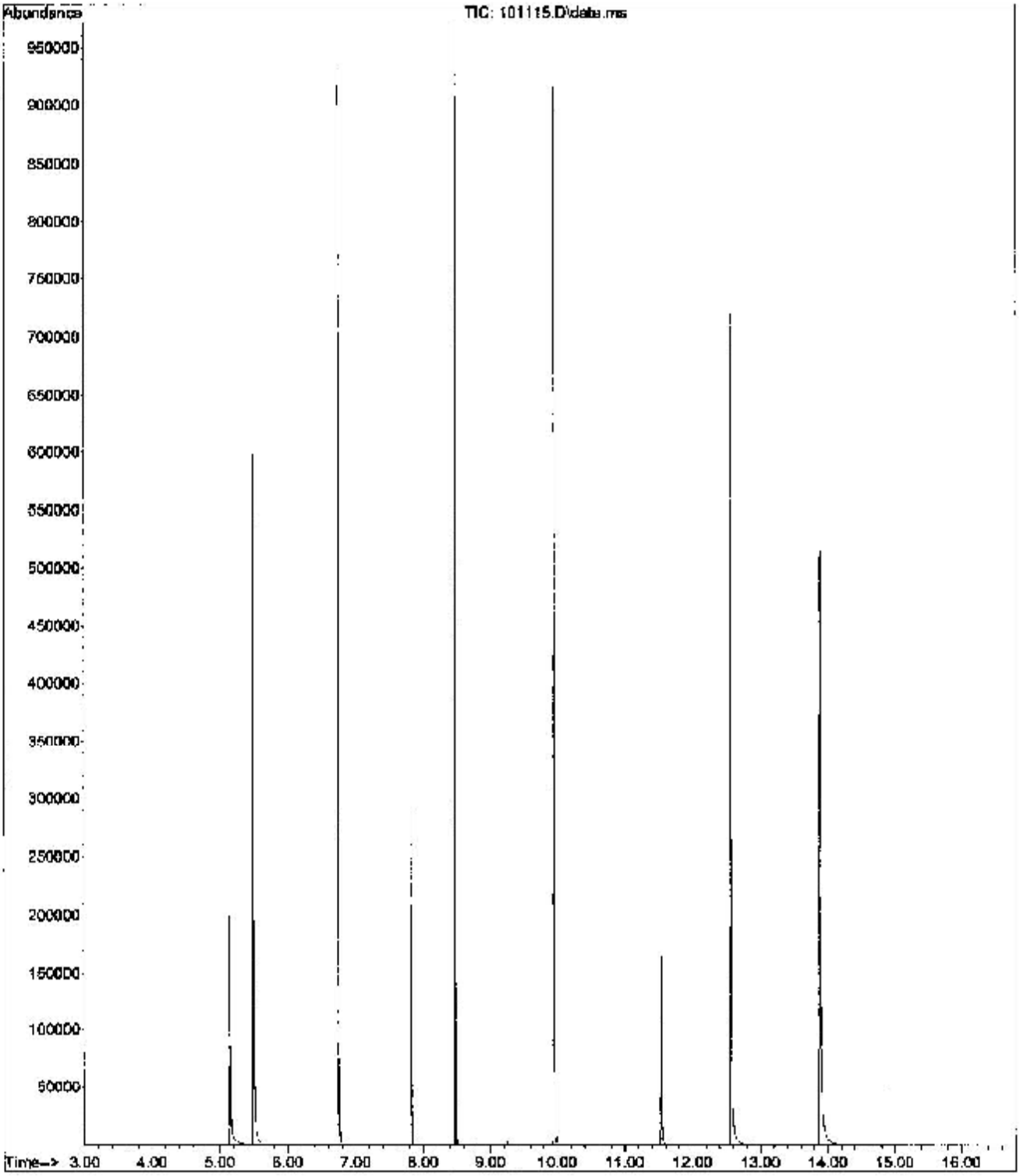
Quant Time: Oct 11 16:21:40 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	232562	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	757244	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.479	164	384502	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	636719	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	591122	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	560404	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol d6	5.151	99	150342	851.03	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	165331	494.09	ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	126967	540.97	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.453	107	37	N.D.		
5) Naphthalene	6.766	128	144	N.D.		
6) 2-Methylnaphthalene	7.457	142	69	N.D.		
7) 1-Methylnaphthalene	7.552	142	61	N.D.		
9) Acenaphthylene	8.341	152	5	N.D.		
11) Acenaphthene	8.512	152	16	N.D.		
12) Fluorene	9.023	166	11	N.D.		
14) Phenanthrene	9.969	178	212	N.D.		
15) Anthracene	10.021	178	4	N.D.		
17) Fluoranthene	11.149	202	54	N.D.		
18) Pyrene	11.371	202	87	N.D.		
19) Benzo (a) anthracene	12.567	228	1630	N.D.		
21) Chrysene	12.567	228	1458	N.D.		
22) benzo (b) fluoranthene	13.559	252	37	N.D.		
23) benzo (k) fluoranthene	13.579	252	156	N.D.		
24) benzo (a) pyrene	13.885	252	2011	6.35	ug/L	91
26) Indeno(1,2,3-cd)pyrene	14.883	276	2	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	14	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	7	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:45 2012 PAH

File :D:\Data\SVOC\101112\101115.D
Operator :
Acquired : 11 Oct 2012 3:22 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004A
Misc Info : SAMP O-PAH-S-SIM
Vial Number: 124



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101116.D
Acq On : 11 Oct 2012 3:47 pm
Operator :
Sample : 1210089-004ADUP
Misc : DUP O-PAH-S-SIM
ALS Vial : 125 Sample Multiplier: 1

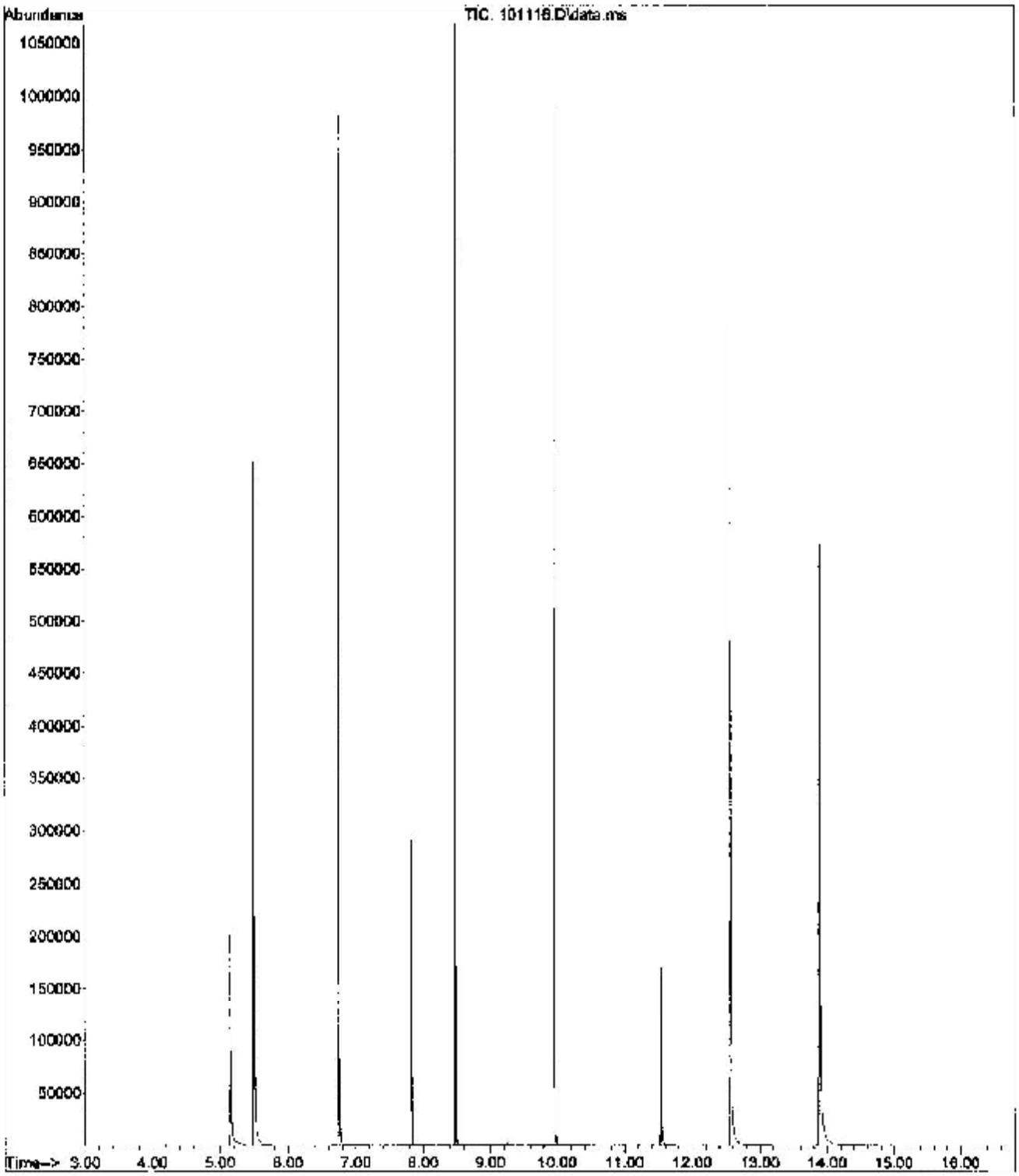
Quant Time: Oct 11 16:25:15 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	248460	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	5.747	136	806989	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	9.480	164	410617	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	680155	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	628463	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	598140	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	151627	803.39 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	167504	469.72 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	128398	512.13 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.511	107	2	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.459	142	60	N.D.	
7) 1-Methylnaphthalene	7.552	142	45	N.D.	
9) Acenaphthylene	8.340	152	1	N.D.	
11) Acenaphthene	8.509	152	13	N.D.	
12) Fluorene	9.023	166	4	N.D.	
14) Phenanthrene	9.967	178	157	N.D.	
15) Anthracene	10.020	178	6	N.D.	
17) Fluoranthene	11.148	202	27	N.D.	
18) Pyrene	11.371	202	83	N.D.	
19) Benzo (a) anthracene	12.566	228	1725	N.D.	
21) Chrysene	12.566	228	1611	N.D.	
22) benzo (b) fluoranthene	13.559	252	39	N.D.	
23) benzo (k) fluoranthene	13.583	252	169	N.D.	
24) benzo (a) pyrene	13.835	252	61	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	27	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	18	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:49 2012 PAH

File : D:\Data\SVOC\101112\101116.D
Operator :
Acquired : 11 Oct 2012 3:47 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004ADUP
Misc Info : DUP O-PAH-S-SIM
Vial Number: 125



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101117.D
Acq On : 11 Oct 2012 4:12 pm
Operator :
Sample : 1210089-004AMS
Misc : MS O-PAH-S-SIM
ALS Vial : 126 Sample Multiplier: 1

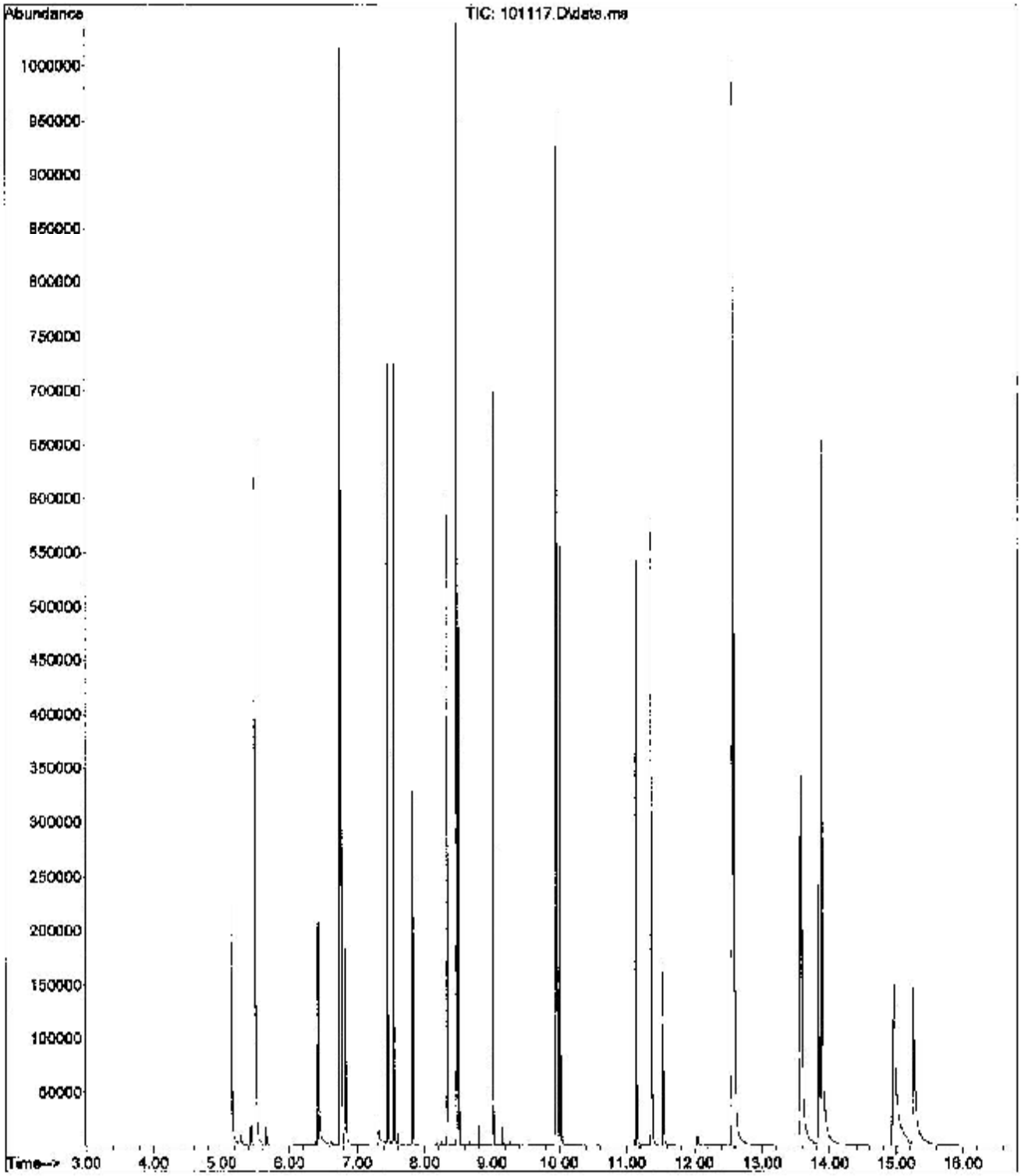
Quant Time: Oct 11 16:40:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	243558	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	803565	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	418741	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	678279	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	659172	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	639673	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	163193	882.07	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	174768	492.18	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	133471	533.83	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.428	107	114798	800.43	ug/L		99
5) Naphthalene	6.766	128	439108	861.36	ug/L		100
6) 2-Methylnaphthalene	7.453	142	264847	886.77	ug/L		100
7) 1-Methylnaphthalene	7.550	142	247665	876.38	ug/L		100
9) Acenaphthylene	8.338	152	375979	918.41	ug/L		100
11) Acenaphthene	8.509	152	117774	836.38	ug/L		100
12) Fluorene	9.022	166	275869	854.72	ug/L		100
14) Phenanthrene	9.969	178	387287	836.73	ug/L		100
15) Anthracene	10.020	178	372643	901.19	ug/L		100
17) Fluoranthene	11.146	202	392244	941.41	ug/L		100
18) Pyrene	11.368	202	409992	941.44	ug/L		100
19) Benzo (a) anthracene	12.559	228	322082	881.92	ug/L	#	100
21) Chrysene	12.593	228	391907	822.91	ug/L		98
22) benzo (b) fluoranthene	13.557	252	233099	673.48	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	445287	905.71	ug/L		99
24) benzo (a) pyrene	13.837	252	261251	784.49	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	268996m	794.77	ug/L		
27) Dibenz (a,h) anthracene	14.969	278	194160m	718.58	ug/L		
28) Benzo (g,h,i) perylene	15.260	276	305371m	808.41	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:53 2012 PAH

File :D:\Data\SVOC\101112\101117.D
Operator :
Acquired : 11 Oct 2012 4:12 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP MSD
Sample Name: 1210089-004AMS
Misc Info : MS G-PAH-S-SIM
Vial Number: I26



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101237.D
Acq On : 12 Oct 2012 3:36 pm
Operator :
Sample : CCV-
Misc : CCC O-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

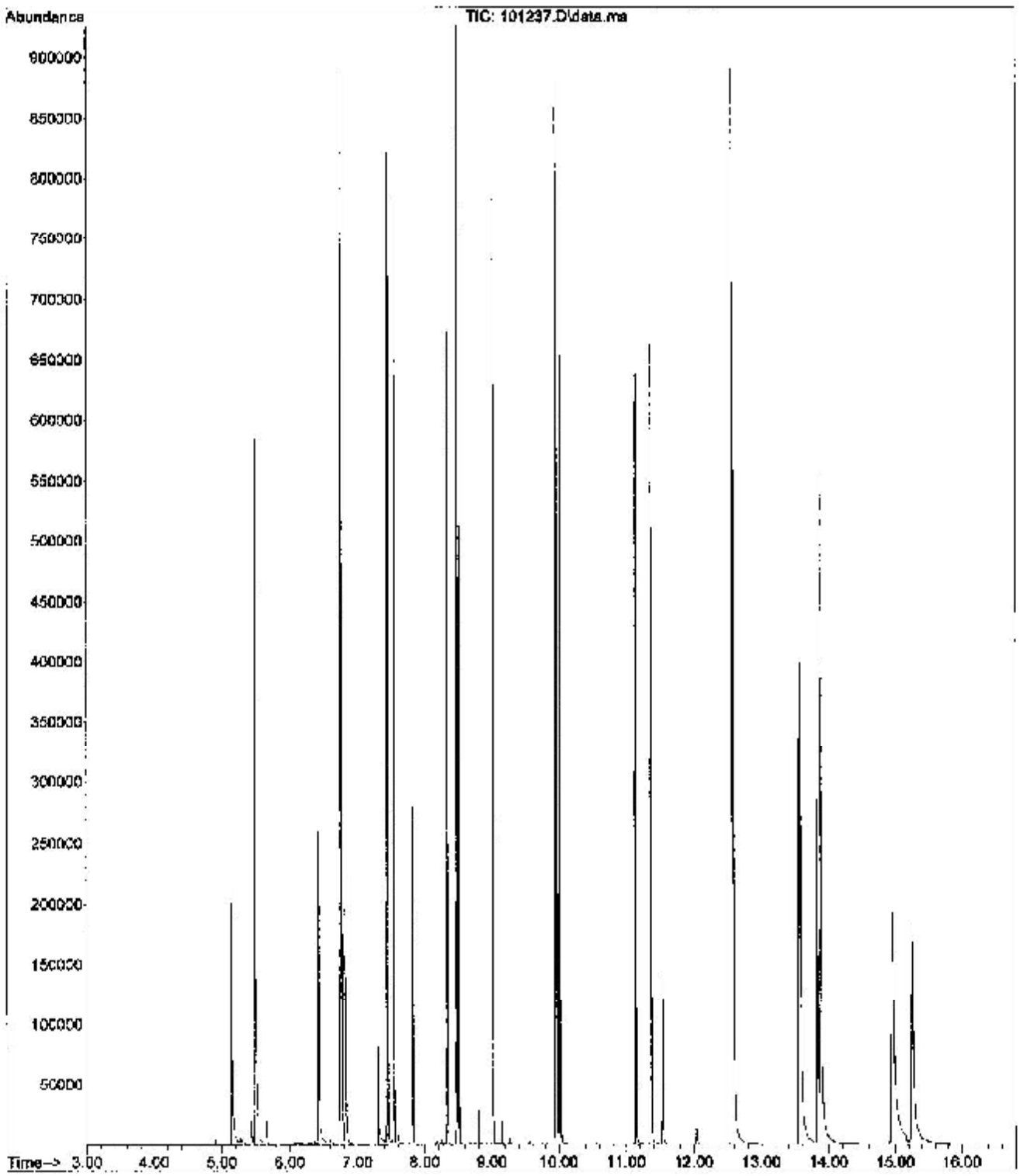
Quant Time: Oct 12 15:59:42 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.495	152	220676	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	707256	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	369974	2000.00 ug/L		0.00
15) Phenanthrene-d10 (IS)	9.945	188	617544	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.567	240	554983	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	535559	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	167916	1001.71 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	155593	497.85 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	103665	455.40 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.426	107	132767	1021.71 ug/L		99
5] Naphthalene	6.766	128	473190	1054.61 ug/L		100
6] 2-Methylnaphthalene	7.451	142	287949	1095.41 ug/L		99
7] 1-Methylnaphthalene	7.548	142	269386	1083.05 ug/L		100
9] Acenaphthylene	8.338	152	421185	1168.93 ug/L		100
11] Acenaphthene	8.508	152	131483	1056.81 ug/L		99
12] Fluorene	9.021	166	310536	1088.95 ug/L		100
14] Phenanthrene	9.966	178	433411	1028.47 ug/L		100
15] Anthracene	10.018	178	419980	1115.56 ug/L		99
17] Fluoranthene	11.143	202	454805	1198.92 ug/L		97
18] Pyrene	11.368	202	472507	1191.70 ug/L		96
19] Benzo (a) anthracene	12.557	228	360600	1084.49 ug/L	#	100
21] Chrysene	12.591	228	431305	1075.66 ug/L		100
22] benzo (b) fluoranthene	13.554	252	268784	922.37 ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	449808	1086.67 ug/L		100
24] benzo (a) pyrene	13.835	252	292996	1030.14 ug/L		99
26] Indeno(1,2,3-cd)pyrene	14.945	276	321375	1117.07 ug/L		96
27] Dibenz (a,h) anthracene	14.967	278	232935	1018.62 ug/L		96
28] Benzo (g,h,i) perylene	15.255	276	327670	1036.07 ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:26 2012 PAH

File : D:\Data\SVOC\101212\101237.D
Operator :
Acquired : 12 Oct 2012 3:36 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCC O-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101238.D
Acq On : 12 Oct 2012 4:02 pm
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

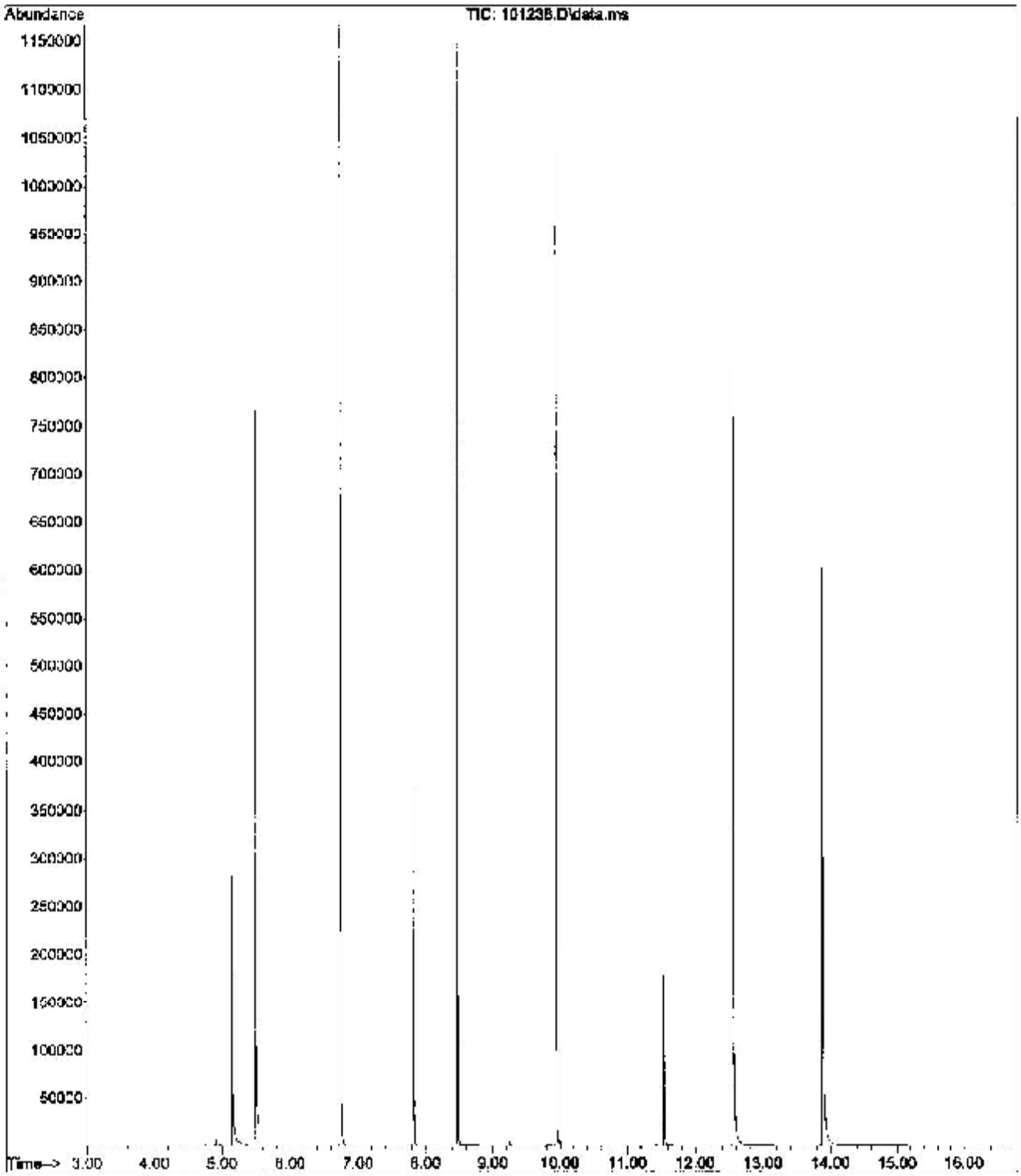
Quant Time: Oct 12 17:34:54 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	298417	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	921023	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	453759	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	742255	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	640793	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	604114	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	221846	978.66 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	209248	514.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	130127	475.60 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.434	107	24	N.D.	
5) Naphthalene	6.747	128	30	N.D.	
6) 2-Methylnaphthalene	7.453	142	27	N.D.	
7) 1-Methylnaphthalene	7.550	142	33	N.D.	
9) Acenaphthylene	8.339	152	32	N.D.	
11) Acenaphthene	8.508	152	21	N.D.	
12) Fluorene	9.022	166	68	N.D.	
14) Phenanthrene	9.968	178	195	N.D.	
15) Anthracene	10.020	178	93	N.D.	
17) Fluoranthene	11.146	202	104	N.D.	
18) Pyrene	11.370	202	113	N.D.	
19) Benzo (a) anthracene	12.566	228	1851	N.D.	
21) Chrysene	12.566	228	1285	N.D.	
22) benzo (b) fluoranthene	13.552	252	49	N.D.	
23) benzo (k) fluoranthene	13.576	252	207	N.D.	
24) benzo (a) pyrene	13.833	252	94	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	8	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	22	N.D.	
28) Benzo (g,h,i) perylene	15.244	276	21	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:58 2012 PAH

File : D:\Data\SVOC\101212\101238.D
Operator :
Acquired : 12 Oct 2012 4:02 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 110



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101239.D
Acq On : 12 Oct 2012 4:27 pm
Operator :
Sample : 1210C30-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 25 Sample Multiplier: 1

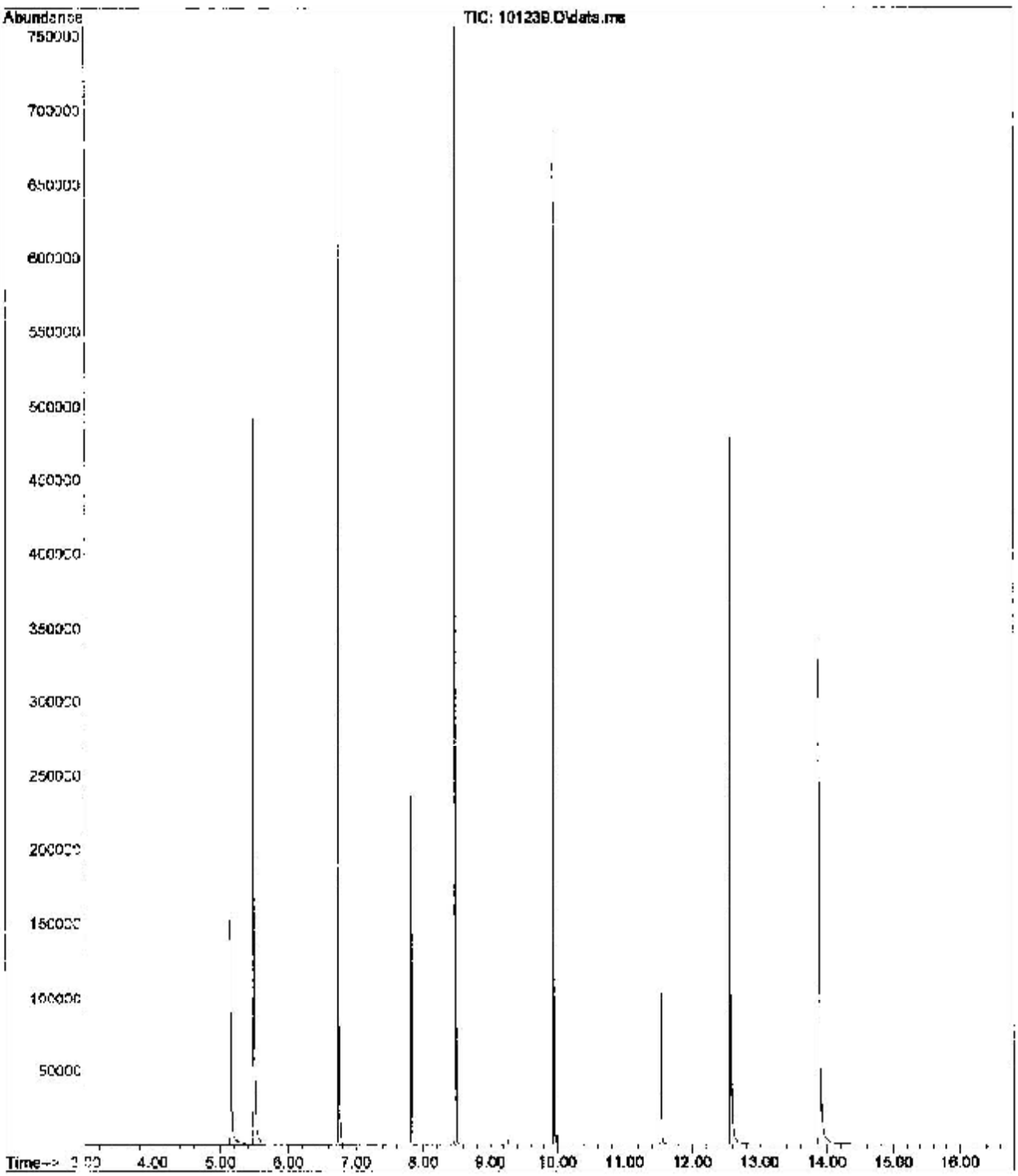
Quant Time: Oct 12 17:35:33 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	187471	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	580894	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	287679	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476230	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	394495	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.883	264	365033	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	126552	888.67 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128942	502.32 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	78125	445.04 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.447	107	24	N.D.	
5) Naphthalene	6.766	128	105	N.D.	
6) 2-Methylnaphthalene	7.457	142	59	N.D.	
7) 1-Methylnaphthalene	7.548	142	42	N.D.	
9) Acenaphthylene	8.340	152	3	N.D.	
11) Acenaphthene	8.511	152	16	N.D.	
12) Fluorene	9.020	166	51	N.D.	
14) Phenanthrene	9.967	178	140	N.D.	
15) Anthracene	10.021	178	12	N.D.	
17) Fluoranthene	11.148	202	34	N.D.	
18) Pyrene	11.368	202	42	N.D.	
19) Benzo (a) anthracene	12.566	228	1116	N.D.	
21) Chrysene	12.566	228	928	N.D.	
22) benzo (b) fluoranthene	13.551	252	17	N.D.	
23) benzo (k) fluoranthene	13.575	252	77	N.D.	
24) benzo (a) pyrene	13.833	252	65	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	18	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	11	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:35:37 2012 PAH

File : D:\Data\SVOC\101212\101239.D
Operator :
Acquired : 12 Oct 2012 4:27 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210030-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 25



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 10124C.D
Acq On : 12 Oct 2012 4:52 pm
Operator :
Sample : 1210C80-001A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 25 Sample Multiplier: 1

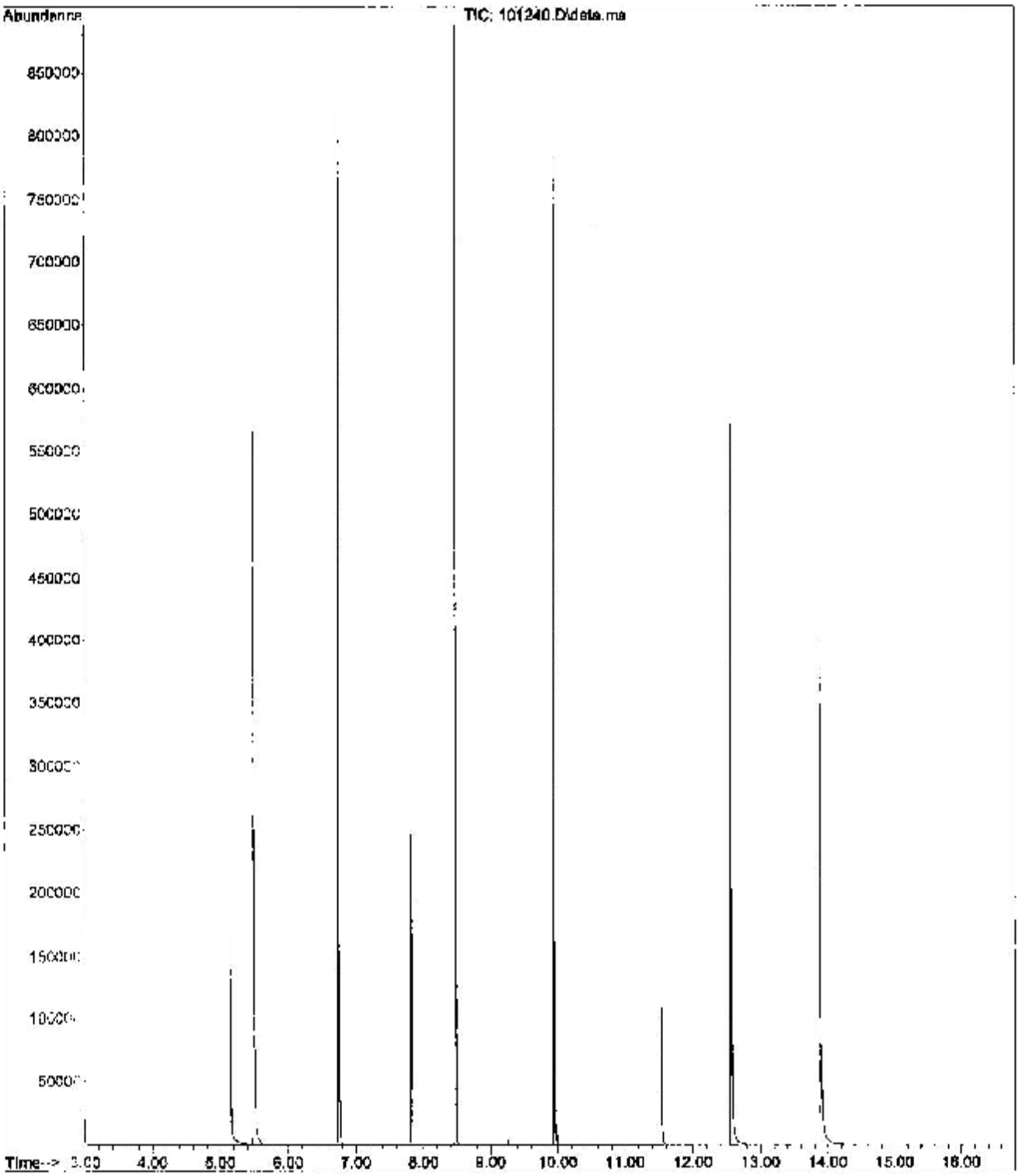
Quant Time: Oct 12 17:36:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	214048	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	665958	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	328090	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	543304	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	453720	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	425136	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	124848	767.85 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	136281	463.10 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	83435	416.55 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.462	107	43	N.D.	
5) Naphthalene	6.766	128	128	N.D.	
6) 2-Methylnaphthalene	7.457	142	60	N.D.	
7) 1-Methylnaphthalene	7.550	142	39	N.D.	
9) Acenaphthylene	8.338	152	7	N.D.	
11) Acenaphthene	8.511	152	11	N.D.	
12) Fluorene	9.022	166	44	N.D.	
14) Phenanthrene	9.967	178	184	N.D.	
15) Anthracene	10.021	178	17	N.D.	
17) Fluoranthene	11.148	202	38	N.D.	
18) Pyrene	11.368	202	52	N.D.	
19) Benzo (a) anthracene	12.566	228	1304	N.D.	
21) Chrysene	12.566	228	1235	N.D.	
22) benzo (b) fluoranthene	13.555	252	21	N.D.	
23) benzo (k) fluoranthene	13.579	252	133	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	20	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	28	N.D.	
28) Benzo (g,h,i) perylene	15.252	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:36:09 2012 PAH

File : D:\Data\SVOC\101212\101240.D
Operator :
Acquired : 12 Oct 2012 4:52 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 26



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101241.D
Acq On : 12 Oct 2012 5:17 pm
Operator :
Sample : 1310080-001ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 27 Sample Multiplier: 1

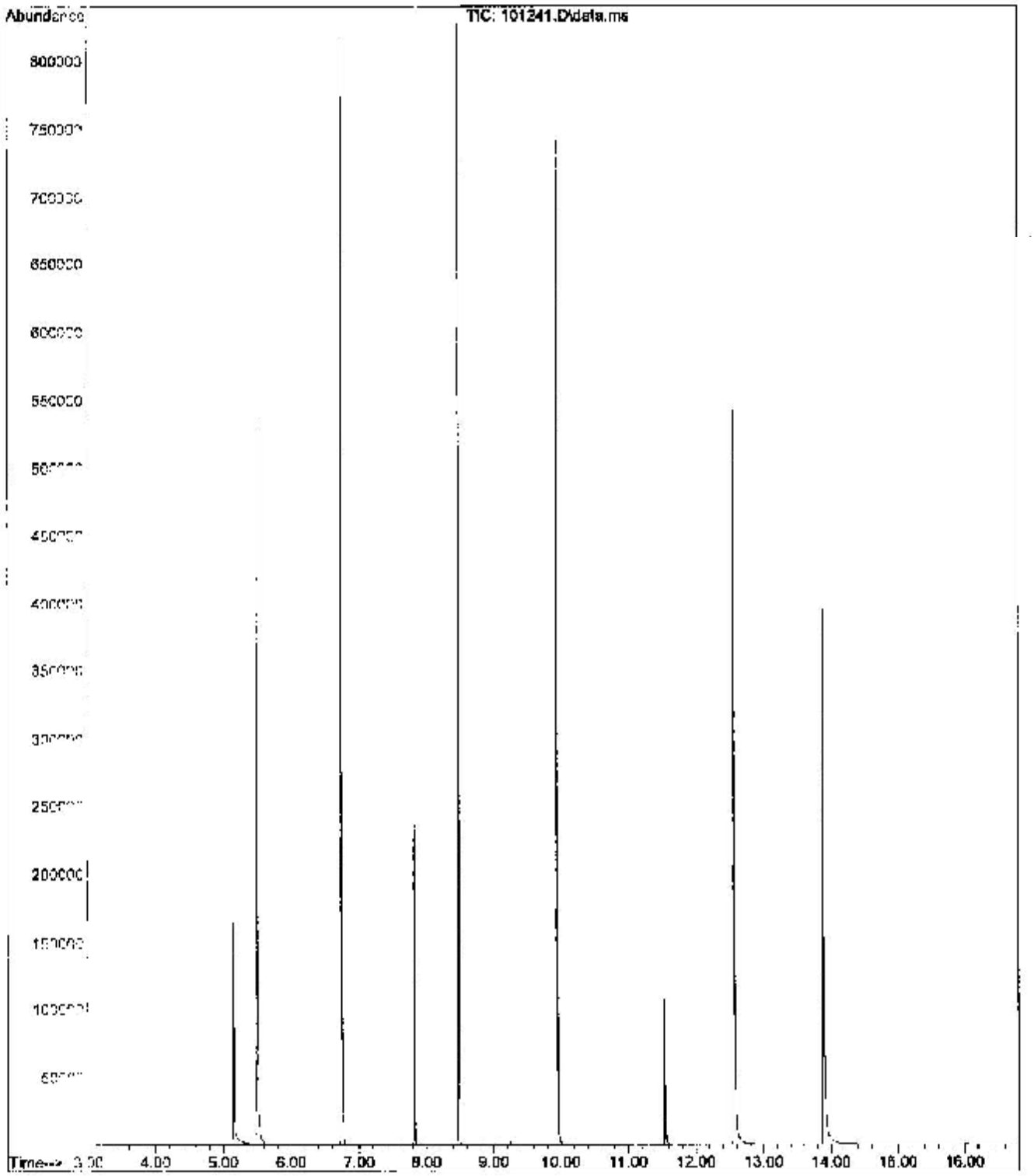
Quant Time: Oct 12 17:34:28 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270 PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205134	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	634778	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	313444	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	517822	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	441980	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	413833	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	124121	796.55 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	135784	484.07 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	85522	448.05 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.436	107	57	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	49	N.D.	
7) 1-Methylnaphthalene	7.550	142	29	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.513	152	13	N.D.	
12) Fluorene	9.023	166	23	N.D.	
14) Phenanthrene	9.968	178	258	N.D.	
15) Anthracene	10.019	178	26	N.D.	
17) Fluoranthene	11.148	202	94	N.D.	
18) Pyrene	11.370	202	106	N.D.	
19) Benzo (a) anthracene	12.564	228	1189	N.D.	
21) Chrysene	12.564	228	833	N.D.	
22) benzo (b) fluoranthene	13.556	252	30	N.D.	
23) benzo (k) fluoranthene	13.574	252	117	N.D.	
24) benzo (a) pyrene	13.833	252	55	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.946	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	11	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH1016 ...NOL.M Fri Oct 12 17:36:39 2012 PAH

File :D:\Data\SVOC\101212\101241.D
Operator :
Acquired : 12 Oct 2012 5:17 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: L210080-001ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 27



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101242.D
Acq On : 12 Oct 2012 5:42 pm
Operator :
Sample : 1210080-002A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 28 Sample Multiplier: 1

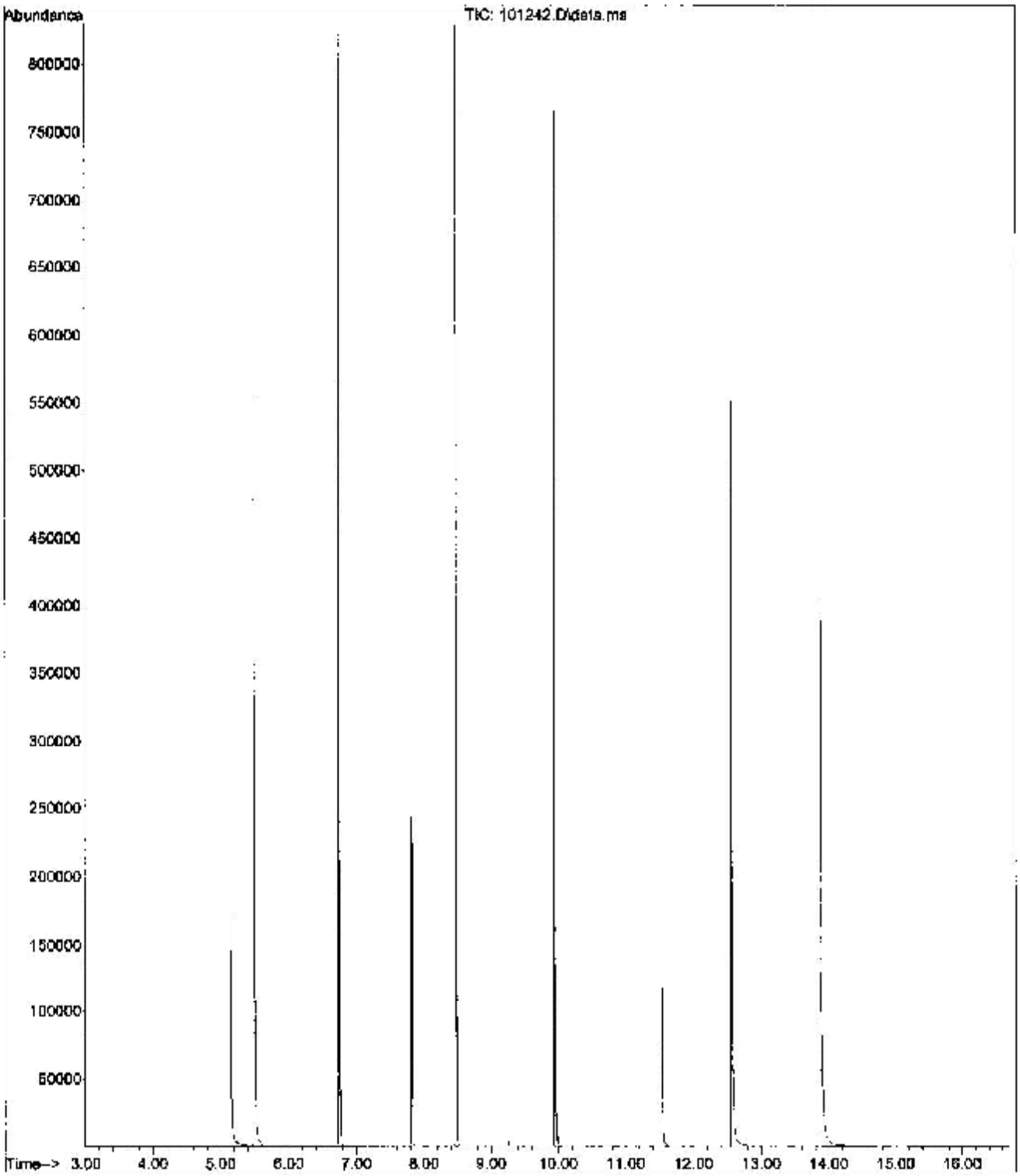
Quant Time: Oct 12 17:59:52 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	206672	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	642522	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	319496	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	529843	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	455867	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	436438	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	135642	864.01 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139619	491.75 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91847	470.27 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	224	N.D.	
5) Naphthalene	6.745	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	95	N.D.	
7) 1-Methylnaphthalene	7.550	142	85	N.D.	
9) Acenaphthylene	8.340	152	31	N.D.	
11) Acenaphthene	8.509	152	50	N.D.	
12) Fluorene	9.020	166	148	N.D.	
14) Phenanthrene	9.960	178	490	N.D.	
15) Anthracene	10.020	178	95	N.D.	
17) Fluoranthene	11.147	202	256	N.D.	
18) Pyrene	11.370	202	300	N.D.	
19) Benzo (a) anthracene	12.566	228	1302	N.D.	
21) Chrysene	12.566	228	852	N.D.	
22) benzo (b) fluoranthene	13.555	252	54	N.D.	
23) benzo (k) fluoranthene	13.578	252	184	N.D.	
24) benzo (a) pyrene	13.835	252	70	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	12	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	23	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:59:52 2012 PAH

File :D:\Data\SVOC\101212\101242.D
Operator :
Acquired : 12 Oct 2012 5:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 28



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101243.D
Acq On : 12 Oct 2012 6:08 pm
Operator :
Sample : 1210080-003A
Misc : SAMP O PAH SIM-S LIBBY
ALS Vial : 29 Sample Multiplier: 1

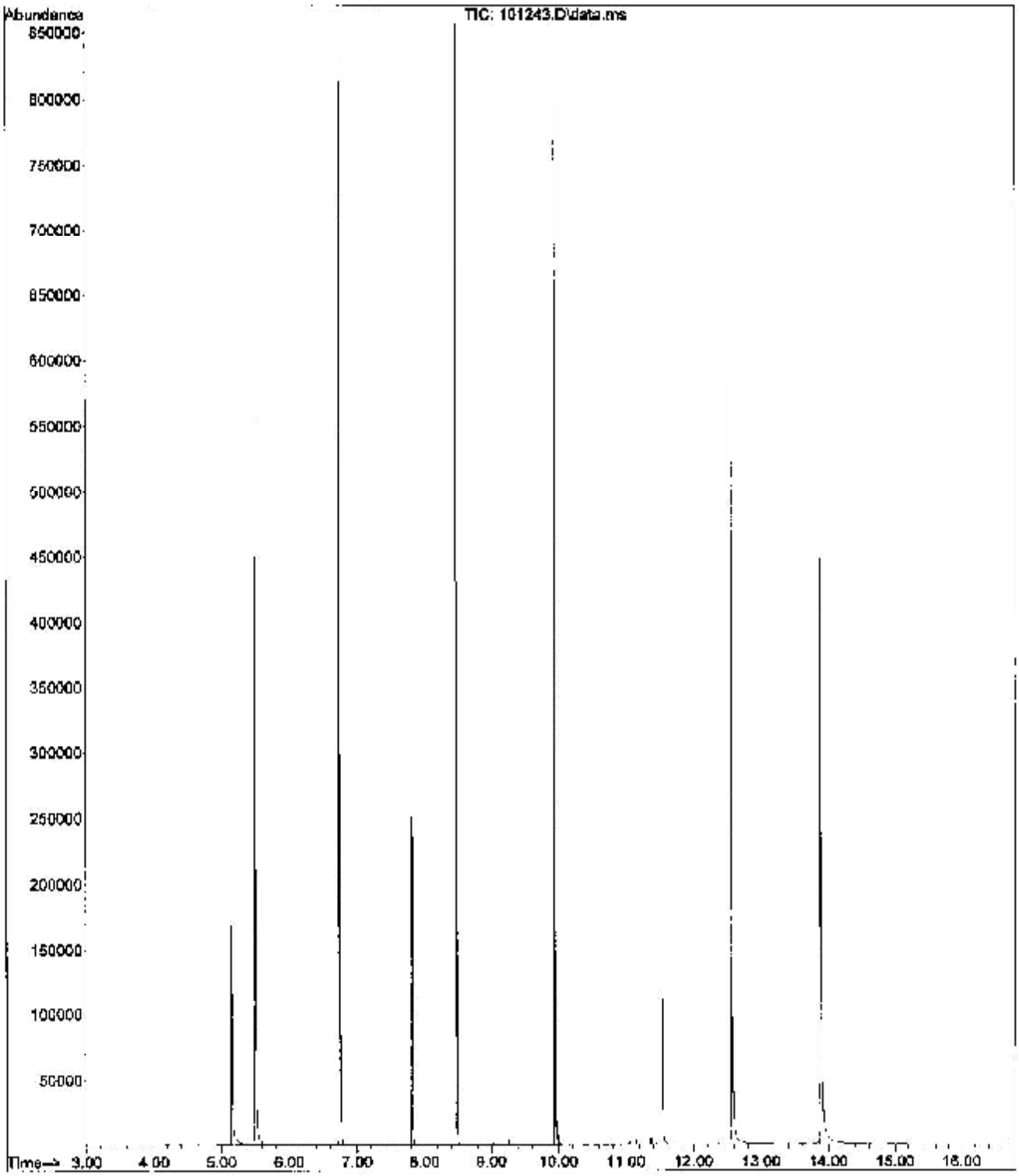
Quant Time: Oct 15 09:29:22 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	210345	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	656318	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	327926	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	547565	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	481088	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	480766	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	133231	833.83 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139035	479.40 ug/L	0.00
16) Terphenyl d14 (surr)	11.540	244	93848	464.96 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	606	N.D.	
5) Naphthalene	6.766	128	1182	N.D.	
6) 2-Methylnaphthalene	7.455	142	299	N.D.	
7) 1-Methylnaphthalene	7.550	142	218	N.D.	
9) Acenaphthylene	8.339	152	257	N.D.	
11) Acenaphthene	8.478	152	41	N.D.	
12) Fluorene	9.021	166	469	N.D.	
14) Phenanthrene	9.967	178	3201	8.57 ug/L	99
15) Anthracene	10.020	178	666	N.D.	
17) Fluoranthene	11.148	202	3529	10.49 ug/L #	92
18) Pyrene	11.370	202	4012	11.41 ug/L #	76
19) Benzo (a) anthracene	12.562	228	3223	10.93 ug/L #	100
21) Chrysene	12.592	228	2168	6.24 ug/L #	32
22) Benzo (b) fluoranthene	13.559	252	567	N.D.	
23) Benzo (k) fluoranthene	13.792	252	451	N.D.	
24) Benzo (a) pyrene	13.836	252	699	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	296	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	45	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	184	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Mon Oct 15 09:29:57 2012 PAH

File :D:\Data\SVOC\101212\101243.D
Operator :
Acquired : 12 Oct 2012 6:08 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 29

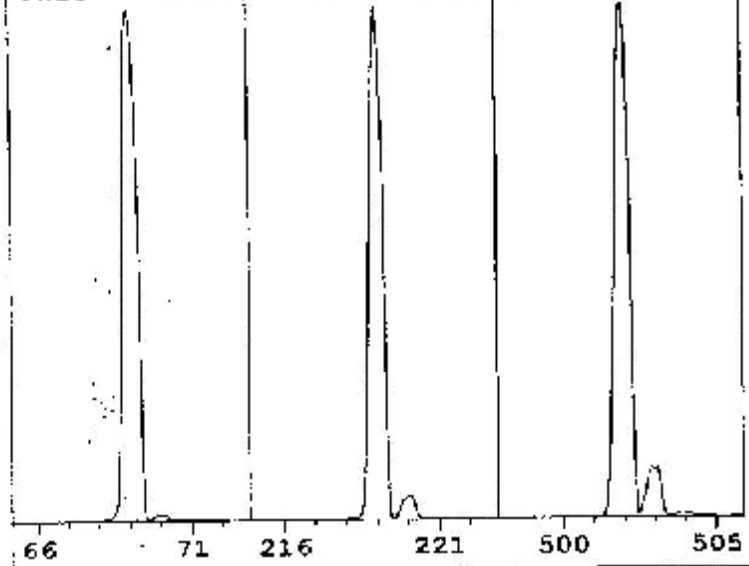


5975 DFTPP Dynamic Target Tune

Fri Oct 12 14:32:20 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	69.00	Mass	219.00	Mass	502.00
Ab	469631	Ab	288415	Ab	12211
Pw50	0.56	Pw50	0.51	Pw50	0.55

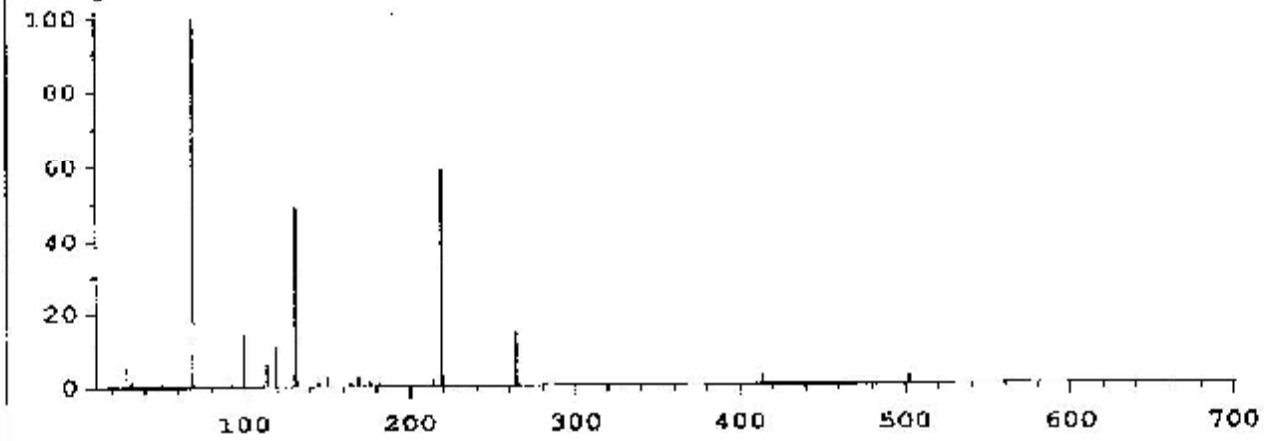


Ion Pol	Pos	MassGain	-612
		MassOffs	-39
Emission	34.6	AmuGain	2048
ElEnrgy	69.9	AmuOffs	125.13
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.57		
IonFocus	69.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.46e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
115 peaks Base: 69.00 Abundance: 443648



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	443648	100.00	70.00	4652	1.05
219.00	260352	58.68	220.00	11327	4.35
502.10	10238	2.31	503.00	930	9.08

Air/Water Check: H2O~0.34% N2~4.78% O2~1.41% CO2~0.12% N2/H2O~1385.62%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp:

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	99329
Repeller Maximum	35	volts using ion	502;	Gain Factor	0.99

MassGain Values(Samples): -601(3) -594(2) -573(1) -527(0) -439(FS)

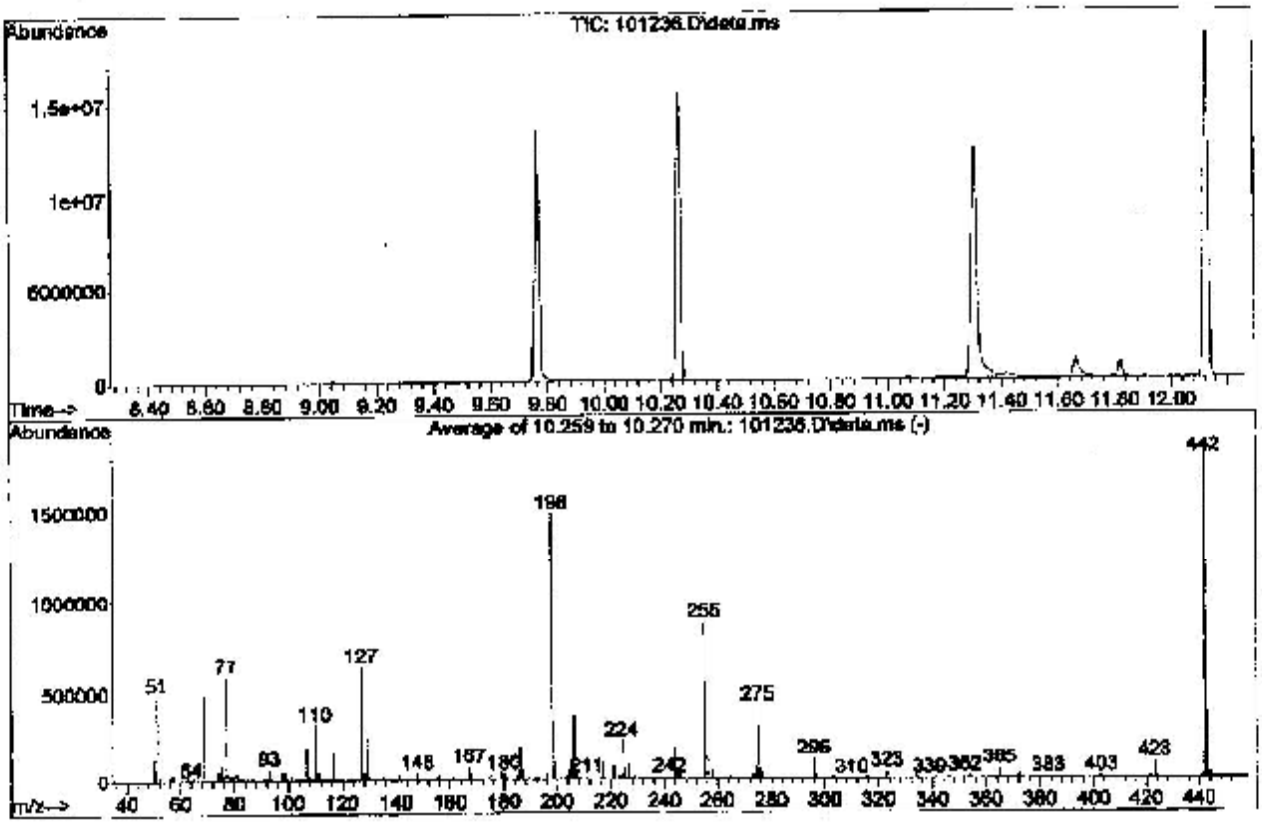
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	125.1	125.1	125.1	125.1	125.1	125.1	125.1
Entrance Lens Offset:	16.1	12.8	12.3	13.1	13.3	14.1	14.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	48.7	58.7	2.7	2.3	

DFTPP

Data Path : D:\Data\9VOC\101212\
Data File : 101236.D
Acq On : 12 Oct 2012 3:12 pm
Operator :
Sample : TUNE CHECK
Misc : CCV 8-PAH-SIM-S-LIBBY
ALS Vial : 51 Sample Multiplier: 1

Integration File: RTEINTSG8270.P

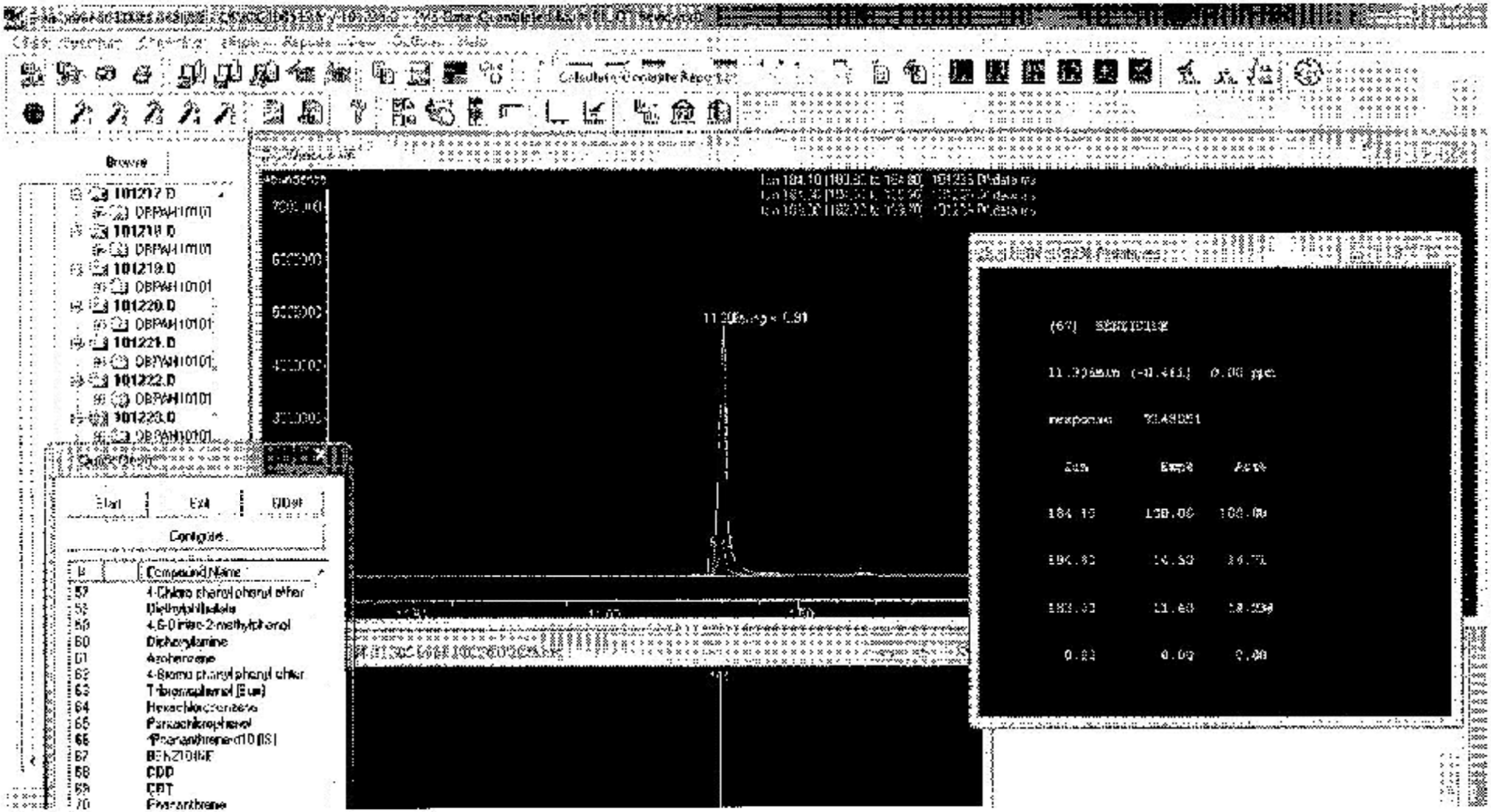
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

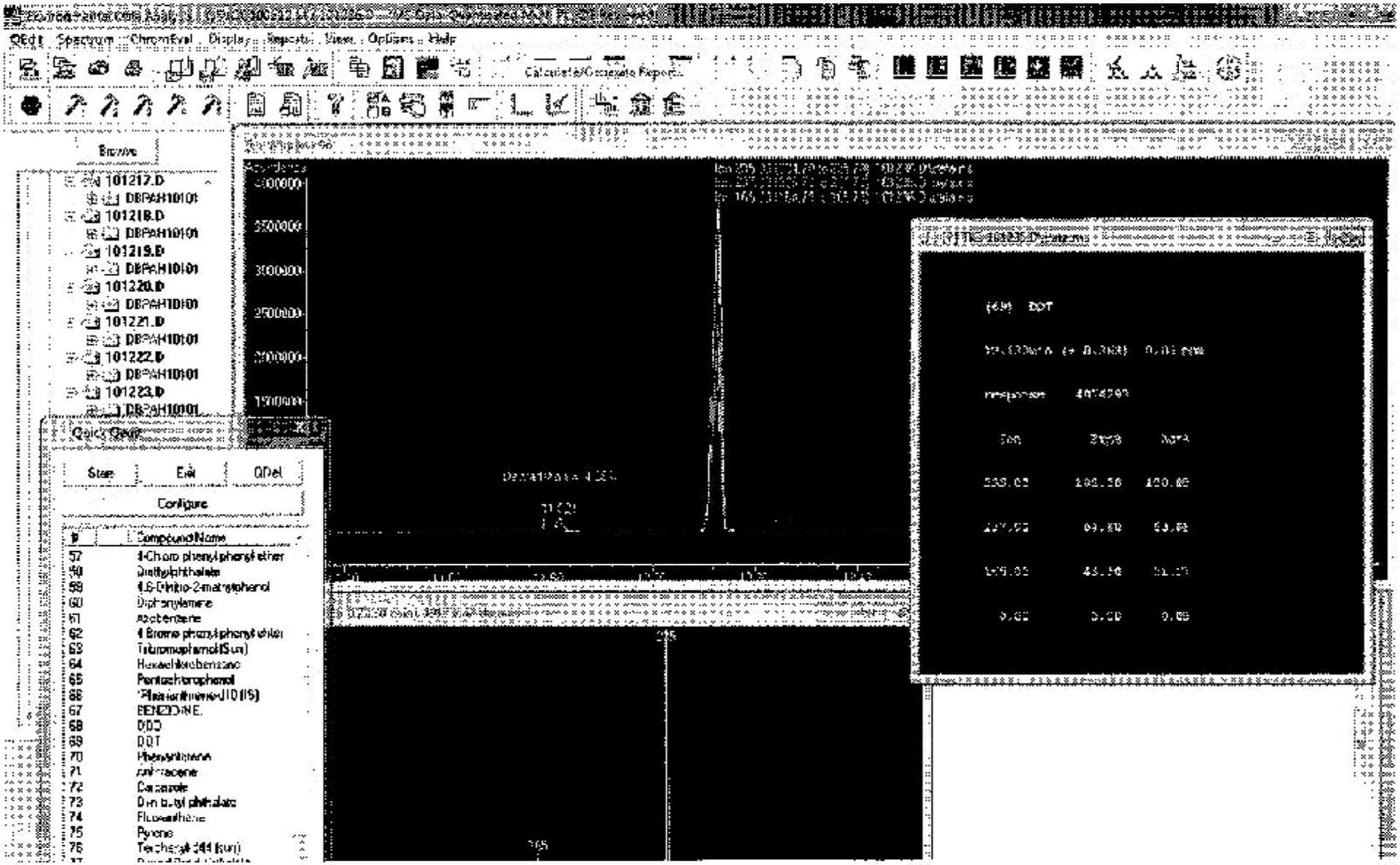


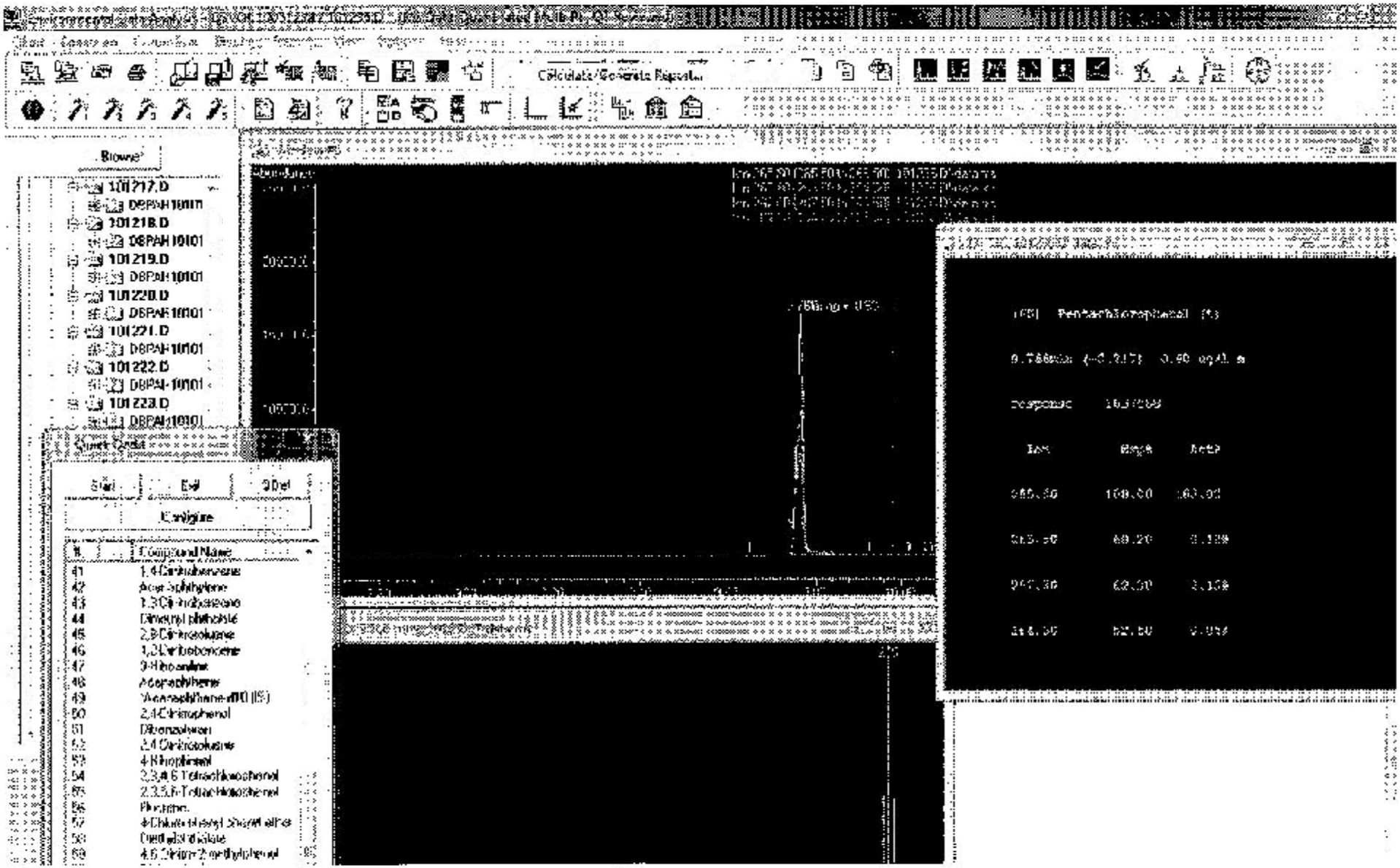
AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1332

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.8	485553	PASS
68	69	0.00	2	1.5	7228	PASS
69	198	0.00	100	32.6	482453	PASS
70	69	0.00	2	0.5	2453	PASS
127	198	10	80	43.4	643157	PASS
197	198	0.00	2	0.5	7703	PASS
198	198	100	100	100.0	1481899	PASS
199	198	5	9	6.7	99501	PASS
275	198	10	60	28.1	417088	PASS
365	198	1	100	3.7	54277	PASS
441	442	0.01	24	14.0	254635	PASS
442	198	50	999	122.3	1812821	PASS
443	442	15	24	20.5	371989	PASS

Page: 1


Browse
101217.D
101218.D
101219.D
101220.D
101221.D
101222.D
101223.D
Start
Exit
Edit
Compounds
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromo phenyl phenyl ether
63 Trifluralin (Eur)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
68 CDP
69 CBT
70 Fluoranthene
(67) B2020101302
11.20min (-0.441) 0.00 ppb
response 78.49251
Ion Exp% Act%
184.10 100.00 100.00
180.00 14.50 14.71
182.00 11.60 10.039
0.00 0.00 0.00


QEdit Spectrum Chromeval Display Reports Views Options Help
Browse
101217.D
DBPAH10101
101218.D
DBPAH10101
101219.D
DBPAH10101
101220.D
DBPAH10101
101221.D
DBPAH10101
101222.D
DBPAH10101
101223.D
DBPAH10101
Quick Quan
Start
Exit
QDel
Configure
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4 Bromo phenyl phenyl ether
63 Tribromophenol(Surr)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
67 BENZIDINE
68 DDD
69 DDT
70 Phenanthrene
71 Anthracene
72 Carbazole
73 Di-n-butyl phthalate
74 Fluoranthene
75 Pyrene
76 Terphenyl-d14 (surr)
(69) DDT
response 4074293
Conc Resp Ratio
558.03 186.56 120.00
227.03 99.89 53.00
126.03 43.56 51.00
0.00 0.00 0.00


Calculate/Generate Report...
Browse
101217.D
DBPAH10101
101218.D
DBPAH10101
101219.D
DBPAH10101
101220.D
DBPAH10101
101221.D
DBPAH10101
101222.D
DBPAH10101
101223.D
DBPAH10101
Start
End
SDel
Configure
Compound Name
1,4-Dichlorobenzene
Acenaphthylene
1,3-Dichlorobenzene
Dimethyl phthalate
2,6-Dinitrotoluene
1,2-Dichlorobenzene
9-Fluorenone
Acenaphthene
Acenaphthene-d10 (IS)
2,4-Dichlorophenol
Diphenylamine
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
Diethyl phthalate
4,6-Dinitro-2-methylphenol
Response
Area
Height

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 6131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3406	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3406	208723	5.496	335186	8.478	489323	12.567	672101	6.746
03	CCV-3406A	248623	5.496	446598	8.478	729868	12.568	835095	6.747
04	CCB-3406A	266886	5.496	437548	8.478	648472	12.566	875931	6.747
05	MB-3406	236069	5.498	382016	8.478	569492	12.565	760891	6.745
06	LCS-3406	233245	5.496	395162	8.478	615718	12.566	760779	6.747
07	1210089-004A	232562	5.498	384502	8.479	591122	12.567	767244	6.747
08	1210089-004ADUP	248460	5.498	410617	8.48	628483	12.568	806989	6.747
09	1210089-004AMS	243558	5.498	418741	8.48	659172	12.568	803566	6.747
10	CCV-3406B	220676	5.495	369974	8.48	554983	12.567	707256	6.745
11	CCB-3406B	296417	5.495	453759	8.478	640793	12.566	921023	6.745
12	1210080-001A	187471	5.496	287679	8.478	394485	12.565	580894	6.745
13	1210080-001A	214048	5.496	328090	8.478	463720	12.565	666958	6.745
14	1210080-001ADUP	205134	5.498	313444	8.478	441980	12.568	634778	6.745
15	1210080-002A	208672	5.495	319496	8.478	455887	12.566	642522	6.745
16	1210080-003A	210345	5.496	327926	8.478	481088	12.568	656316	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 5131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column. ID (mm).

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS5 Perylene-d12 AREA #	RT #	IS6 Phenanthrene-d AREA #	RT #				
	12 HOUR STD	569722	13.889	614915	9.945				
	UPPER LIMIT	1139444	14.389	1229830	10.445				
	LOWER LIMIT	284861	13.389	307458	9.445				
	SAMPLE NO.								
01	ICB-3406	445838	13.885	542803	9.944				
02	ICV-3406	472138	13.887	518454	9.945				
03	CCB-3406B	604114	13.885	742255	9.946				
04	1210030-001A	365033	13.883	476230	9.945				
05	1210080-001A	425136	13.885	543384	9.945				
06	1210080-001ADUP	413833	13.885	517822	9.944				
07	1210080-002A	436438	13.885	529843	9.944				
08	CCV-3406B	535559	13.885	617544	9.945				
09	CCV-3406A	702387	13.886	743459	9.945				
10	CCB-3406A	598480	13.886	710640	9.945				
11	MB-3406	535333	13.887	626677	9.944				
12	LCS-3406	591424	13.885	635612	9.945				
13	1210089-004A	560404	13.887	636719	9.945				
14	1210089-004ADUP	598140	13.887	680155	9.946				
15	1210089-004AMS	639673	13.887	678279	9.945				
16	1210080-003A	480788	13.885	547565	9.945				

IS5 Perylene-d12 = Perylene-d12
IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 6, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up on September 11, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120911-30
Date: 11-6-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

N/A

I002

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-11-12 Page: 1 of

Client: GeoEngineers
Project Manager: Neil Morton
Address: 600 Stewart st. Suite 1700, Seattle
Project Name: Irondale
Phone: 206-728-2674 Fax: 206-728-2732
Location: Irondale City: WA
Client Project # 0405-042-02
Collector: Paul Robinette Date of Collection: 9-10-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SRZ-SSW4-91112	2'	0723	S	4oz							X							1
2 SRZ-SSW3-91112	2'	0724	S	4oz							X							1
3 SVRZ-BH1-91112	10'	0730	S	4oz							X							1
4 SRZ-OX1-91112	3'	0815	S	4oz							X							1
5 SRZ-BH2-91112	5'	0859	S	4oz							X							1
6 SRZ-MW-01-91112	2'	1150	S	4oz							X							
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by	Date / Time	Received by	Date / Time
Paul Robinette	9/11/12 1340	Paul Bond	9/11/12 1340
Relinquished by	Date / Time	Received by	Date / Time
Relinquished by	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120911-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120911-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/11/12	86	nd	nd
LCS	9/11/12	int	115%	
LCSD	9/11/12	int	96%	
SRZ-SSW4-91012	9/11/12	99	nd	nd
SRZ-SSW3-91012	9/11/12	86	nd	nd
SRZ-B01-91112	9/11/12	92	nd	nd
SRZ-OX1-91112	9/11/12	118	nd	1390
SRZ-B02-91112	9/11/12	95	nd	nd
SRZ-B02-91112 Dup	9/11/12	95	nd	nd
SRZ-NSW01-91112	9/11/12	95	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 09/11/12

Libby Job #: L120911-30		Instrument: Shimadsu GC14A				Analyst/s: Paul Burke	
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	6:44:08	C106	3 µl		549		
500 ppm Diesel 791	6:44:08	D104	3 µl		468		
500 ppm LCS 306	7:39:45	C107	3 µl	int	597		
500 ppm LCS 306	7:39:45	D105	3 µl	int	589		
500 ppm LCSD 306	8:22:04	C108	3 µl	int	498		
Method Blank (Not Used)	8:22:04	D106	3 µl				
Method Blank	9:01:46	C109	3 µl	17.2	nd	nd	nd
Method Blank	9:01:46	D107	3 µl	16.6	nd	nd	nd
SRZ-SSW4-91112	9:41:02	C110	3 µl	19.8	nd	nd	nd
SRZ-SSW3-91112	9:41:02	D108	3 µl	17.1	nd	nd	nd
SURZ-B01-91112	10:22:01	C111	3 µl	18.4	nd	nd	nd
SURZ-OX1-91112	10:22:01	D109	3 µl	118	nd	nd	1340
SRZ-B02-91112	11:04:39	C112	3 µl	18.9	nd	nd	nd
SRZ-B02-91112 DUP (Not Used)	11:04:39	D110	3 µl				
SRZ-B02-91112 DUP	11:42:50	C113	3 µl	19.0	nd	nd	nd
Blank (Not Used)	11:42:50	D111	3 µl				
SRZ-NSW01-91112	12:33:22	C114	3 µl	19.0	nd	nd	nd
Blank (Not Used)	12:33:22	D112	3 µl				
Blank (Not Used)	13:21:59	C115	3 µl				
*Method Blank	13:21:59	D113	3 µl	17.5	nd	nd	nd
500 ppm Diesel 791	13:55:17	C116	3 µl	int	501		
500 ppm Diesel 791	13:55:17	D114	3 µl	int	525		

Lab Name: Libby Environmental

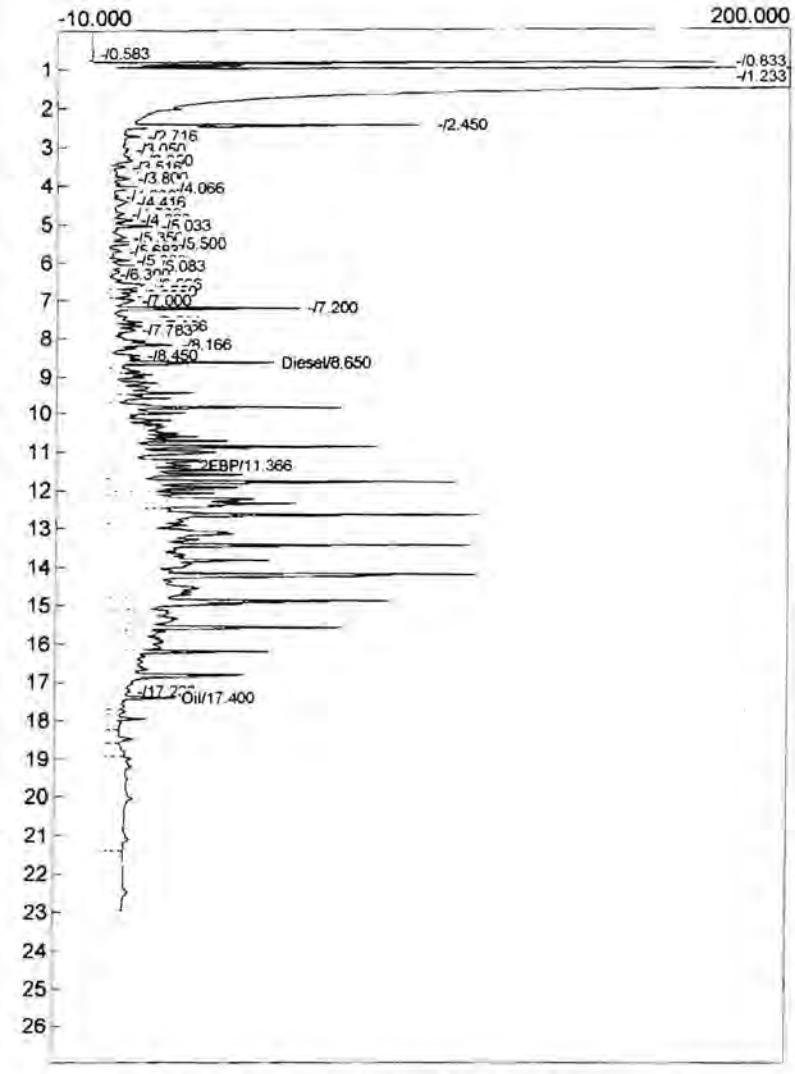
Analysis date: 09/11/2012 13:55:17
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C116.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	8.650	10173.9785	47.207	501.3068	ppm
:FBP	11.366	134.8715	23.726	4.4957	ppm
)il	17.400	1564.3715	18.840	76.9105	ppm
		11873.2215		582.7131	

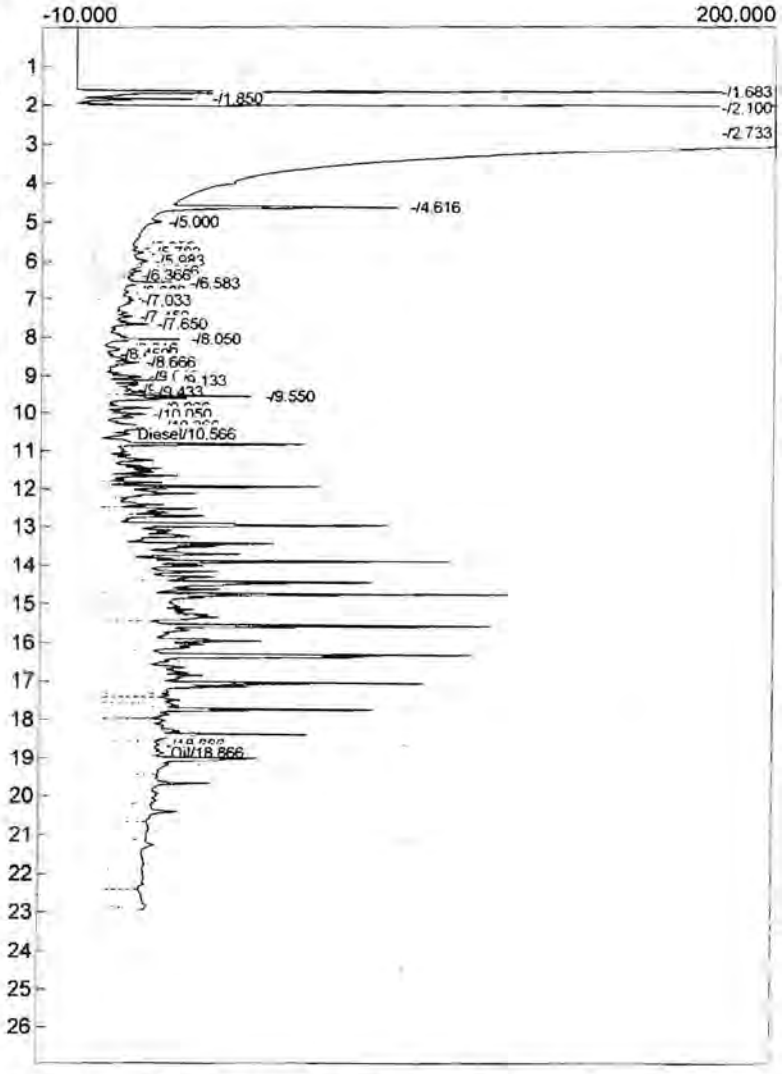
Analysis date: 09/11/2012 13:55:17
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D114.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.566	9875.7825	6.769	524.5435	ppm
Oil	18.866	3203.6335	16.270	169.1791	ppm
		13079.4160		693.7226	

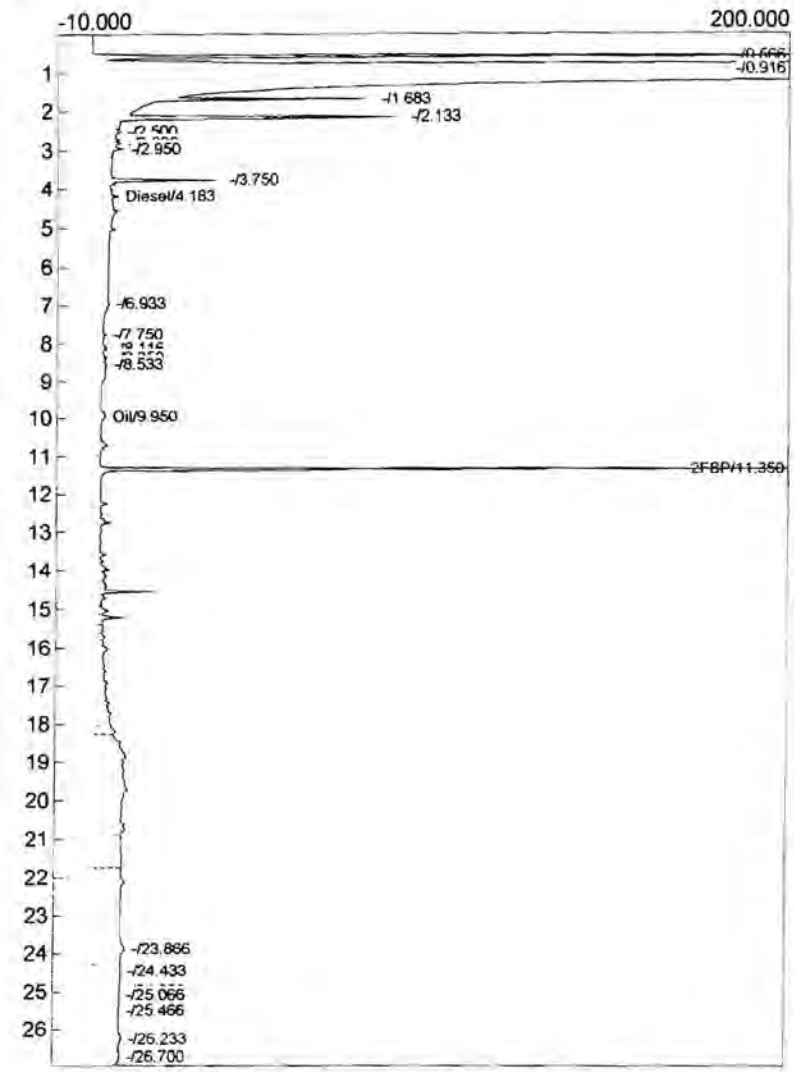
Analysis date: 09/11/2012 13:21:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C115.CHR ()
Sample: BLANK
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.183	32.5000	2.062	1.5978	ppm
Oil	9.950	3340.1260	1.443	164.2135	ppm
2FBP	11.350	526.8020	223.876	17.5601	ppm
		3899.4280		183.3714	

Analysis date: 09/11/2012 13:21:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D113.CHR ()
Sample: Blank
Operator: PB

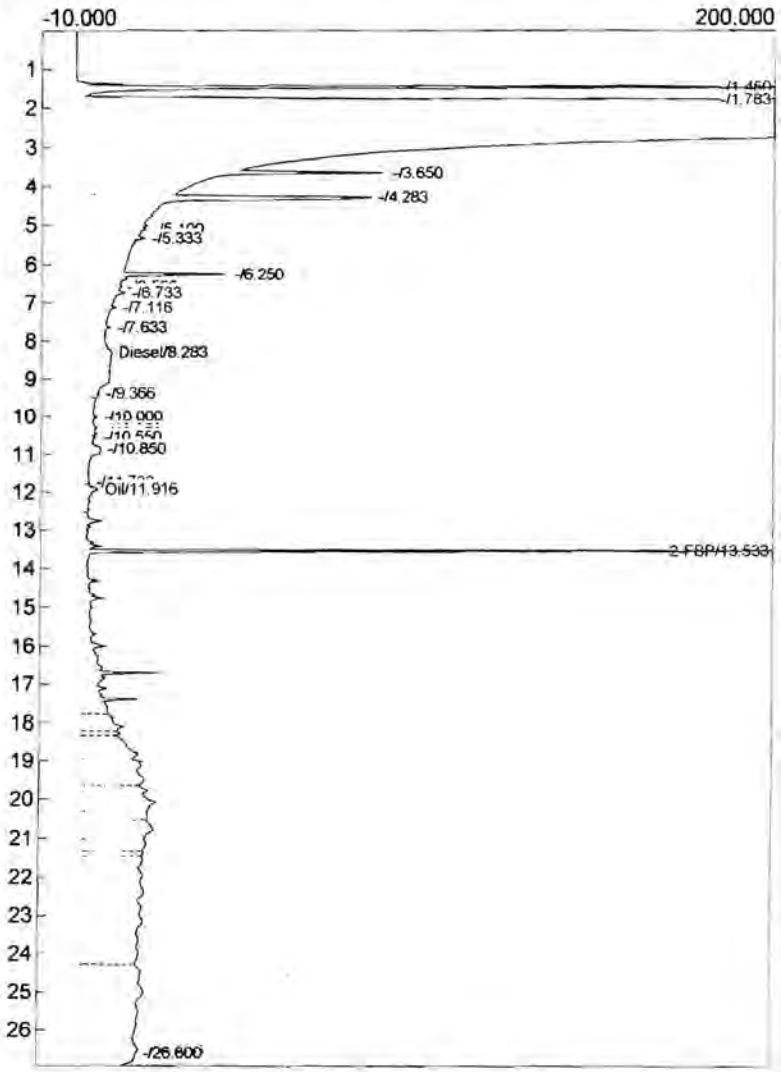
New Method Blank

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.283	55.5740	1.428	2.9348	ppm
Oil	11.916	9280.7320	2.666	492.6916	ppm
2-FBP	13.533	568.6610	254.206	17.4973	ppm
		9904.9670		513.1237	

nd

87%

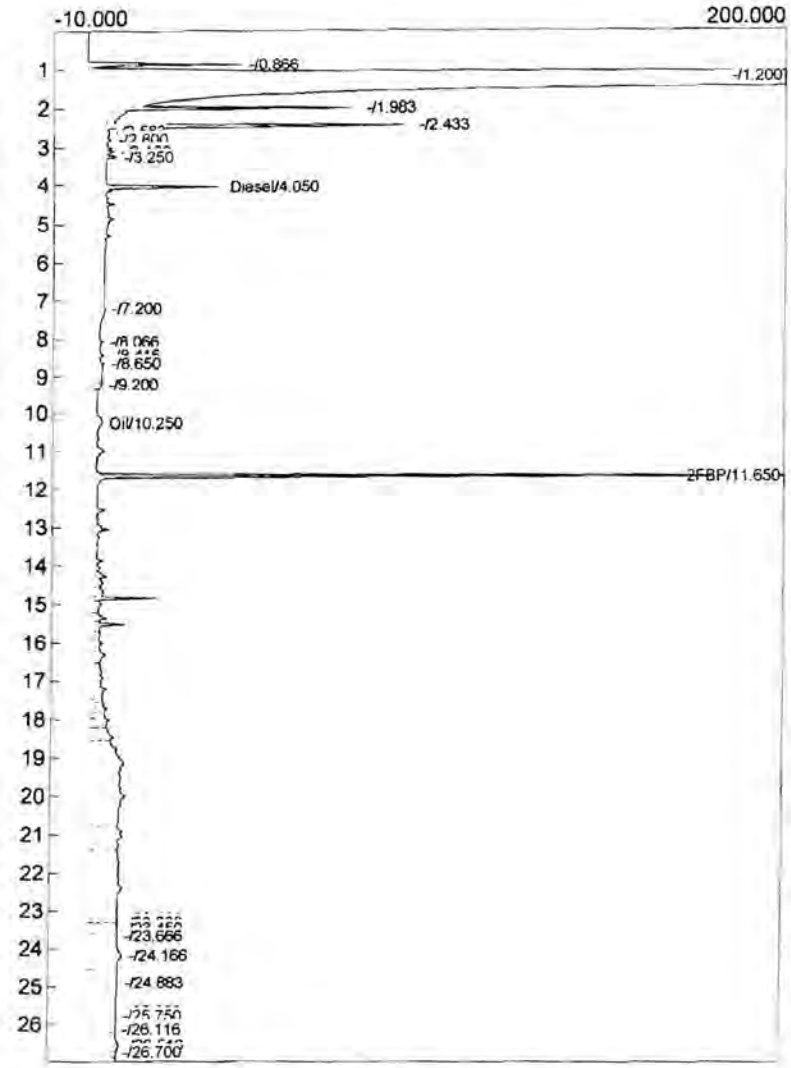
Lab name: Libby Environmental
Analysis date: 09/11/2012 12:33:22
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C114.CHR ()
Sample: SRZ-NSW01-91112
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

/ents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.050	135.3260	33.527	6.6531	ppm
Oil	10.250	3391.9175	1.689	166.7597	ppm
2FBP	11.650	570.0540	249.292	19.0018	ppm
		4097.2975		192.4147	

nd 95%

Analysis date: 09/11/2012 12:33:22
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D112.CHR ()
Sample: Blank
Operator: PB

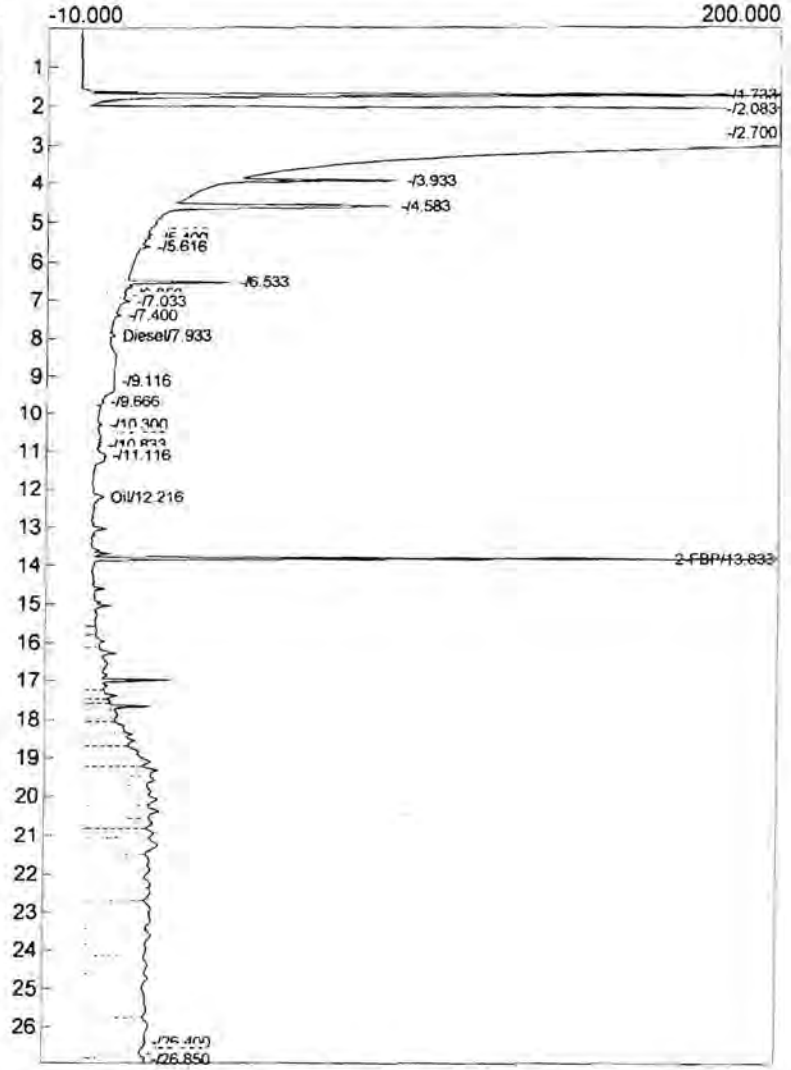
New Method Blank

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.933	38.1825	1.533	2.0164	ppm
Oil	12.216	9896.6495	2.880	525.6605	ppm
2-FBP	13.833	586.0310	253.069	18.0317	ppm
		10520.8630		545.7085	

nd 90%

LSB name: Libby Environmental

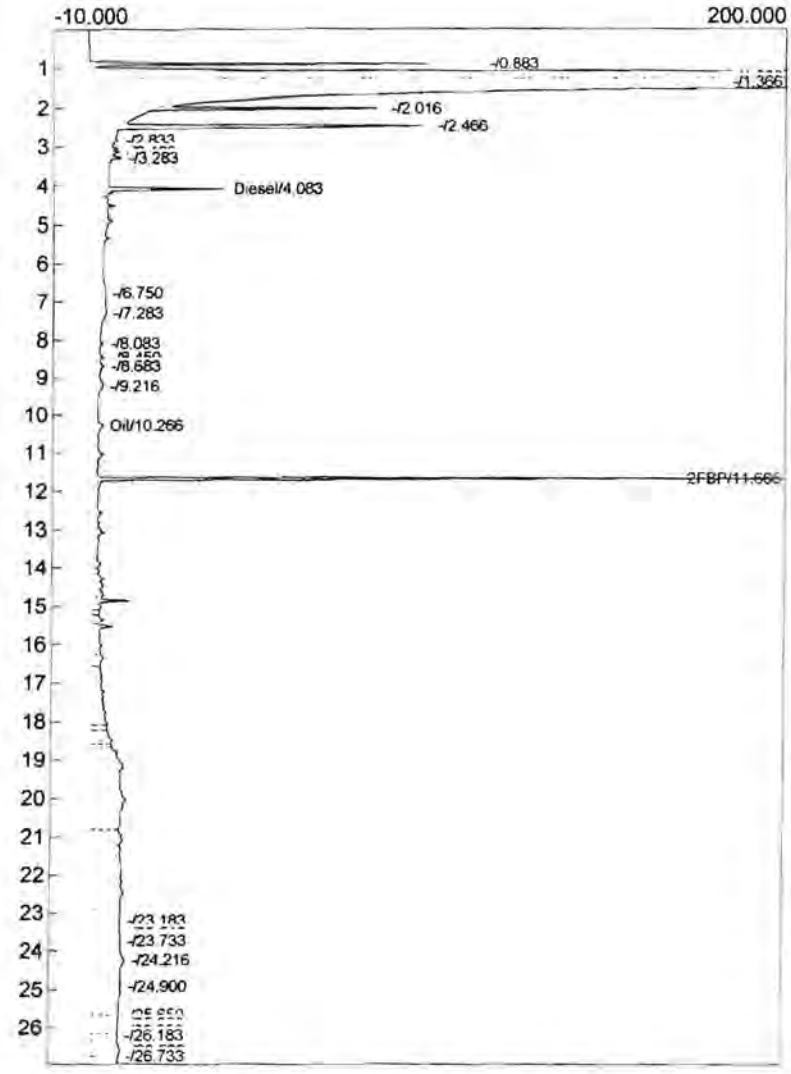
Analysis date: 09/11/2012 11:42:50
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C113.CHR ()
Sample: SRZ-B02-91112 Dup
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.083	131.7450	34.115	6.4771	ppm
Oil	10.266	3216.3355	1.525	158.1274	ppm
2FBP	11.666	569.3530	252.292	18.9784	ppm
		3917.4335		183.5830	

nd 95%

Analysis date: 09/11/2012 11:42:50
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D111.CHR ()
Sample: Blank
Operator: PB

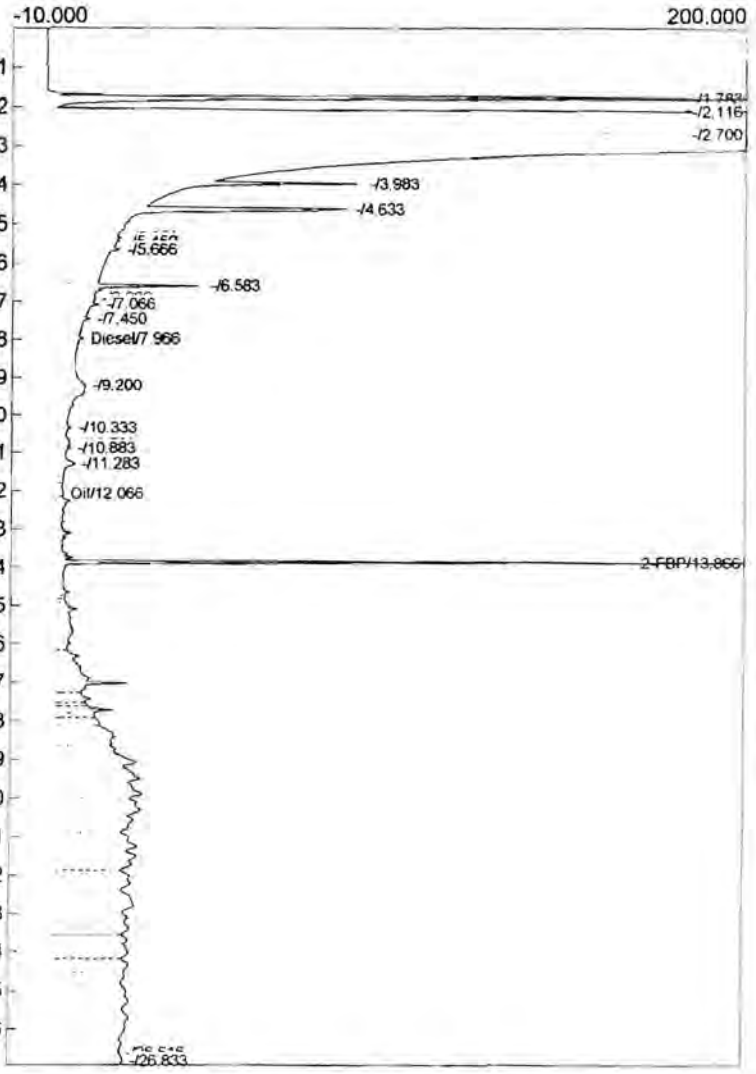
not used - residual
P.B.
9-11-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.966	30.2890	2.797	1.5995	ppm
Oil	12.066	11685.6040	0.208	621.5665	ppm
2-FBP	13.866	589.7500	246.106	17.5308	ppm
		12285.6430		640.6968	

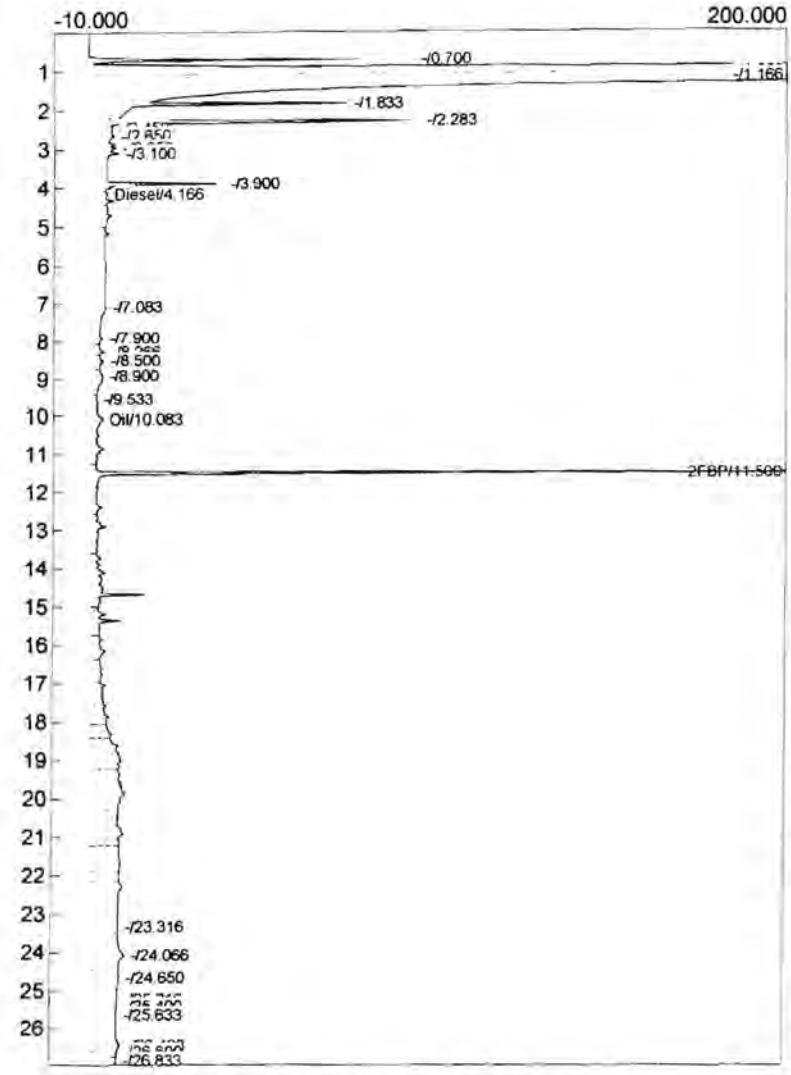
Analysis date: 09/11/2012 11:04:39
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C112.CHR ()
Sample: SRZ-B02-91112
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.166	29.7410	0.514	1.4622	ppm
Oil	10.083	3507.9280	1.954	172.4633	ppm
2FBP	11.500	568.0460	216.954	18.9349	ppm
		4105.7150		192.8603	

nd 95%

Analysis date: 09/11/2012 11:04:39
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D110.CHR ()
Sample: SRZ-B02-91112 DUP not used
Operator: PB

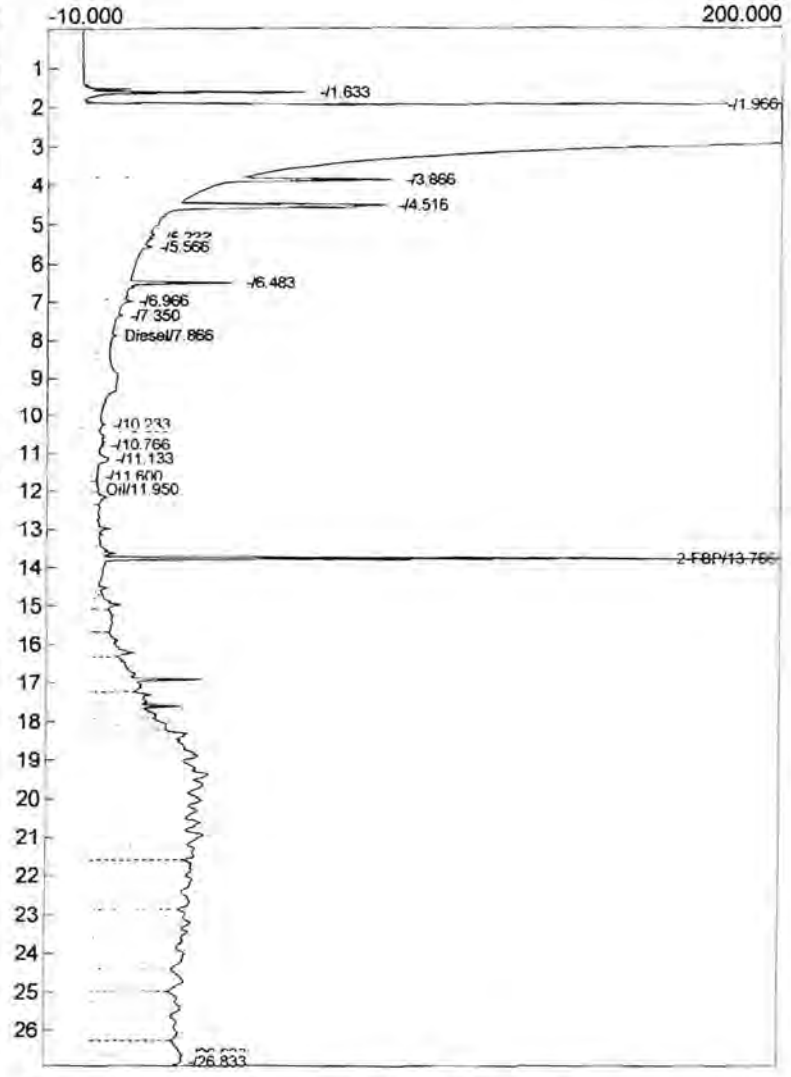
residual.
PB 9-11-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.866	443.9280	5.757	23.4432	ppm
Oil	11.950	15702.9700	0.910	838.3461	ppm
2-FBP	13.766	642.3855	237.885	19.7657	ppm
		16789.2835		881.5550	

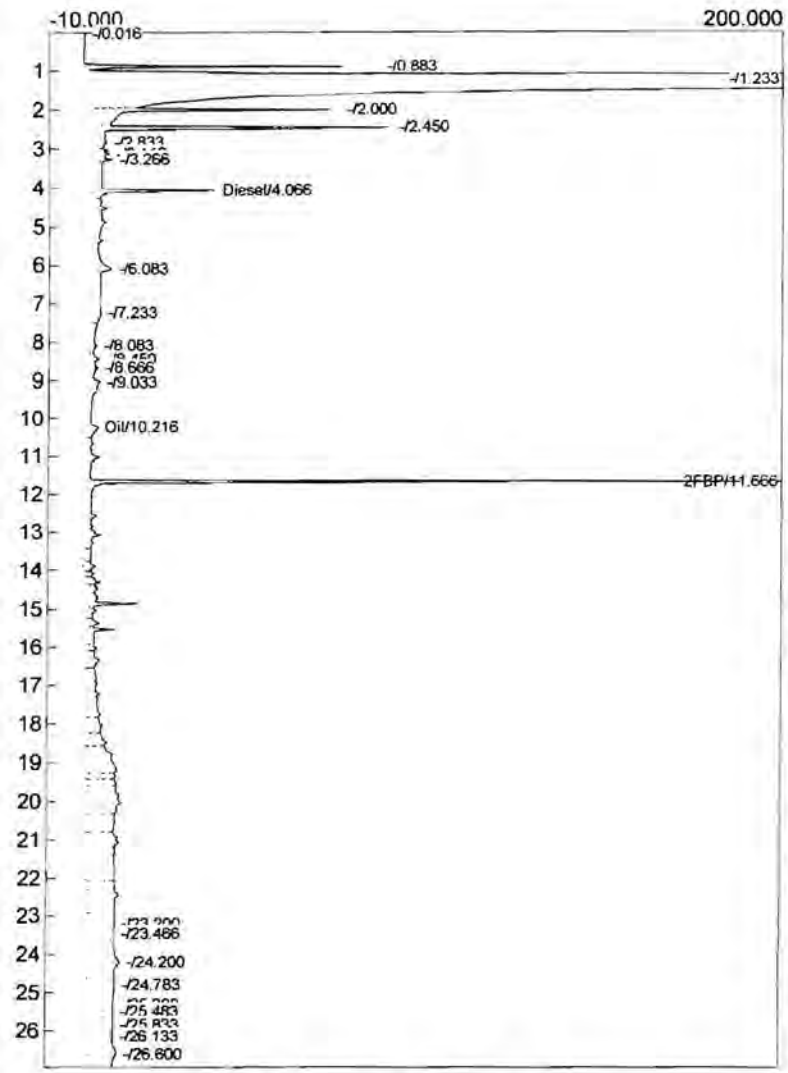
Analysis date: 09/11/2012 10:22:01
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C111.CHR ()
Sample: SURZ-B01-91112
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	4.066	131.9510	32.877	6.4872	ppm
il	10.216	3305.1810	2.021	162.4954	ppm
FBP	11.666	551.8815	242.649	18.3960	ppm
		3989.0135		187.3787	

92% nd

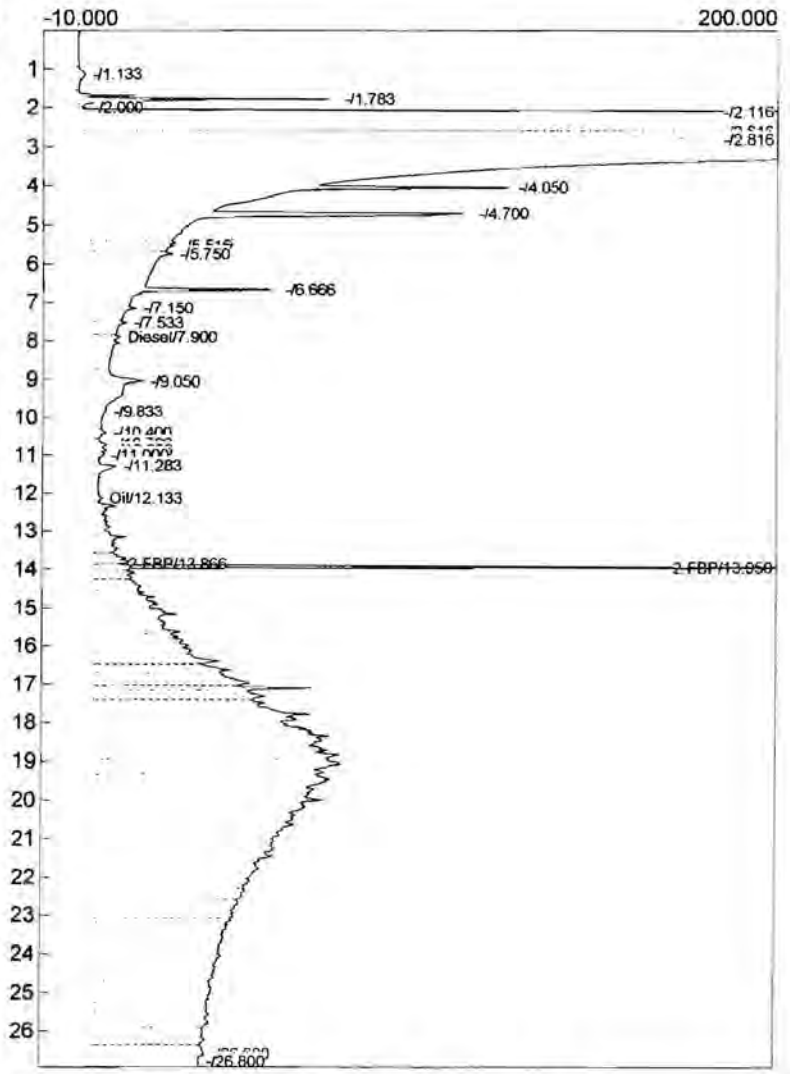
Analysis date: 09/11/2012 10:22:01
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D109.CHR ()
Sample: SRZ-OX1-91112
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.900	242.6350	7.051	12.8132	ppm
Oil	12.133	31073.5685	1.364	1683.0500	ppm
2-FBP	13.866	6.8320	6.832	0.2102	ppm
2-FBP	13.950	767.2960	286.338	23.6091	ppm
		32090.3315		1719.6825	

Bunker C = 1683 - 23.6 - .2
= 1660 ppm

118%

- 323
= 1340 ppm

Soil moisture factor 1.038 = (1391)

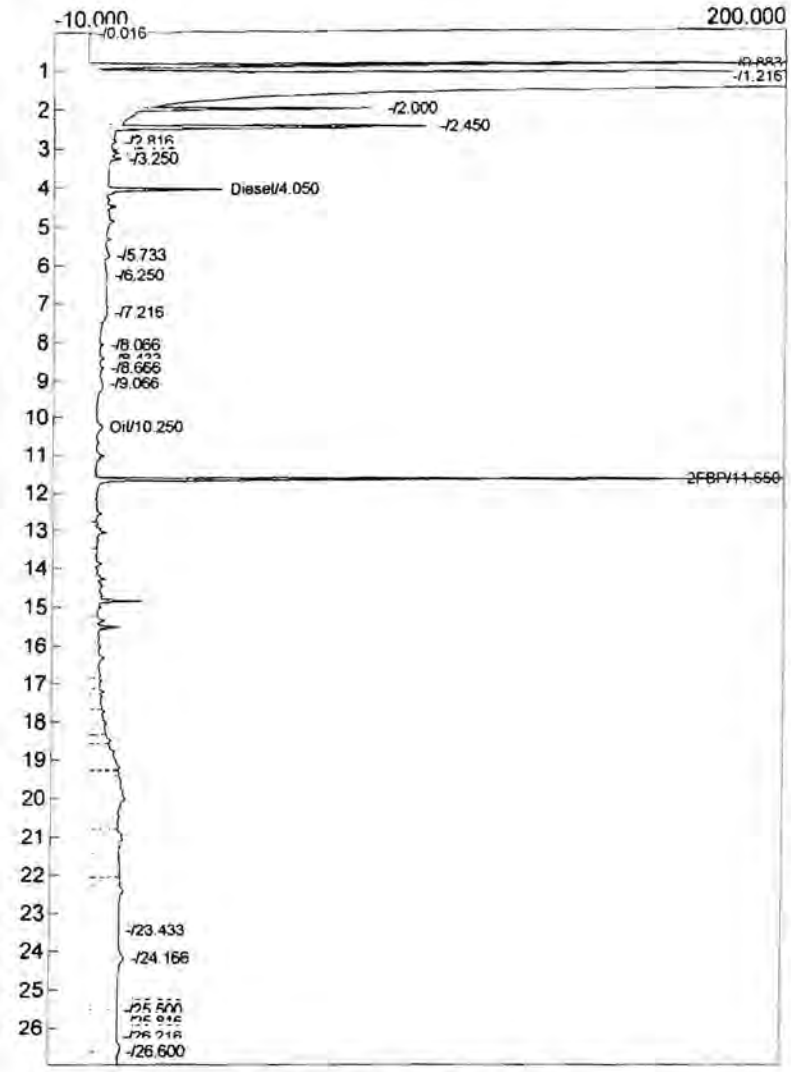
Analysis date: 09/11/2012 09:41:02
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C110.CHR ()
Sample: SRZ-SSW4-91112
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.050	138.0800	32.932	6.7885	ppm
Oil	10.250	3519.0020	1.788	173.0077	ppm
2FBP	11.650	593.0710	241.888	19.7690	ppm
		4250.1530		199.5653	

nd 99%

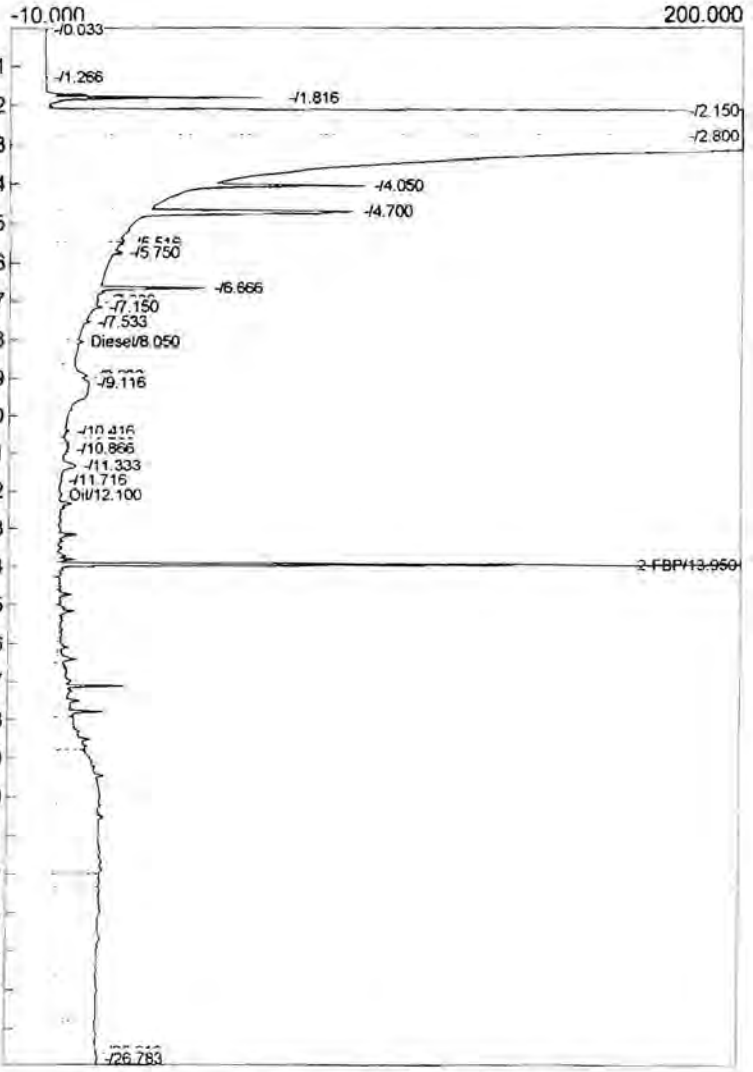
Analysis date: 09/11/2012 09:41:02
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D108.CHR ()
Sample: SRZ-SSW3-91112
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.050	168.1430	6.361	8.8794	ppm
Oil	12.100	6876.7520	0.681	364.2549	ppm
2-FBP	13.950	556.0000	256.290	17.1077	ppm
		7600.8950		390.2420	

nd 86%

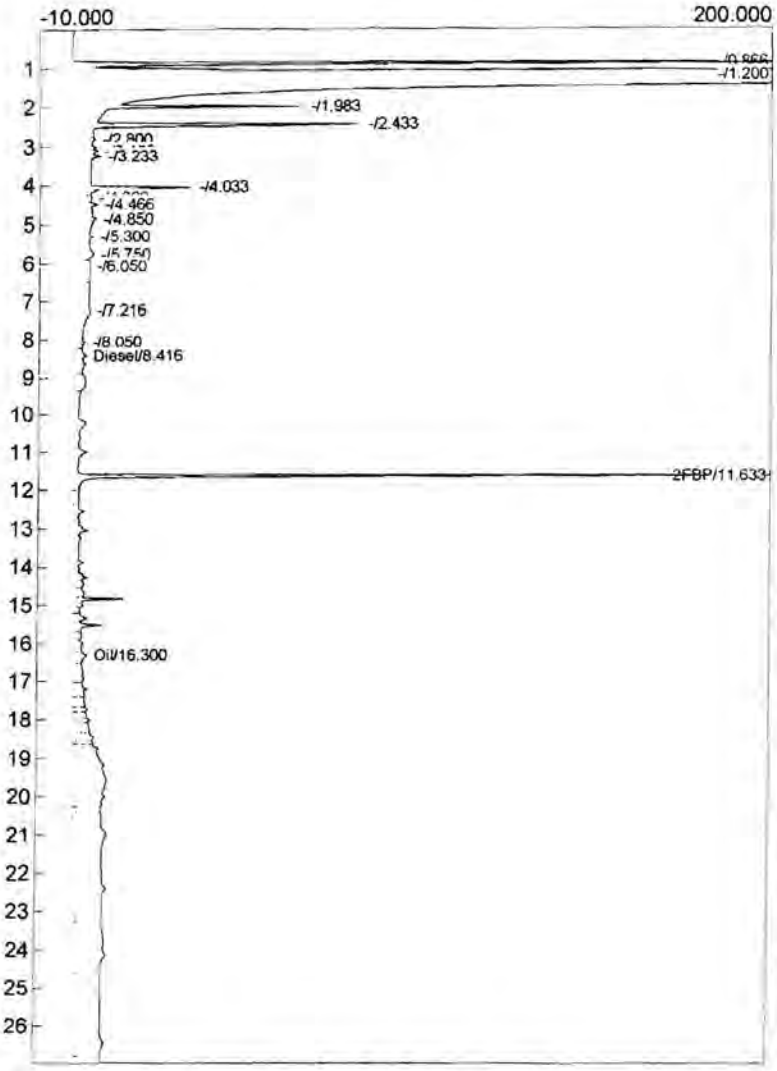
Analysis date: 09/11/2012 09:01:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C109.CHR ()
Sample: M BLANK
Operator: PB

emperature program:

it temp Hold Ramp Final temp

/ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
)iesel	8.416	857.2445	1.253	42.1454	ppm
FBP	11.633	514.8015	219.875	17.1601	ppm
)il	16.300	4152.9775	2.814	204.1680	ppm
		5525.0235		263.4935	

86%

Bunker C = 42.1 + 204.2 - 17.2
= 229 ppm

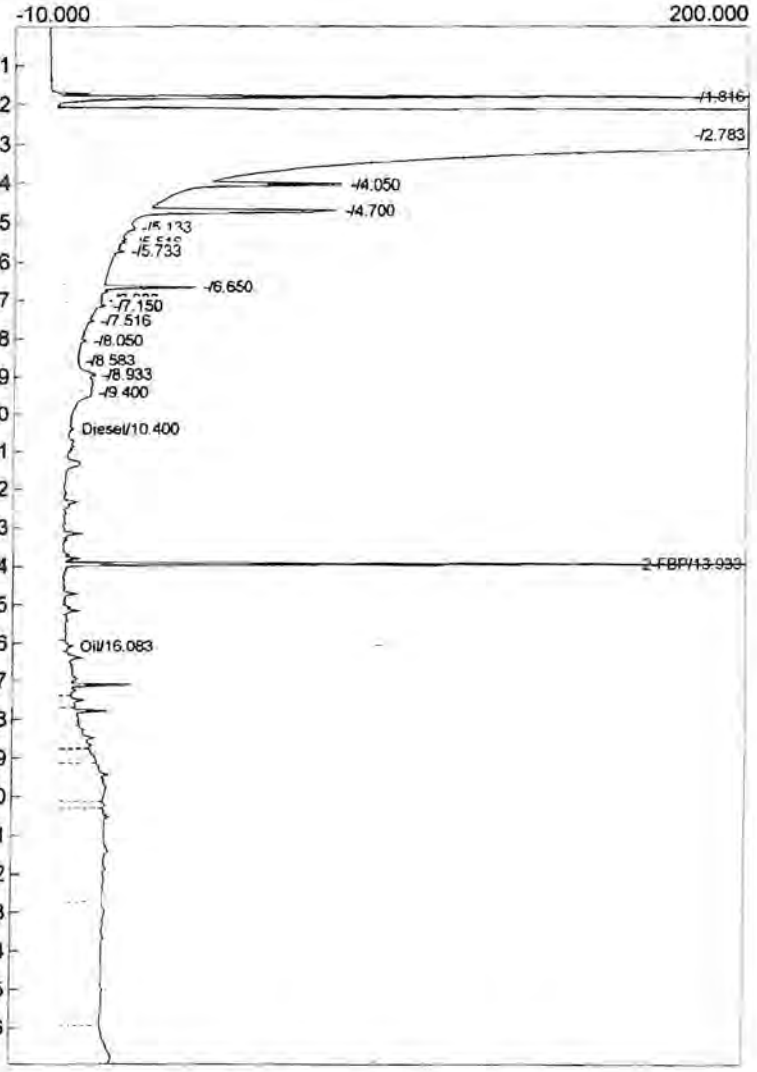
Analysis date: 09/11/2012 09:01:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D107.CHR ()
Sample: M BLANK
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.400	771.6005	1.195	40.7471	ppm
2-FBP	13.933	539.3230	227.919	16.5946	ppm
Oil	16.083	6177.5490	2.843	327.0812	ppm
		7488.4725		384.4228	

83%

9-11-12
PB
16.4

Bunker C = 40.7 + 327.1 - ~~40.7~~
~~= 327 ppm~~ PB 9-11-12
= 351 ppm

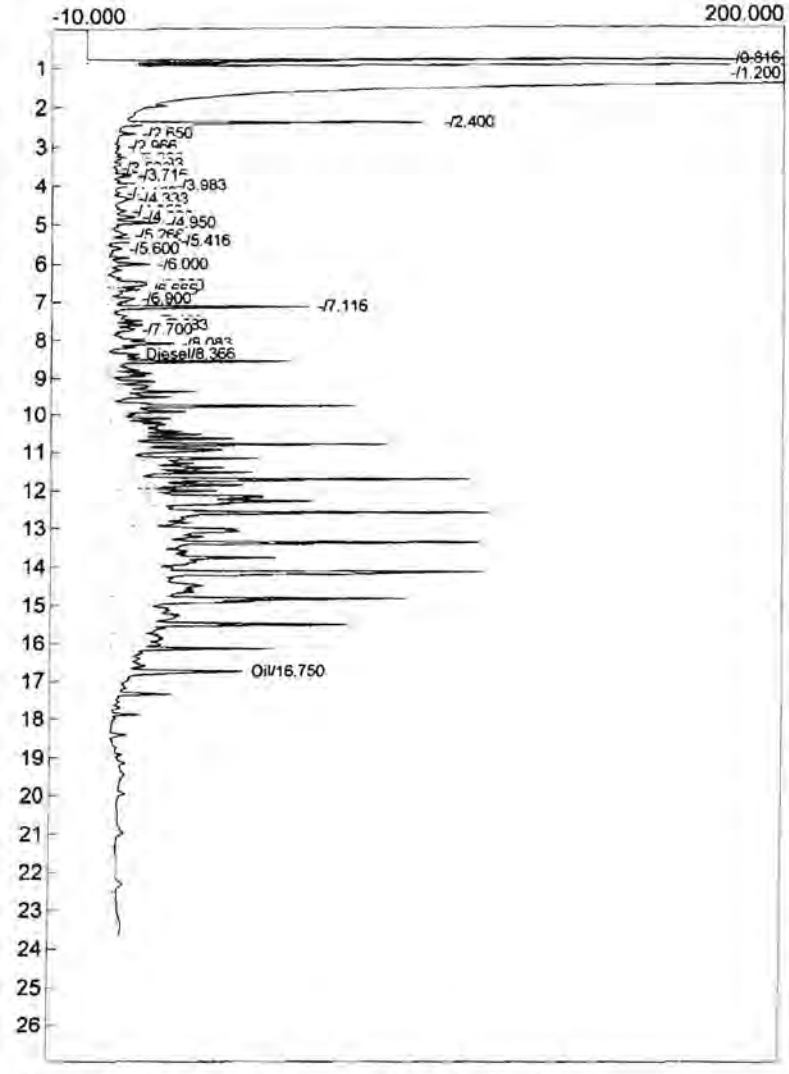
Lab name: Libby Environmental
Analysis date: 09/11/2012 08:22:04
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C108.CHR ()
Sample: 500 PPM LCSD 306
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	8.366	10103.1600	8.430	497.8057	ppm
)il	16.750	894.8395	37.861	43.9938	ppm
		10997.9995		541.7995	

Analysis date: 09/11/2012 08:22:04
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D106.CHR ()
Sample: M Blank
Operator: PB

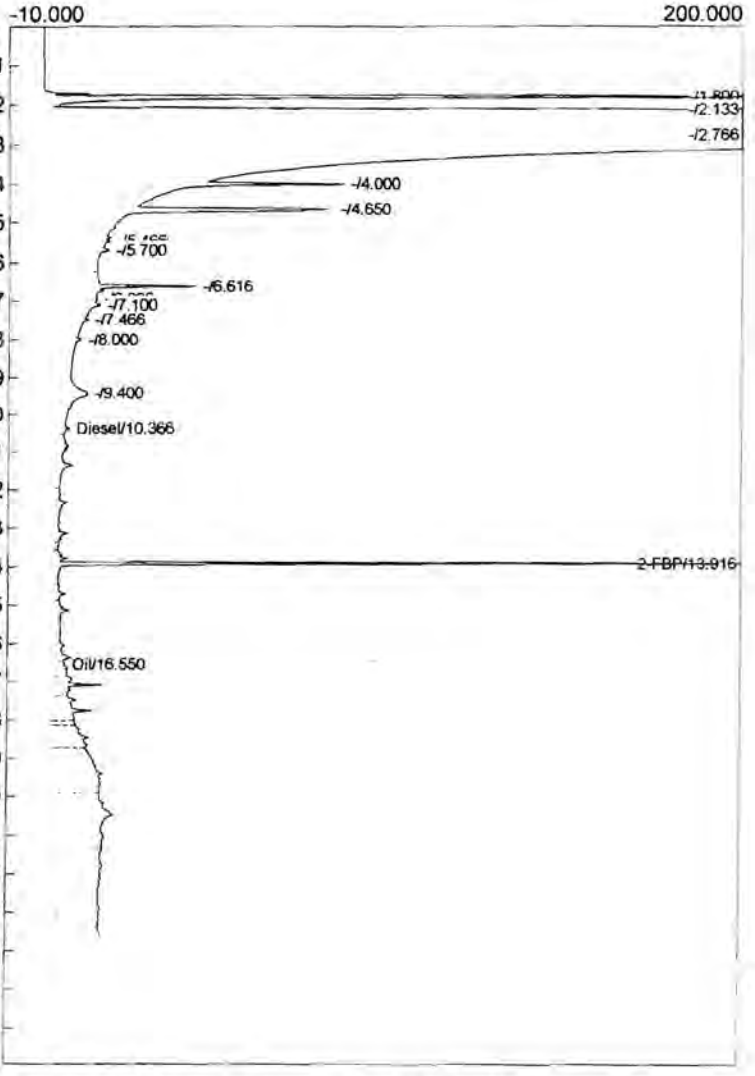
NOT used
PB 9-11-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.366	815.9480	1.297	43.0890	ppm
2-FBP	13.916	548.0860	217.716	16.8642	ppm
Oil	16.550	4168.8845	2.591	220.2889	ppm
		5532.9185		280.2421	

478 diesel
= 96%

Lab name: Libby Environmental

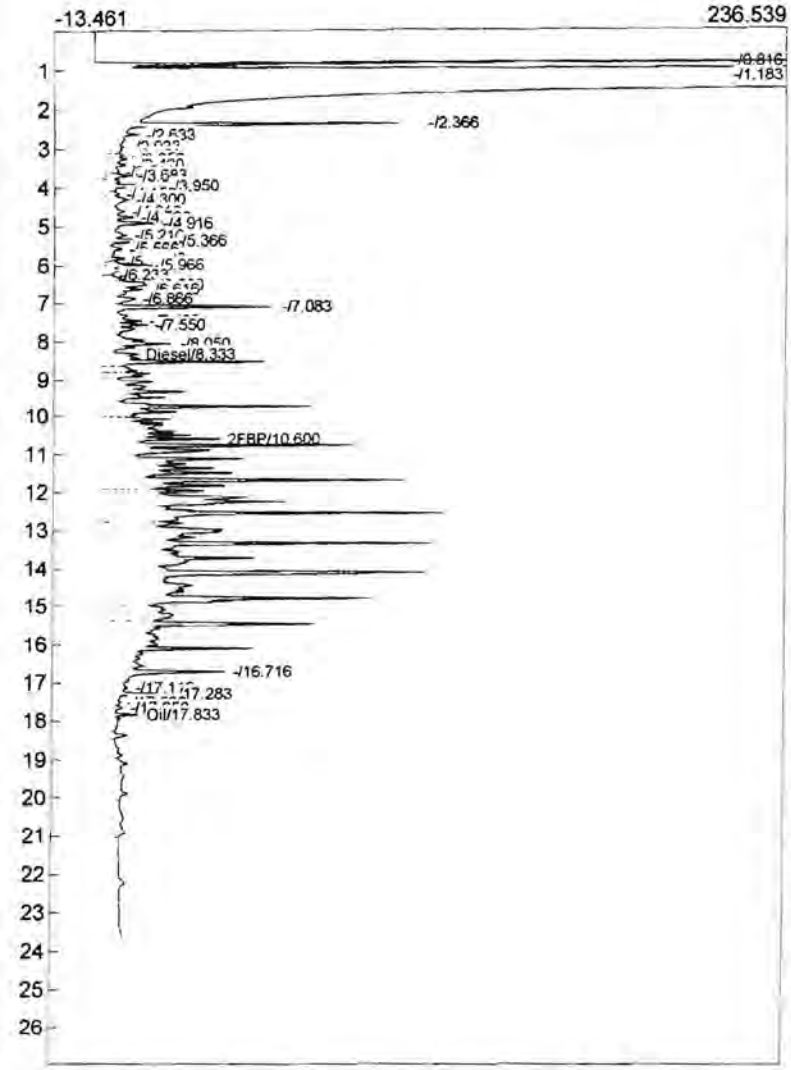
Analysis date: 09/11/2012 07:39:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C107.CHR ()
Sample: 500 PPM LCS 306
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	8.333	12105.5000	11.490	596.7967	ppm
:FBP	10.600	160.0060	39.412	4.7061	ppm
)il	17.833	271.3300	12.362	13.3396	ppm
		12536.8360		614.8424	

Analysis date: 09/11/2012 07:39:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D105.CHR ()
Sample: 500 PPM LCS 306
Operator: PB

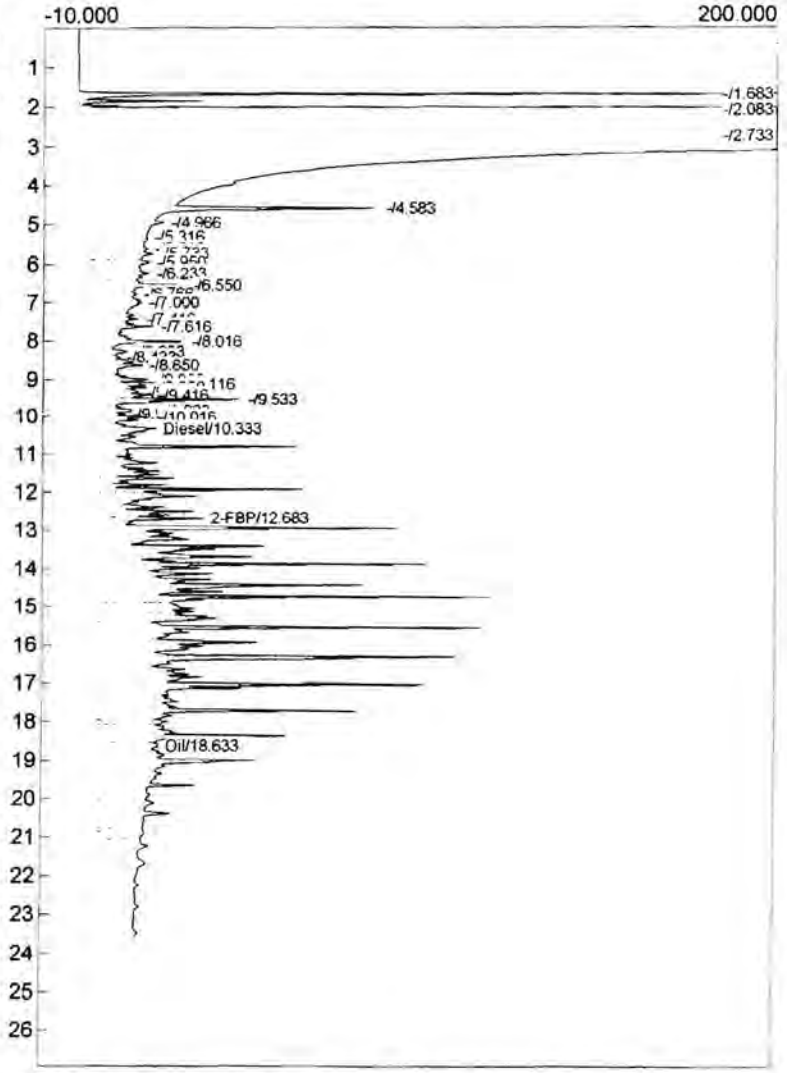
NOT used BB
4-11-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.333	11083.2090	16.468	589.1746	ppm
2-FBP	12.683	172.0660	29.960	4.9162	ppm
Oil	18.633	3123.5135	16.935	164.9481	ppm
		14378.7885		759.0389	

577 ppm
Diesel
≤ 115%

Lab name: Libby Environmental

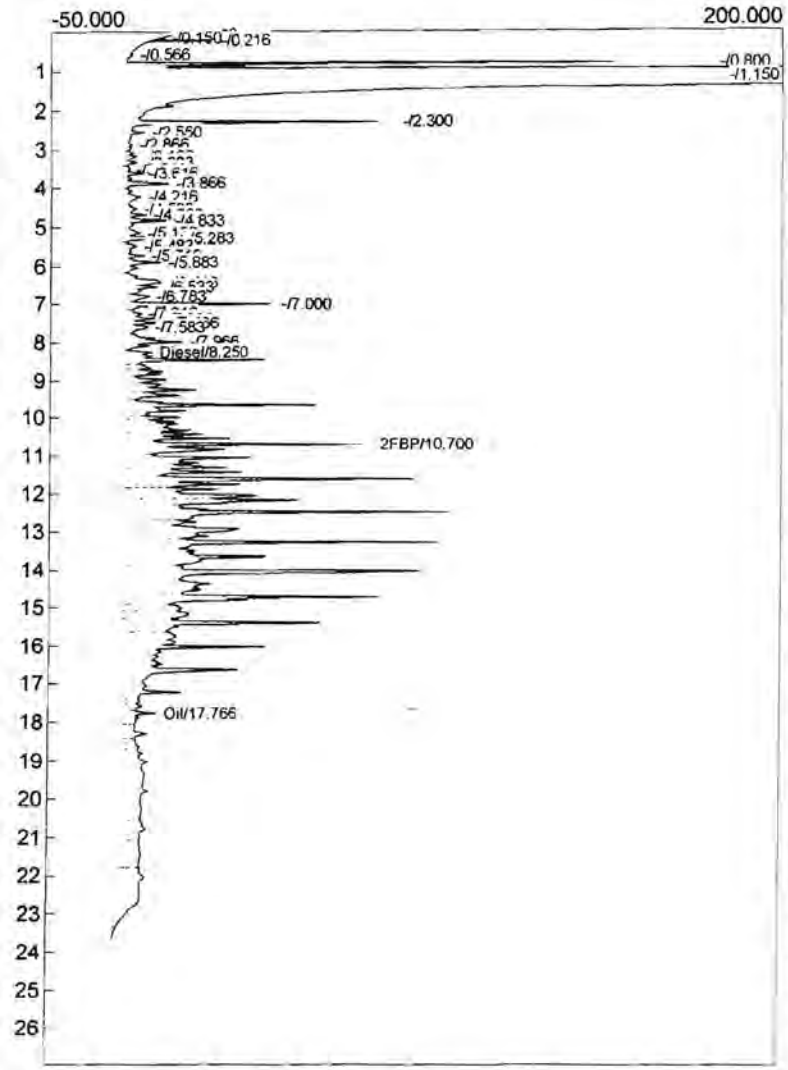
Analysis date: 09/11/2012 06:44:08
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C106.CHR ()
Sample: 500 PPM Diesel 791
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.250	11129.1810	8.016	548.5298	ppm
FBP	10.700	527.4280	83.833	15.5126	ppm
il	17.766	1585.9360	10.310	77.9707	ppm
		13242.5450		642.0131	

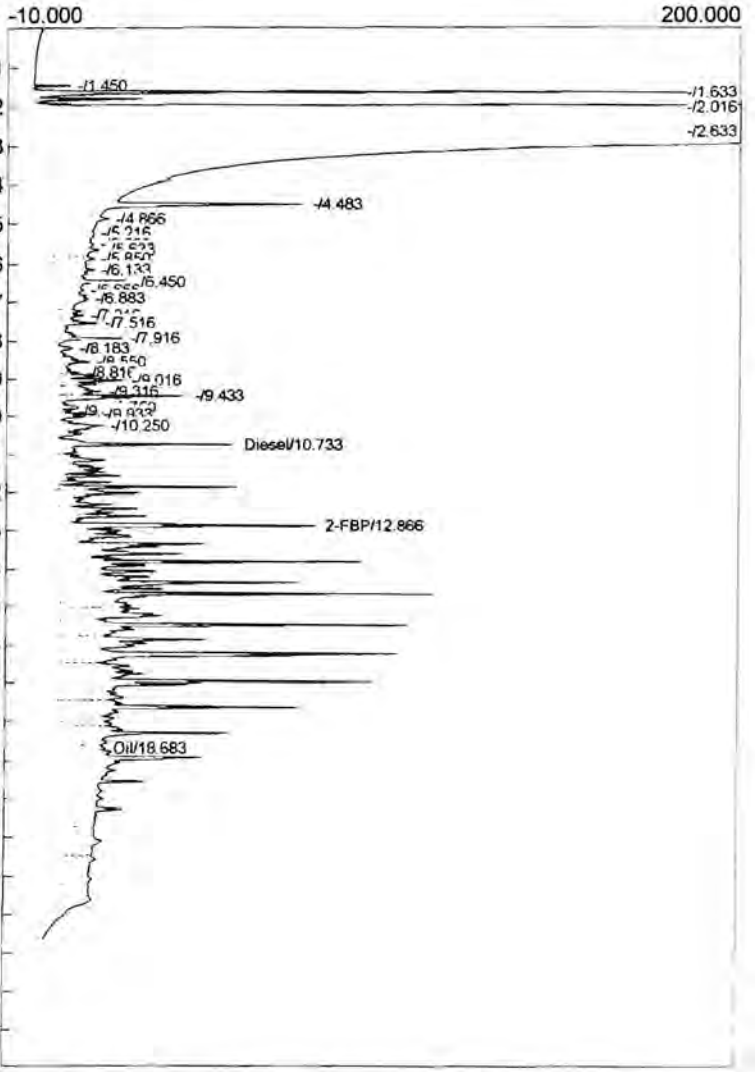
Analysis date: 09/11/2012 06:44:08
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D104.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

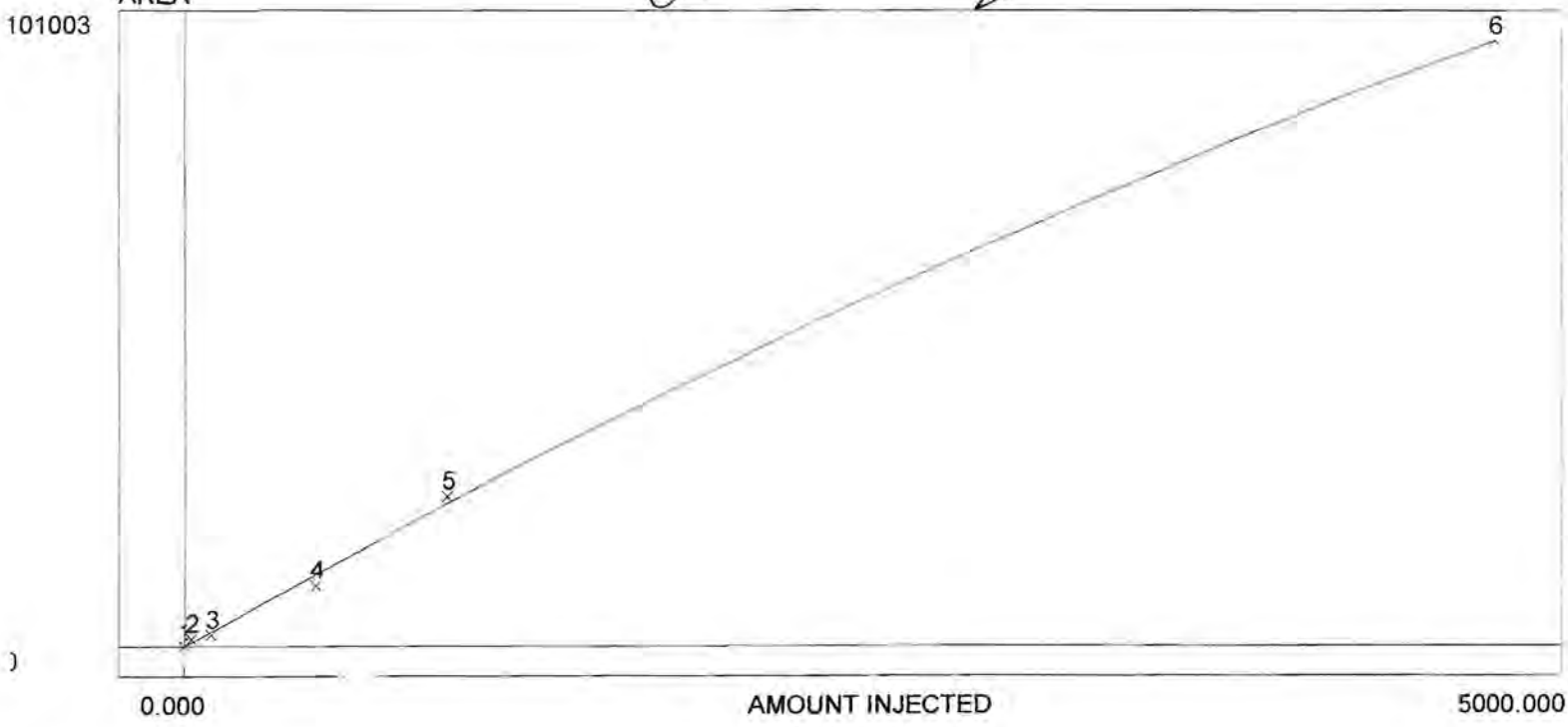
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.733	8817.6225	51.569	467.9023	ppm
2-FBP	12.866	303.3480	74.394	8.6671	ppm
Oil	18.683	2612.4445	12.758	137.9593	ppm
		11733.4150		614.5287	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 4

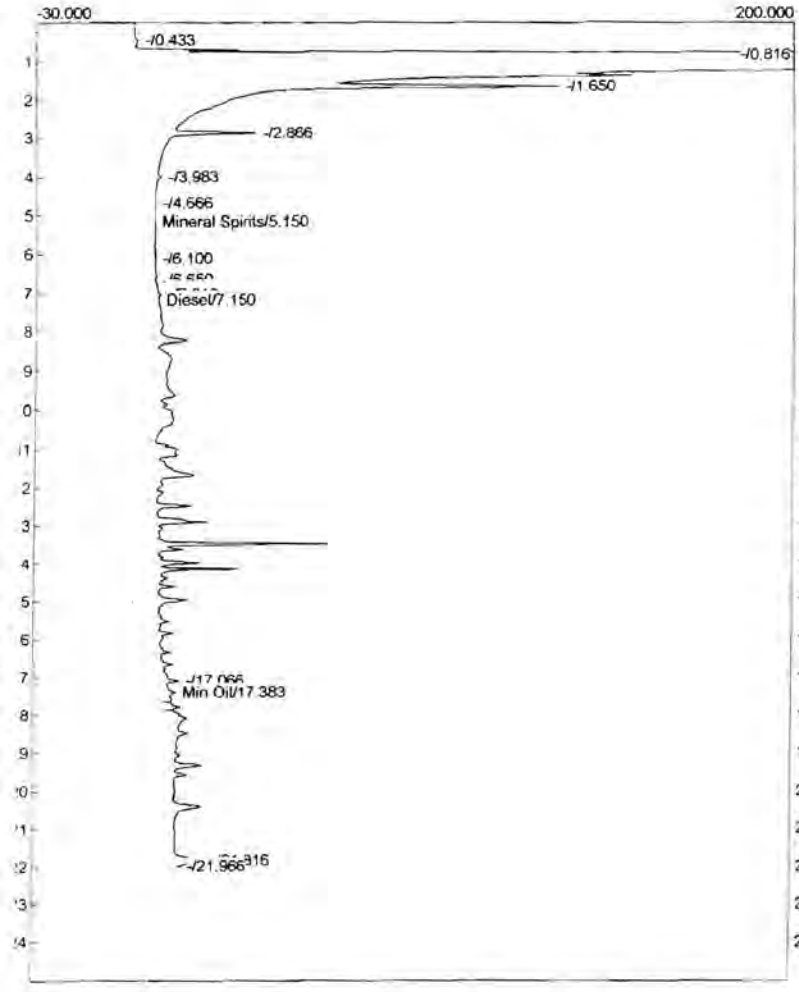


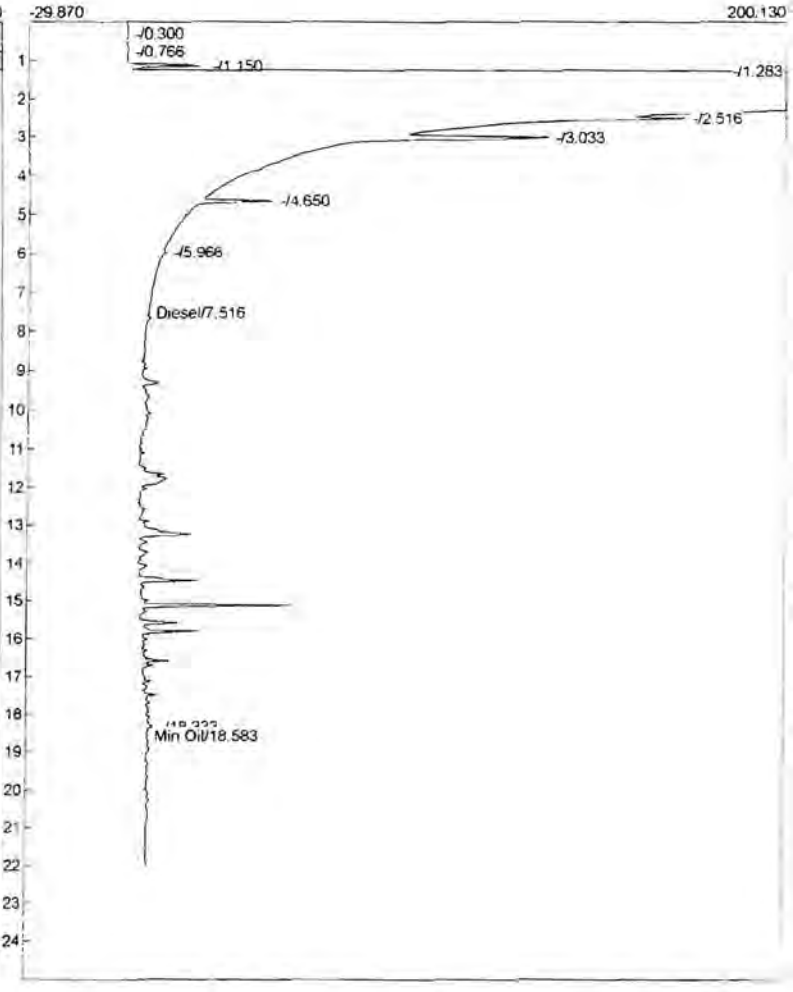
Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
Y=-0.0008X²+24.2883X
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1271.716	25.000	50.869	1271.716	N/A	N/A
3	1927.394	100.000	19.274	1927.394	N/A	N/A
4	10086.605	500.000	20.173	10086.605	N/A	N/A
5	24554.042	1000.000	24.554	24554.042	N/A	N/A
6	101002.720	5000.000	20.201	101002.720	N/A	N/A

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

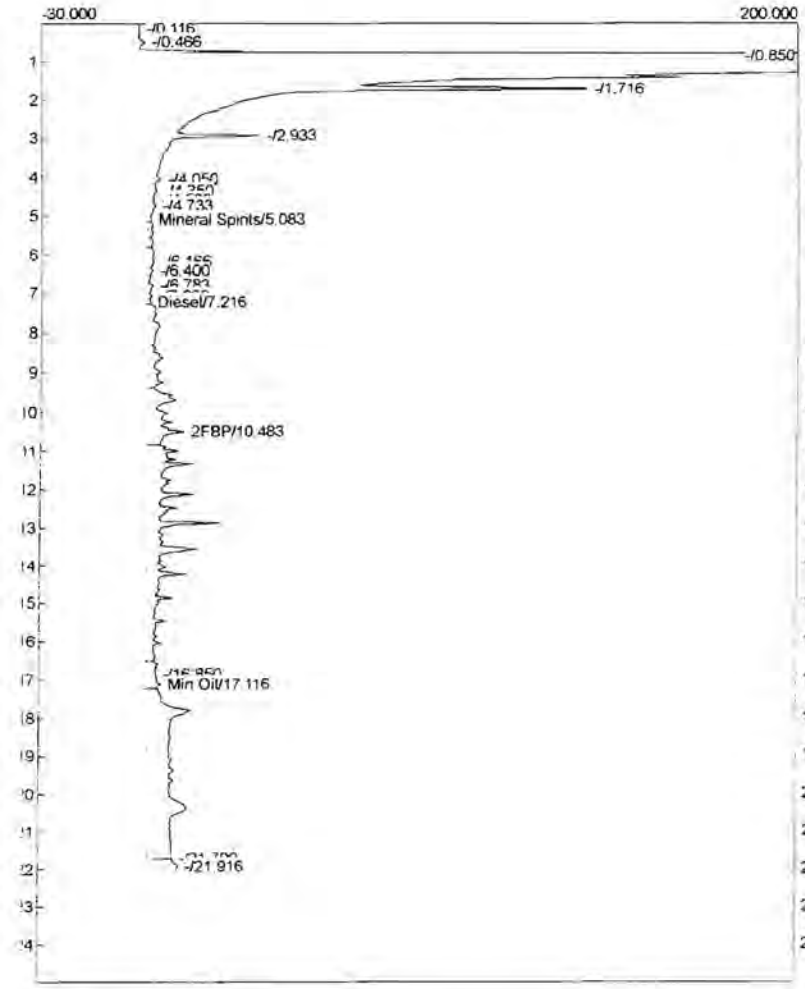
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



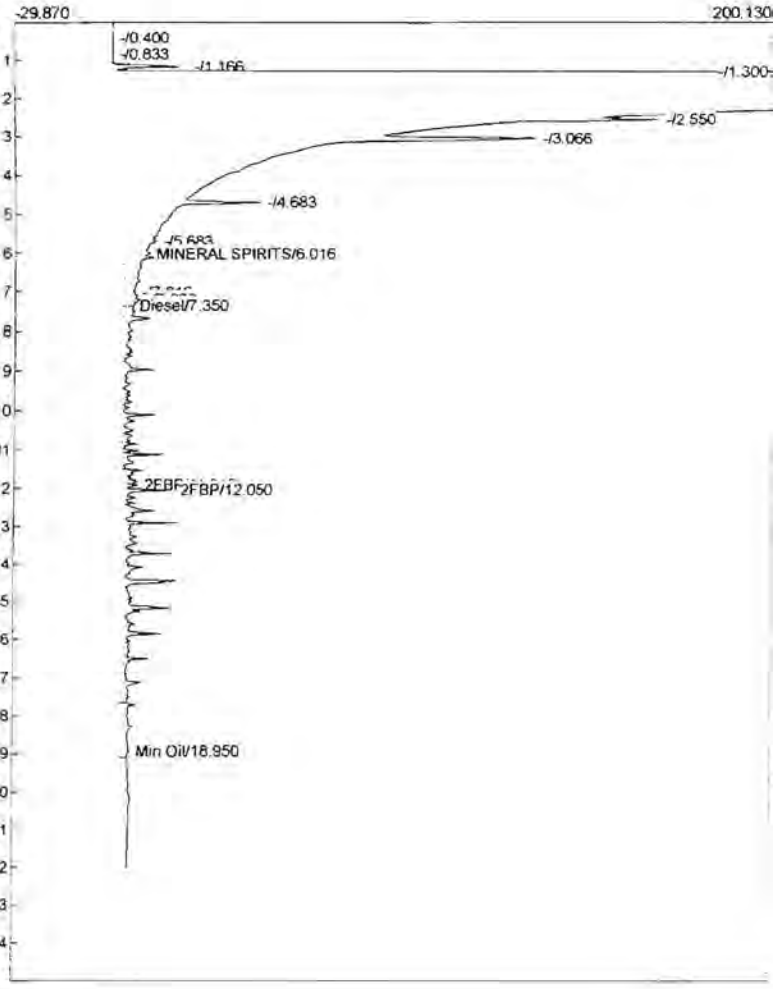


Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPI	Diesel	7.516	1271.7155	1.965	89.4973	ppn
Diesel	7.150	1410.4710	0.518	13.6936	ppn	Min Oil	18.583	209.2665	1.582	14.7689	ppn
Min Oil	17.383	577.2305	3.576	0.0000							
								1480.9820		104.2662	
		1995.5095		14.0798							

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



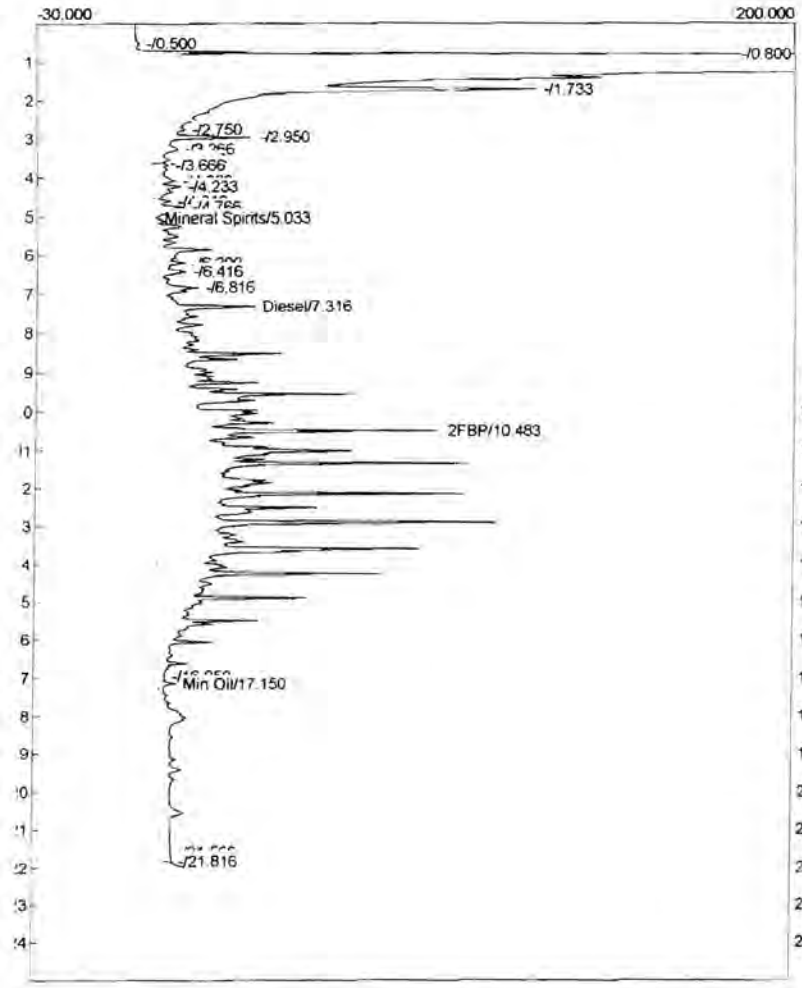
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

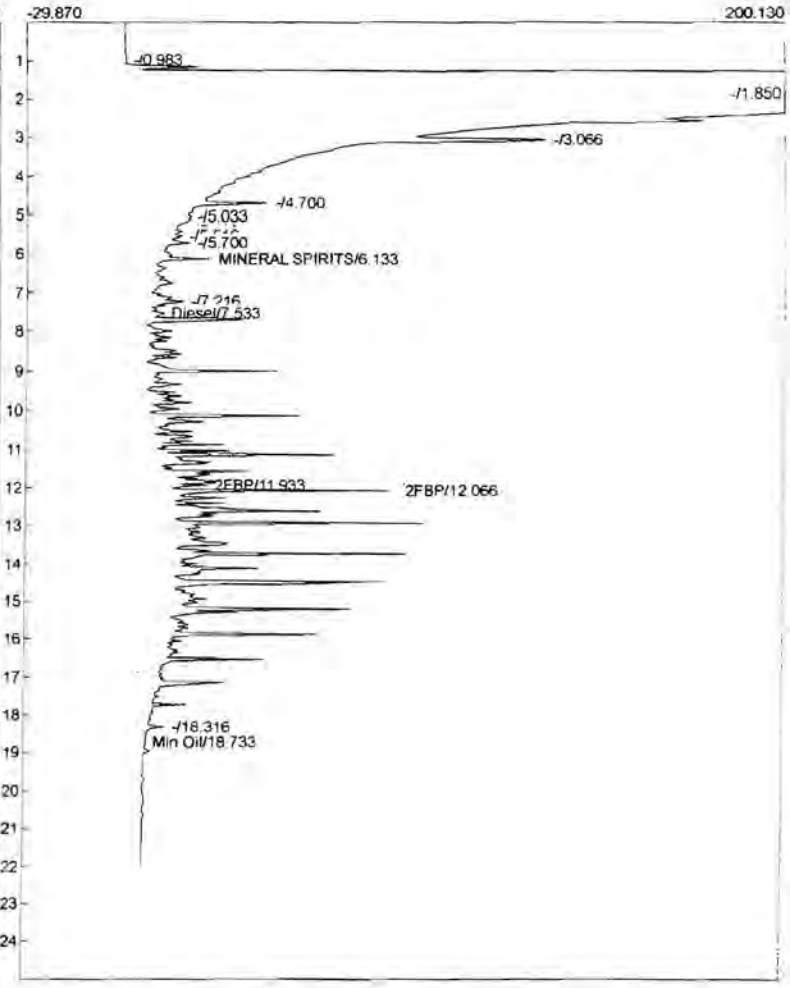
Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



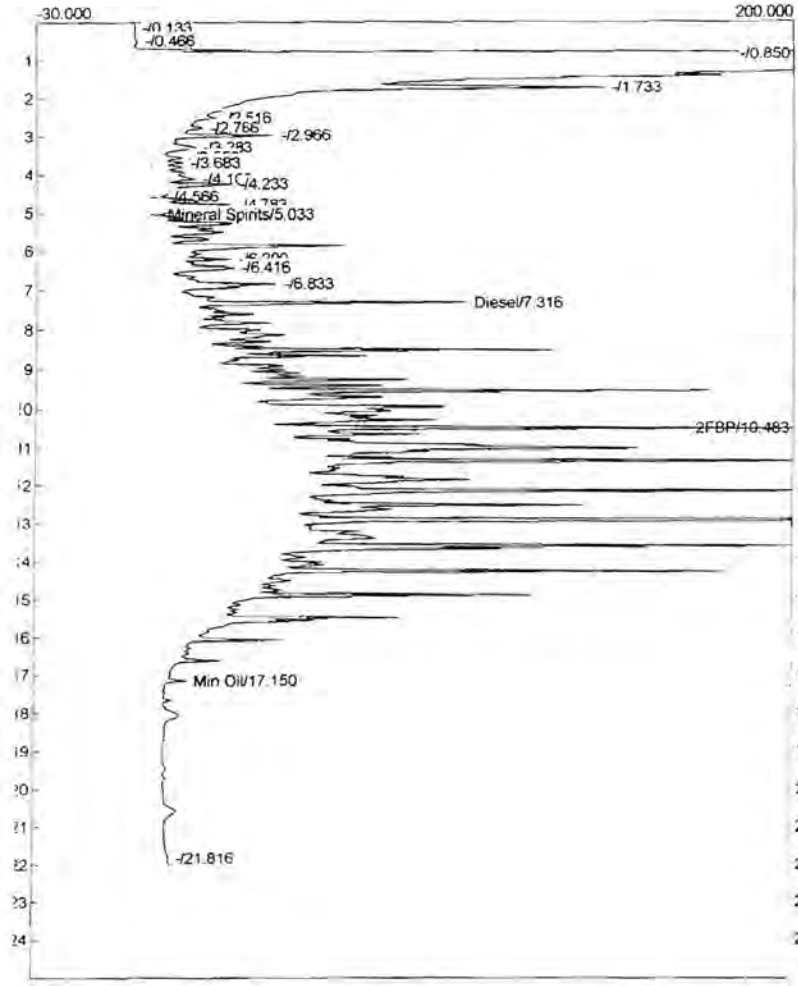
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	ppm
		13327.5880		605.4694	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

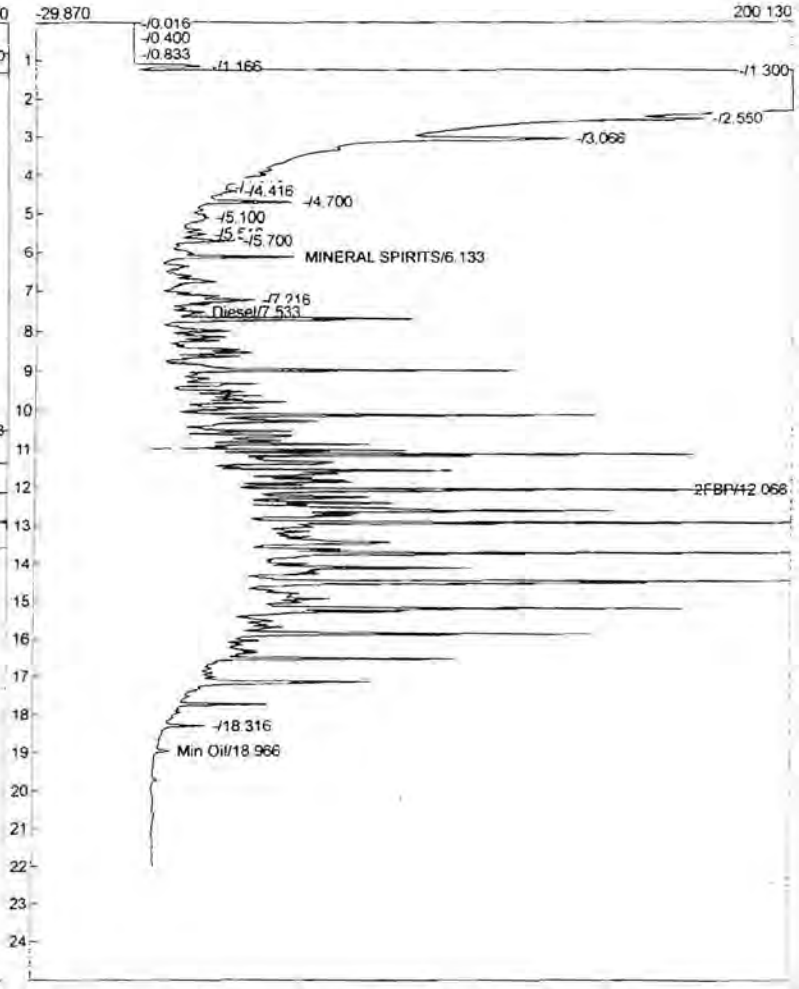


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

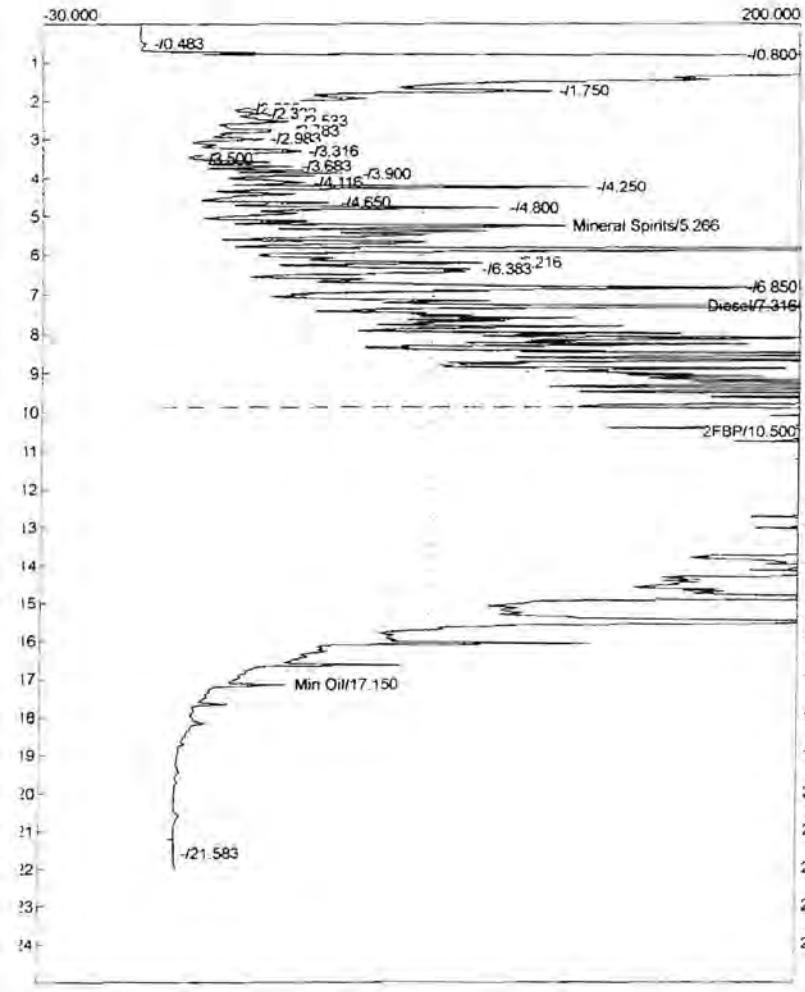


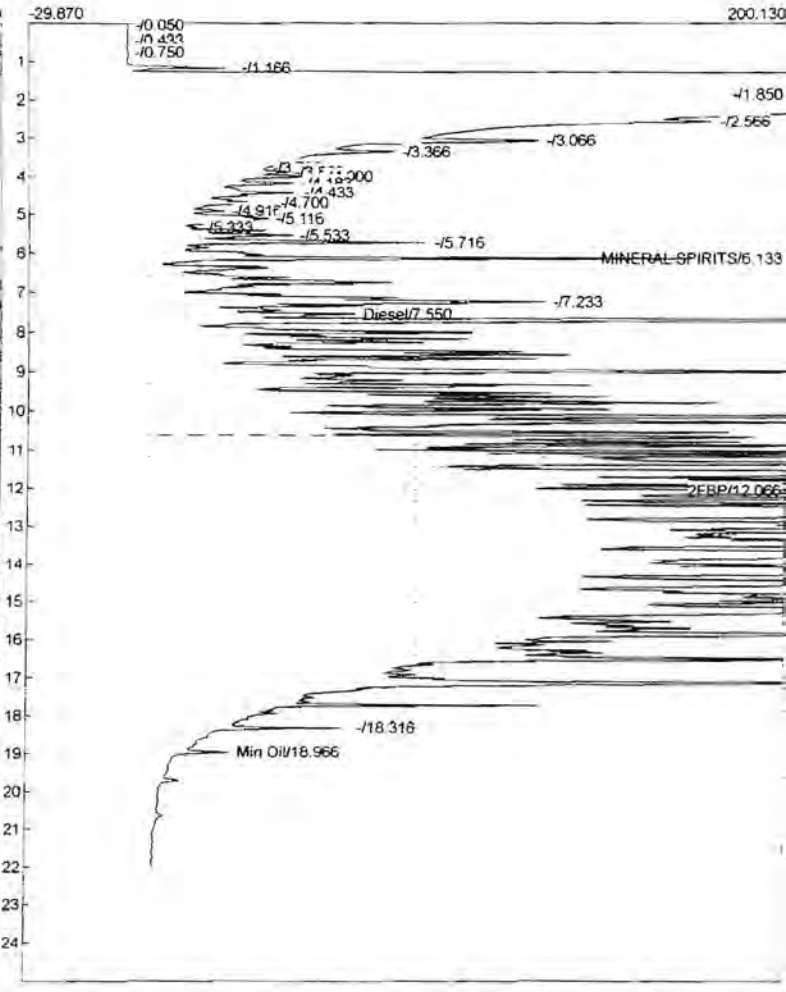
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

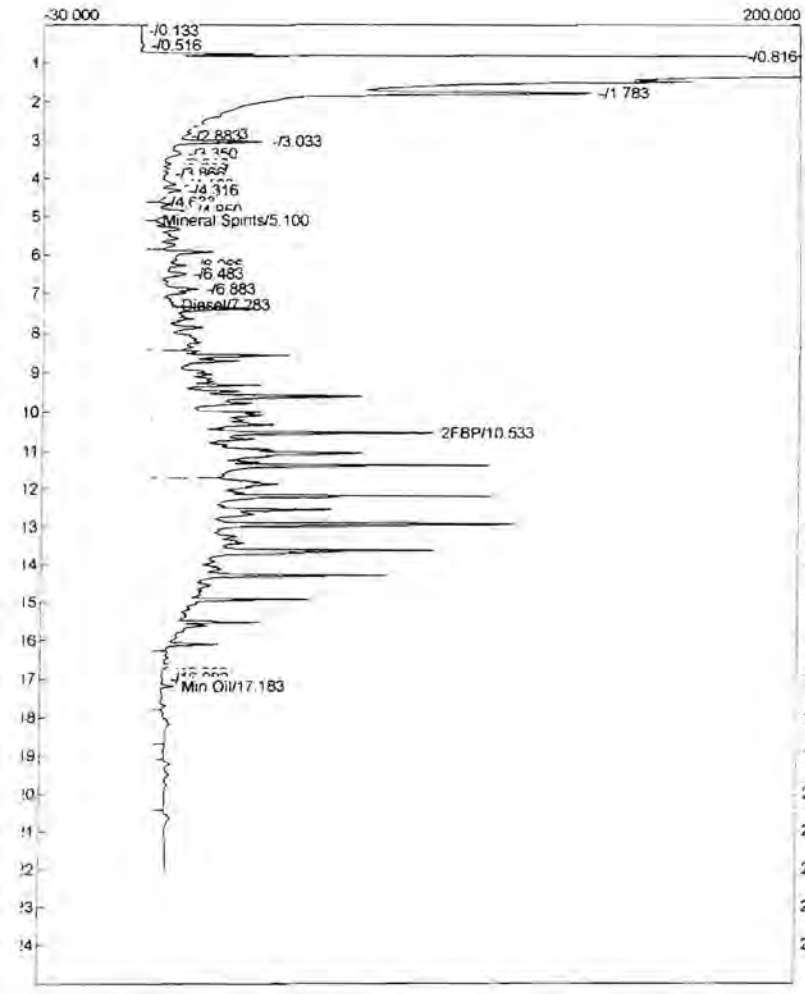




Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

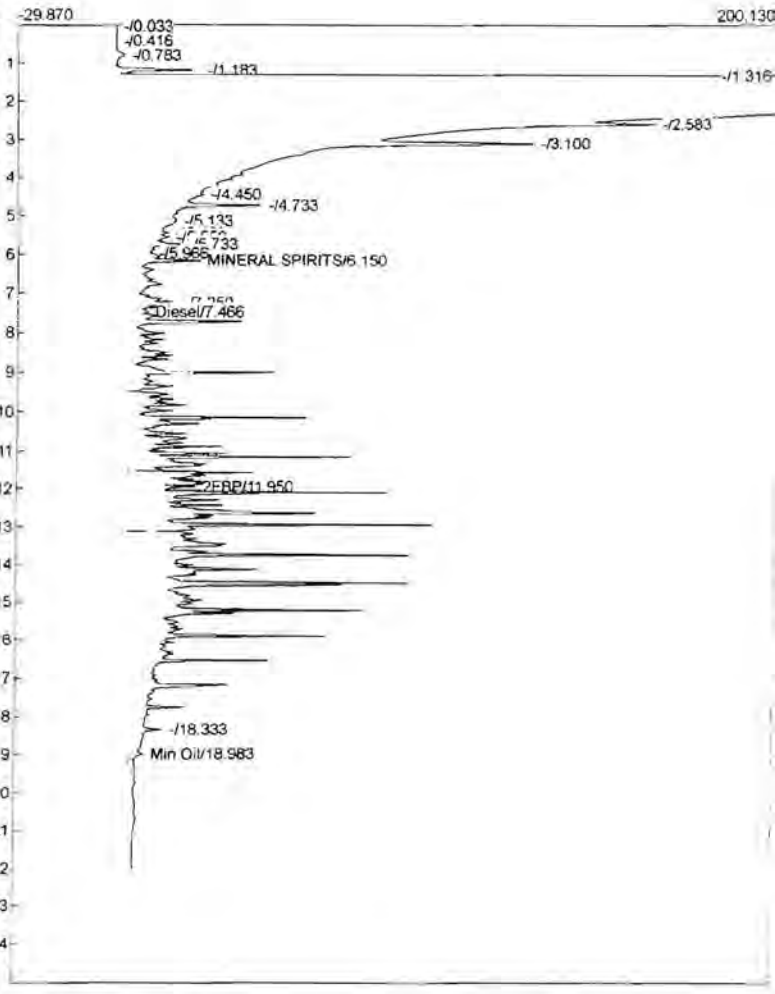
UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 6, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 12, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L Deyman

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120912-30
Date: 11-6-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

The cPAH report includes data results from Libby project L120910-30.

Libby Environmental, Inc.

Chain of Custody Record

1003

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: LEI

Address:

Phone: Fax:

Client Project #

Date: 9/12/12 Page: 1 of

Project Manager: NEIL MORTON

Project Name: IRONDALE

Location: IRONDALE City:

Collector: PAUL BOBINETTE Date of Collection: 9/12/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SRZ-B03-91212	3	705	S	4oz							X							
2 SRZ-WSW01-91212	1	710	S	4oz							X	X						10-8-12 run cPAH per Neil via email Standard TAT
3 SRZ-ESW01-91212	2	750	S	4oz							X	X						
4 SRZ-B04-91212	3	814	S	4oz							X							
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/12/12 1050	[signature]	9/12/12 1050
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120912-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120912-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/12/12	98	nd	nd
LCS	9/12/12	int	101%	
LCSD	9/12/12	int	100%	
SRZ-B03-91212	9/12/12	93	nd	nd
SRZ-WSW01-91212	9/12/12	89	nd	nd
SRZ-WSW01-91212 Dup	9/12/12	99	nd	nd
SRZ-ESW01-91212	9/12/12	96	nd	nd
SRZ-B04-91212	9/12/12	92	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/12/2012

Libby Job #: L120912-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	7:16:49	C119	3 µl		505		
500 ppm Diesel 791	7:16:49	D117	3 µl		524		
500 ppm LCS 306	7:46:47	C120	3 µl	int	503		
500 ppm LCSD 306	7:46:47	D118	3 µl	int	502		
Method Blank	8:19:13	C121	3 µl	19.6	nd	nd	nd
Method Blank	8:19:13	D119	3 µl	17.7	nd	nd	nd
SRZ-ESW01-91212	9:01:55	C122	3 µl	19.2	nd	nd	nd
SRZ-B04-91212	9:01:55	D120	3 µl	18.3	nd	nd	nd
SRZ-B03-91212	9:56:29	C123	3 µl	18.5	nd	nd	nd
SRZ-WSW01-91212	9:56:29	D121	3 µl	17.7	nd	nd	nd
SRZ-WSW01-91212	11:19:33	C124	3 µl	19.9			
BLANK	11:19:33	D122	3 µl				
500 ppm Diesel 791	11:52:16	C125	3 µl		525		
500 ppm Diesel 791	11:52:16	D123	3 µl		539		
			3 µl				
			3 µl				
			3 µl				
			3 µl				
			3 µl				
			3 µl				
			3 µl				
			3 µl				

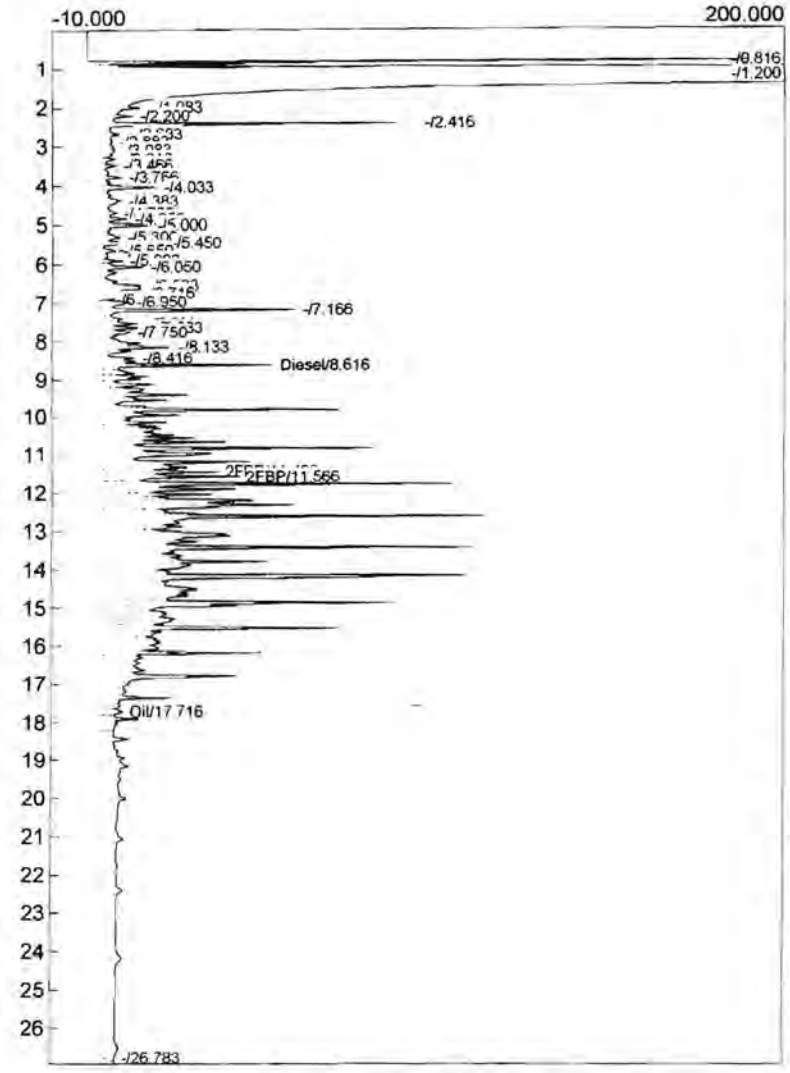
Analysis date: 09/12/2012 11:52:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C125.CHR ()
Sample: 500 PPM Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.616	10651.9650	48.433	524.9374	ppm
2FBP	11.433	159.9305	32.676	5.3310	ppm
2FBP	11.566	216.7545	38.766	7.2252	ppm
Oil	17.716	1999.5115	5.186	98.3037	ppm
		13028.1615		635.7972	

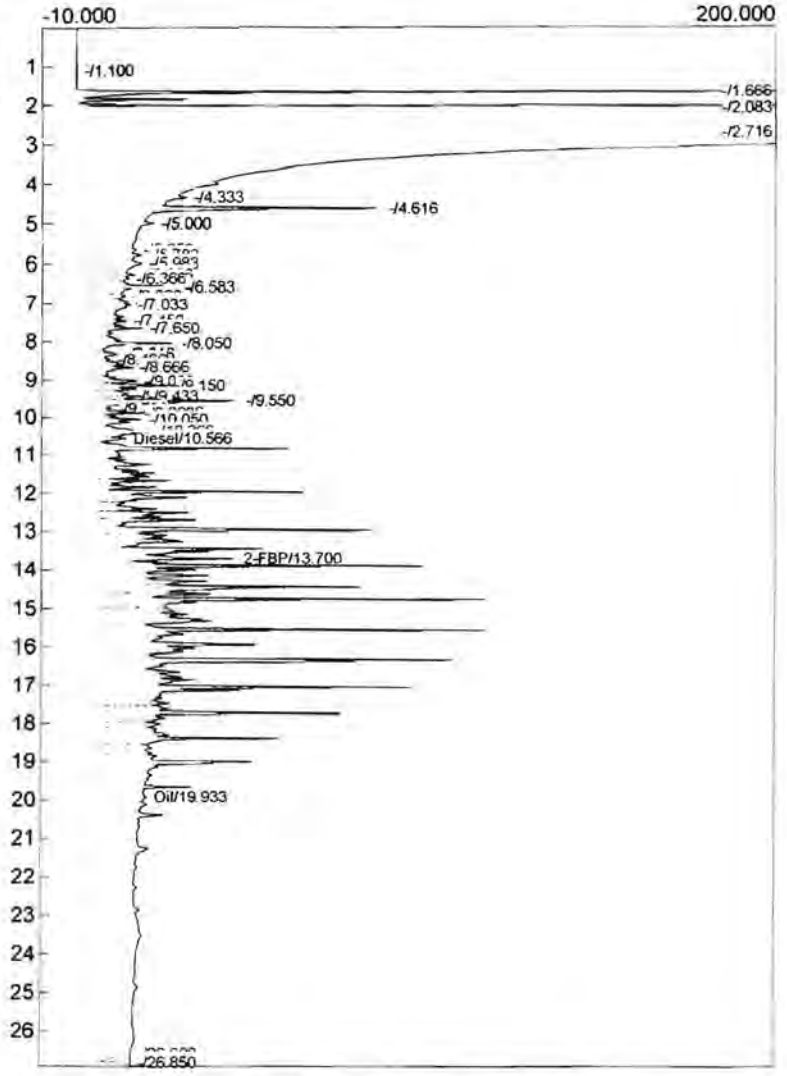
Analysis date: 09/12/2012 11:52:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D123.CHR ()
Sample: 500 PPM Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.566	10149.9520	6.382	539.2192	ppm
2-FBP	13.700	214.7990	38.143	6.6092	ppm
Oil	19.933	3061.8725	11.139	161.6929	ppm
		13426.6235		707.5213	

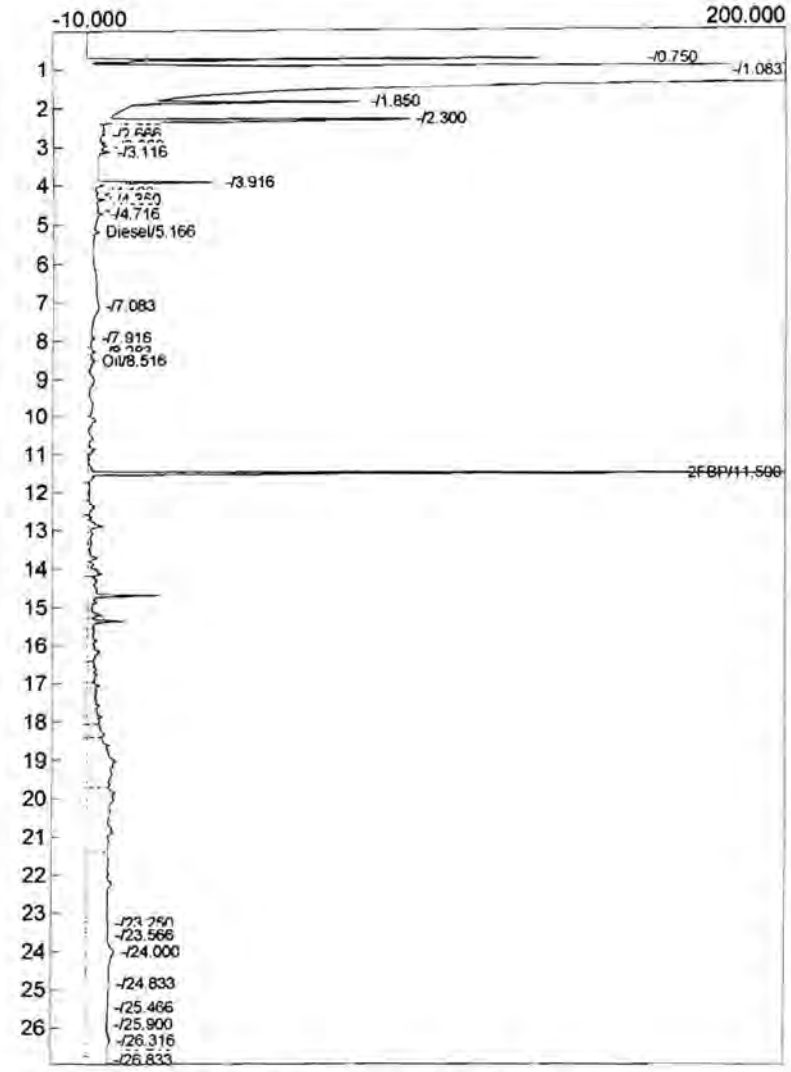
Analysis date: 09/12/2012 11:19:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C124.CHR ()
Sample: SRZ-WSW01-91212 DUP
Operator: PB

'emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	5.166	4.3210	1.371	0.2124	ppm
)il	8.516	3352.2090	1.322	164.8075	ppm
:FBP	11.500	596.7540	262.715	19.8918	ppm
		3953.2840		184.9117	

nd 99%

Analysis date: 09/12/2012 11:19:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D122.CHR ()
Sample: BLANK
Operator: PB

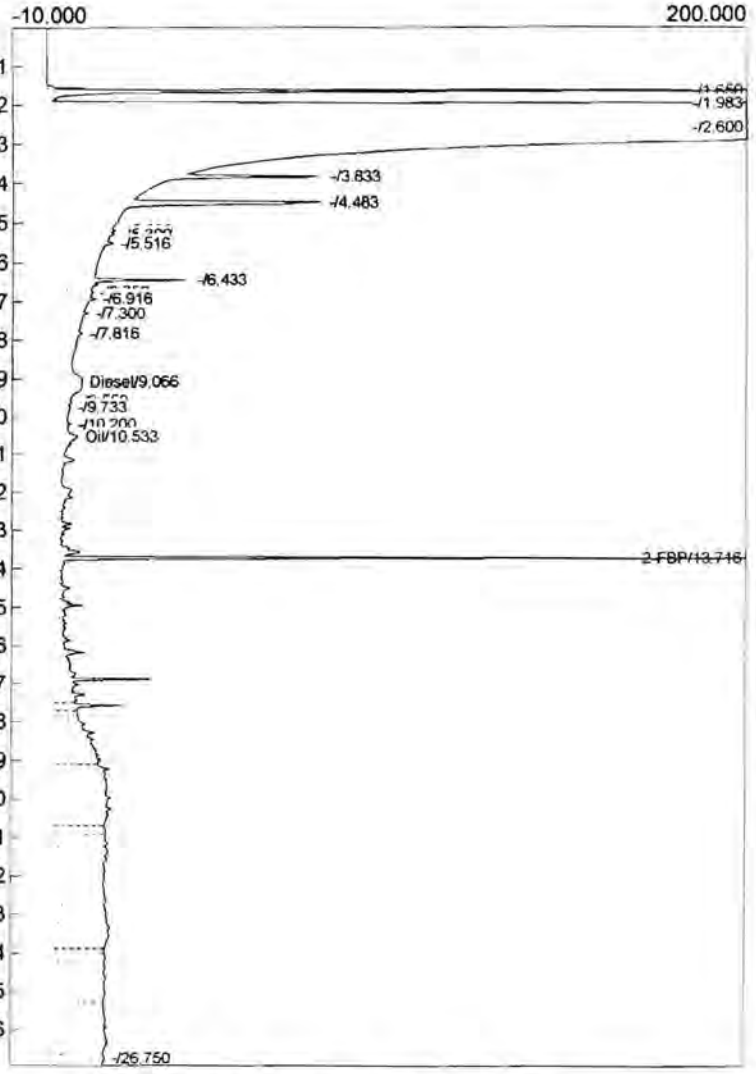
not used

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.066	90.5340	3.199	4.7810	ppm
Oil	10.533	8162.6090	3.370	432.8407	ppm
2-FBP	13.716	493.4400	203.022	15.1828	ppm
		8746.5830		452.8045	

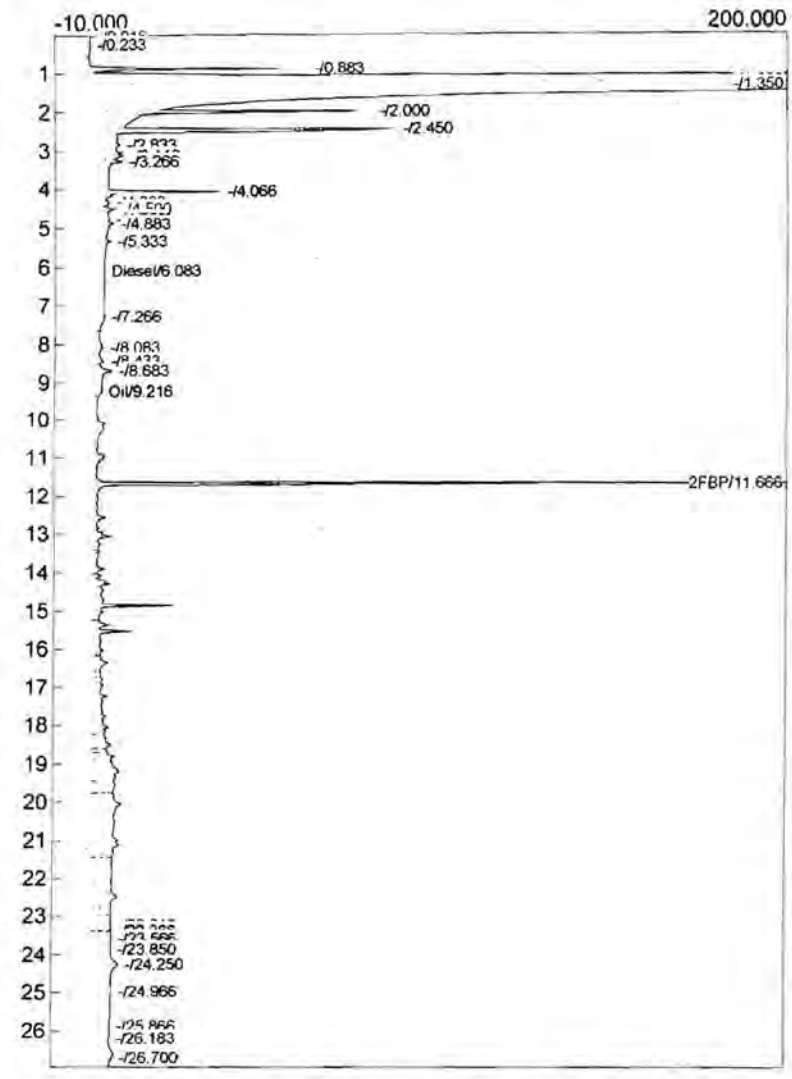
Analysis date: 09/12/2012 09:56:25
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C123.CHR ()
Sample: SRZ-B03-91212
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	6.083	1.1470	0.175	0.0564	ppm
Oil	9.216	2917.8035	0.328	143.4505	ppm
2FBP	11.666	556.4745	232.667	18.5492	ppm
		3475.4250		162.0560	

ND 93%

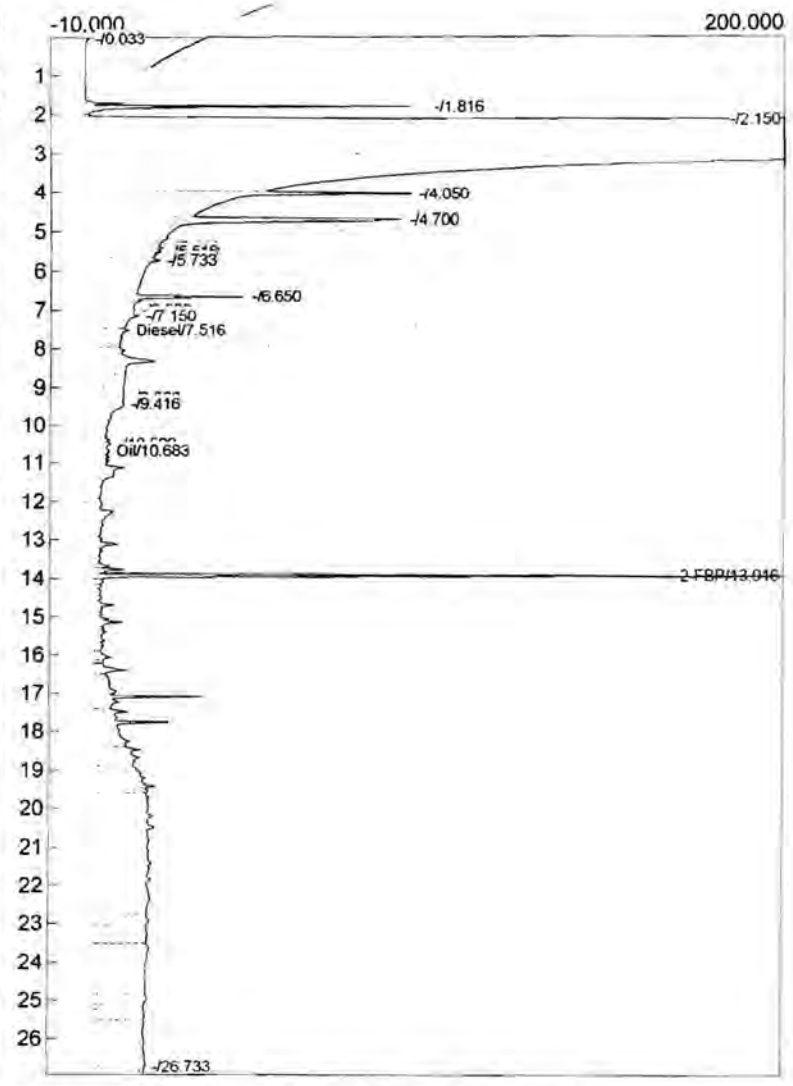
Analysis date: 09/12/2012 09:56:25
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D121.CHR ()
Sample: SRZ-WSW01-91212
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.516	689.0240	8.334	36.3863	ppm
Oil	10.683	8348.1635	0.808	442.7731	ppm
2-FBP	13.916	575.8440	248.849	17.7183	ppm
		9613.0315		496.8777	

ND 89%

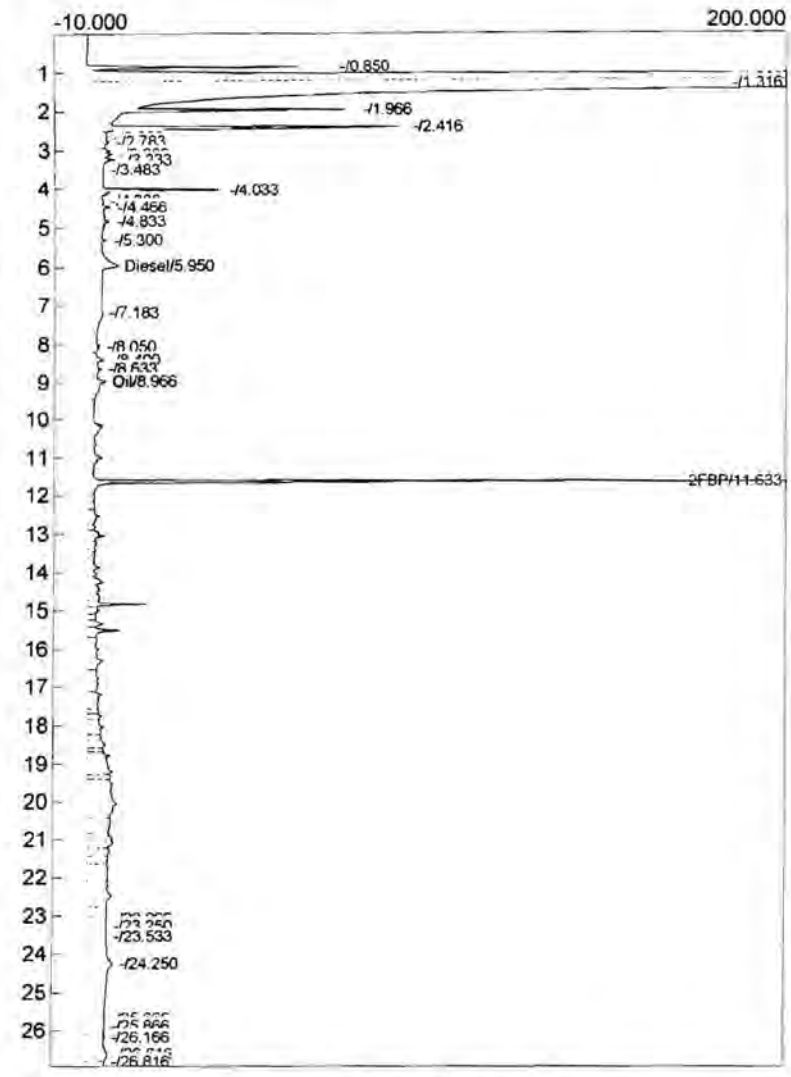
Analysis date: 09/12/2012 09:01:55
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C122.CHR ()
Sample: SRZ-ESW01-91212
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.950	59.2200	4.723	2.9115	ppm
Oil	8.966	2757.7305	2.747	135.5807	ppm
2FBP	11.633	575.2080	247.353	19.1736	ppm
		3392.1585		157.6657	

96% nd

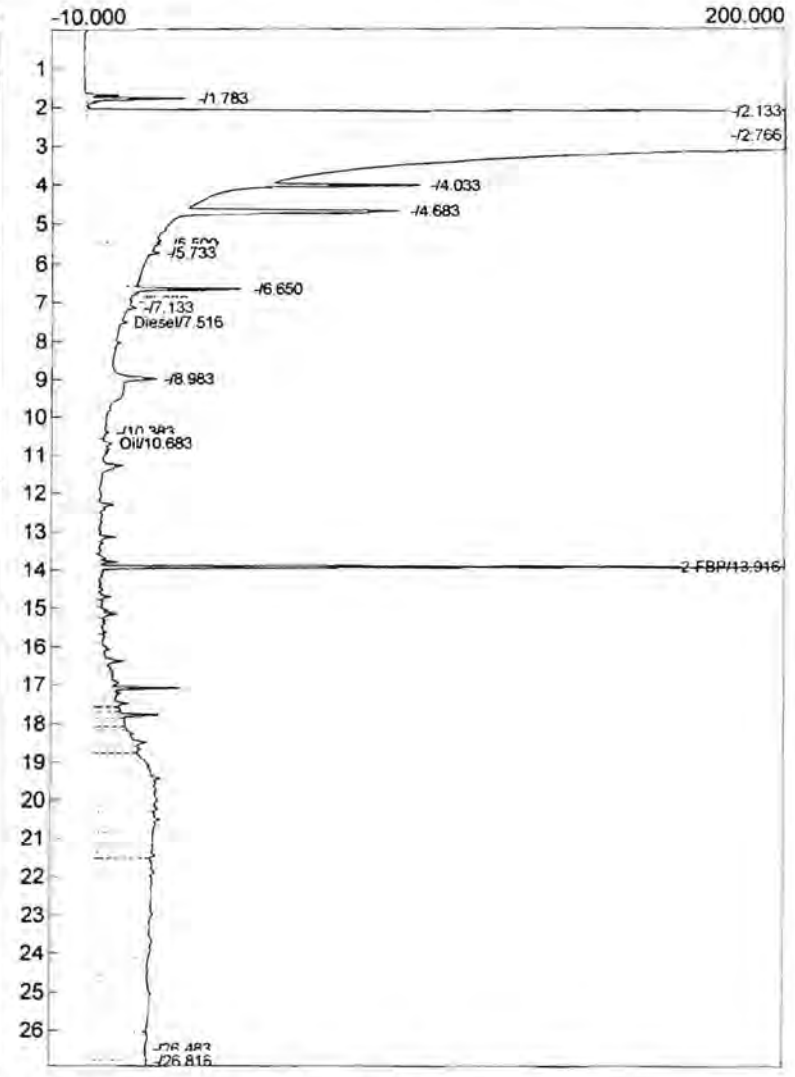
Analysis date: 09/12/2012 09:01:55
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D120.CHR ()
Sample: SRZ-B04-91212
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.516	306.8905	7.626	16.2064	ppm
Oil	10.683	8952.3485	2.066	475.1139	ppm
2-FBP	13.916	594.7580	251.023	18.3002	ppm
		9853.9970		509.6206	

92% nd

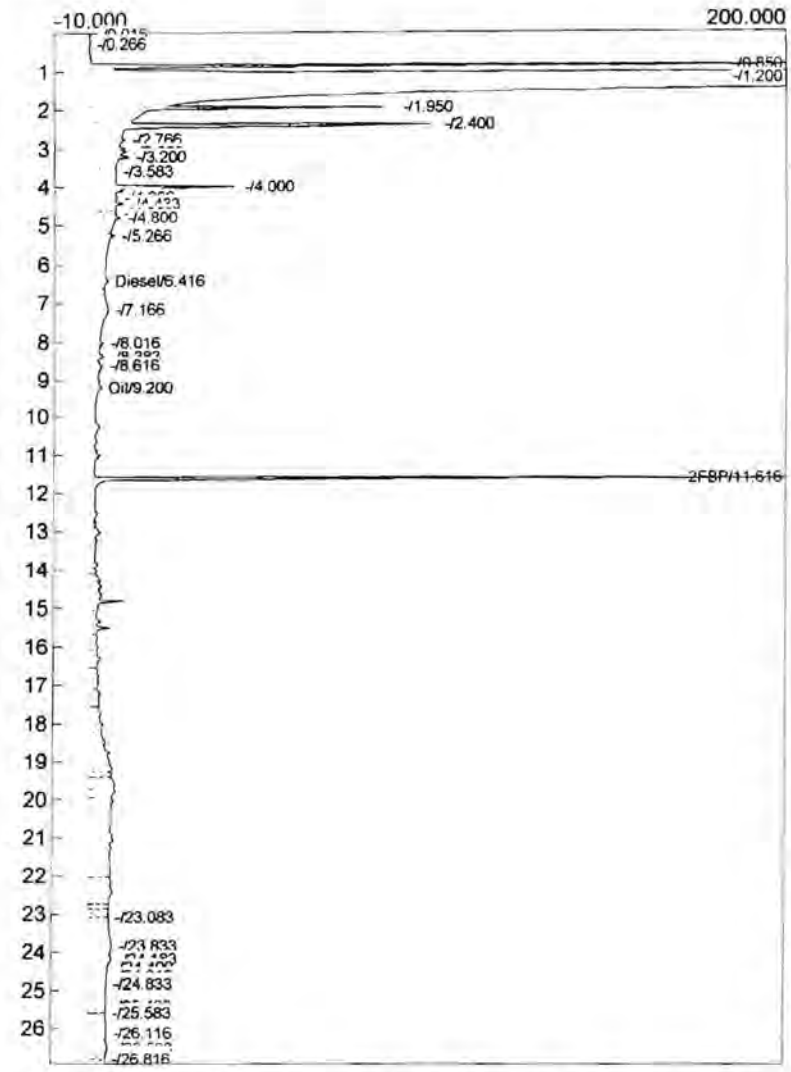
Analysis date: 09/12/2012 08:19:13
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C121.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	6.416	6.8580	0.924	0.3372	ppm
Oil	9.200	2590.9115	1.265	127.3792	ppm
2FBP	11.616	587.7260	232.911	19.5909	ppm
		3185.4955		147.3072	

98%

Bunker C = 127.4 - 19.6
= 108

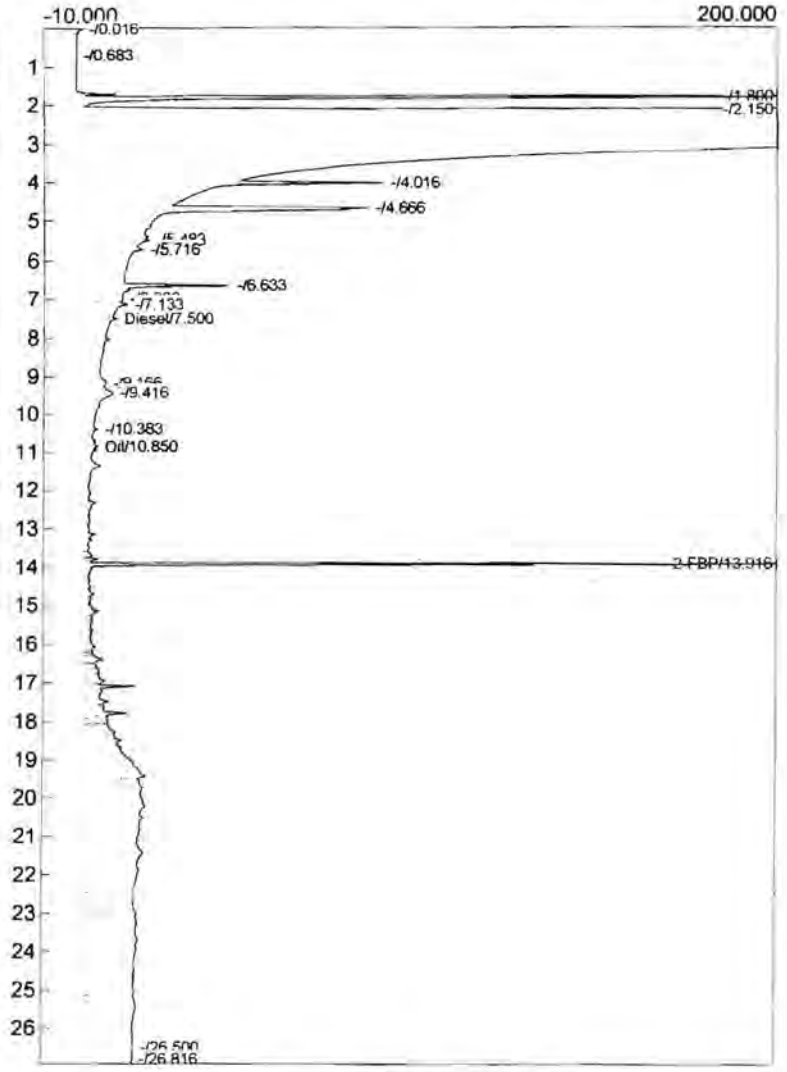
Analysis date: 09/12/2012 08:19:13
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D119.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.500	162.4595	5.808	8.5792	ppm
Oil	10.850	8128.3915	1.155	431.0091	ppm
2-FBP	13.916	576.1440	239.469	17.7275	ppm
		8866.9950		457.3159	

89%

Bunker C = 431 - 17.7
= 413

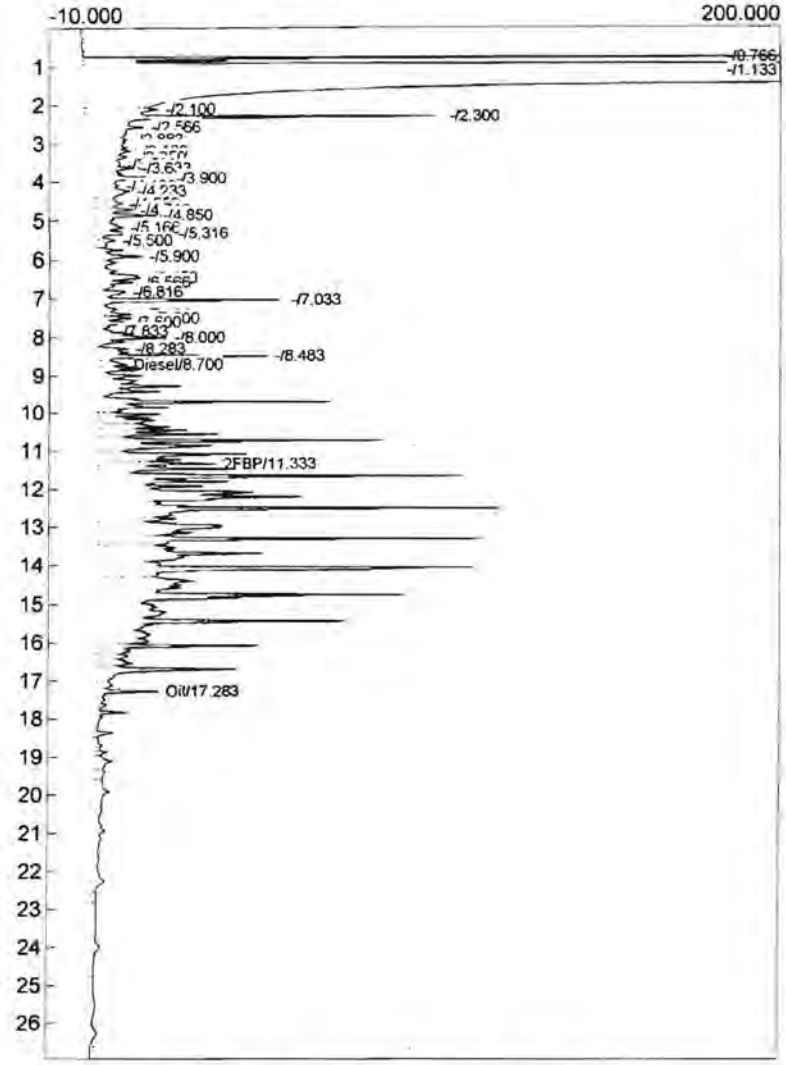
Analysis date: 09/12/2012 07:46:47
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C120.CHR ()
Sample: 500 PPM LCS 306
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
esel	8.700	10215.2570	7.648	503.3476	ppm
:BP	11.333	160.0735	33.753	5.3358	ppm
il	17.283	596.4780	17.674	29.3252	ppm
		10971.8085		538.0085	

int 101%
Diesel

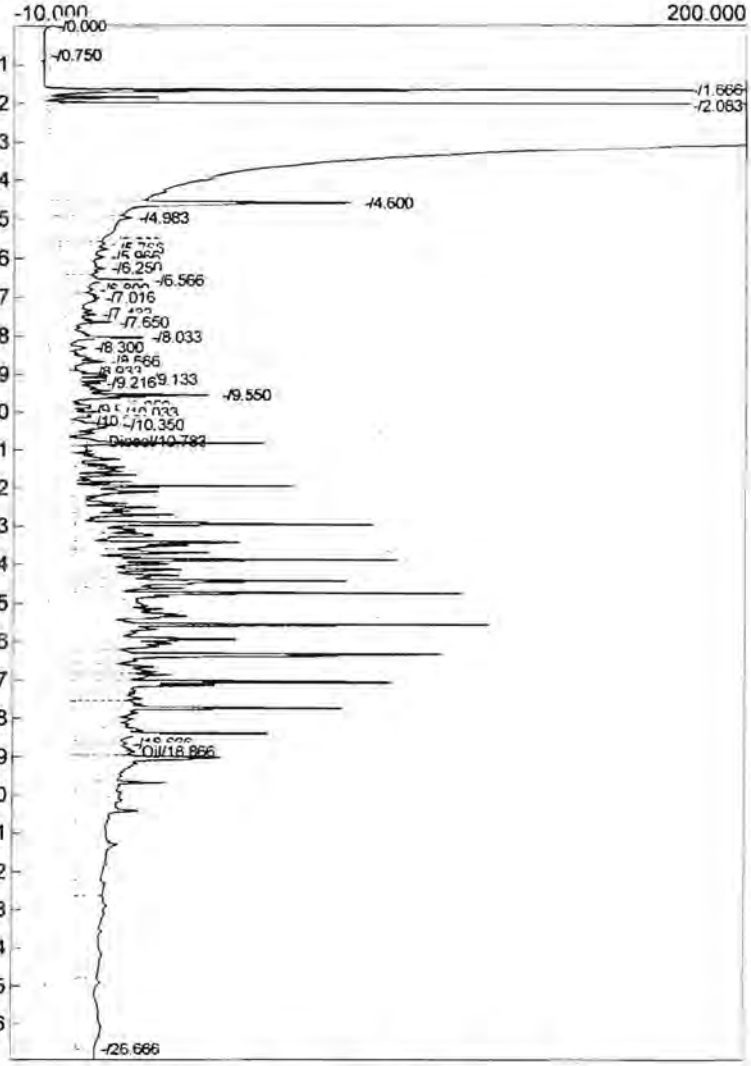
Analysis date: 09/12/2012 07:46:47
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D118.CHR ()
Sample: 500 PPM LCSD 306
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.783	9459.1795	7.905	502.2436	ppm
Oil	18.866	4357.5235	17.167	230.3181	ppm
		13816.7030		732.5616	

int 100%
Diesel

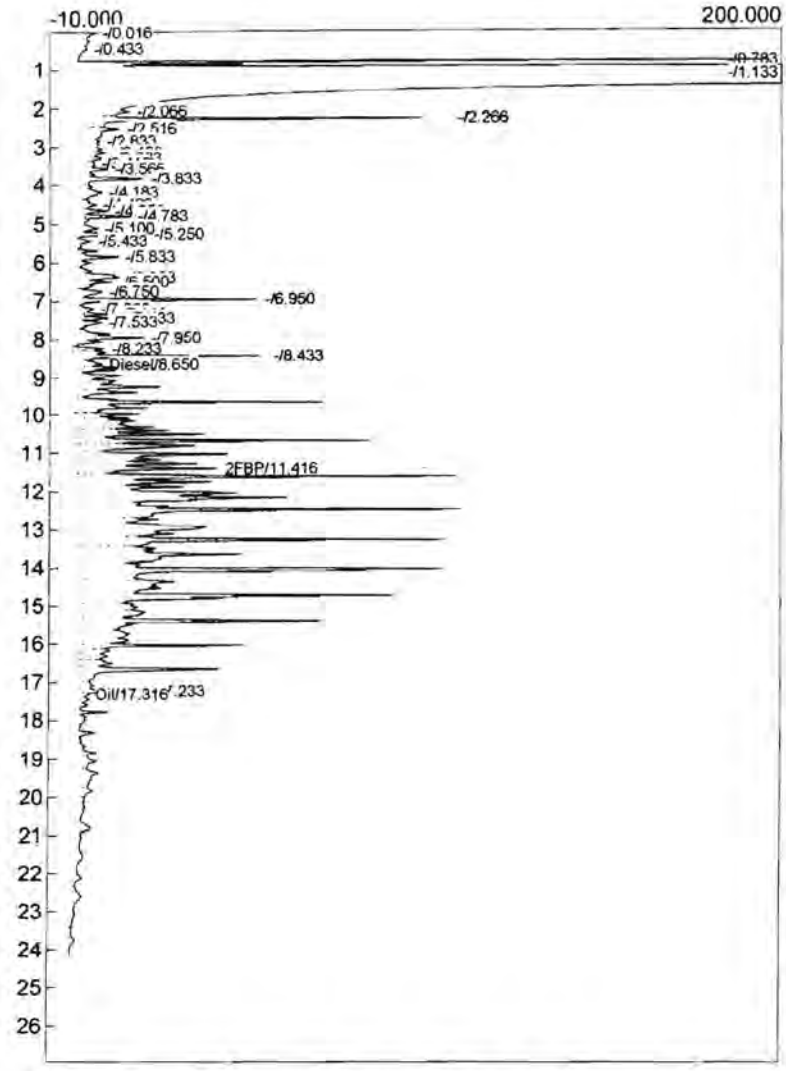
Analysis date: 09/12/2012 07:16:49
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C119.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	8.650	10248.0725	7.316	504.9699	ppm
FBP	11.416	219.2655	40.291	7.3088	ppm
il	17.316	435.6575	2.185	21.4186	ppm
		10902.9955		533.6973	

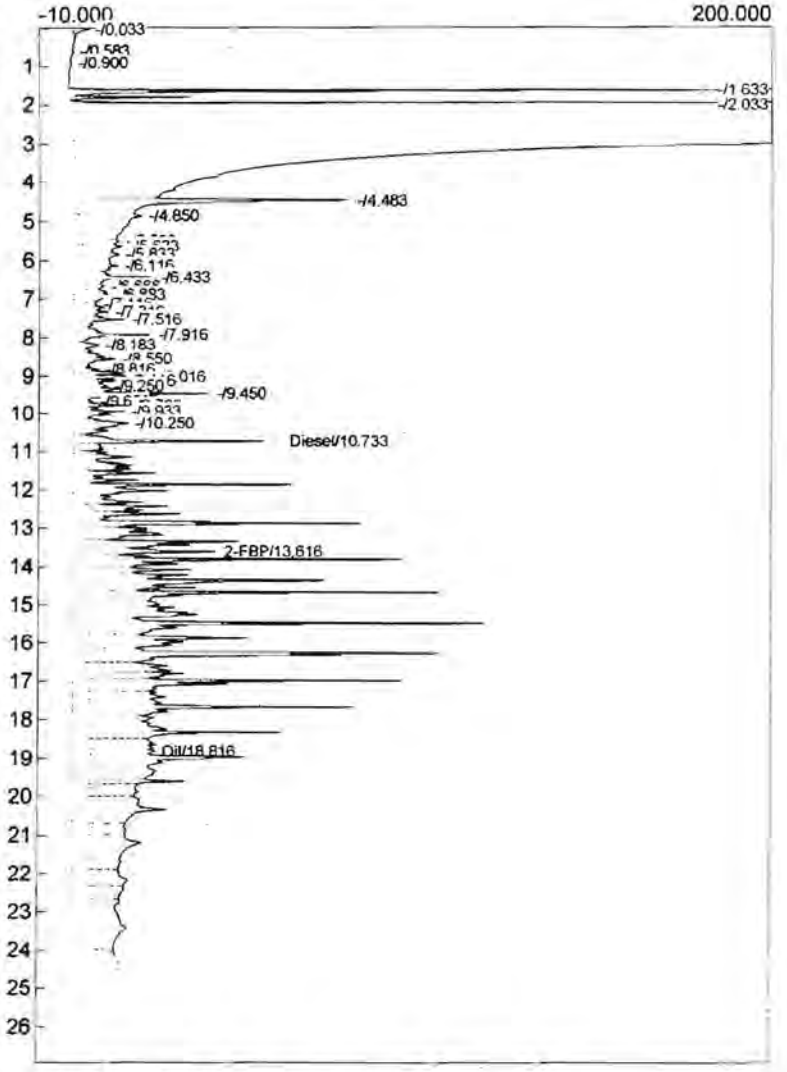
Analysis date: 09/12/2012 07:16:49
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D117.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

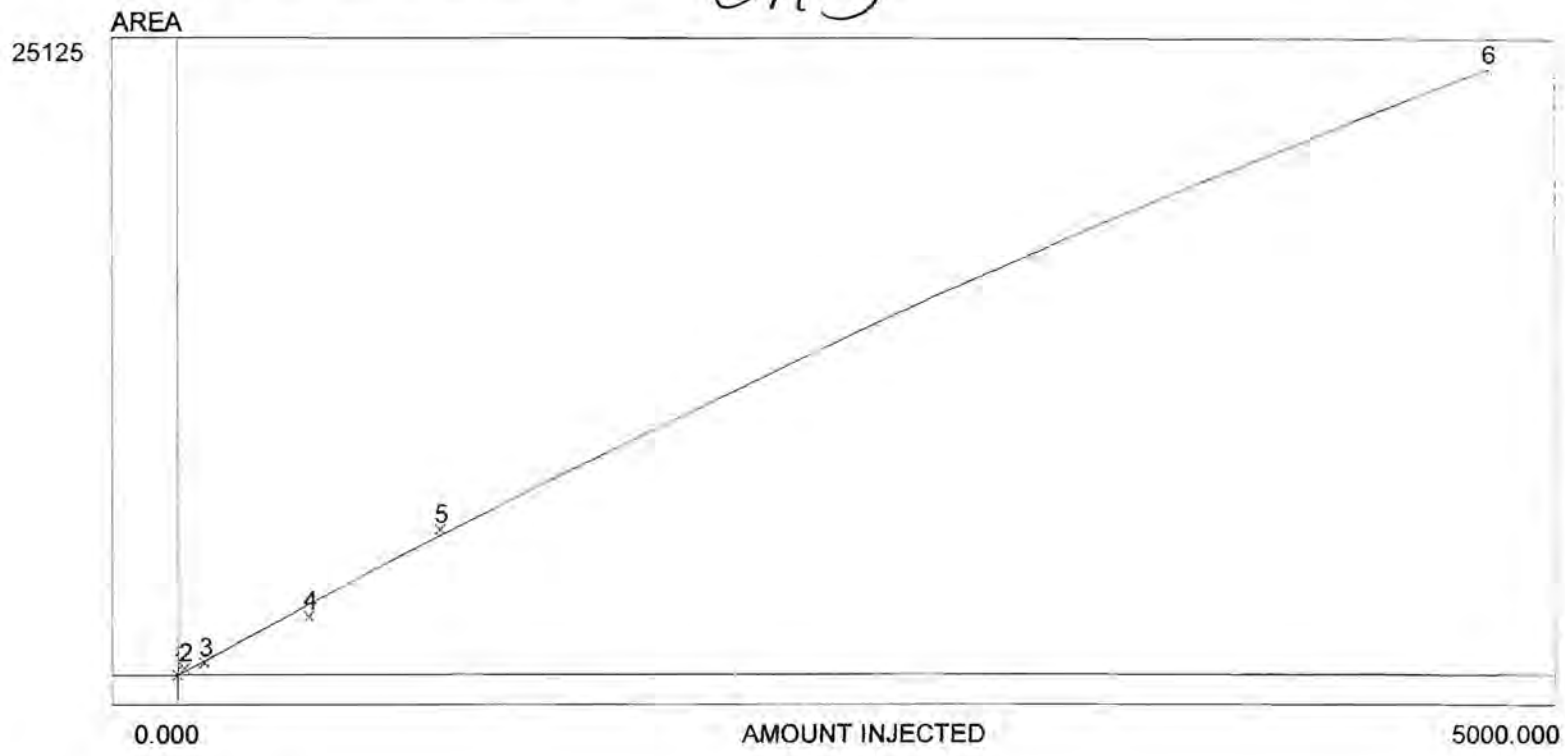
Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.733	9864.1145	57.049	523.9189	ppm
2-FBP	13.616	218.2950	37.447	6.7168	ppm
Oil	18.816	3399.9720	18.290	179.5474	ppm
		13482.3815		710.1831	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

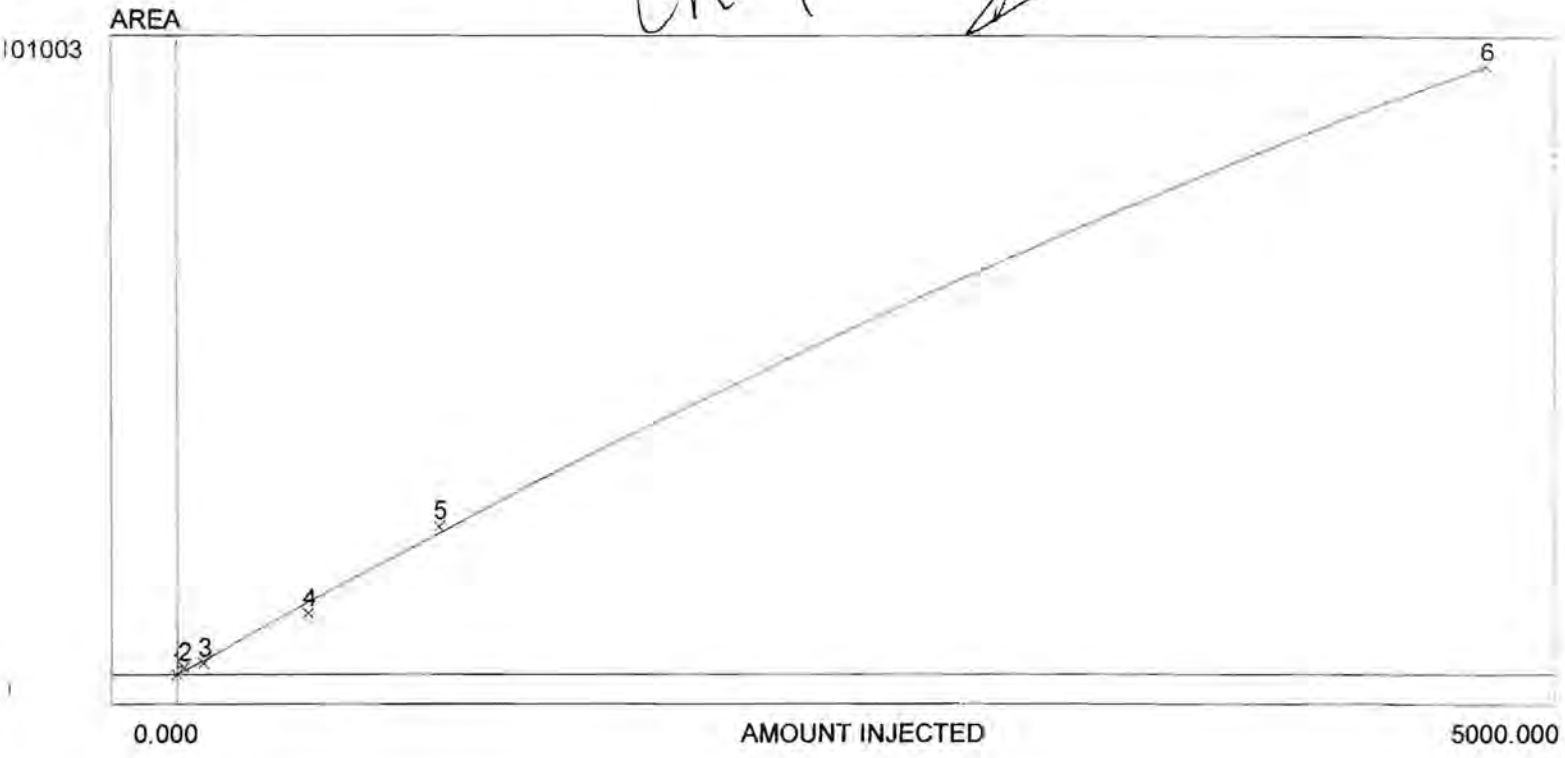


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X²+29.3544X
R²: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Avl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1410.471	25.000	56.419	1410.471	N/A	N/A
2574.179	100.000	25.742	2574.179	N/A	N/A
12043.265	500.000	24.087	12043.265	N/A	N/A
29871.863	1000.000	29.872	29871.863	N/A	N/A
125124.670	5000.000	25.025	125124.670	N/A	N/A

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

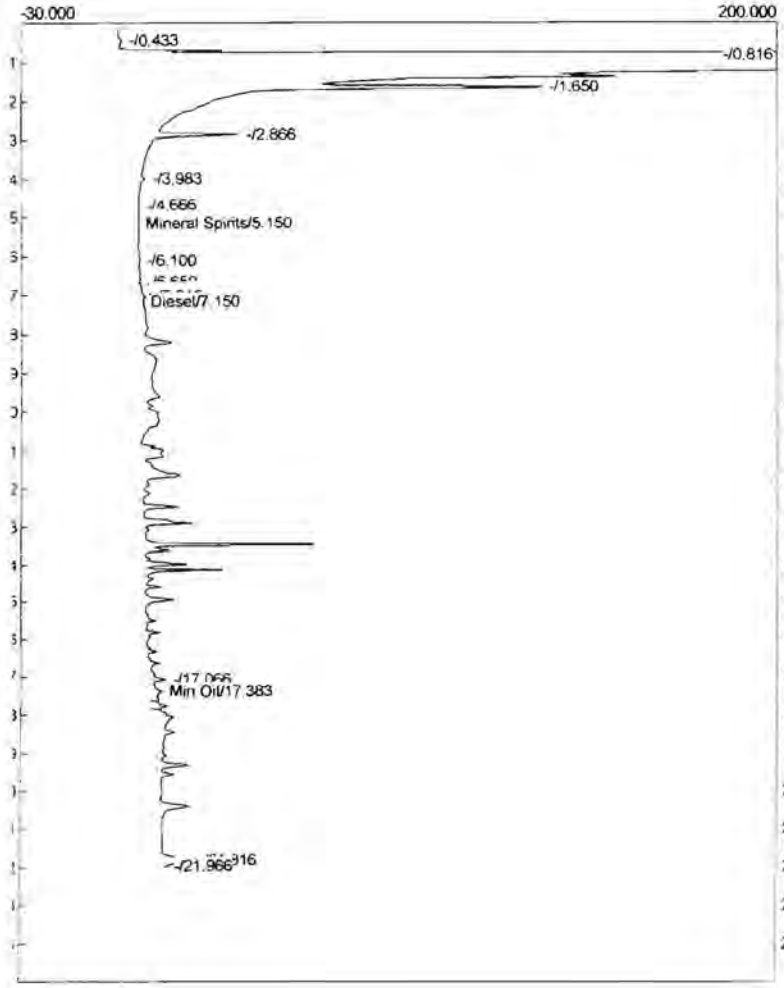
Ch 4



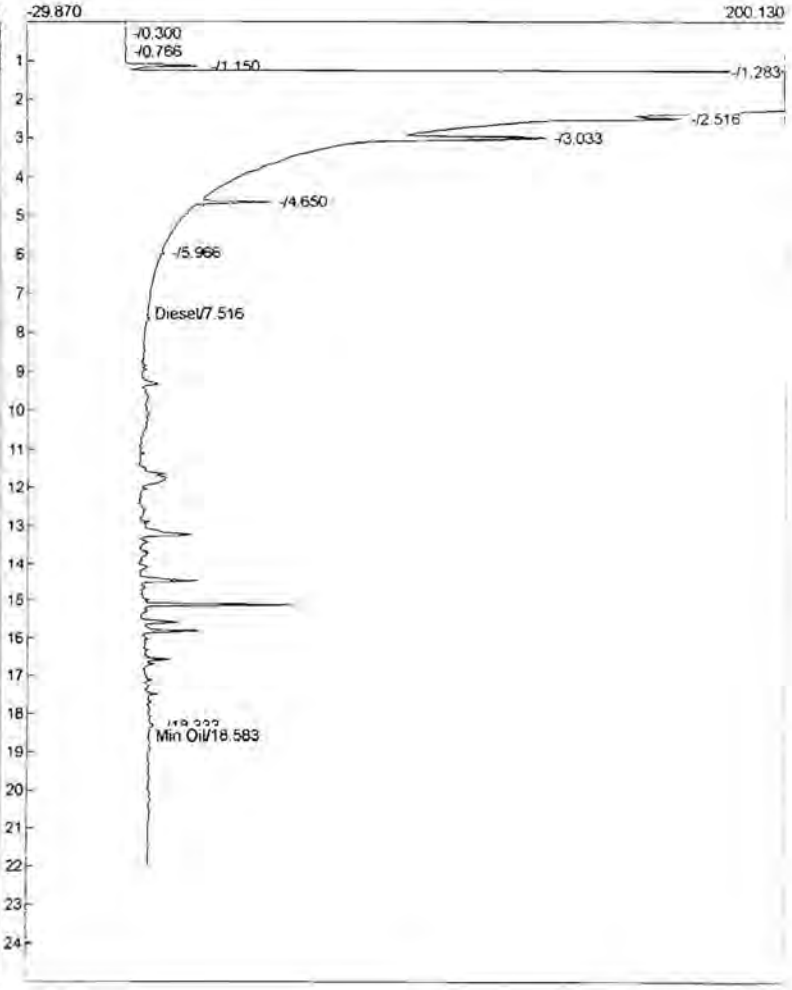
Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
Y=-0.0008X^a+24.2883X
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

Avl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1271.716	25.000	50.869	1271.716	N/A	N/A
1927.394	100.000	19.274	1927.394	N/A	N/A
10086.605	500.000	20.173	10086.605	N/A	N/A
24554.042	1000.000	24.554	24554.042	N/A	N/A
101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



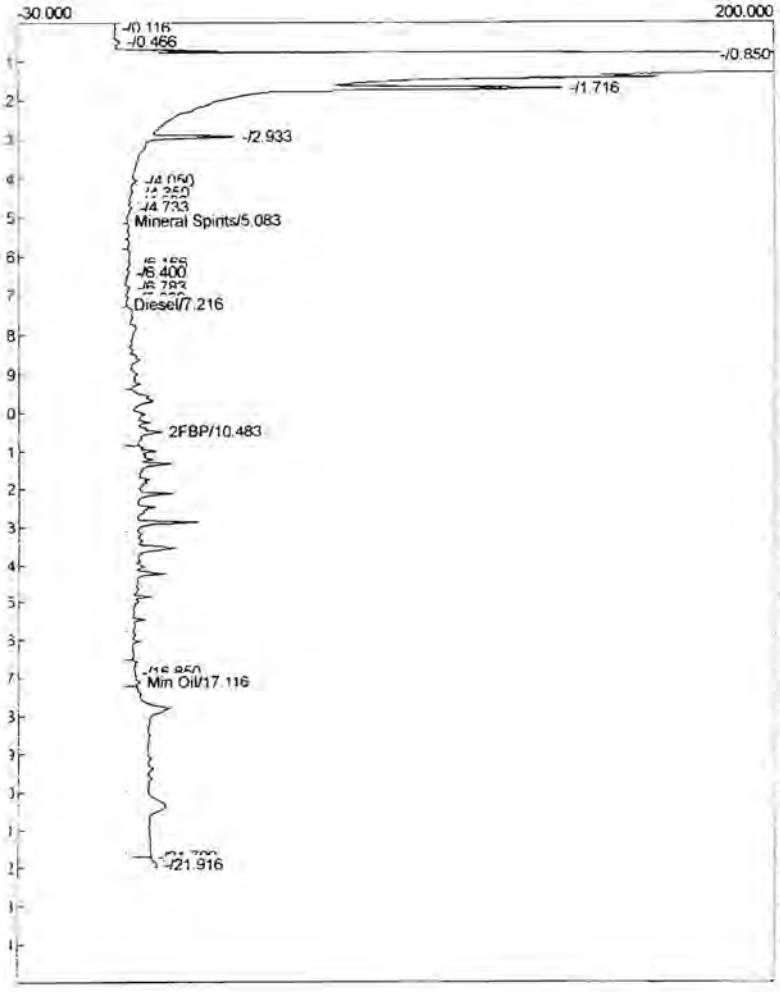
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



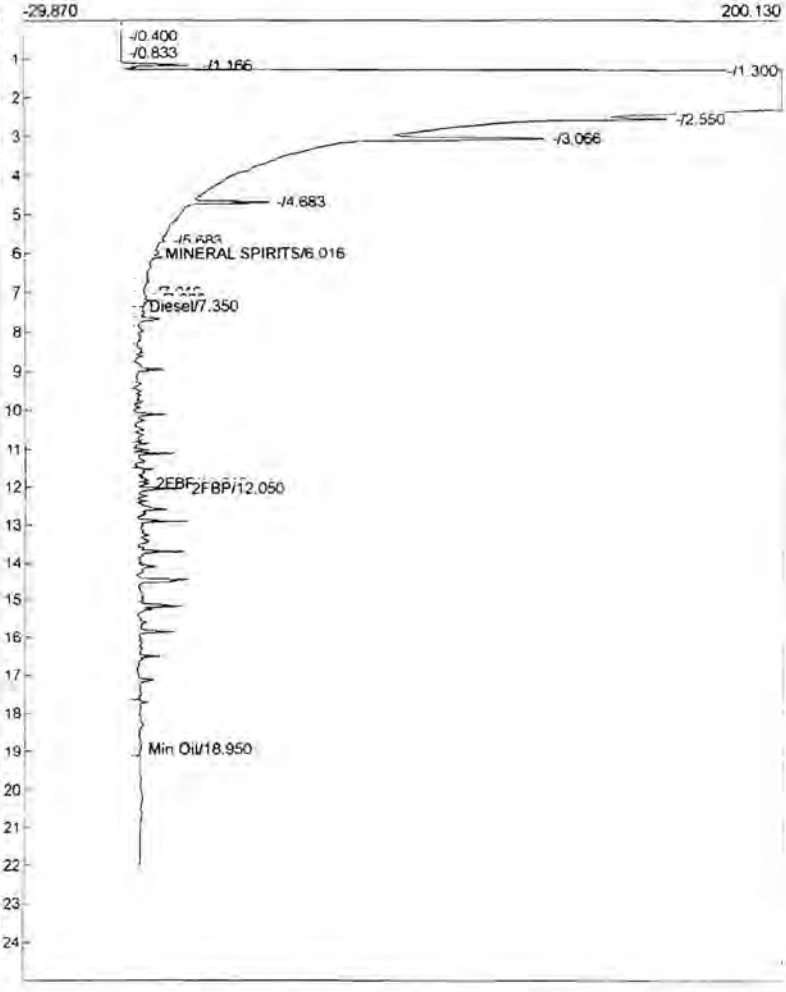
Component	Retention	Area	Height	External	Units
ineral Spirits	5.150	7.8080	0.195	0.3863	PPI
iesel	7.150	1410.4710	0.518	13.6936	ppn
in Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppn
Min Oil	18.583	209.2665	1.582	14.7689	ppn
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



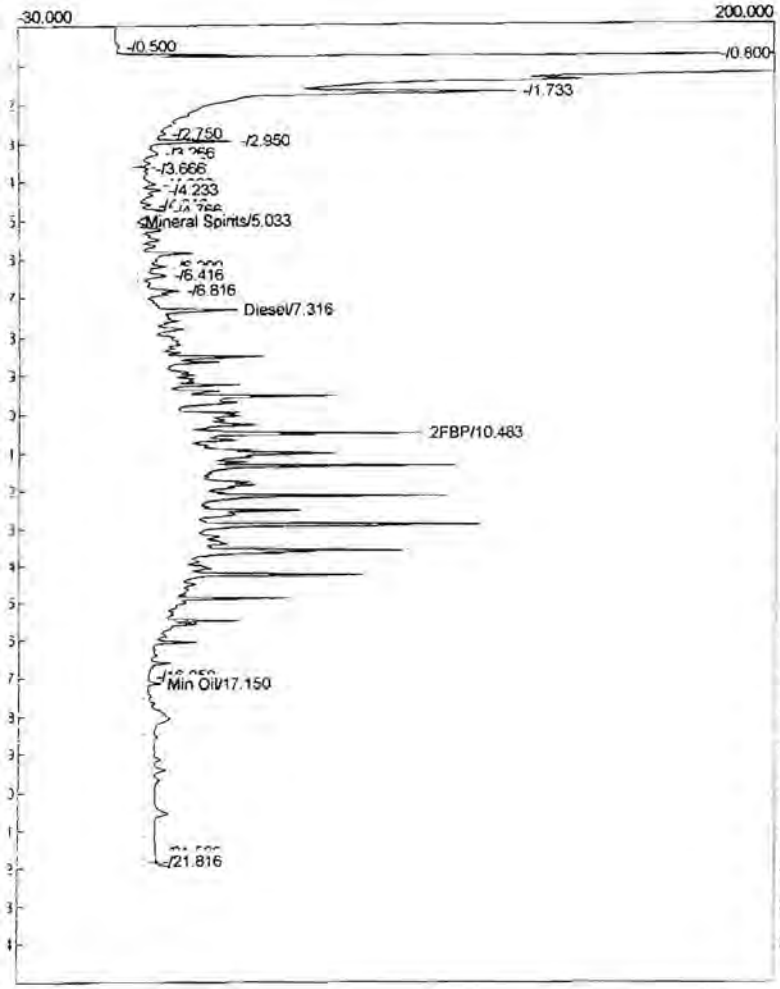
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



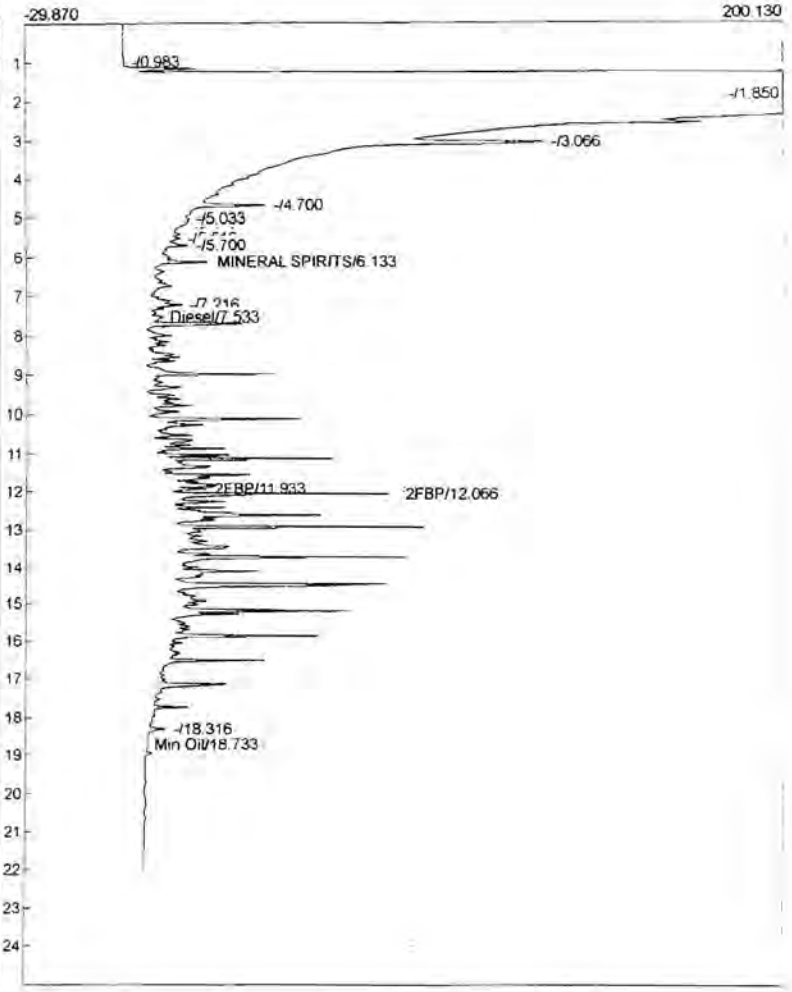
Component	Retention	Area	Height	External	Units
lineral Spirits	5.083	84.6325	1.090	4.1869	PPI
iesel	7.216	2410.4095	0.627	119.2471	ppn
FBP	10.483	163.7695	10.998	6.5508	ppn
in Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPI
Diesel	7.350	1849.7390	2.625	130.1759	ppn
2FBP	11.916	20.8250	4.775	1.0413	ppn
2FBP	12.050	56.8300	15.516	2.8415	ppn
Min Oil	18.950	514.9365	2.757	36.3413	ppn
		2727.9475		190.5003	

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



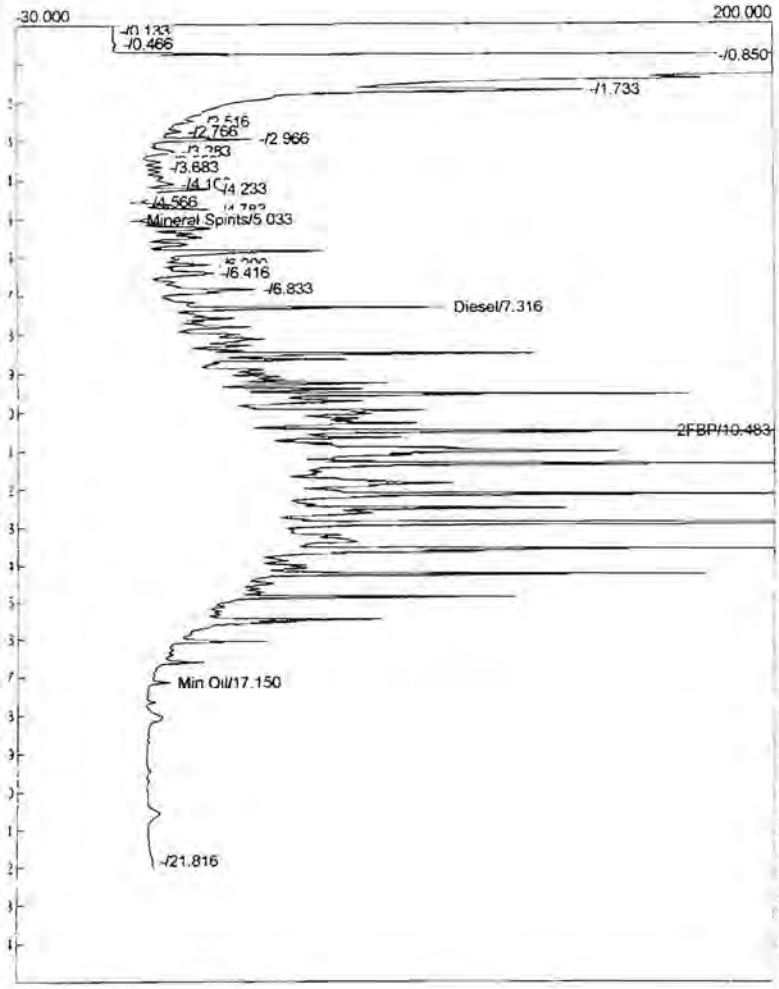
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



Component	Retention	Area	Height	External
lineral Spirits	5.033	323.3415	0.632	15.9963
iesel	7.316	11375.2115	30.144	562.7511
FBP	10.483	668.0530	86.276	26.7221
lin Oil	17.150	960.9820	5.210	0.0000
		13327.5880		605.4694

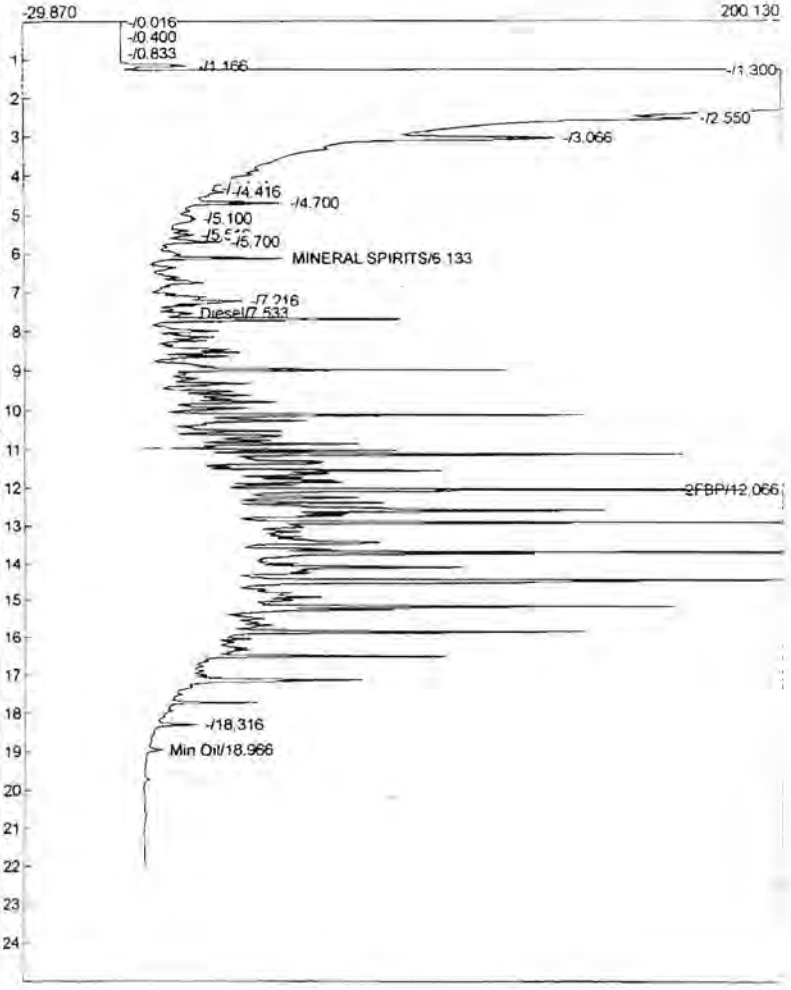
Units	Component	Retention	Area	Height	External	Un
PPM	MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
ppm	Diesel	7.533	9651.3385	9.725	679.2156	ppm
ppm	2FBP	11.933	110.1285	21.943	5.5064	ppm
	2FBP	12.066	325.1375	79.999	16.2569	ppm
	Min Oil	18.733	138.4670	1.874	9.7722	ppm
			10861.8905		755.5674	

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



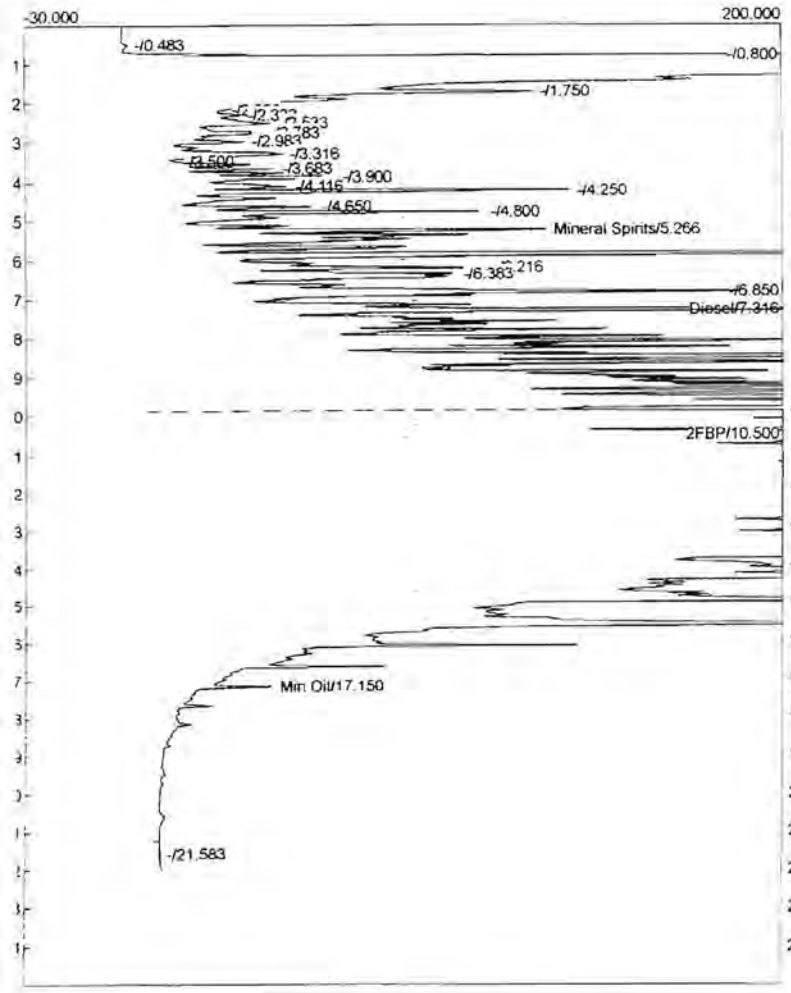
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



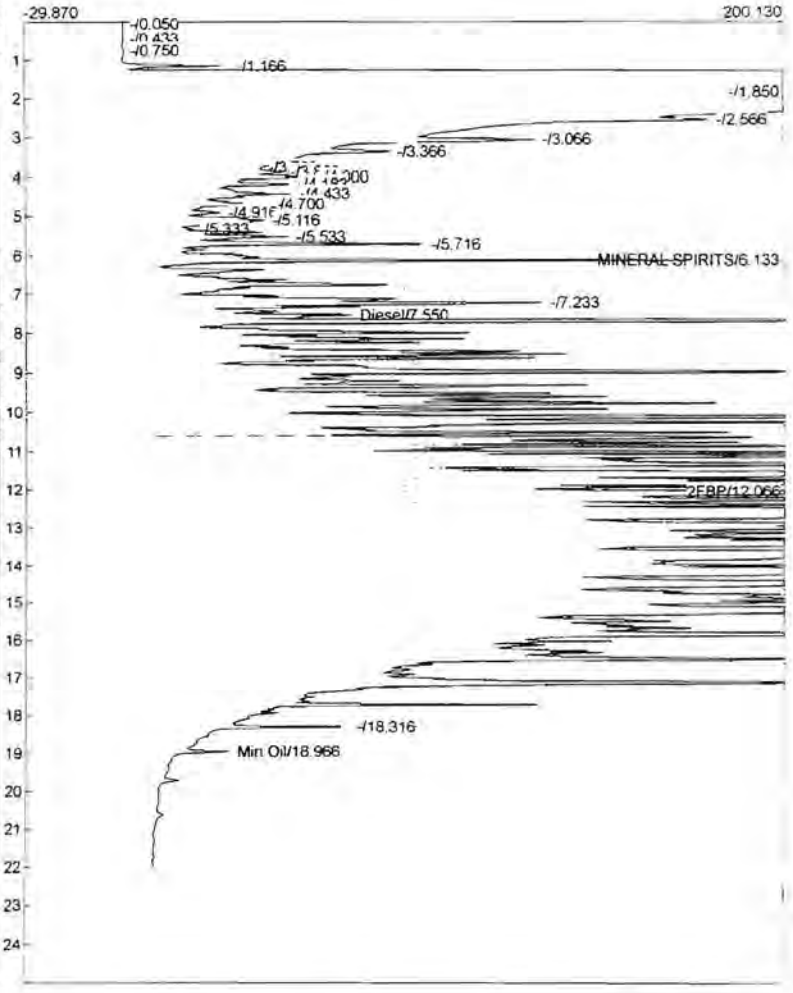
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



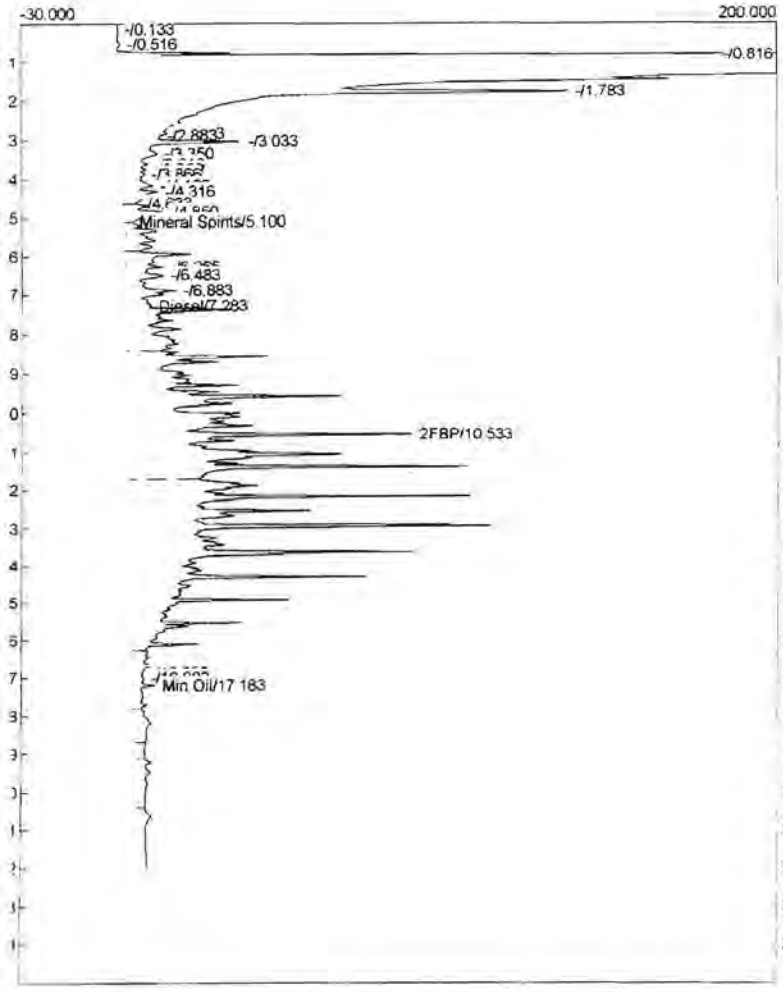
Component	Retention	Area	Height	External
lineral Spirits	5.266	4030.7350	121.832	199.4073
iesel	7.316	118321.9850	479.109	5853.5897
=BP	10.500	6802.6800	1015.018	272.1072
in Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

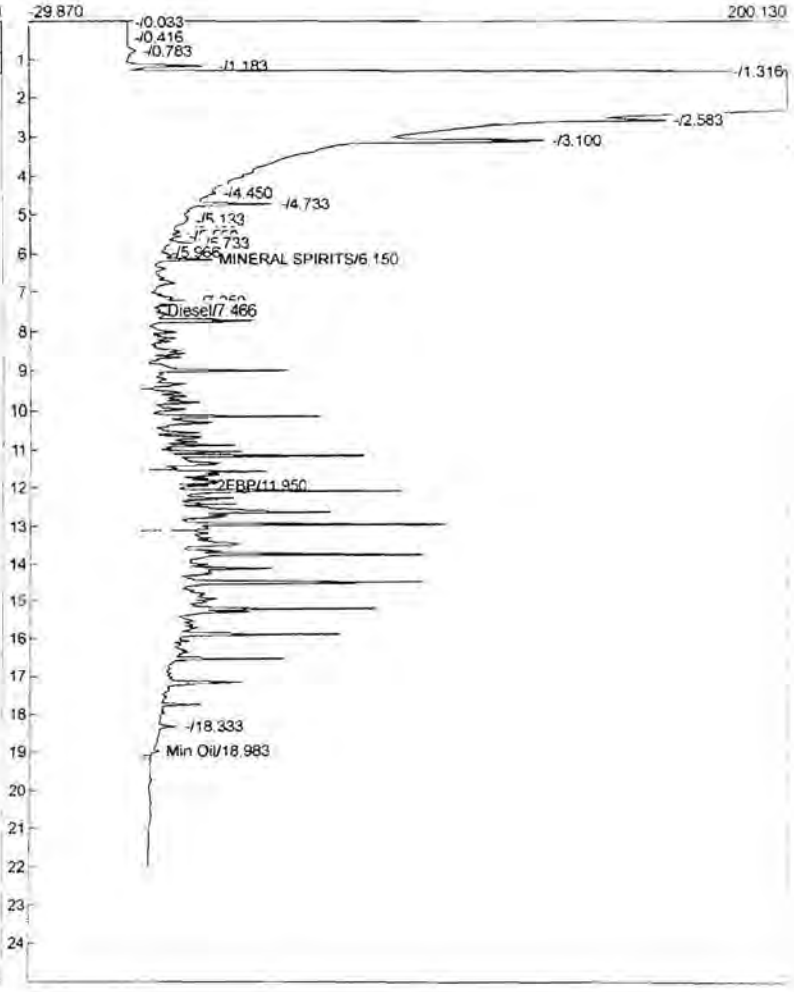


UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
ineral Spirits	5.100	454.2775	2.261	22.4739	PPM
iesel	7.283	12055.9145	7.302	415.8831	ppm
FBP	10.533	706.7050	85.875	28.2682	ppm
in Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1210080

October 18, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 3 sample(s) on 10/10/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1210080

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1210080-001	SRZ-WSW01-91212	09/12/2012 7:10 AM	10/10/2012 8:10 AM
1210080-002	SRZ-ESW01-91212	09/12/2012 7:30 AM	10/10/2012 8:10 AM
1210080-003	SRZ-EB2-91012	09/10/2012 8:15 AM	10/10/2012 8:10 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1210080**
Date: **10/18/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/12/2012 7:10:00 AM

Project: Irondale

Lab ID: 1210080-001 **Matrix:** Soil

Client Sample ID: SRZ-WSW01-91212

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	47.3	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
Benzo(a)pyrene	ND	47.3	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
2,4-Dimethylphenol	ND	27.4	H	µg/Kg-dry	1	10/12/2012 4:52:00 PM
Surr: 2-Fluorobiphenyl	92.6	50.4-142	H	%REC	1	10/12/2012 4:52:00 PM
Surr: Phenol-d6	76.8	48.2-143	H	%REC	1	10/12/2012 4:52:00 PM
Surr: Terphenyl-d14 (surr)	83.3	48.8-157	H	%REC	1	10/12/2012 4:52:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	12.0		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/12/2012 7:30:00 AM

Project: Irondale

Lab ID: 1210080-002 **Matrix:** Soil

Client Sample ID: SRZ-ESW01-91212

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	46.2	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
Benzo(a)pyrene	ND	46.2	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
2,4-Dimethylphenol	ND	26.8	H	µg/Kg-dry	1	10/12/2012 5:42:00 PM
Surr: 2-Fluorobiphenyl	98.4	50.4-142	H	%REC	1	10/12/2012 5:42:00 PM
Surr: Phenol-d6	86.4	48.2-143	H	%REC	1	10/12/2012 5:42:00 PM
Surr: Terphenyl-d14 (surr)	94.1	48.8-157	H	%REC	1	10/12/2012 5:42:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	18.7		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1210080**

Date Reported: **10/18/2012**

Client: Libby Environmental **Collection Date:** 9/10/2012 8:15:00 AM

Project: Irondale

Lab ID: 1210080-003 **Matrix:** Soil

Client Sample ID: SRZ-EB2-91012

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	46.4	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
Benzo(a)pyrene	ND	46.4	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
2,4-Dimethylphenol	ND	26.9	H	µg/Kg-dry	1	10/12/2012 6:08:00 PM
Surr: 2-Fluorobiphenyl	95.9	50.4-142	H	%REC	1	10/12/2012 6:08:00 PM
Surr: Phenol-d6	83.4	48.2-143	H	%REC	1	10/12/2012 6:08:00 PM
Surr: Terphenyl-d14 (surr)	93.0	48.8-157	H	%REC	1	10/12/2012 6:08:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	17.1		H	wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3406**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICB**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3406**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICV**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	514		500.0		103	50.4	142				
Surr: Phenol-d6	979		1,000		97.9	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.1	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1210080-001ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **SRZ-WSW01-91212**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121811**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	49.3						0	0	30	H
Benzo(a)pyrene	ND	49.3						0	0	30	H
2,4-Dimethylphenol	ND	28.6						0	0	30	H
Surr: 2-Fluorobiphenyl	477		493.0		96.8	50.4	142		0		H
Surr: Phenol-d6	785		986.0		79.7	48.2	143		0		H
Surr: Terphenyl-d14 (surr)	442		493.0		89.6	48.8	157		0		H

Sample ID: **CCV-3406B**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121813**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	80	120				
Benzo(a)pyrene	1,030	50.0	1,000	0	103	80	120				
2,4-Dimethylphenol	1,020	29.0	1,000	0	102	80	120				
Surr: 2-Fluorobiphenyl	498		500.0		99.6	50.4	142				
Surr: Phenol-d6	1,000		1,000		100	48.2	143				
Surr: Terphenyl-d14 (surr)	455		500.0		91.1	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3406A**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121814**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	974	50.0	1,000	0	97.4	80	120				
Benzo(a)pyrene	996	50.0	1,000	0	99.6	80	120				
2,4-Dimethylphenol	1,010	29.0	1,000	0	101	80	120				
Surr: 2-Fluorobiphenyl	485		500.0		97.1	50.4	142				
Surr: Phenol-d6	959		1,000		95.9	48.2	143				
Surr: Terphenyl-d14 (surr)	522		500.0		104	48.8	157				

Sample ID: **CCB-3406A**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121815**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	494		500.0		98.9	50.4	142				
Surr: Phenol-d6	923		1,000		92.3	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **MB-3406**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **MBLKS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	470		500.0		93.9	50.4	142				
Surr: Phenol-d6	868		1,000		86.8	48.2	143				
Surr: Terphenyl-d14 (surr)	485		500.0		97.0	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210080
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-3406**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **MBLKS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-3406**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **LCSS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121817**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	879	50.0	1,000	0	87.9	76.1	123				
Benzo(a)pyrene	823	50.0	1,000	0	82.3	58.1	146				
2,4-Dimethylphenol	849	29.0	1,000	0	84.9	50	150				
Surr: 2-Fluorobiphenyl	491		500.0		98.2	50.4	142				
Surr: Phenol-d6	935		1,000		93.5	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **1210089-004AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **BATCH**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **122226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	715	43.5	869.4	0	82.3	45.2	146				
Benzo(a)pyrene	682	43.5	869.4	6.077	77.7	34.4	179				
2,4-Dimethylphenol	696	25.2	869.4	0	80.0	50	150				
Surr: 2-Fluorobiphenyl	428		434.7		98.4	50.4	142				
Surr: Phenol-d6	767		869.4		88.2	48.2	143				
Surr: Terphenyl-d14 (surr)	464		434.7		107	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1210080**
Logged by: **Clare Griggs**	Date Received: **10/10/2012 8:10:00 AM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☑	No	☐	NA	☐
5.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA	☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☑	No	☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☐	No	☑		

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks/Disrepancies

Collection date not noted on COC. Used sample dates from sample containers.

Item Information

Item #	Temp ºC	Condition
Cooler	9.7	Good

Libby Environmental, Inc.

Chain of Custody Record 1210080

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 10/9/12 Page: 1 of 1

Client: Libby Environmental
Project Manager: JAMIE DEYMAN
Address: SEE ABOVE
Project Name: IRON DALE
City: State: Zip:
Location: City, State:
Phone: Fax:
Collector: Date of Collection:
Client Project #
Email:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SRZ WSW01-91212		7:10	Soil	4oz JAR									X					
2 SRZ-ESW01-91212		7:30	↓	↓									↓					
3 SRZ-EBZ-91012		8:15	↓	↓									↓					
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	10/9/12	[signature]	10.10.12 8:10AM
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-DAY

Distribution: White - Lab, Yellow - File, Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

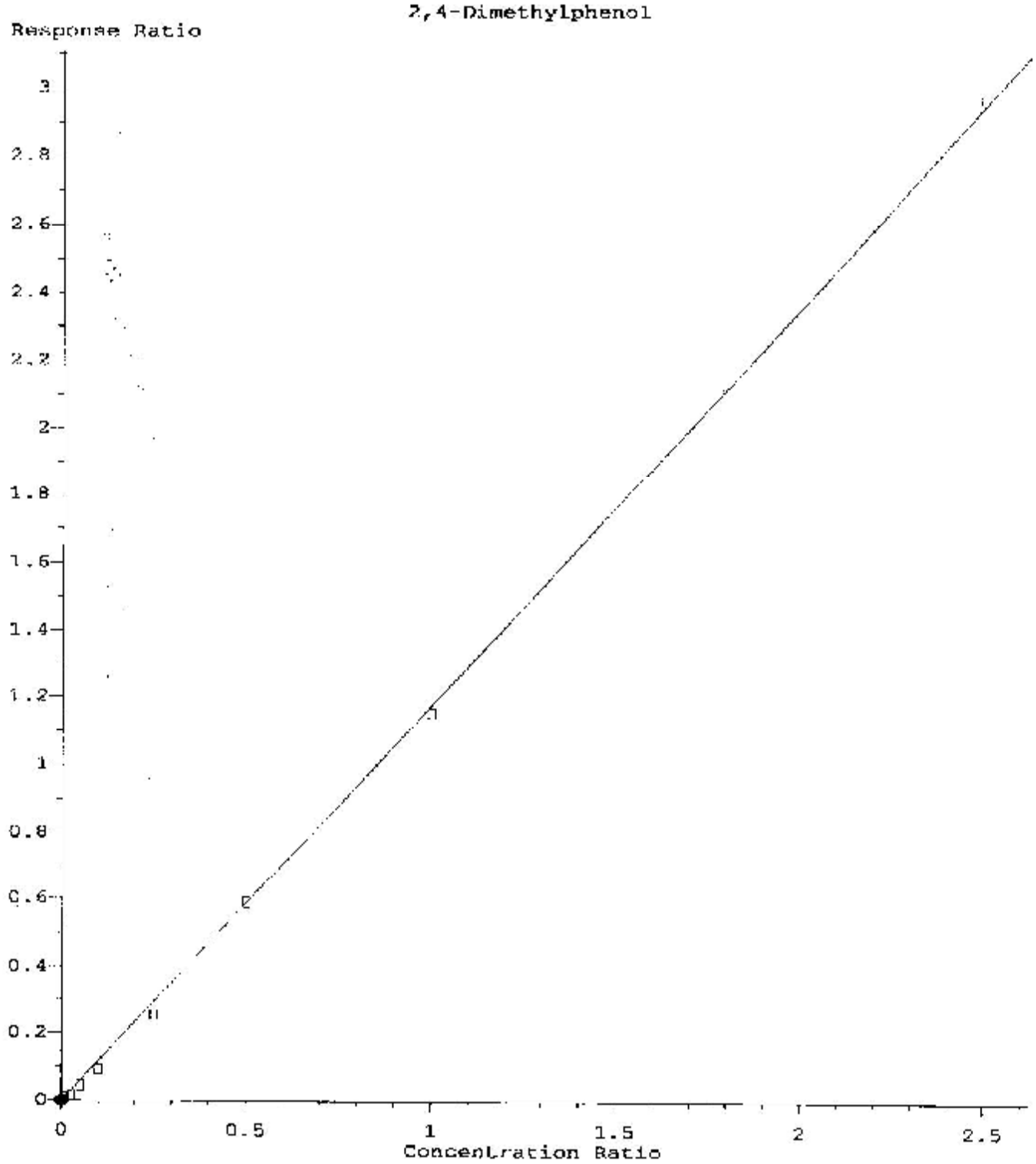
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

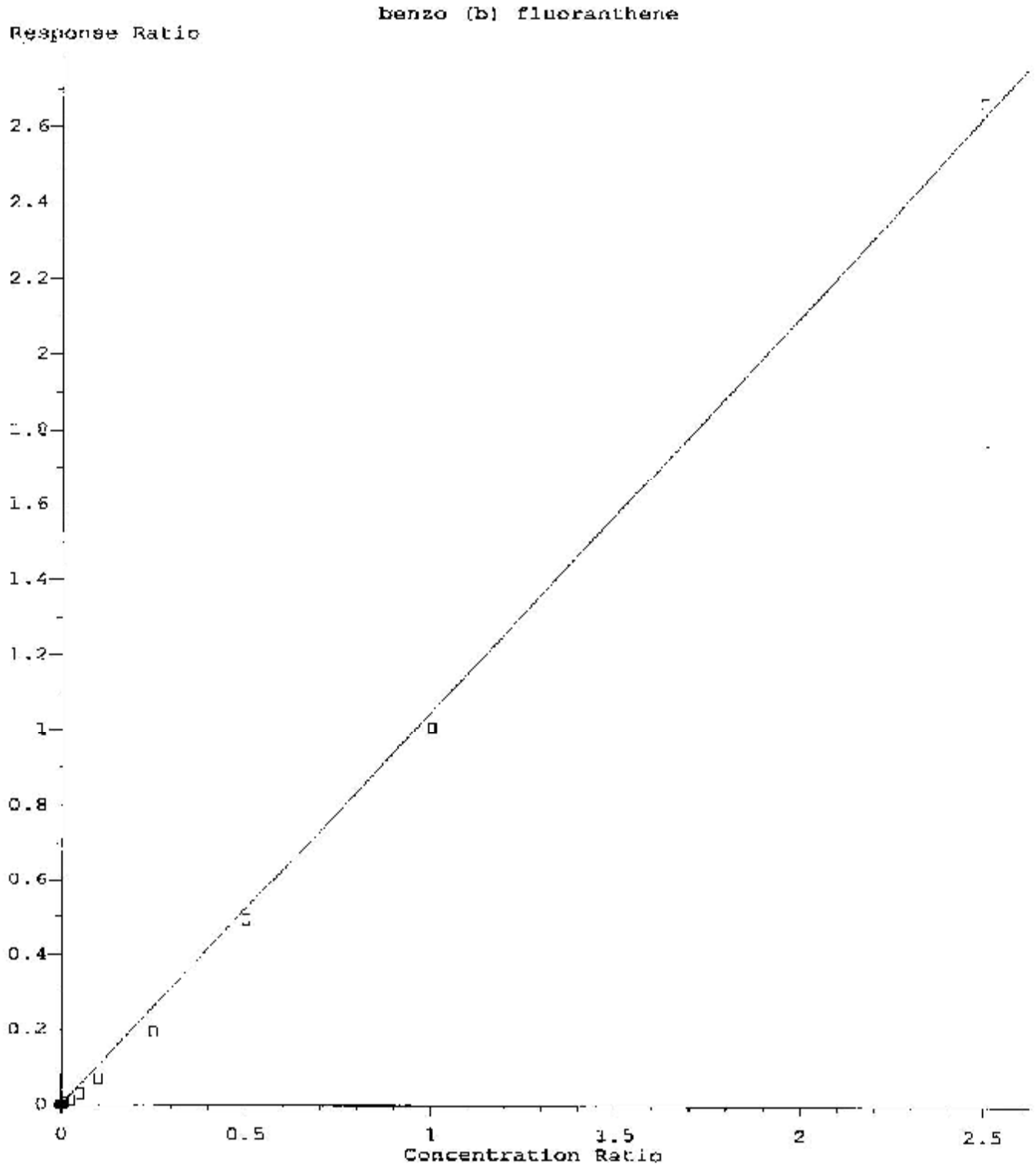
25)	I	Perylene-d12 (IS)	----------ISTD----------								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

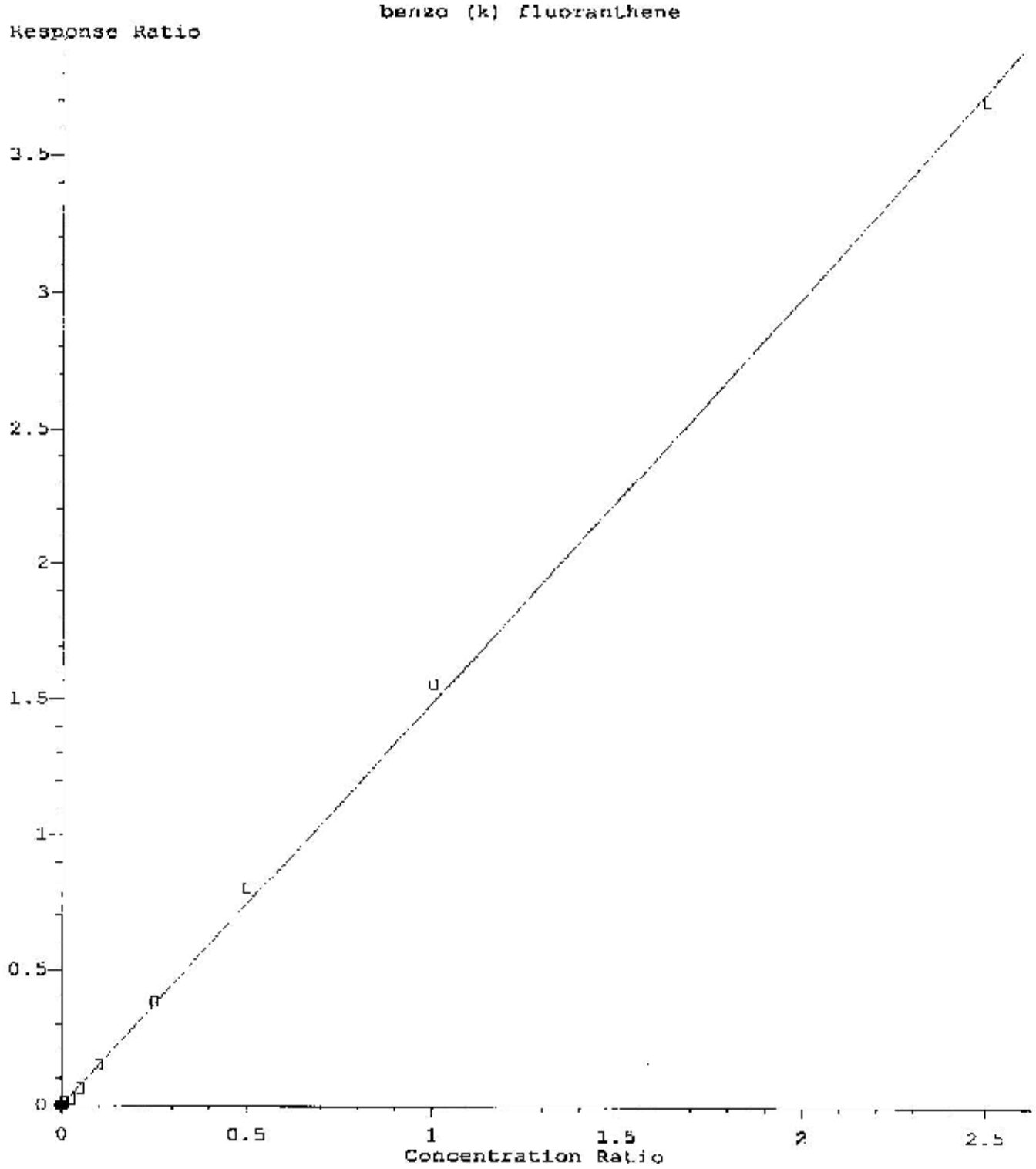
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



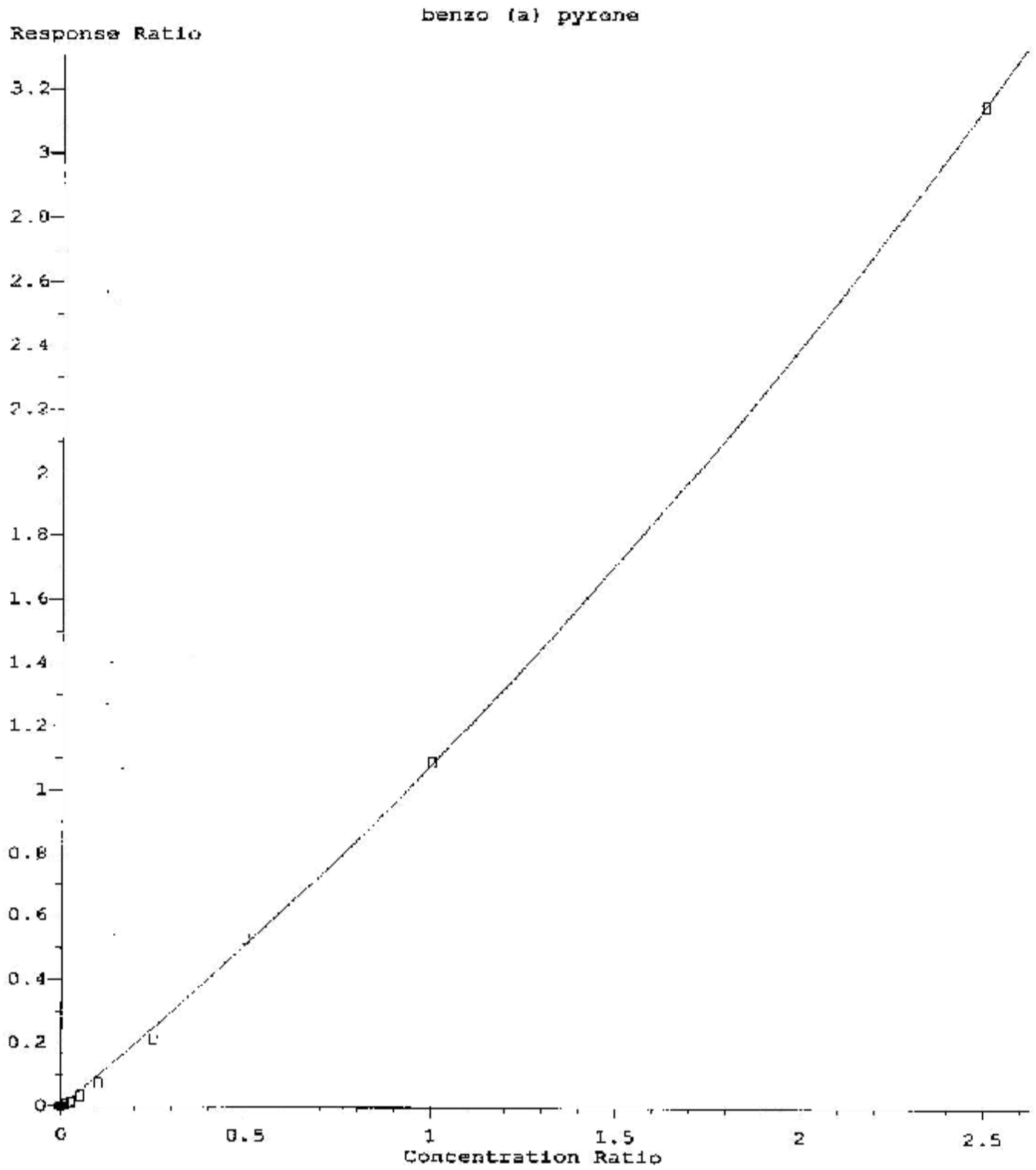
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



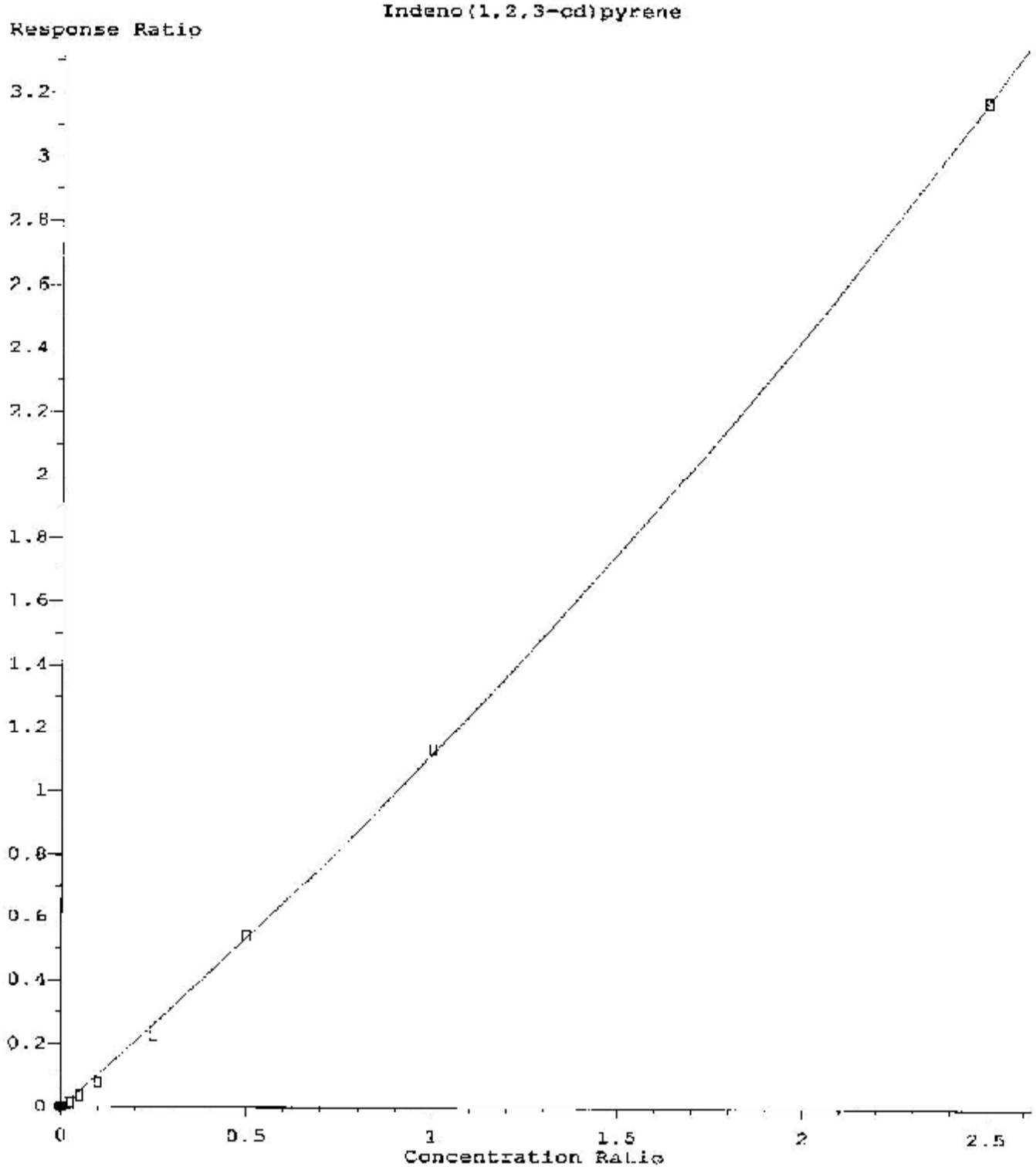
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



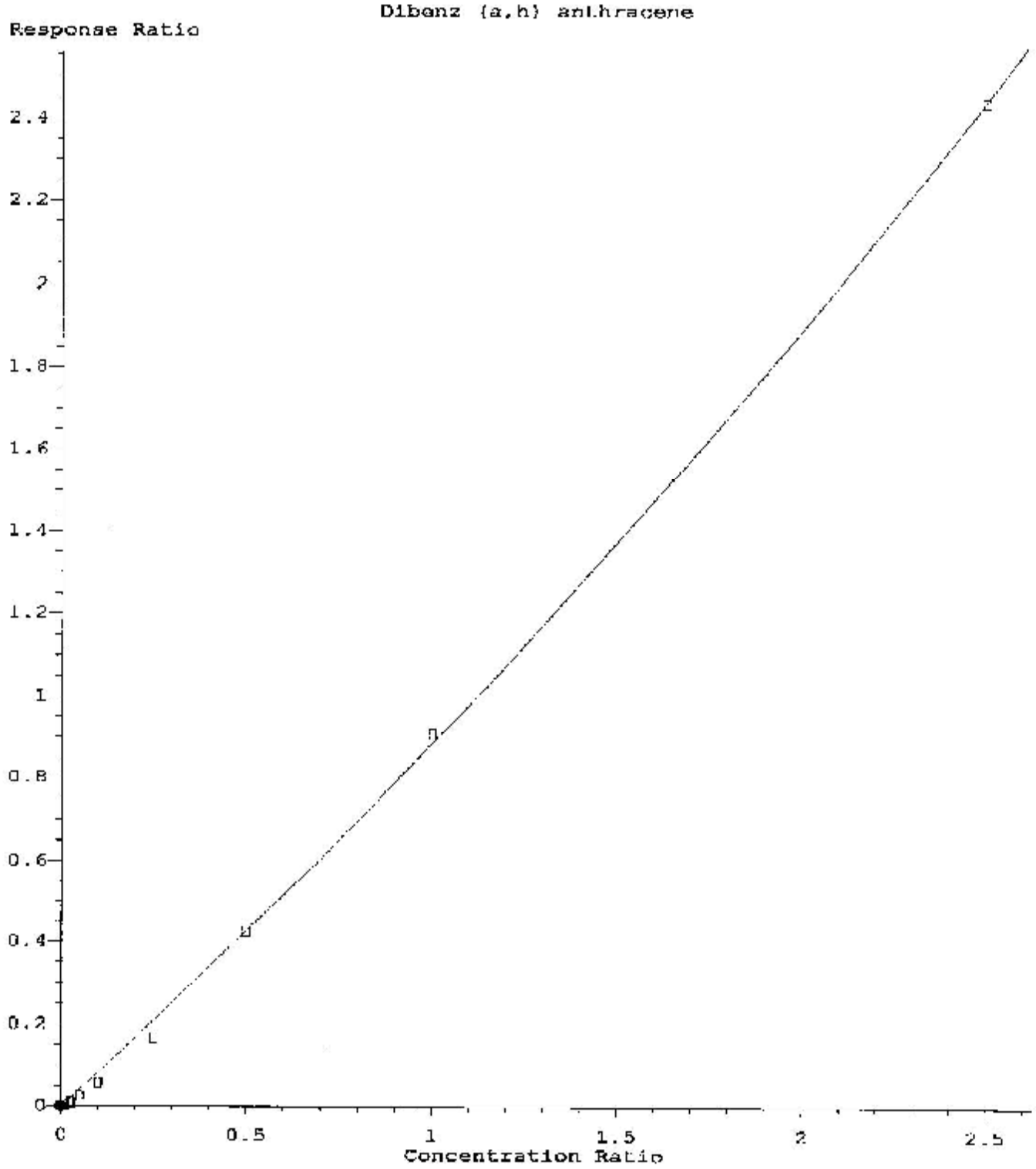
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



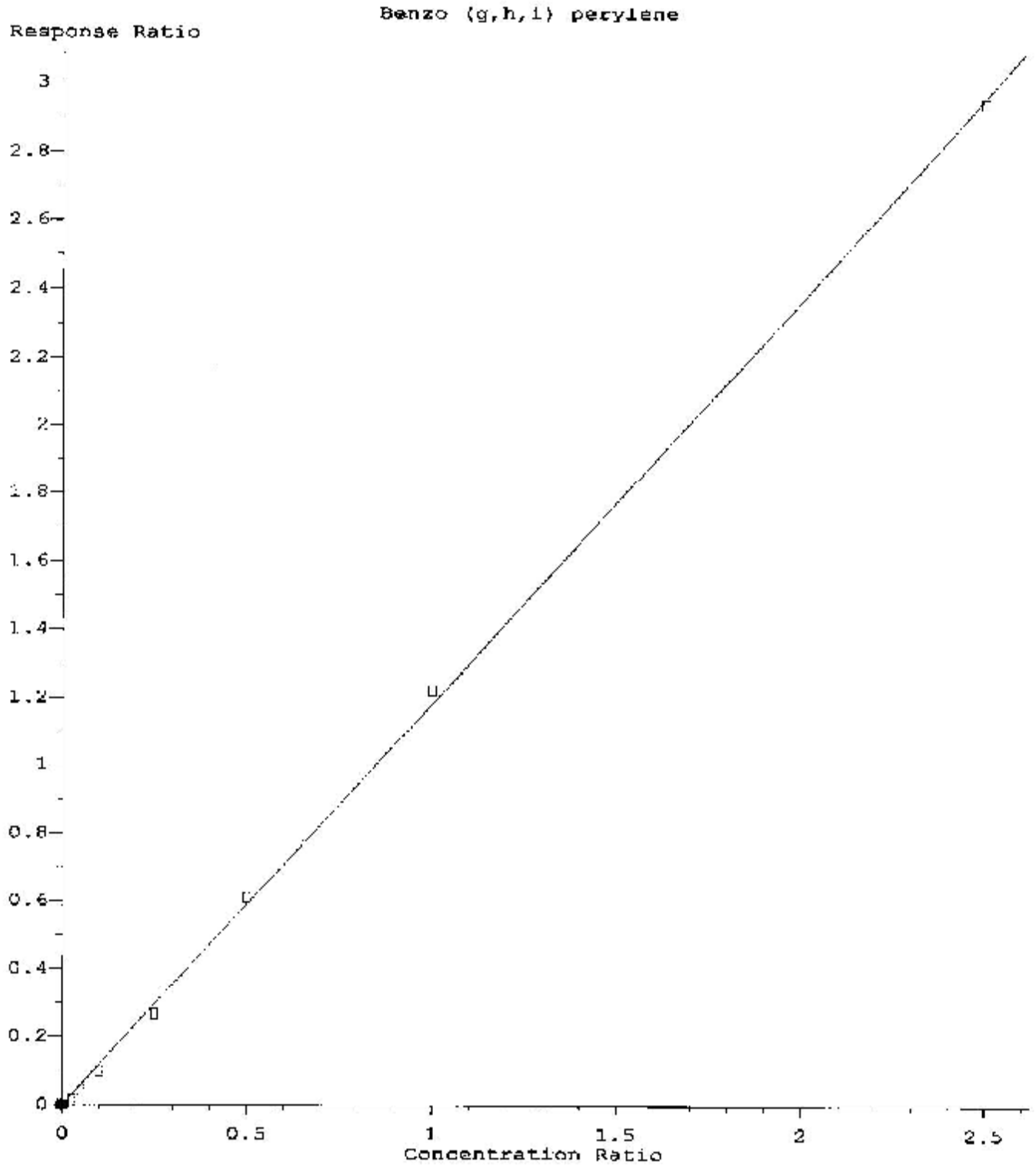
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

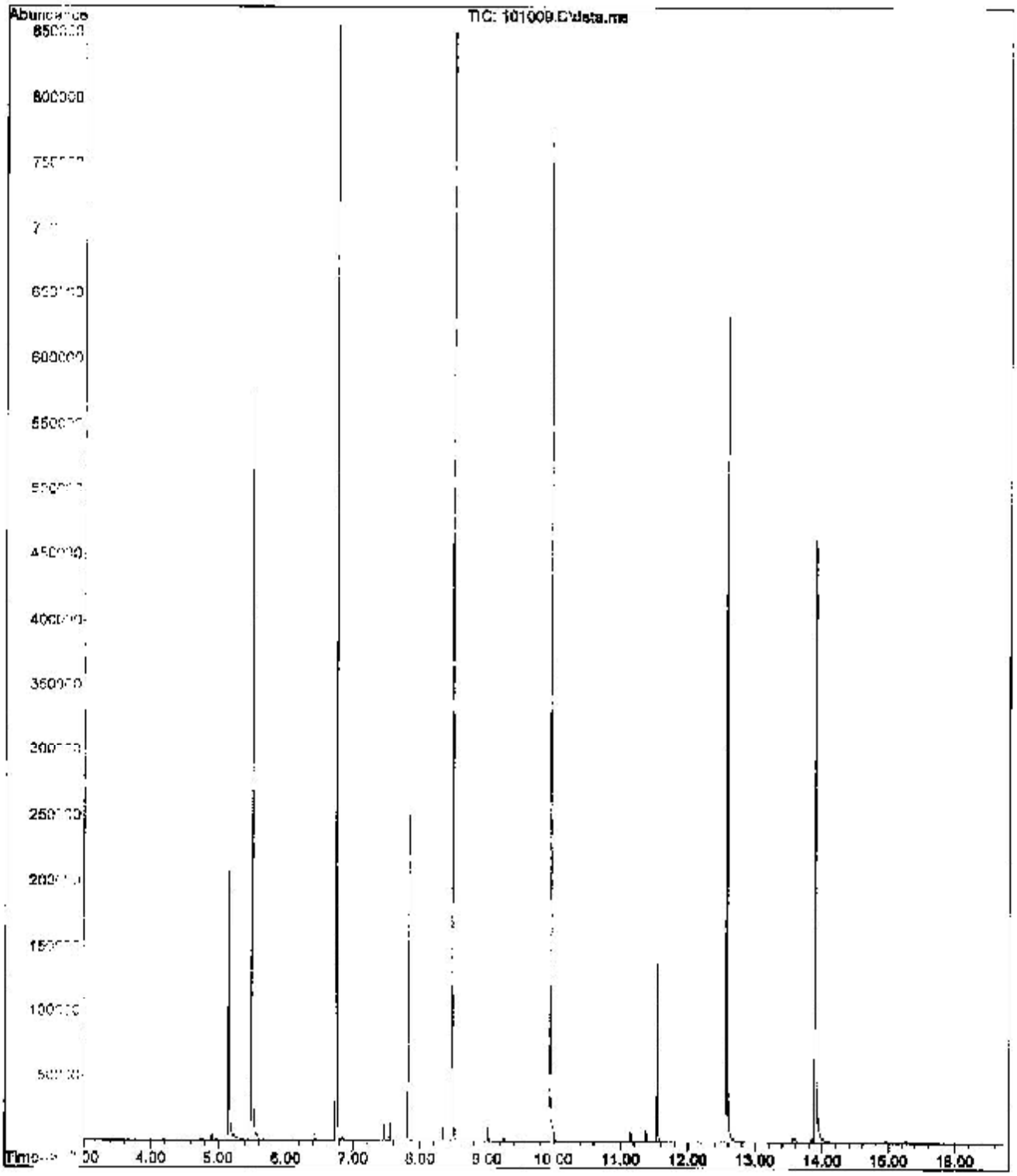
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	155780	971.54	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.430	107	1703m	13.70	ug/L		
5] Naphthalene	6.766	128	9729	22.54	ug/L		100
6] 2-Methylnaphthalene	7.455	142	5421	21.44	ug/L		100
7] 1-Methylnaphthalene	7.550	142	5172	21.59	ug/L		100
9] Acenaphthylene	8.338	152	7063	20.38	ug/L		100
11] Acenaphthene	8.508	152	2661	23.37	ug/L		99
12] Fluorene	9.021	166	5847	22.40	ug/L		97
14] Phenanthrene	9.967	178	8863	23.95	ug/L		100
15] Anthracene	10.020	178	6894	20.35	ug/L		97
17] Fluoranthene	11.145	202	6586	19.76	ug/L	#	94
18] Pyrene	11.368	202	6766	19.42	ug/L	#	85
19] Benzo (a) anthracene	12.559	228	6945	23.77	ug/L	#	100
21] Chrysene	12.592	228	8752m	25.21	ug/L		
22] benzo (b) fluoranthene	13.556	252	2936	11.32	ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	5957	16.17	ug/L		99
24] benzo (a) pyrene	13.835	252	2906	12.19	ug/L	#	52
26] Indeno(1,2,3-cd)pyrene	14.943	276	3867m	14.51	ug/L		
27] Dibenz (a,h) anthracene	14.967	278	2052m	14.50	ug/L		
28] Benzo (g,h,i) perylene	15.256	276	3732m	18.27	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

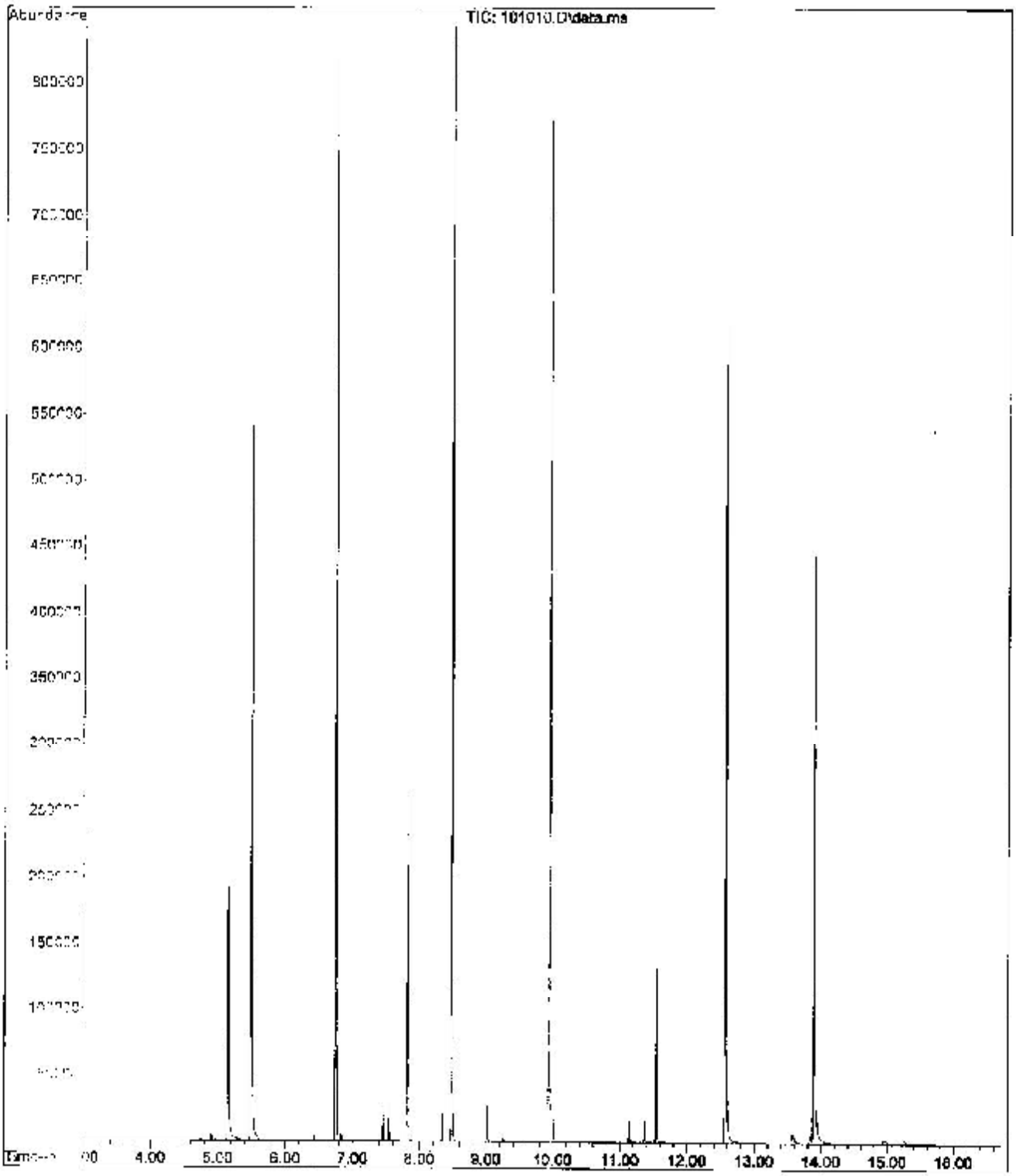
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mednchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo(a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo(b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo(k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo(a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz(a,h) anthracene	14.964	278	3702m	28.18 ug/L	
28) Benzo(g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 ... .M Thu Oct 11 09:27:4... 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

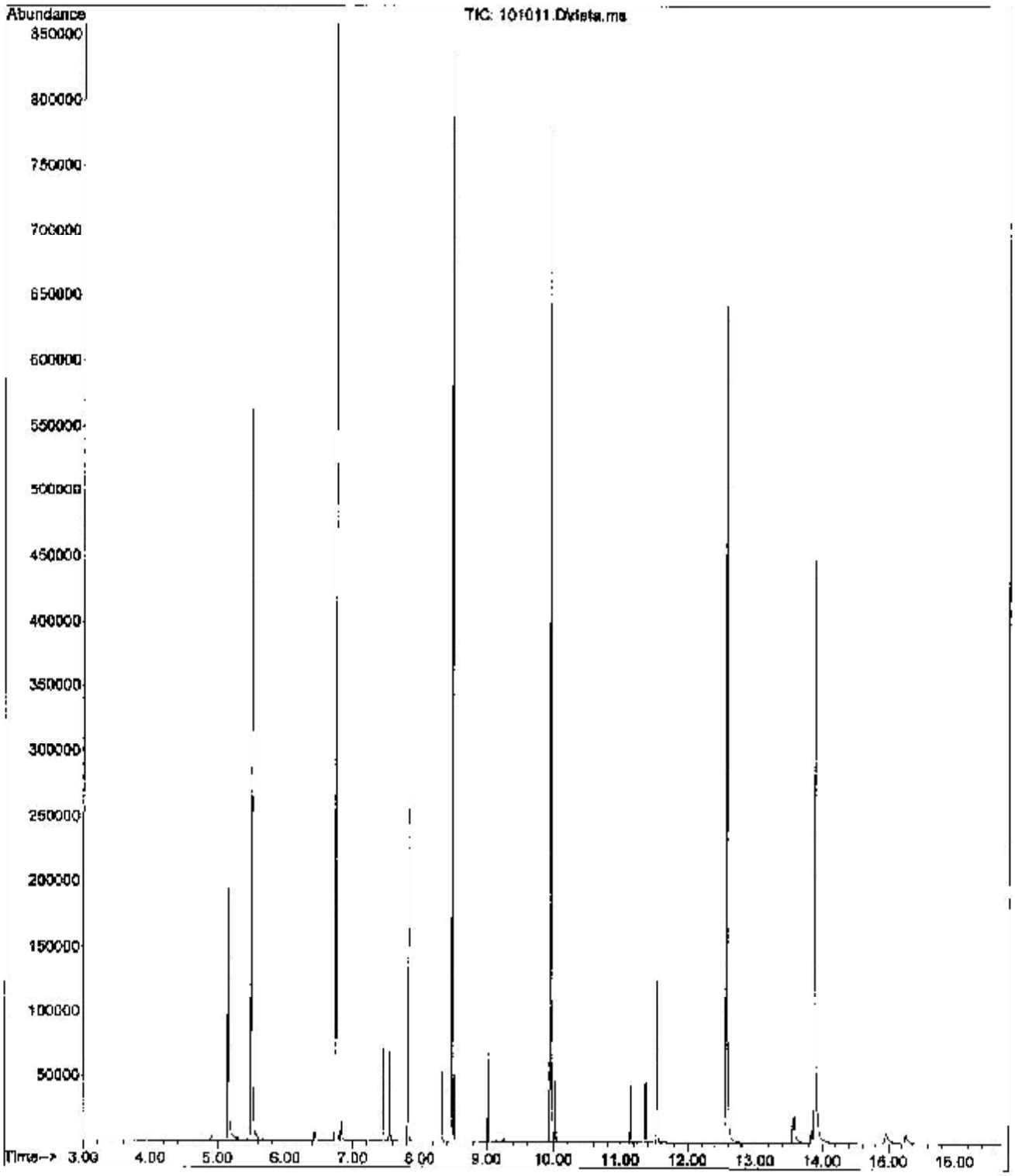
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

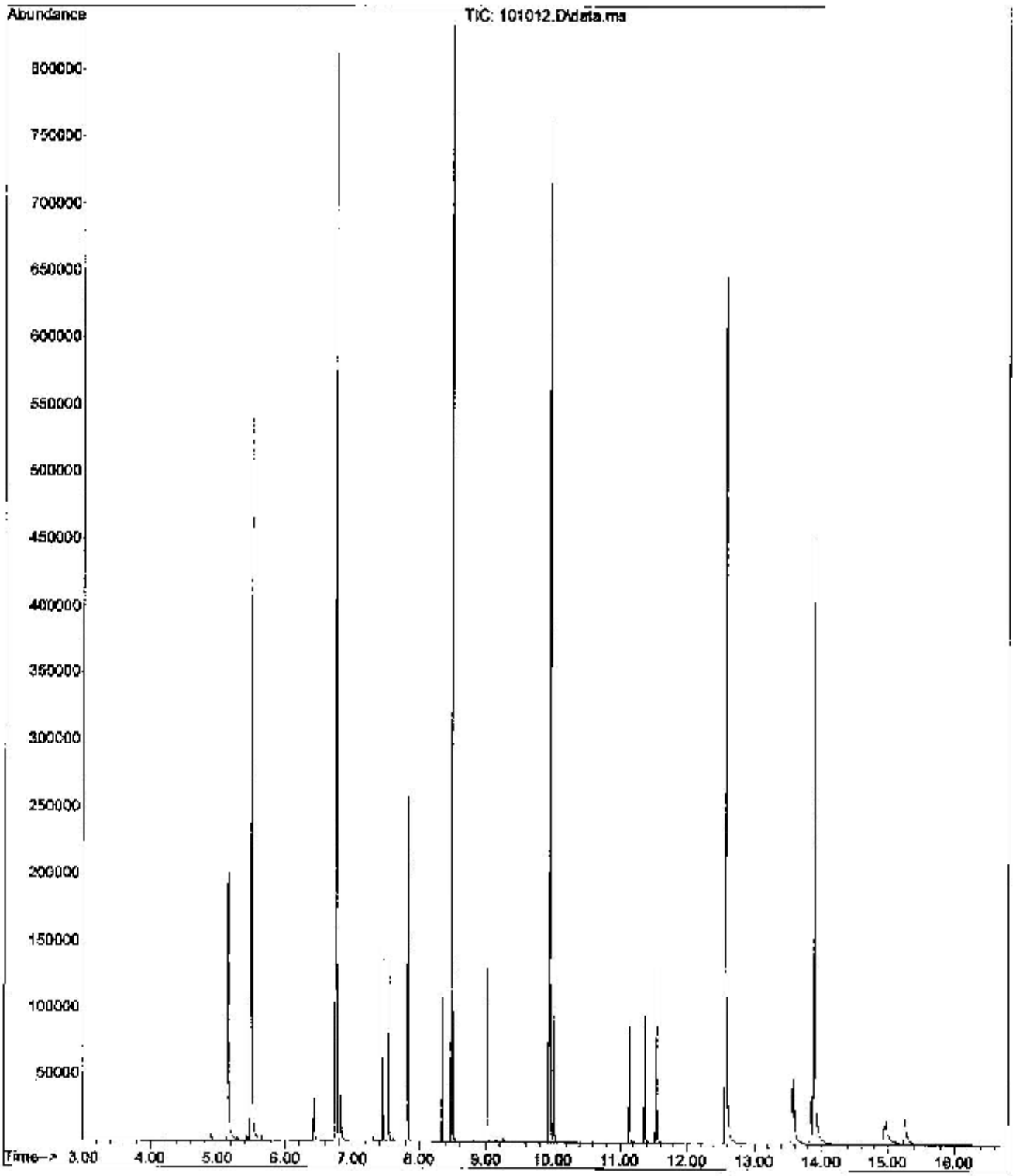
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PFB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

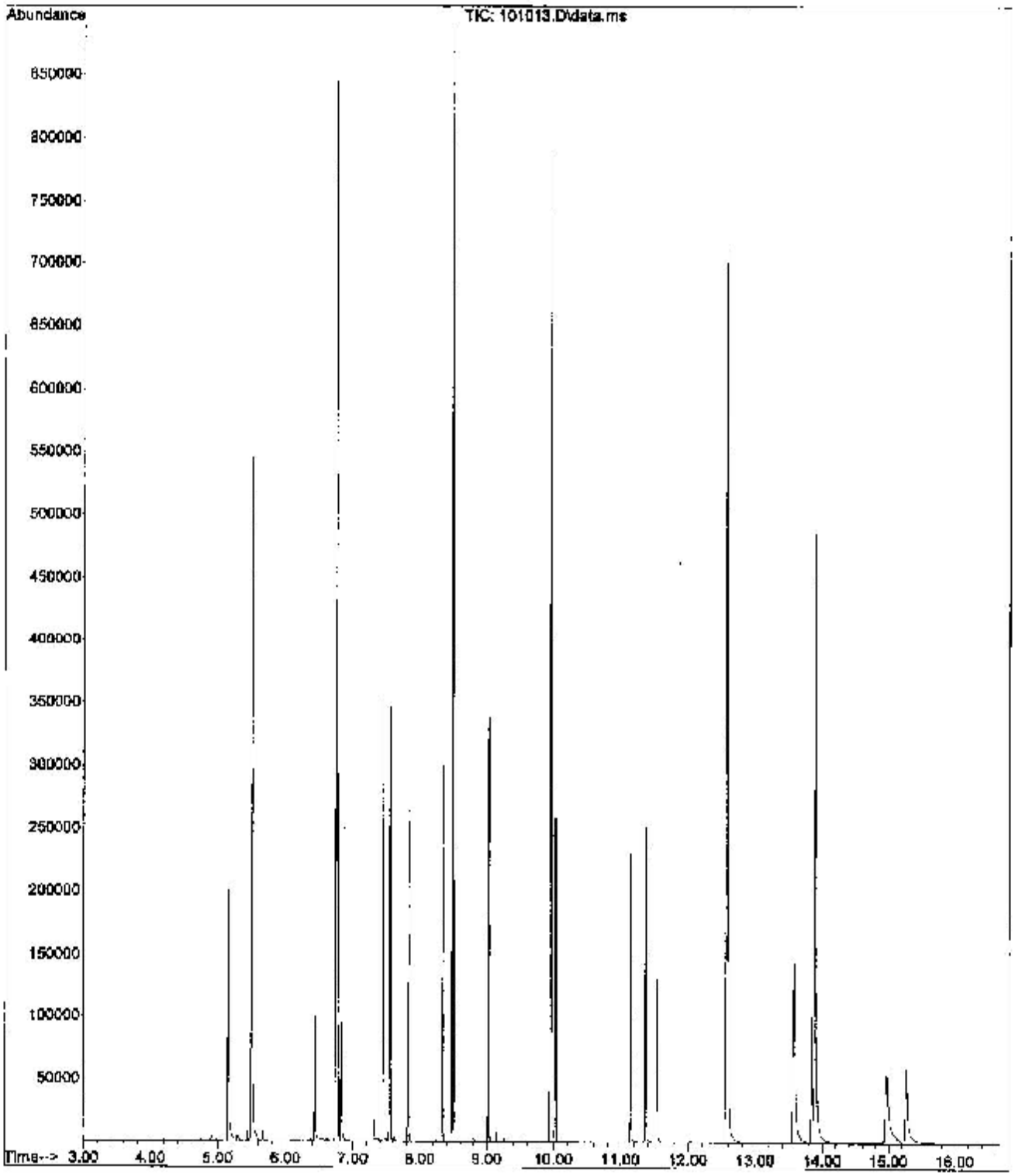
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.150	99	155773	999.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L		
5) Naphthalene	6.767	128	210515	496.23 ug/L		100
6) 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L		98
7) 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L		97
9) Acenaphthylene	8.338	152	176929	519.35 ug/L		100
11) Acenaphthene	8.509	152	56451	496.90 ug/L		99
12) Fluorene	9.022	166	132700	509.61 ug/L		97
14) Phenanthrene	9.969	178	184698	505.37 ug/L		100
15) Anthracene	10.019	178	169453	506.64 ug/L		98
17) Fluoranthene	11.146	202	171838	522.16 ug/L		95
18) Pyrene	11.360	202	181345	527.17 ug/L		94
19) Benzo (a) anthracene	12.559	228	140369	486.48 ug/L	#	100
21) Chrysene	12.593	228	176026	496.99 ug/L		95
22) benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L	#	100
23) benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L		99
24) benzo (a) pyrene	13.837	252	108063	433.23 ug/L	#	89
26) Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L		
28) Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

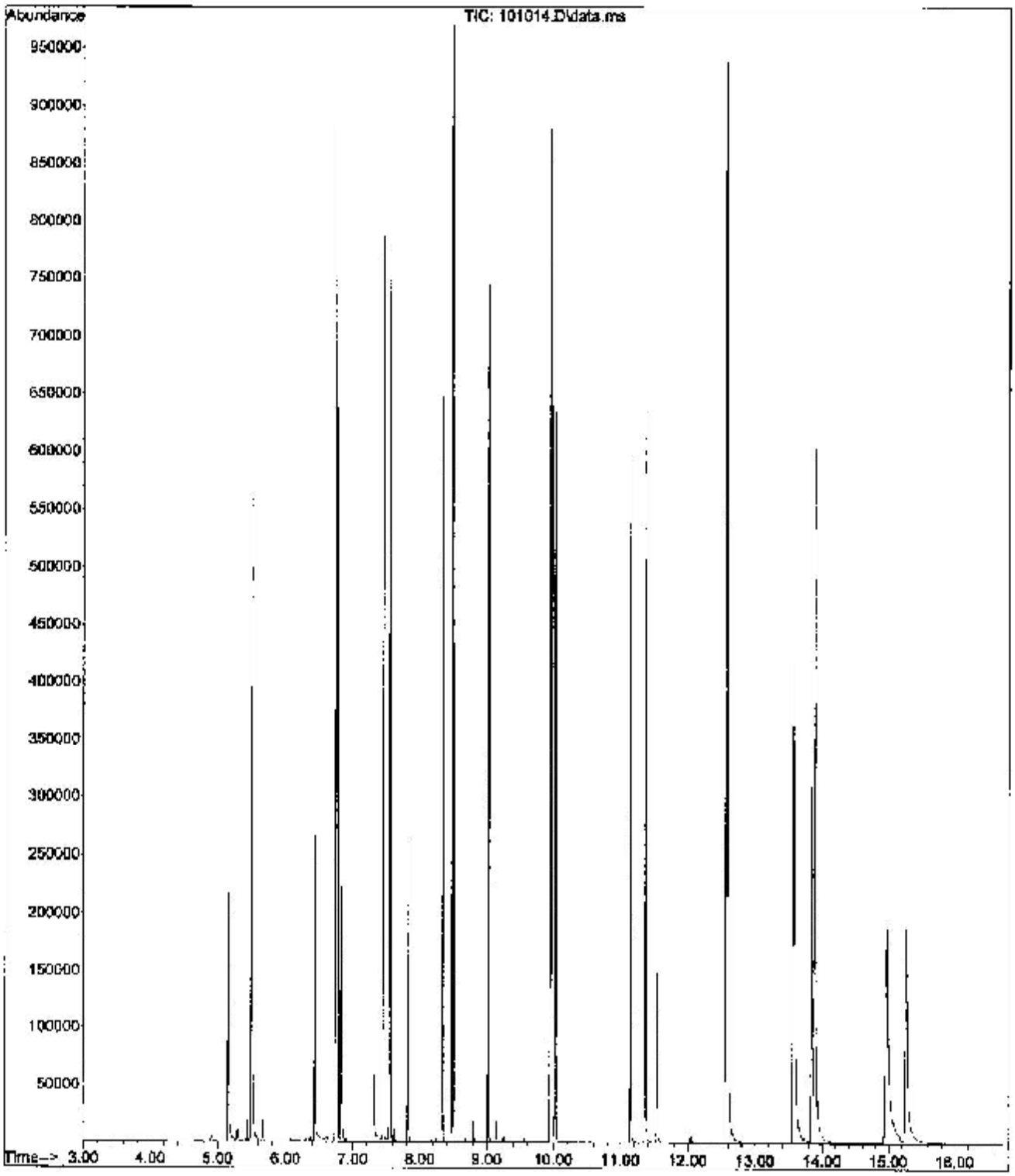
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

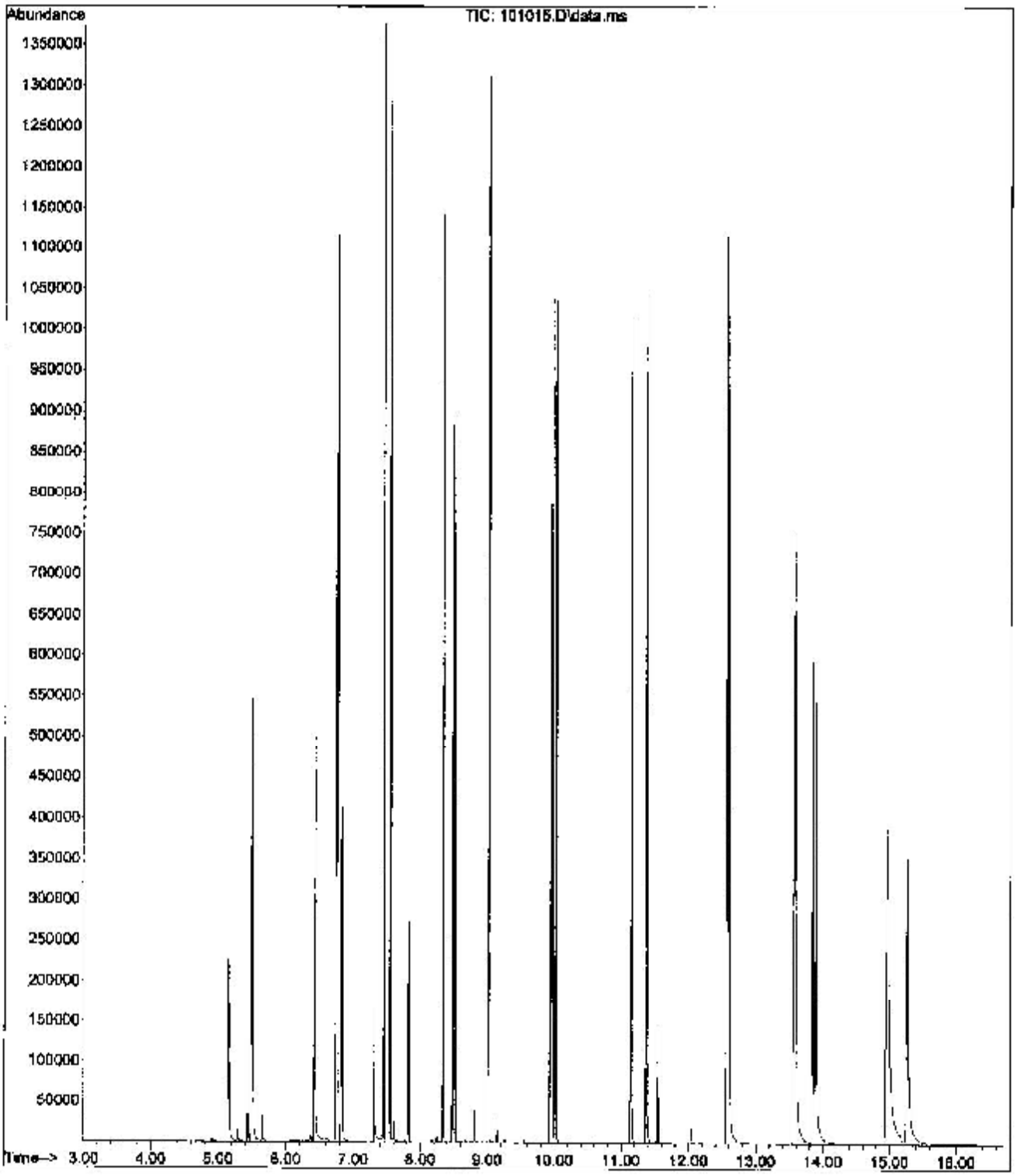
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

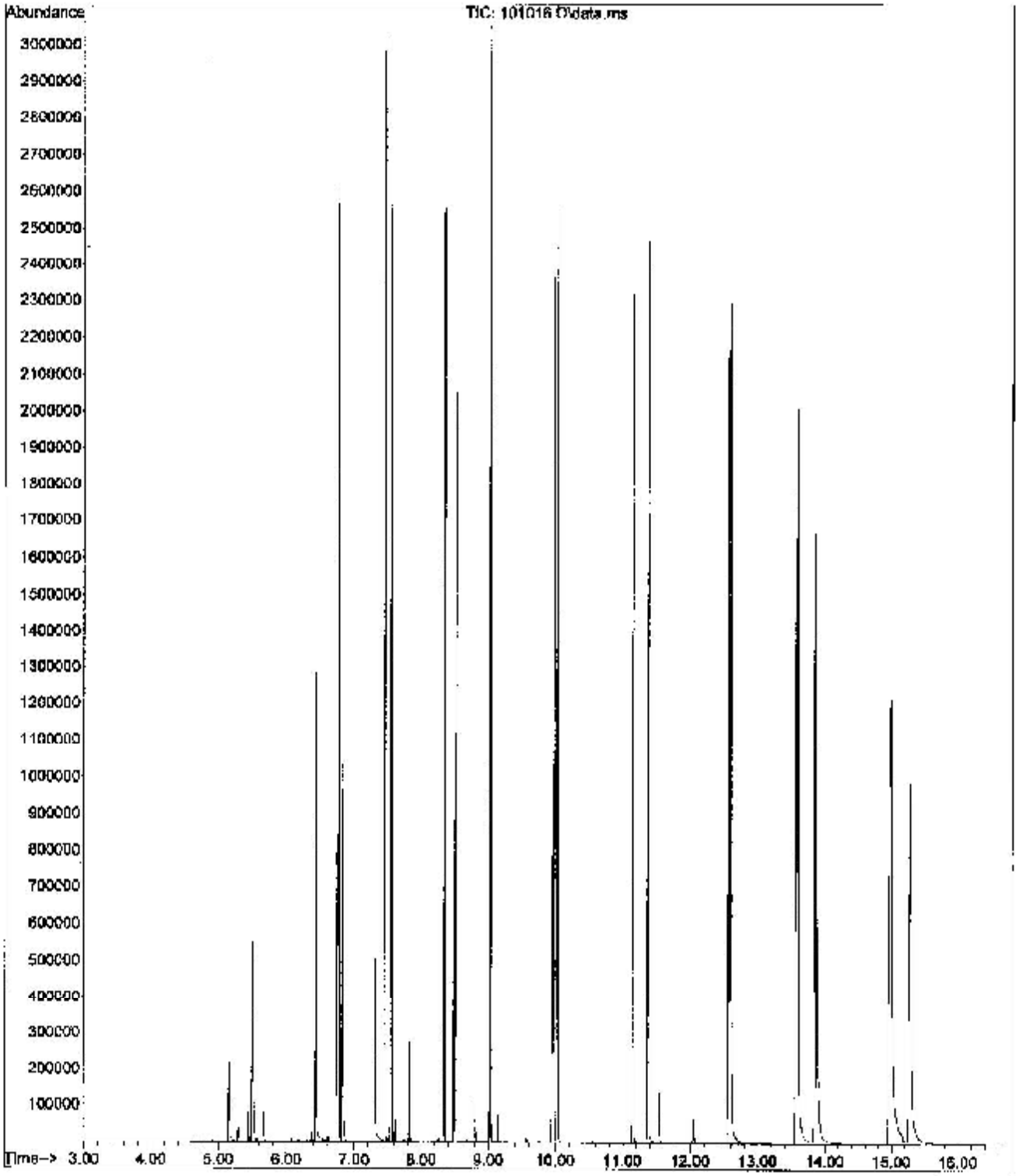
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 19 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

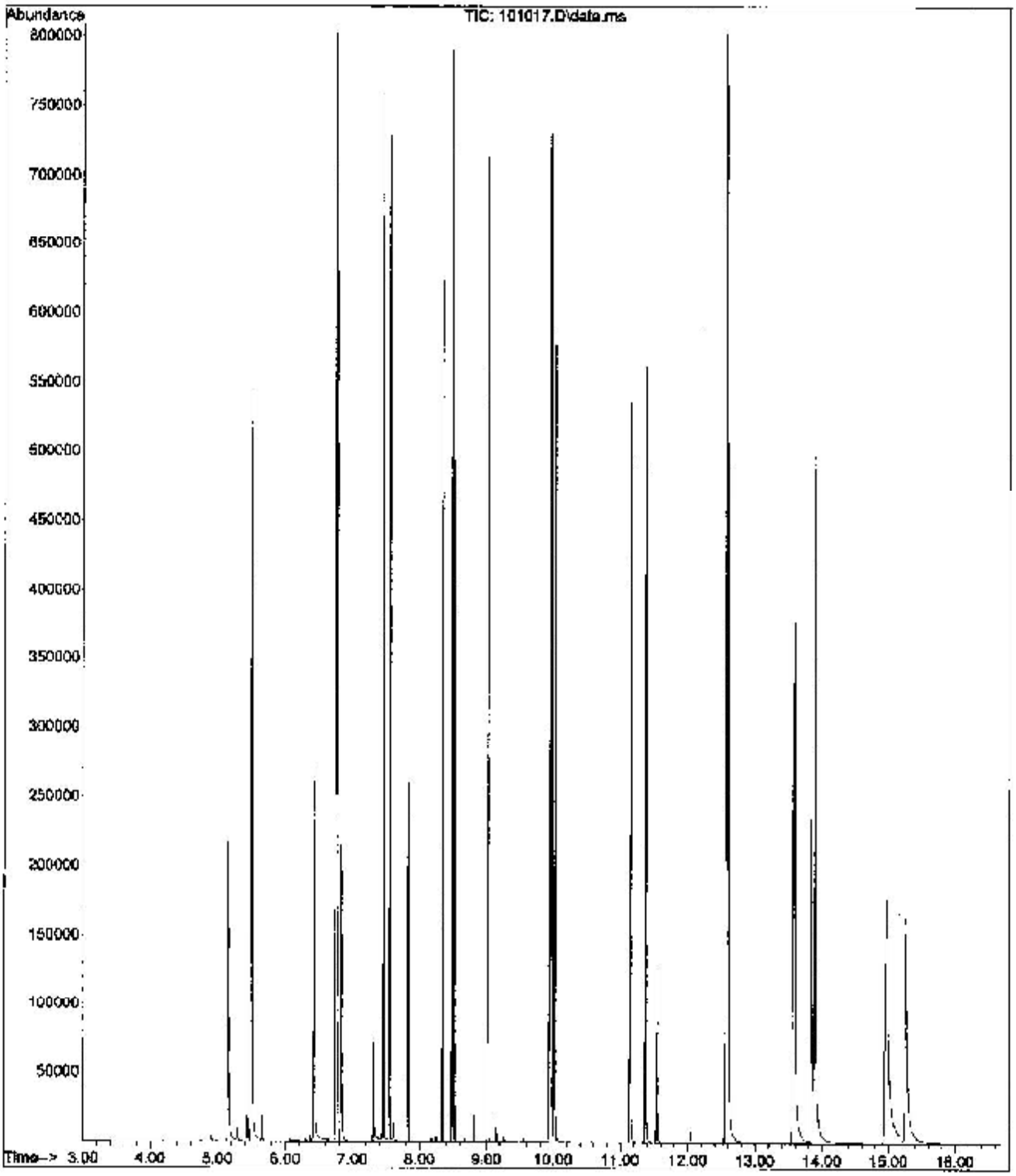
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

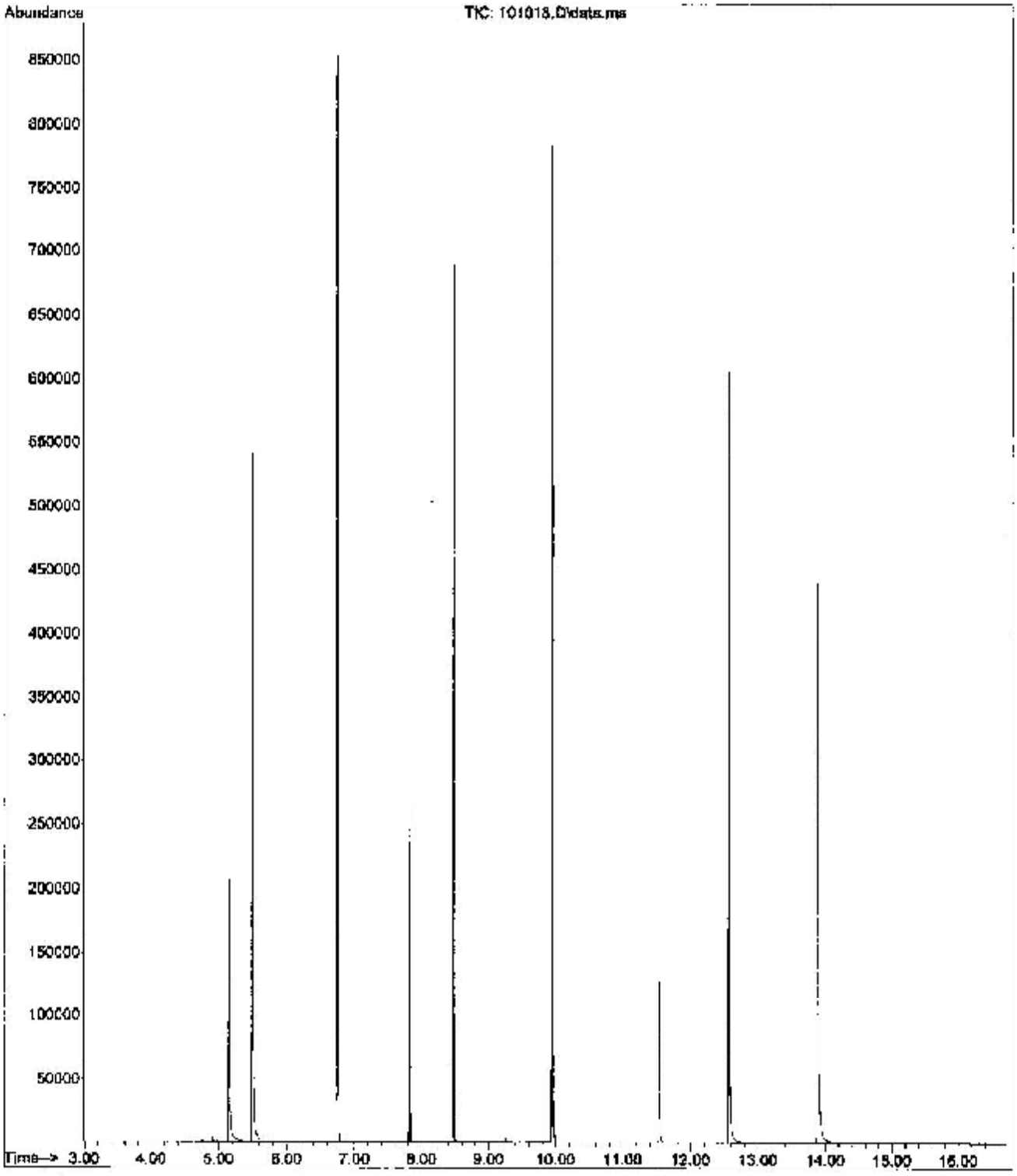
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 19 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

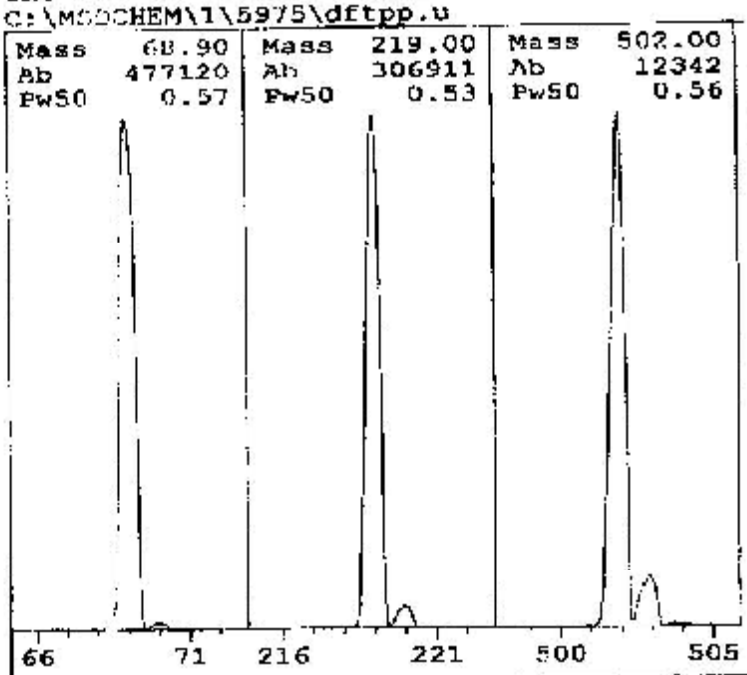


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

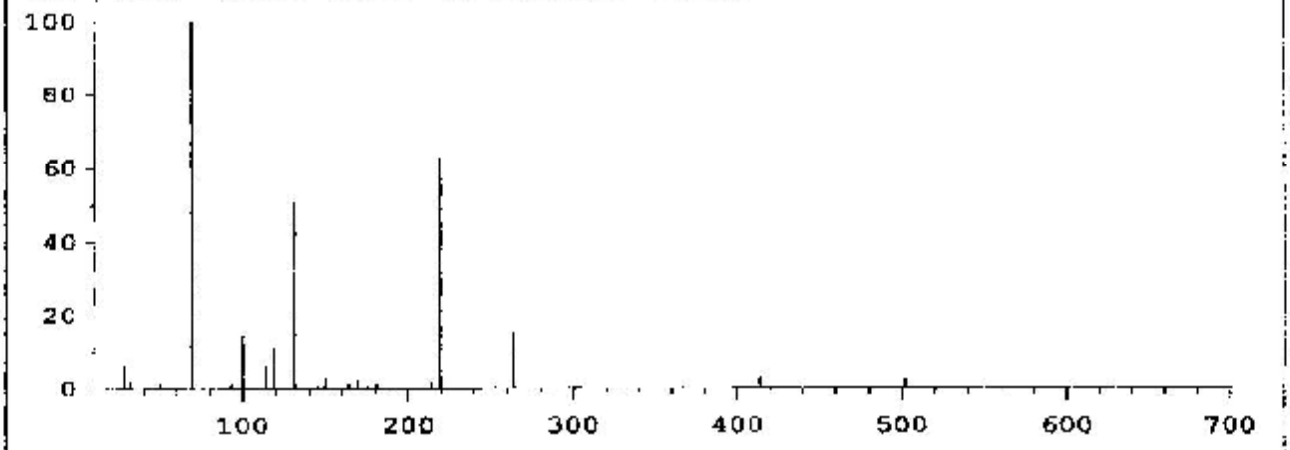


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O-0.56% N2-6.00% O2-1.93% CO2-0.18% N2/H2O-1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

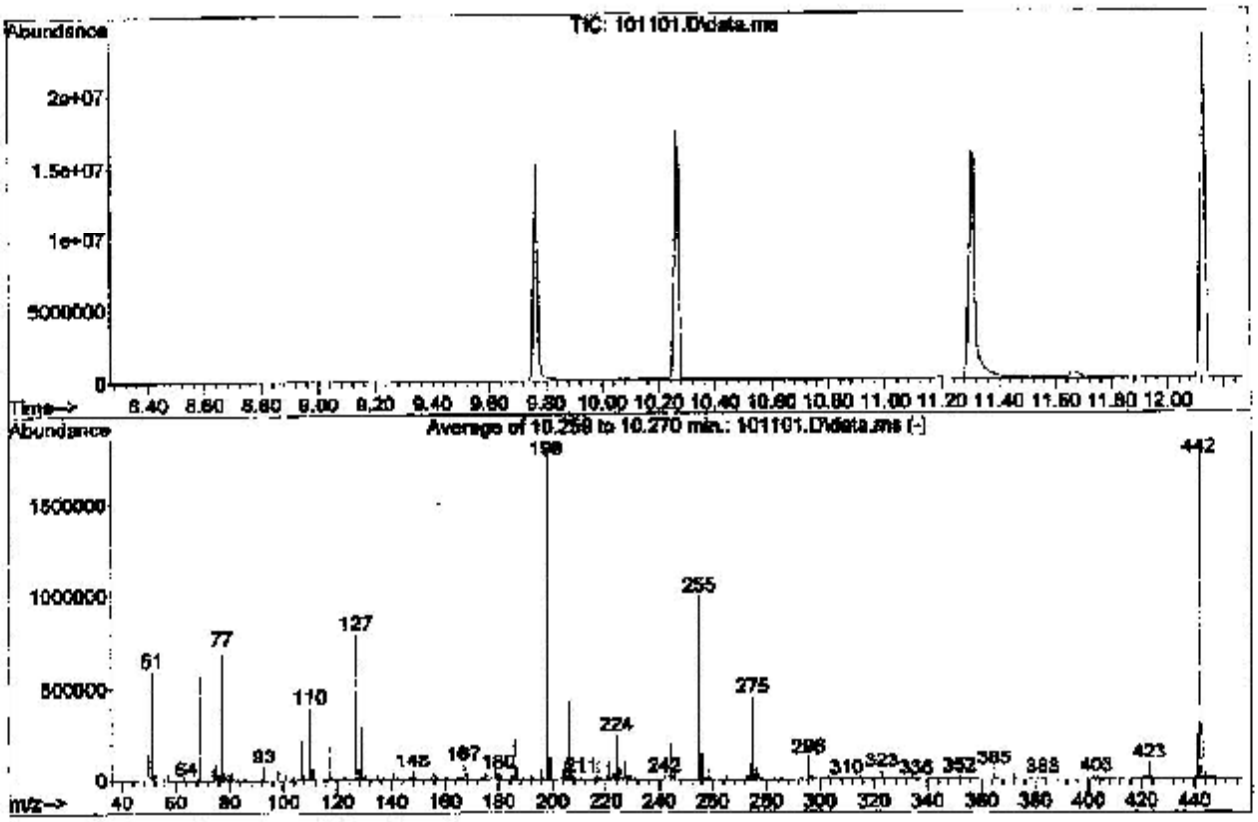
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

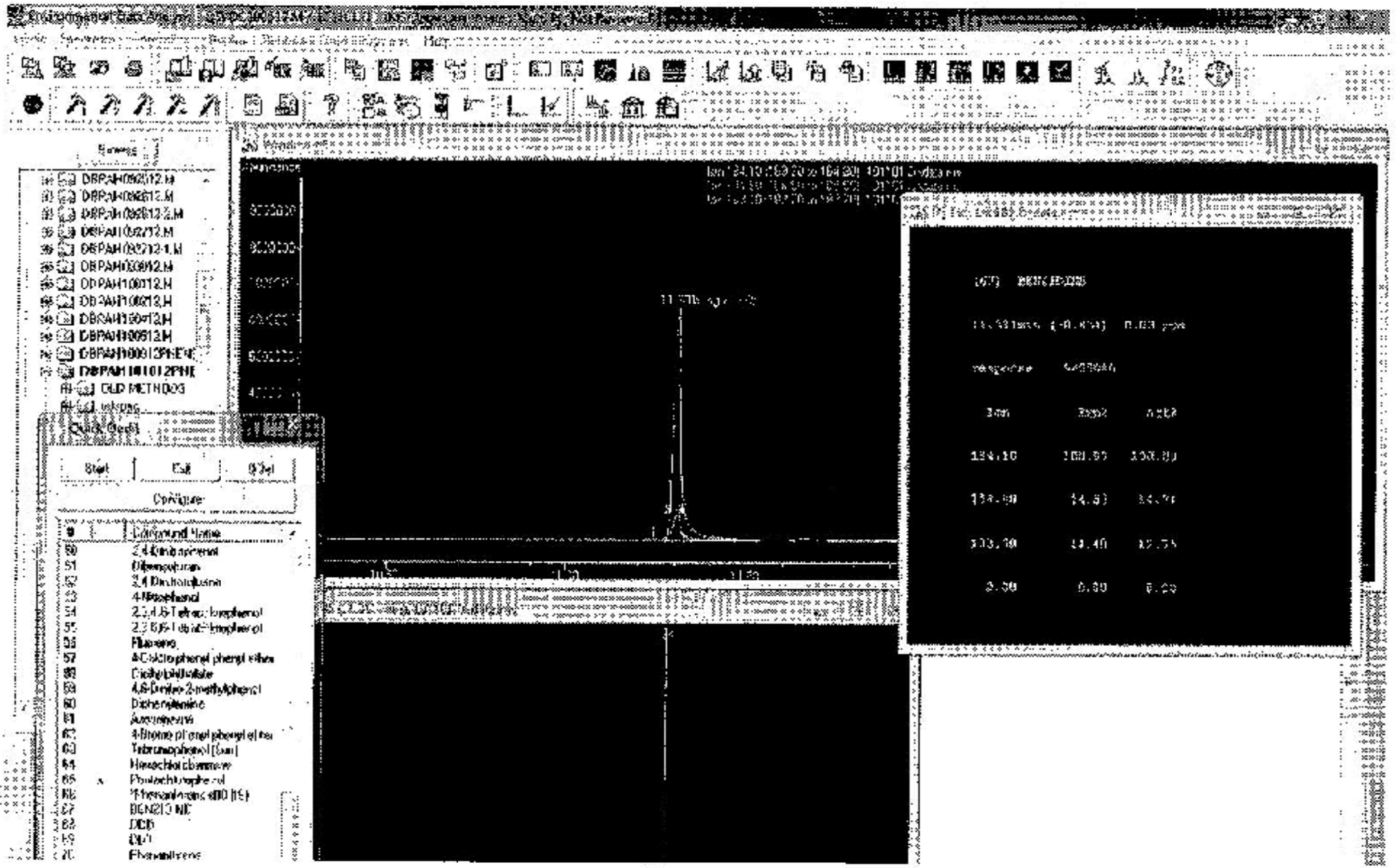
Integration File: RTEINTSG8270.P

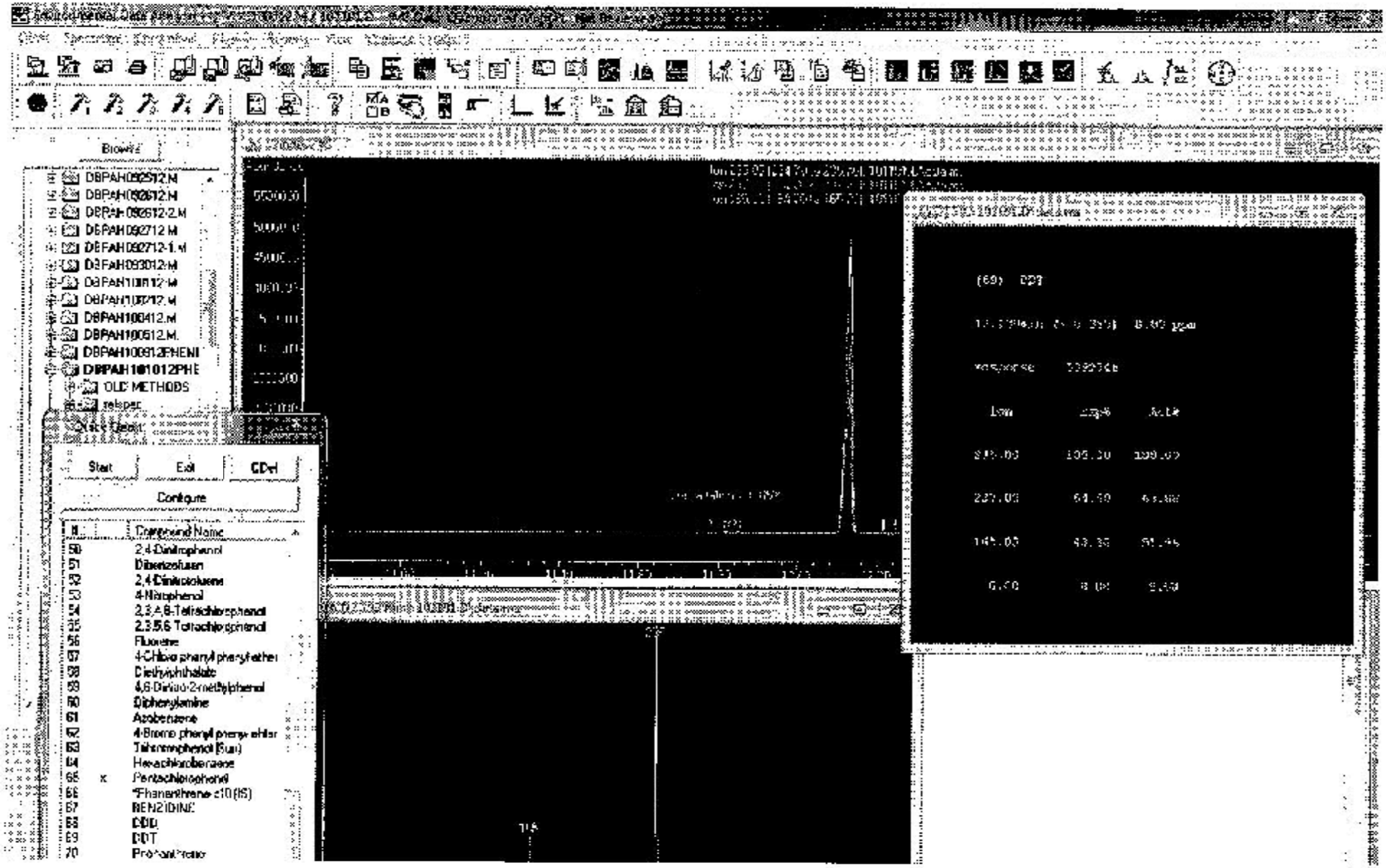
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

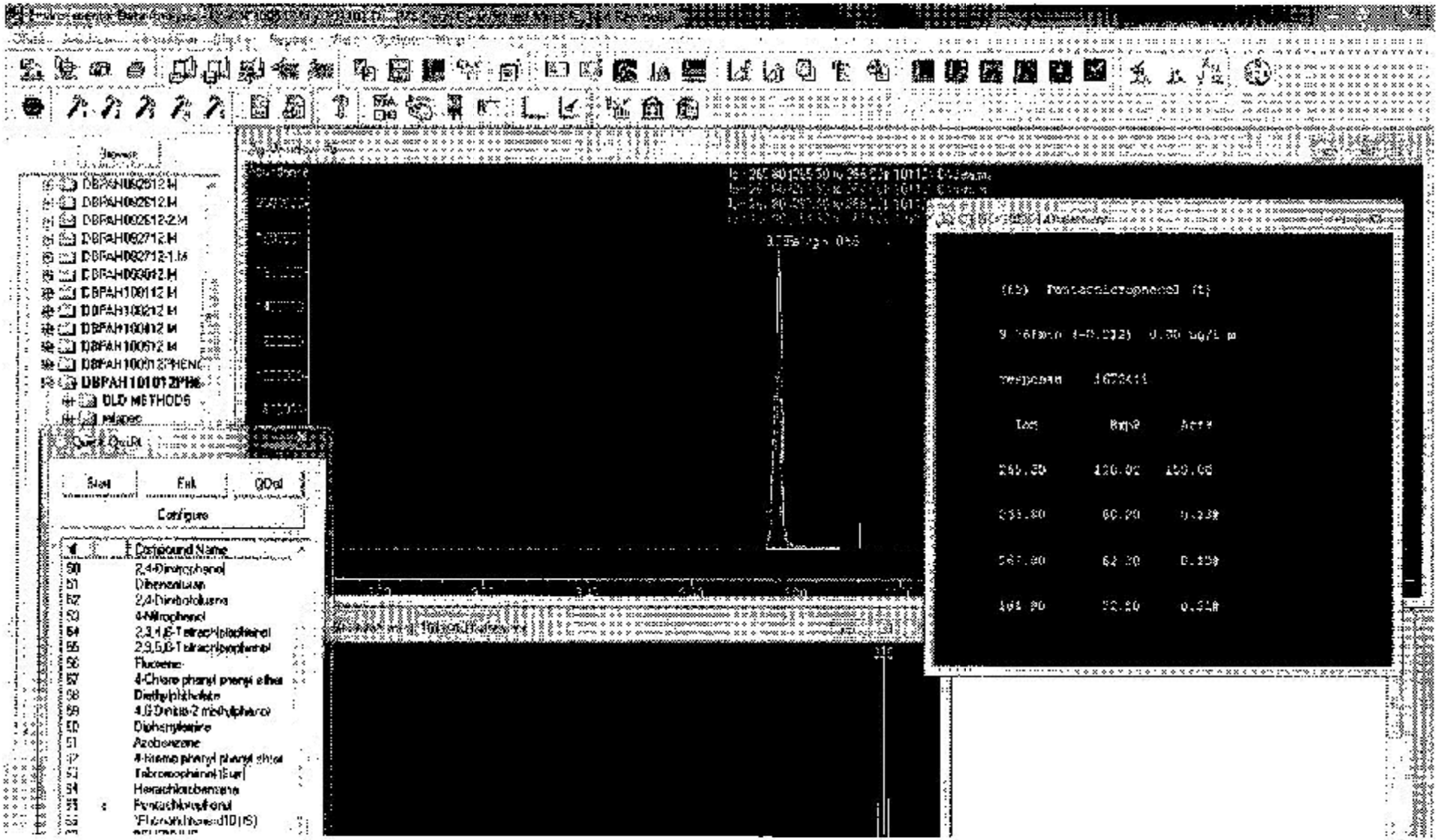


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl phenyl ether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


DBPAH100512.M
DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQual
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Response 1672411
Conc Resp0 Area
250.00 120.00 150.00
250.00 60.00 0.238
250.00 64.20 0.256
250.00 52.80 0.211

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

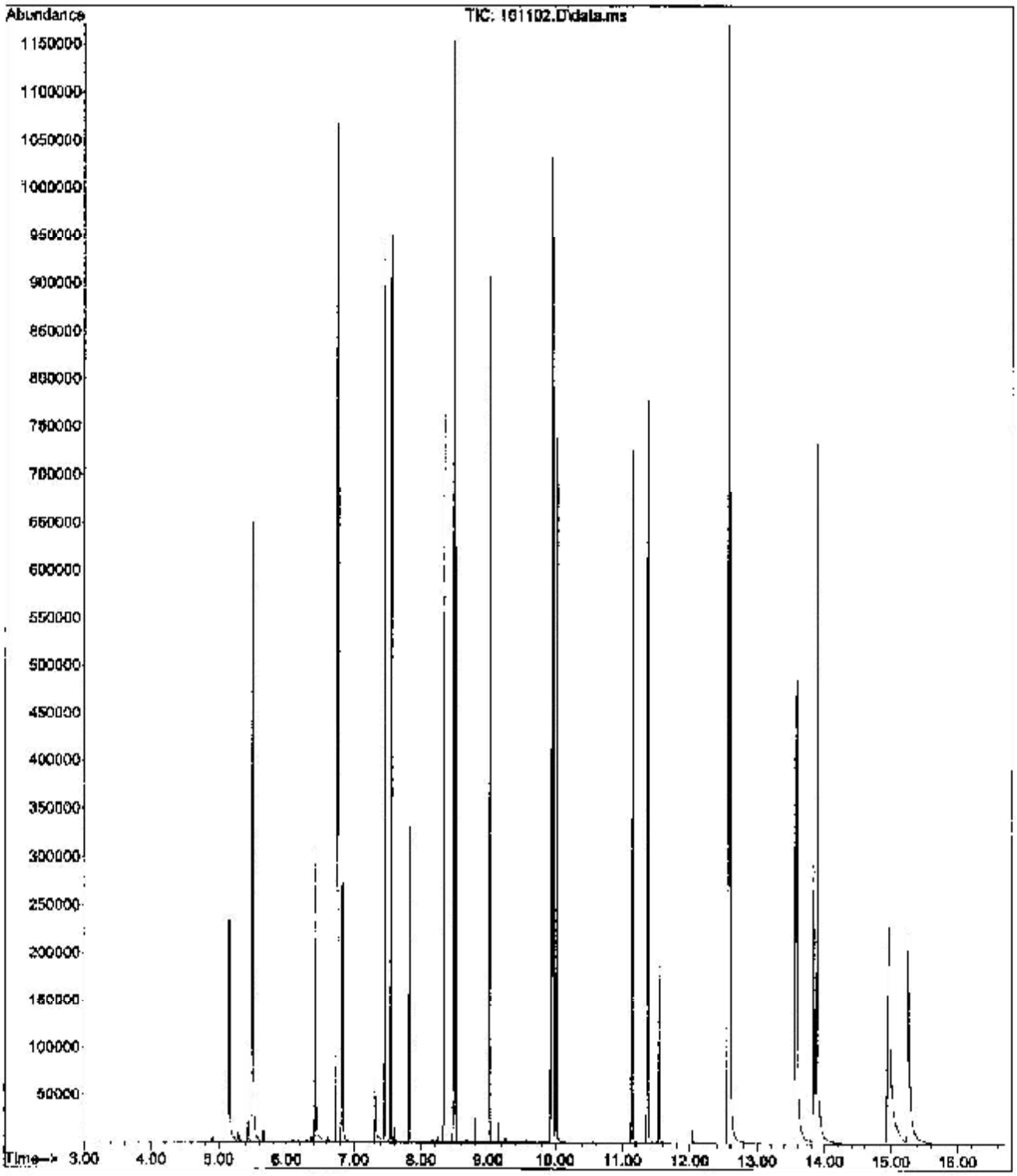
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

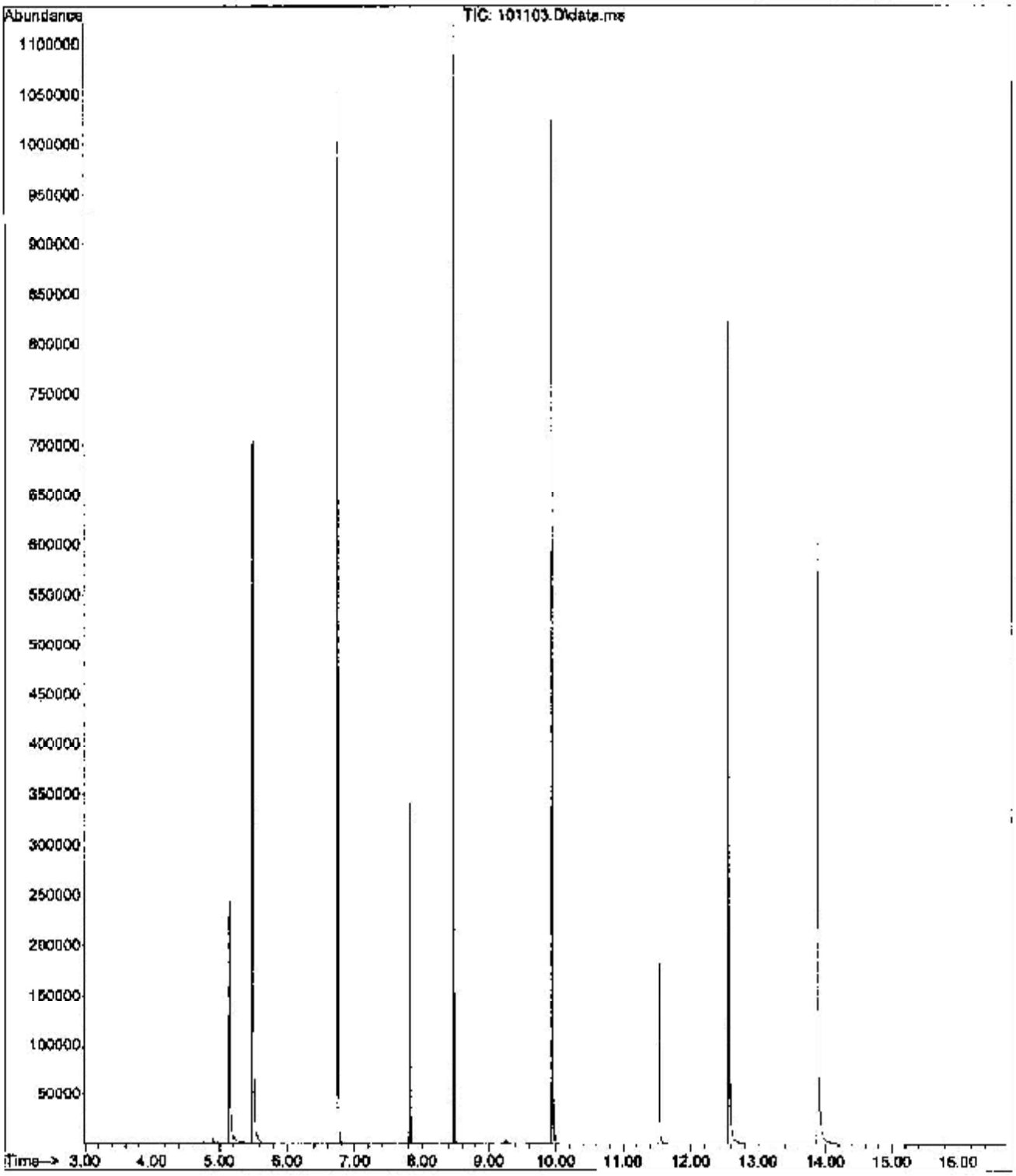
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: 10/10/2012 3:59:36
Prep End Date: 10/10/2012 3:59:36

Prep Batch ID 3406 Prep Code: PREP-PAH-S Technician: Paul Ho

Prep Factor Units: mL / g

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAm1	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
LCS-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
1210030-001A	IRZ-B2-92812	Soil			12.49	0	0	10	0.801	10/10/2012	10/10/2012
1210030-002A	IRZ-NESW2-92812	Soil			12.57	0	0	10	0.796	10/10/2012	10/10/2012
1210030-003A	IRZ-NSW1-92812	Soil			13.81	0	0	10	0.724	10/10/2012	10/10/2012
1210030-004A	IRZ-NSW2-92812	Soil			13.53	0	0	10	0.739	10/10/2012	10/10/2012
1210030-005A	IRZ-B3-92812	Soil			12.23	0	0	10	0.818	10/10/2012	10/10/2012
1210030-005ADUP		Soil			12.76	0	0	10	0.784	10/10/2012	10/10/2012
1210079-001A	SURZ-SSW1-10412	Soil			13.29	0	0	10	0.752	10/10/2012	10/10/2012
1210079-002A	SURZ-NSW1-10412	Soil			12.84	0	0	10	0.779	10/10/2012	10/10/2012
1210079-002ADUP		Soil			12.59	0	0	10	0.794	10/10/2012	10/10/2012
1210079-002AMS		Soil			13.48	0	0	10	0.742	10/10/2012	10/10/2012
1210080-001A	SRZ-WSW01-91212	Soil			12.02	0	0	10	0.832	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-001ADUP		Soil			11.53	0	0	10	0.867	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-002A	SRZ-ESW01-91212	Soil			13.32	0	0	10	0.751	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-003A	SRZ-EBZ-91012	Soil			12.99	0	0	10	0.770	10/10/2012	10/10/2012
Prep hold time was exceeded by 17 day(s)											
1210089-001A	SURZ-WB1-10812	Soil			13.75	0	0	10	0.727	10/10/2012	10/10/2012
1210089-002A	K18-B1-10812	Soil			13.31	0	0	10	0.751	10/10/2012	10/10/2012
1210089-003A	SURZ-B1-10812	Soil			13.17	0	0	10	0.759	10/10/2012	10/10/2012
1210089-004A	K08-B1-10812	Soil			11.41	0	0	10	0.876	10/10/2012	10/10/2012
1210089-004ADUP		Soil			12.11	0	0	10	0.826	10/10/2012	10/10/2012
1210089-004AMS		Soil			12.56	0	0	10	0.796	10/10/2012	10/10/2012
1210089-005A	K06-B2-10912	Soil			13.34	0	0	10	0.750	10/10/2012	10/10/2012

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

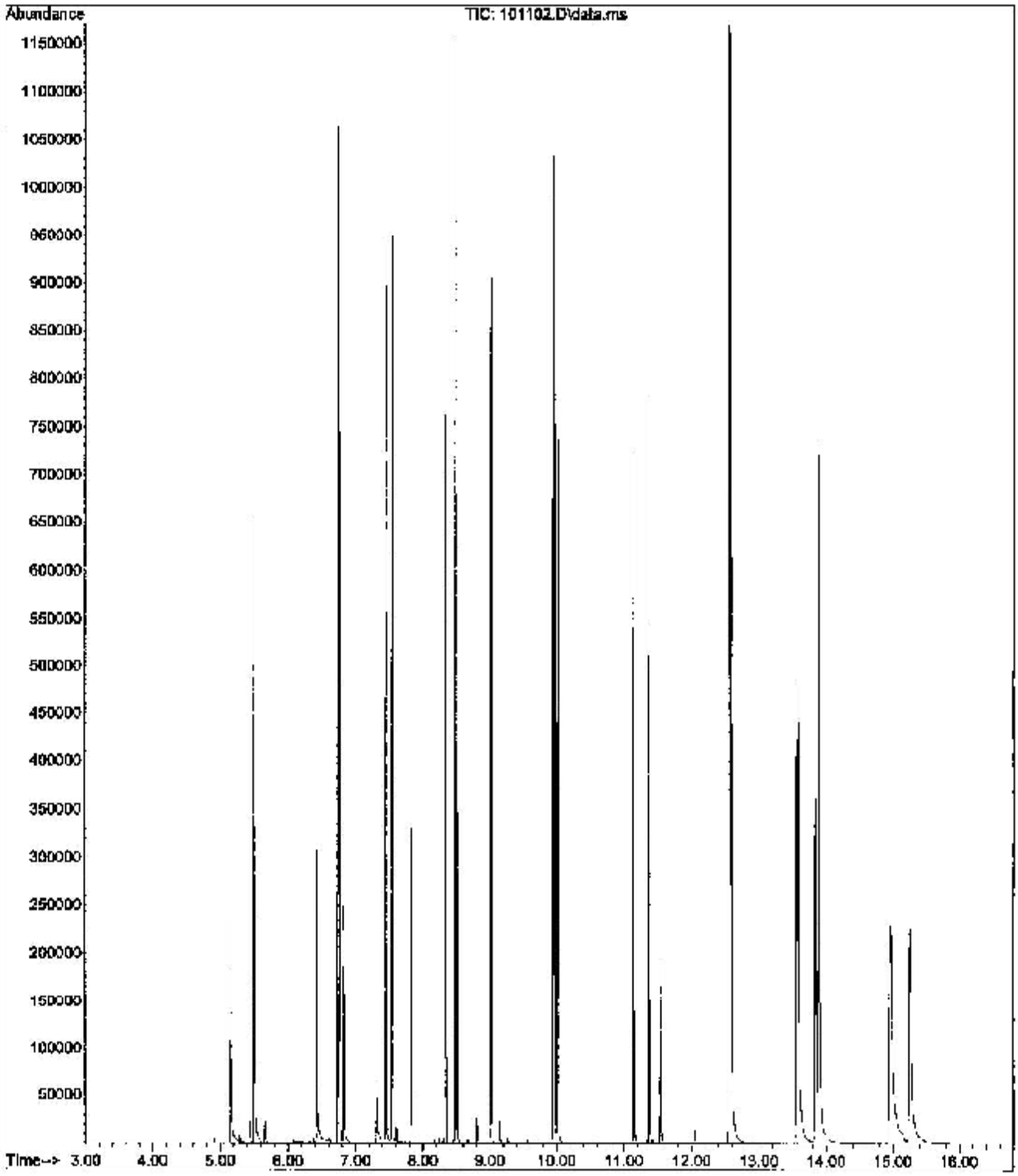
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		96
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.369	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403938	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:20 2012 PAH

File :D:\Data\SVOC\101112\101102.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

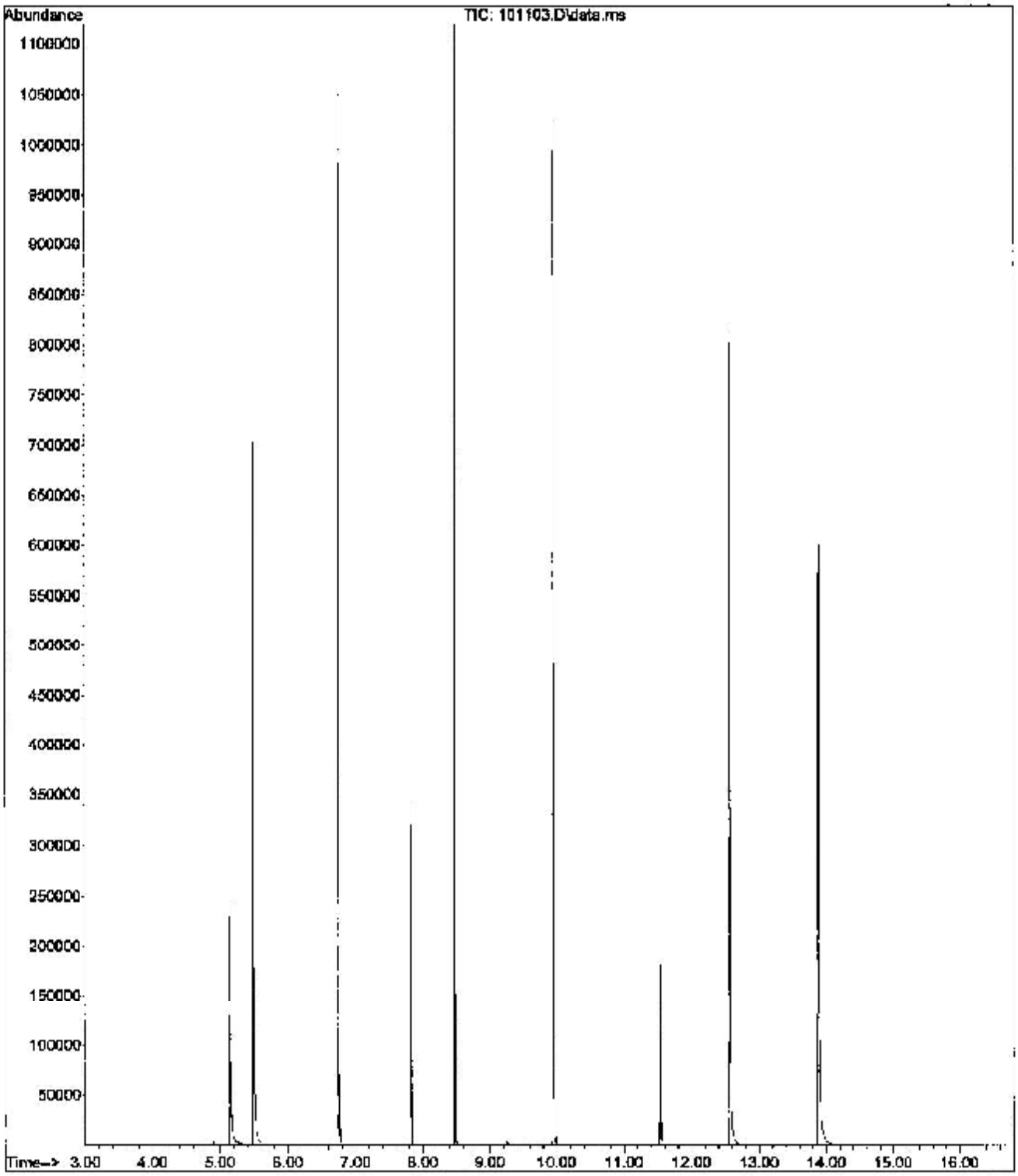
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	718040	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.566	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:34 2012 PAH

File :D:\Data\SVOC\101112\102103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101112.D
Acq On : 11 Oct 2012 2:07 pm
Operator :
Sample : MB-3406
Misc : MBLK 0-PAH-S-SIM
ALS Vial : 121 Sample Multiplier: 1

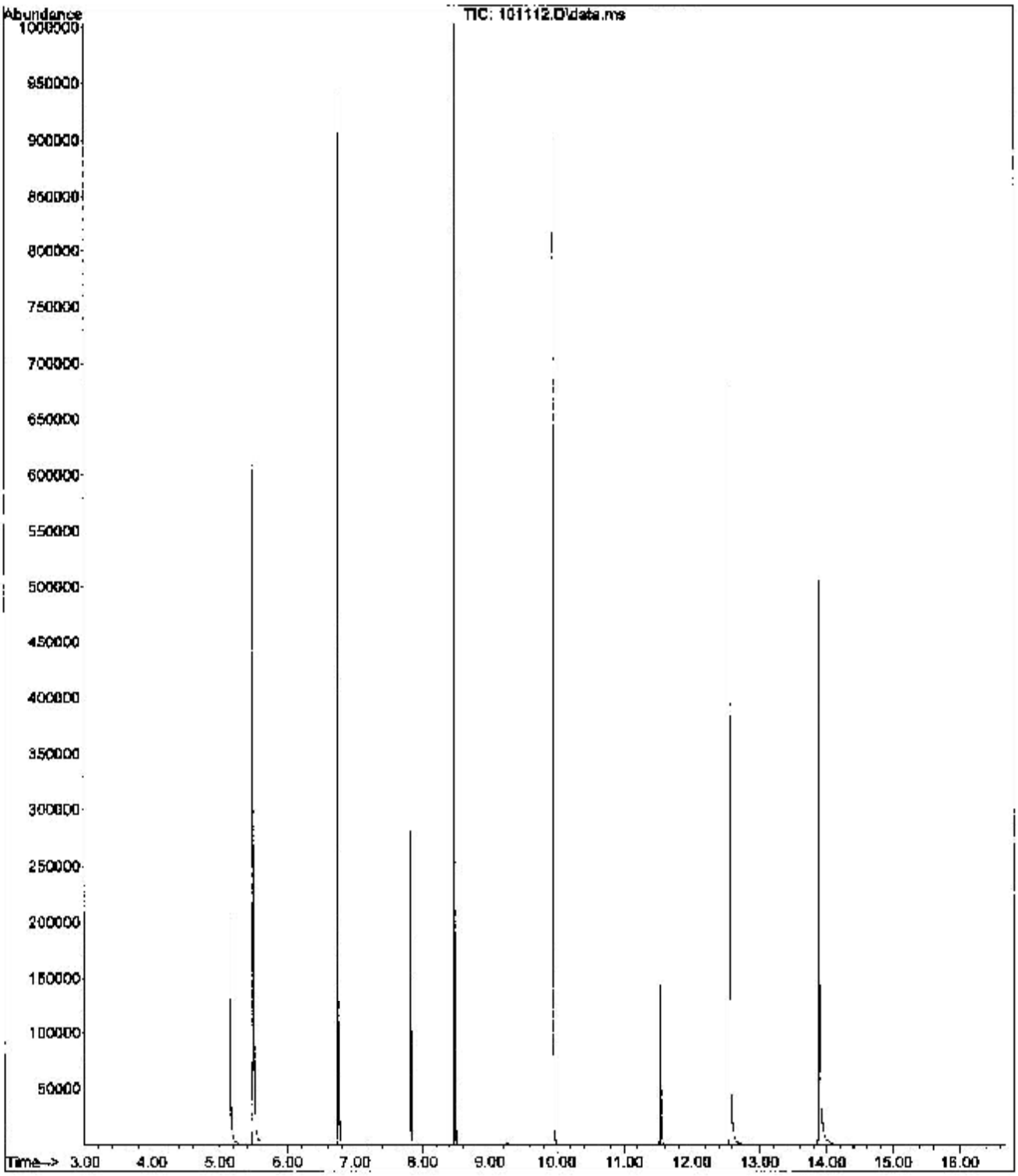
Quant Time: Oct 11 14:28:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	236069	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	760891	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	382016	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	626677	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.566	240	569492	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	535333	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	155611	867.77 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	157914	469.66 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	112073	485.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.401	107	12	N.D.	
5) Naphthalene	6.766	128	78	N.D.	
6) 2-Methylnaphthalene	7.459	142	38	N.D.	
7) 1-Methylnaphthalene	7.550	142	26	N.D.	
9) Acenaphthylene	8.337	152	1	N.D.	
11) Acenaphthene	8.511	152	12	N.D.	
12) Fluorene	8.022	166	16	N.D.	
14) Phenanthrene	9.968	178	160	N.D.	
15) Anthracene	10.020	178	9	N.D.	
17) Fluoranthene	11.148	202	9	N.D.	
18) Pyrene	11.370	202	13	N.D.	
19) Benzo (a) anthracene	12.566	228	1480	N.D.	
21) Chrysene	12.566	228	1300	N.D.	
22) benzo (b) fluoranthene	13.560	252	34	N.D.	
23) benzo (k) fluoranthene	13.579	252	98	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	19	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	13	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:32 2012 PAH

File : D:\Data\SVOC\101112\101112.D
Operator :
Acquired : 11 Oct 2012 2:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3406
Misc Info : MBLK 8-PAH-S-SIM
Vial Number: 121



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101113.D
Acq On : 11 Oct 2012 2:32 pm
Operator :
Sample : LCS-3406
Misc : LCS O-PAH-S-SIM
ALS Vial : 122 Sample Multiplier: 1

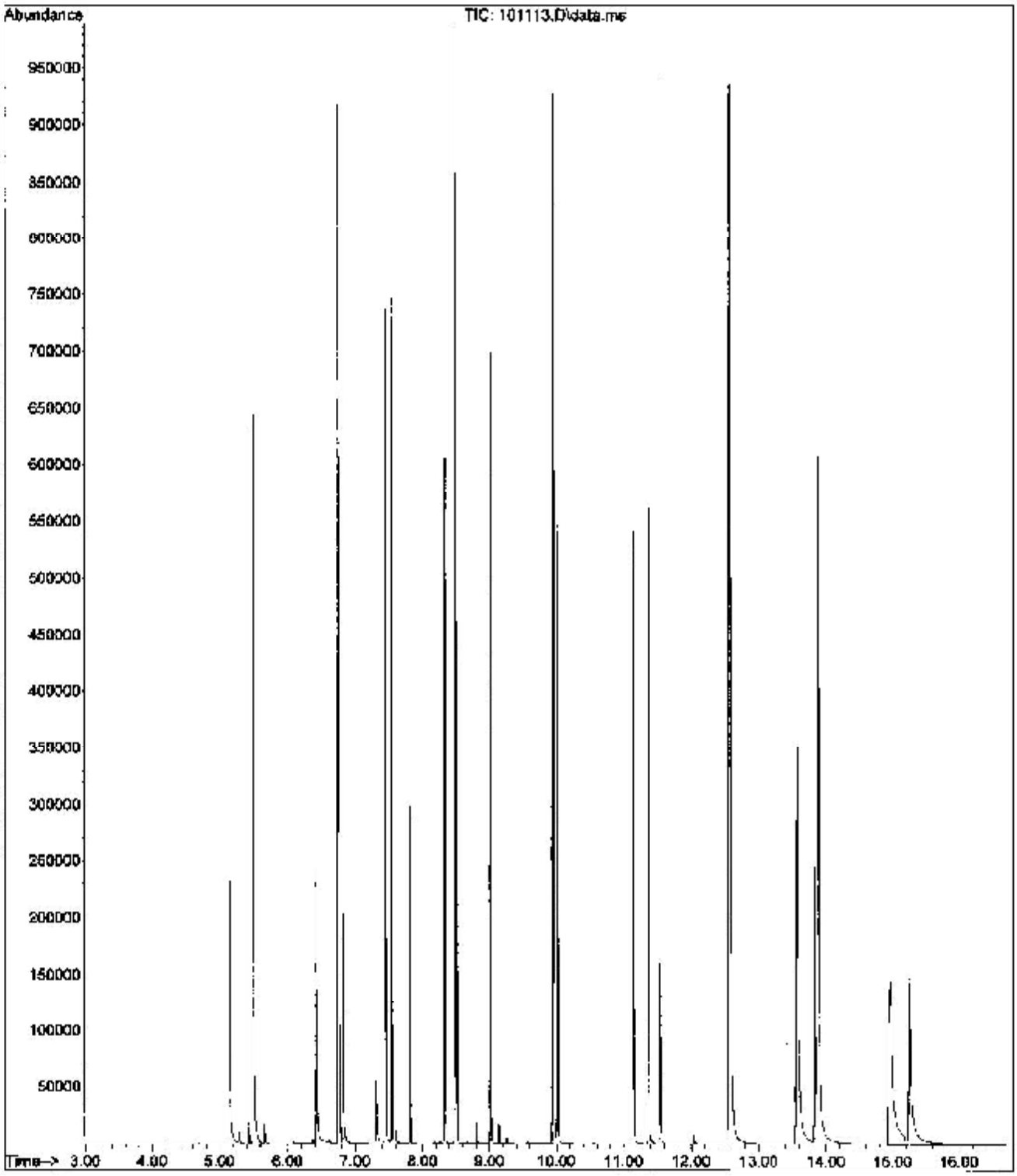
Quant Time: Oct 11 14:52:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	233245	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	760779	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	395162	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	635812	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	615718	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	591424	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	165613	934.73	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	165027	490.89	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	119639	510.47	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	116674	849.48	ug/L		99
5) Naphthalene	6.766	128	439410	910.43	ug/L		100
6) 2-Methylnaphthalene	7.453	142	262805	929.42	ug/L		100
7) 1-Methylnaphthalene	7.548	142	246187	920.14	ug/L		100
9) Acenaphthylene	8.338	152	374755	966.90	ug/L		100
11) Acenaphthene	8.509	152	117270	882.49	ug/L		100
12) Fluorene	9.022	166	274064	899.80	ug/L		100
14) Phenanthrene	9.967	178	385884	889.38	ug/L		100
15) Anthracene	10.019	178	367321	947.66	ug/L		100
17) Fluoranthene	11.146	202	381235	976.11	ug/L		99
18) Pyrene	11.367	202	401153	982.67	ug/L		100
19) Benzo (a) anthracene	12.557	228	315122	920.49	ug/L	#	100
21) Chrysene	12.590	228	391174	879.34	ug/L	#	98
22) benzo (b) fluoranthene	13.555	252	235344	727.95	ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	420747	916.19	ug/L		100
24) benzo (a) pyrene	13.835	252	256637	823.15	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.948	276	264235	842.49	ug/L		98
27) Dibenz (a,h) anthracene	14.967	278	188469	753.47	ug/L		99
28) Benzo (g,h,i) perylene	15.257	276	285737	818.14	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:37 2012 PAH

File : D:\Data\SVOC\101112\101113.D
Operator :
Acquired : 11 Oct 2012 2:32 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3406
Misc Info : LCS O-PAH-S-SIM
Vial Number: 122



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101115.D
Acq On : 11 Oct 2012 3:23 pm
Operator :
Sample : 1210089-004A
Misc : SAMP O-PAH-S-SIM
ALS Vial : 124 Sample Multiplier: 1

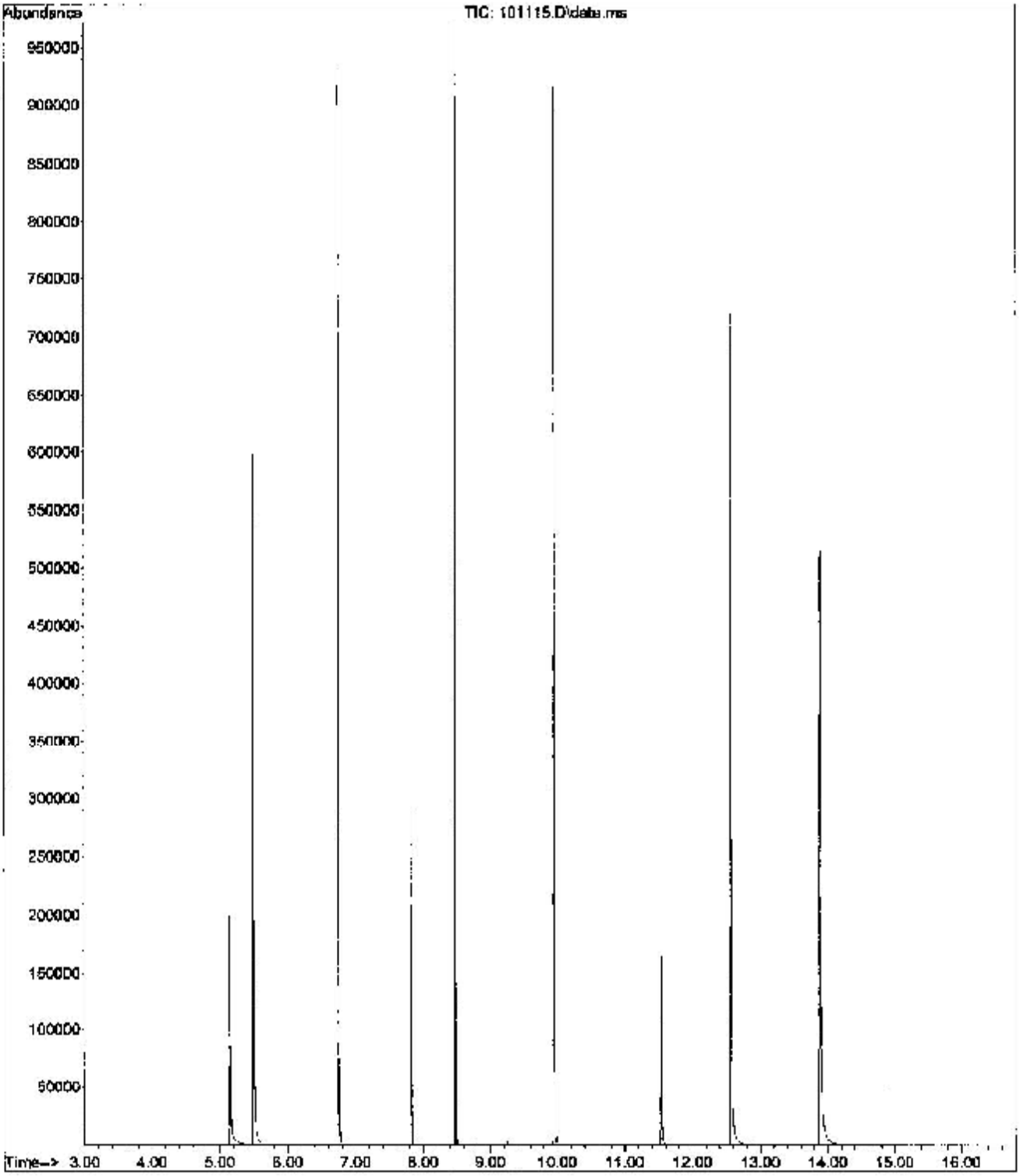
Quant Time: Oct 11 16:21:40 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	232562	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	757244	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.479	164	384502	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	636719	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	591122	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	560404	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol d6	5.151	99	150342	851.03	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	165331	494.09	ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	126967	540.97	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.453	107	37	N.D.		
5) Naphthalene	6.766	128	144	N.D.		
6) 2-Methylnaphthalene	7.457	142	69	N.D.		
7) 1-Methylnaphthalene	7.552	142	61	N.D.		
9) Acenaphthylene	8.341	152	5	N.D.		
11) Acenaphthene	8.512	152	16	N.D.		
12) Fluorene	9.023	166	11	N.D.		
14) Phenanthrene	9.969	178	212	N.D.		
15) Anthracene	10.021	178	4	N.D.		
17) Fluoranthene	11.149	202	54	N.D.		
18) Pyrene	11.371	202	87	N.D.		
19) Benzo (a) anthracene	12.567	228	1630	N.D.		
21) Chrysene	12.567	228	1458	N.D.		
22) benzo (b) fluoranthene	13.559	252	37	N.D.		
23) benzo (k) fluoranthene	13.579	252	156	N.D.		
24) benzo (a) pyrene	13.885	252	2011	6.35	ug/L	91
26) Indeno(1,2,3-cd)pyrene	14.883	276	2	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	14	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	7	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:45 2012 PAH

File :D:\Data\SVOC\101112\101115.D
Operator :
Acquired : 11 Oct 2012 3:22 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004A
Misc Info : SAMP O-PAH-S-SIM
Vial Number: 124



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101116.D
Acq On : 11 Oct 2012 3:47 pm
Operator :
Sample : 1210089-004ADUP
Misc : DUP O-PAH-S-SIM
ALS Vial : 125 Sample Multiplier: 1

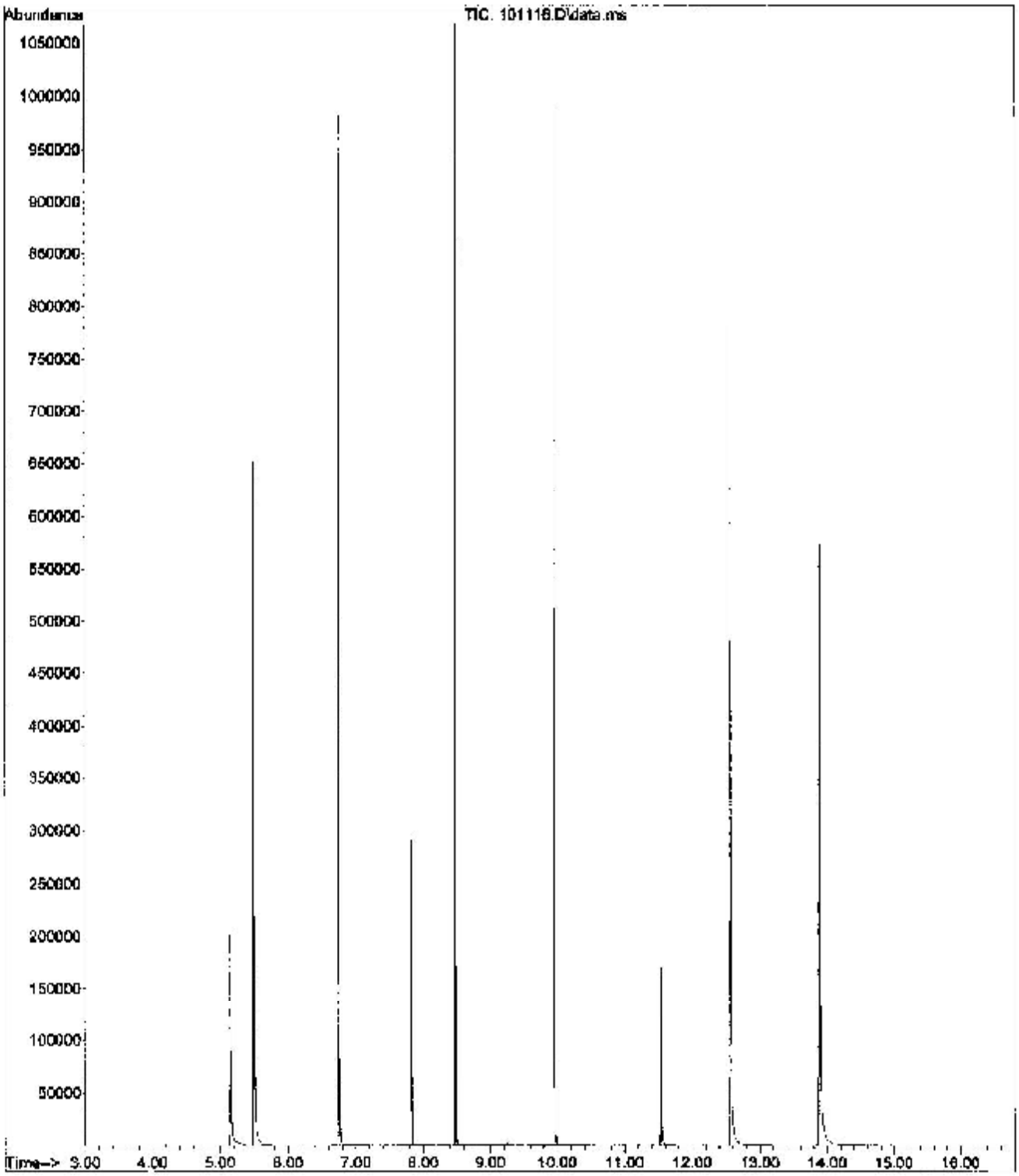
Quant Time: Oct 11 16:25:15 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	248460	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	5.747	136	806989	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	9.480	164	410617	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	680155	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	628463	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	598140	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	151627	803.39 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	167504	469.72 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	128398	512.13 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.511	107	2	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.459	142	60	N.D.	
7) 1-Methylnaphthalene	7.552	142	45	N.D.	
9) Acenaphthylene	8.340	152	1	N.D.	
11) Acenaphthene	8.509	152	13	N.D.	
12) Fluorene	9.023	166	4	N.D.	
14) Phenanthrene	9.967	178	157	N.D.	
15) Anthracene	10.020	178	6	N.D.	
17) Fluoranthene	11.148	202	27	N.D.	
18) Pyrene	11.371	202	83	N.D.	
19) Benzo (a) anthracene	12.566	228	1725	N.D.	
21) Chrysene	12.566	228	1611	N.D.	
22) benzo (b) fluoranthene	13.559	252	39	N.D.	
23) benzo (k) fluoranthene	13.583	252	169	N.D.	
24) benzo (a) pyrene	13.835	252	61	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	27	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	18	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:49 2012 PAH

File : D:\Data\SVOC\101112\101116.D
Operator :
Acquired : 11 Oct 2012 3:47 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004ADUP
Misc Info : DUP O-PAH-S-SIM
Vial Number: 125



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101117.D
Acq On : 11 Oct 2012 4:12 pm
Operator :
Sample : 1210089-004AMS
Misc : MS O-PAH-S-SIM
ALS Vial : 126 Sample Multiplier: 1

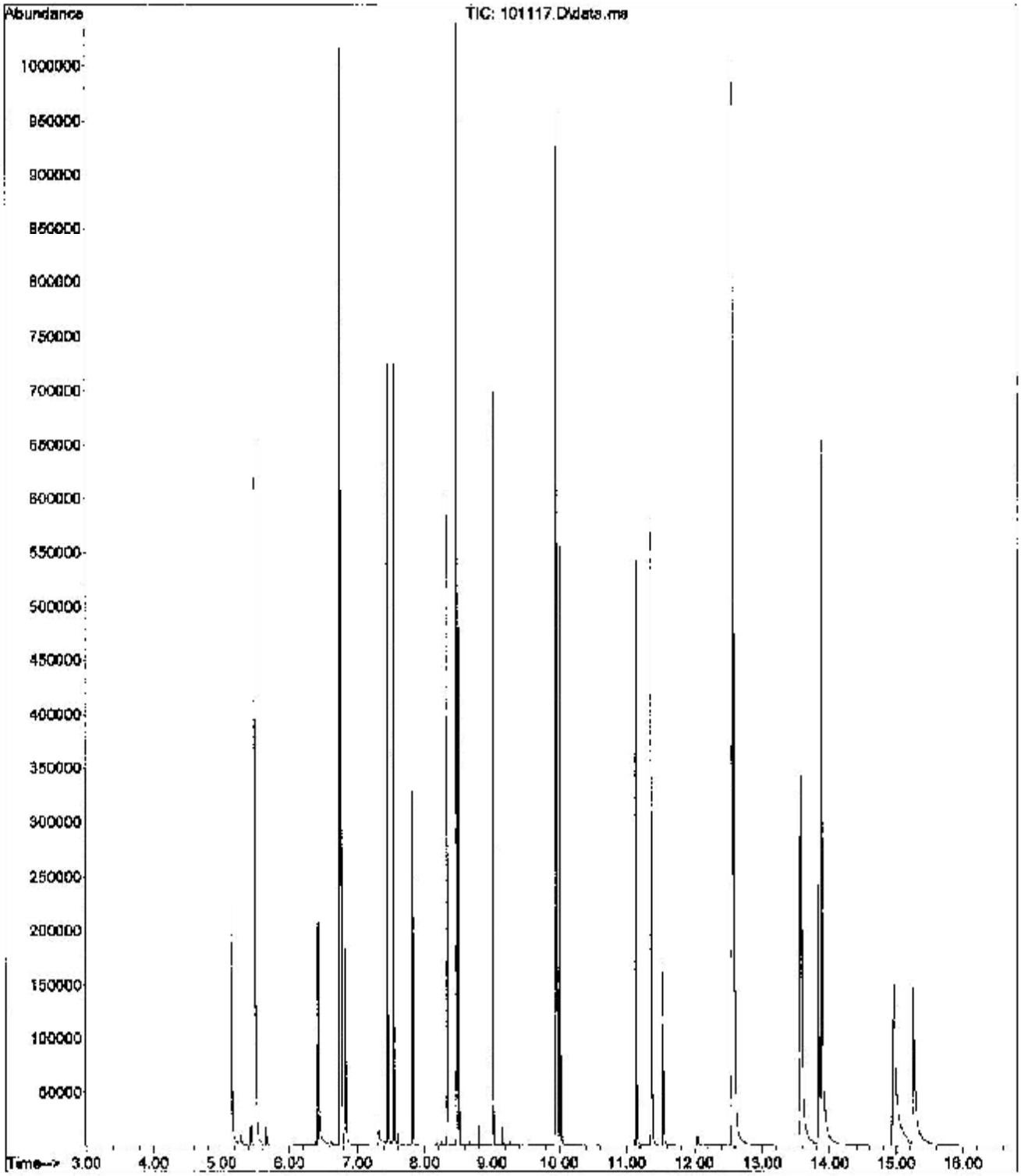
Quant Time: Oct 11 16:40:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	243558	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	803565	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	418741	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	678279	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	659172	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	639673	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	163193	882.07	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	174768	492.18	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	133471	533.83	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.428	107	114798	800.43	ug/L		99
5) Naphthalene	6.766	128	439108	861.36	ug/L		100
6) 2-Methylnaphthalene	7.453	142	264847	886.77	ug/L		100
7) 1-Methylnaphthalene	7.550	142	247665	876.38	ug/L		100
9) Acenaphthylene	8.338	152	375979	918.41	ug/L		100
11) Acenaphthene	8.509	152	117774	836.38	ug/L		100
12) Fluorene	9.022	166	275869	854.72	ug/L		100
14) Phenanthrene	9.969	178	387287	836.73	ug/L		100
15) Anthracene	10.020	178	372643	901.19	ug/L		100
17) Fluoranthene	11.146	202	392244	941.41	ug/L		100
18) Pyrene	11.368	202	409992	941.44	ug/L		100
19) Benzo (a) anthracene	12.559	228	322082	881.92	ug/L	#	100
21) Chrysene	12.593	228	391907	822.91	ug/L		98
22) benzo (b) fluoranthene	13.557	252	233099	673.48	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	445287	905.71	ug/L		99
24) benzo (a) pyrene	13.837	252	261251	784.49	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	268996m	794.77	ug/L		
27) Dibenz (a,h) anthracene	14.969	278	194160m	718.58	ug/L		
28) Benzo (g,h,i) perylene	15.260	276	305371m	808.41	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:53 2012 PAH

File :D:\Data\SVOC\101112\101117.D
Operator :
Acquired : 11 Oct 2012 4:12 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP MSD
Sample Name: 1210089-004AMS
Misc Info : MS G-PAH-S-SIM
Vial Number: I26



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101237.D
Acq On : 12 Oct 2012 3:36 pm
Operator :
Sample : CCV-
Misc : CCC O-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

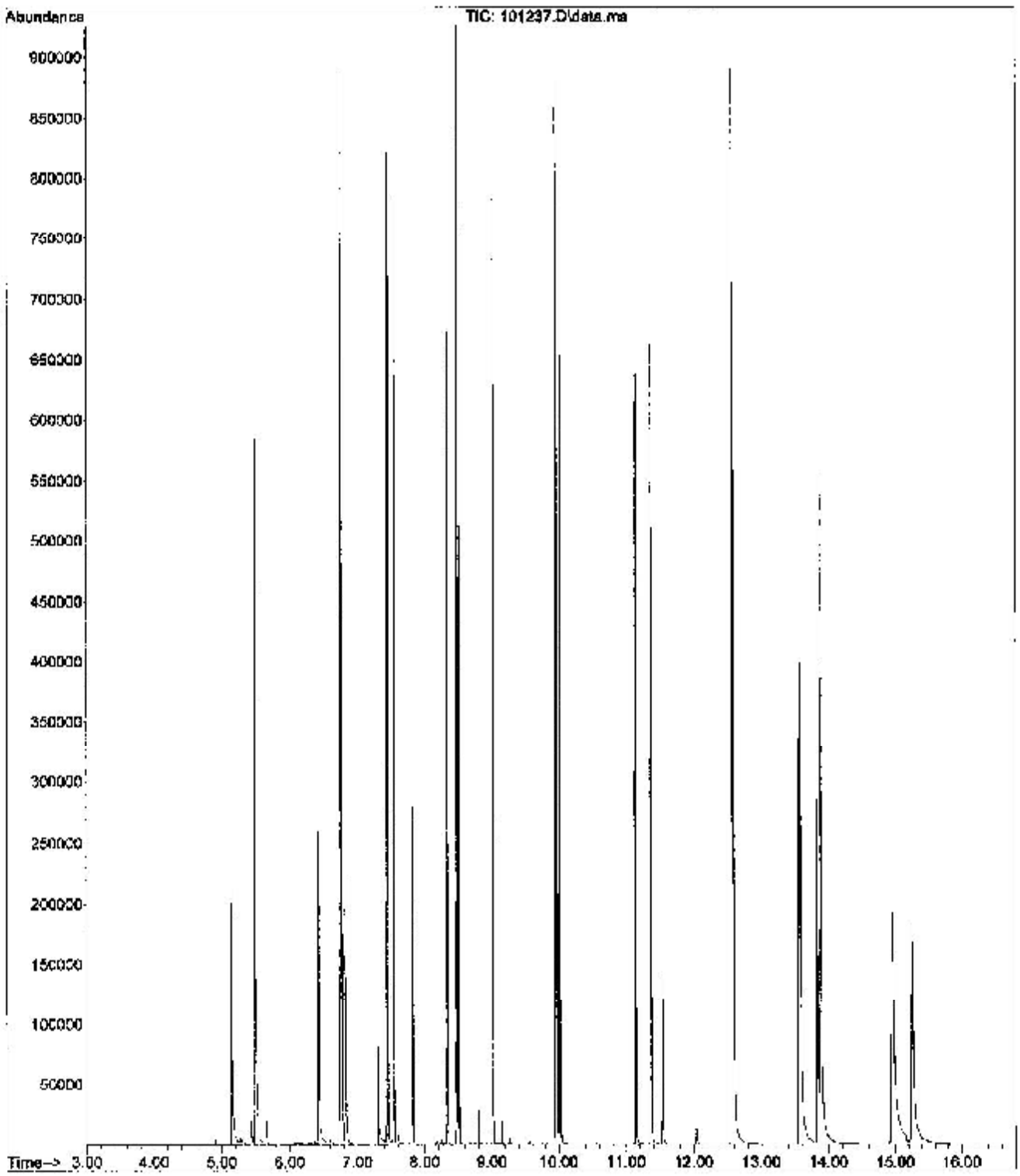
Quant Time: Oct 12 15:59:42 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.495	152	220676	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	707256	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	369974	2000.00 ug/L		0.00
15) Phenanthrene-d10 (IS)	9.945	188	617544	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.567	240	554983	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	535559	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	167916	1001.71 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	155593	497.85 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	103665	455.40 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.426	107	132767	1021.71 ug/L		99
5] Naphthalene	6.766	128	473190	1054.61 ug/L		100
6] 2-Methylnaphthalene	7.451	142	287949	1095.41 ug/L		99
7] 1-Methylnaphthalene	7.548	142	269386	1083.05 ug/L		100
9] Acenaphthylene	8.338	152	421185	1168.93 ug/L		100
11] Acenaphthene	8.508	152	131483	1056.81 ug/L		99
12] Fluorene	9.021	166	310536	1088.95 ug/L		100
14] Phenanthrene	9.966	178	433411	1028.47 ug/L		100
15] Anthracene	10.018	178	419980	1115.56 ug/L		99
17] Fluoranthene	11.143	202	454805	1198.92 ug/L		97
18] Pyrene	11.368	202	472507	1191.70 ug/L		96
19] Benzo (a) anthracene	12.557	228	360600	1084.49 ug/L	#	100
21] Chrysene	12.591	228	431305	1075.66 ug/L		100
22] benzo (b) fluoranthene	13.554	252	268784	922.37 ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	449808	1086.67 ug/L		100
24] benzo (a) pyrene	13.835	252	292996	1030.14 ug/L		99
26] Indeno(1,2,3-cd)pyrene	14.945	276	321375	1117.07 ug/L		96
27] Dibenz (a,h) anthracene	14.967	278	232935	1018.62 ug/L		96
28] Benzo (g,h,i) perylene	15.255	276	327670	1036.07 ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:26 2012 PAH

File : D:\Data\SVOC\101212\101237.D
Operator :
Acquired : 12 Oct 2012 3:36 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCC O-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101238.D
Acq On : 12 Oct 2012 4:02 pm
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

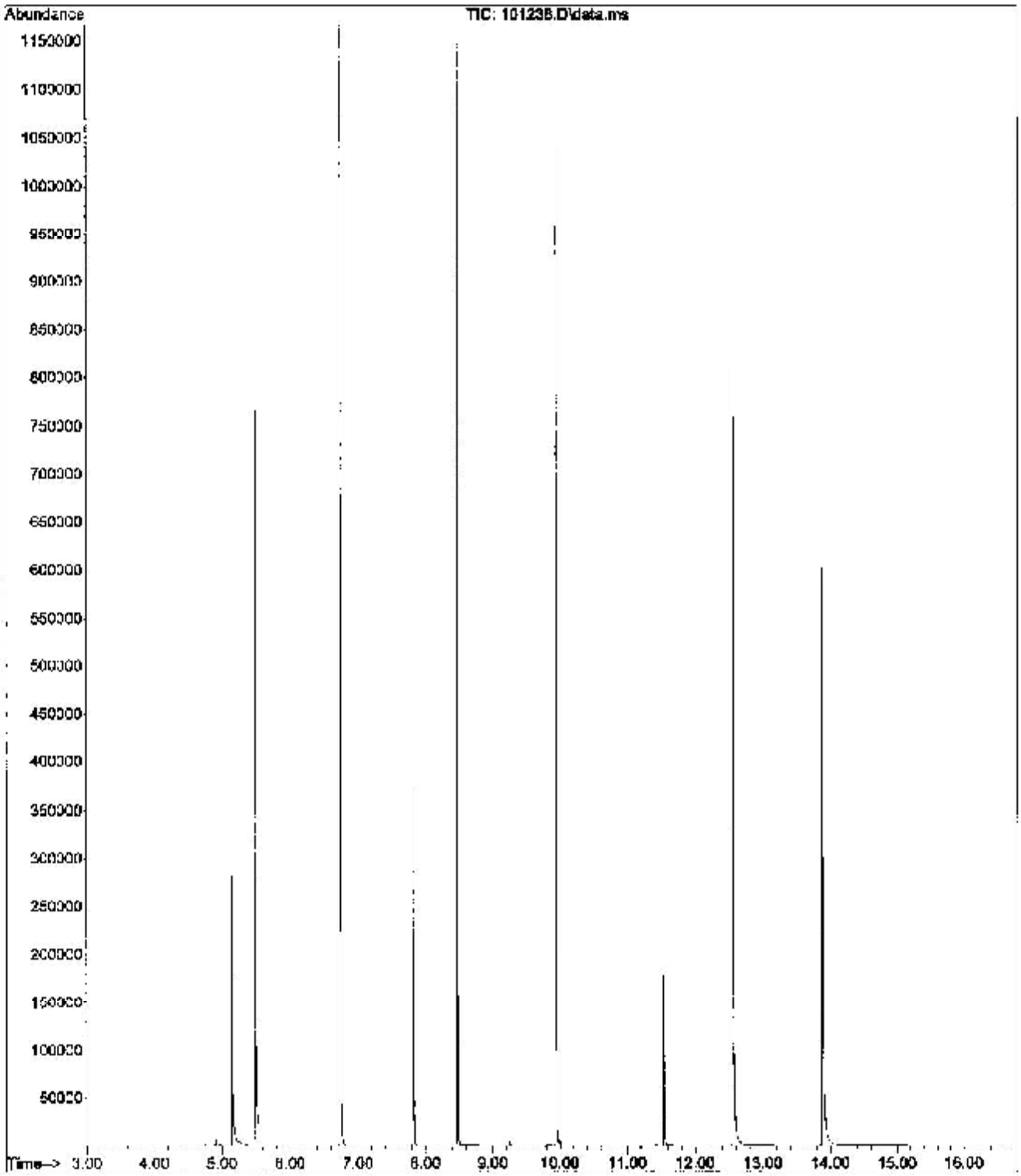
Quant Time: Oct 12 17:34:54 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	298417	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	921023	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	453759	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	742255	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	640793	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	604114	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	221846	978.66 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	209248	514.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	130127	475.60 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.434	107	24	N.D.	
5) Naphthalene	6.747	128	30	N.D.	
6) 2-Methylnaphthalene	7.453	142	27	N.D.	
7) 1-Methylnaphthalene	7.550	142	33	N.D.	
9) Acenaphthylene	8.339	152	32	N.D.	
11) Acenaphthene	8.508	152	21	N.D.	
12) Fluorene	9.022	166	68	N.D.	
14) Phenanthrene	9.968	178	195	N.D.	
15) Anthracene	10.020	178	93	N.D.	
17) Fluoranthene	11.146	202	104	N.D.	
18) Pyrene	11.370	202	113	N.D.	
19) Benzo (a) anthracene	12.566	228	1851	N.D.	
21) Chrysene	12.566	228	1285	N.D.	
22) benzo (b) fluoranthene	13.552	252	49	N.D.	
23) benzo (k) fluoranthene	13.576	252	207	N.D.	
24) benzo (a) pyrene	13.833	252	94	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	8	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	22	N.D.	
28) Benzo (g,h,i) perylene	15.244	276	21	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:58 2012 PAH

File : D:\Data\SVOC\101212\101238.D
Operator :
Acquired : 12 Oct 2012 4:02 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 110



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101239.D
Acq On : 12 Oct 2012 4:27 pm
Operator :
Sample : 1210C30-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 25 Sample Multiplier: 1

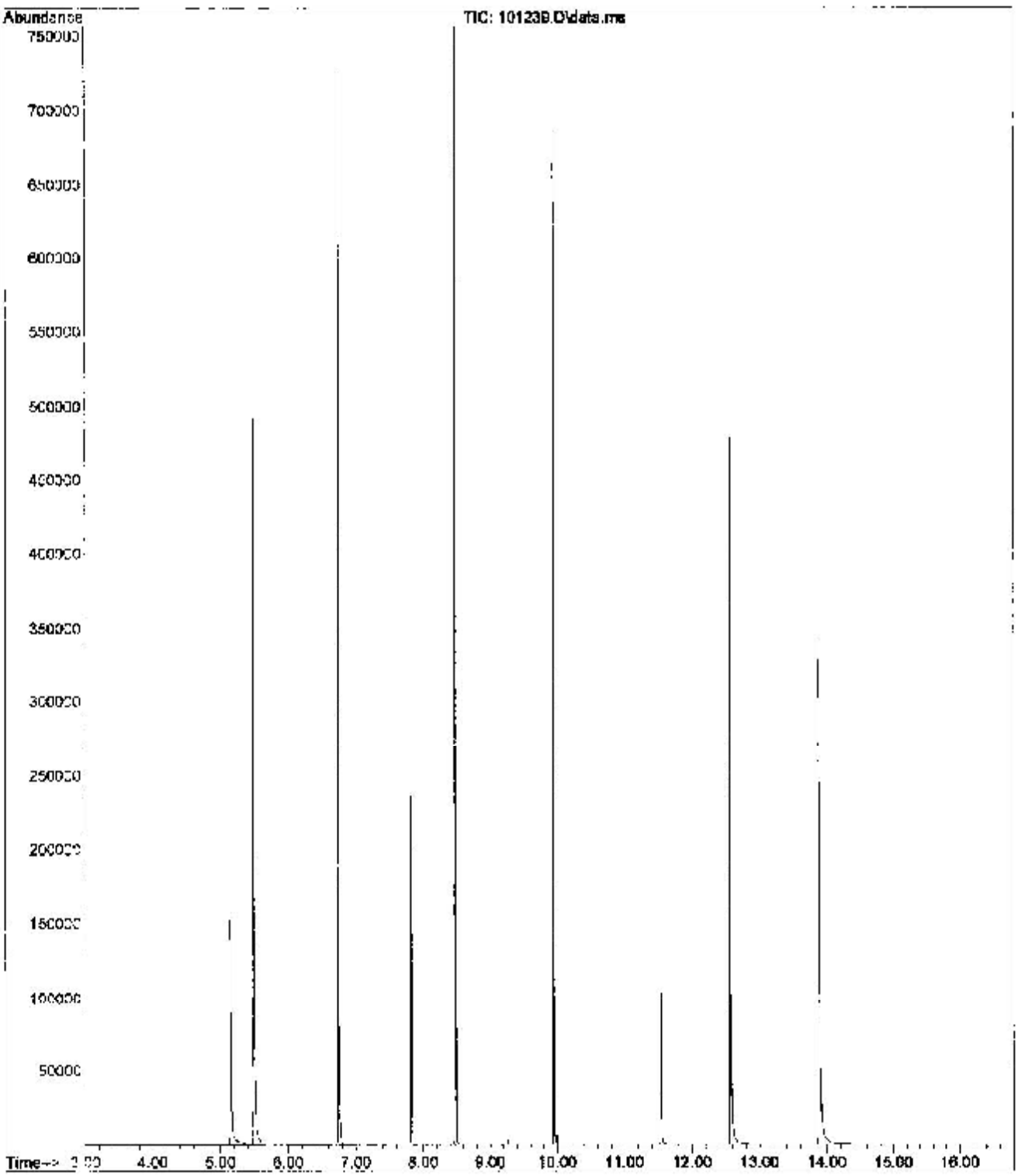
Quant Time: Oct 12 17:35:33 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	187471	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	580894	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	287679	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476230	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	394495	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.883	264	365033	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	126552	888.67 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128942	502.32 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	78125	445.04 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.447	107	24	N.D.	
5) Naphthalene	6.766	128	105	N.D.	
6) 2-Methylnaphthalene	7.457	142	59	N.D.	
7) 1-Methylnaphthalene	7.548	142	42	N.D.	
9) Acenaphthylene	8.340	152	3	N.D.	
11) Acenaphthene	8.511	152	16	N.D.	
12) Fluorene	9.020	166	51	N.D.	
14) Phenanthrene	9.967	178	140	N.D.	
15) Anthracene	10.021	178	12	N.D.	
17) Fluoranthene	11.148	202	34	N.D.	
18) Pyrene	11.368	202	42	N.D.	
19) Benzo (a) anthracene	12.566	228	1116	N.D.	
21) Chrysene	12.566	228	928	N.D.	
22) benzo (b) fluoranthene	13.551	252	17	N.D.	
23) benzo (k) fluoranthene	13.575	252	77	N.D.	
24) benzo (a) pyrene	13.833	252	65	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	18	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	11	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:35:37 2012 PAH

File : D:\Data\SVOC\101212\101239.D
Operator :
Acquired : 12 Oct 2012 4:27 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210030-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 25



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 10124C.D
Acq On : 12 Oct 2012 4:52 pm
Operator :
Sample : 1210C80-001A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 25 Sample Multiplier: 1

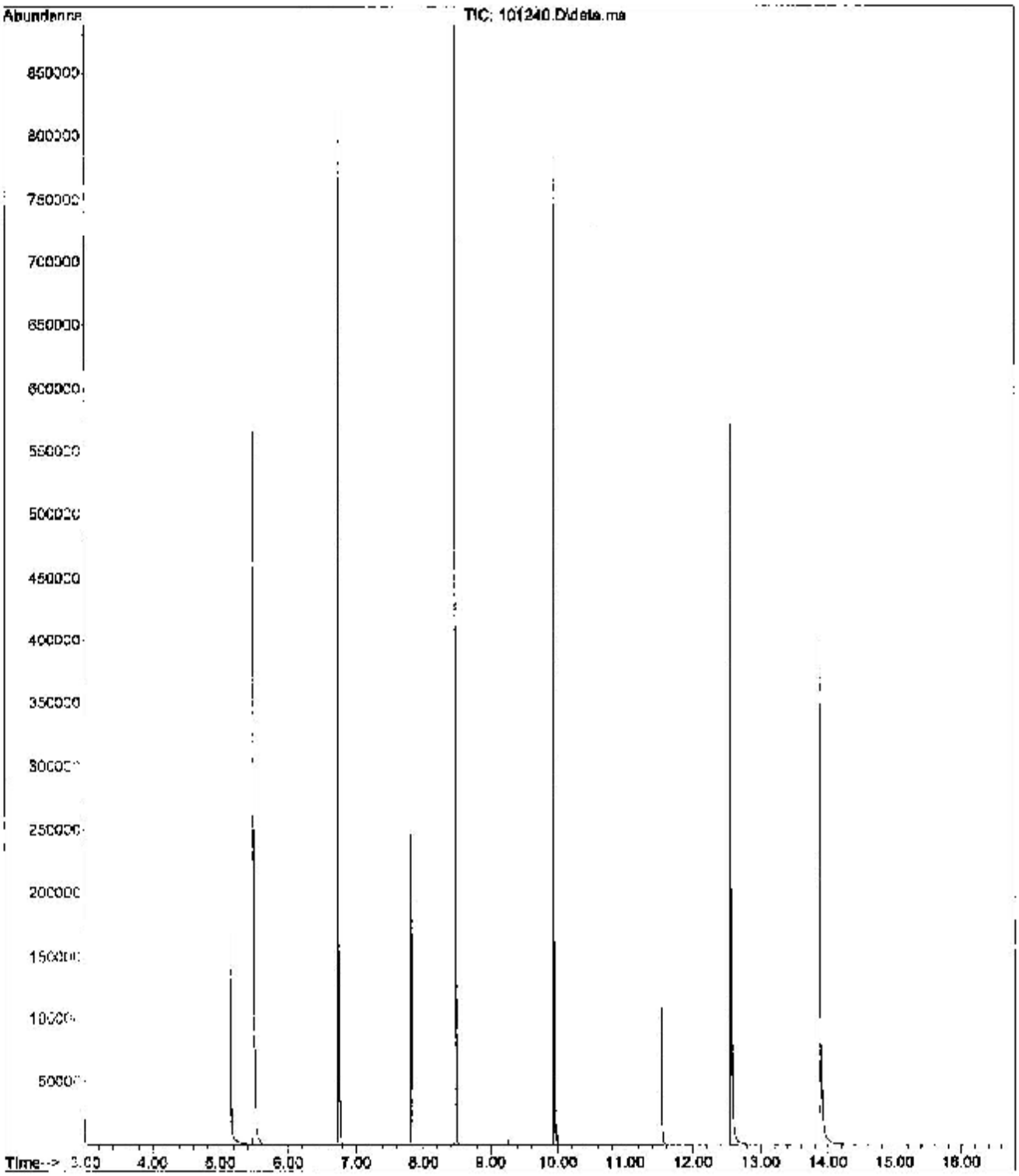
Quant Time: Oct 12 17:36:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	214048	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	665958	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	328090	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	543304	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	453720	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	425136	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	124848	767.85 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	136281	463.10 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	83435	416.55 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.462	107	43	N.D.	
5) Naphthalene	6.766	128	128	N.D.	
6) 2-Methylnaphthalene	7.457	142	60	N.D.	
7) 1-Methylnaphthalene	7.550	142	39	N.D.	
9) Acenaphthylene	8.338	152	7	N.D.	
11) Acenaphthene	8.511	152	11	N.D.	
12) Fluorene	9.022	166	44	N.D.	
14) Phenanthrene	9.967	178	184	N.D.	
15) Anthracene	10.021	178	17	N.D.	
17) Fluoranthene	11.148	202	38	N.D.	
18) Pyrene	11.368	202	52	N.D.	
19) Benzo (a) anthracene	12.566	228	1304	N.D.	
21) Chrysene	12.566	228	1235	N.D.	
22) benzo (b) fluoranthene	13.555	252	21	N.D.	
23) benzo (k) fluoranthene	13.579	252	133	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	20	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	28	N.D.	
28) Benzo (g,h,i) perylene	15.252	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:36:09 2012 PAH

File : D:\Data\SVOC\101212\101240.D
Operator :
Acquired : 12 Oct 2012 4:52 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 26



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101241.D
Acq On : 12 Oct 2012 5:17 pm
Operator :
Sample : 1310080-001ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 27 Sample Multiplier: 1

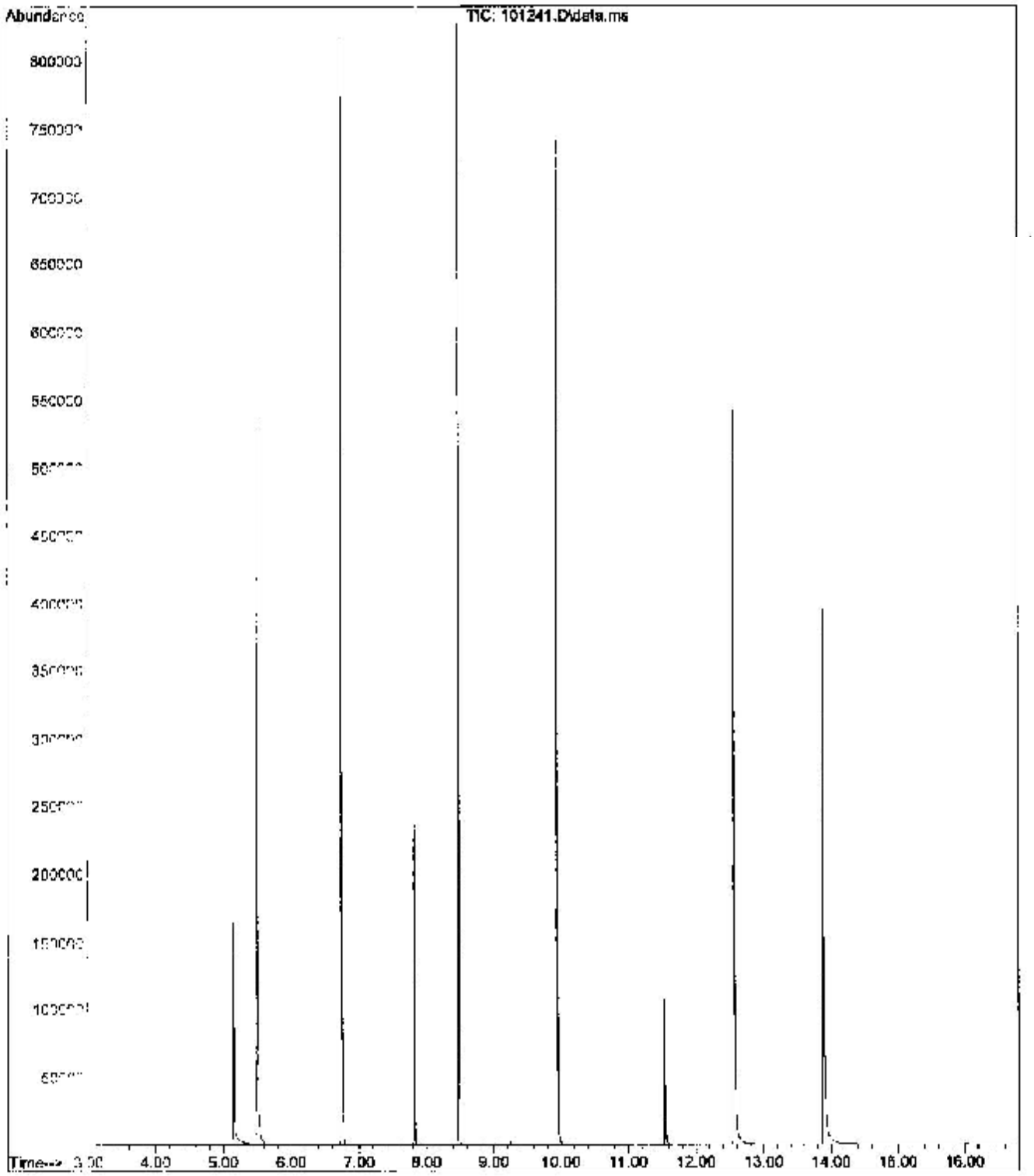
Quant Time: Oct 12 17:34:28 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270 PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205134	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	634778	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	313444	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	517822	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	441980	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	413833	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	124121	796.55 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	135784	484.07 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	85522	448.05 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.436	107	57	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	49	N.D.	
7) 1-Methylnaphthalene	7.550	142	29	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.513	152	13	N.D.	
12) Fluorene	9.023	166	23	N.D.	
14) Phenanthrene	9.968	178	258	N.D.	
15) Anthracene	10.019	178	26	N.D.	
17) Fluoranthene	11.148	202	94	N.D.	
18) Pyrene	11.370	202	106	N.D.	
19) Benzo (a) anthracene	12.564	228	1189	N.D.	
21) Chrysene	12.564	228	833	N.D.	
22) benzo (b) fluoranthene	13.556	252	30	N.D.	
23) benzo (k) fluoranthene	13.574	252	117	N.D.	
24) benzo (a) pyrene	13.833	252	55	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.946	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	11	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH1016 ...NOL.M Fri Oct 12 17:36:39 2012 PAH

File :D:\Data\SVOC\101212\101241.D
Operator :
Acquired : 12 Oct 2012 5:17 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: L210080-001ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 27



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101242.D
Acq On : 12 Oct 2012 5:42 pm
Operator :
Sample : 1210080-002A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 28 Sample Multiplier: 1

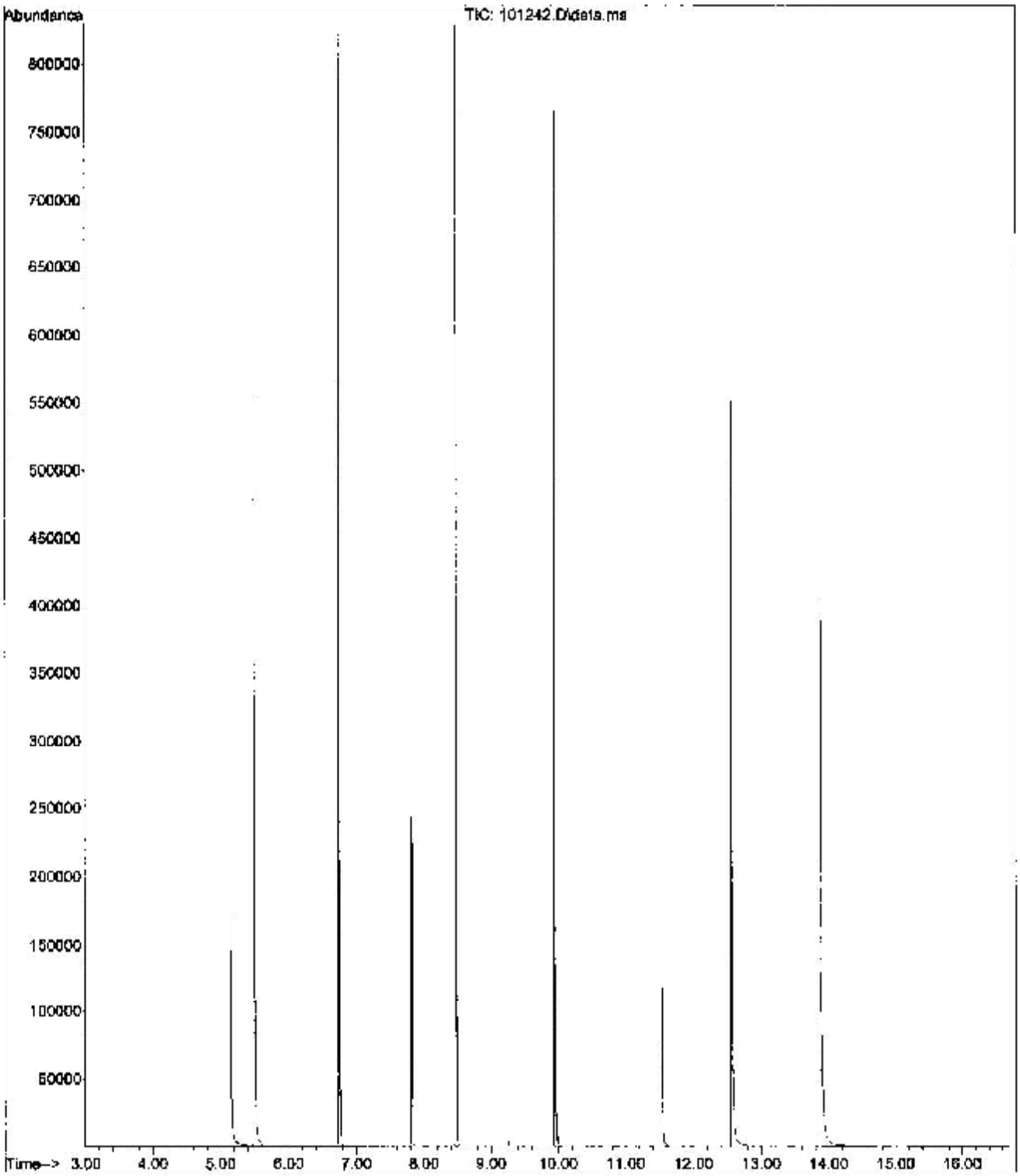
Quant Time: Oct 12 17:59:52 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	206672	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	642522	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	319496	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	529843	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	455867	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	436438	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	135642	864.01 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139619	491.75 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91847	470.27 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	224	N.D.	
5) Naphthalene	6.745	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	95	N.D.	
7) 1-Methylnaphthalene	7.550	142	85	N.D.	
9) Acenaphthylene	8.340	152	31	N.D.	
11) Acenaphthene	8.509	152	50	N.D.	
12) Fluorene	9.020	166	148	N.D.	
14) Phenanthrene	9.960	178	490	N.D.	
15) Anthracene	10.020	178	95	N.D.	
17) Fluoranthene	11.147	202	256	N.D.	
18) Pyrene	11.370	202	300	N.D.	
19) Benzo (a) anthracene	12.566	228	1302	N.D.	
21) Chrysene	12.566	228	852	N.D.	
22) benzo (b) fluoranthene	13.555	252	54	N.D.	
23) benzo (k) fluoranthene	13.578	252	184	N.D.	
24) benzo (a) pyrene	13.835	252	70	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	12	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	23	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:59:52 2012 PAH

File :D:\Data\SVOC\101212\101242.D
Operator :
Acquired : 12 Oct 2012 5:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 28



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101243.D
Acq On : 12 Oct 2012 6:08 pm
Operator :
Sample : 1210080-003A
Misc : SAMP O PAH SIM-S LIBBY
ALS Vial : 29 Sample Multiplier: 1

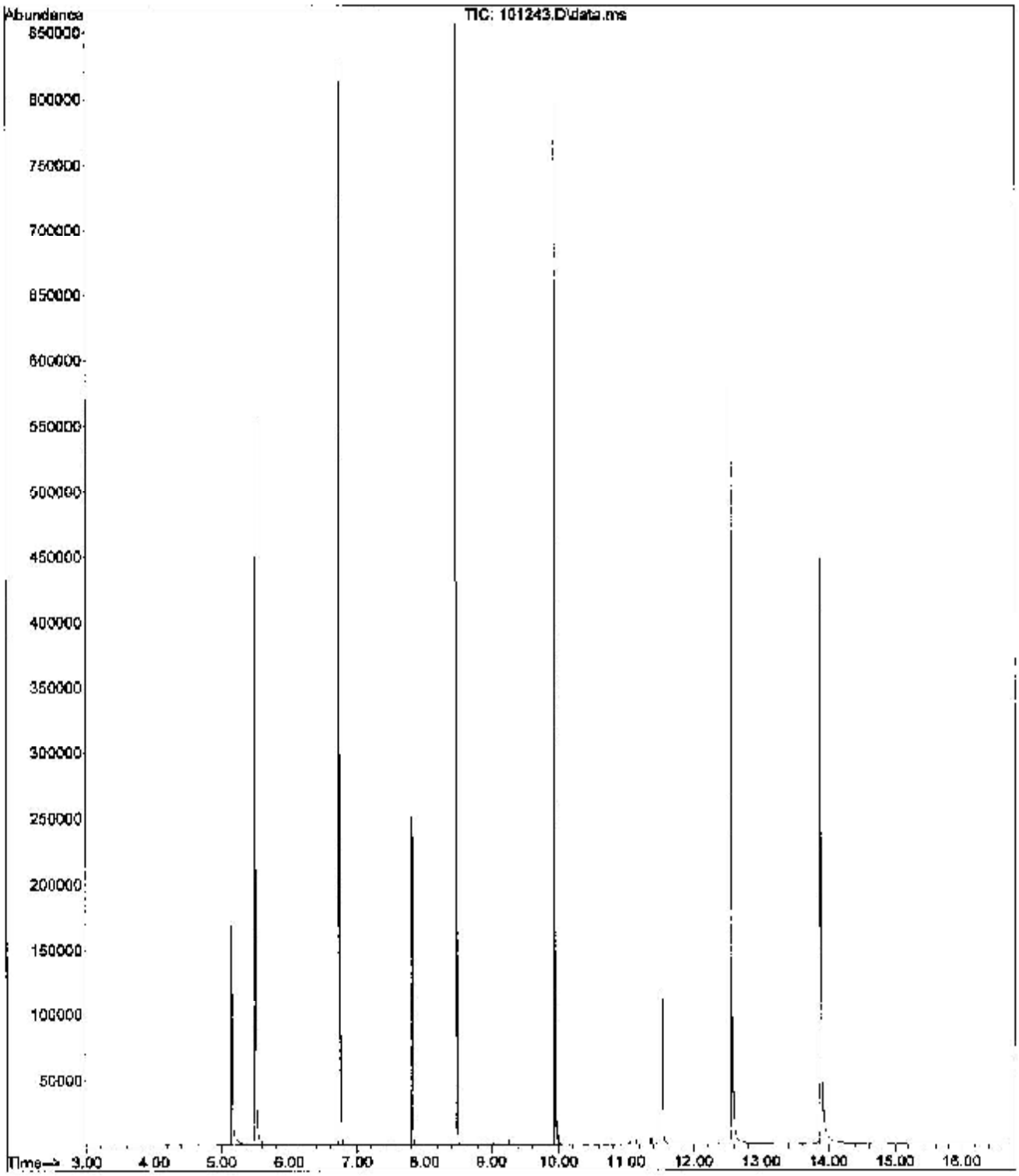
Quant Time: Oct 15 09:29:22 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	210345	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	656318	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	327926	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	547565	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	481088	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	480766	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	133231	833.83 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139035	479.40 ug/L	0.00
16) Terphenyl d14 (surr)	11.540	244	93848	464.96 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	606	N.D.	
5) Naphthalene	6.766	128	1182	N.D.	
6) 2-Methylnaphthalene	7.455	142	299	N.D.	
7) 1-Methylnaphthalene	7.550	142	218	N.D.	
9) Acenaphthylene	8.339	152	257	N.D.	
11) Acenaphthene	8.478	152	41	N.D.	
12) Fluorene	9.021	166	469	N.D.	
14) Phenanthrene	9.967	178	3201	8.57 ug/L	99
15) Anthracene	10.020	178	666	N.D.	
17) Fluoranthene	11.148	202	3529	10.49 ug/L #	92
18) Pyrene	11.370	202	4012	11.41 ug/L #	76
19) Benzo (a) anthracene	12.562	228	3223	10.93 ug/L #	100
21) Chrysene	12.592	228	2168	6.24 ug/L #	32
22) Benzo (b) fluoranthene	13.559	252	567	N.D.	
23) Benzo (k) fluoranthene	13.792	252	451	N.D.	
24) Benzo (a) pyrene	13.836	252	699	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	296	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	45	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	184	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Mon Oct 15 09:29:57 2012 PAH

File :D:\Data\SVOC\101212\101243.D
Operator :
Acquired : 12 Oct 2012 6:08 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 29

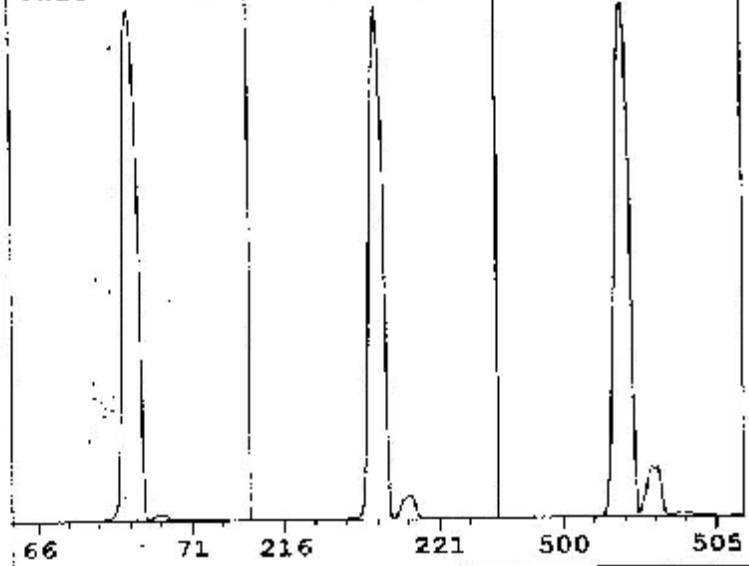


5975 DFTPP Dynamic Target Tune

Fri Oct 12 14:32:20 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	69.00	Mass	219.00	Mass	502.00
Ab	469631	Ab	288415	Ab	12211
Pw50	0.56	Pw50	0.51	Pw50	0.55

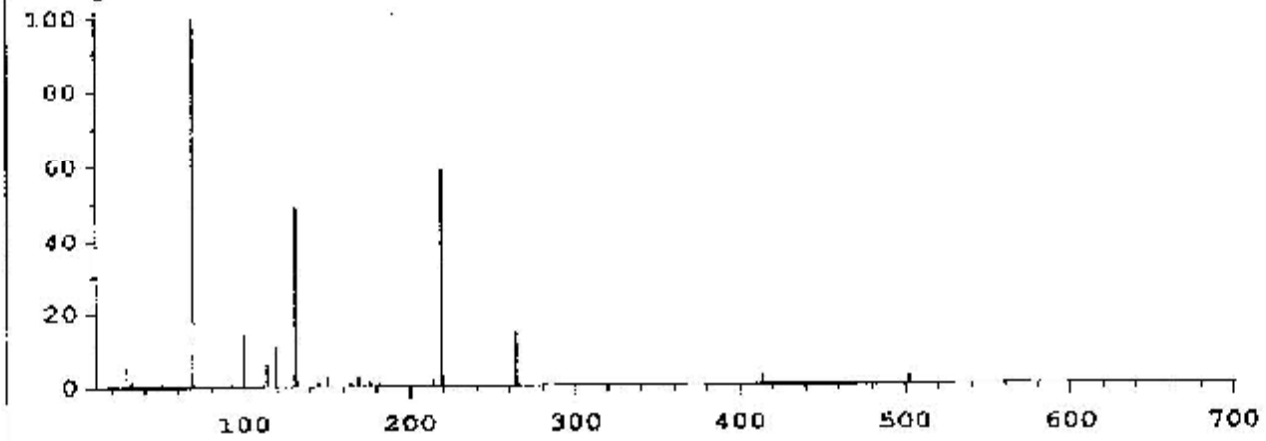


Ion Pol	Pos	MassGain	-612
		MassOffs	-39
Emission	34.6	AmuGain	2048
ElEnrgy	69.9	AmuOffs	125.13
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.57		
IonFocus	69.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.46e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
115 peaks Base: 69.00 Abundance: 443648



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	443648	100.00	70.00	4652	1.05
219.00	260352	58.68	220.00	11327	4.35
502.10	10238	2.31	503.00	930	9.08

Air/Water Check: H2O~0.34% N2~4.78% O2~1.41% CO2~0.12% N2/H2O~1385.62%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp:

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	99329
Repeller Maximum	35	volts using ion	502;	Gain Factor	0.99

MassGain Values(Samples): -601(3) -594(2) -573(1) -527(0) -439(FS)

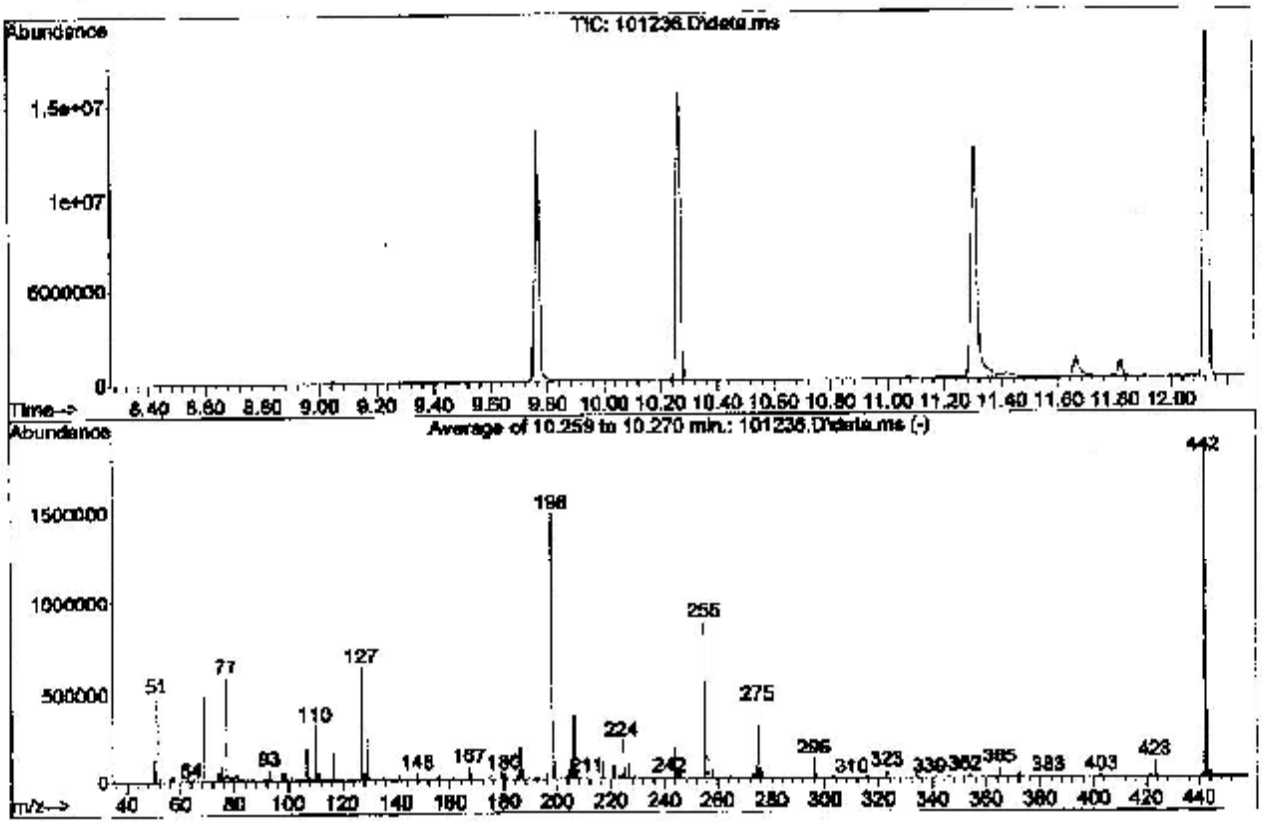
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	125.1	125.1	125.1	125.1	125.1	125.1	125.1
Entrance Lens Offset:	16.1	12.8	12.3	13.1	13.3	14.1	14.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	48.7	58.7	2.7	2.3	

DFTPP

Data Path : D:\Data\9VOC\101212\
Data File : 101236.D
Acq On : 12 Oct 2012 3:12 pm
Operator :
Sample : TUNE CHECK
Misc : CCV 8-PAH-SIM-S-LIBBY
ALS Vial : 51 Sample Multiplier: 1

Integration File: RTEINTSG8270.P

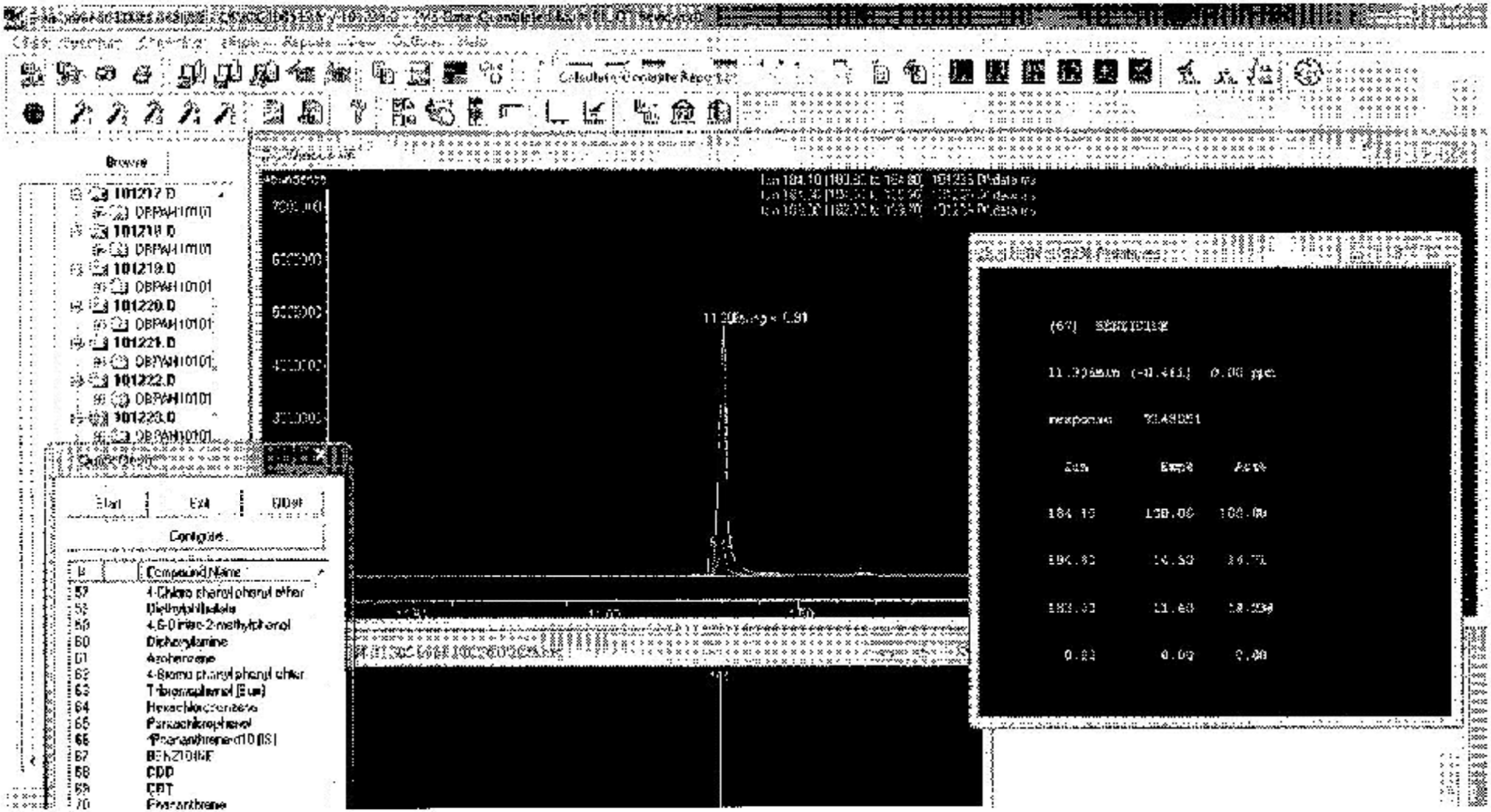
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

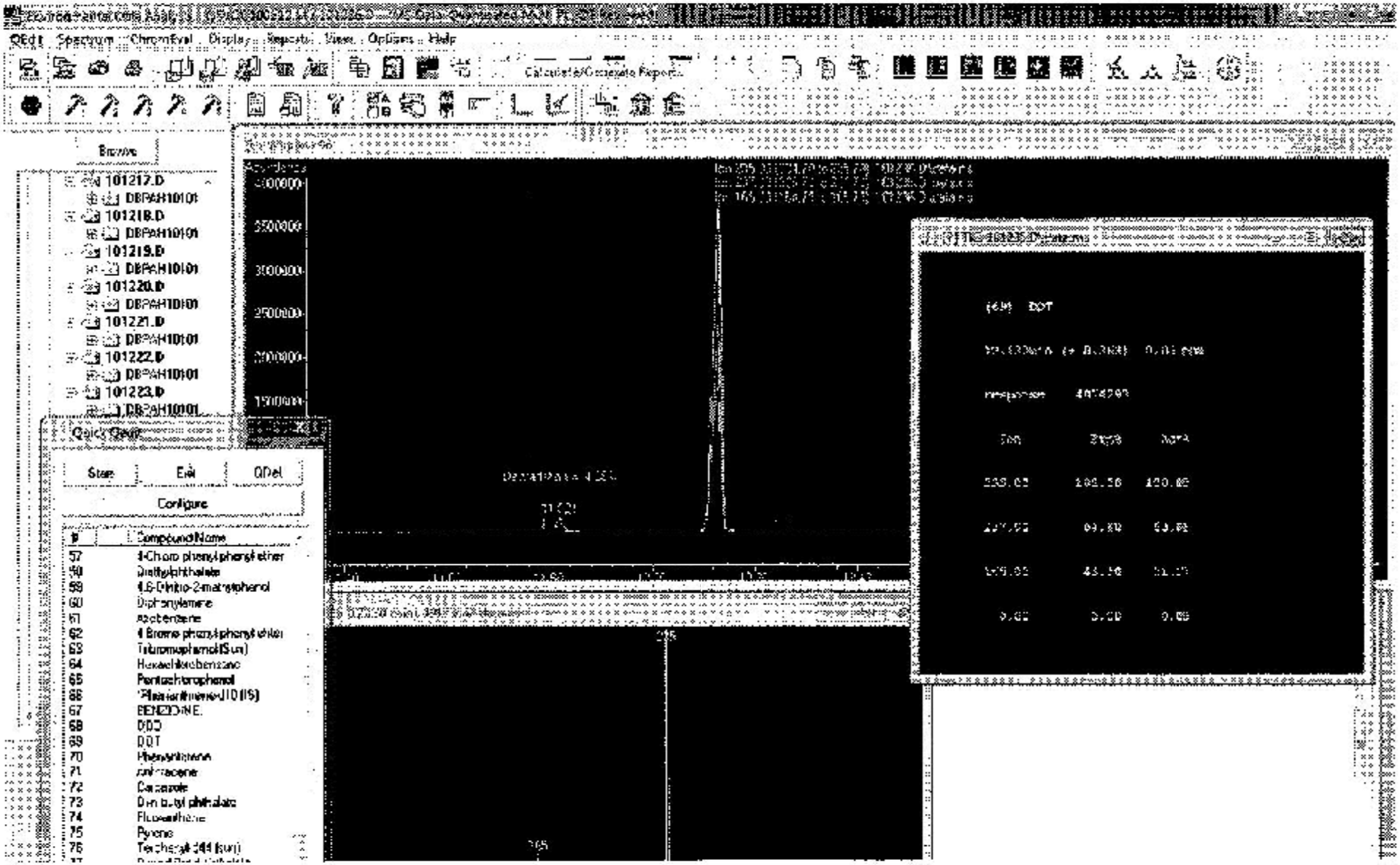


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1332

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.8	485553	PASS
68	69	0.00	2	1.5	7228	PASS
69	198	0.00	100	32.6	482453	PASS
70	69	0.00	2	0.5	2453	PASS
127	198	10	80	43.4	643157	PASS
197	198	0.00	2	0.5	7703	PASS
198	198	100	100	100.0	1481899	PASS
199	198	5	9	6.7	99501	PASS
275	198	10	60	28.1	417088	PASS
365	198	1	100	3.7	54277	PASS
441	442	0.01	24	14.0	254635	PASS
442	198	50	999	122.3	1812821	PASS
443	442	15	24	20.5	371989	PASS

Page: 1


Browse
101217.D
101218.D
101219.D
101220.D
101221.D
101222.D
101223.D
Start
Exit
Edit
Compounds
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromo phenyl phenyl ether
63 Trifluralin (Eur)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
68 CDP
69 CBT
70 Fluoranthene
(67) B2020101302
11.20min (-0.441) 0.00 ppb
response 78.49251
Ion Exp% Act%
184.10 100.00 100.00
180.00 14.50 14.71
182.00 11.60 10.039
0.00 0.00 0.00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Browse
101217.D
DBPAH10101
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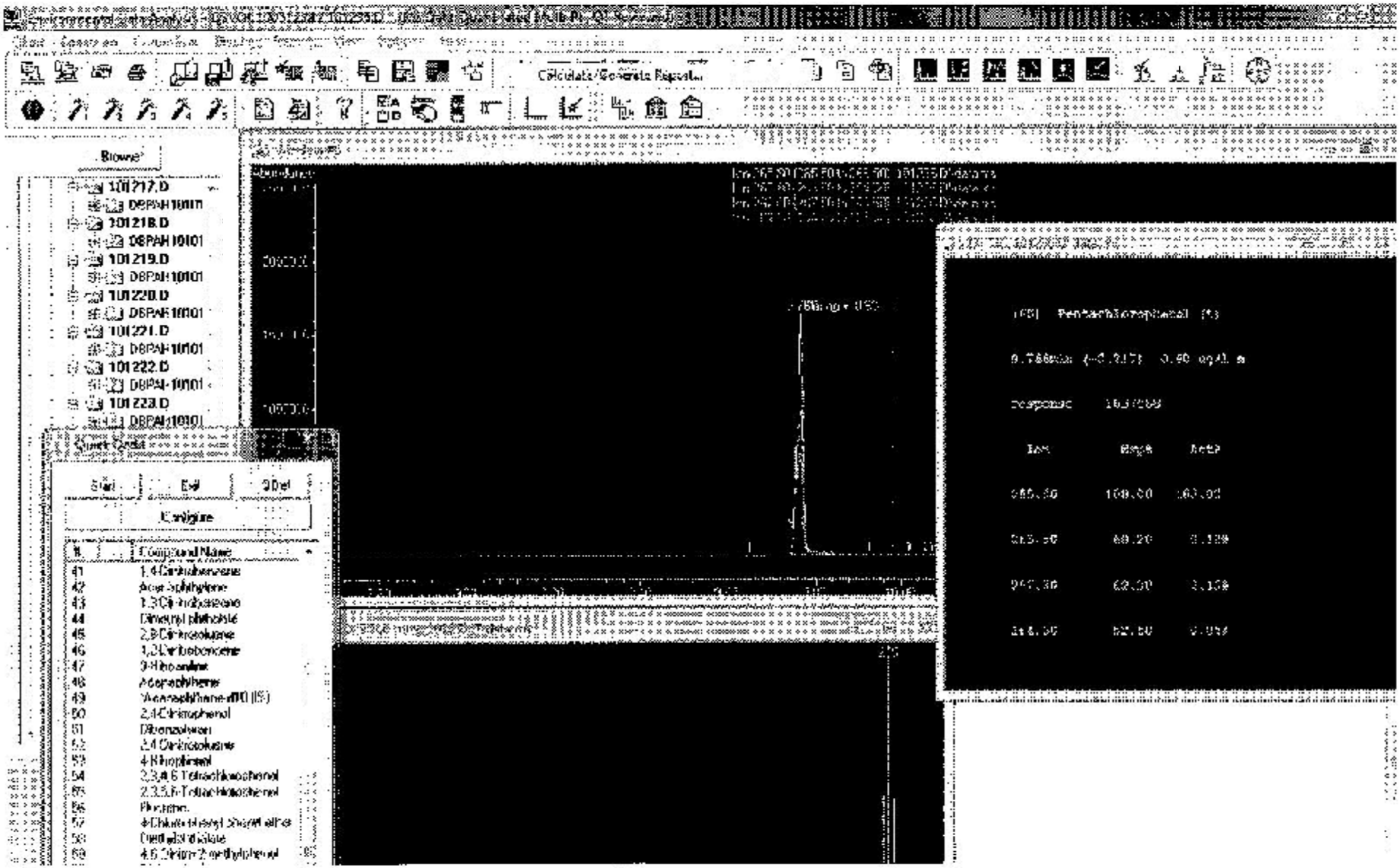
DBPAH10101
101220.D
DBPAH10101
101221.D
DBPAH10101
101222.D
DBPAH10101
101223.D
DBPAH10101
Quick Quan
Start
Exit
QDel
Configure
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4 Bromo phenyl phenyl ether
63 Tribromophenol(Surr)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
67 BENZIDINE
68 DDD
69 DDT
70 Phenanthrene
71 Anthracene
72 Carbazole
73 Di-n-butyl phthalate
74 Fluoranthene
75 Pyrene
76 Terphenyl-d14 (surr)
(69) DDT
response 4074293
Conc Resp Ratio
558.03 186.56 120.00
227.03 99.89 53.00
126.03 43.56 51.00
0.00 0.00 0.00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Browse
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DBPAH10101
101218.D
DBPAH10101
101219.D
DBPAH10101
101220.D
DBPAH10101
101221.D
DBPAH10101
101222.D
DBPAH10101
101223.D
DBPAH10101
Start
End
SDel
Configure
Compound Name
1,4-Dichlorobenzene
Acenaphthylene
1,3-Dichlorobenzene
Dimethyl phthalate
2,6-Dinitrotoluene
1,2-Dichlorobenzene
9-Fluorenone
Acenaphthene
Acenaphthene-d10 (IS)
2,4-Dichlorophenol
Diphenylamine
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
Diethyl phthalate
4,6-Dinitro-2-methylphenol
Response
Area
Height

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 6131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3406	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3406	208723	5.496	335186	8.478	489323	12.567	672101	6.746
03	CCV-3406A	248623	5.496	446598	8.478	729868	12.568	835095	6.747
04	CCB-3406A	266886	5.496	437548	8.478	648472	12.566	875931	6.747
05	MB-3406	236069	5.498	382016	8.478	569492	12.565	760891	6.745
06	LCS-3406	233245	5.496	395162	8.478	615718	12.566	760779	6.747
07	1210089-004A	232562	5.498	384502	8.479	591122	12.567	767244	6.747
08	1210089-004ADUP	248460	5.498	410617	8.48	628483	12.568	806989	6.747
09	1210089-004AMS	243558	5.498	418741	8.48	659172	12.568	803566	6.747
10	CCV-3406B	220676	5.495	369974	8.48	554983	12.567	707256	6.745
11	CCB-3406B	296417	5.495	453759	8.478	640793	12.566	921023	6.745
12	1210080-001A	187471	5.496	287679	8.478	394485	12.565	580894	6.745
13	1210080-001A	214048	5.496	328090	8.478	463720	12.565	666958	6.745
14	1210080-001ADUP	205134	5.498	313444	8.478	441980	12.568	634778	6.745
15	1210080-002A	208672	5.495	319496	8.478	455887	12.566	642522	6.745
16	1210080-003A	210345	5.496	327926	8.478	481088	12.568	656316	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 5131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column. ID (mm).

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS5 Perylene-d12 AREA #	RT #	IS6 Phenanthrene-d AREA #	RT #				
	12 HOUR STD	569722	13.889	614915	9.945				
	UPPER LIMIT	1139444	14.389	1229830	10.445				
	LOWER LIMIT	284861	13.389	307458	9.445				
	SAMPLE NO.								
01	ICB-3406	445838	13.885	542803	9.944				
02	ICV-3406	472138	13.887	518454	9.945				
03	CCB-3406B	604114	13.885	742255	9.946				
04	1210030-001A	365033	13.883	476230	9.945				
05	1210080-001A	425136	13.885	543384	9.945				
06	1210080-001ADUP	413833	13.885	517822	9.944				
07	1210080-002A	436438	13.885	529843	9.944				
08	CCV-3406B	535559	13.885	617544	9.945				
09	CCV-3406A	702387	13.886	743459	9.945				
10	CCB-3406A	598480	13.886	710640	9.945				
11	MB-3406	535333	13.887	626677	9.944				
12	LCS-3406	591424	13.885	635612	9.945				
13	1210089-004A	560404	13.887	636719	9.945				
14	1210089-004ADUP	598140	13.887	680155	9.946				
15	1210089-004AMS	639673	13.887	678279	9.945				
16	1210080-003A	480788	13.885	547565	9.945				

IS5 Perylene-d12 = Perylene-d12
IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 6, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. A water sample was analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended on September 18, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120918-30
Date: 11-6-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

For the water matrix, a Method Blank and sample duplicate were analyzed. Neither an LCS nor an LCSD were prepared or analyzed due to practical time constraints. The NWTPH-Dx method does not recommend LCS or LCSD.

Libby Environmental, Inc.

Chain of Custody Record

#004

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/18/12 Page: 1 of 1

Client: GEI

Project Manager: NEIL MORTEN

Address:

Project Name: IRONDALE

Phone: Fax:

Location: WA City: IRONDALE

Client Project #

Collector: PAUL ROBICHETTE Date of Collection: 9/18/12

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1	DW1-091812	-	1229	W	500ml							X							
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/18/12 1415	[signature]	9-18-12 1415
Relinquished by	Date / Time	Received by:	Date / Time
Relinquished by	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120918-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120918-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended) in Water

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (µg/l)	Bunker C (µg/l)
Method Blank	9/18/12	96	nd	nd
DW1-091812	9/18/12	71	nd	nd
DW1-091812 Dup	9/18/12	82	nd	nd
Practical Quantitation Limi			200	400

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/18/2012

Libby Job #: L120918-30 | Instrument: Shimadsu GC14A | Analyst/s: Paul Burke

Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	7:38:33	C141	3 µl	int	485		
500 ppm Diesel 791	7:38:33	D139	3 µl	int	565		
1000 ppm LCS 343	8:11:10	C142	3 µl	int	1054		
1000 ppm LCSD 343	8:11:10	D140	3 µl	int	1031		
Method Blank	8:45:34	C143	3 µl	18.8	nd	nd	nd
Method Blank	8:45:34	D141	3 µl	19.3	nd	nd	nd
DW1-091812	13:14:32	C144	3 µl	14.21	nd	nd	nd
DW1-091812 Dup (not used)	13:14:32	D142	3 µl				
DW1-091812 Dup (not used)	13:51:13	C145	3 µl				
DW1-091812 Dup (not used)	13:51:13	D143	3 µl				
DW1-091812 Dup (not used)	14:39:43	C146	3 µl				
DW1-091812 Dup (not used)	14:39:43	D144	3 µl				
DW1-091812 Dup	14:58:32	C147	3 µl	16.4	nd	nd	nd
DW1-091812 Dup (not used)	14:58:32	D145	3 µl				
500 ppm Diesel 791 (not used)	15:32:11	C148	3 µl				
500 ppm Diesel 791 (not used)	15:32:11	D146	3 µl				
500 ppm Diesel 791	16:08:31	C149	3 µl	19.9	473		
500 ppm Diesel 791	16:08:31	D147	3 µl	17.9	533		

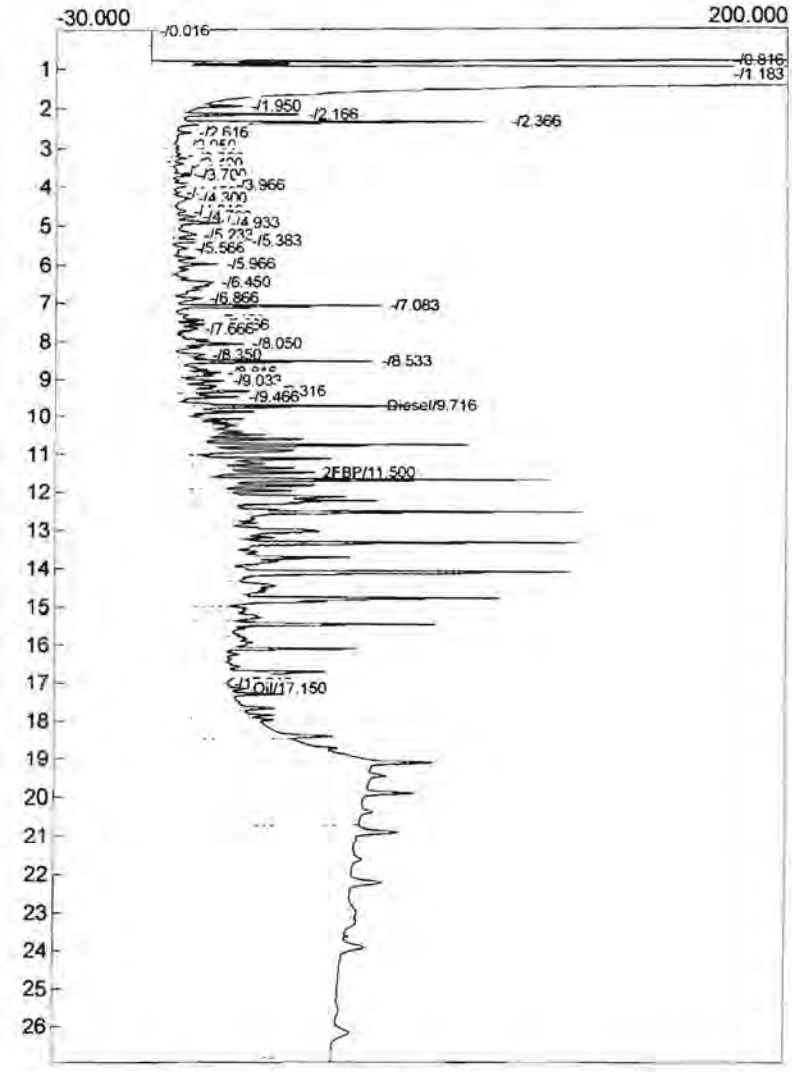
Analysis date: 09/18/2012 07:38:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C141.CHR ()
Sample: 500 ppm Diesel #791
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
)iesel	9.716	9851.8805	58.625	485.3831	ppm
2FBP	11.500	199.5740	38.595	6.6525	ppm
)il	17.150	26363.8815	16.558	1306.2221	ppm
		36415.3360		1798.2576	

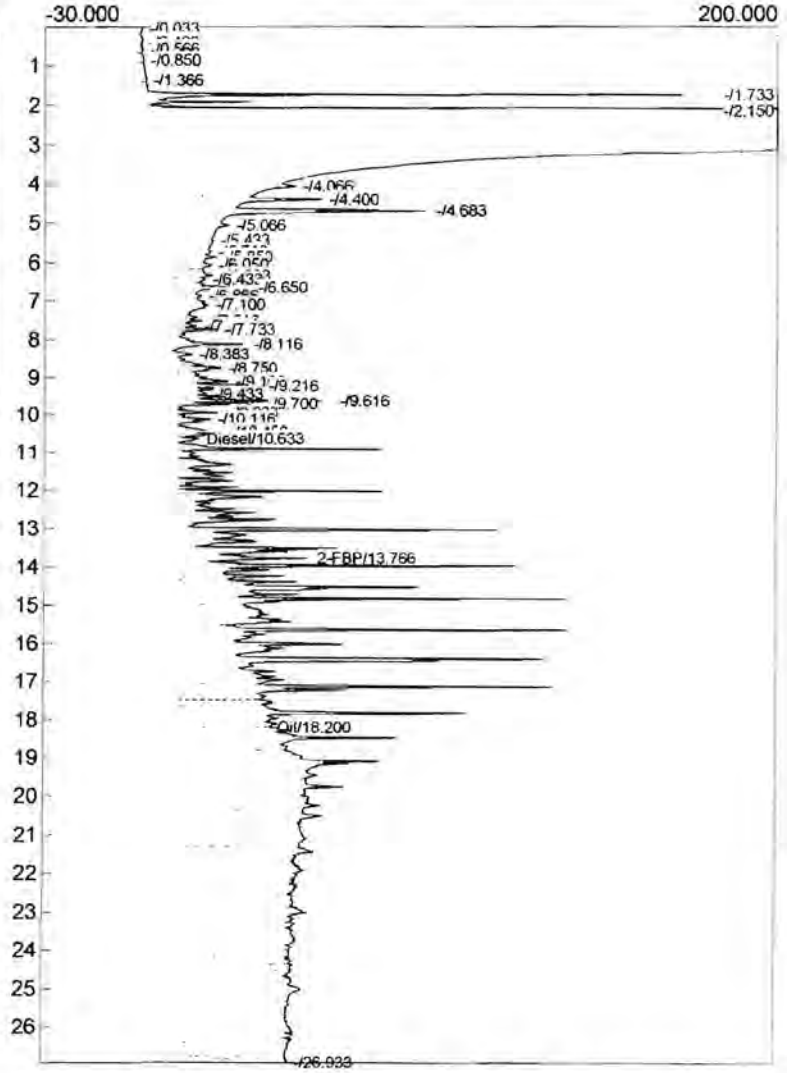
Analysis date: 09/18/2012 07:38:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D139.CHR ()
Sample: 500 ppm Diesel #791
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.633	10623.2880	6.683	564.5560	ppm
2-FBP	13.766	247.8485	40.984	8.2616	ppm
Oil	18.200	18219.2295	27.636	974.8969	ppm
		29090.3660		1547.7144	

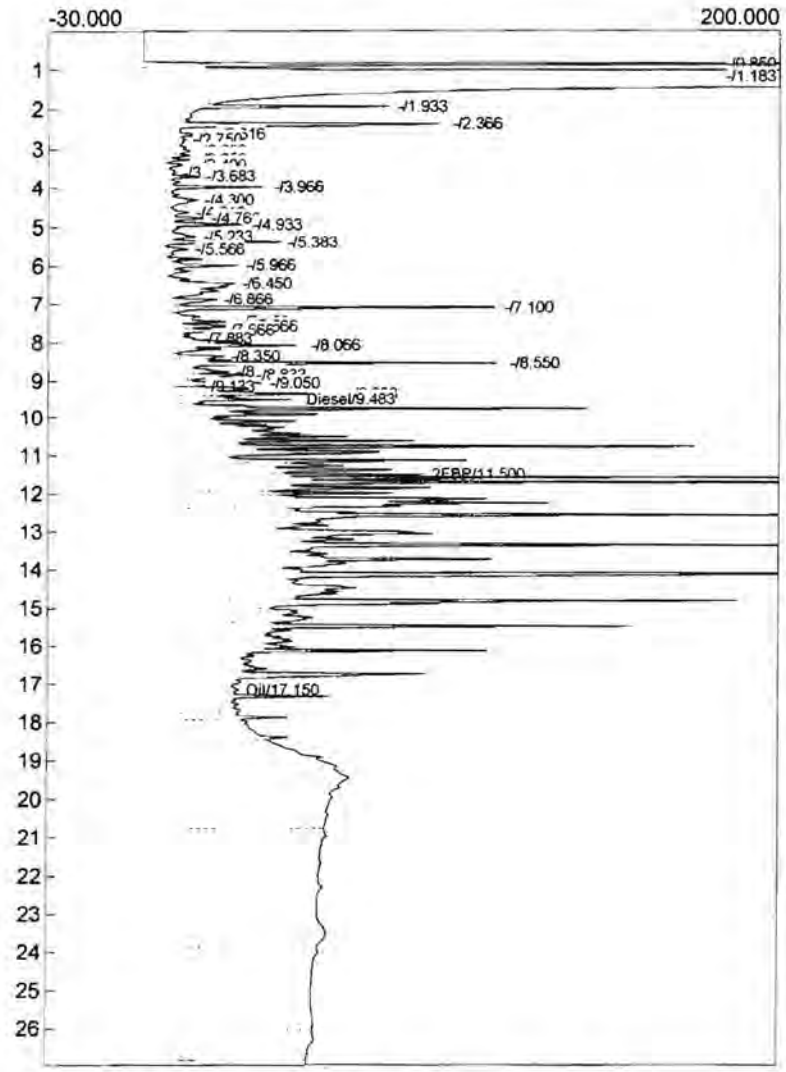
Analysis date: 09/18/2012 08:11:10
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C142.CHR ()
Sample: 1000 ppm LCS #343
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
esel	9.483	21311.8095	37.621	1054.0573	ppm
FBP	11.500	279.5280	76.987	9.3176	ppm
il	17.150	23449.1770	18.182	1160.6138	ppm
		45040.5145		2223.9887	

105%

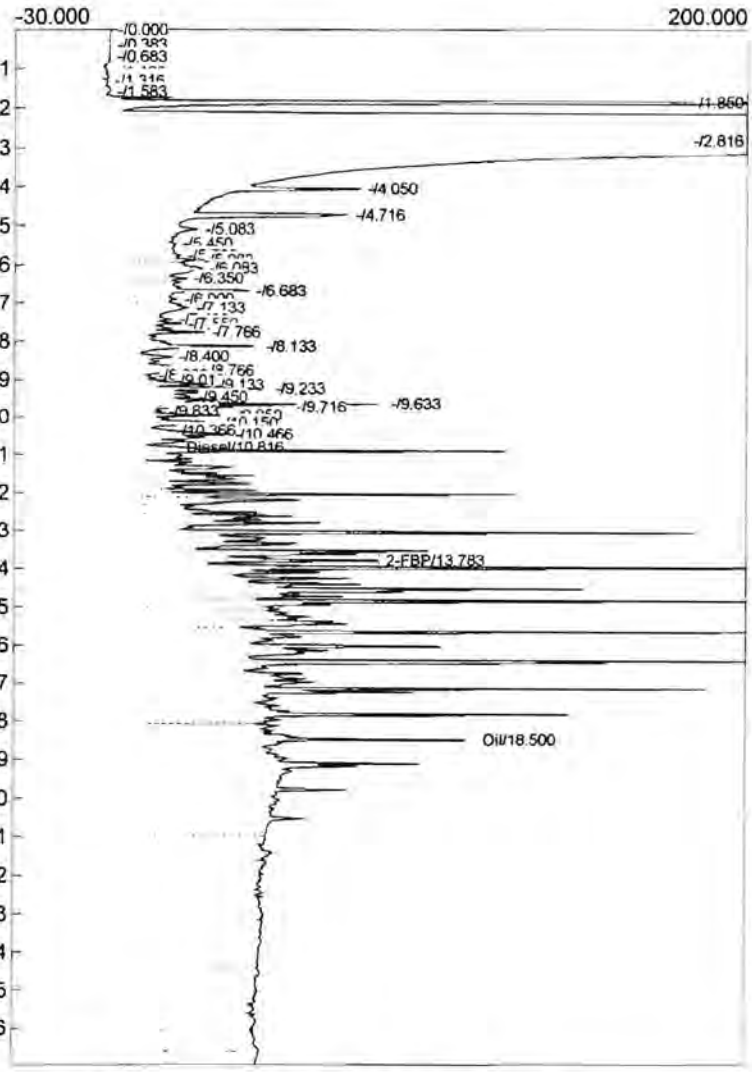
Analysis date: 09/18/2012 08:11:10
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D140.CHR ()
Sample: 1000 ppm LCSD #343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.816	19255.9885	6.881	1031.3757	ppm
2-FBP	13.783	465.3935	73.317	15.5131	ppm
Oil	18.500	17658.9600	101.646	944.4925	ppm
		37380.3420		1991.3814	

103%

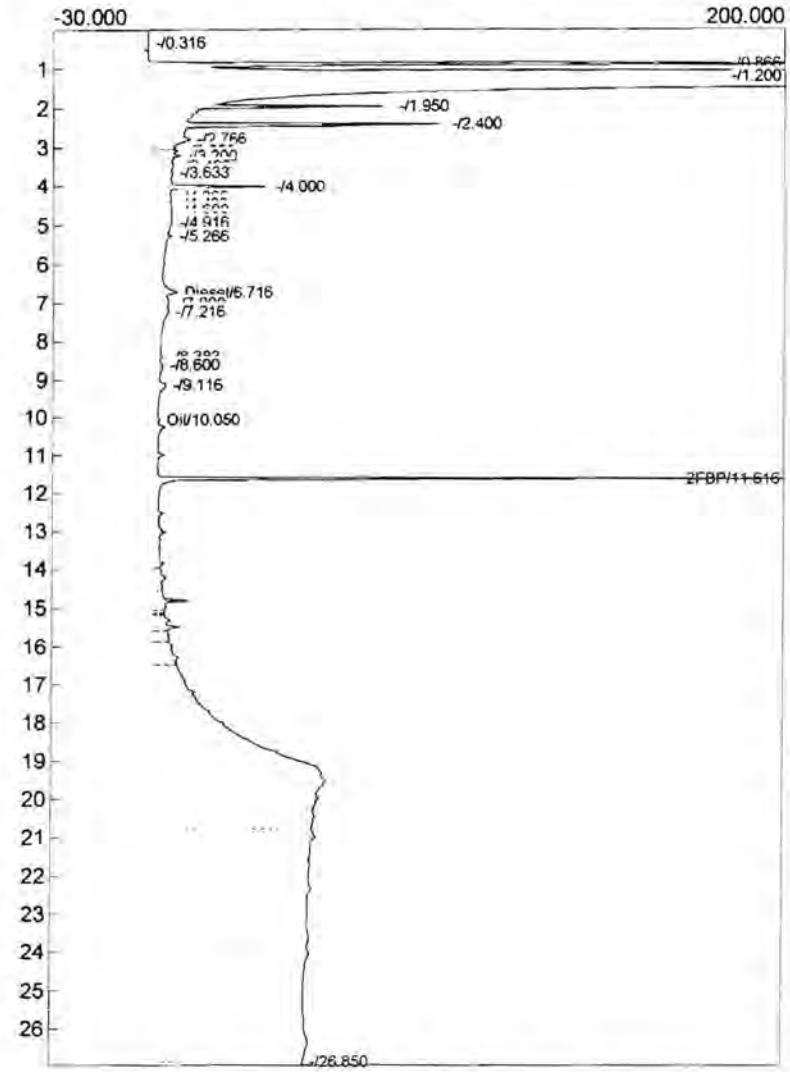
Analysis date: 09/18/2012 08:45:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C143.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	6.716	27.1580	3.594	1.3352	ppm
Oil	10.050	26914.3410	0.350	1333.7420	ppm
2FBP	11.616	563.4930	236.646	18.7831	ppm
		27504.9920		1353.8603	

94%

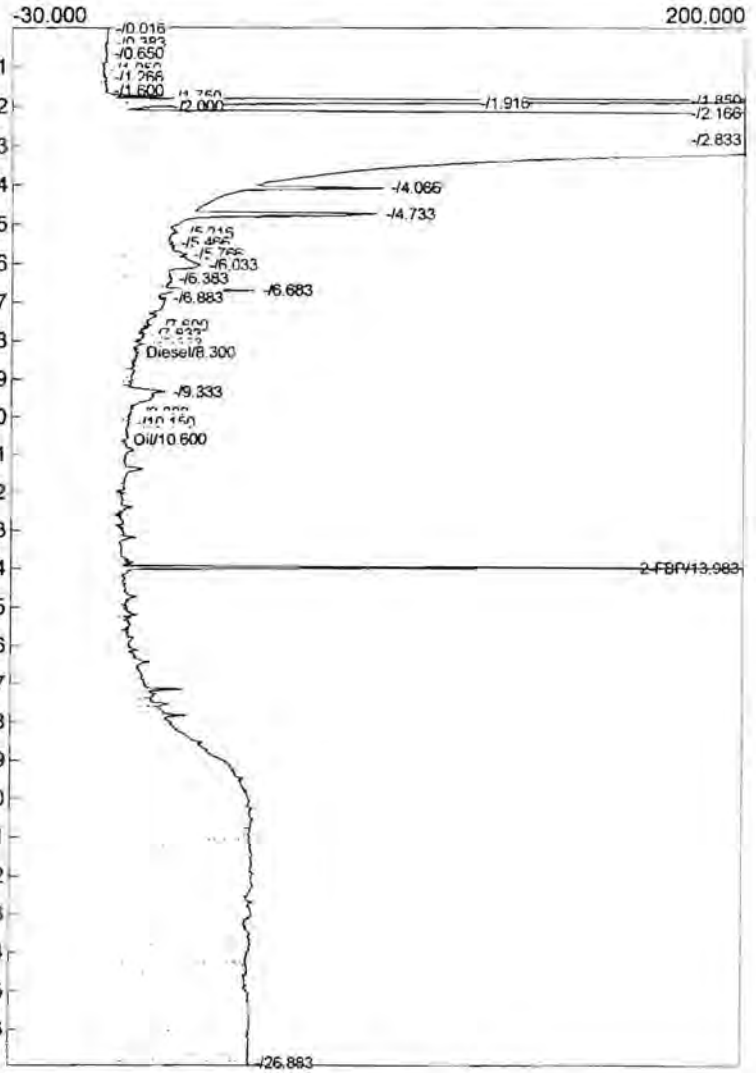
Analysis date: 09/18/2012 08:45:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D141.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.300	159.8065	4.800	8.4391	ppm
Oil	10.600	21942.9275	1.200	1178.2029	ppm
2-FBP	13.983	578.9435	250.169	19.2981	ppm
		22681.6775		1205.9402	

96%

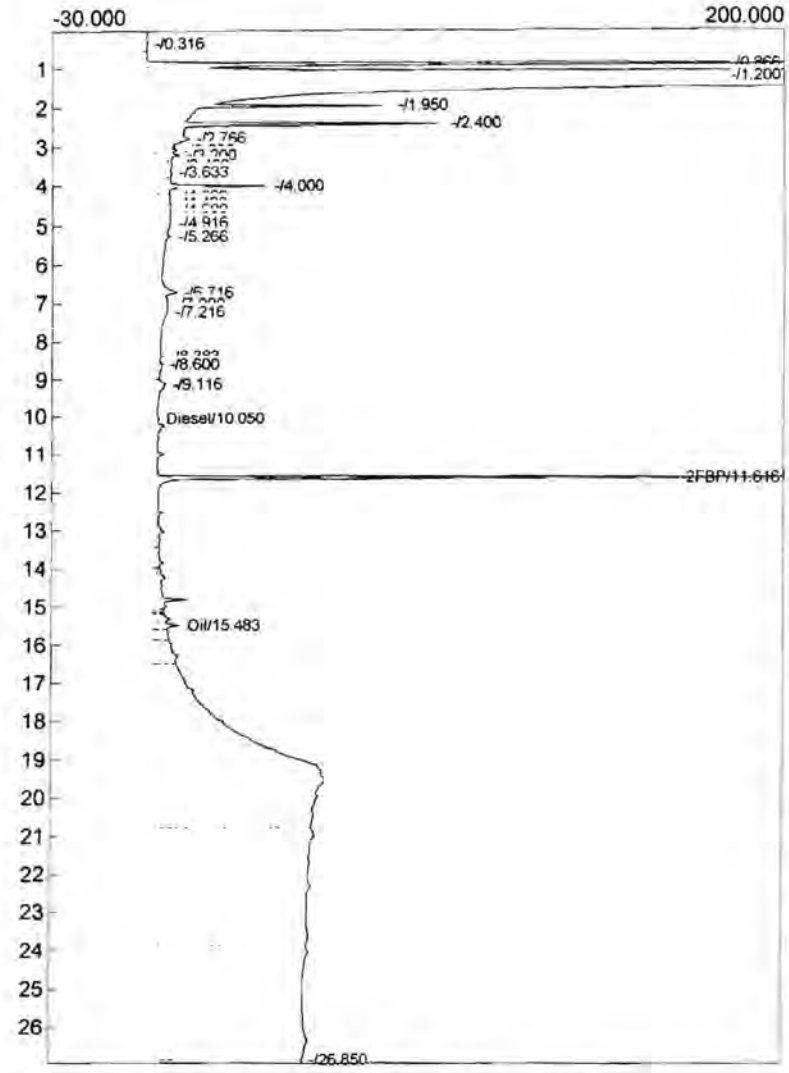
Analysis date: 09/18/2012 08:45:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C143.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.050	874.7160	0.350	43.0044	ppm
2FBP	11.616	563.4930	236.646	18.7831	ppm
Oil	15.483	26039.6250	7.363	1290.0110	ppm
		27477.8340		1351.7985	

94%

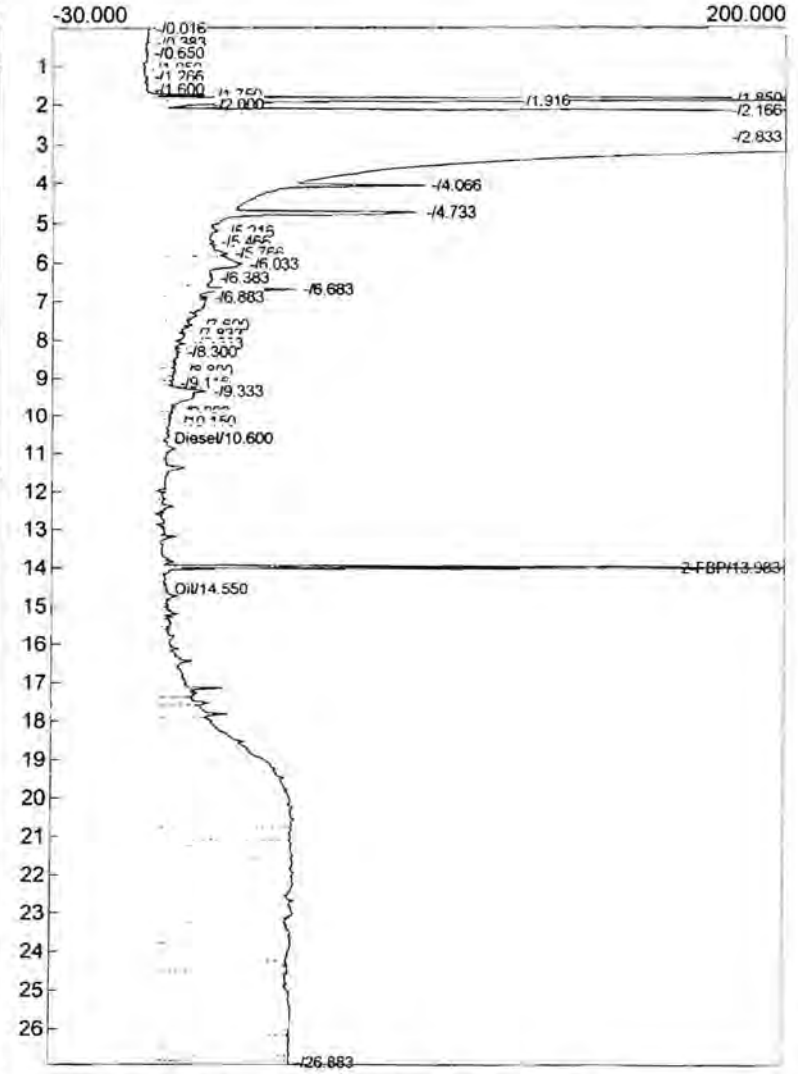
Analysis date: 09/18/2012 08:45:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D141.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.600	801.3350	1.200	42.3173	ppm
2-FBP	13.983	578.9435	250.169	19.2981	ppm
Oil	14.550	21141.5925	0.823	1134.4141	ppm
		22521.8710		1196.0296	

96%

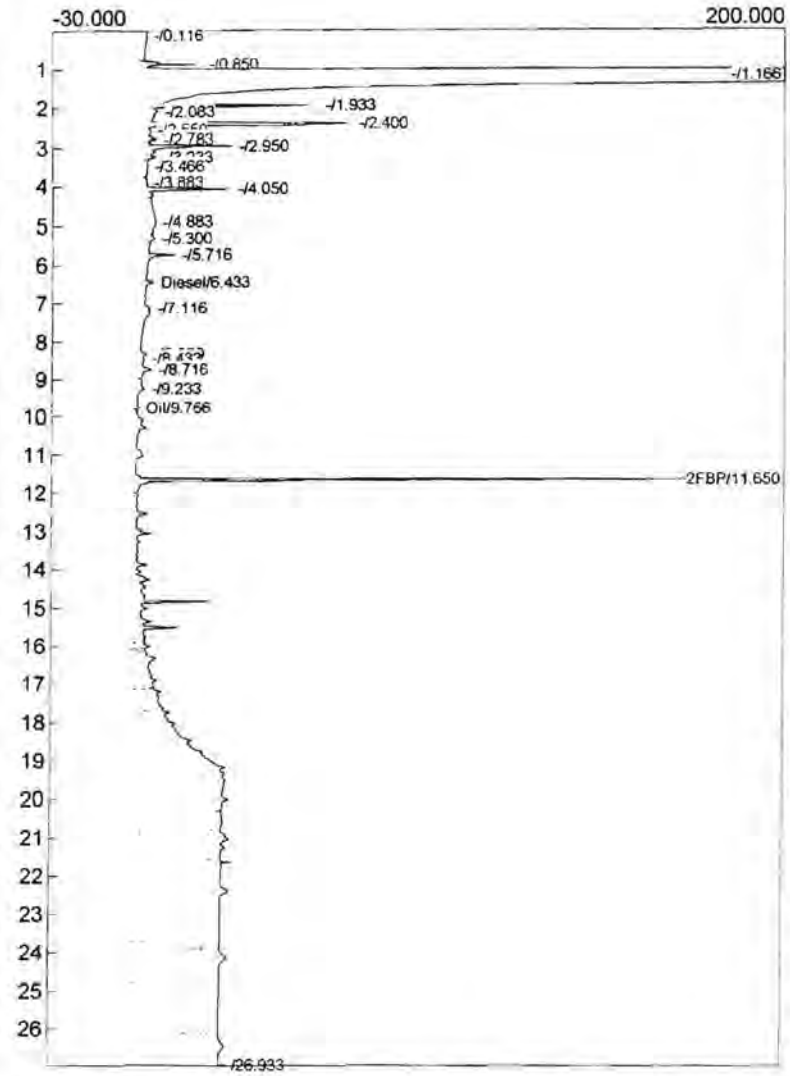
Analysis date: 09/18/2012 13:14:32
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C144.CHR ()
Sample: DW1-09181
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	6.433	11.8490	2.585	0.5825	ppm
)il	9.766	15815.9000	1.272	770.8183	ppm
!FBP	11.650	426.4110	188.249	14.2137	ppm
		16054.1600		785.6145	

nd 71%

Analysis date: 09/18/2012 13:14:32
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D142.CHR ()
Sample: DW1-09181 Dup
Operator: PB

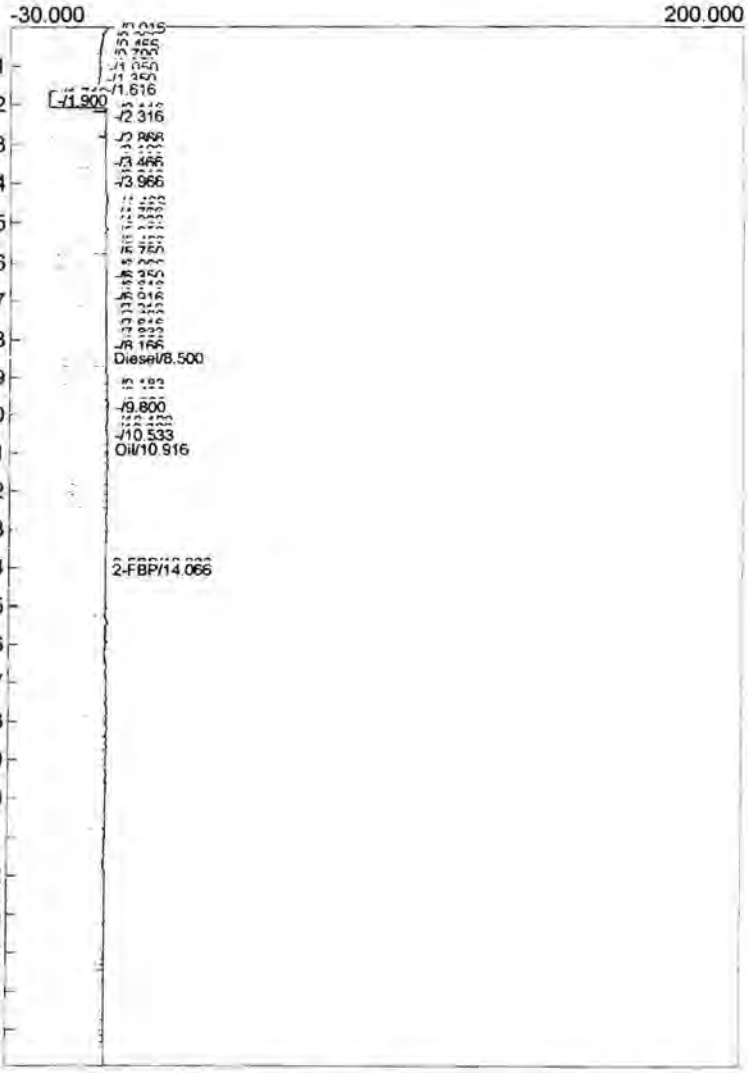
Not used

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.500	705.2705	13.512	37.2443	ppm
Oil	10.916	5789.5955	12.162	306.4553	ppm
2-FBP	13.900	131.2980	9.450	4.3766	ppm
2-FBP	14.066	147.1220	9.320	4.9041	ppm
		6773.2860		352.9803	

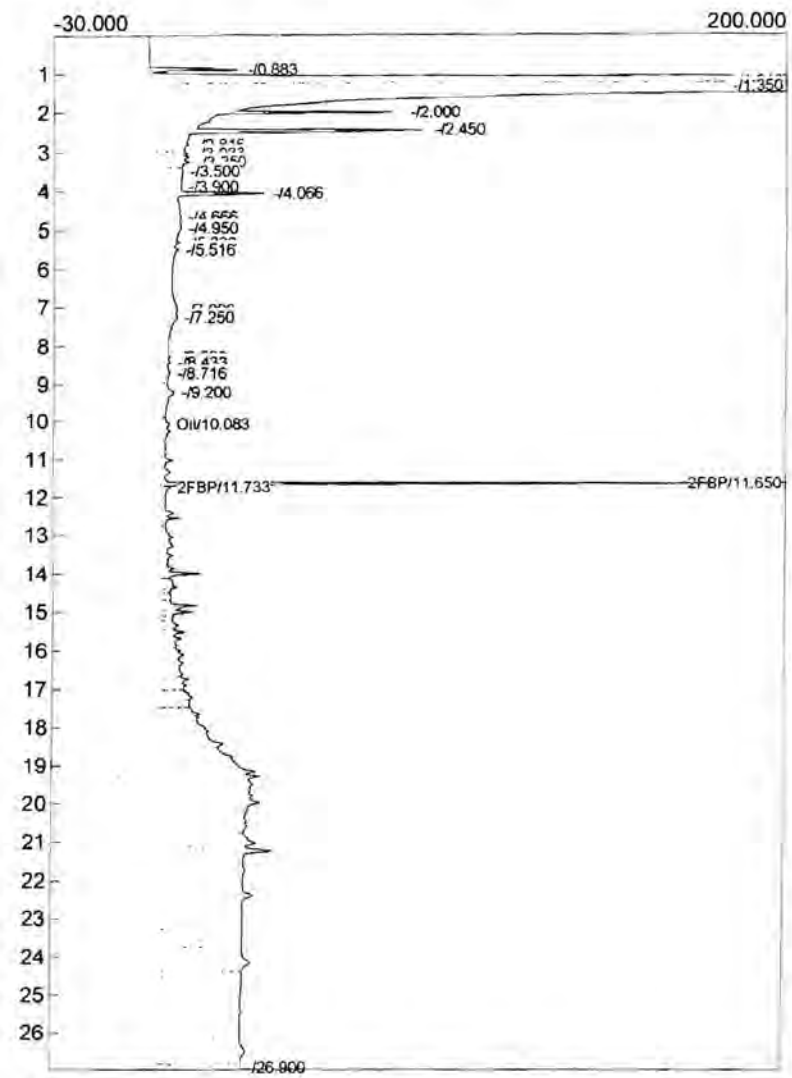
Analysis date: 09/18/2012 14:58:32
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C147.CHR ()
Sample: DW1-091812 Dup
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.083	15159.2850	0.898	748.1813	ppm
2FBP	11.650	493.4600	235.693	16.4487	ppm
2FBP	11.733	13.4980	2.440	0.4499	ppm
		15666.2430		765.0799	

nd 82%

Analysis date: 09/18/2012 14:58:32
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D145.CHR ()
Sample: DW1-091812 Dup
Operator: PB

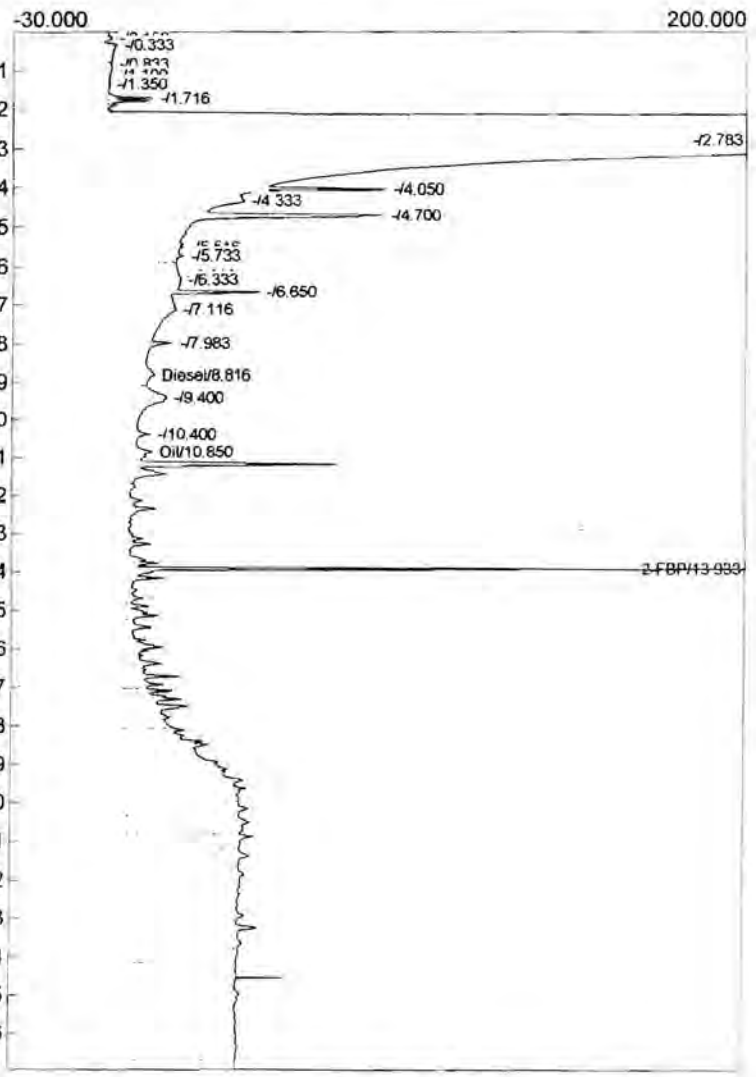
not used

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.816	66.9395	3.577	3.5350	ppm
Oil	10.850	20583.8630	5.823	1103.9371	ppm
2-FBP	13.933	591.8805	246.720	19.7294	ppm
		21242.6830		1127.2015	

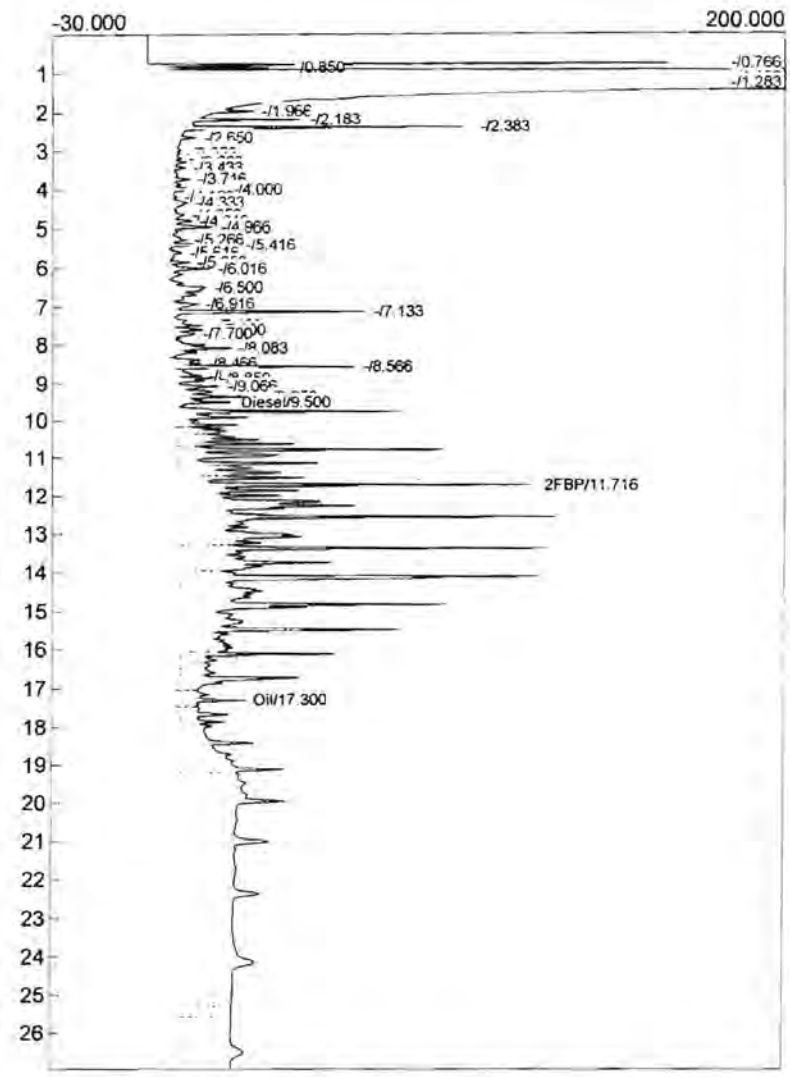
Analysis date: 09/18/2012 16:08:31
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C149.CHR ()
Sample: 500 ppb Diesel #791
Operator: PB

emperature program:

iit temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.500	9594.0220	17.360	472.6352	ppm
2FBP	11.716	598.2300	112.600	19.9410	ppm
Oil	17.300	9416.7930	20.816	463.8734	ppm
		19609.0450		956.4495	

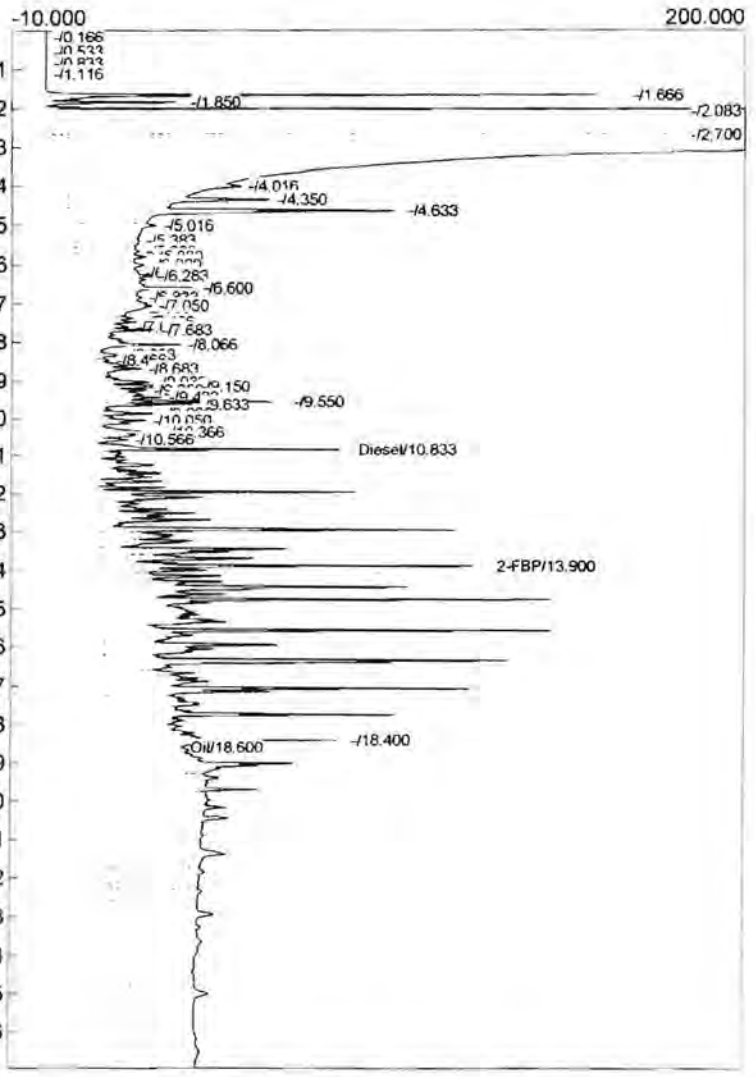
Analysis date: 09/18/2012 16:08:31
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D147.CHR ()
Sample: 500 ppb Diesel #791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

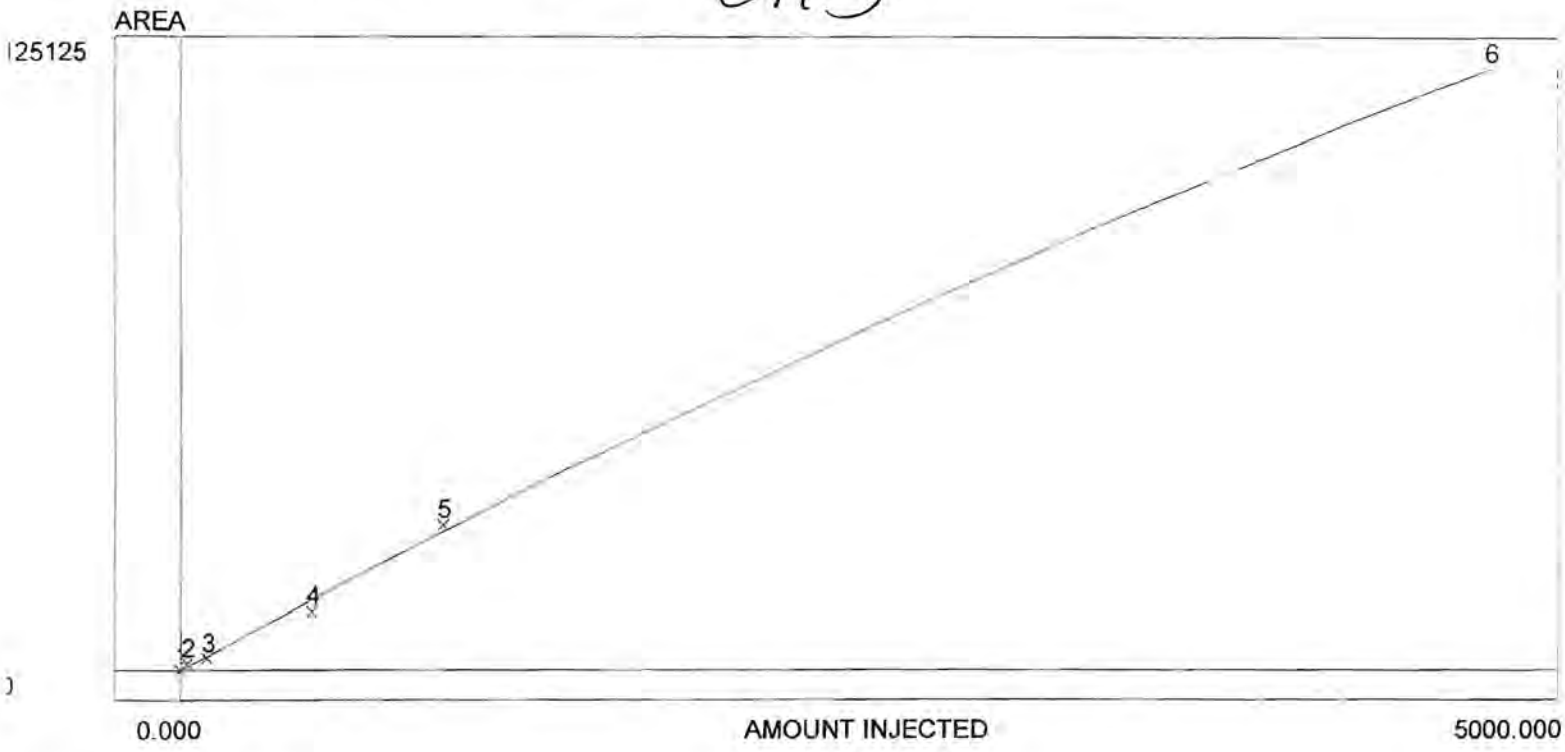
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.833	10036.5295	69.705	533.1480	ppm
2-FBP	13.900	538.4585	111.293	17.9486	ppm
Oil	18.600	12658.3625	21.672	673.9935	ppm
		23233.3505		1225.0901	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

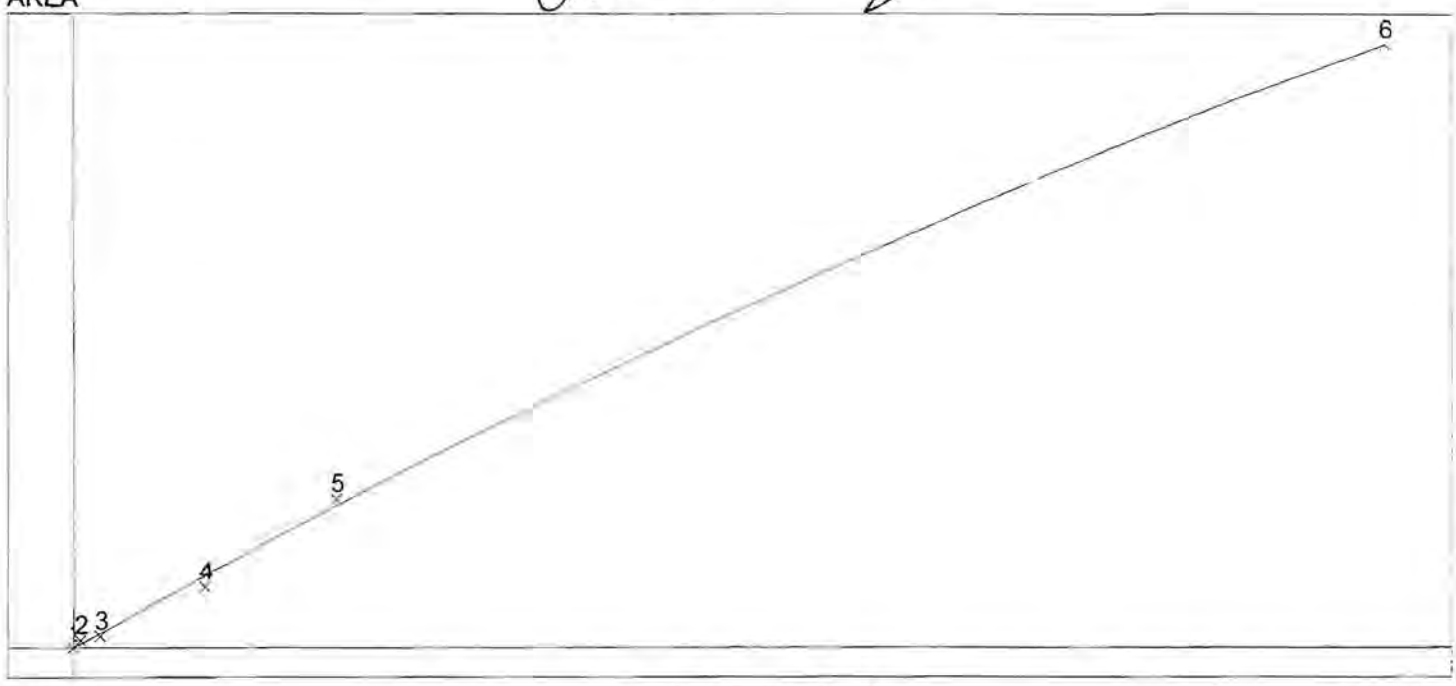


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X²+29.3544X
R2: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1410.471	25.000	56.419	1410.471	N/A	N/A
3	2574.179	100.000	25.742	2574.179	N/A	N/A
4	12043.265	500.000	24.087	12043.265	N/A	N/A
5	29871.863	1000.000	29.872	29871.863	N/A	N/A
6	125124.670	5000.000	25.025	125124.670	N/A	N/A

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

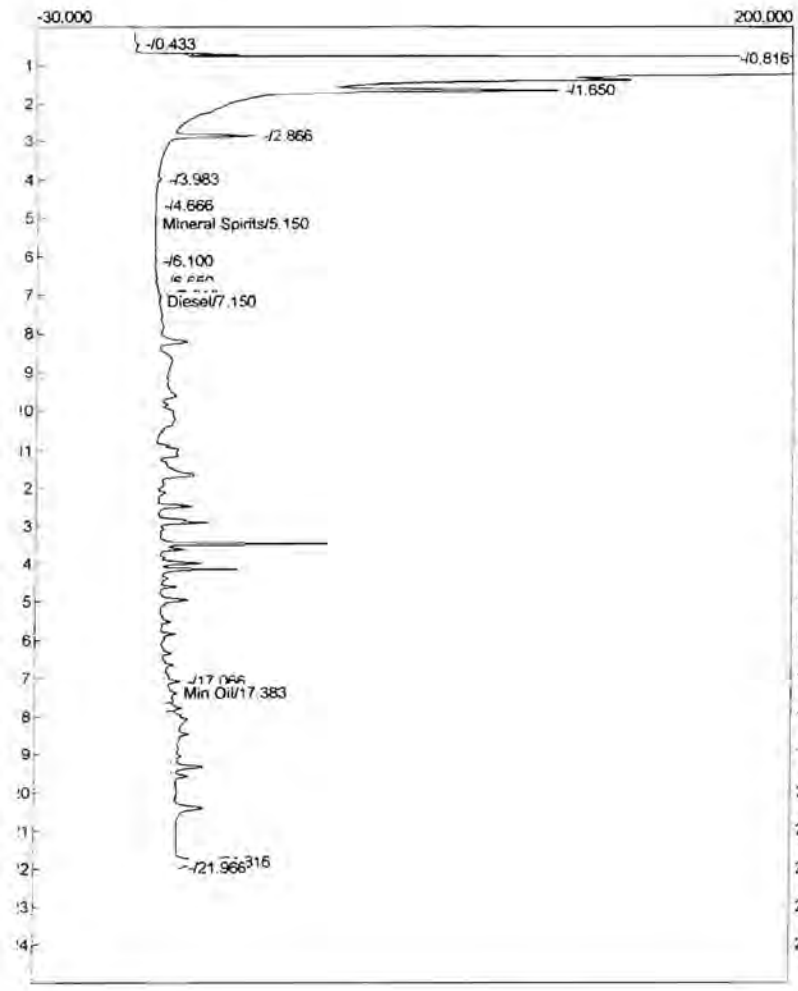
Ch 4



Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
$Y=-0.0008X^a+24.2883X$
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1271.716	25.000	50.869	1271.716	N/A	N/A
3	1927.394	100.000	19.274	1927.394	N/A	N/A
4	10086.605	500.000	20.173	10086.605	N/A	N/A
5	24554.042	1000.000	24.554	24554.042	N/A	N/A
6	101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

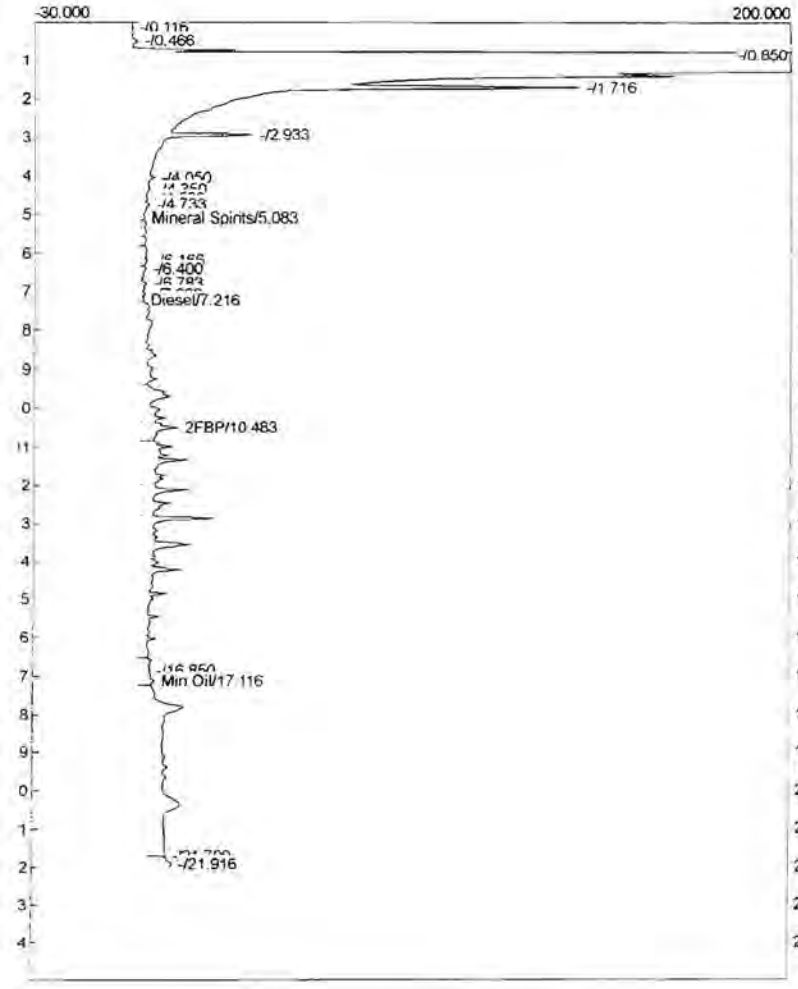


Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPM
Diesel	7.150	1410.4710	0.518	13.6936	ppm
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

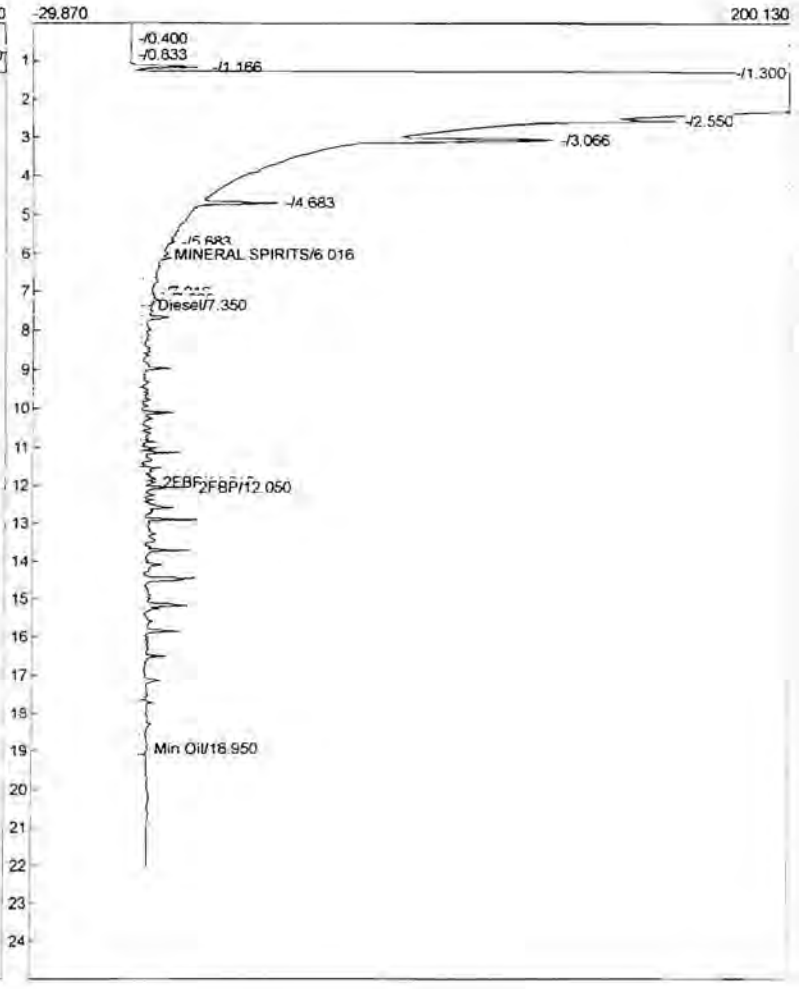
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppm
Min Oil	18.583	209.2665	1.582	14.7689	ppm
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



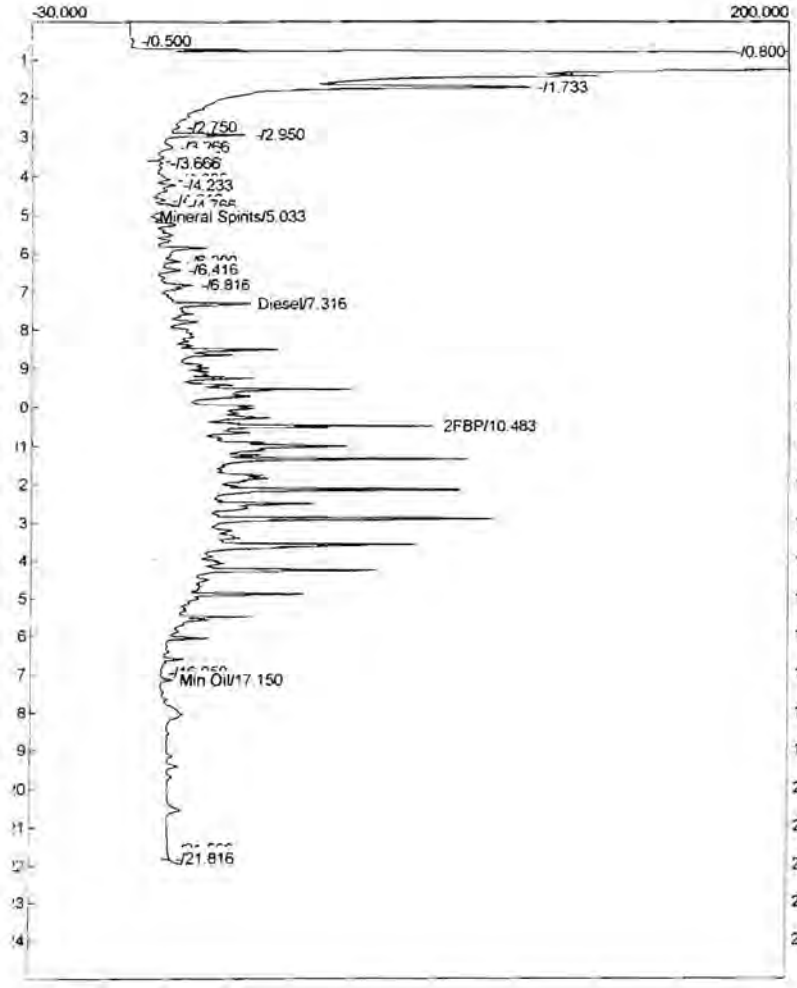
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

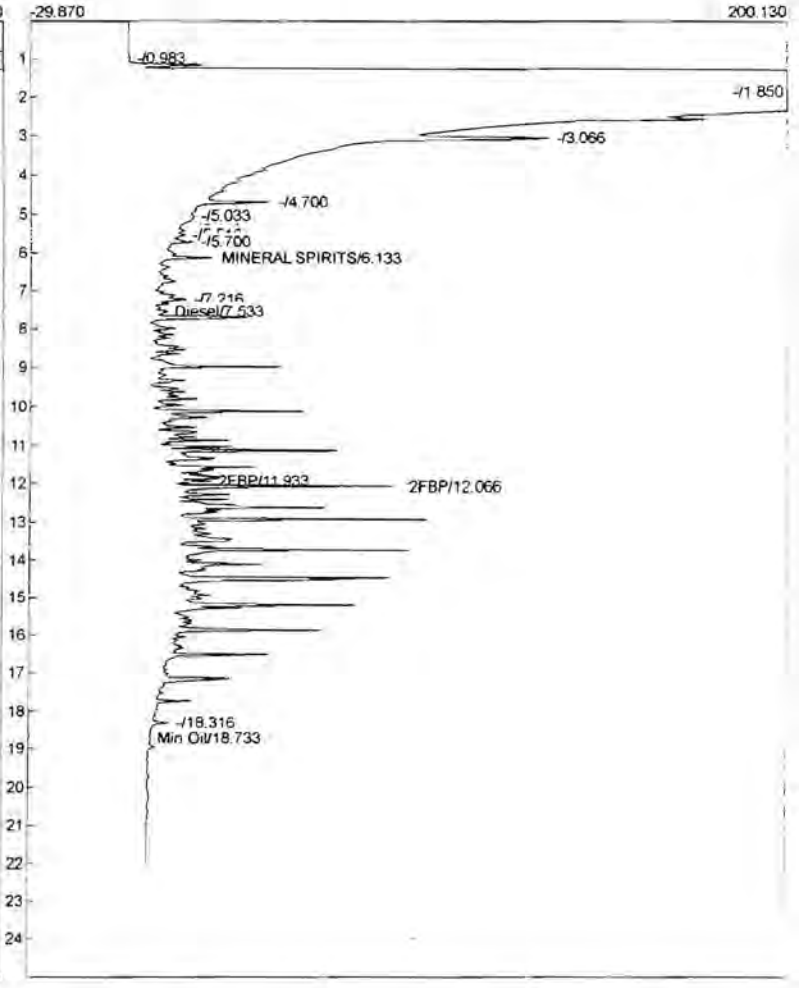
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	
		13327.5880		605.4694	

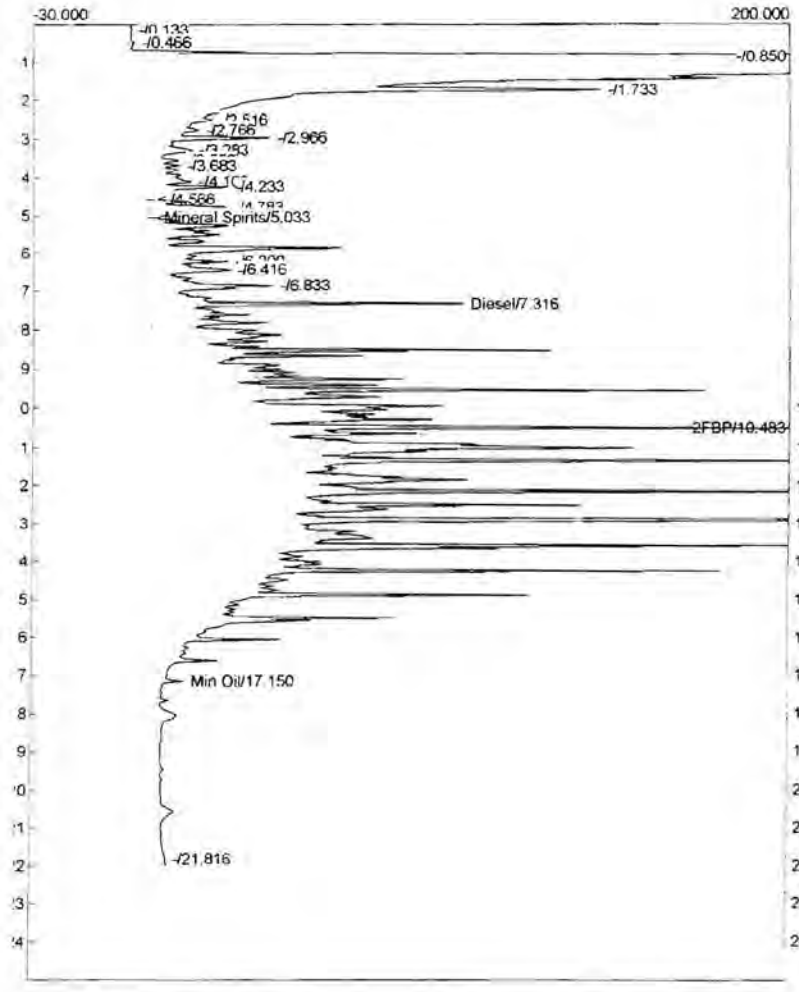
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

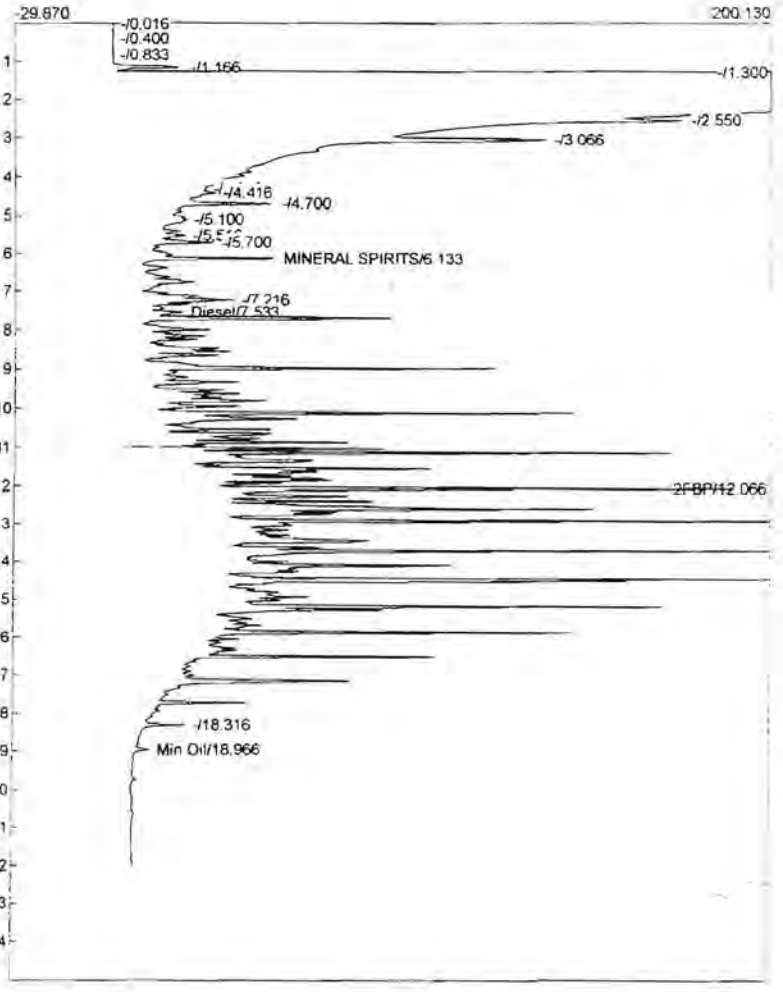


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

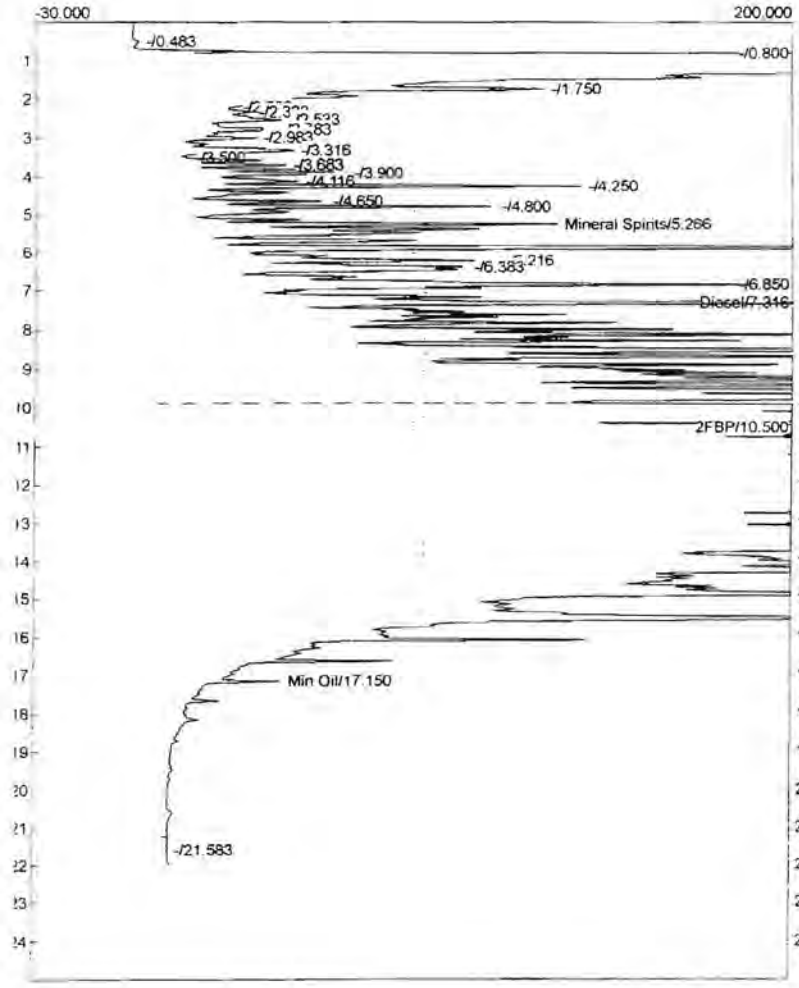




Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

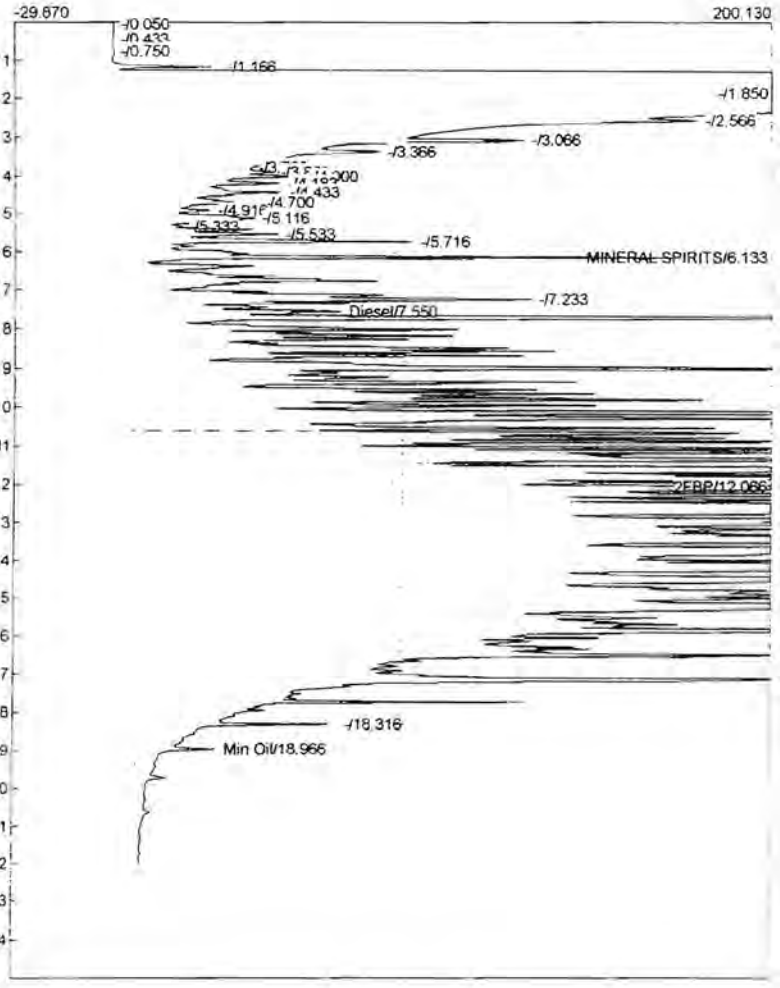
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



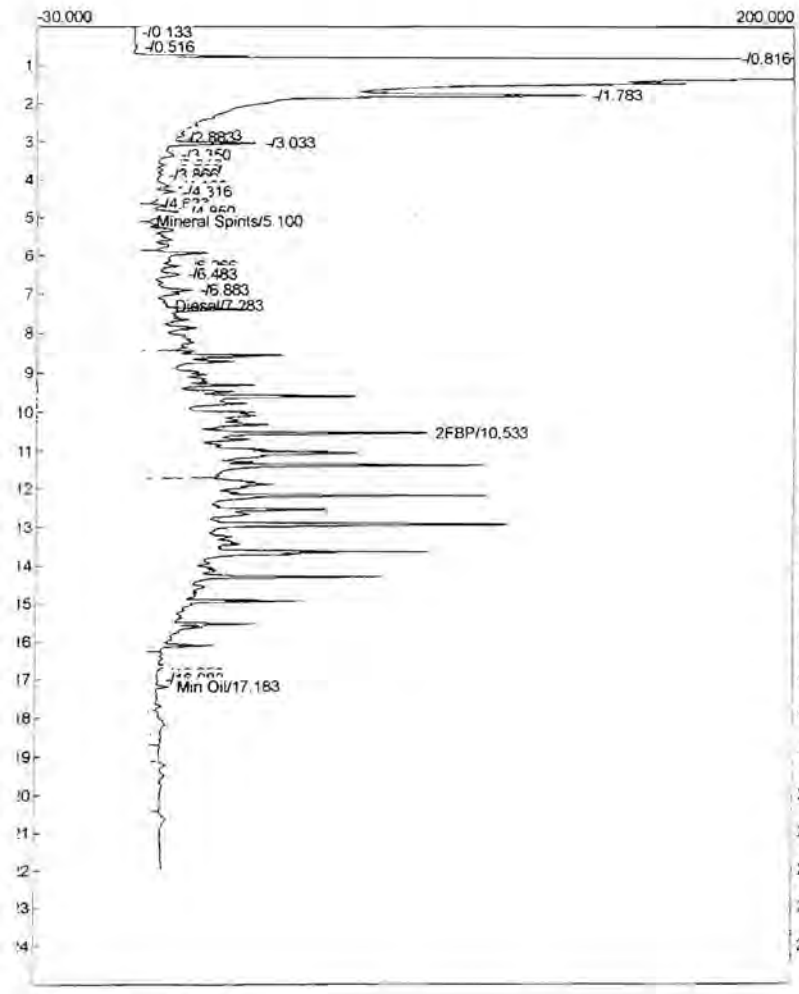
Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

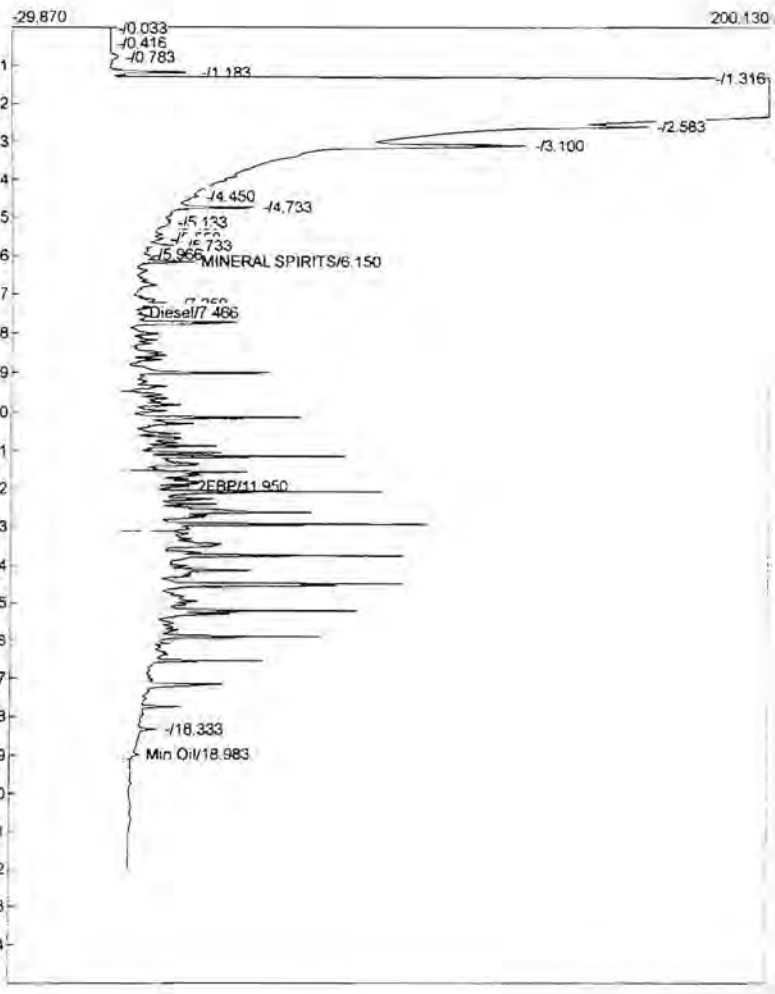


UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Metals Arsenic, Copper, Iron, Lead, Nickel and Zinc by EPA Method 6020 on October 1 & 2, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120921-5
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

N/A

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

N/A

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

#0015

Date: 9/19/12 Page: 1 of

Client: GEI

Project Manager: NEIL MORTON

Address:

Project Name: IRONDALE

Phone: 206-725-2674 Fax:

Location: City: IRONDALE

Client Project #

Collector: 9/19/12 Date of Collection: 9/19/12

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	~~RCRA~~ Metals (1)			Field Notes
1	Topsoil-9/19/12	1'	0900	Soil	(2) 8 oz										X				~~Hold extra for other tests~~ PLP
2	ROAD-9/19/12	2	1200	Soil	(2) 4oz										X				
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by:	Date / Time
Neil Roberts	9/21 1320	Paul Bunk	9/21 1320
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
(1) Arsenic, Copper, Iron, Lead, Nickel, Zinc
std

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120921-5

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209144

October 02, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 2 sample(s) on 9/25/2012 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michelle Clements
Sr. Chemist / Lab Manager

Date: *10/02/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209144

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209144-001	Topsoil 091112	09/19/2012 9:00 AM	09/25/2012 11:00 AM
1209144-002	Road 091112	09/19/2012 12:00 PM	09/25/2012 11:00 AM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209144**
Date: **10/2/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209144**

Date Reported: **10/2/2012**

Client: Libby Environmental **Collection Date:** 9/19/2012 9:00:00 AM

Project: Irondale

Lab ID: 1209144-001 **Matrix:** Soil

Client Sample ID: Topsoil 091112

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 3287		Analyst: SG
Arsenic	2.19	0.0814		mg/Kg-dry	1	10/1/2012 10:45:51 PM
Copper	11.9	0.163	B	mg/Kg-dry	1	10/1/2012 10:45:51 PM
Iron	12,600	89.6	D	mg/Kg-dry	20	10/2/2012 3:01:22 PM
Lead	3.17	0.163		mg/Kg-dry	1	10/1/2012 10:45:51 PM
Nickel	43.2	0.0814		mg/Kg-dry	1	10/1/2012 10:45:51 PM
Zinc	35.6	0.326	B	mg/Kg-dry	1	10/1/2012 10:45:51 PM
Sample Moisture (Percent Moisture)				Batch ID: R5854		Analyst: CM
Percent Moisture	6.27			wt%	1	9/25/2012 11:46:56 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209144**
Date Reported: **10/2/2012**

Client: Libby Environmental
Collection Date: 9/19/2012 12:00:00 PM
Project: Irondale
Lab ID: 1209144-002
Matrix: Soil
Client Sample ID: Road 091112

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 3287		Analyst: SG
Arsenic	98.4	1.57	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Copper	549	3.13	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Iron	37,400	86.2	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Lead	1,320	3.13	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Nickel	135	1.57	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Zinc	1,820	6.27	D	mg/Kg-dry	20	10/2/2012 3:10:59 PM
Sample Moisture (Percent Moisture)				Batch ID: R5866		Analyst: CM
Percent Moisture	4.75			wt%	1	9/26/2012 10:32:12 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209144
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-3287** SampType: **MBLK** Units: **mg/Kg** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **MBLKS** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117951**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Copper	0.484	0.200									
Iron	ND	5.50									
Lead	ND	0.200									
Nickel	ND	0.100									
Zinc	1.55	0.400									

NOTES:
B - Values in the blank

Sample ID: **LCS-3287** SampType: **LCS** Units: **mg/Kg** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **LCSS** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117952**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	92.1	0.100	84.10	0	109	68.73	130.8				
Copper	278	0.200	262.0	0	106	75.95	124.05				B
Iron	2,890	5.50	4,390	0	65.8	4.56	234.62				
Lead	302	0.200	301.0	0	100	70.1	115.61				
Nickel	113	0.100	105.0	0	108	72.76	127.62				
Zinc	657	0.400	615.0	0	107	68.29	117.89				B

Sample ID: **1209144-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **Topsoil 091112** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117954**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	2.10	0.0768						2.192	4.36	30	
Copper	11.4	0.154						11.90	4.42	30	B
Iron	12,700	4.22						13,010	2.38	30	E
Lead	3.03	0.154						3.172	4.68	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209144
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1209144-001ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **Topsoil 091112** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117954**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	42.0	0.0768						43.19	2.69	30	
Zinc	34.6	0.307						35.64	3.06	30	B

Sample ID: **1209144-001AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **Topsoil 091112** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117956**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	41.6	0.0716	35.80	2.192	110	75	125				
Copper	48.2	0.143	35.80	11.90	101	75	125				B
Iron	13,700	3.94	358.0	13,010	190	75	125				S
Lead	21.1	0.143	17.90	3.172	100	75	125				
Nickel	82.2	0.0716	35.80	43.19	109	75	125				
Zinc	75.0	0.286	35.80	35.64	110	75	125				B

NOTES:
S - High Iron concentration prevents accurate spike recovery.

Sample ID: **1209144-001AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **Topsoil 091112** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117957**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	45.0	0.0736	36.79	2.192	116	75	125	41.62	7.73	30	
Copper	51.5	0.147	36.79	11.90	108	75	125	48.22	6.57	30	B
Iron	14,300	4.05	367.9	13,010	339	75	125	13,690	4.07	30	S
Lead	22.3	0.147	18.40	3.172	104	75	125	21.14	5.35	30	
Nickel	87.1	0.0736	36.79	43.19	119	75	125	82.20	5.79	30	
Zinc	81.8	0.294	36.79	35.64	126	75	125	75.01	8.69	30	BS

NOTES:
S - High Iron concentration prevents accurate spike recoveries. Zn spike recovery outside of QC limits. The Zn MS was within range.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209144
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1209144-001APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **Topsoil 091112** Batch ID: **3287** Analysis Date: **10/1/2012** SeqNo: **117958**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	107	0.0814	50.0	5.38	101	75	125				
Copper	120	0.163	50.0	29.2	90.5	75	125				B
Iron	13,500	4.48	407	13,000	122	75	125				
Lead	52.0	0.163	25.0	7.79	88.5	75	125				
Nickel	205	0.0814	50.0	106	98.7	75	125				
Zinc	187	0.326	50.0	87.5	99.2	75	125				B

Sample ID: **ICV-3287B** SampType: **ICV** Units: **µg/L** Prep Date: **9/26/2012** RunNo: **5952**
Client ID: **ICV** Batch ID: **3287** Analysis Date: **10/2/2012** SeqNo: **118210**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	95.9	0.100	100.0	0	95.9	90	110				
Copper	94.6	0.200	100.0	0	94.6	90	110				
Iron	1,470	5.50	1,500	0	98.2	90	110				
Lead	46.4	0.200	50.00	0	92.9	90	110				
Nickel	96.8	0.100	100.0	0	96.8	90	110				
Zinc	98.1	0.400	100.0	0	98.1	90	110				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209144**
Logged by: **Troy Zehr**	Date Received: **9/25/2012 11:00:00 AM**

Chain of Custody

1.	Were custodial seals present?	Yes	☑	No	☐	Not Required ☐
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present ☐
3.	How was the sample delivered?	UPS				

Log In

4.	Coolers are present?	Yes	☑	No	☐	NA ☐
5.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA ☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☑	No	☐	NA ☐
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐	
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐	
9.	Are samples properly preserved?	Yes	☑	No	☐	
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA ☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA ☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐	
13.	Does paperwork match bottle labels?	Yes	☑	No	☐	
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐	
15.	Is it clear what analyses were requested?	Yes	☑	No	☐	
16.	Were all holding times able to be met?	Yes	☑	No	☐	

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp ºC	Condition
Cooler	9.1	Good

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

www.LibbyEnvironmental.com

Chain of Custody Record

1209144

Date: 24 Sep 12 Page: 1 of 1

Client: Libby Environmental
Address: See above
City: State: Zip
Phone: Fax:
Client Project #

Project Manager: Jamie Deyman
Project Name: Irondale
Location: City, State:
Collector: Date of Collection: 19 Sep 12
Email:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-GX	NWTPH-Dx	NWTPH-Dx Ext	PAH 8270	PCB's 8082	MTCA 5 Metals				Field Notes
1 Topsoil 9111 2	1	0900	Soil	4oz Jars										X					
2 Road 9111 2	2	1200	Soil	4oz Jars										X					
3																			
4																			
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15																			
16																			
17																			

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/24/12 9:25AM		
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers:	

Remarks:
1. Arsenic, Copper, Iron, Lead, Nickel, Zinc 5td

TAT: 24HR 48HR (5-DAY)

Distribution: White - Lab, Yellow - File, Pink - Engineer

Libby Environmental, Inc.

4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up on September 21, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com

www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120921-30
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

N/A

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

#007

Date: 9/21/12 Page: 1 of 1

Client: LSE Engineers
Address:
Phone: Fax:
Client Project #

Project Manager: Neil Molten
Project Name: Irondale
Location: WA City: Irondale
Collector: Paul Robinette Date of Collection: 9/21/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 SURI-WSW1-92112	2'	0800	Soil	(2) 4oz							X	X						PAH extract & hold
2 SURI-SB1-92112	3'	0945	Soil	(2) 4oz							X	X						"
3 SURI-SB2-92112	6'	1030	Soil	(2) 4oz							X	X						"
4 SURI-SB3-92112	5'	1145	"	(2) 4oz							X	X						"
5 SURI-SB4-92112	5'	1150	"	4oz							X							
6																		
7																		
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Relinquished by	Date / Time	Received by	Date / Time
Paul Robinette	9/21 1400	Paul Bunka	9/21 1400
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: see attached list of PAH compounds to be analyzed for.

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120921-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120921-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/21/12	89	nd	nd
LCS	9/21/12	int	100%	
LCSD	9/21/12	int	101%	
SVRZ-WSW1-92112	9/21/12	103	nd	nd
SVRZ-WSW1-92112 Dup	9/21/12	92	nd	nd
SVRZ-SB1-92112	9/21/12	110	nd	nd
SVRZ-SB1-92112 Dup	9/21/12	88	nd	nd
SVRZ-SB2-92112	9/21/12	115	nd	nd
SVRZ-SB3-92112	9/21/12	106	nd	nd
SVRZ-SB4-92113	9/21/12	96	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/21/2012

Libby Job #: L120921-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	6:22:57	C162	3 µl		527		
500 ppm Diesel 791	6:22:57	D160	3 µl		544		
1000 ppm LCS 343	7:14:19	C163	3 µl	int	996		
1000 ppm LCSD 343	7:14:19	D151	3 µl	int	1012		
Method Blank	8:09:16	C164	3 µl	22.9	nd	nd	nd
Method Blank	8:09:16	D162	3 µl	17.9	nd	nd	nd
SVRZ-WSW1-92112	8:54:51	C165	3 µl	20.5	nd	nd	nd
SVRZ-WSW1-92112 Dup	8:54:51	D163	3 µl	18.4	nd	nd	nd
SVRZ-SB1-92112	10:27:23	C166	3 µl	22.0	nd	nd	nd
SVRZ-SB1-92112 Dup	10:27:23	D164	3 µl	17.6	nd	nd	nd
SVRZ-SB2-92112	11:47:58	C167	3 µl	23.0	nd	nd	nd
No Sample	11:47:58	D165	3 µl				
SVRZ-SB3-92112	12:57:42	C168	3 µl	21.2	nd	nd	nd
SVRZ-SB4-92112	12:57:42	D166	3 µl	19.1	nd	nd	nd
500 ppm Diesel 791	13:30:54	C169	3 µl		532		
500 ppm Diesel 791	13:30:54	D167	3 µl		570		

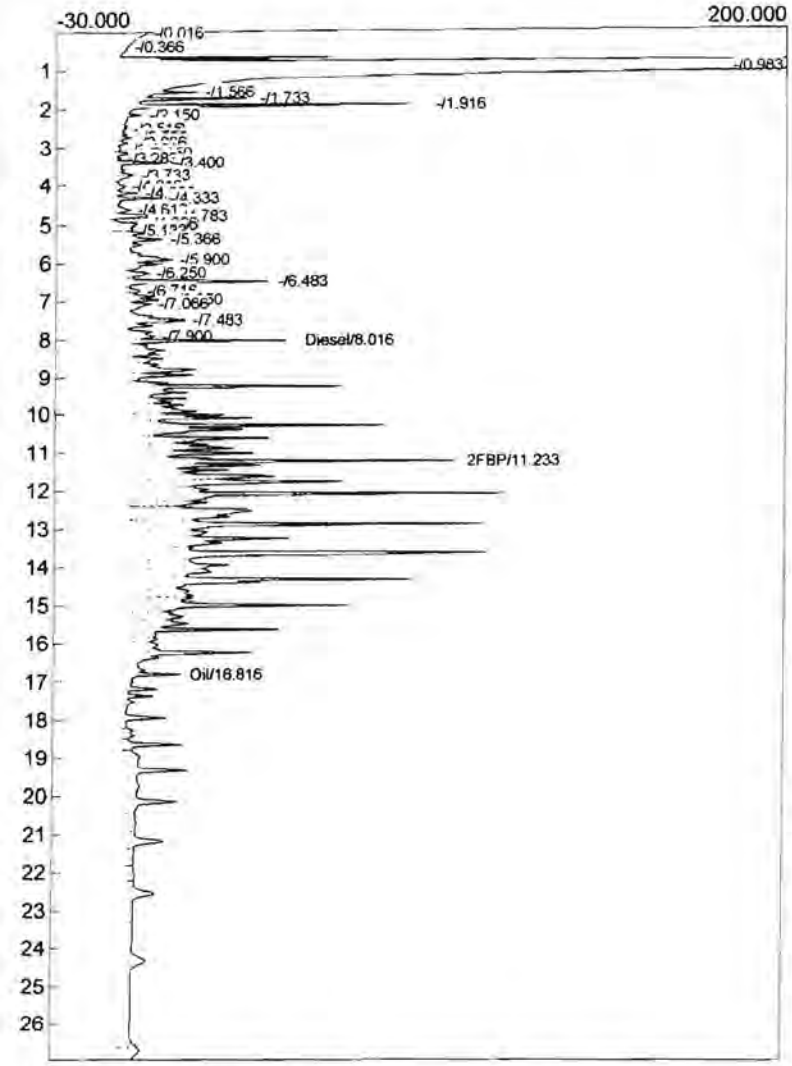
Lab name: Libby Environmental
Analysis date: 09/21/2012 06:22:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C162.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

nit temp	Hold	Ramp	Final temp

Events:

Time	Event
).000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.016	10697.3440	50.919	527.1808	ppm
FBP	11.233	649.8180	102.975	25.9927	ppm
il	16.816	1434.8160	15.841	70.5411	ppm
		12781.9780		623.7146	

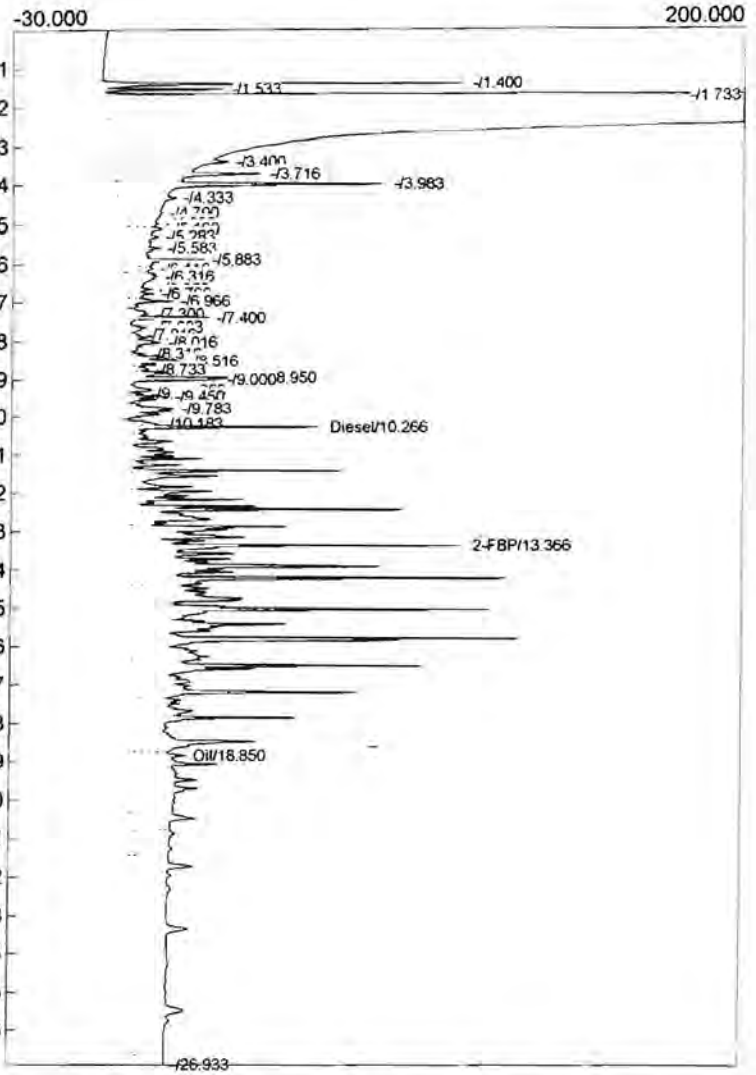
Lab name: Libby Environmental
Analysis date: 09/21/2012 06:22:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D160.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.266	10246.8410	59.285	544.4055	ppm
2-FBP	13.366	546.7980	104.995	18.2266	ppm
Oil	18.850	5838.1180	17.047	309.0351	ppm
		16631.7570		871.6672	

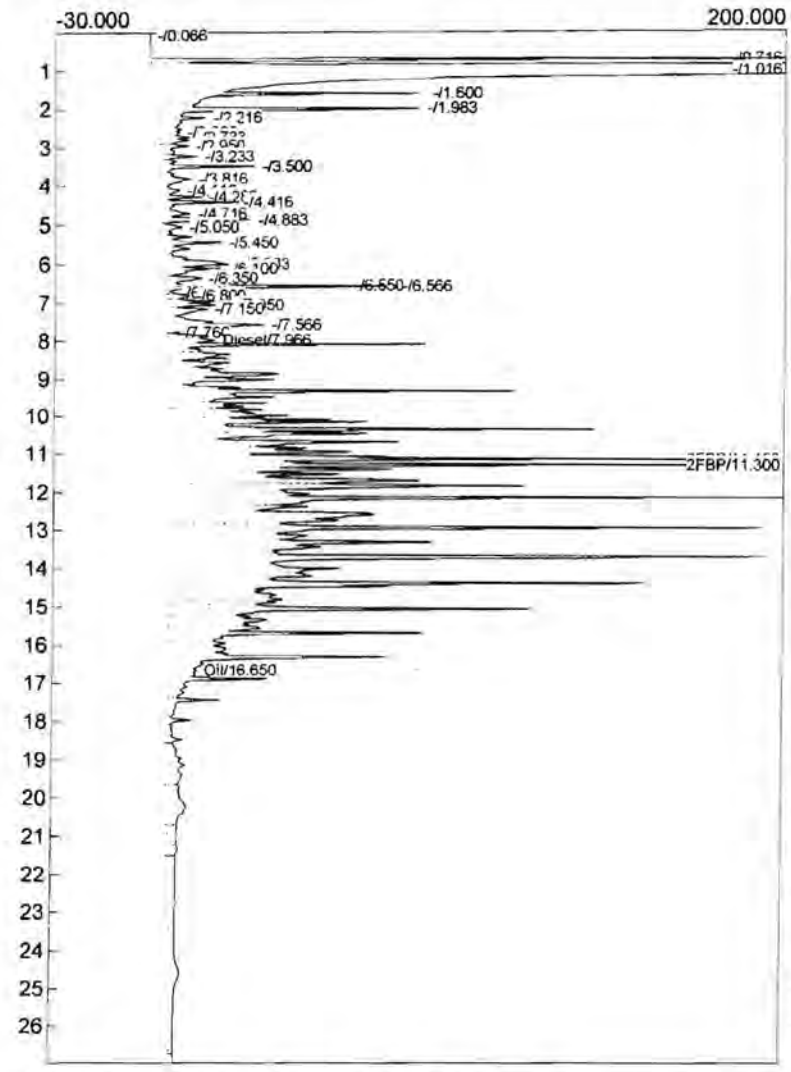
Analysis date: 09/21/2012 07:14:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C163.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

Temperature program:

nit temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	7.966	20148.7465	14.476	996.0848	ppm
FBP	11.150	833.8405	180.601	33.3536	ppm
FBP	11.300	1120.6330	167.312	44.8253	ppm
il	16.650	1615.8865	8.628	79.4432	ppm
		23719.1065		1153.7069	

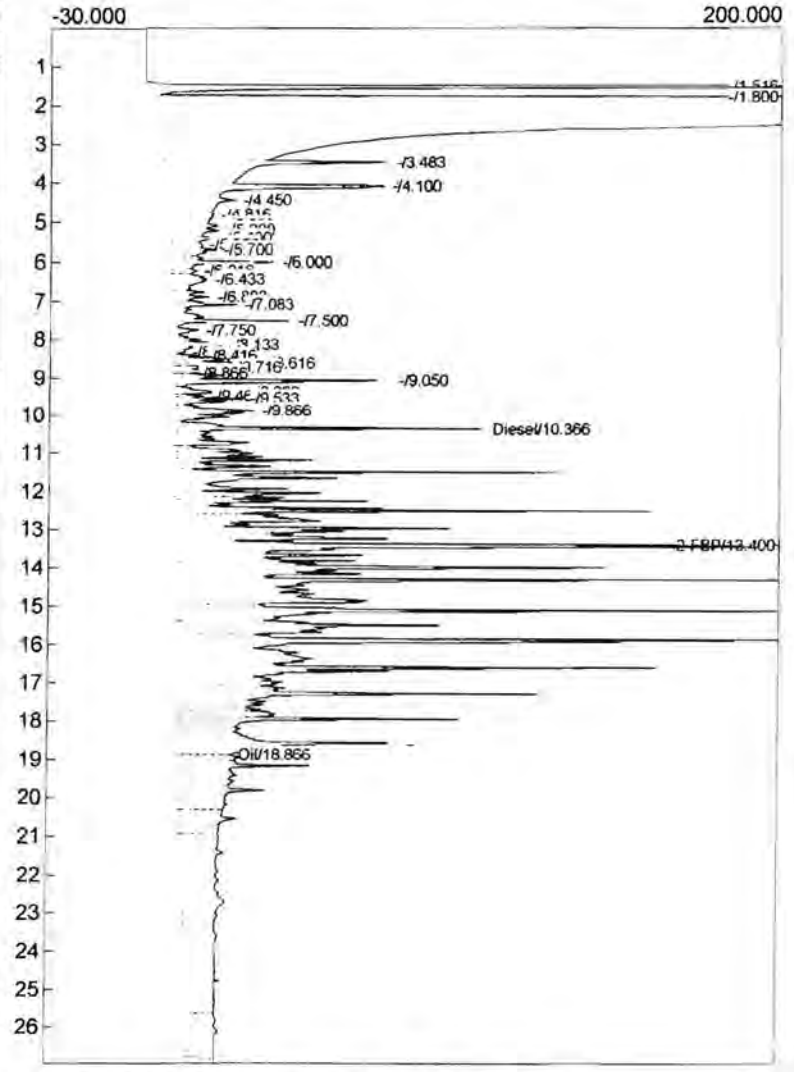
Analysis date: 09/21/2012 07:14:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D161.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.366	18895.4470	97.067	1011.6740	ppm
2-FBP	13.400	1353.2730	212.911	45.1091	ppm
Oil	18.866	5536.5670	15.752	293.0029	ppm
		25785.2870		1349.7860	

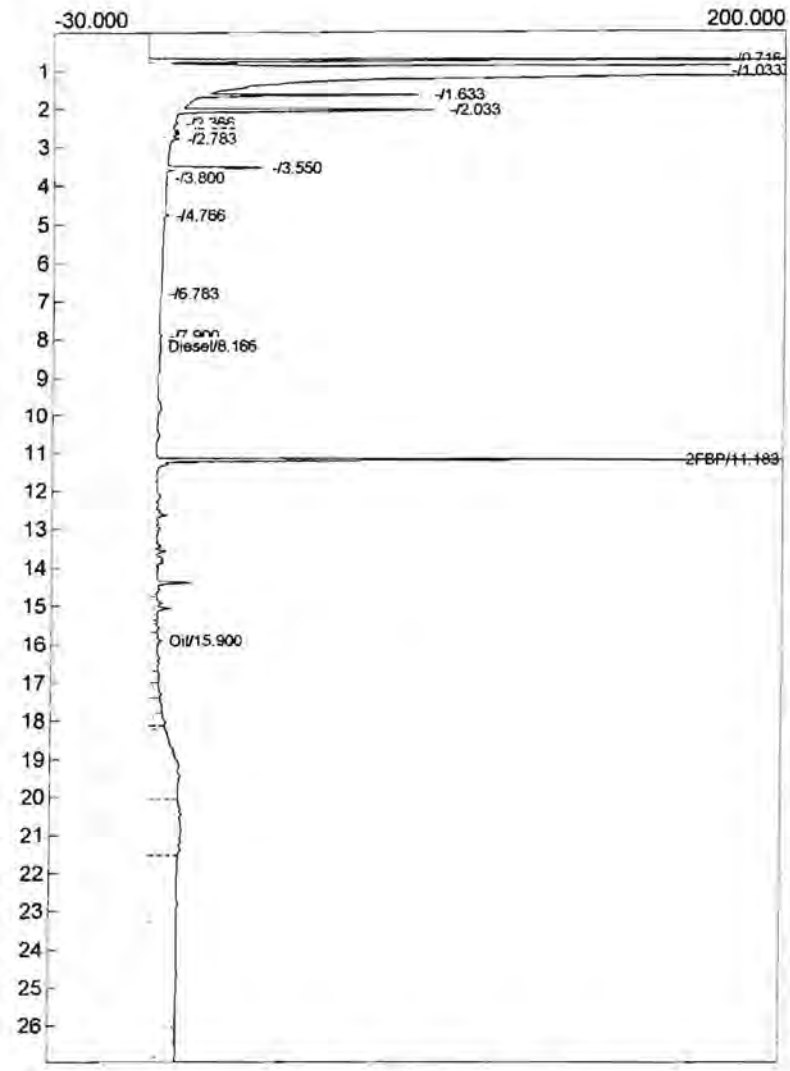
Analysis date: 09/21/2012 08:09:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C164.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.166	918.8675	0.344	45.1751	ppm
FBP	11.183	571.9700	222.144	22.8788	ppm
il	15.900	4367.7735	2.480	214.7775	ppm
		5858.6110		282.8314	

114%

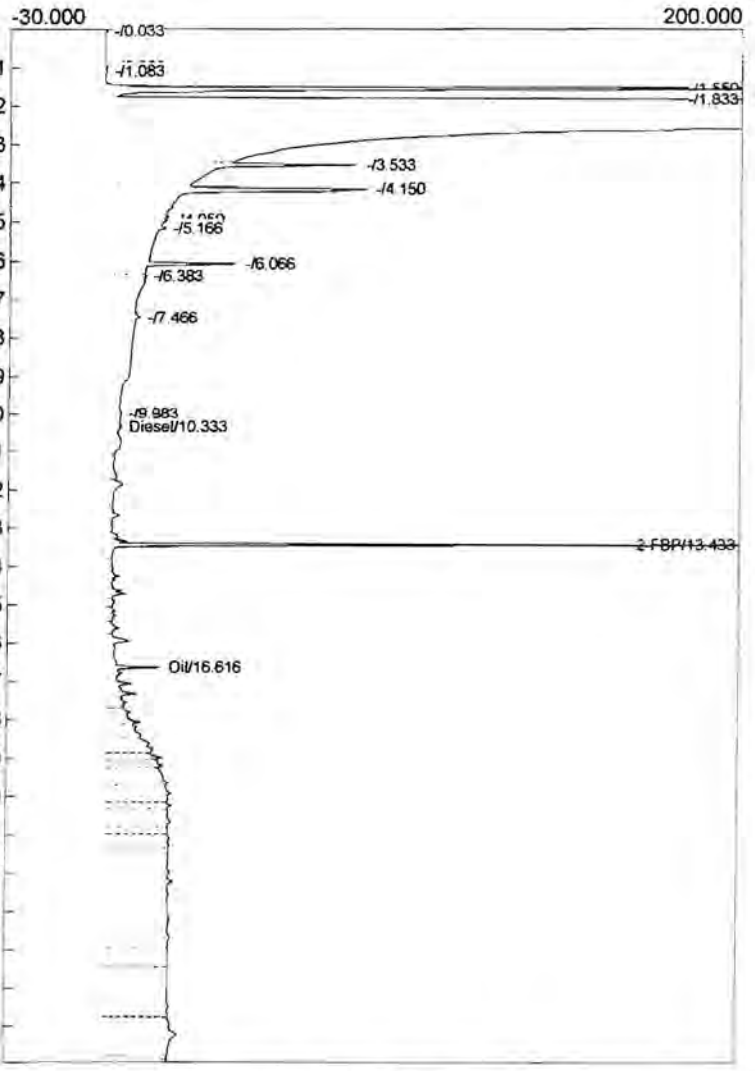
Analysis date: 09/21/2012 08:09:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D162.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.333	773.2410	0.842	40.8337	ppm
2-FBP	13.433	536.8140	210.516	17.8938	ppm
Oil	16.616	9704.0165	15.897	515.3492	ppm
		11014.0715		574.0767	

89%

Analysis date: 09/21/2012 08:09:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C164.CHR ()
Sample: Method Blank
Operator: PB

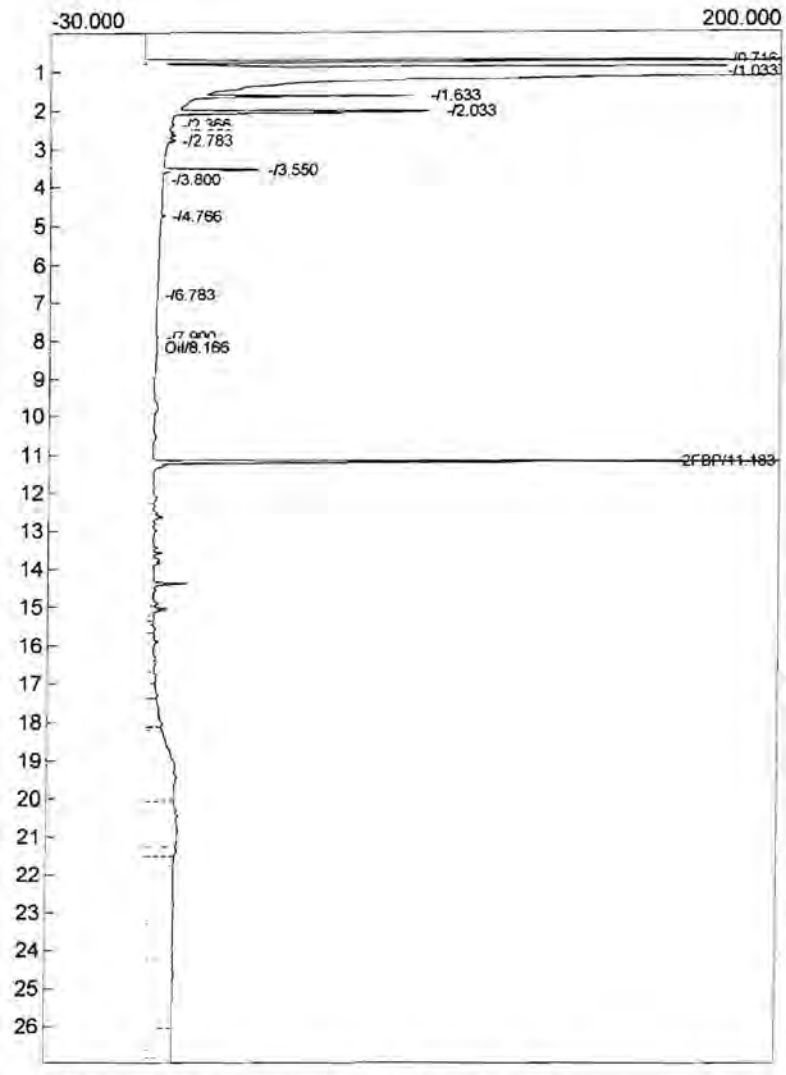
" only used as air blank for Bunker C"

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
il	8.166	5286.6410	0.344	260.0780	ppm
FBP	11.183	571.9700	222.144	22.8788	ppm
		5858.6110		282.9568	

Bunker C air Blank

Analysis date: 09/21/2012 08:09:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D162.CHR ()
Sample: Method Blank
Operator: PB

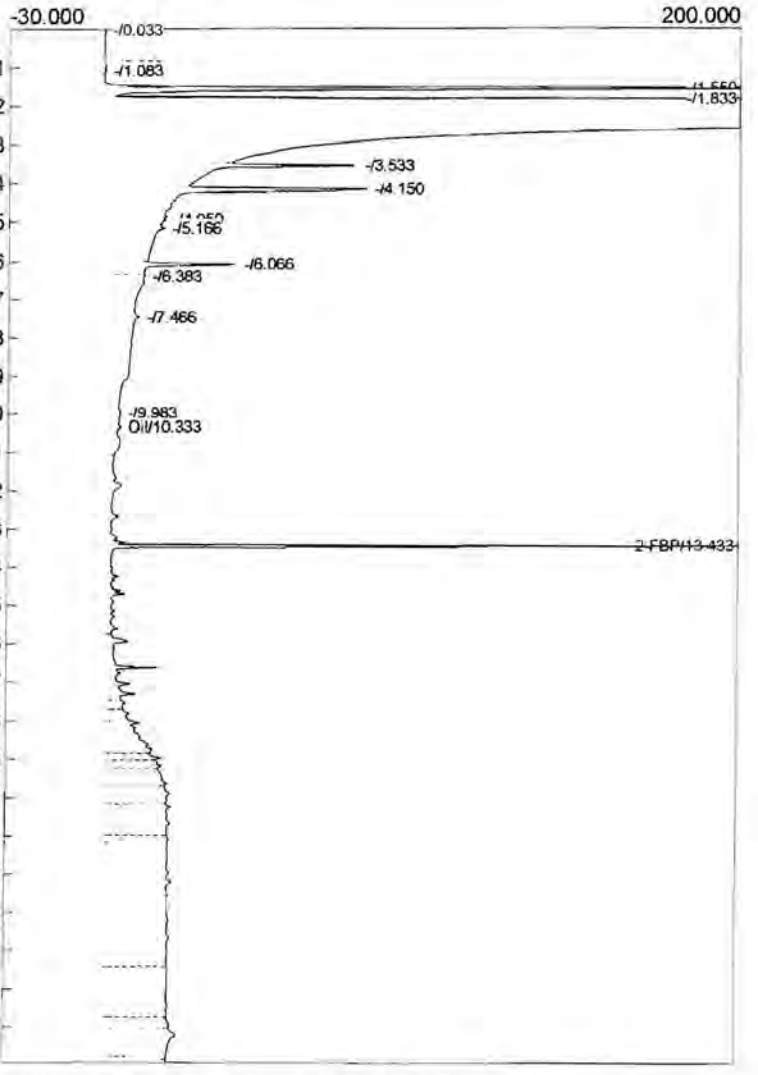
" only used as air blank for Bunker C"

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.333	10477.2575	0.842	556.7392	ppm
2-FBP	13.433	536.8140	210.516	17.8938	ppm
		11014.0715		574.6330	

Bunker C air blank

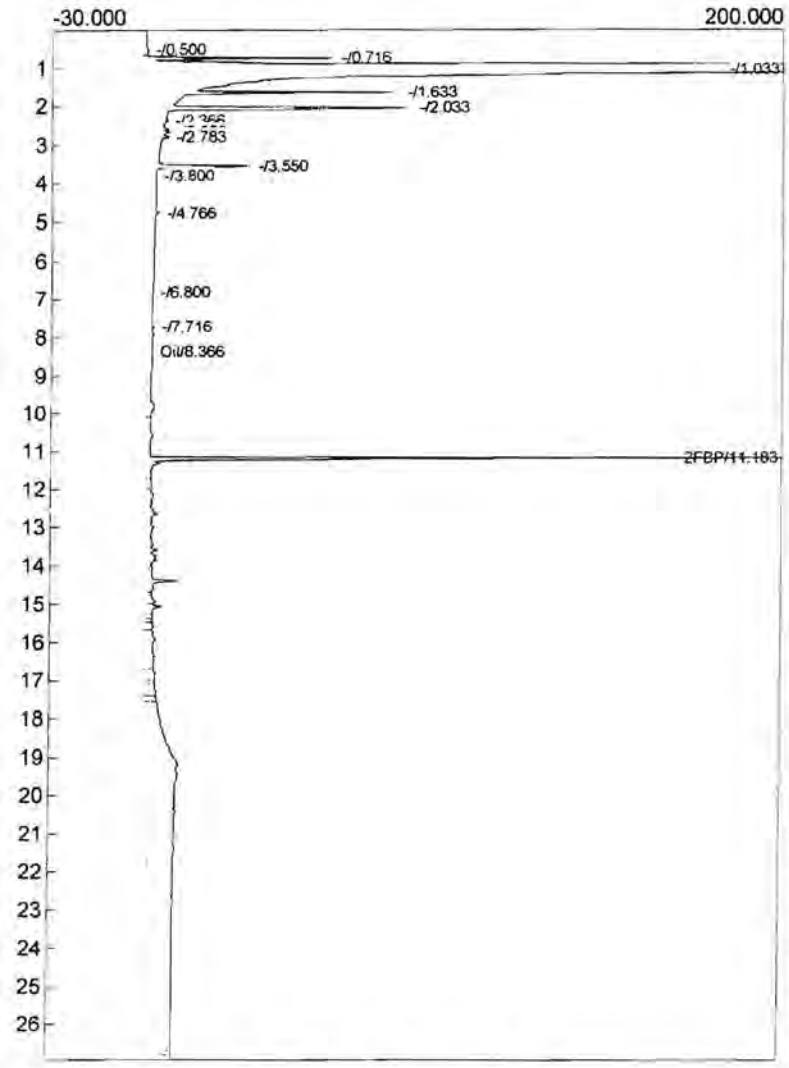
Analysis date: 09/21/2012 08:54:51
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C165.CHR ()
Sample: SVRZ-WSW1-92112
Operator: PB

'emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
il	8.366	5051.1080	0.310	248.4661	ppm
FBP	11.183	512.7425	207.841	20.5097	ppm
		5563.8505		268.9758	

nd 103%

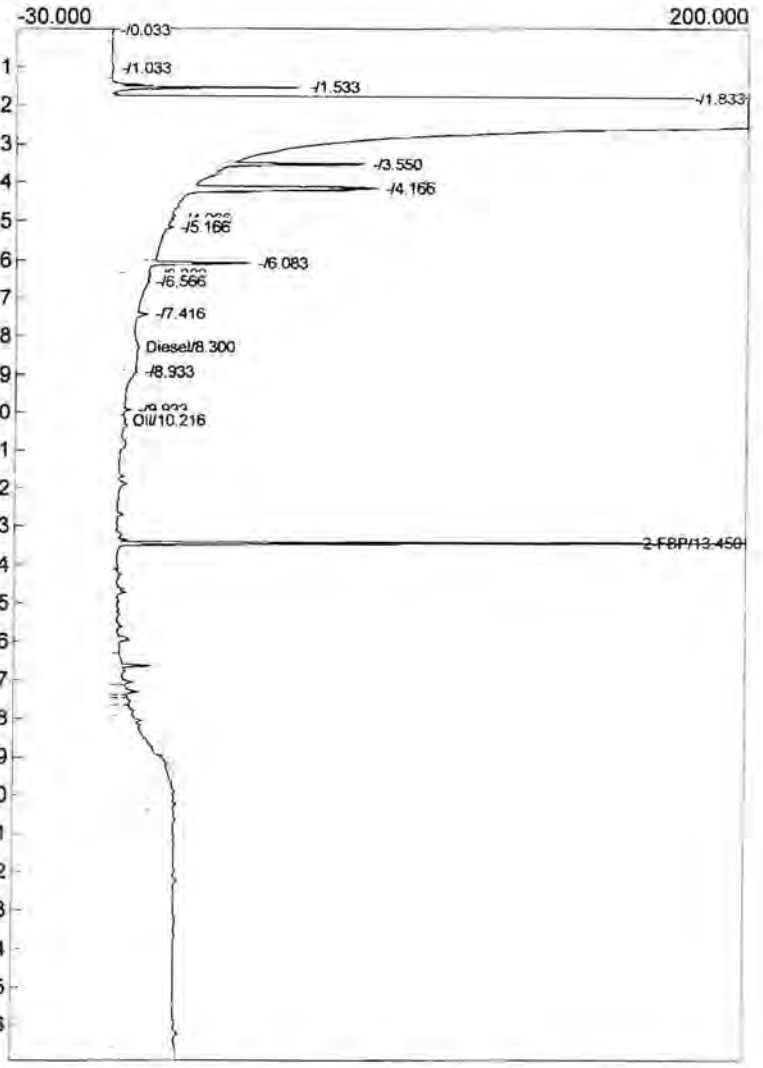
Analysis date: 09/21/2012 08:54:51
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D163.CHR ()
Sample: SVRZ-WSW1-92112 Dup
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.300	235.2720	4.700	12.4244	ppm
Oil	10.216	10380.6405	0.294	551.5675	ppm
2-FBP	13.450	551.6780	240.212	18.3893	ppm
		11167.5905		582.3812	

nd 92%

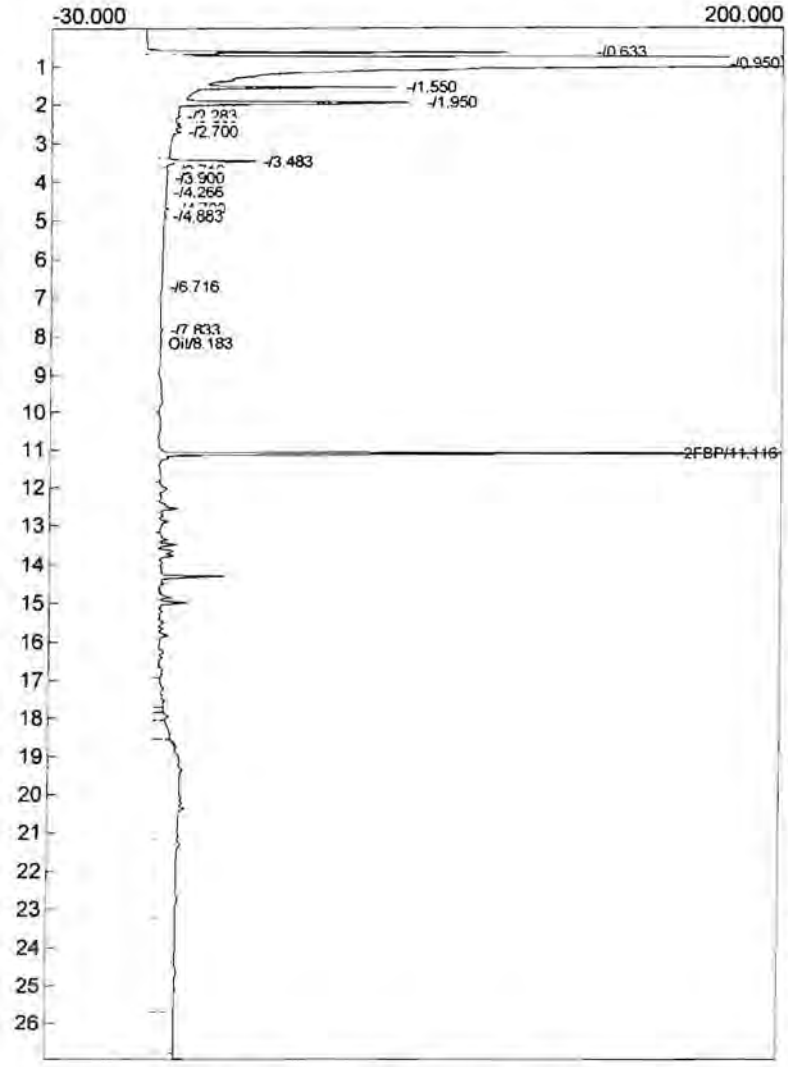
Analysis date: 09/21/2012 10:27:23
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C166.CHR ()
Sample: SVRZ-SB1-92112
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	8.183	4477.1720	0.272	220.1709	ppm
2-FBP	11.116	548.9220	220.845	21.9569	ppm
		5026.0940		242.1278	

nd

~~PB~~ PB 9-21-12

110%

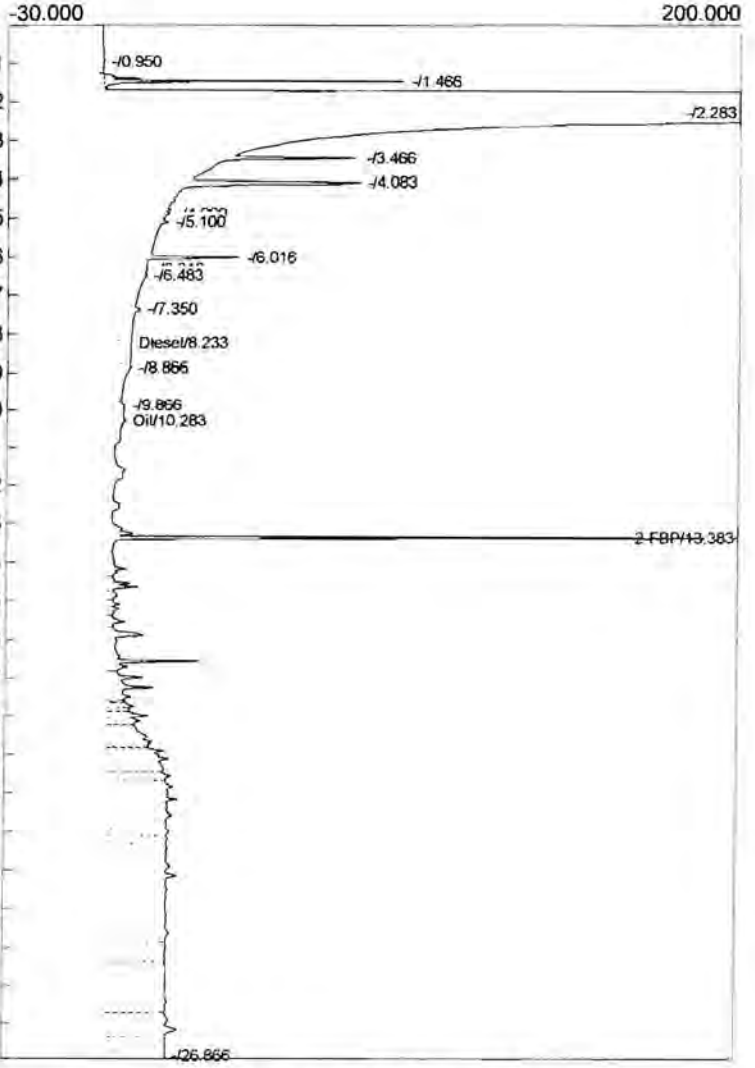
Analysis date: 09/21/2012 10:27:23
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D164.CHR ()
Sample: SVRZ-SB1-92112 Dup
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.233	131.1340	4.067	6.9250	ppm
Oil	10.283	10321.9990	0.979	548.4286	ppm
2-FBP	13.383	527.6520	239.943	17.5884	ppm
		10980.7850		572.9420	

nd

88%

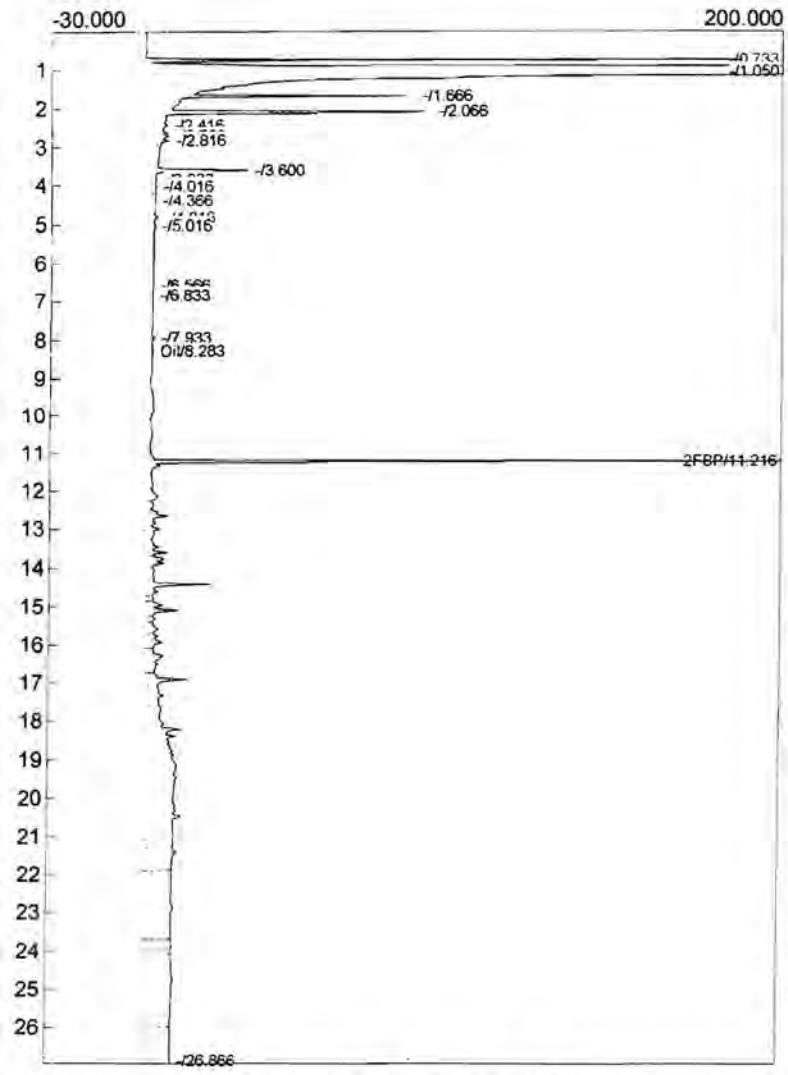
Analysis date: 09/21/2012 11:47:58
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C167.CHR ()
Sample: SVRZ-SB2-92112
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	8.283	5635.0820	0.291	277.2563	ppm
2FBP	11.216	575.0380	238.086	23.0015	ppm
		6210.1200		300.2578	

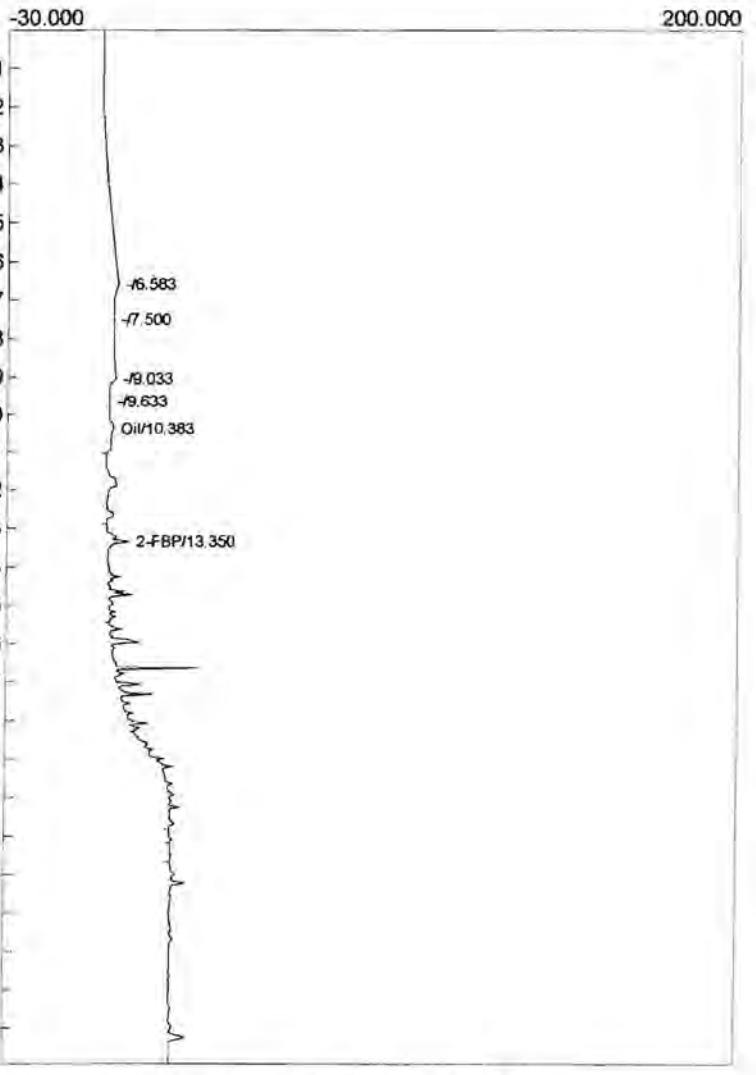
Analysis date: 09/21/2012 11:47:58
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D165.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	10.383	714.9790	0.923	37.7570	ppm
2-FBP	13.350	33.7560	5.877	1.1252	ppm
		748.7350		38.8822	

nd 115%

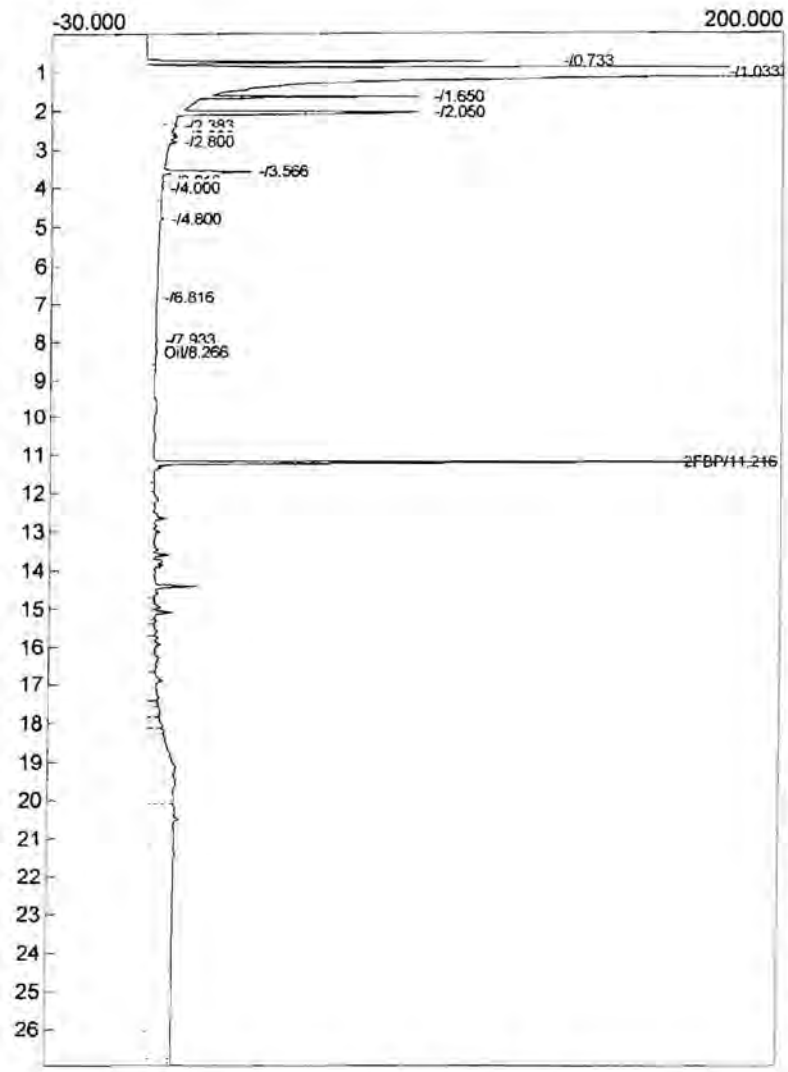
Analysis date: 09/21/2012 12:57:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C168.CHR ()
Sample: SVRZ-SB3-92112
Operator: PB

'emperature program:

ıit temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
il	8.266	4809.1505	0.379	236.5375	ppm
FBP	11.216	530.7270	211.627	21.2291	ppm
		5339.8775		257.7666	

nd 106%

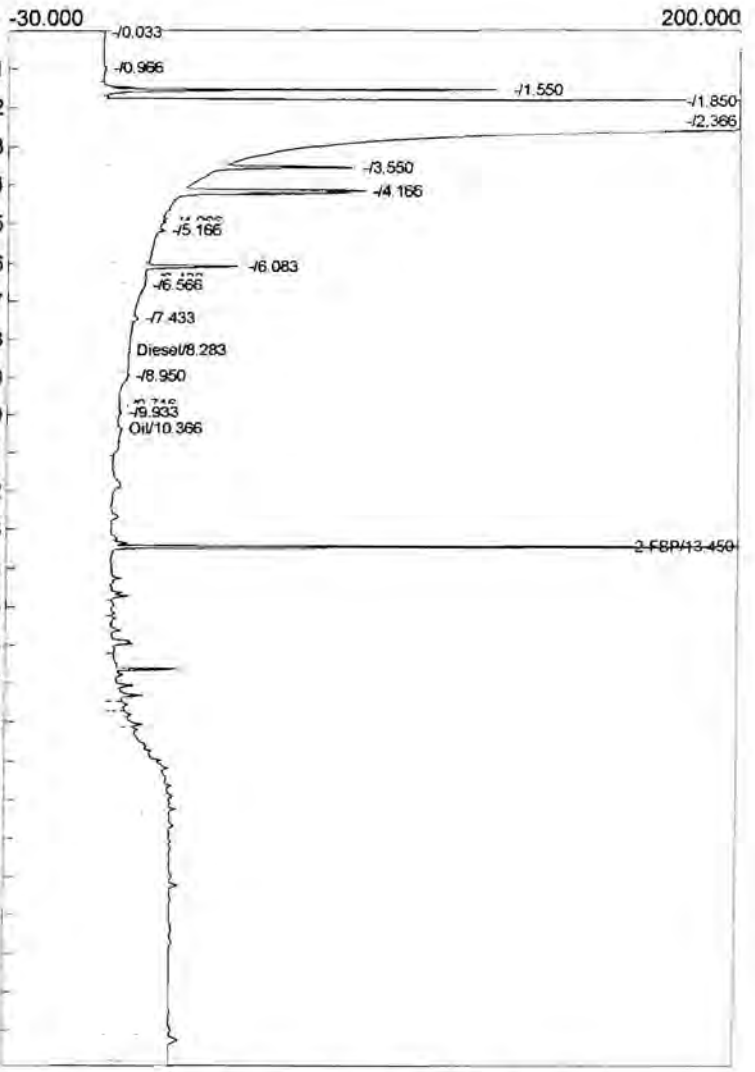
Analysis date: 09/21/2012 12:57:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D166.CHR ()
Sample: SVRZ-SB4-92112
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.283	128.0265	3.932	6.7609	ppm
Oil	10.366	10844.1410	1.455	576.3778	ppm
2-FBP	13.450	573.3035	216.742	19.1101	ppm
		11545.4710		602.2488	

nd 96%

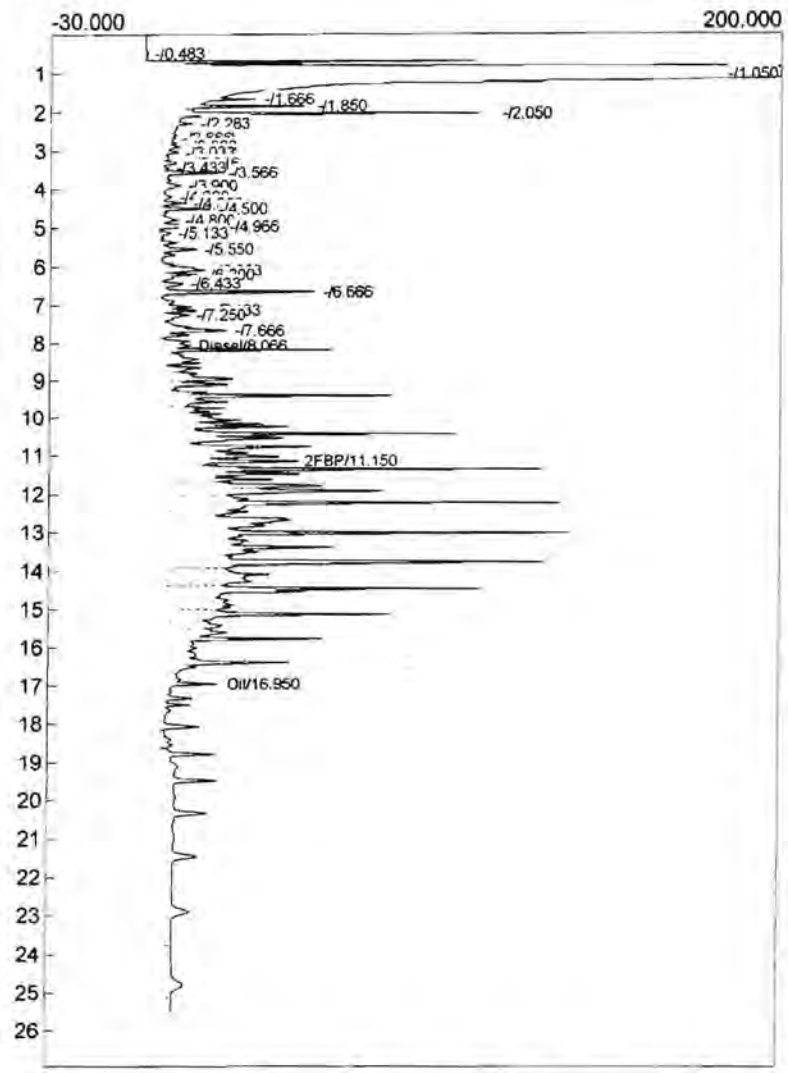
Analysis date: 09/21/2012 13:30:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C169.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

'emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.066	10793.4925	5.042	531.9342	ppm
FBP	11.150	218.5500	39.950	8.7420	ppm
il	16.950	1514.6830	15.846	74.4677	ppm
		12526.7255		615.1438	

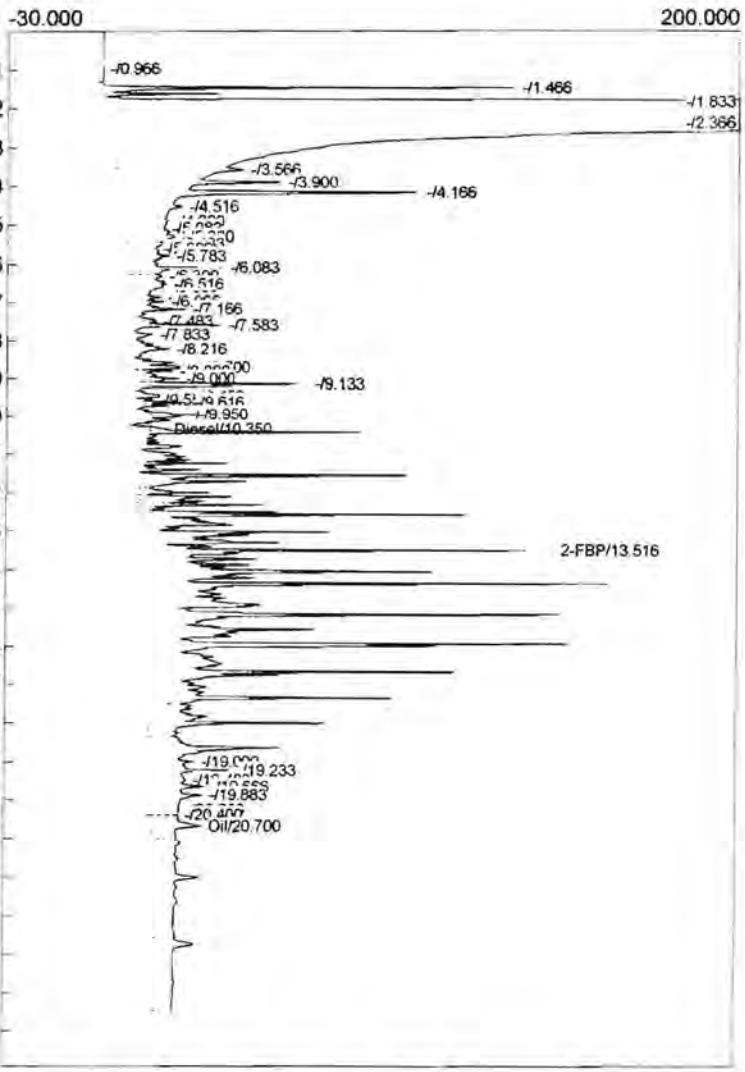
Analysis date: 09/21/2012 13:30:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D167.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

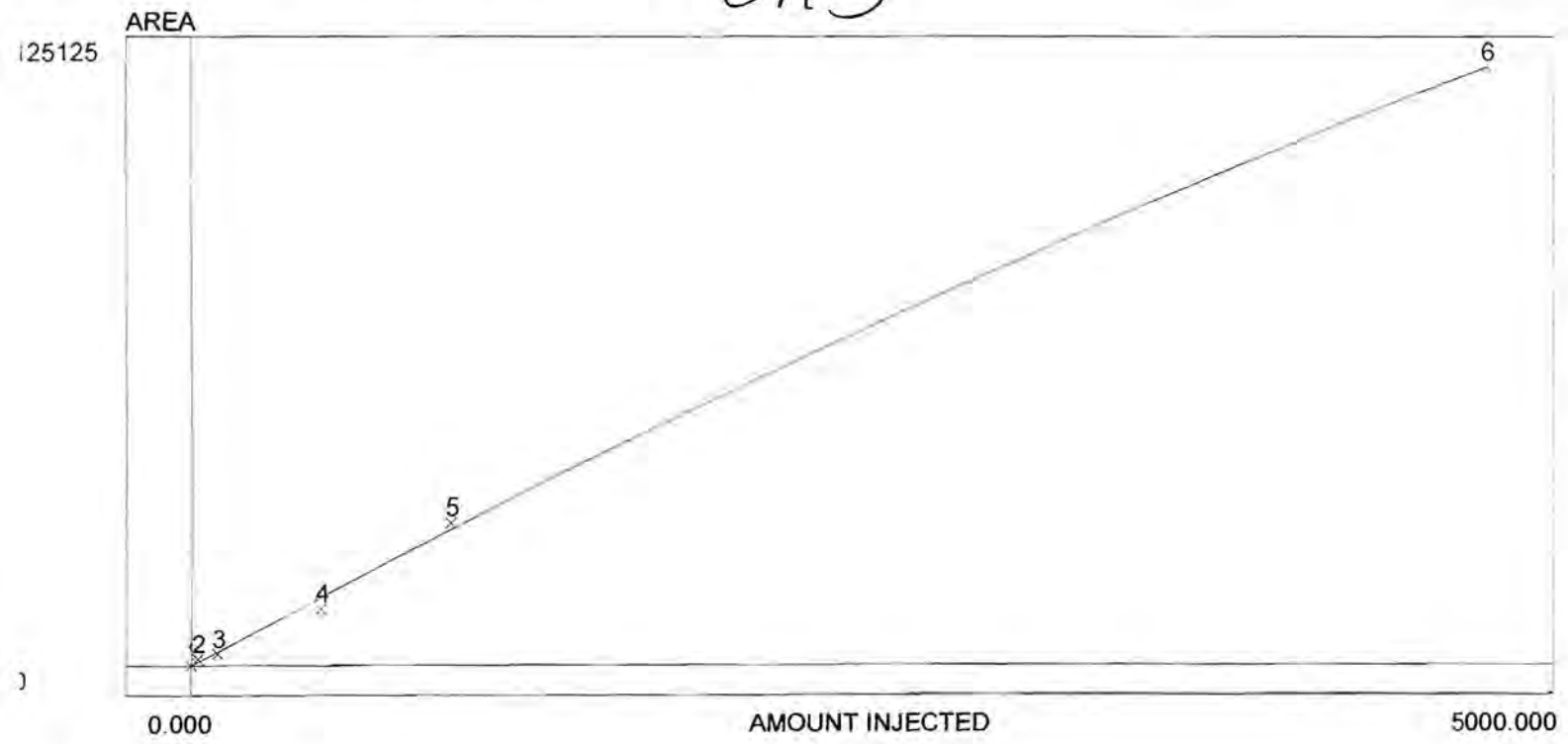
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.350	10728.8090	6.812	570.2043	ppm
2-FBP	13.516	597.5100	129.489	19.9170	ppm
Oil	20.700	2149.9070	15.842	113.5334	ppm
		13476.2260		703.6547	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

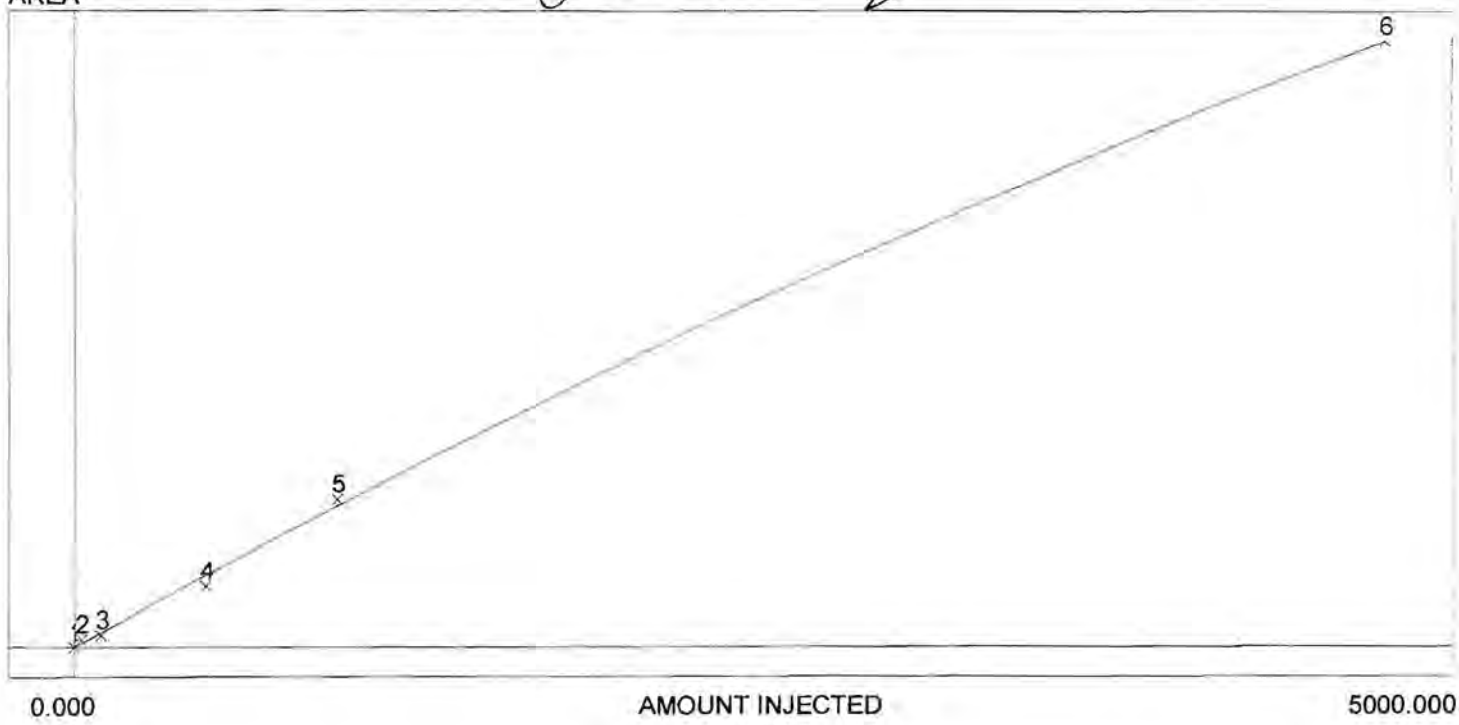


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X^{a}+29.3544X
R2: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1410.471	25.000	56.419	1410.471	N/A	N/A
3	2574.179	100.000	25.742	2574.179	N/A	N/A
4	12043.265	500.000	24.087	12043.265	N/A	N/A
5	29871.863	1000.000	29.872	29871.863	N/A	N/A
6	125124.670	5000.000	25.025	125124.670	N/A	N/A

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

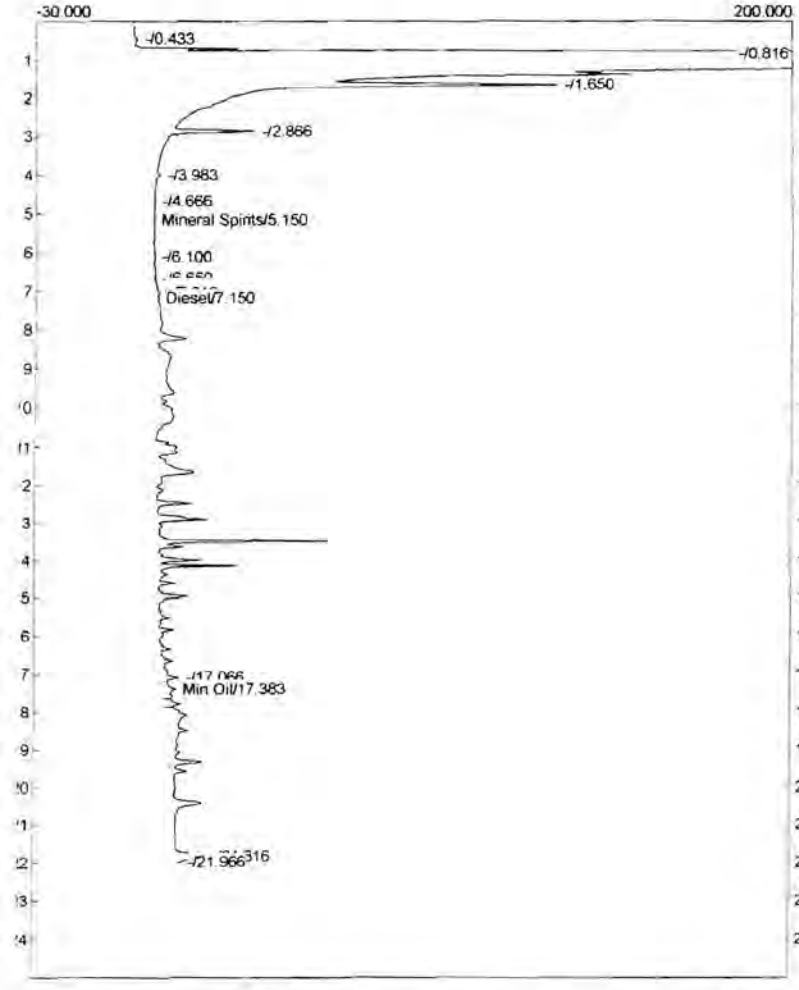
Ch 4



Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
Y=-0.0008X²+24.2883X
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

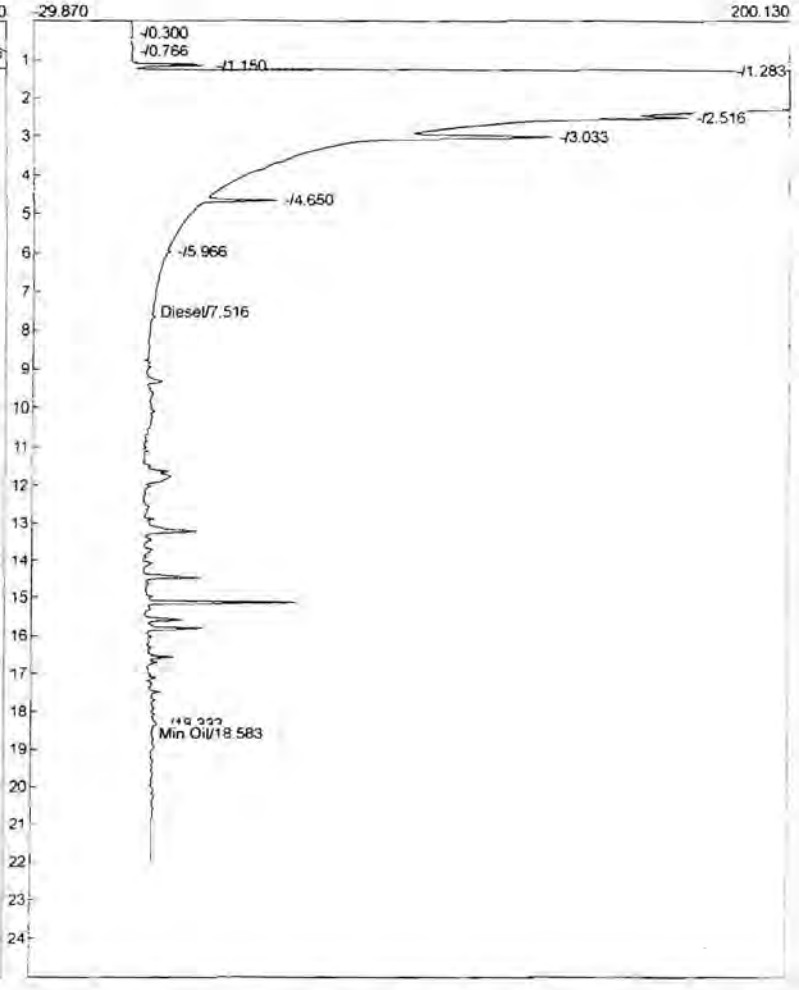
Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1271.716	25.000	50.869	1271.716	N/A	N/A
3	1927.394	100.000	19.274	1927.394	N/A	N/A
4	10086.605	500.000	20.173	10086.605	N/A	N/A
5	24554.042	1000.000	24.554	24554.042	N/A	N/A
6	101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



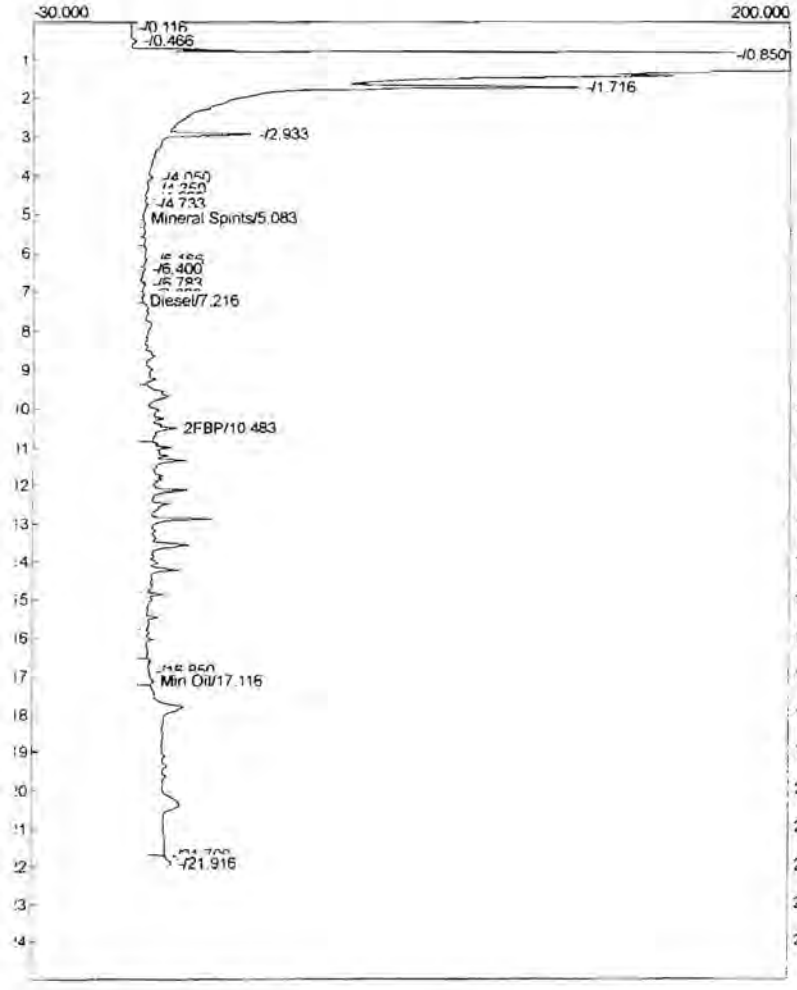
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPI
Diesel	7.150	1410.4710	0.518	13.6936	ppn
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



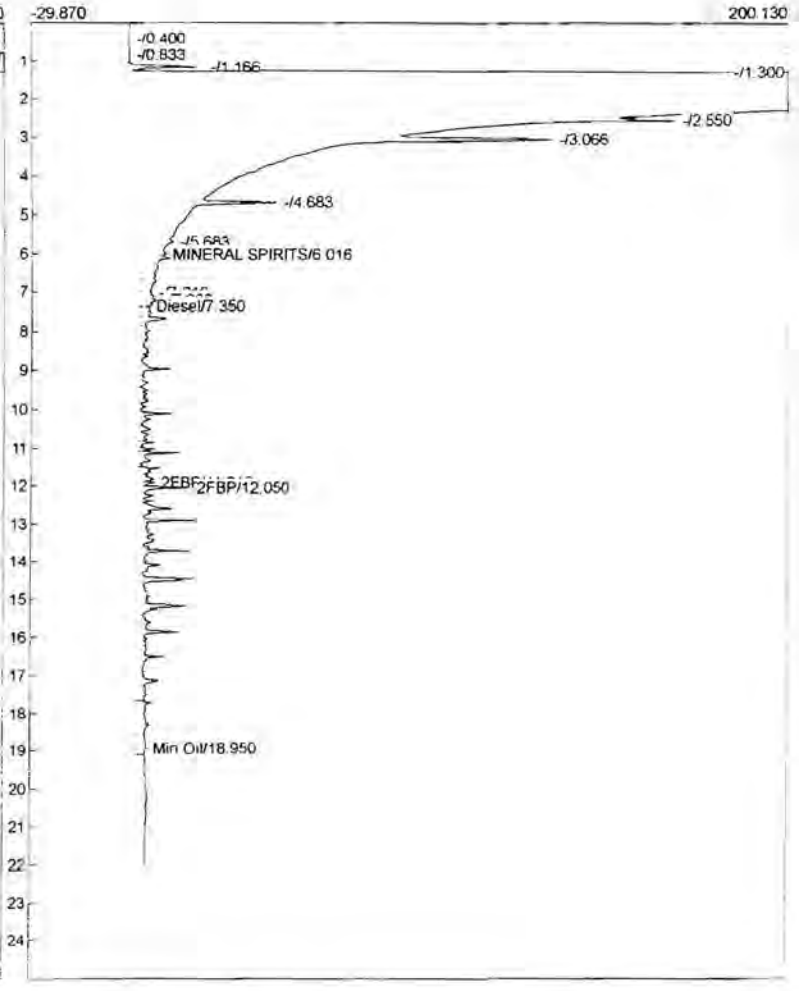
Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppn
Min Oil	18.583	209.2665	1.582	14.7689	ppn
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

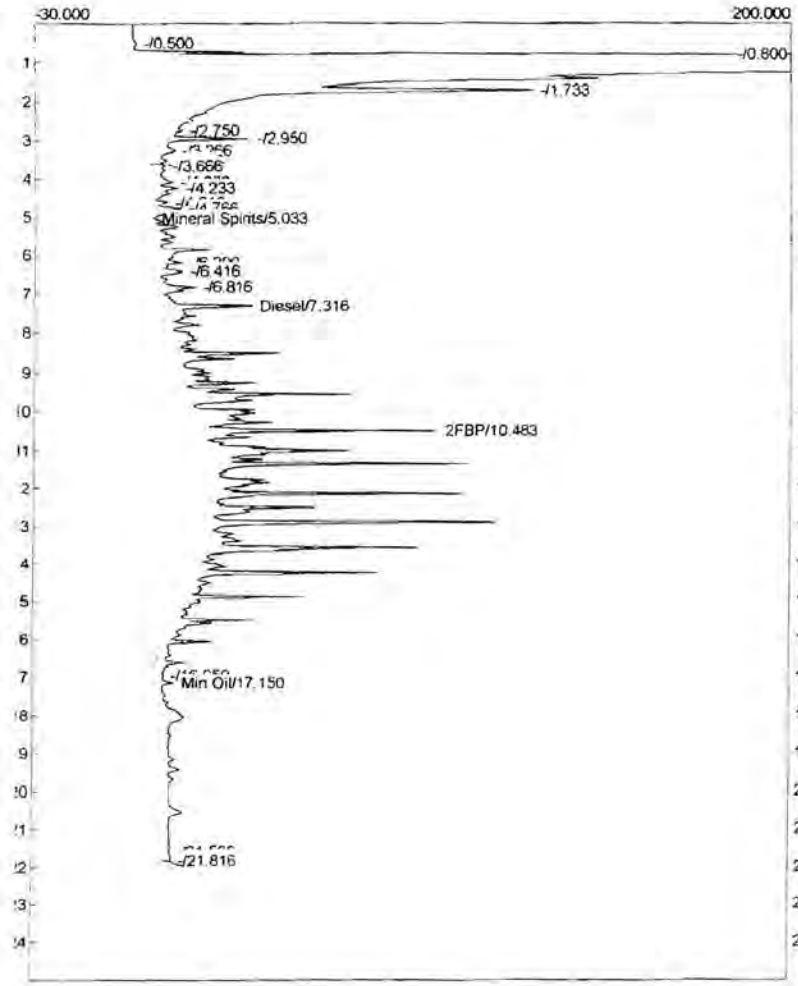
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW

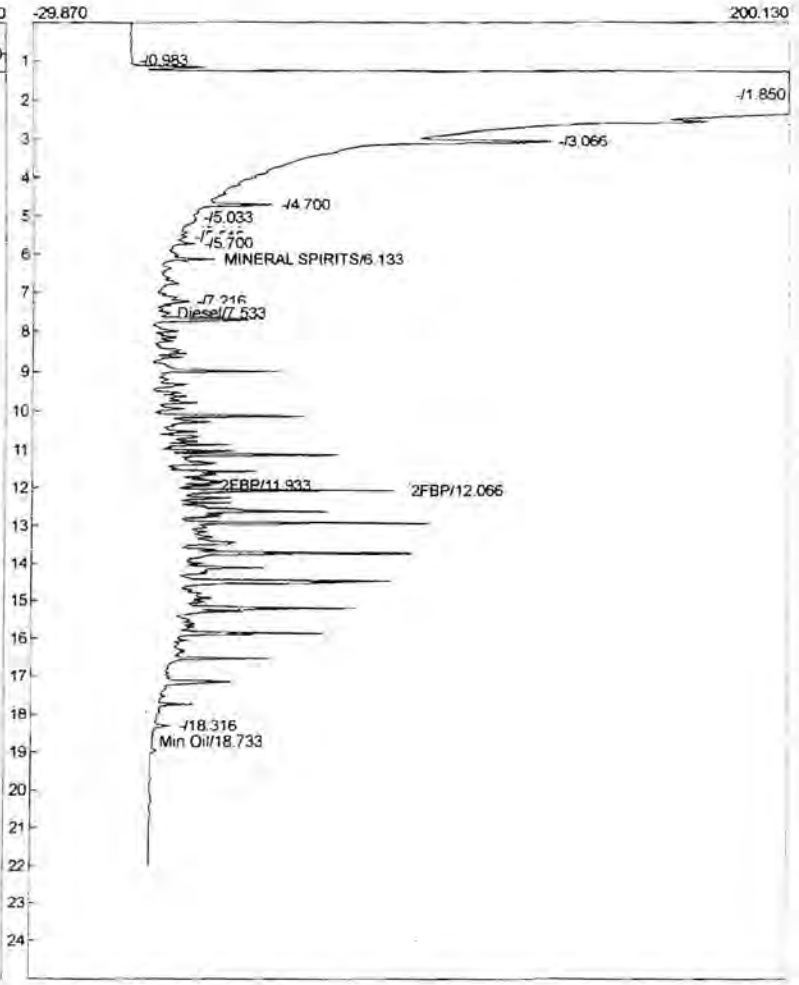


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



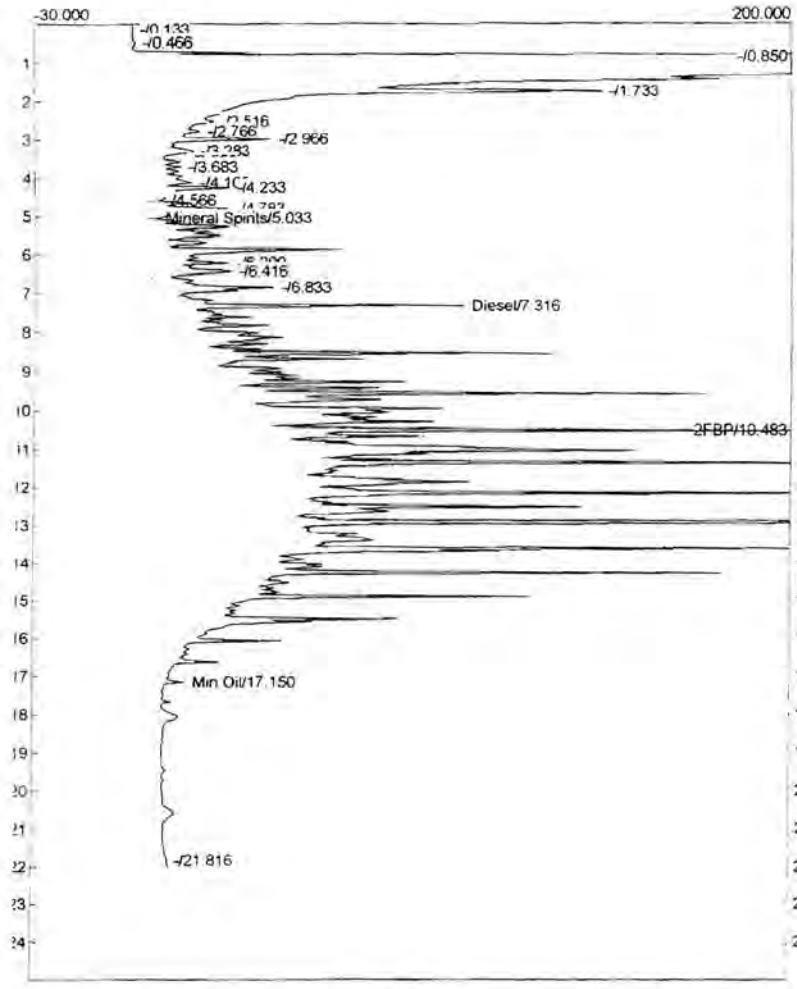


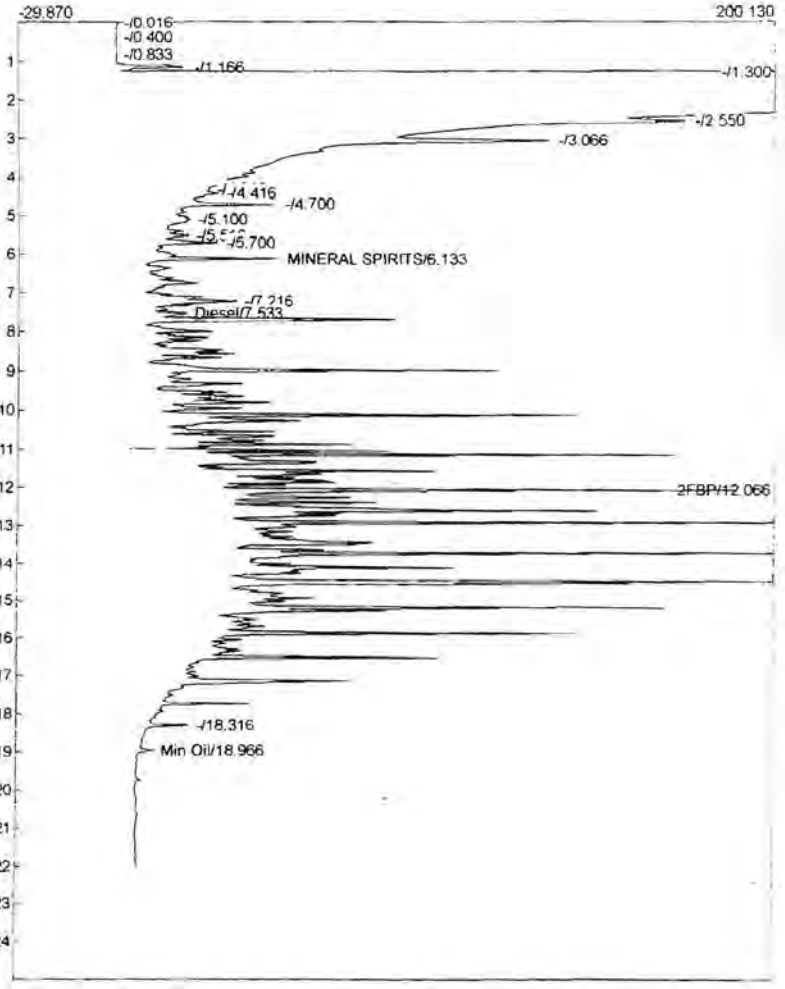
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	ppm
		13327.5880		605.4694	

Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



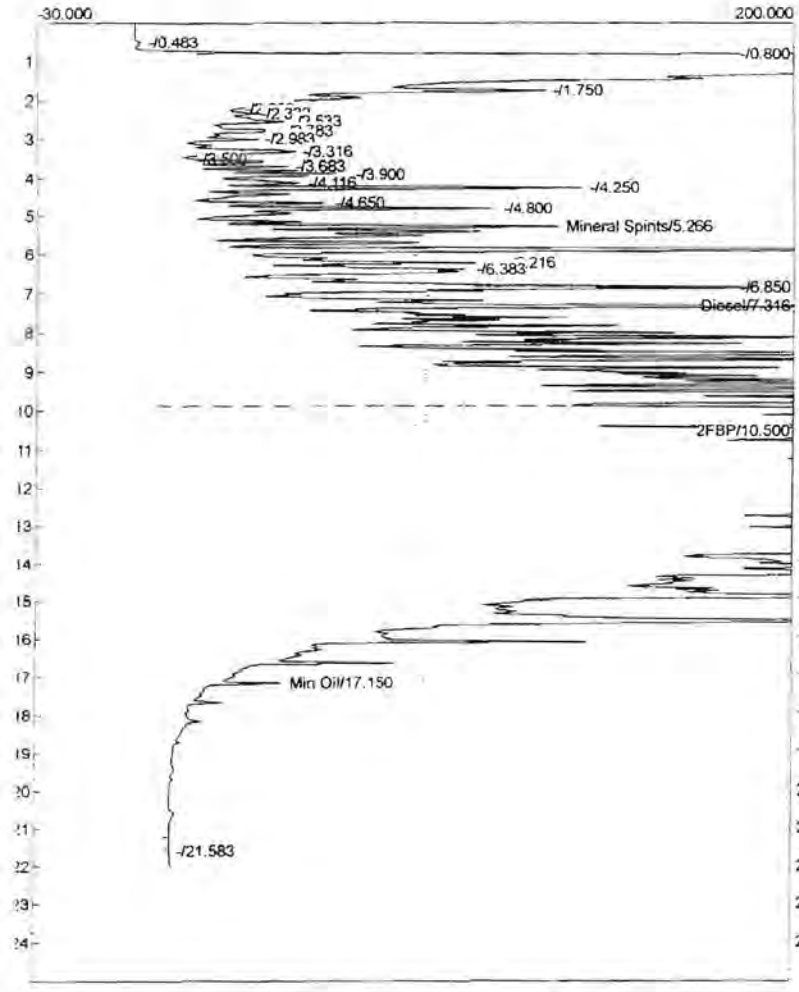


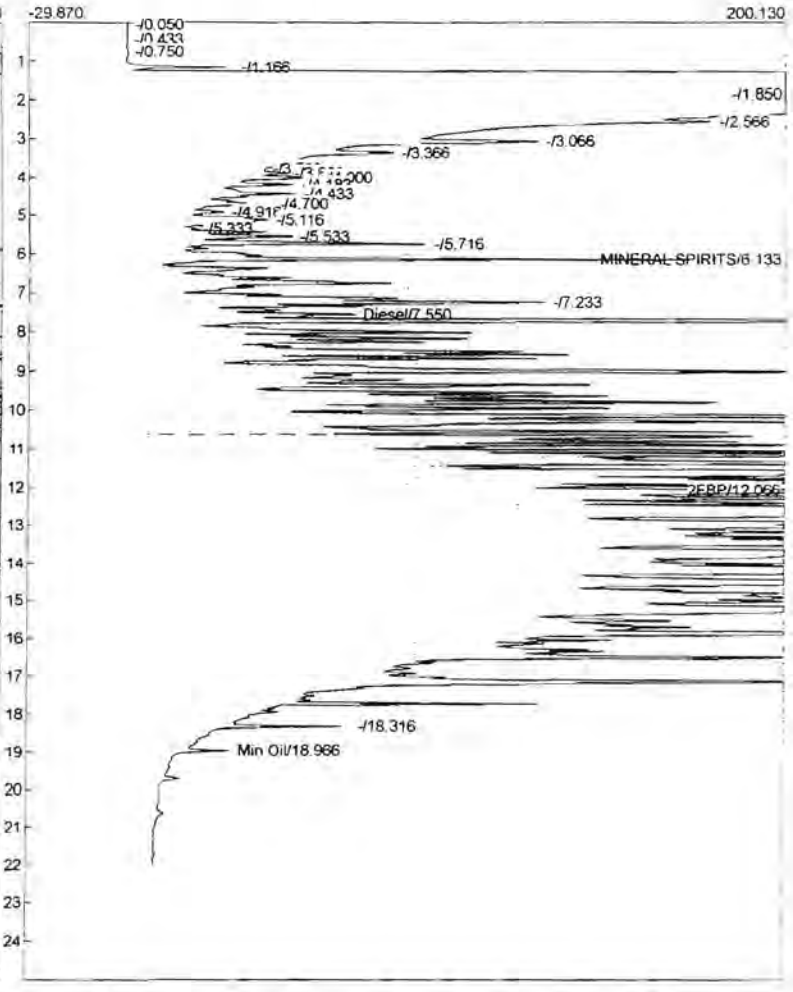
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

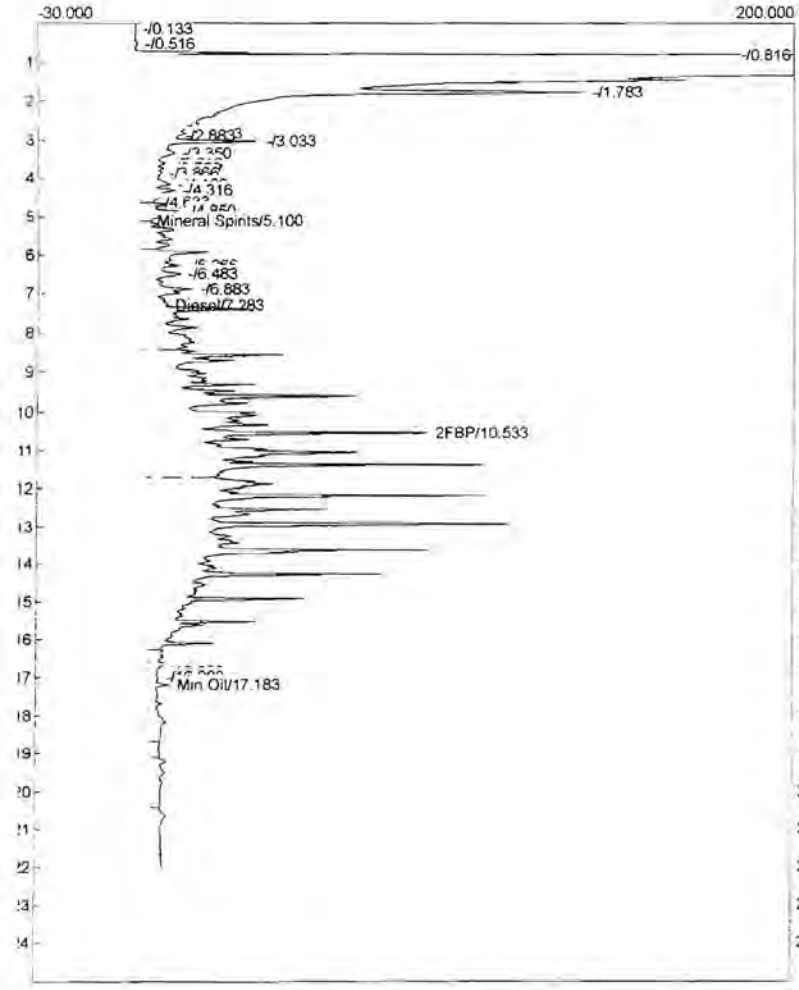




Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

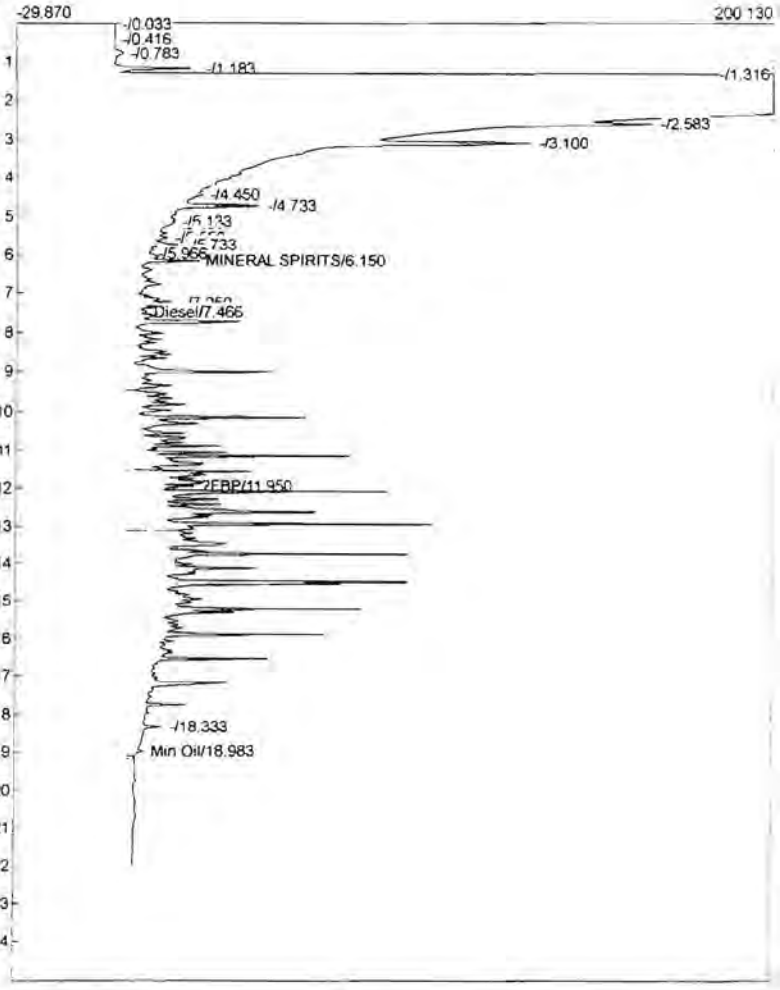
UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 24 & 25, 2012 and October 12, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120924-30
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

N/A

Libby Environmental, Inc.

Chain of Custody Record

1008

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/24/12 Page: 1 of 1

Client: GeoEngineers
Project Manager: Neil Morton
Address: 1101 S. Fawcett Ave. Ste 200, Tacoma, WA 98402
Project Name: Ecology - Irondale
Phone: (206) 728-2674 Fax:
Location: Irondale, WA City: Irondale
Client Project # 0504-042-02
Collector: AMW Date of Collection: 9/24/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-B1-92412		0800	SED	2-4oz jar							X	X						Extract/Hold PAHs
2 IRZ-B2-92412		0900	SED	2-4oz jar							X							" "
3 IRZ-ESW1-92412		0840	SED	2-4oz							X	X						" "
4 IRZ-SSW1-92412		0935	SED	2-4oz							X							" "
5 IRZ-B3-92412		11:35	SED	2-4oz							X							" "
6 IRZ-ESW2-92412		11:40	SED	2-4oz							X							" "
7 IRZ-B4-92412		14:43	SED	2-4oz							X							" "
8 IRZ-ESW3-92412		1450	SED	2-4oz							X							" "
9																		
10																		10-8-12 run cPAH per Neil via email Standard TAT
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
	9/24/12 1515		9/24/12 1515
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120924-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120924-30
Client Project # 0405-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/24/12	96	nd	nd
LCS	9/24/12	int	95%	
LCSD	9/24/12	int	102%	
IRZ-B1-92412	9/24/12	107	nd	nd
IRZ-B2-92412	9/24/12	99	nd	nd
IRZ-ESW1-92412	9/24/12	93	nd	nd
IRZ-SSW1-92412	9/24/12	95	nd	nd
IRZ-B3-92412	9/24/12	104	nd	nd
IRZ-B3-92412 Dup	9/24/12	93	nd	nd
IRZ-ESW2-92412	9/24/12	92	nd	nd
IRZ-ESW2-92412 Dup	9/24/12	94	nd	nd
IRZ-B4-92412	9/25/12	98	nd	nd
IRZ-ESW3-92412	9/25/12	95	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/24/2012

Libby Job #: L120924-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	7:58:44	C172	3 µl		568		
500 ppm Diesel 791	7:58:44	D170	3 µl		546		
1000 ppm LCS 343	8:38:16	C173	3 µl	int	949		
1000 ppm LCSD 343	8:38:16	D171	3 µl	int	1023		
Method Blank	9:11:03	C174	3 µl	19.2	nd	nd	nd
Method Blank	9:11:03	D172	3 µl	18.7	nd	nd	nd
IRZ-B1-92412	10:03:15	C175	3 µl	21.4	nd	nd	nd
IRZ-B2-92412	10:03:15	D173	3 µl	19.9	nd	nd	nd
IRZ-ESW1-92412	10:37:29	C176	3 µl	18.6	nd	nd	nd
IRZ-SSW1-92412	10:37:29	D174	3 µl	19.1	nd	nd	nd
IRZ-B3-92412	12:15:53	C177	3 µl	20.8	nd	nd	nd
IRZ-ESW2-92412	12:15:53	D175	3 µl	18.5	nd	nd	nd
IRZ-B3-92412 Dup	12:54:48	C178	3 µl	18.6	nd	nd	nd
IRZ-ESW2-92412 Dup	12:54:48	D176	3 µl	18.8	nd	nd	nd
500 ppm Diesel 791	14:04:06	C176	3 µl		547		
500 ppm Diesel 791	14:04:06	D177	3 µl		570		

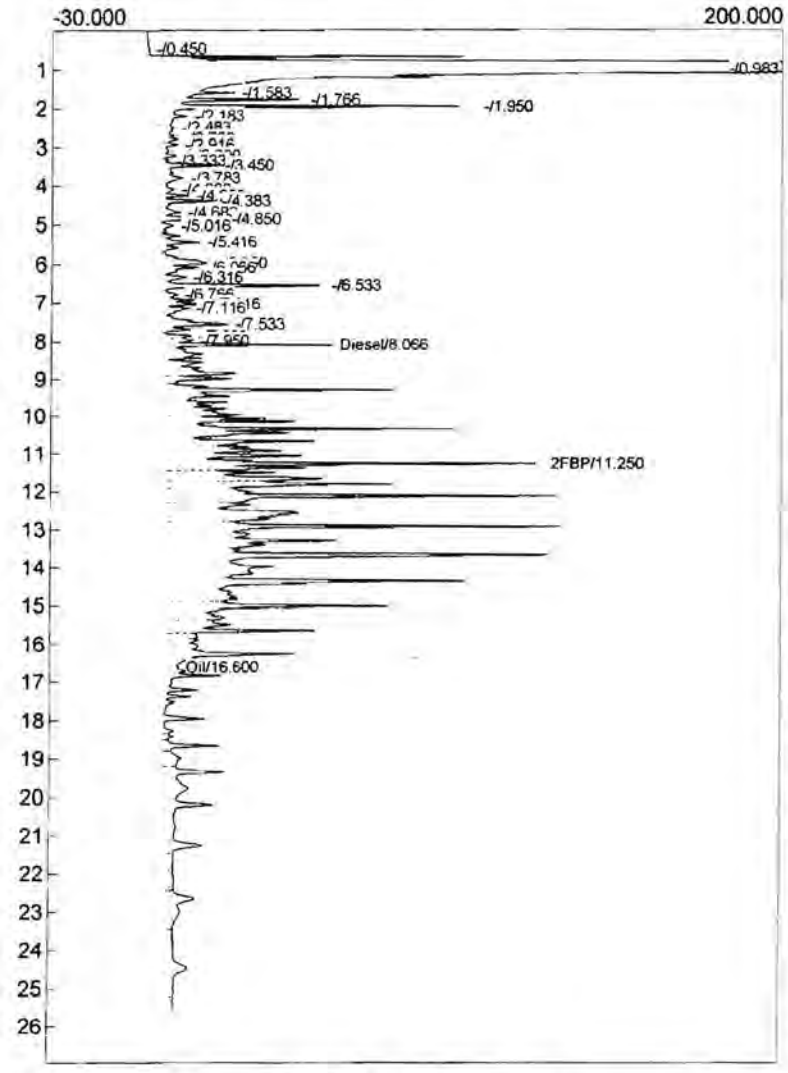
Analysis date: 09/24/2012 07:58:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C172.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

'emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.066	11515.1170	50.293	567.6096	ppm
FBP	11.250	681.2620	117.831	27.2505	ppm
il	16.600	1342.0635	2.262	65.9810	ppm
		13538.4425		660.8411	

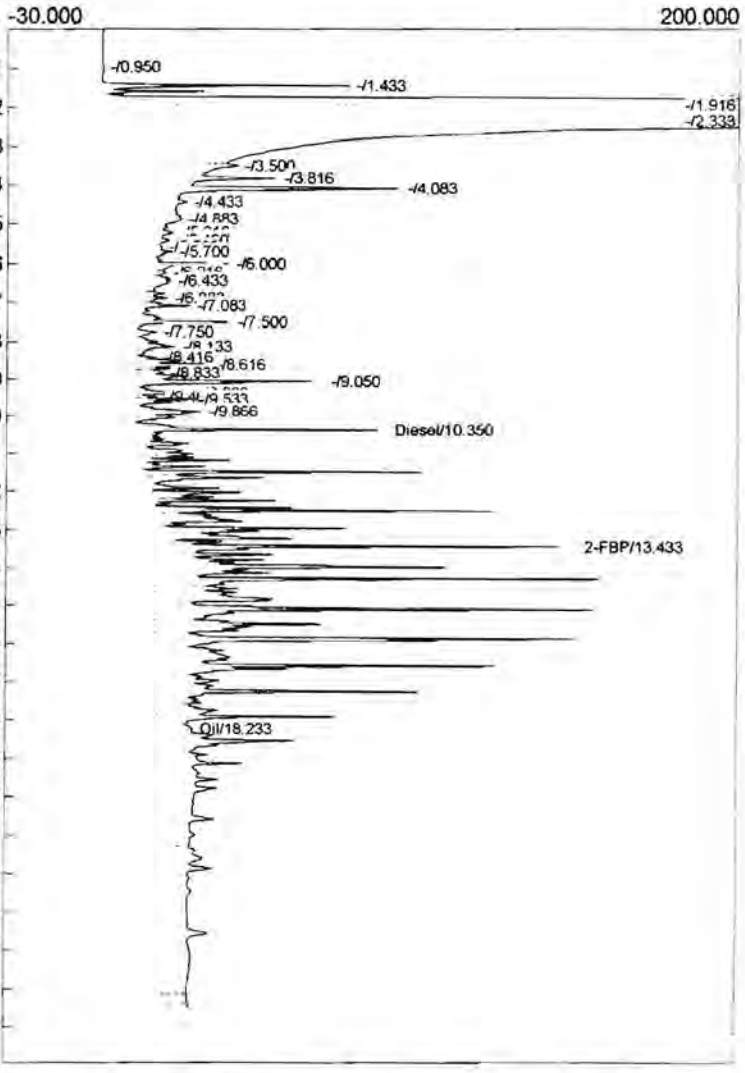
Analysis date: 09/24/2012 07:58:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D170.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.350	10283.5310	77.906	546.3694	ppm
2-FBP	13.433	590.4795	133.692	19.6827	ppm
Oil	18.233	4497.7555	11.020	237.7736	ppm
		15371.7660		803.8257	

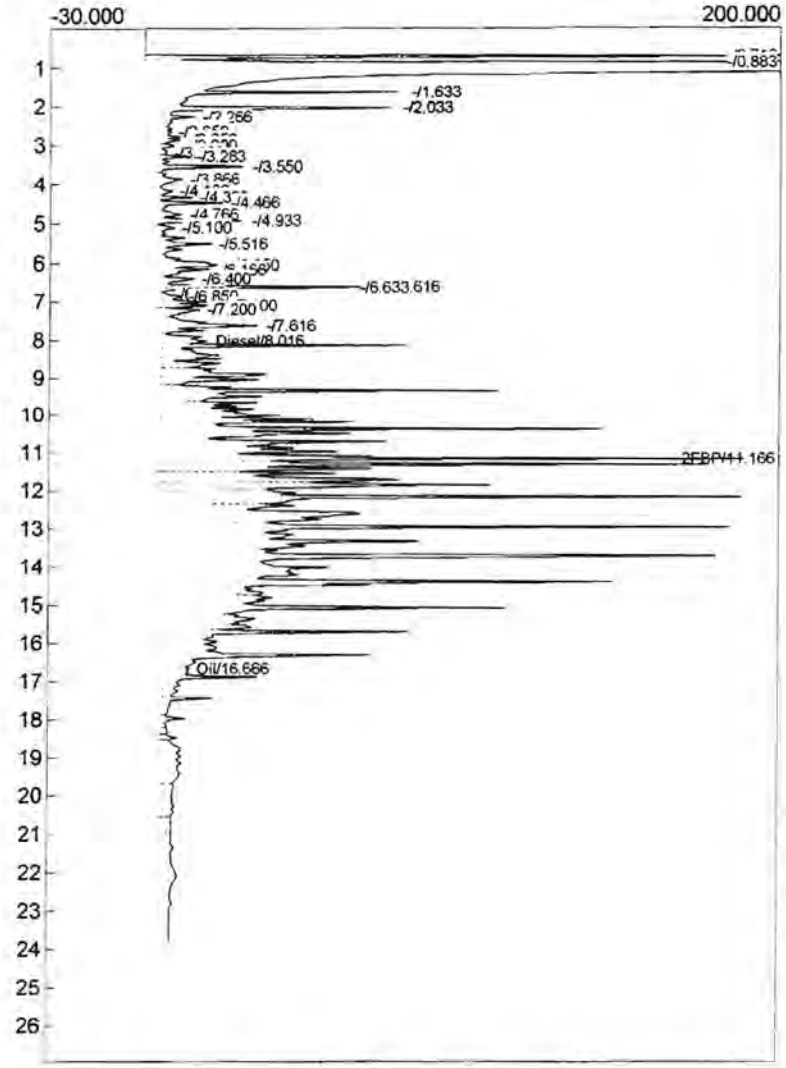
Analysis date: 09/24/2012 08:38:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C173.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.016	19197.4345	14.675	948.7908	ppm
FBP	11.166	797.8895	190.297	31.9156	ppm
il	16.666	1396.9580	8.326	68.6798	ppm
		21392.2820		1049.3862	

95%

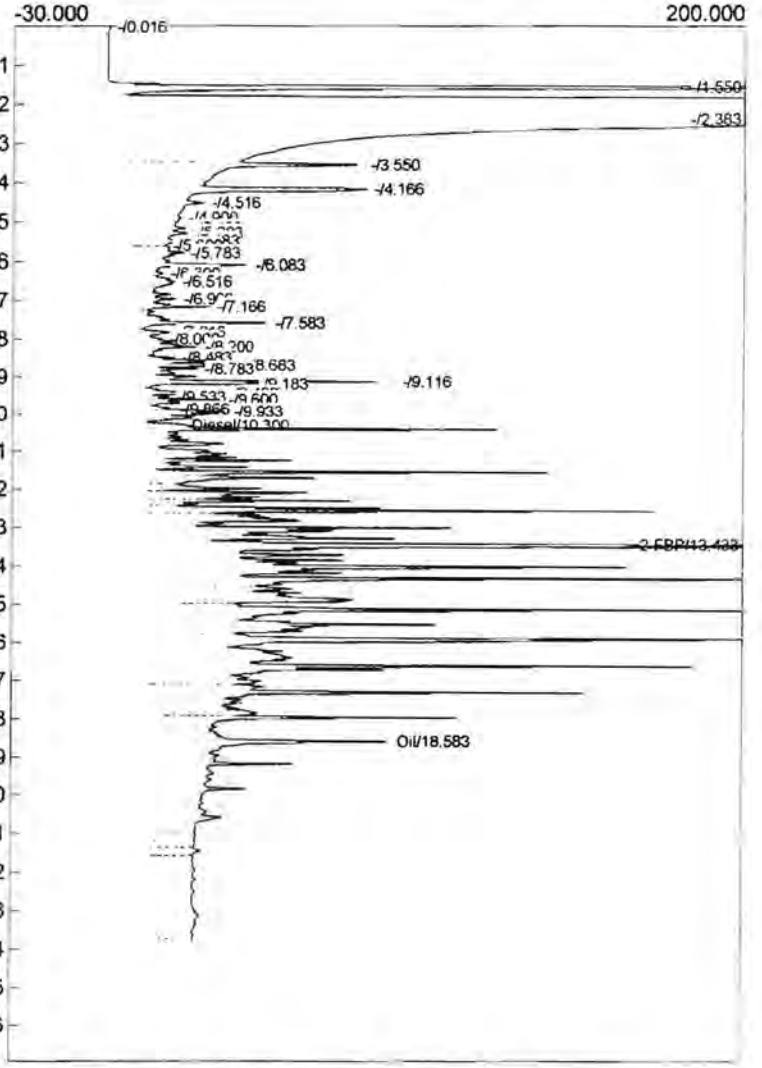
Analysis date: 09/24/2012 08:38:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D171.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.300	19094.4930	11.105	1022.5509	ppm
2-FBP	13.433	1408.6020	231.265	46.9534	ppm
Oil	18.583	5089.8175	74.575	269.2511	ppm
		25592.9125		1338.7553	

102%

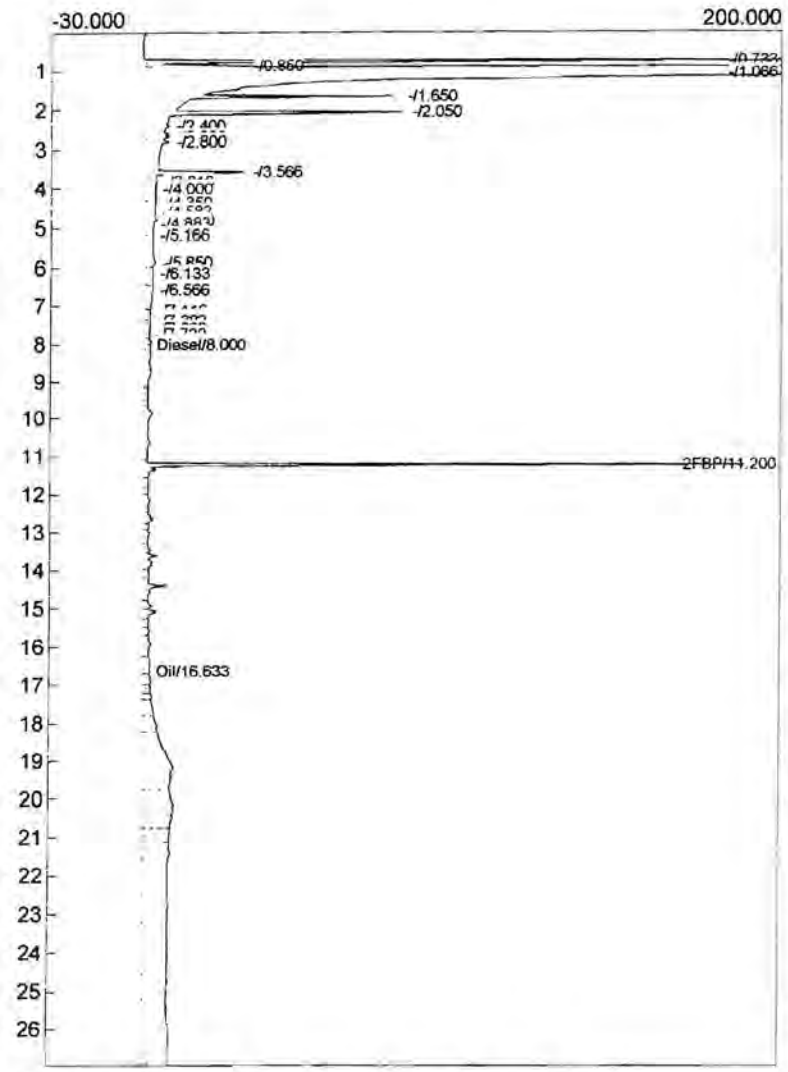
Analysis date: 09/24/2012 09:11:03
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C174.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.000	860.3945	0.707	42.3003	ppm
FBP	11.200	479.1180	196.966	19.1647	ppm
il	16.633	4056.0470	1.022	199.4109	ppm
		5395.5595		260.8759	

96%

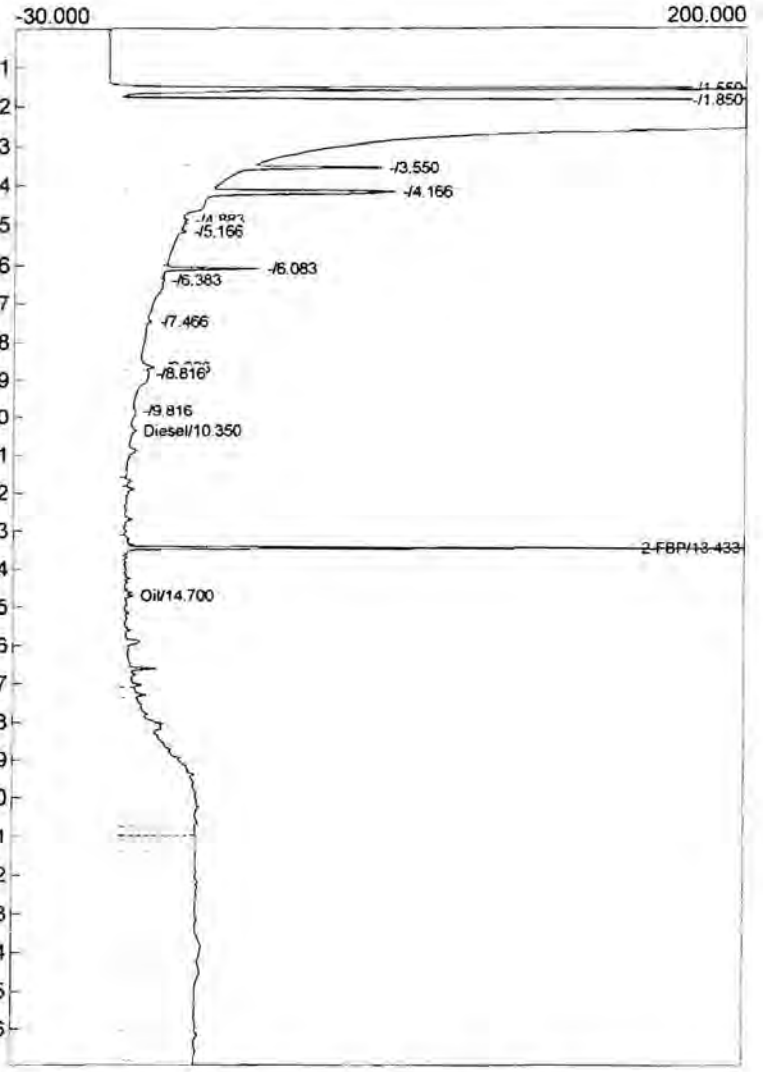
Analysis date: 09/24/2012 09:11:03
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D172.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.350	808.0440	3.483	42.6716	ppm
2-FBP	13.433	559.5465	247.594	18.6516	ppm
Oil	14.700	12280.5755	2.992	653.6326	ppm
		13648.1660		714.9557	

93%

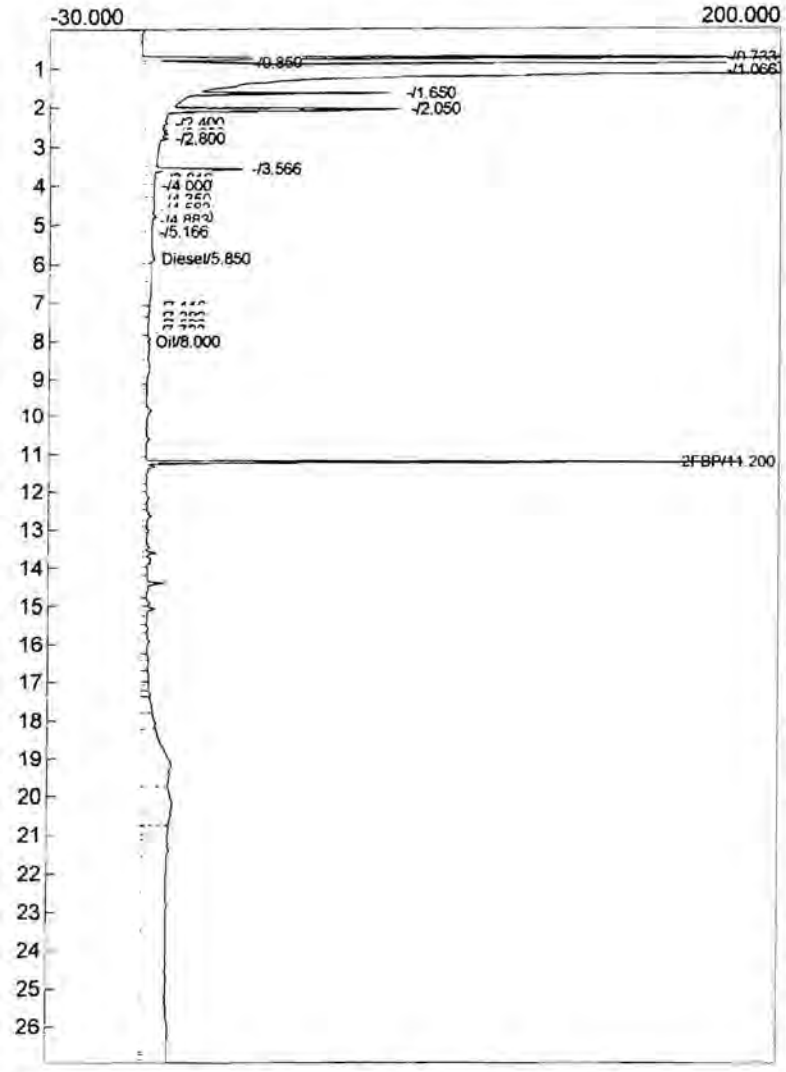
Analysis date: 09/24/2012 09:11:03
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C174.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp
vents:			

ime	Event
000	ZERO

"only used for Bunker (
airblank"



Component	Retention	Area	Height	External	Units
iesel	5.850	144.0815	2.264	7.0836	ppm
il	8.000	4916.4415	0.707	241.8270	ppm
FBP	11.200	479.1180	196.966	19.1647	ppm
		5539.6410		268.0753	

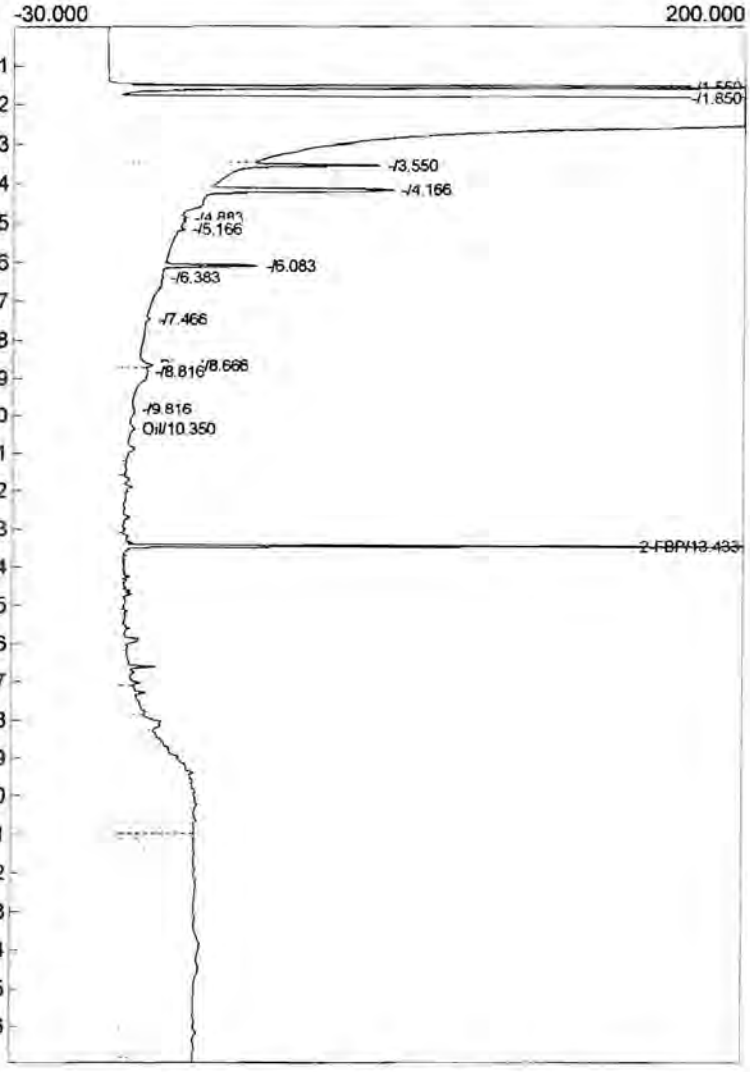
Analysis date: 09/24/2012 09:11:03
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D172.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp
Events:			

← same

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.666	126.0740	8.800	6.6578	ppm
Oil	10.350	13088.6195	3.483	697.1823	ppm
2-FBP	13.433	559.5465	247.594	18.6516	ppm
		13774.2400		722.4916	

Analysis date: 09/24/2012 10:03:15
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C175.CHR ()
Sample: ~~Method Blank~~ IRZ-B1-92412
Operator: PB

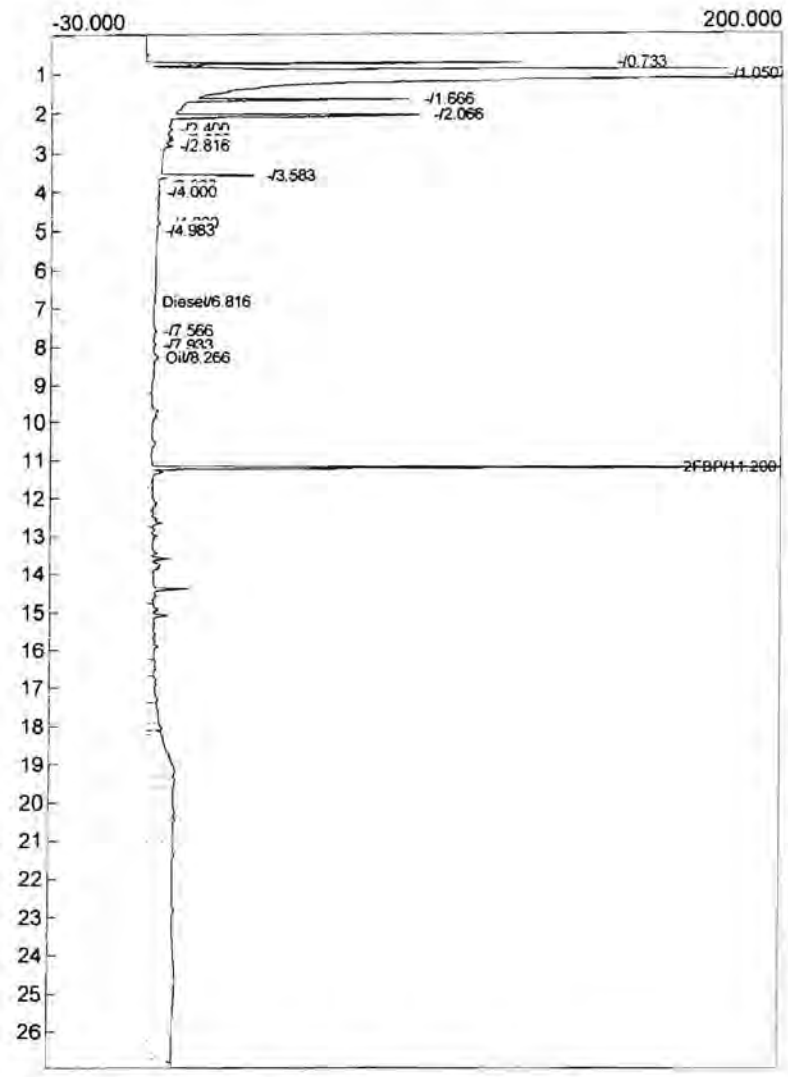
PB 9-24-12

emperature program:

Init temp	Hold	Ramp	Final temp

vents:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	6.816	1.0920	0.154	0.0537	ppm
il	8.268	4905.1825	1.623	241.2720	ppm
FBP	11.200	534.8020	216.005	21.3921	ppm
		5441.0765		262.7177	

nd 107%

Analysis date: 09/24/2012 10:03:15
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D173.CHR ()
Sample: ~~Method Blank~~ IRZ-B2-92412
Operator: PB

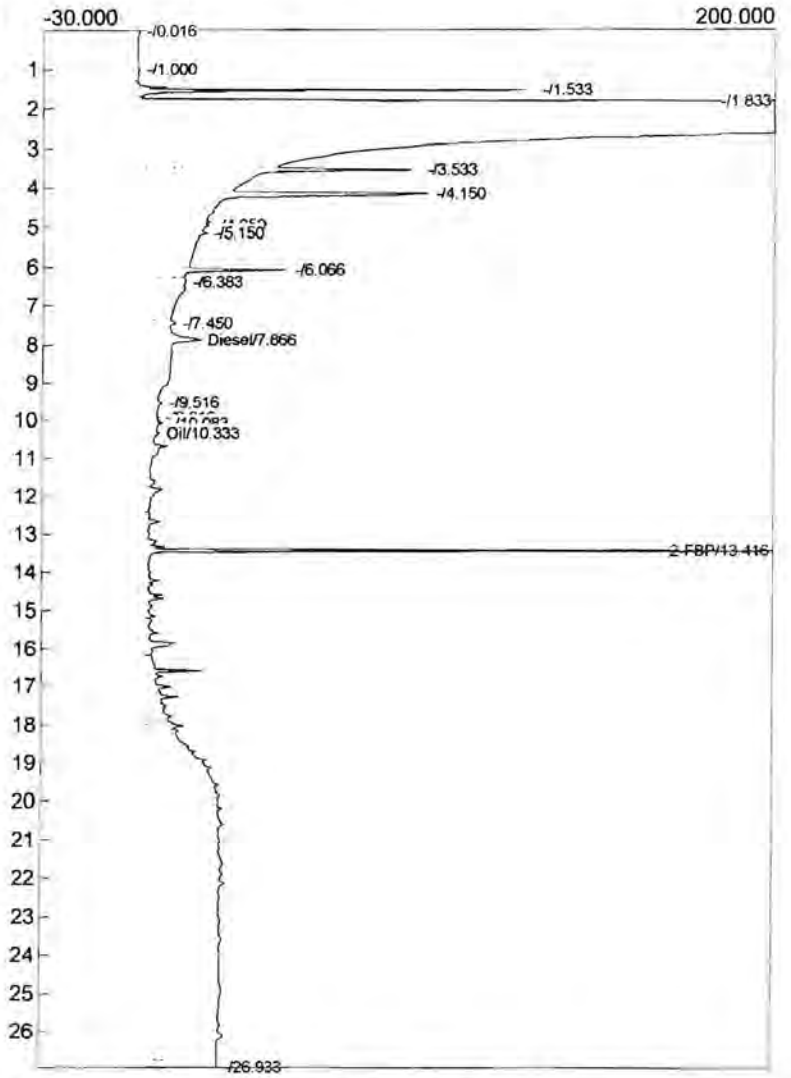
PB 9-24-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.866	522.0225	14.433	27.5672	ppm
Oil	10.333	12611.4705	0.986	671.4662	ppm
2-FBP	13.416	595.6295	257.044	19.8543	ppm
		13729.1225		718.8878	

nd 99%

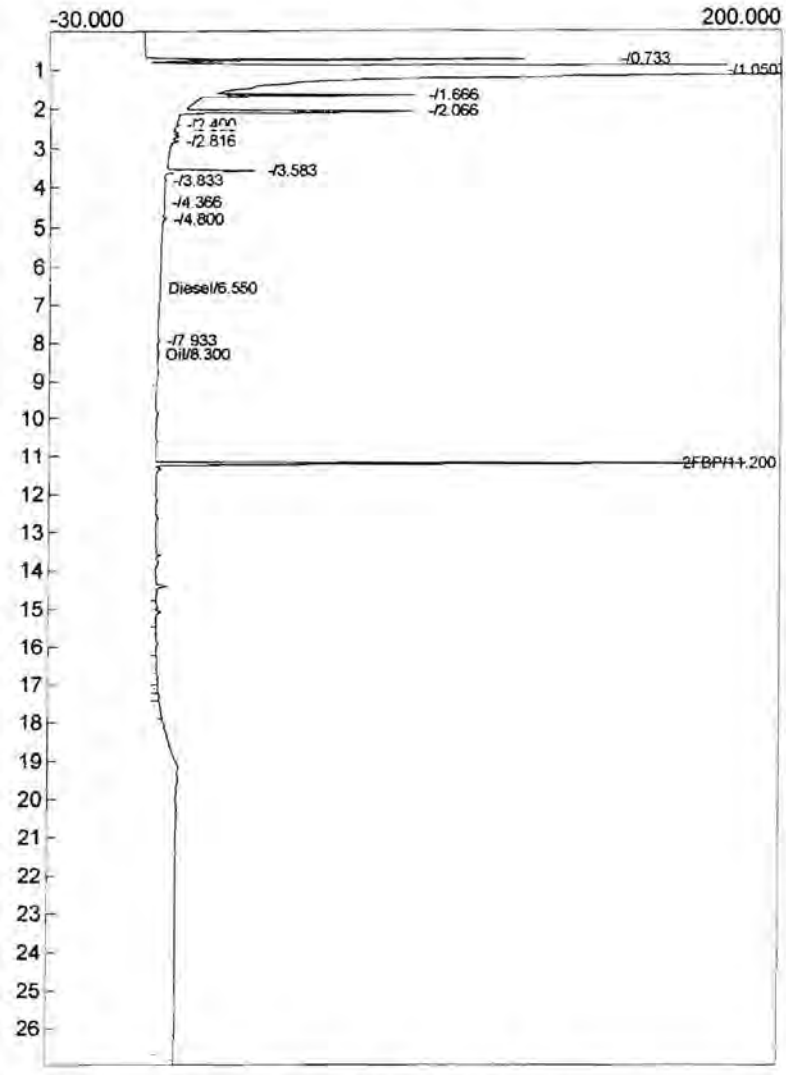
Analysis date: 09/24/2012 10:37:29
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C176.CHR ()
Sample: IRZ-ESW1-92412
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	6.550	2.0520	0.218	0.1009	ppm
il	8.300	4255.8955	0.233	209.2619	ppm
FBP	11.200	464.7620	194.018	18.5905	ppm
		4722.7095		227.9532	

nd 93%

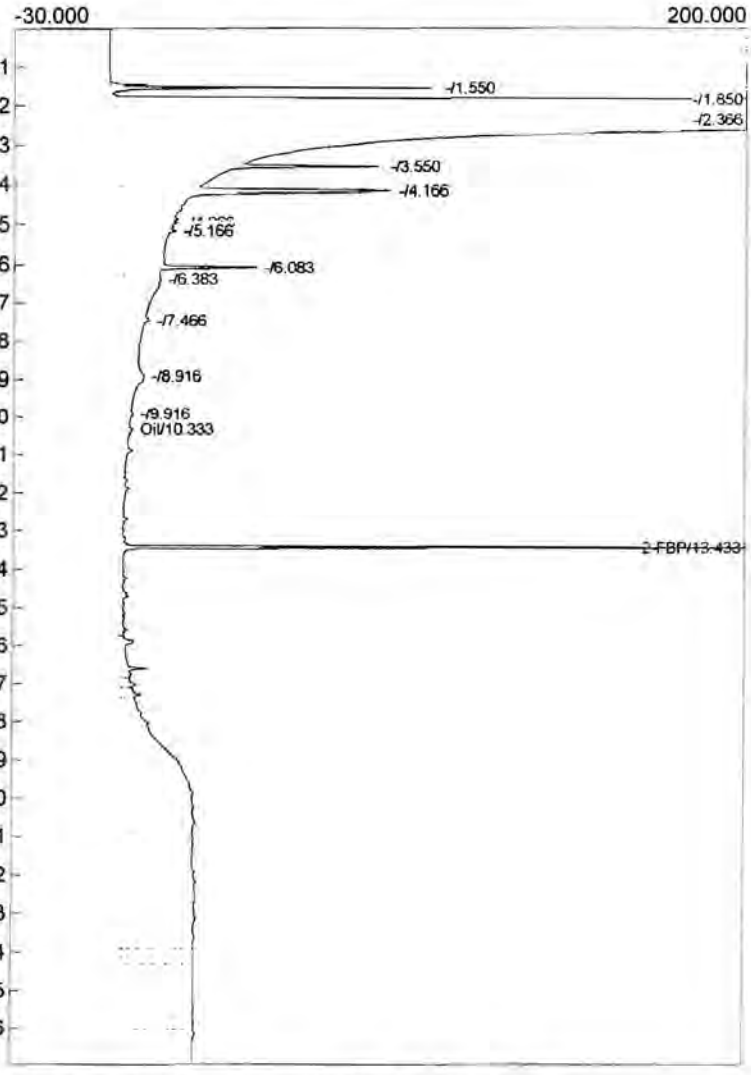
Analysis date: 09/24/2012 10:37:29
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D174.CHR ()
Sample: IRZ-SSW1-92412
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	10.333	12443.4365	3.056	662.4100	ppm
2-FBP	13.433	572.3320	259.875	19.0777	ppm
		13015.7685		681.4878	

nd 95%

Analysis date: 09/24/2012 12:15:53
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C177.CHR ()
Sample: ~~IRZ-ESW1-92412~~ IRZ-B3-92412
Operator: PB

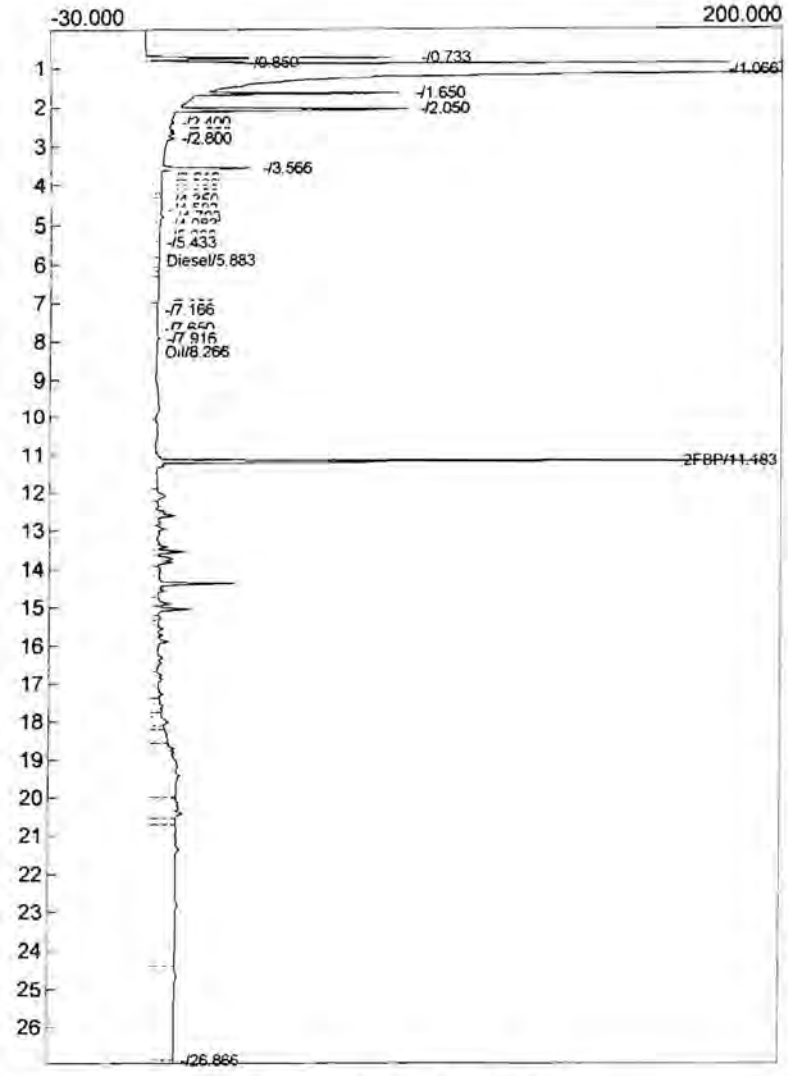
PB 9-24-12

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.883	60.7965	0.973	2.9890	ppm
il	8.266	4953.7970	0.632	243.6687	ppm
FBP	11.183	520.0165	207.104	20.8007	ppm
		5534.6100		267.4583	

nd 10%

Analysis date: 09/24/2012 12:15:53
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D175.CHR ()
Sample: ~~IRZ-SSW1-92412~~ IRZ-ESW2-92412
Operator: PB

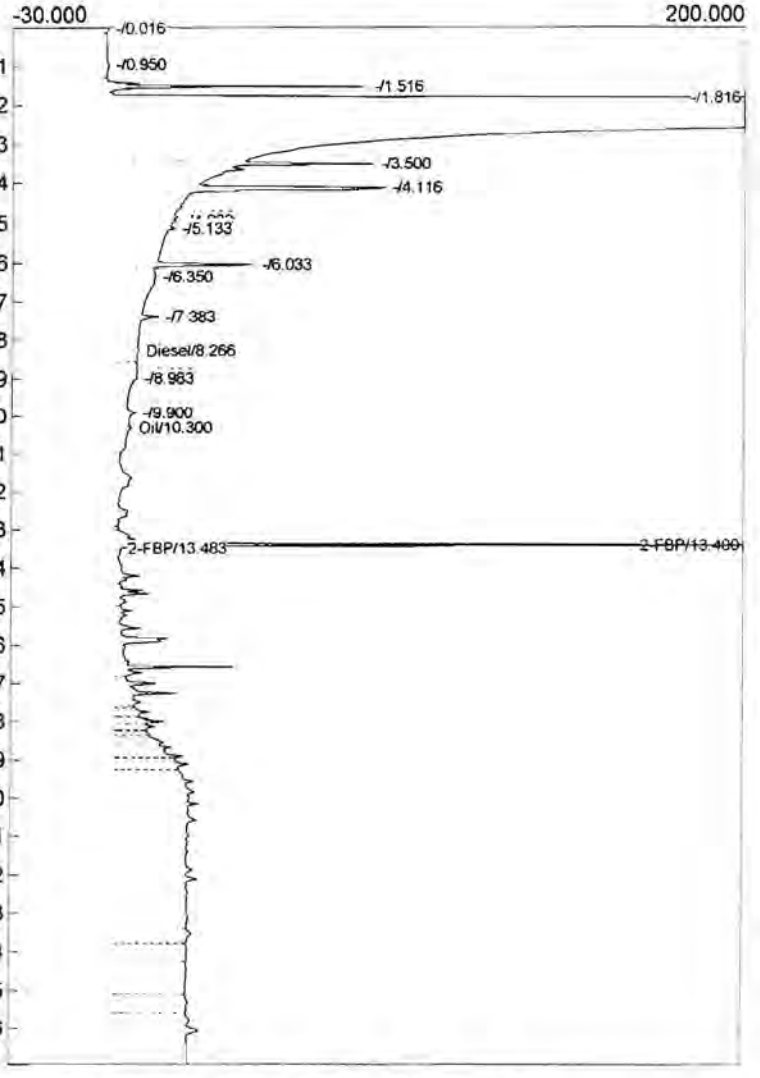
PB 9-24-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.266	155.2985	5.718	8.2011	ppm
Oil	10.300	12903.1940	3.506	687.1887	ppm
2-FBP	13.400	554.3700	256.197	18.4790	ppm
2-FBP	13.483	1.9440	1.040	0.0648	ppm
		13614.8065		713.9336	

nd 92%

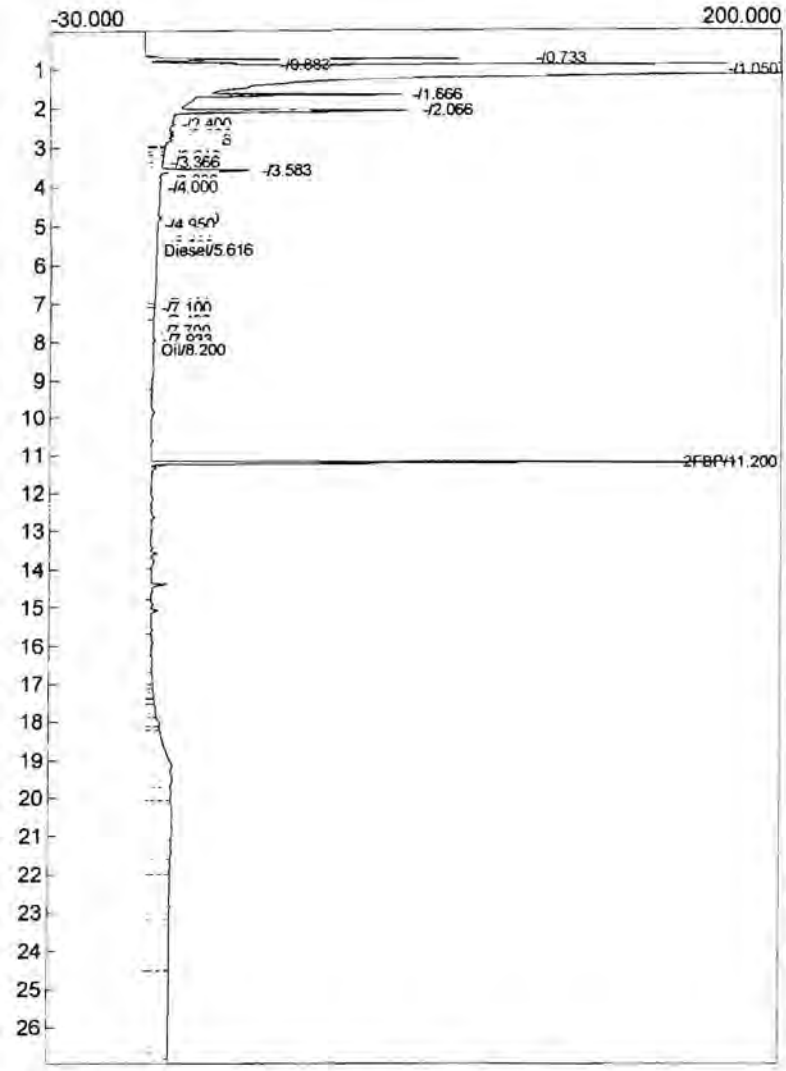
Lab name: Libby Environmental
Analysis date: 09/24/2012 12:54:48
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C178.CHR ()
Sample: IRZ-B3-92412 DUP
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.616	115.5280	1.547	5.6798	ppm
il	8.200	4222.9460	0.757	207.6374	ppm
FBP	11.200	465.3940	196.485	18.6158	ppm
		4803.8680		231.9330	

nd 93%

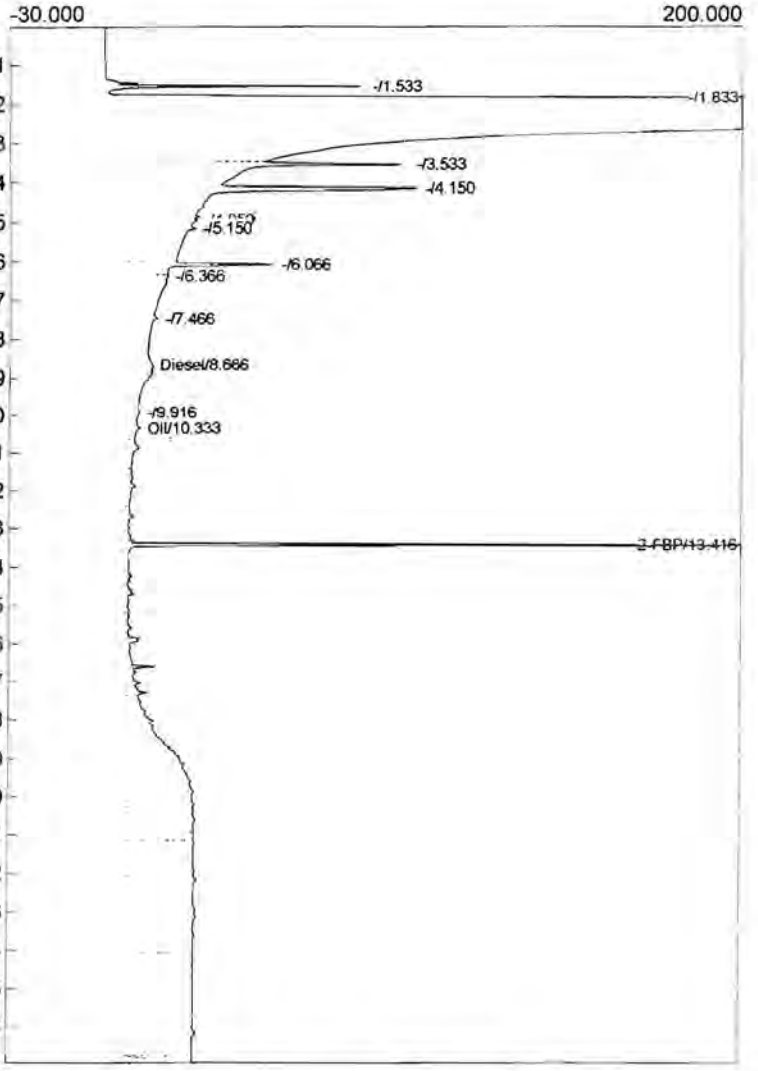
Lab name: Libby Environmental
Analysis date: 09/24/2012 12:54:48
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D176.CHR ()
Sample: IRZ-ESW2-92412 DUP
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.666	465.4120	7.364	24.5777	ppm
Oil	10.333	11504.4130	3.513	611.8012	ppm
2-FBP	13.416	564.2680	242.568	18.8089	ppm
		12534.0930		655.1879	

nd 94%

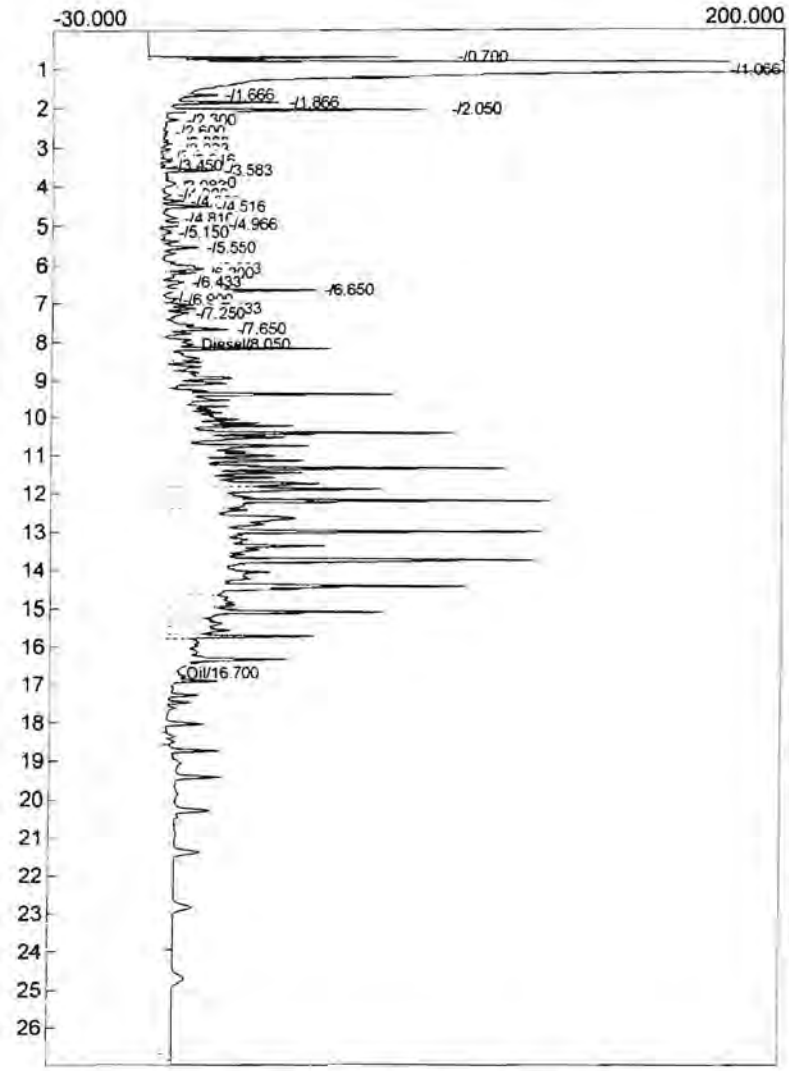
Lab name: Libby Environmental
Analysis date: 09/24/2012 14:04:06
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C179.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.050	11088.4030	5.438	546.5138	ppm
Oil	16.700	1421.1440	3.017	69.8689	ppm
		12509.5470		616.3828	

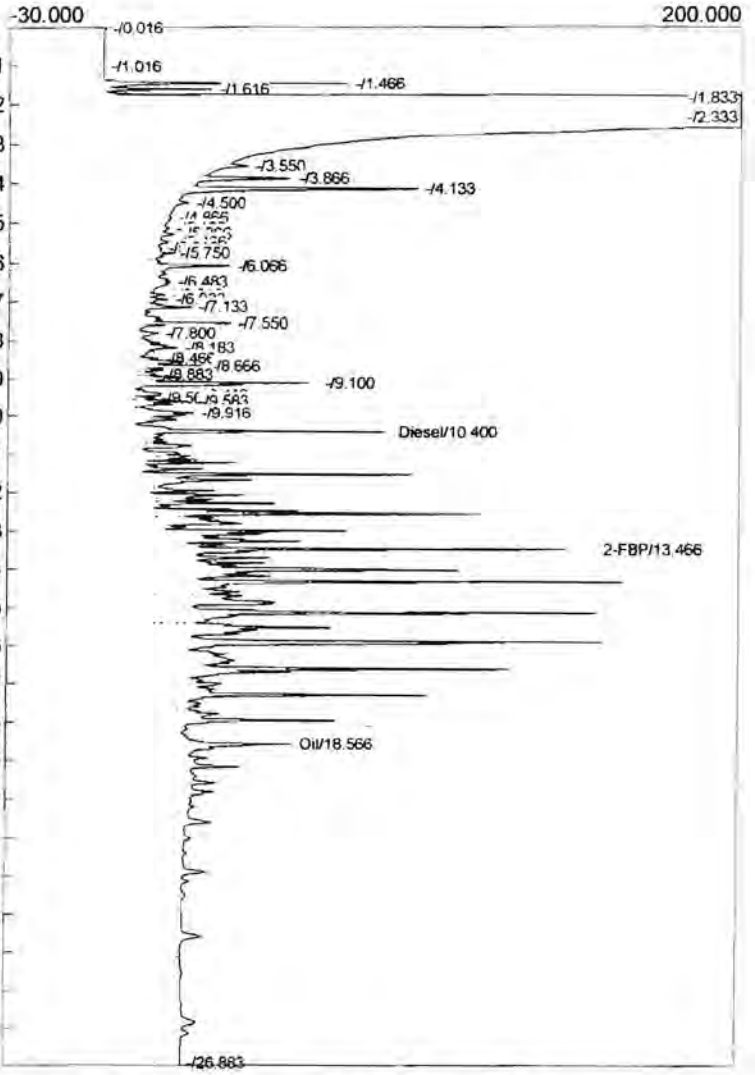
Lab name: Libby Environmental
Analysis date: 09/24/2012 14:04:06
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D177.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

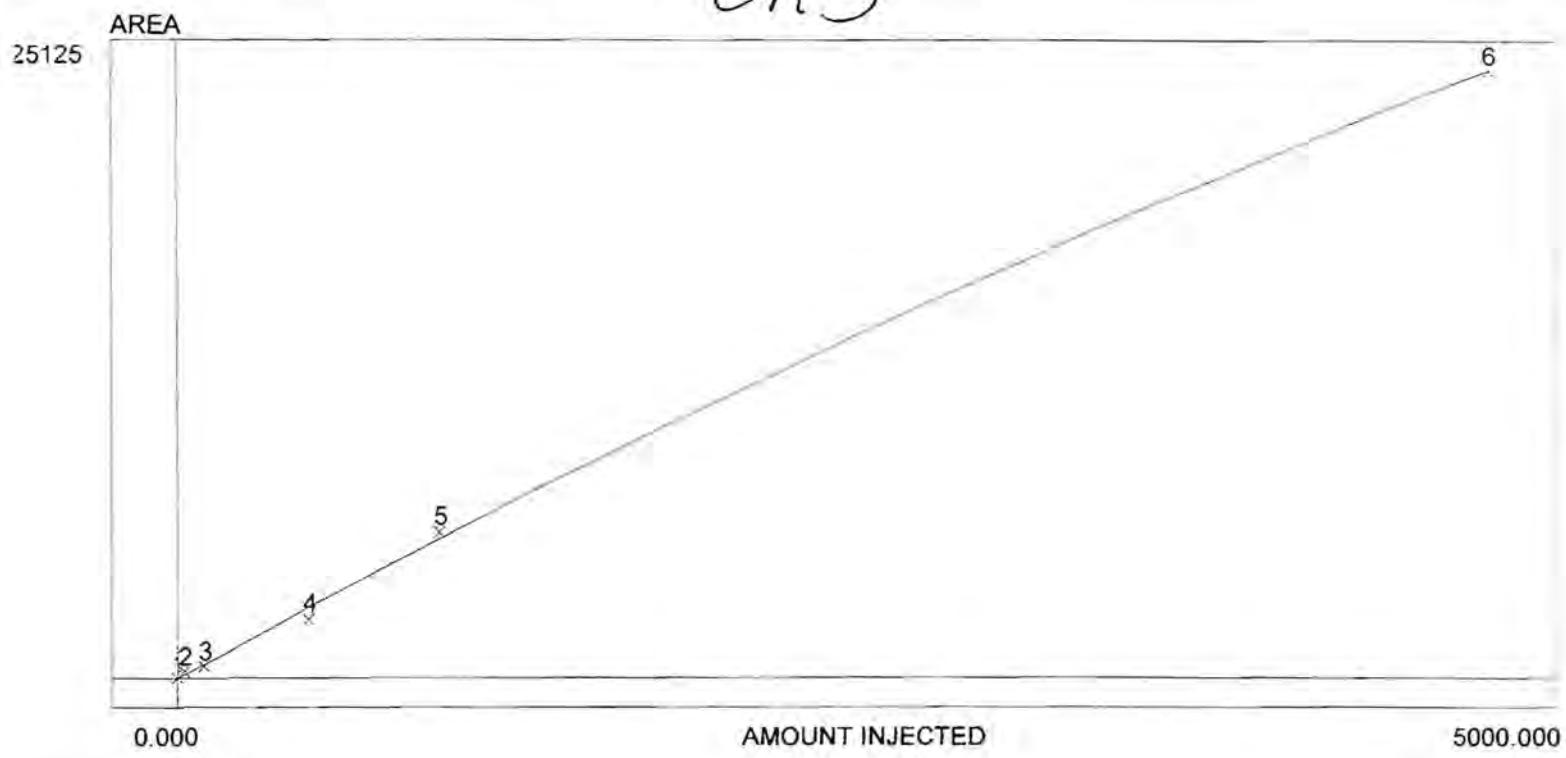
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.400	10722.9435	75.008	569.8903	ppm
2-FBP	13.466	578.9560	139.462	19.2985	ppm
Oil	18.566	5737.6835	44.077	303.6954	ppm
		17039.5830		892.8842	

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

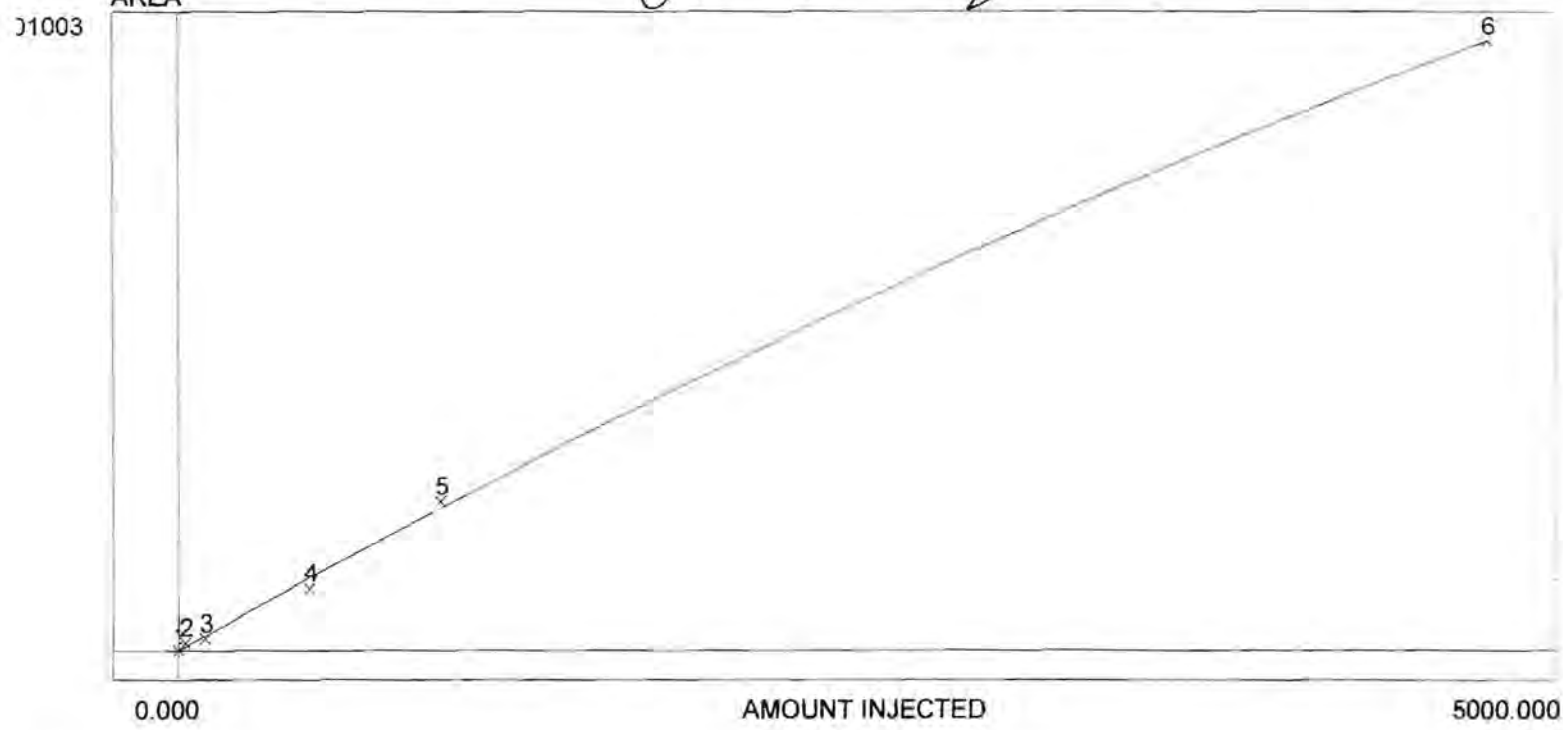


vg slope of curve: 25.03
-axis intercept: 0.00
inearity: 0.86
lumber of levels: 6
SD/rel SD of CF's: 18.0/66.9
=-0.0009X^a+29.3544X
2: 0.9993
ast calibrated: Wed Mar 14 13:52:31 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1410.471	25.000	56.419	1410.471	N/A	N/A
2574.179	100.000	25.742	2574.179	N/A	N/A
12043.265	500.000	24.087	12043.265	N/A	N/A
29871.863	1000.000	29.872	29871.863	N/A	N/A
125124.670	5000.000	25.025	125124.670	N/A	N/A

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

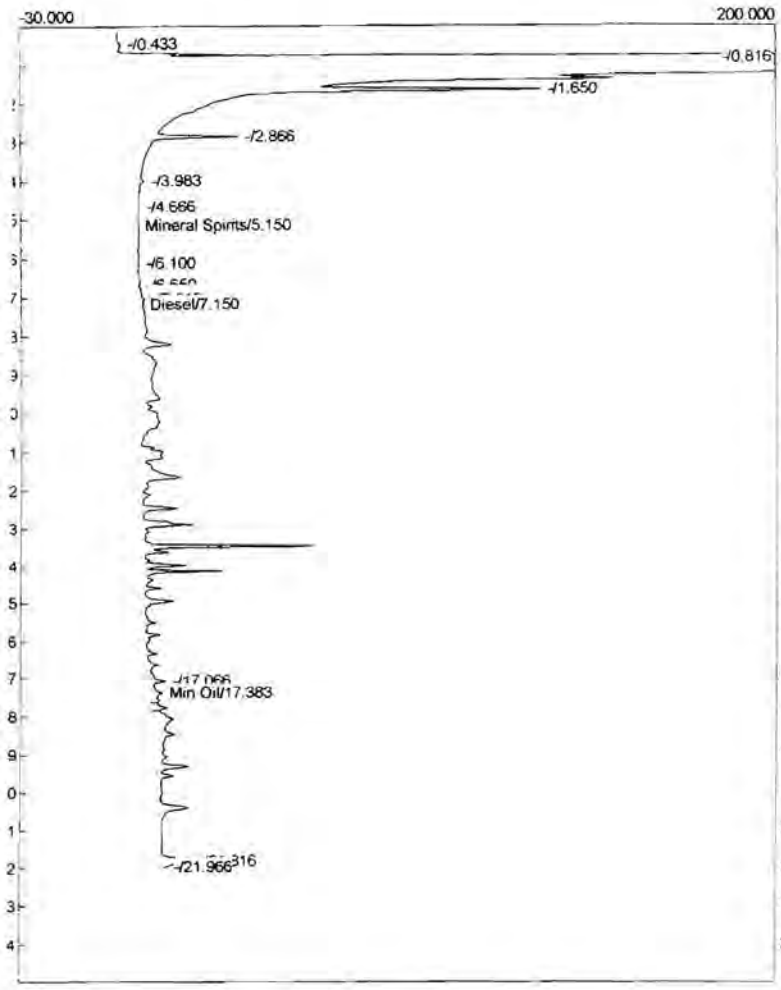
Ch 4



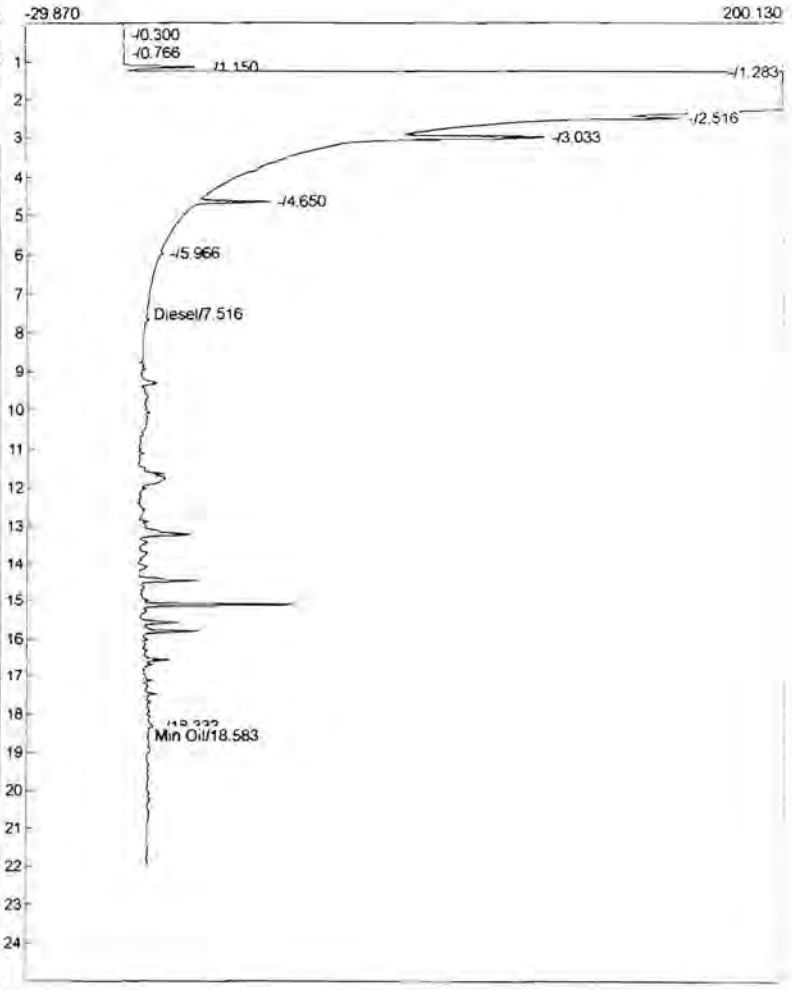
\vg slope of curve: 20.21
'-axis intercept: 0.00
inearity: 0.84
lumber of levels: 6
;D/rel SD of CF's: 16.3/72.6
'=-0.0008X^{a}+24.2883X
2: 0.9993
ast calibrated: Wed Mar 14 13:57:45 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1271.716	25.000	50.869	1271.716	N/A	N/A
1927.394	100.000	19.274	1927.394	N/A	N/A
10086.605	500.000	20.173	10086.605	N/A	N/A
24554.042	1000.000	24.554	24554.042	N/A	N/A
101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



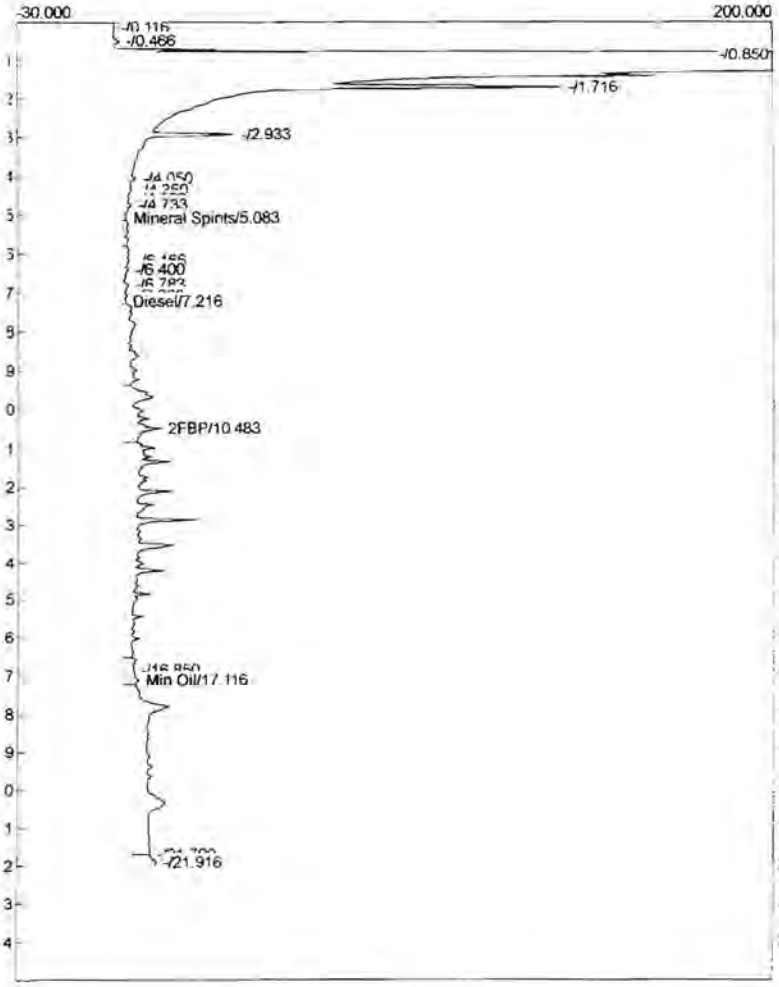
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPM
Diesel	7.150	1410.4710	0.518	13.6936	ppm
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

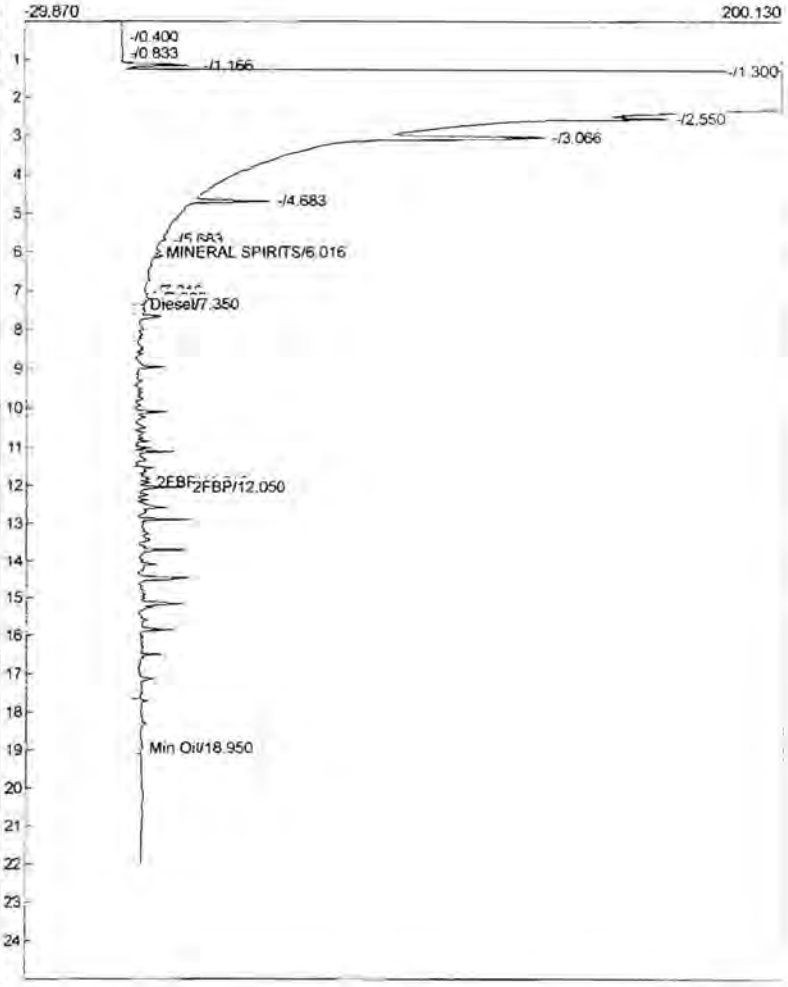
Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppm
Min Oil	18.583	209.2665	1.582	14.7689	ppm
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

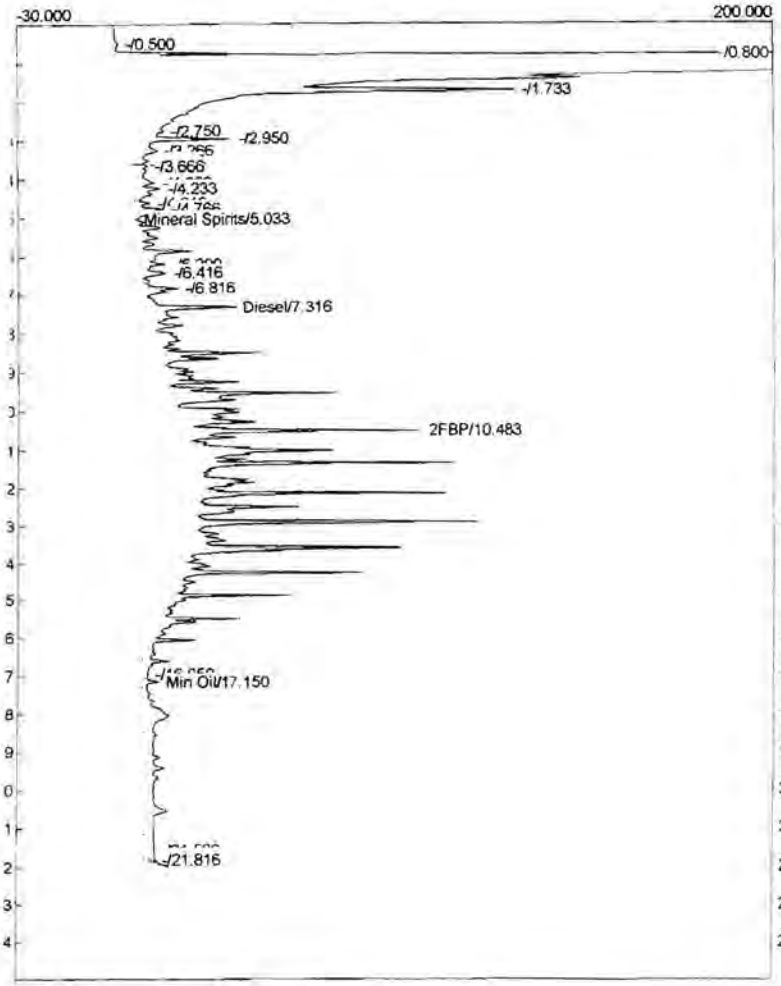
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW

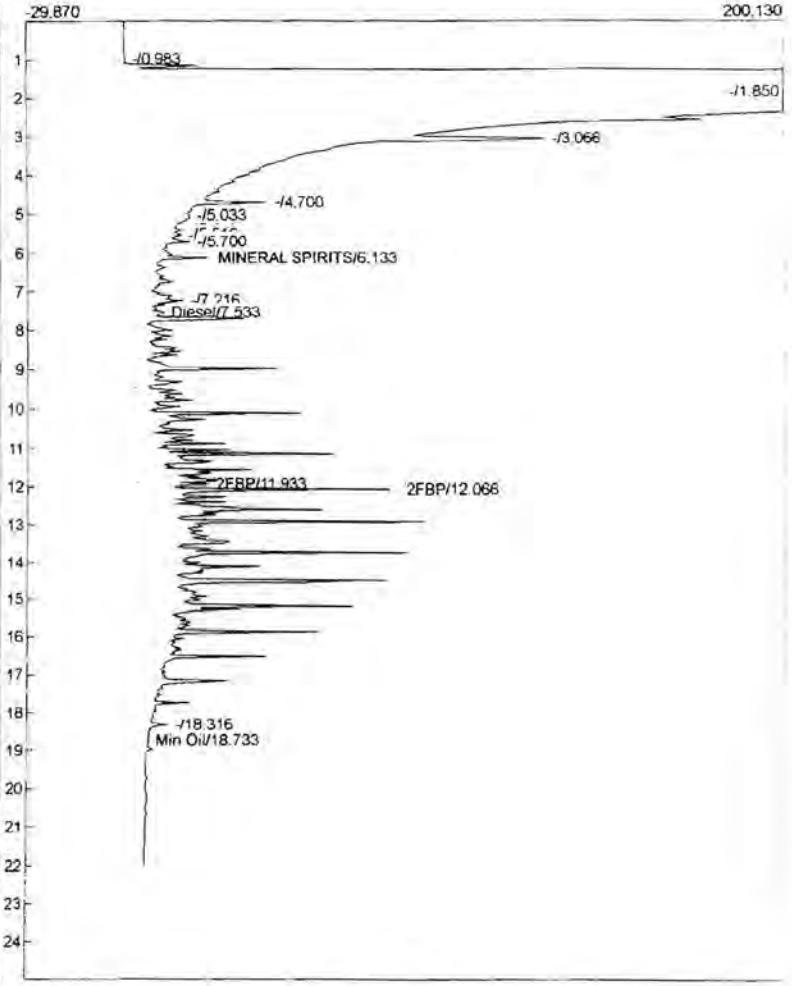


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



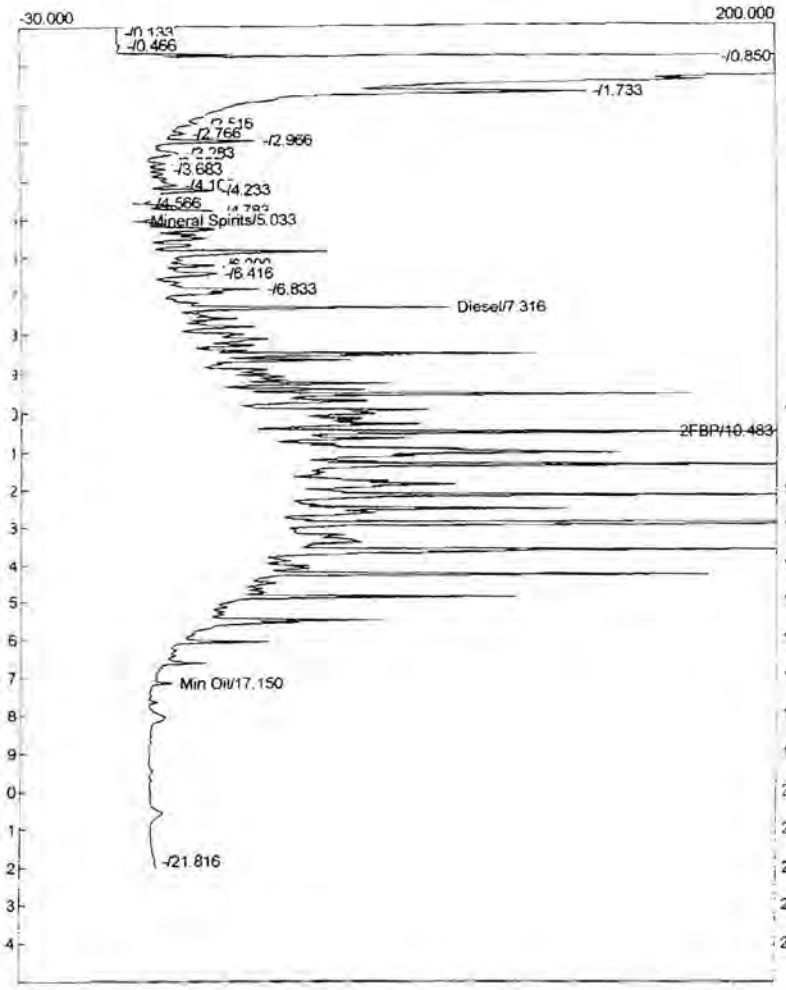


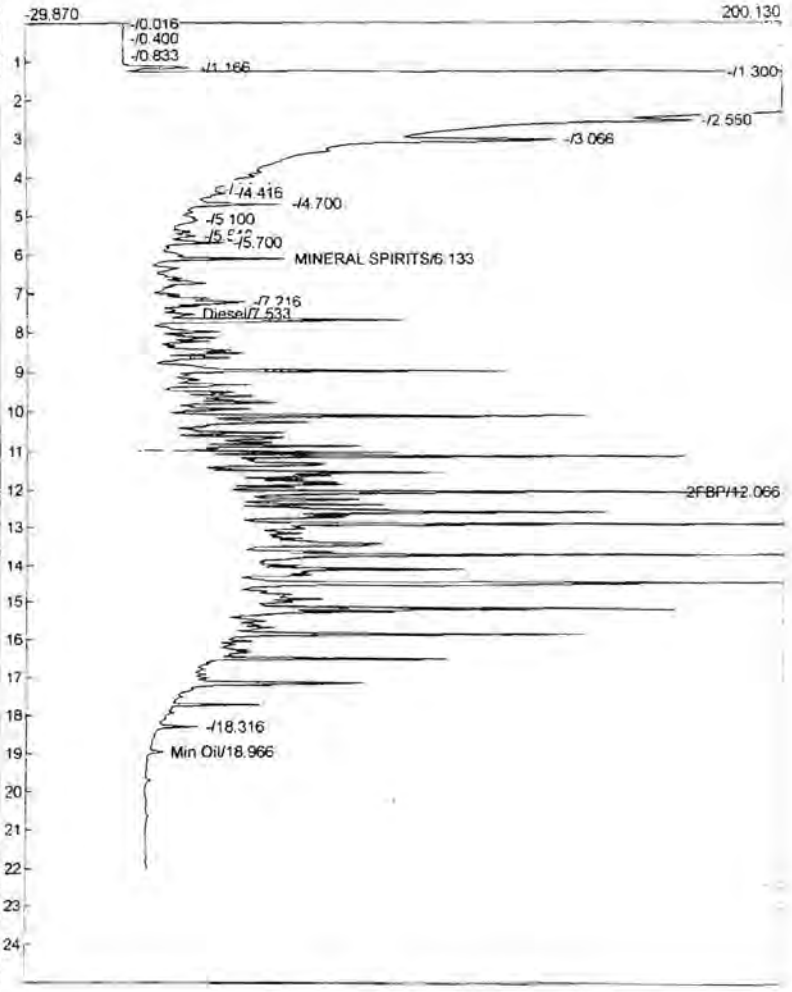
Component	Retention	Area	Height	External
Mineral Spirits	5.033	323.3415	0.632	15.9963
Diesel	7.316	11375.2115	30.144	562.7511
2FBP	10.483	668.0530	86.276	26.7221
Min Oil	17.150	960.9820	5.210	0.0000
		13327.5880		605.4694

Units	Component	Retention	Area	Height	External	Un
PPM	MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
ppm	Diesel	7.533	9651.3385	9.725	679.2156	ppm
ppm	2FBP	11.933	110.1285	21.943	5.5064	ppm
	2FBP	12.066	325.1375	79.999	16.2569	ppm
	Min Oil	18.733	138.4670	1.874	9.7722	ppm
			10861.8905		755.5674	

nalysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

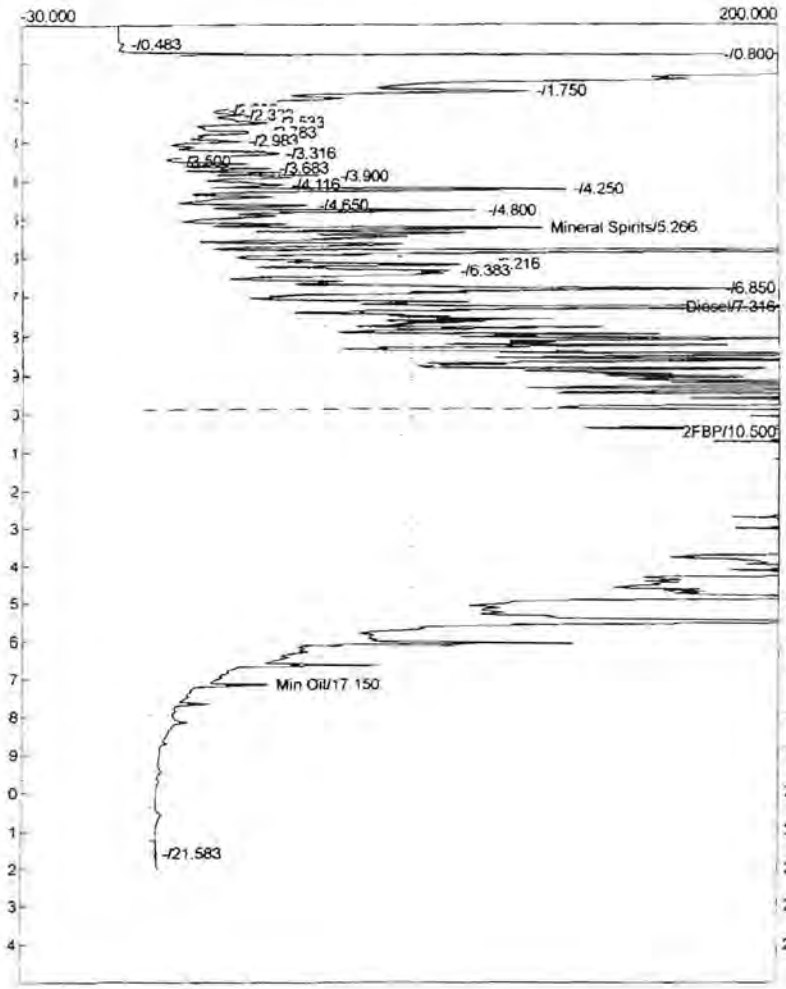
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW





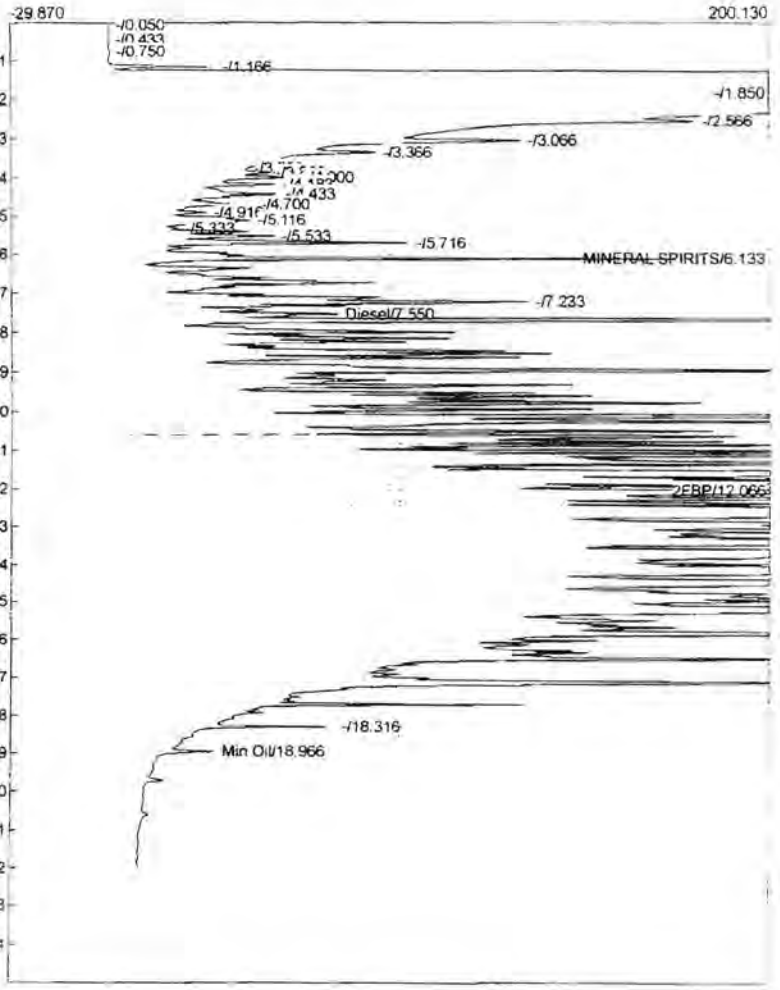
Component	Retention	Area	Height	External	UnitsComponent	Retention	Area	Height	External	U
Mineral Spirits	5.033	995.3365	2.641	49.2410	PPMINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.316	28291.8845	95.034	1399.6476	ppDiesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	17.150	221.1300	7.549	0.0000	Min Oil	18.966	300.3670	6.980	21.1982	pp
		31088.3290		1512.0877			25578.2480		1778.8751	

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



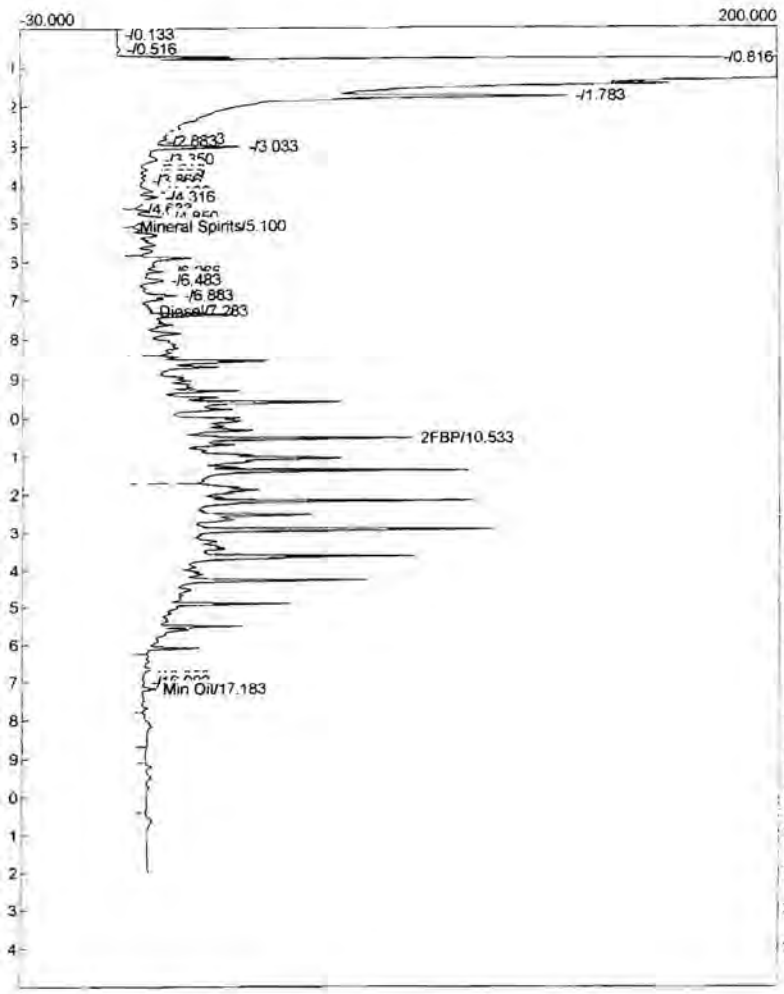
Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



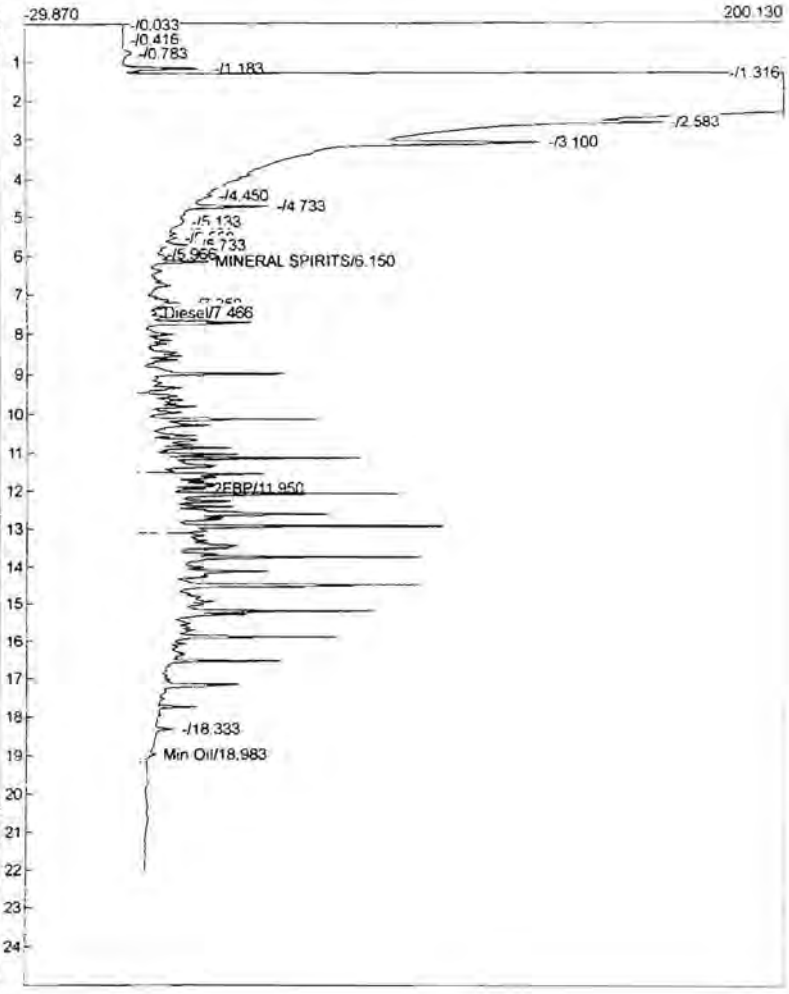
UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	18.983	249.4535	4.581	17.6050	ppm
		10413.3785		455.0074	

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F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209149

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 9 sample(s) on 9/25/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209149

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209149-001	IRZ-B1-92412	09/24/2012 8:00 AM	09/25/2012 4:53 PM
1209149-002	IRZ-B2-92412	09/24/2012 9:00 AM	09/25/2012 4:53 PM
1209149-003	IRZ-ESW1-92412	09/24/2012 8:40 AM	09/25/2012 4:53 PM
1209149-004	IRZ-SSW1-92412	09/24/2012 9:35 AM	09/25/2012 4:53 PM
1209149-005	IRZ-B3-92412	09/24/2012 11:35 AM	09/25/2012 4:53 PM
1209149-006	IRZ-ESW2-92412	09/24/2012 11:40 AM	09/25/2012 4:53 PM
1209149-007	IRZ-B4-92412	09/24/2012 2:43 PM	09/25/2012 4:53 PM
1209149-008	IRZ-ESW3-92412	09/24/2012 2:50 PM	09/25/2012 4:53 PM
1209149-009	IRZ-WSW1-92512	09/25/2012 11:30 AM	09/25/2012 4:53 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209149**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209149**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/24/2012 8:00:00 AM

Project: Irondale

Lab ID: 1209149-001 **Matrix:** Sediment

Client Sample ID: IRZ-B1-92412

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3308		Analyst: PH
Chrysene	ND	45.6		µg/Kg-dry	1	10/12/2012 2:05:00 AM
Benzo(a)pyrene	ND	45.6		µg/Kg-dry	1	10/12/2012 2:05:00 AM
2,4-Dimethylphenol	ND	26.4		µg/Kg-dry	1	10/12/2012 2:05:00 AM
Surr: 2-Fluorobiphenyl	99.9	50.4-142		%REC	1	10/12/2012 2:05:00 AM
Surr: Phenol-d6	90.3	48.2-143		%REC	1	10/12/2012 2:05:00 AM
Surr: Terphenyl-d14 (surr)	106	48.8-157		%REC	1	10/12/2012 2:05:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	10.8			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209149**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/24/2012 8:40:00 AM

Project: Irondale

Lab ID: 1209149-003 **Matrix:** Sediment

Client Sample ID: IRZ-ESW1-92412

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3308		Analyst: PH
Chrysene	ND	44.4		µg/Kg-dry	1	10/12/2012 3:20:00 AM
Benzo(a)pyrene	ND	44.4		µg/Kg-dry	1	10/12/2012 3:20:00 AM
2,4-Dimethylphenol	ND	25.7		µg/Kg-dry	1	10/12/2012 3:20:00 AM
Surr: 2-Fluorobiphenyl	101	50.4-142		%REC	1	10/12/2012 3:20:00 AM
Surr: Phenol-d6	98.8	48.2-143		%REC	1	10/12/2012 3:20:00 AM
Surr: Terphenyl-d14 (surr)	106	48.8-157		%REC	1	10/12/2012 3:20:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	12.6			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209149
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3308**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6128**
Client ID: **CCV**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121754**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,020	50.0	1,000	0	102	80	120				
Benzo(a)pyrene	995	50.0	1,000	0	99.5	80	120				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	80	120				
Surr: 2-Fluorobiphenyl	488		500.0		97.5	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	500		500.0		100	48.8	157				

Sample ID: **CCB-3308**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6128**
Client ID: **CCB**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121755**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	498		500.0		99.5	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	497		500.0		99.4	48.8	157				

Sample ID: **MB-3308**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **MBLKS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121756**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	475		500.0		95.0	50.4	142				
Surr: Phenol-d6	980		1,000		98.0	48.2	143				
Surr: Terphenyl-d14 (surr)	448		500.0		89.5	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/16/2012*

Work Order: 1209149
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-3308**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **MBLKS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121756**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-3308**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **LCSS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121757**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,090	50.0	1,000	0	109	76.1	123				
Benzo(a)pyrene	982	50.0	1,000	0	98.2	58.1	146				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	50	150				
Surr: 2-Fluorobiphenyl	532		500.0		106	50.4	142				
Surr: Phenol-d6	1,110		1,000		111	48.2	143				
Surr: Terphenyl-d14 (surr)	508		500.0		102	48.8	157				

Sample ID: **1209149-002AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **IRZ-B2-92412**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	979	46.5	930.7	0	105	45.2	146				
Benzo(a)pyrene	984	46.5	930.7	0	106	34.4	179				
2,4-Dimethylphenol	937	27.0	930.7	0	101	50	150				
Surr: 2-Fluorobiphenyl	473		465.4		102	50.4	142				
Surr: Phenol-d6	949		930.7		102	48.2	143				
Surr: Terphenyl-d14 (surr)	471		465.4		101	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209149
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209149-004ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **IRZ-SSW1-92412**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121763**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	45.1						0	0	30	
Benzo(a)pyrene	ND	45.1						0	0	30	
2,4-Dimethylphenol	ND	26.2						0	0	30	
Surr: 2-Fluorobiphenyl	455		451.3		101	50.4	142		0		
Surr: Phenol-d6	892		902.6		98.9	48.2	143		0		
Surr: Terphenyl-d14 (surr)	480		451.3		106	48.8	157		0		

Sample ID: **ICB-3308**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6128**
Client ID: **ICB**	Batch ID: **3308**		Analysis Date: **10/10/2012**	SeqNo: **121766**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3308**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6128**
Client ID: **ICV**	Batch ID: **3308**		Analysis Date: **10/10/2012**	SeqNo: **121767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/16/2012*

Work Order: 1209149
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICV-3308** SampType: **ICV** Units: **µg/Kg** Prep Date: **10/10/2012** RunNo: **6128**
Client ID: **ICV** Batch ID: **3308** Analysis Date: **10/10/2012** SeqNo: **121767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209149**
Logged by: **Clare Griggs**	Date Received: **9/25/2012 4:53:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples were not received on ice.						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Samples were not received on ice.						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☑	NA	☐
	Samples not received at approproate temperature.						
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

1209149

Date: 9/25/12 Page: 1 of 1

Client: Libby Environmental
Address: See above
Phone: Fax:
Client Project #

Project Manager: Jamie Deyman
Project Name: Ecology-Irondale
Location: Iron, WA City:
Collector: Date of Collection: 9/24/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ B1-92412		0800	SED	2-4oz Jar									X					
2 IRZ-B2-92412		0900	SED	2-4oz Jar									X					
3 IRZ-ESW1-92412		0840	SED	2-4oz Jar									X					
4 IRZ-ESW1-92412		0835	SED	2-4oz Jar									X					
5 IRZ-B3-92412		11:35	SED	2-4oz Jar									X					
6 IRZ-ESW2-92412		11:40	SED	2-4oz Jar									X					
7 IRZ-B4-92412		14:43	SED	2-4oz Jar									X					
8 IRZ-ESW3-92412		1450	SED	2-4oz Jar									X					
9 IRZ-WSW1-92512		1:30	SED	2-4oz Jar									X					
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
	9/25/12 4:59pm		9/25/12 16:53
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:
Good Condition?
Cold?
Seals Intact?
Total Number of Containers

Remarks: PAH ~~EPH~~ (all) needs to be extracted and put on hold.

Libby Environmental, Inc.

4125 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

1209149a

Date: 9/25/12 Page: 1 of 1

Client: Libby Environmental
Address: See above
Phone: Fax:
Client Project #

Project Manager: Jamie Deyman
Project Name: Ecology-Irondale
Location: Iron, WA City:
Collector: Date of Collection: 9/24/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	Field Notes
1 IRZ-B1-92412		0800	SED	2-4oz Jar								X				run PAH analysis as per Emily A. 10/9/12 cg
2 IRZ-B2-92412		0900	SED	2-4oz Jar								X				
3 IRZ-ESW1-92412		0840	SED	2-4oz Jar								X				
4 IRZ-ISW1-92412		0935	SED	2-4oz Jar								X				
5 IRZ-B3-92412		11:35	SED	2-4oz Jar								X				
6 IRZ-ESW2-92412		11:40	SED	2-4oz Jar								X				
7 IRZ-B4-92412		14:43	SED	2-4oz Jar								X				
8 IRZ-ESW3-92412		1450	SED	2-4oz Jar								X				
9 IRZ-WSW1-92512		1138	SED	2-4oz Jar								X				
10																
11																
12																
13																
14																
15																
16																
17																
18																

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/25/12 4:59 pm	[signature]	9/25/12 16:53
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:
Good Condition?
Cold?
Seals Intact?
Total Number of Containers

Remarks: PAH ~~(all)~~ needs to be extracted and put on hold.

Distribution: White - Lab, Yellow - File, Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

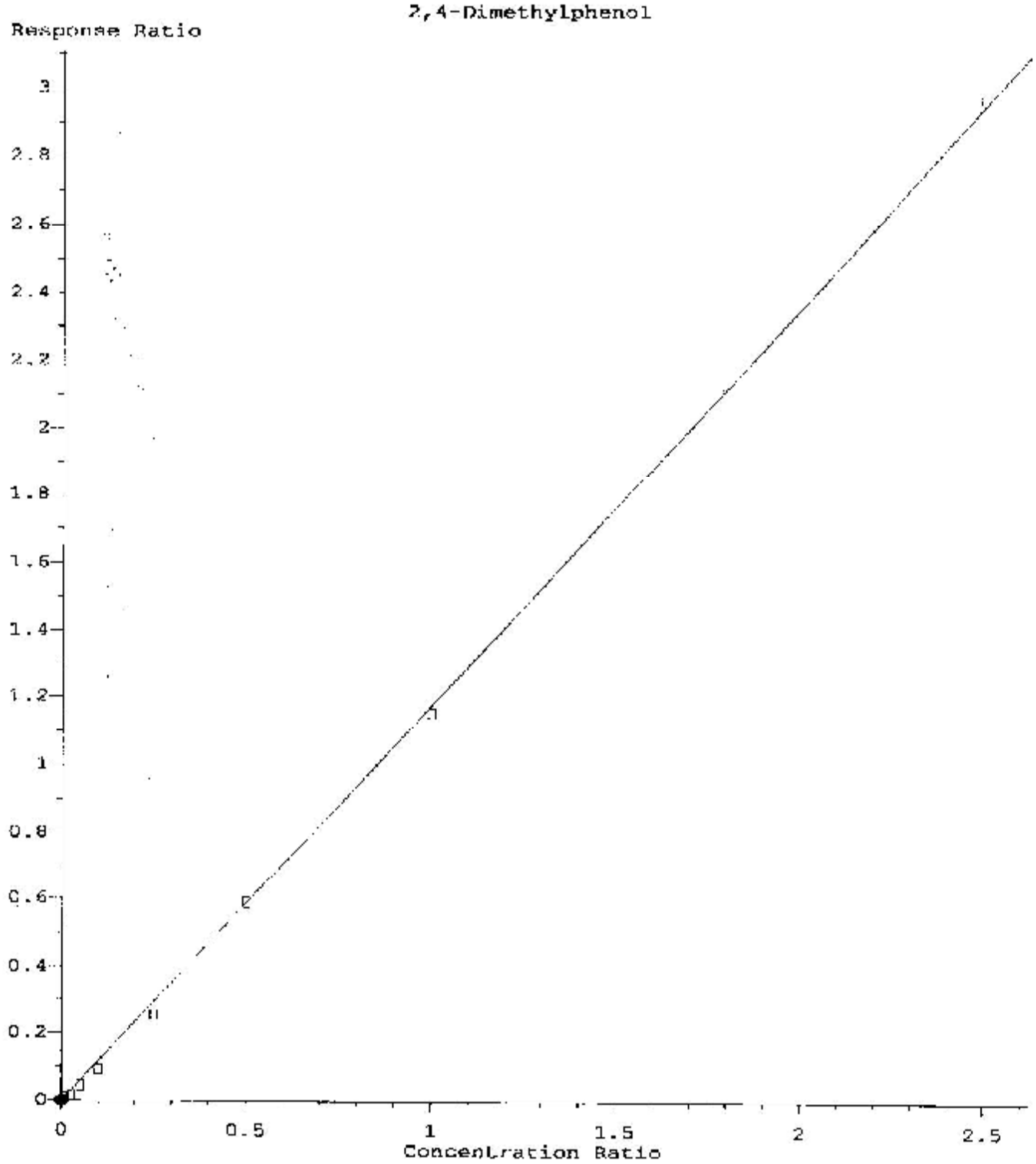
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

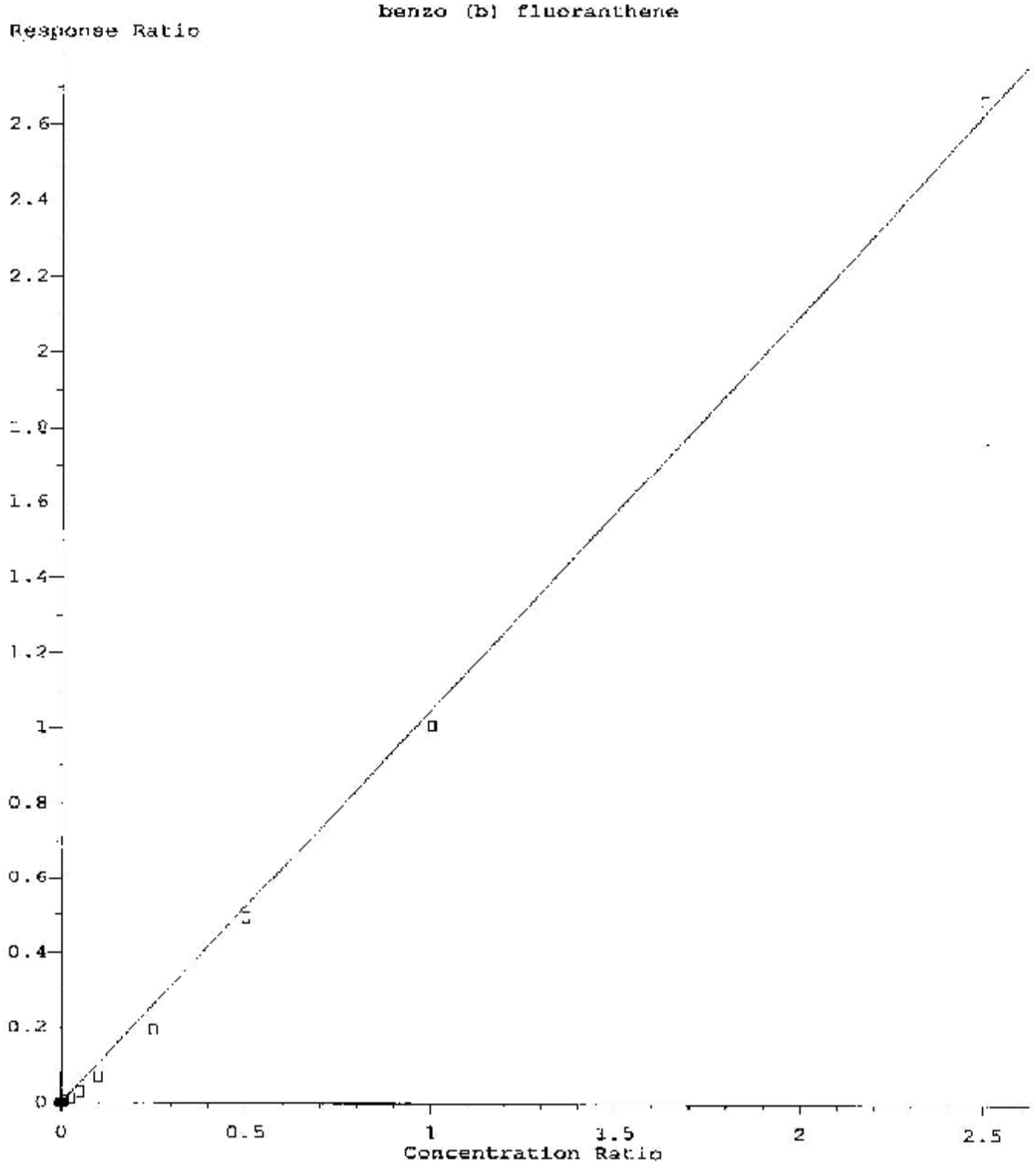
25)	I	Perylene-d12 (IS)	----------ISTD----------								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

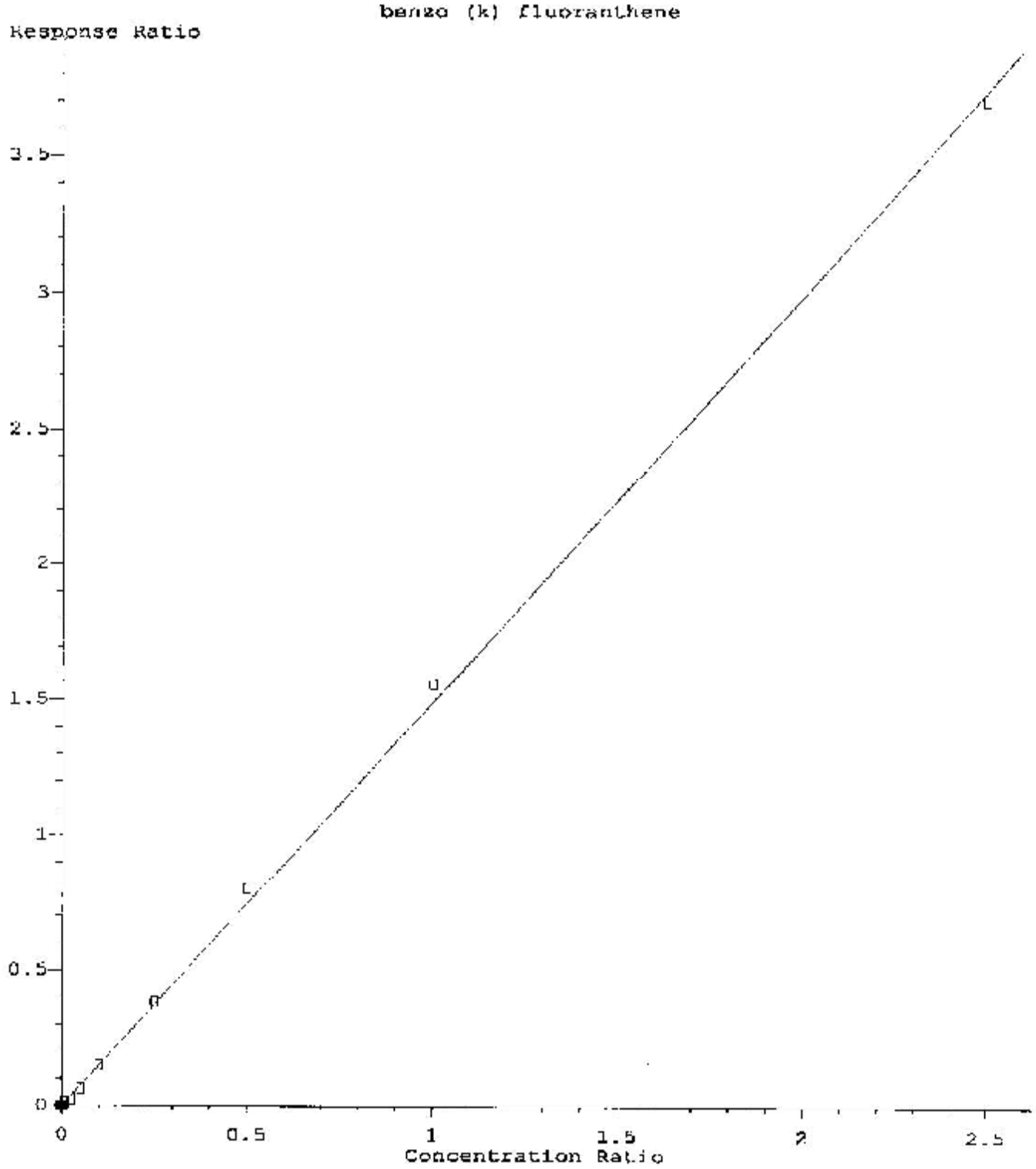
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



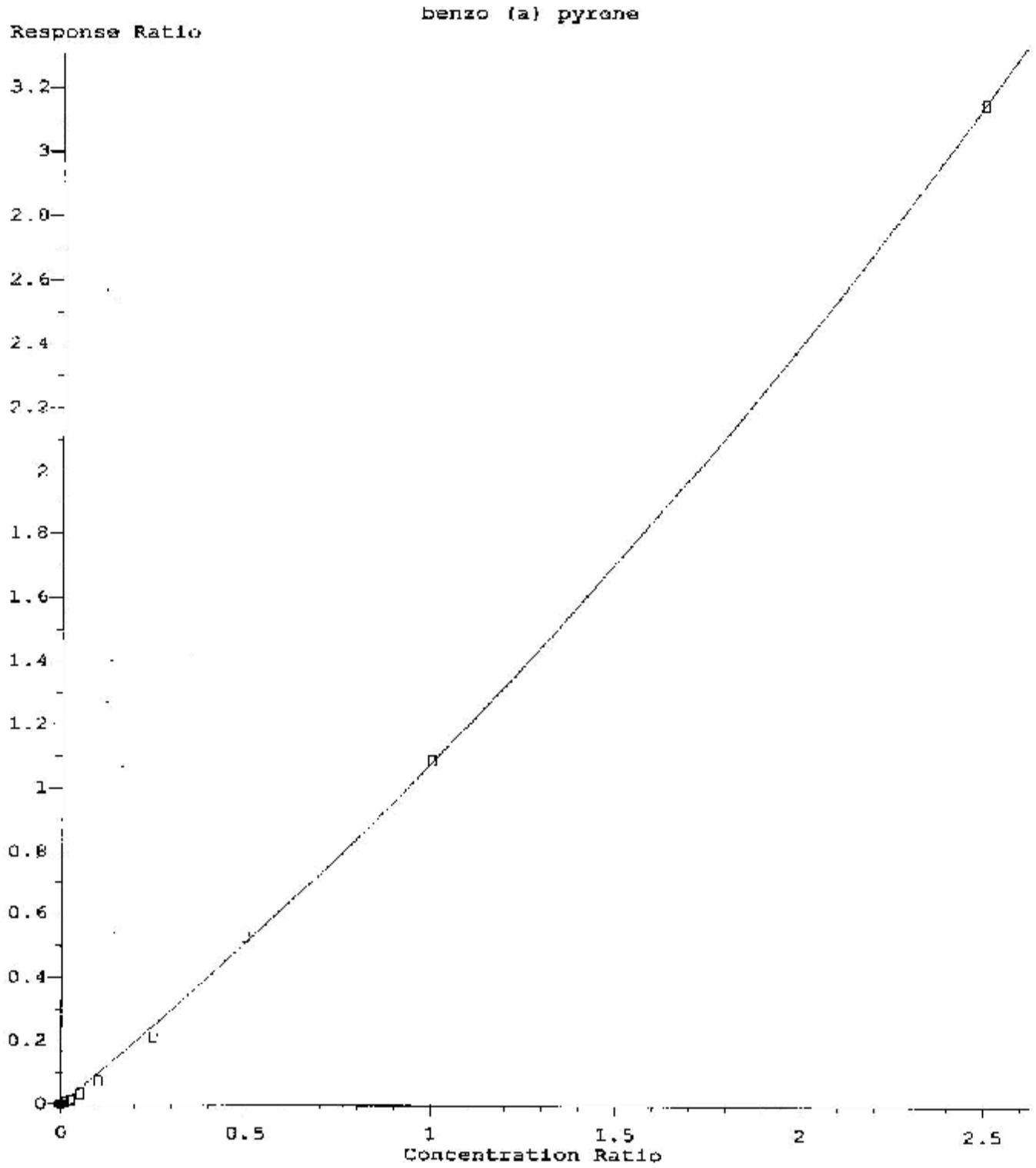
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



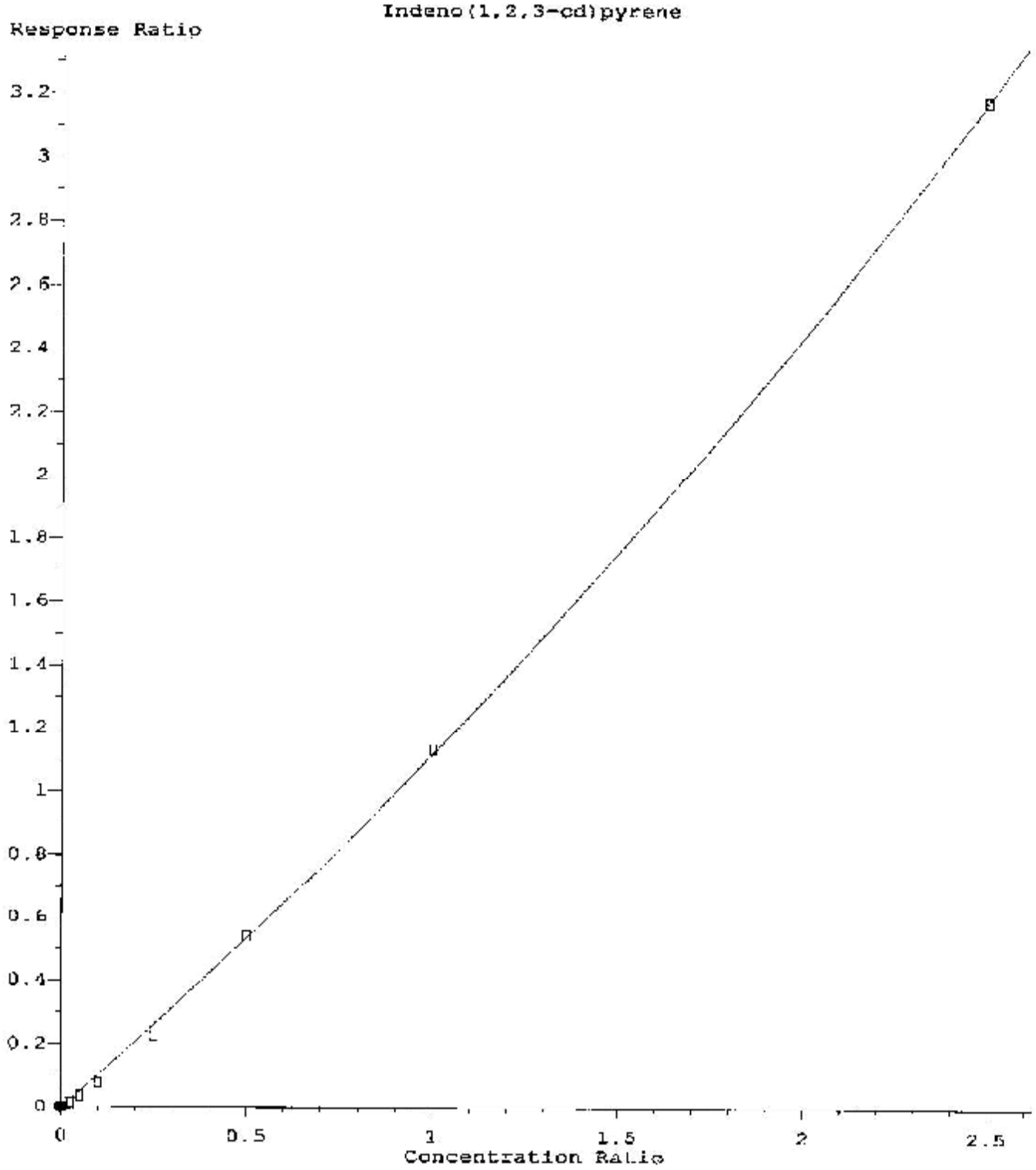
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



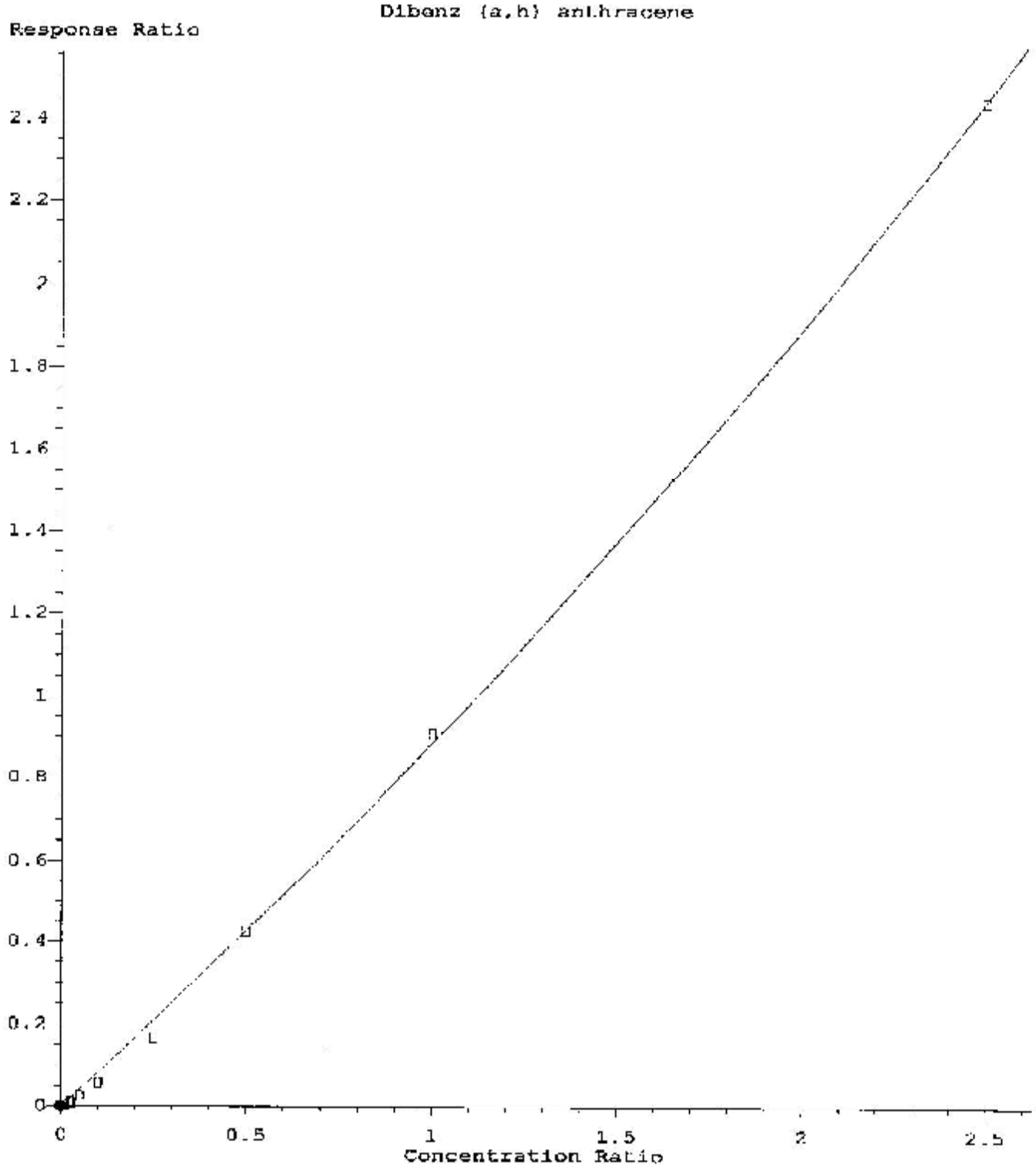
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



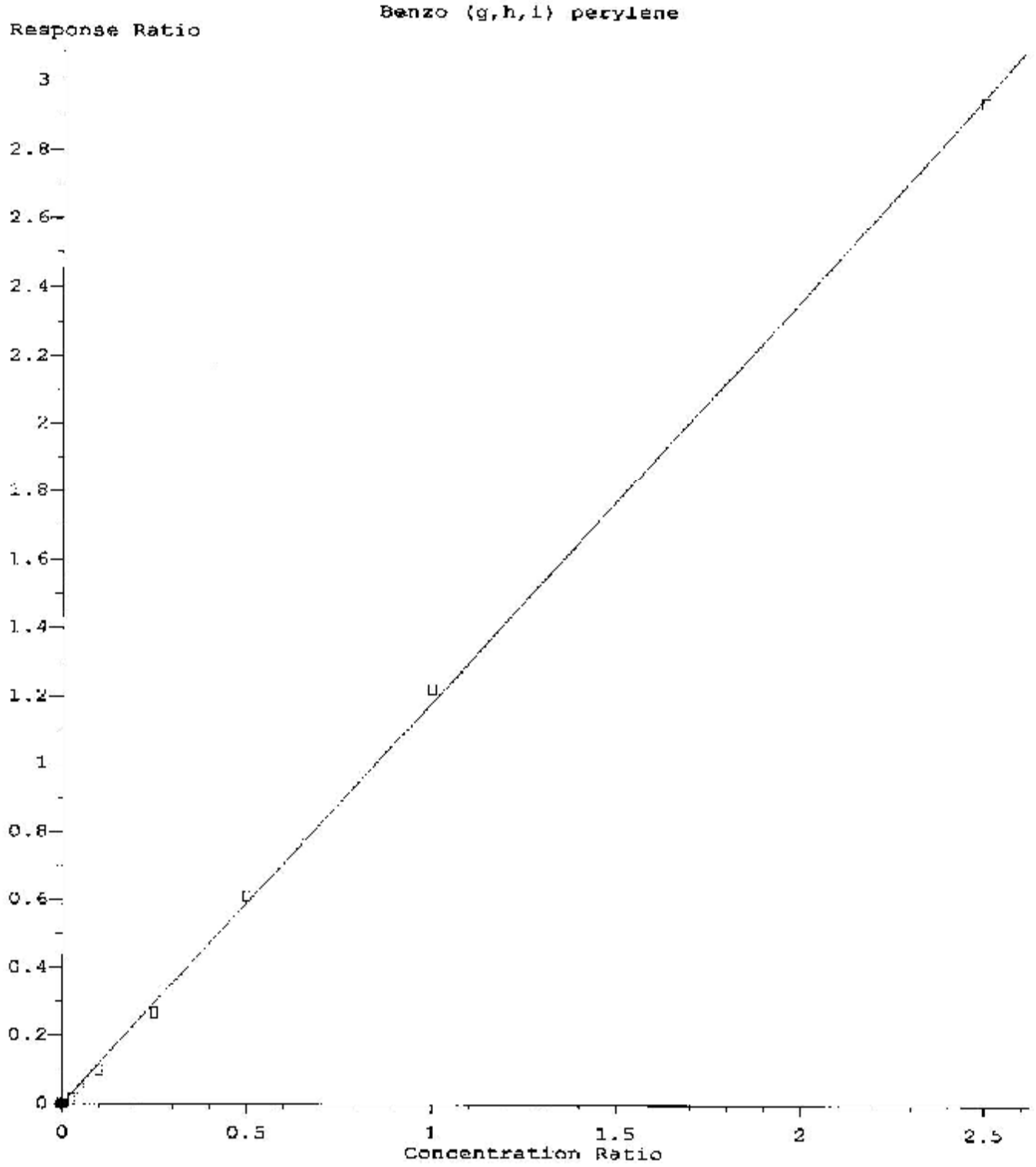
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

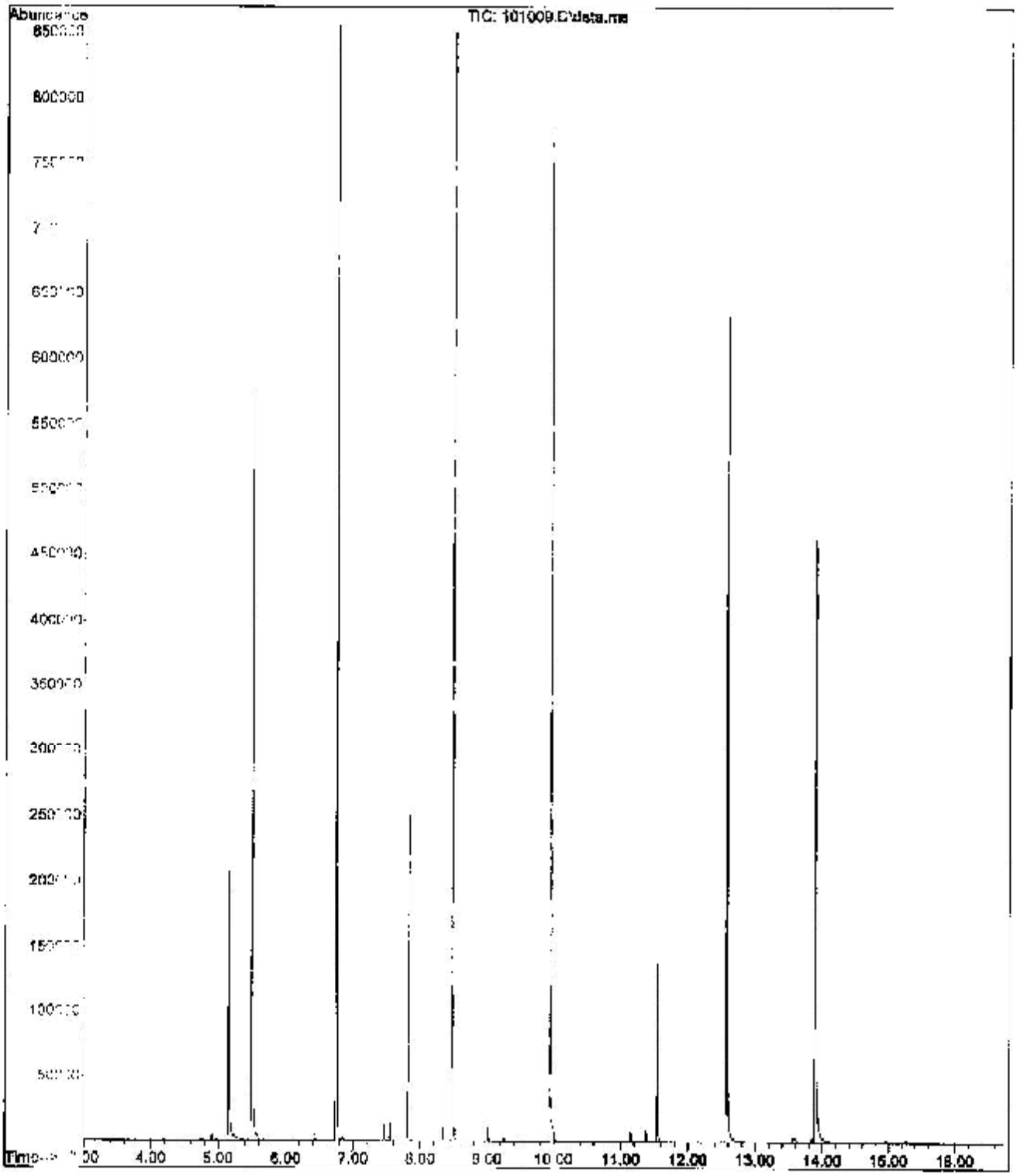
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	155780	971.54	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.430	107	1703m	13.70	ug/L		
5) Naphthalene	6.766	128	9729	22.54	ug/L		100
6) 2-Methylnaphthalene	7.455	142	5421	21.44	ug/L		100
7) 1-Methylnaphthalene	7.550	142	5172	21.59	ug/L		100
9) Acenaphthylene	8.338	152	7063	20.38	ug/L		100
11) Acenaphthene	8.508	152	2661	23.37	ug/L		99
12) Fluorene	9.021	166	5847	22.40	ug/L		97
14) Phenanthrene	9.967	178	8863	23.95	ug/L		100
15) Anthracene	10.020	178	6894	20.35	ug/L		97
17) Fluoranthene	11.145	202	6586	19.76	ug/L	#	94
18) Pyrene	11.368	202	6766	19.42	ug/L	#	85
19) Benzo (a) anthracene	12.559	228	6945	23.77	ug/L	#	100
21) Chrysene	12.592	228	8752m	25.21	ug/L		
22) benzo (b) fluoranthene	13.556	252	2936	11.32	ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	5957	16.17	ug/L		99
24) benzo (a) pyrene	13.835	252	2906	12.19	ug/L	#	52
26) Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51	ug/L		
27) Dibenz (a,h) anthracene	14.967	278	2052m	14.50	ug/L		
28) Benzo (g,h,i) perylene	15.256	276	3732m	18.27	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

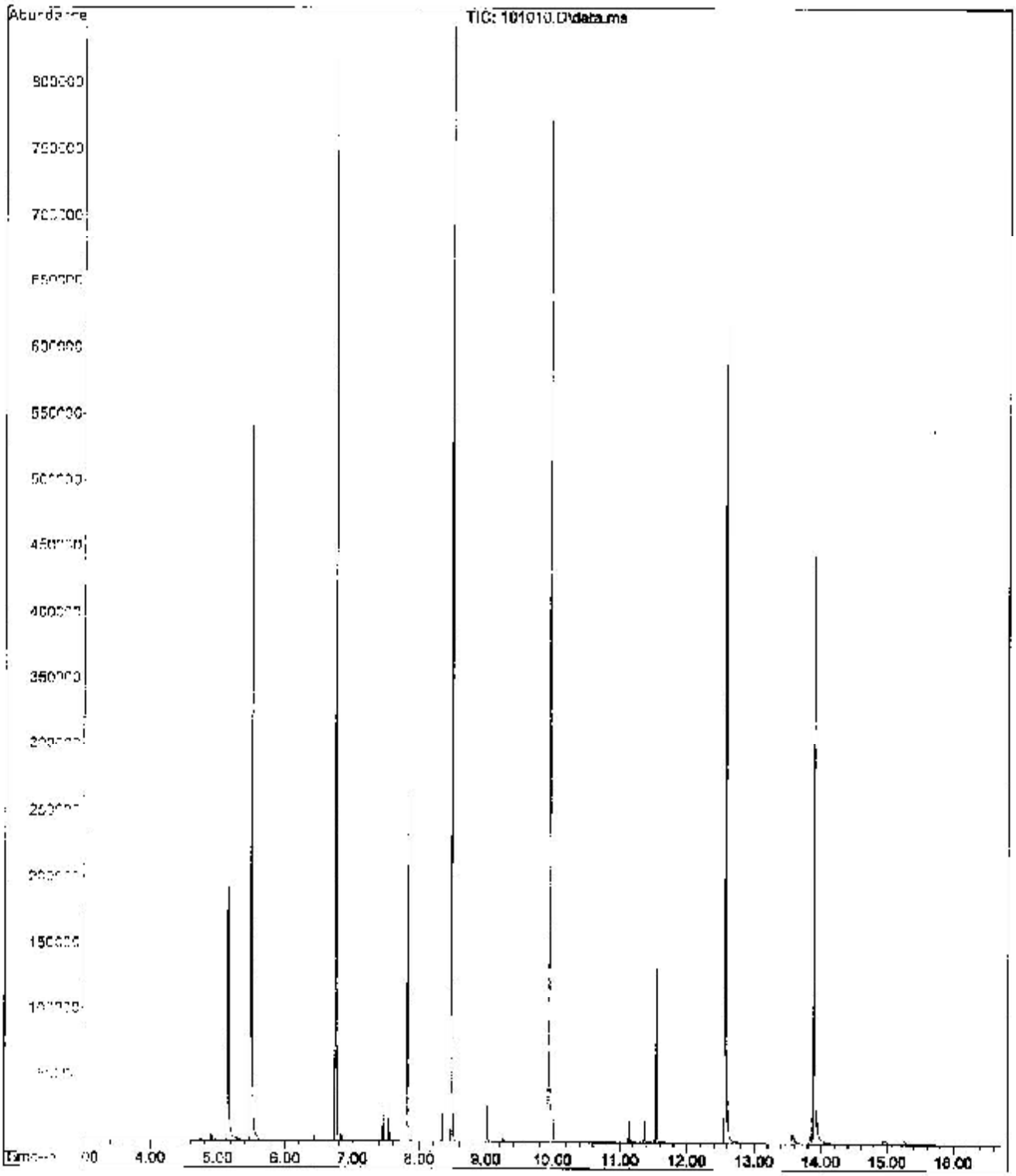
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mschem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	10566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	10124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	5037	44.80 ug/L	100
12) Fluorene	9.021	166	11078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	13954	37.71 ug/L #	91
19) Benzo (a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo (b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo (k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo (a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9628m	29.10 ug/L	
27) Dibenz (a,h) anthracene	14.964	278	3702m	28.18 ug/L	
28) Benzo (g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 [illegible].M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

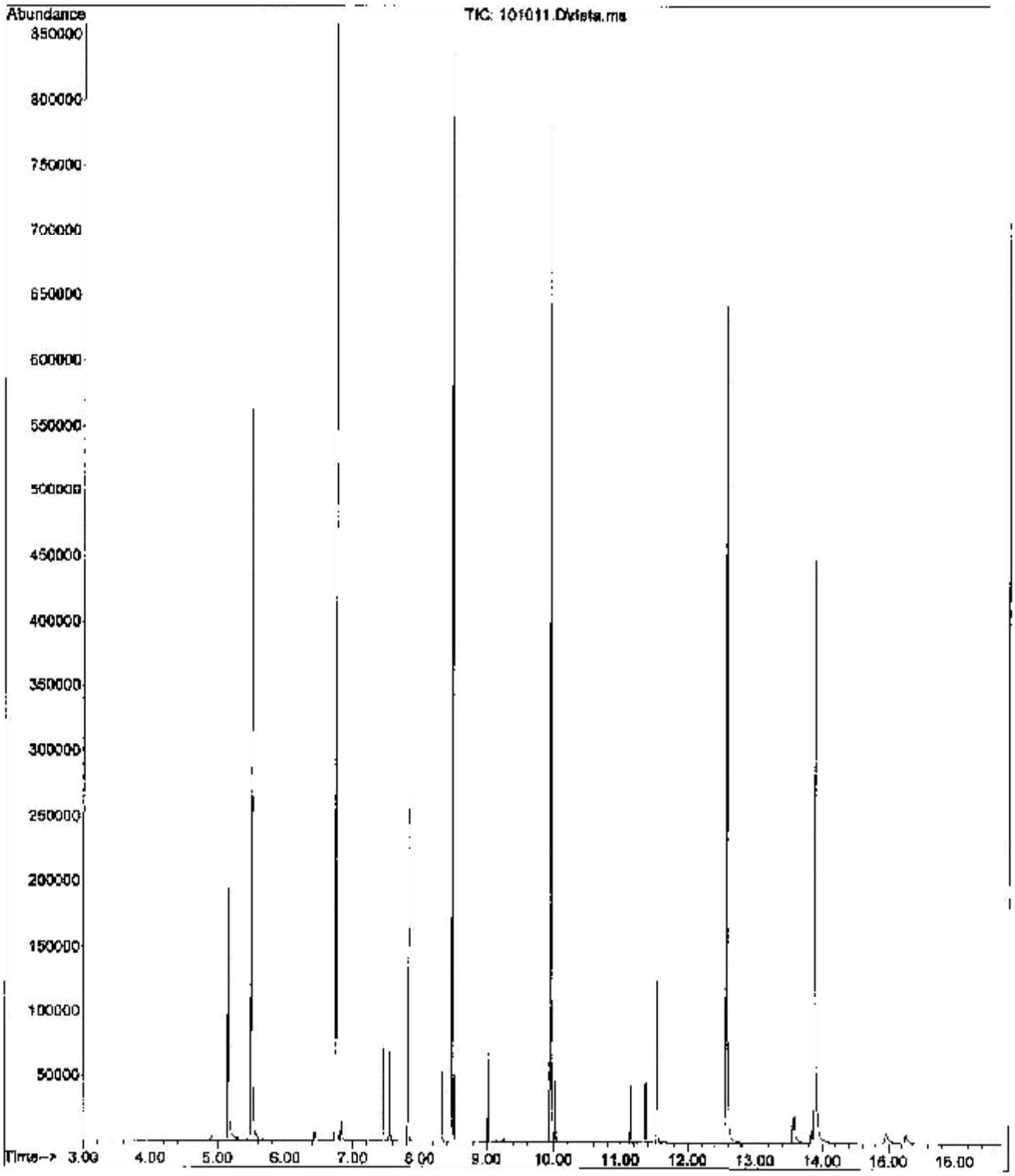
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

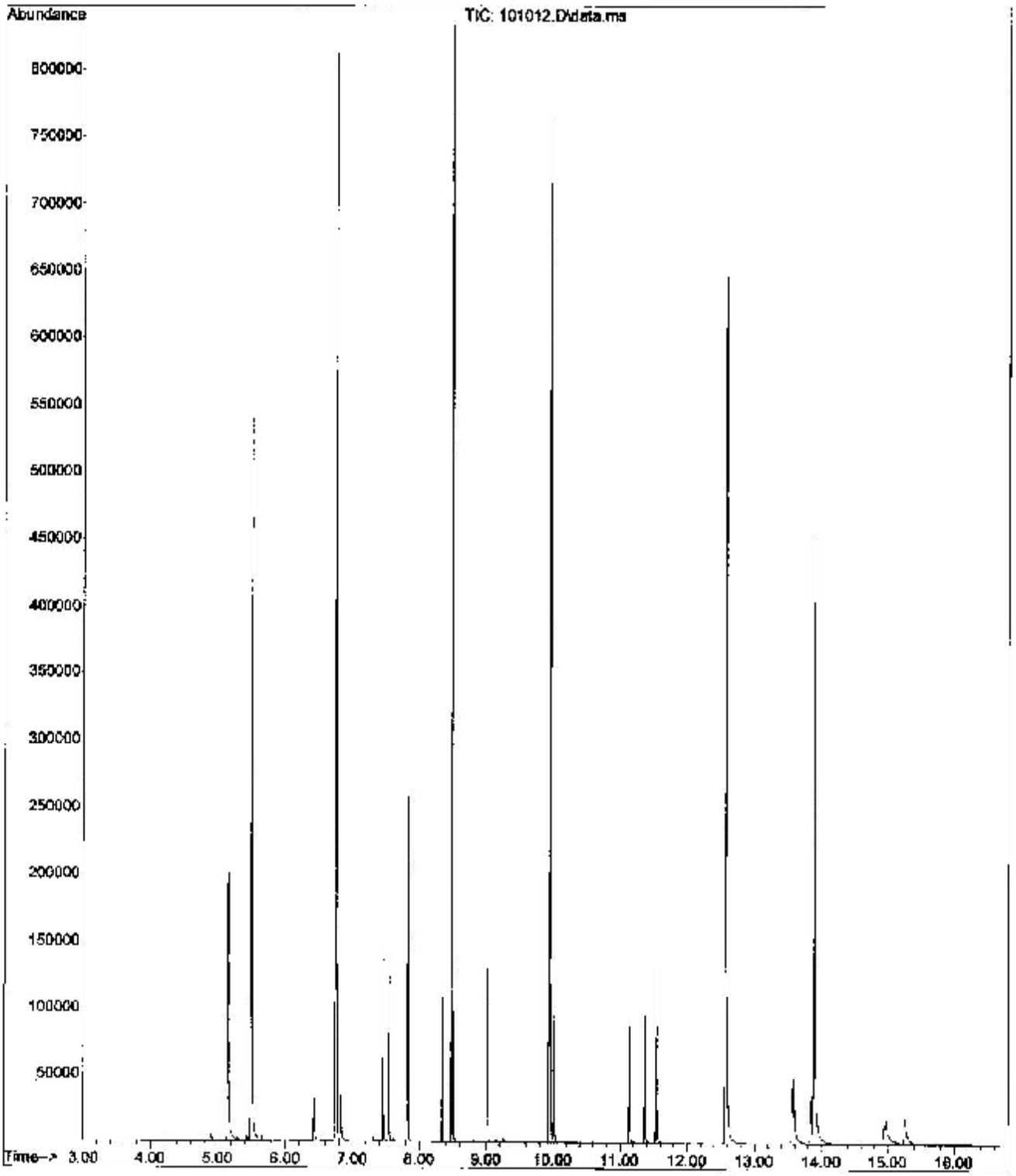
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PFB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

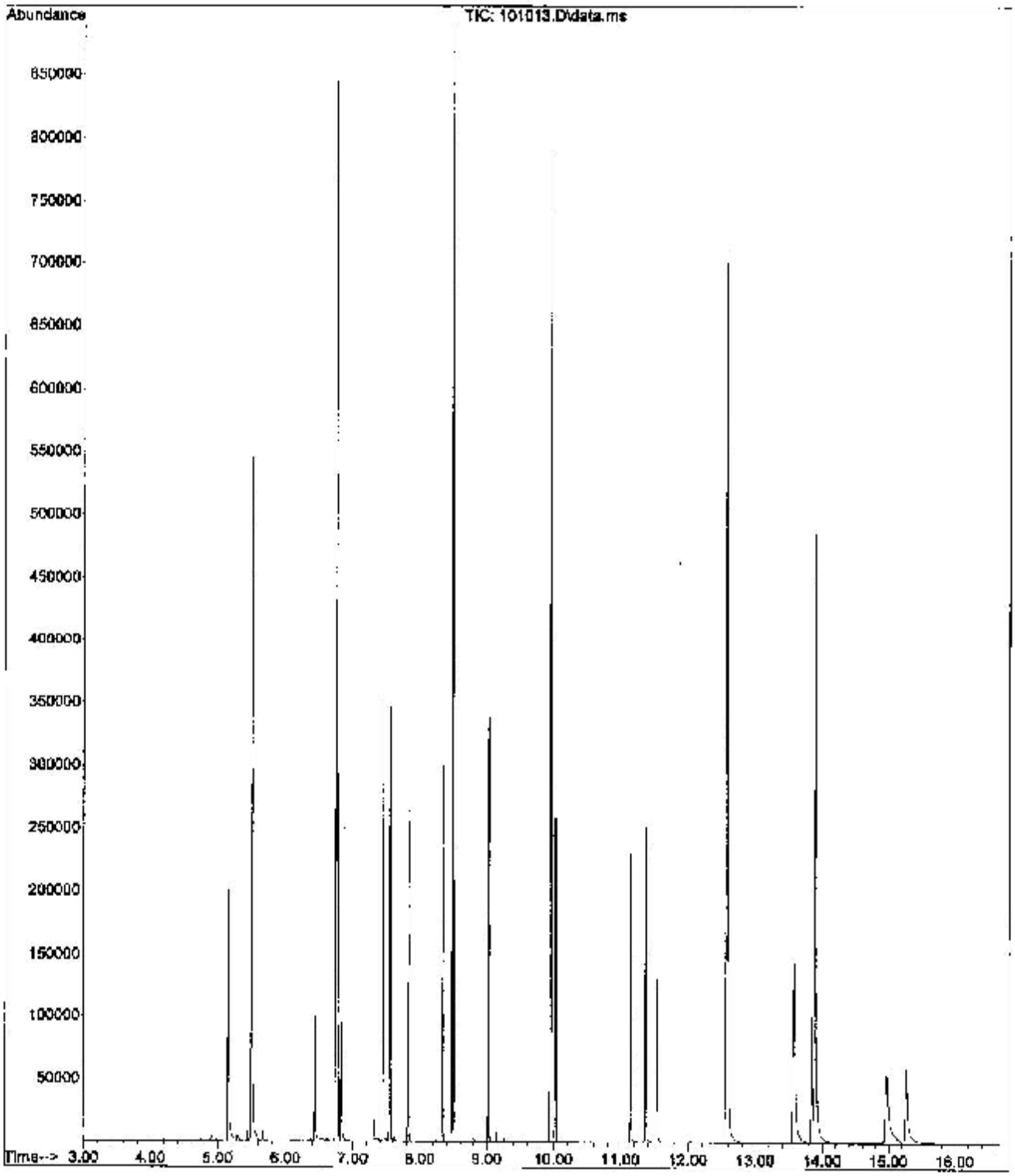
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.150	99	155773	999.49 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L	
5) Naphthalene	6.767	128	210515	496.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L	98
7) 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L	97
9) Acenaphthylene	8.338	152	176929	519.35 ug/L	100
11) Acenaphthene	8.509	152	56451	496.90 ug/L	99
12) Fluorene	9.022	166	132700	509.61 ug/L	97
14) Phenanthrene	9.969	178	184698	505.37 ug/L	100
15) Anthracene	10.019	178	169453	506.64 ug/L	98
17) Fluoranthene	11.146	202	171838	522.16 ug/L	95
18) Pyrene	11.360	202	181345	527.17 ug/L	94
19) Benzo (a) anthracene	12.559	228	140369	486.48 ug/L #	100
21) Chrysene	12.593	228	176026	496.99 ug/L	95
22) benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L #	100
23) benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L	99
24) benzo (a) pyrene	13.837	252	108063	433.23 ug/L #	89
26) Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L	
27) Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L	
28) Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-L1BBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

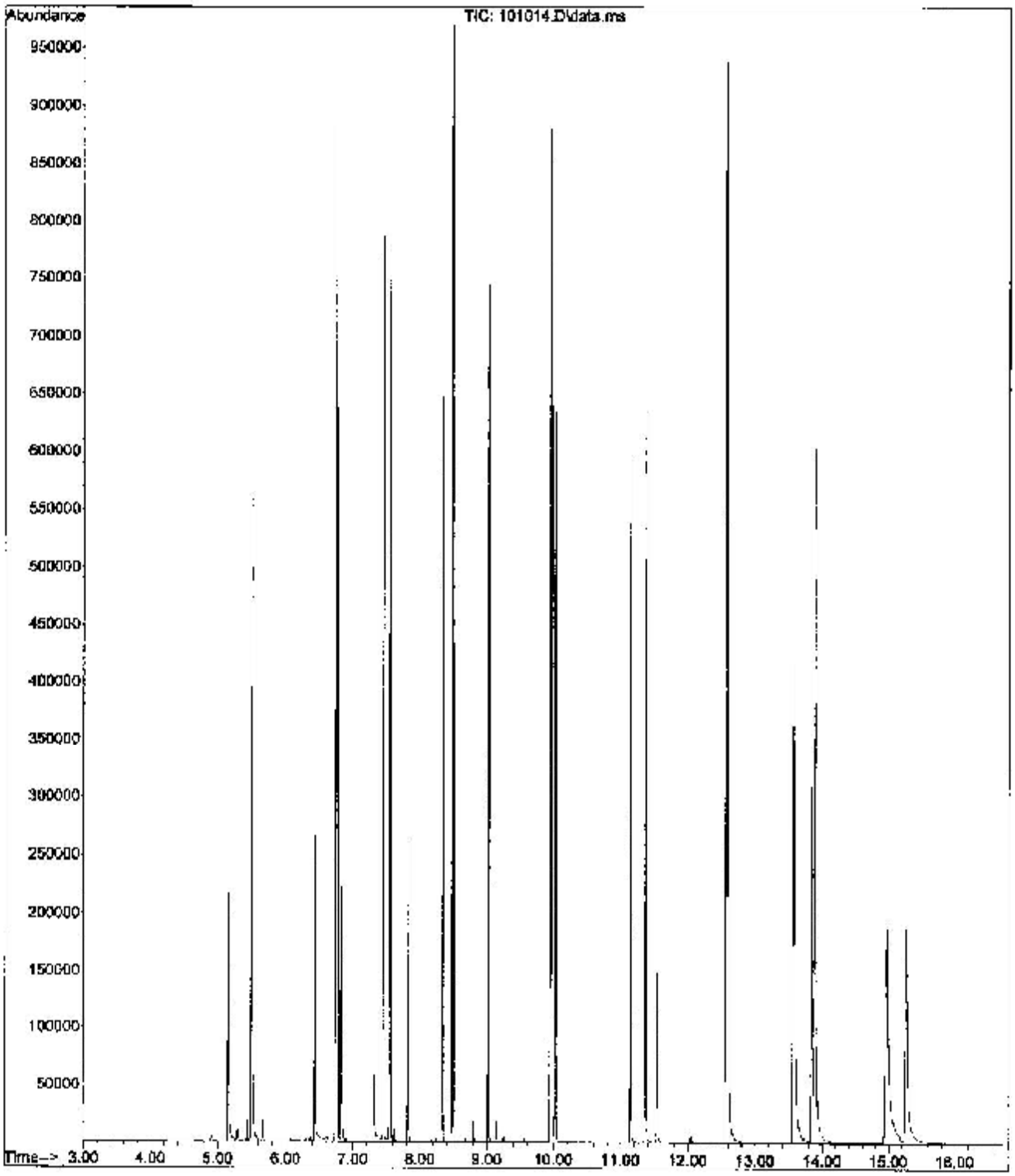
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	160048	999.62 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83 ug/L	0.00
Target Compounds					Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93 ug/L	99
5] Naphthalene	6.766	128	457822	1024.89 ug/L	100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77 ug/L	98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43 ug/L	97
9] Acenaphthylene	8.339	152	404284	1127.02 ug/L	100
11] Acenaphthene	8.508	152	125725	1008.83 ug/L	99
12] Fluorene	9.021	166	299270	1047.68 ug/L	96
14] Phenanthrene	9.969	178	415711	999.13 ug/L	100
15] Anthracene	10.020	178	407576	1070.40 ug/L	98
17] Fluoranthene	11.146	202	441099	1177.36 ug/L	95
18] Pyrene	11.369	202	458851	1171.65 ug/L	94
19] Benzo (a) anthracene	12.560	228	363248	1105.82 ug/L #	100
21] Chrysene	12.595	228	427345	1035.64 ug/L	97
22] benzo (b) fluoranthene	13.558	252	289328	938.23 ug/L #	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58 ug/L	100
24] benzo (a) pyrene	13.839	252	310058	1030.12 ug/L	95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91 ug/L	
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50 ug/L	
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

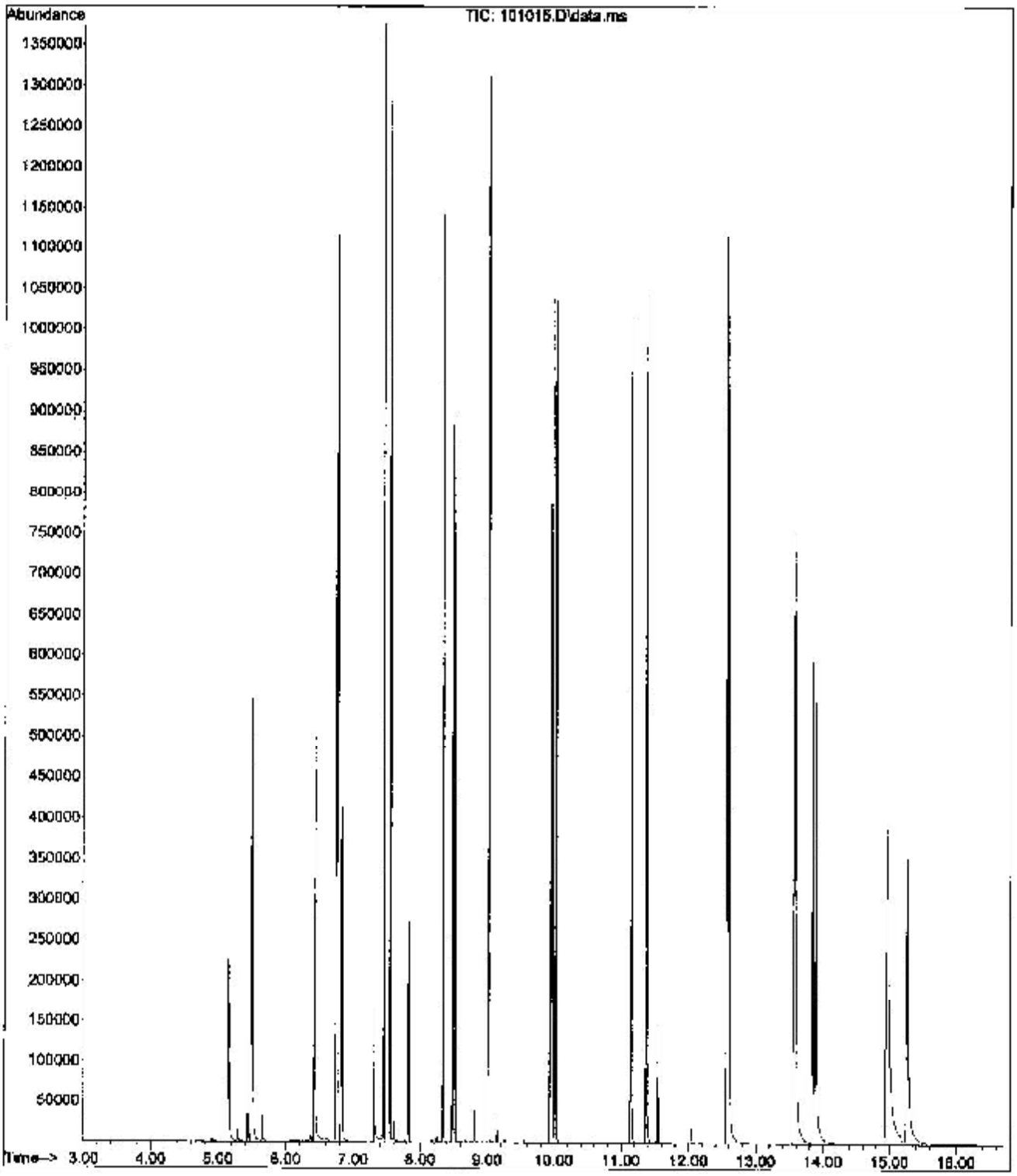
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

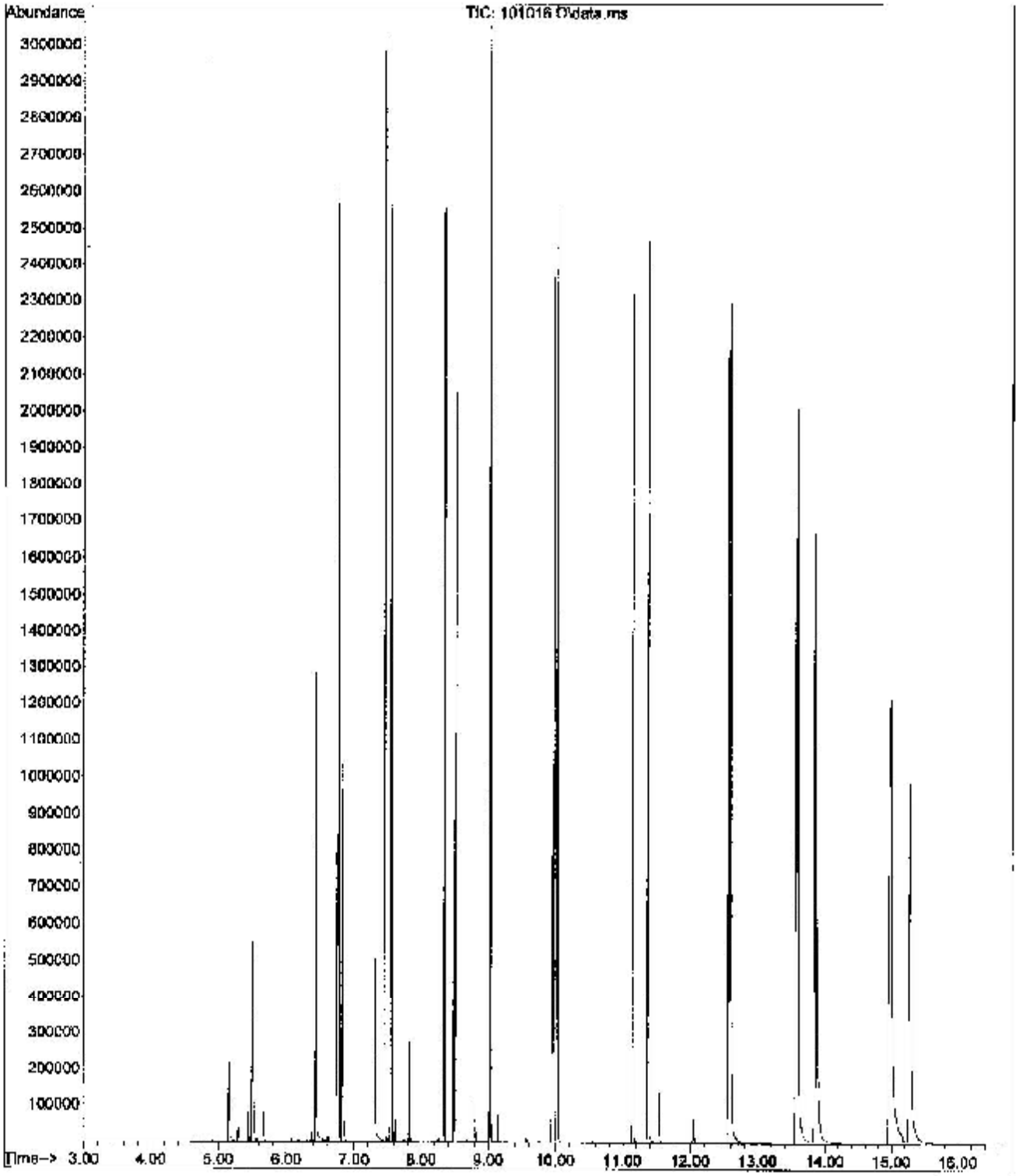
Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:55 2012 PAH

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 19 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

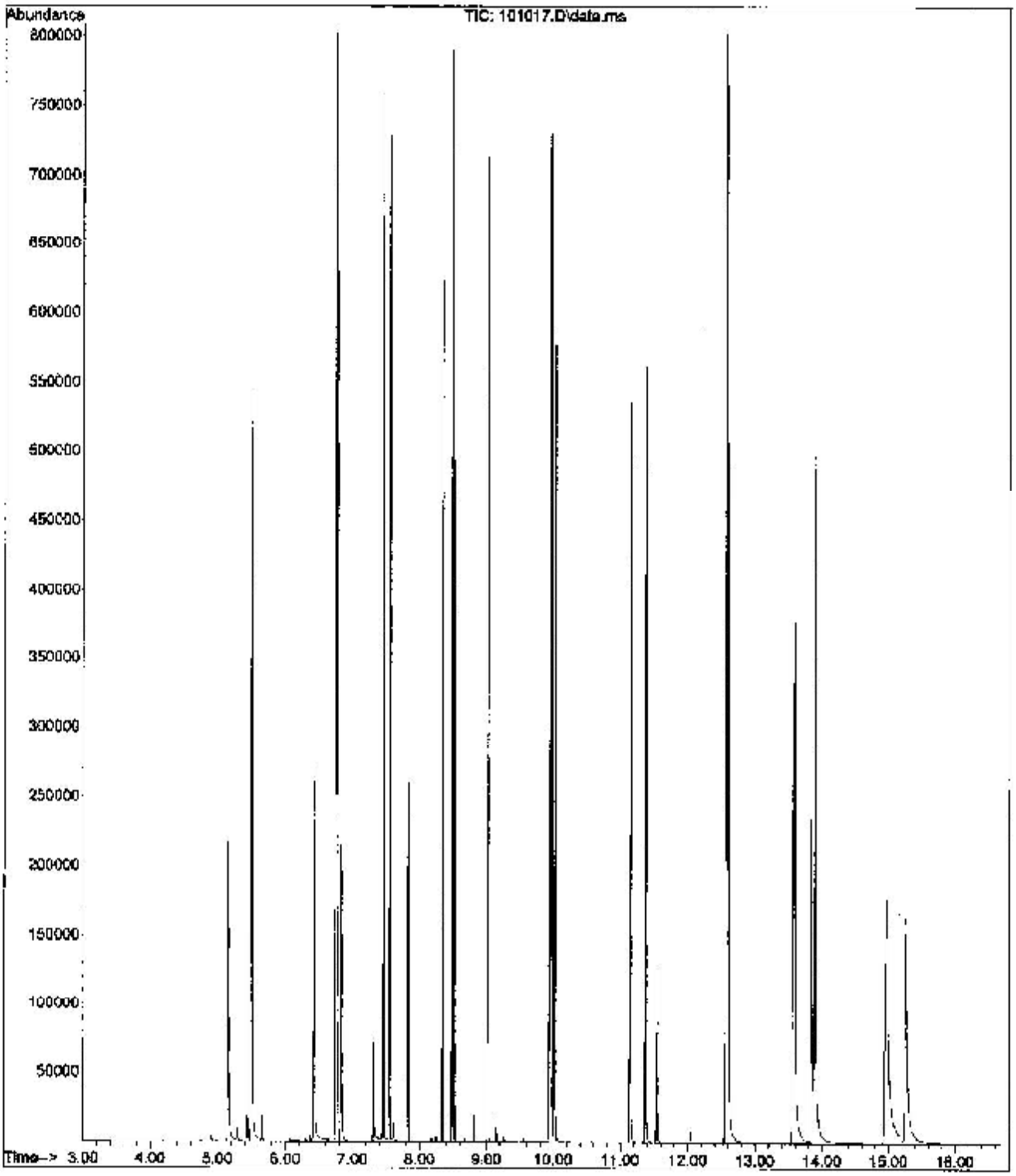
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

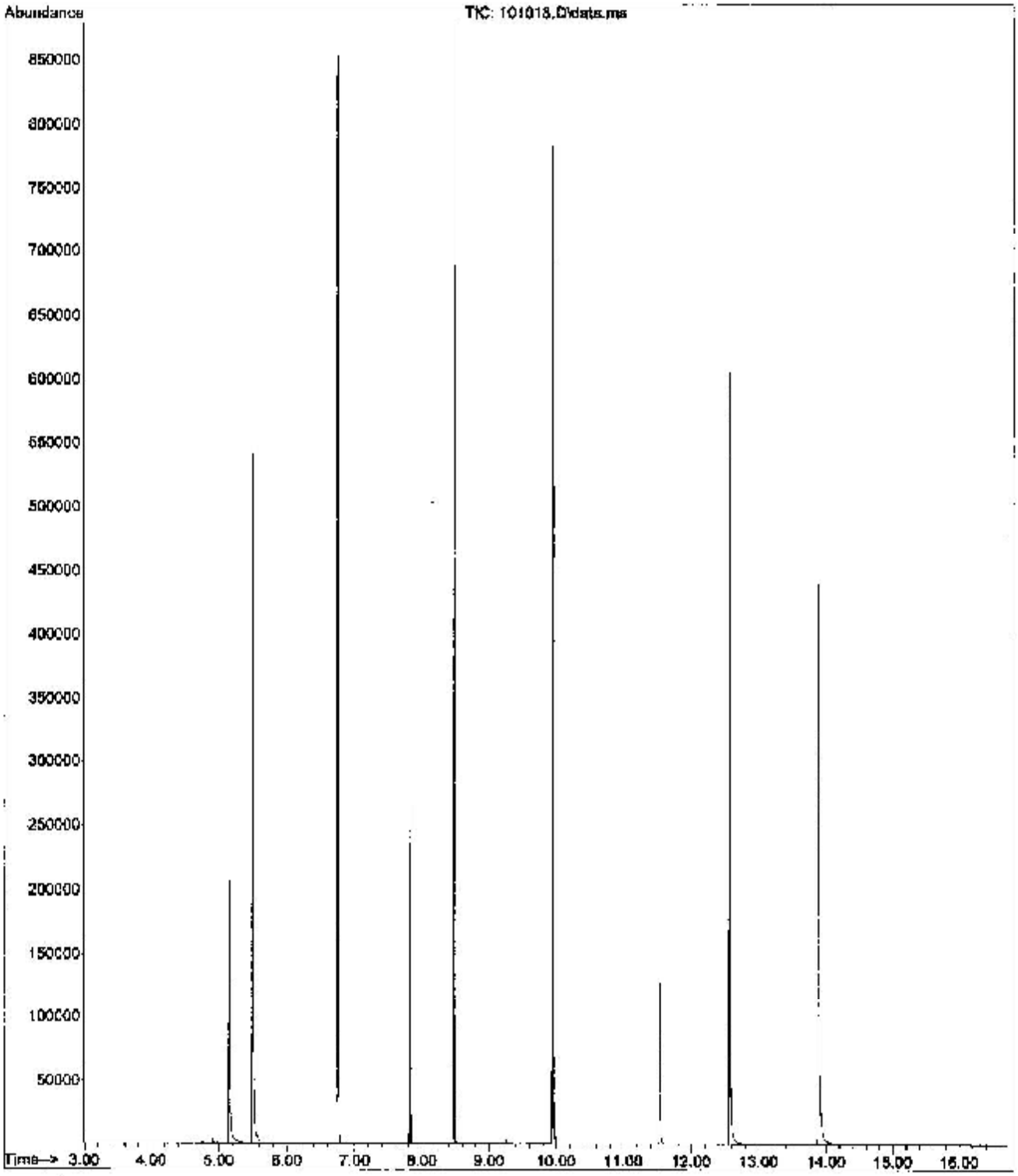
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

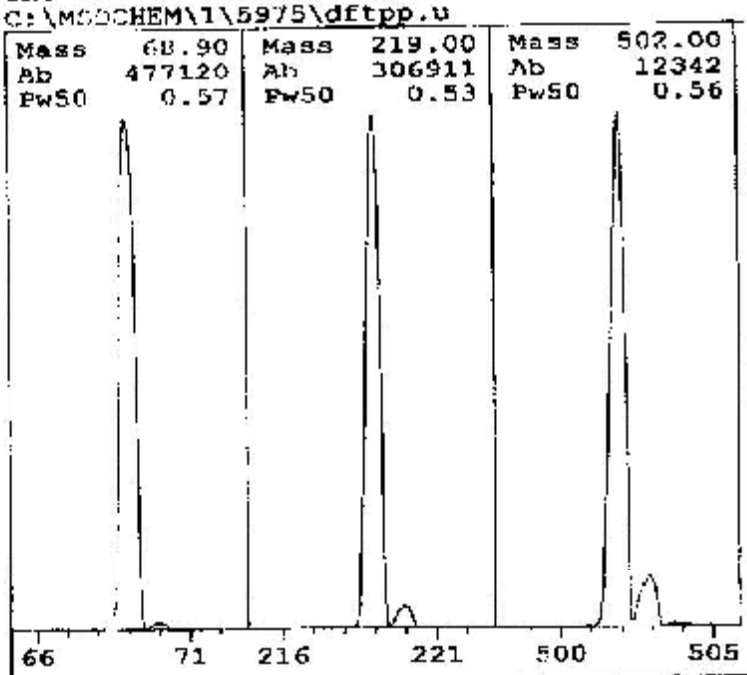


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

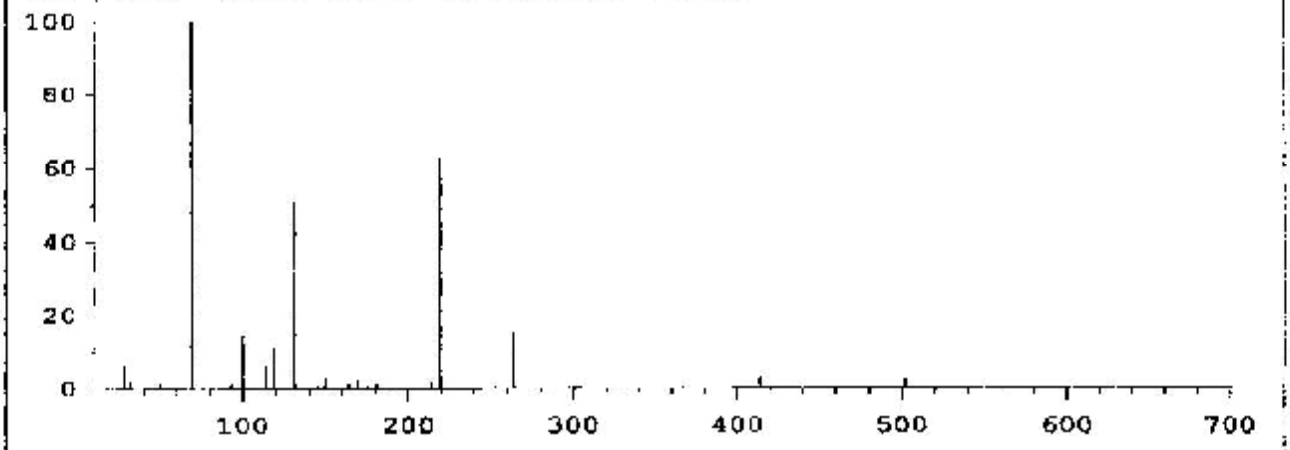


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O~0.56% N2~6.00% O2~1.93% CO2~0.18% N2/H2O~1063.45%

Column(1) Flow: 1.50 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

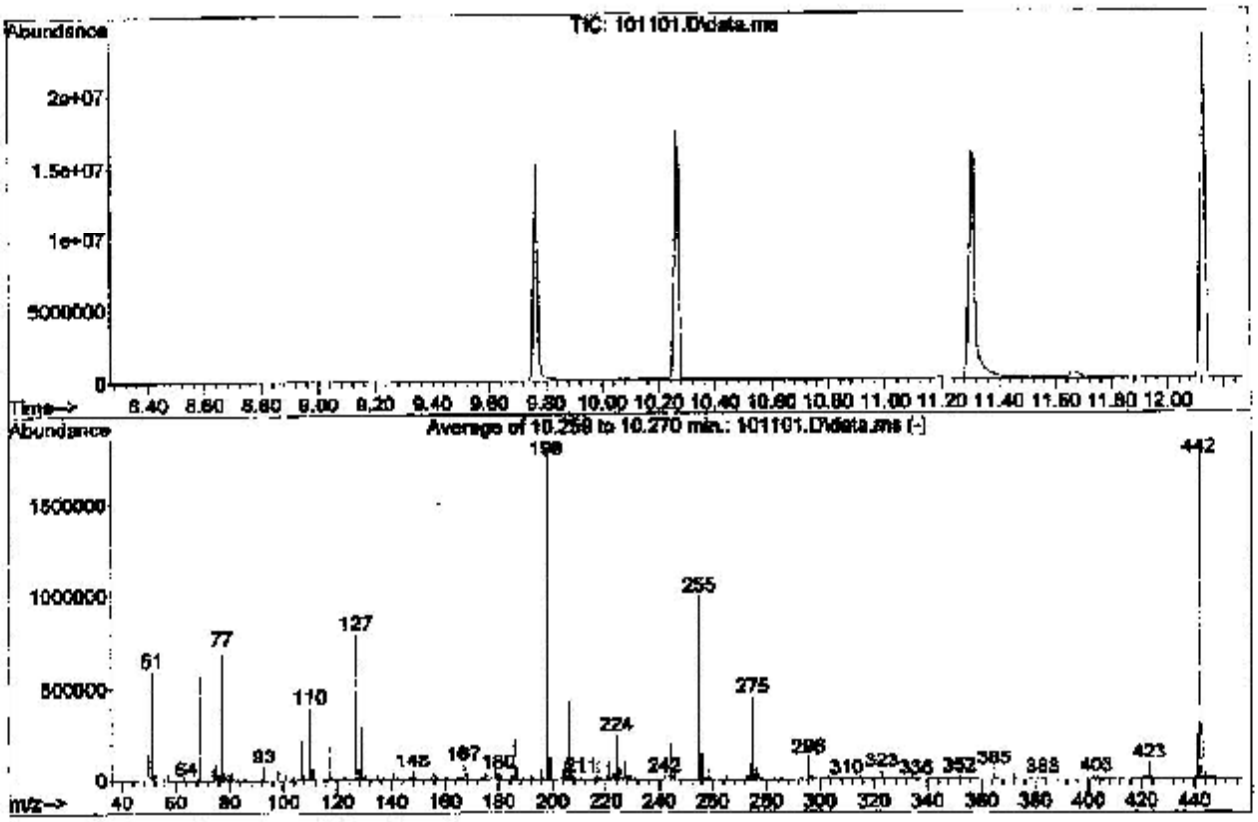
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

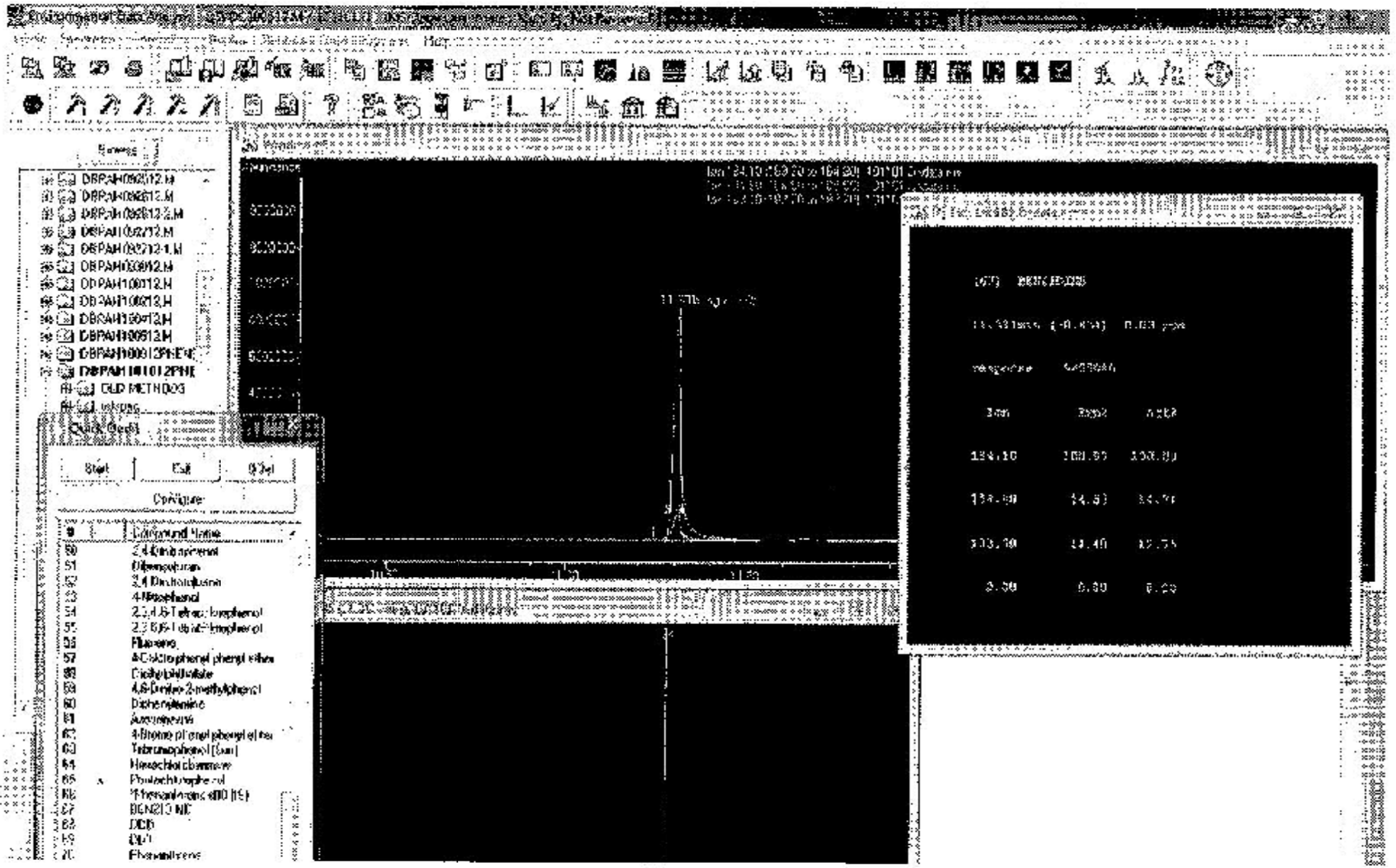
Integration File: RTEINTSG8270.P

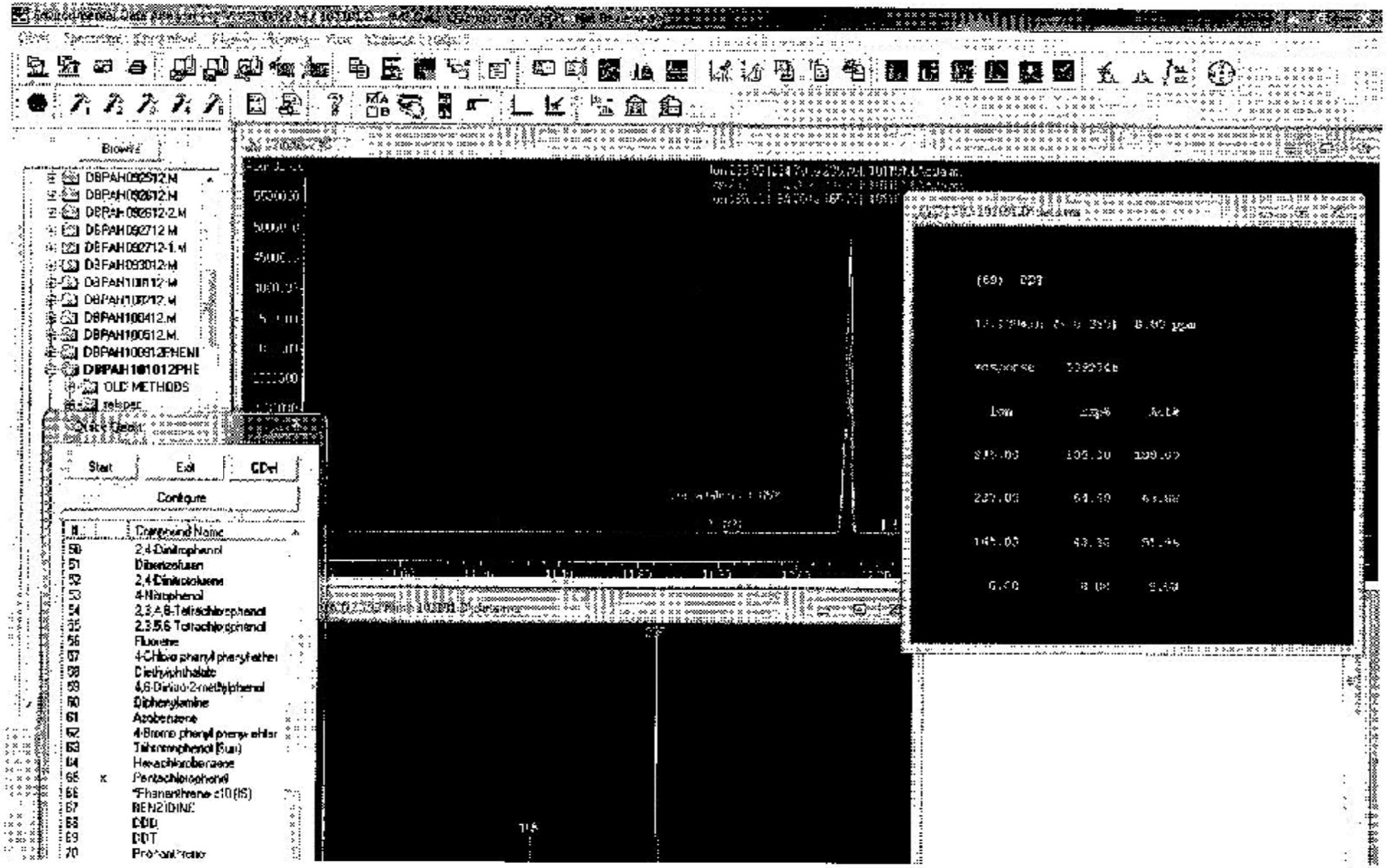
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

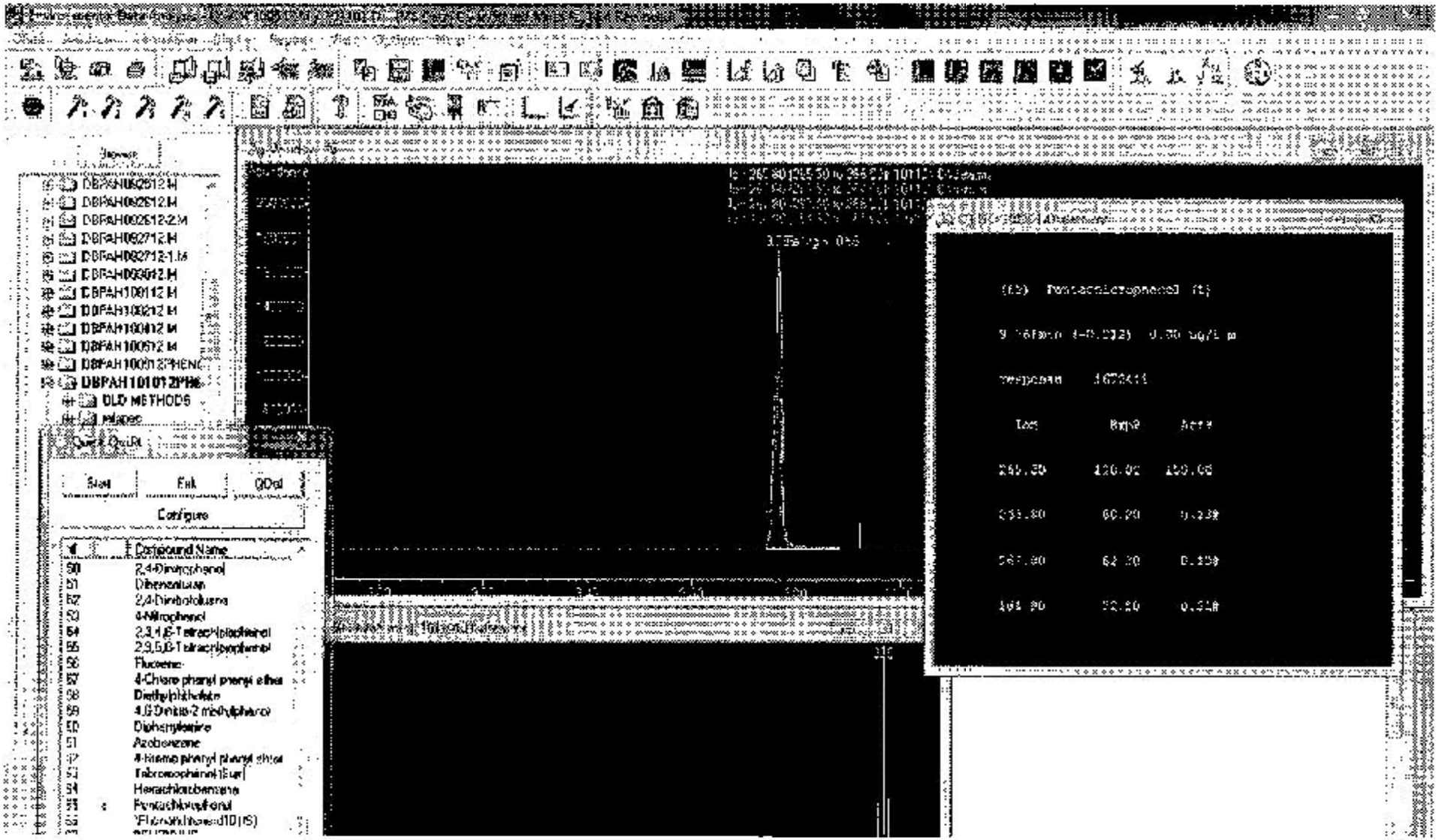


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenylphenylether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenylphenylether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


DBPAH100512.M
DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQcal
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Qual
Lost
Ratio
Acc%

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

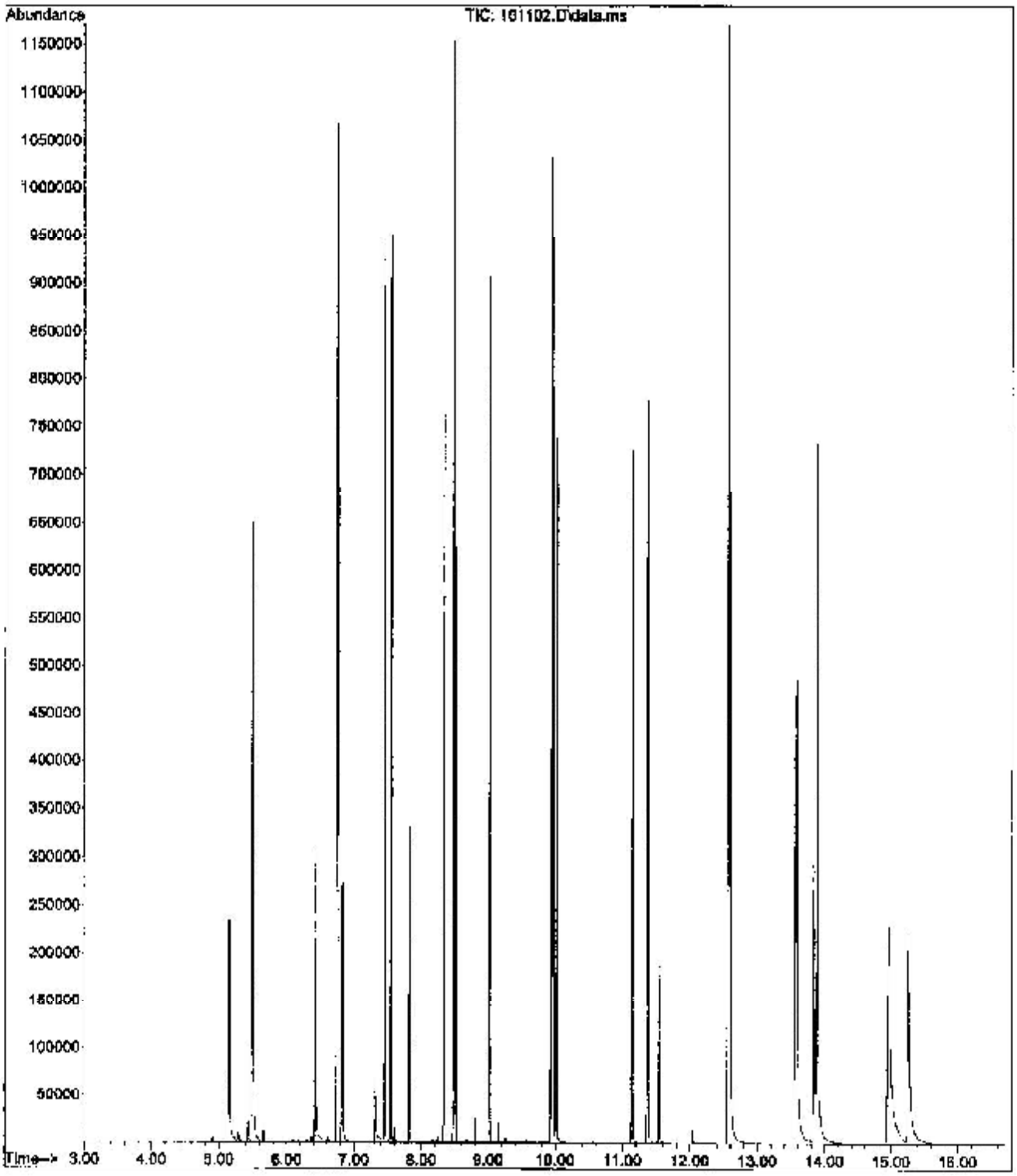
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

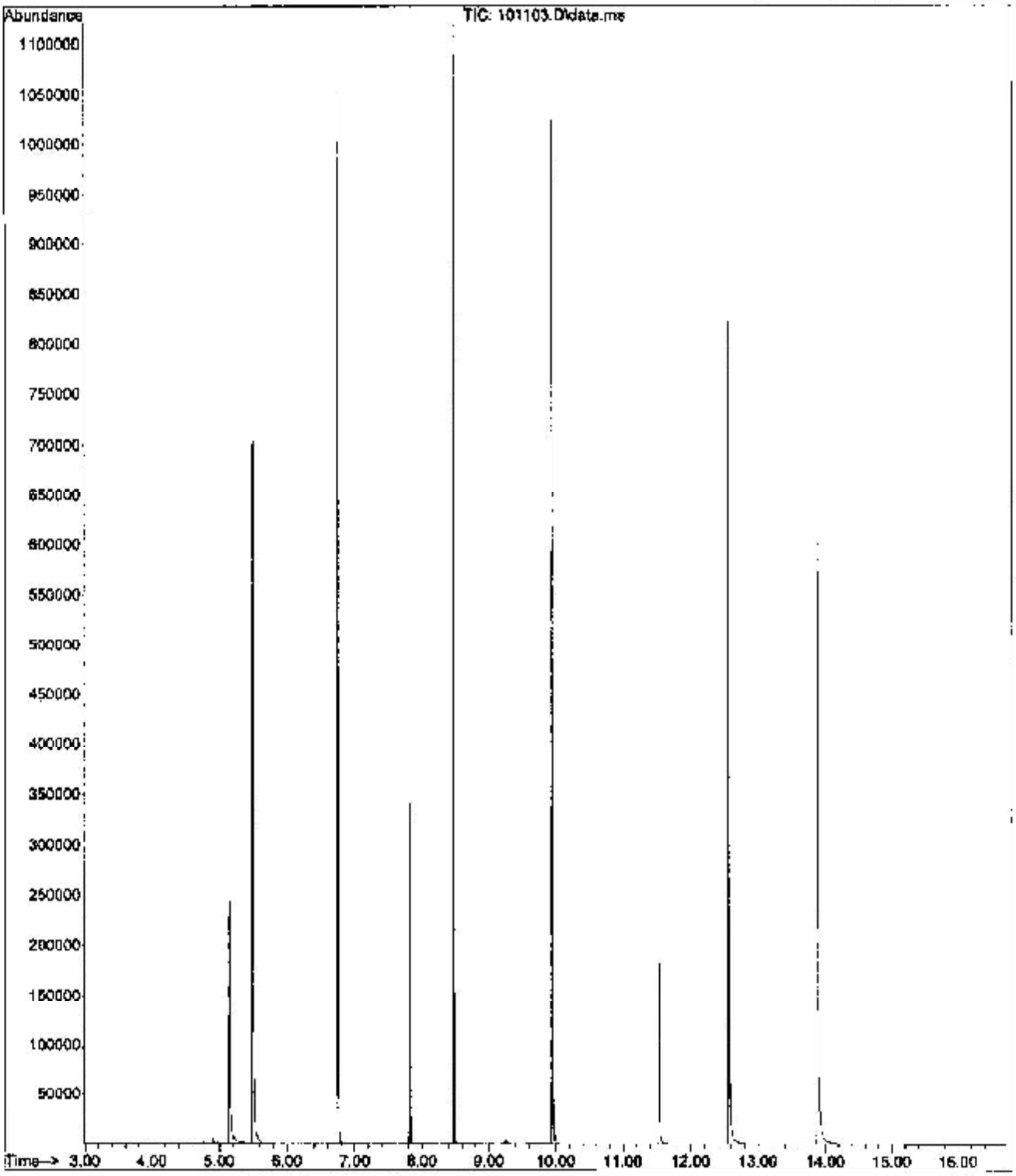
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/28/2012 4:27:45 P**
Prep End Date: **9/28/2012 4:27:45 P**

Prep Batch ID **3308** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3308		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
LCS-3308		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
1209149-001A	IR2-B1-92412	Sediment			12.3	0	0	10	0.813	9/28/2012	9/28/2012
1209149-002AMS		Sediment			12.7	0	0	10	0.787	9/28/2012	9/28/2012
1209149-002A	IR2-B2-92412	Sediment			12.81	0	0	10	0.781	9/28/2012	9/28/2012
1209149-004ADUP		Sediment			12.92	0	0	10	0.774	9/28/2012	9/28/2012
1209149-003A	IR2-ESW1-92412	Sediment			12.89	0	0	10	0.776	9/28/2012	9/28/2012
1209149-004A	IR2-SSW1-92412	Sediment			11.23	0	0	10	0.890	9/28/2012	9/28/2012
1209149-005A	IR2-B3-92412	Sediment			12.15	0	0	10	0.823	9/28/2012	9/28/2012
1209149-006A	IR2-ESW2-92412	Sediment			12.45	0	0	10	0.803	9/28/2012	9/28/2012
1209149-007A	IR2-B4-92412	Sediment			12.75	0	0	10	0.784	9/28/2012	9/28/2012
1209149-008A	IR2-ESW3-92412	Sediment			12.47	0	0	10	0.802	9/28/2012	9/28/2012
1209149-009A	IR2-WSW1-92512	Sediment			13.07	0	0	10	0.765	9/28/2012	9/28/2012
1209172-001A	IR2-WSW1-92612	Sediment			13.77	0	0	10	0.726	9/28/2012	9/28/2012
1209172-002ADUP		Sediment			12.28	0	0	10	0.814	9/28/2012	9/28/2012
1209172-002A	IR2-B1-92612	Sediment			11.82	0	0	10	0.846	9/28/2012	9/28/2012
1209172-003A	IR2-B2-92612	Sediment			11.32	0	0	10	0.883	9/28/2012	9/28/2012
1209172-004A	IR2-ESW1-92612	Sediment			12.02	0	0	10	0.832	9/28/2012	9/28/2012
1209172-005A	IR2-Dupe1-92612	Sediment			12.92	0	0	10	0.774	9/28/2012	9/28/2012
1209172-006A	IR2-B3-92612	Sediment			11.88	0	0	10	0.842	9/28/2012	9/28/2012
1209172-007A	IR2-WSW2-92612	Sediment			12.96	0	0	10	0.772	9/28/2012	9/28/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101202.D
Acq On : 12 Oct 2012 12:25 am
Operator :
Sample : CCV-
Misc : CCV C-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

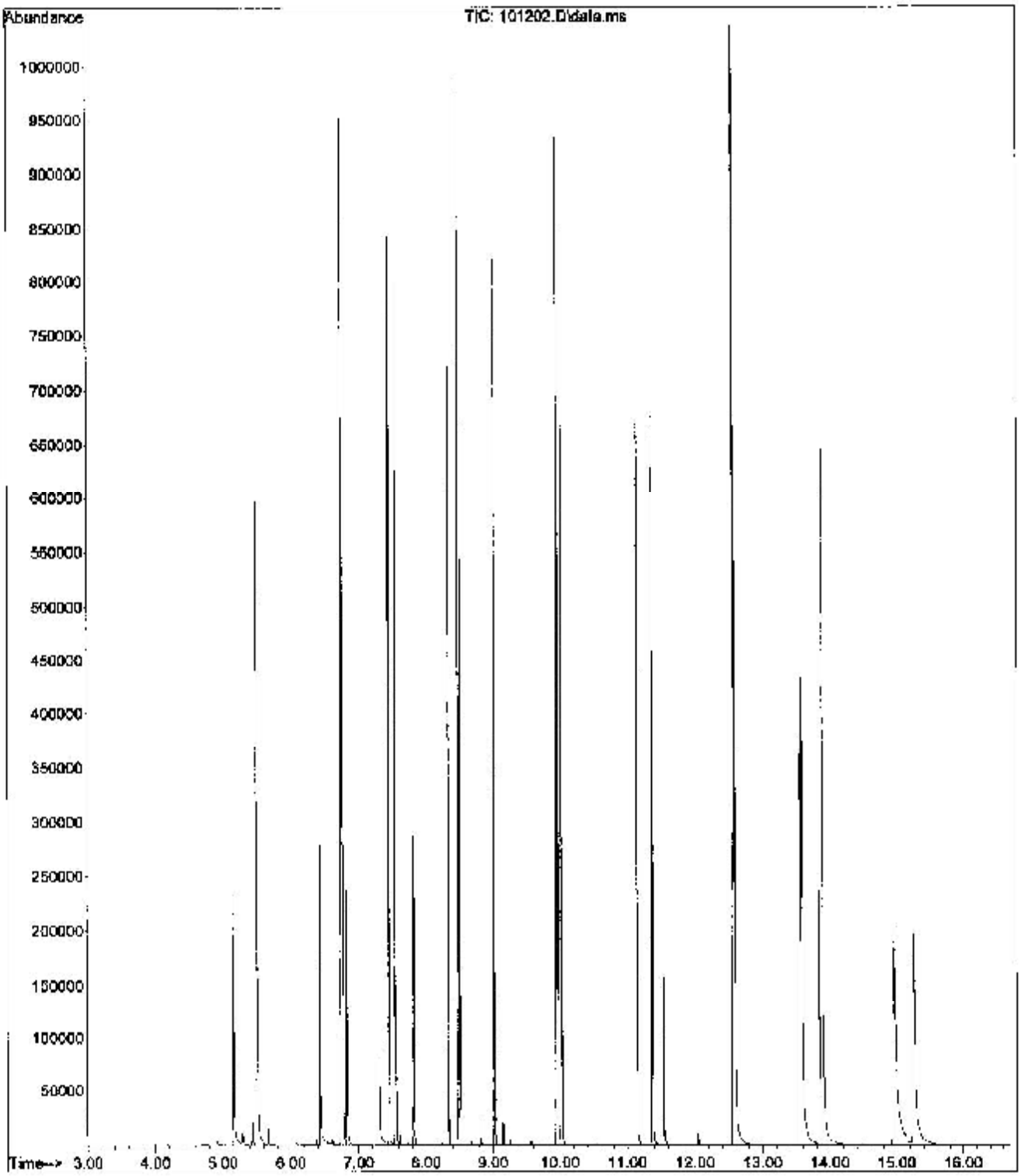
Quant Time: Oct 12 10:04:59 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	225869	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	745071	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.481	164	394635	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	656043	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	629788	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	611996	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	174346	1016.16 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	160518	487.54 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	120917	500.02 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	136550	1026.67 ug/L		100
5) Naphthalene	6.766	128	480347	1033.15 ug/L		100
6) 2-Methylnaphthalene	7.453	142	296907	1072.16 ug/L		99
7) 1-Methylnaphthalene	7.550	142	277998	1060.94 ug/L		99
9) Acenaphthylene	8.339	152	430688	1134.64 ug/L		100
11) Acenaphthene	8.509	152	134690	1014.94 ug/L		100
12) Fluorene	9.022	166	319862	1051.56 ug/L		100
14) Phenanthrene	9.969	178	446875	998.19 ug/L		100
15) Anthracene	10.020	178	434844	1087.27 ug/L		100
17) Fluoranthene	11.146	202	473255	1174.35 ug/L		99
18) Pyrene	11.369	202	492080	1168.23 ug/L		99
19) Benzo (a) anthracene	12.559	228	386014	1092.80 ug/L	#	100
21) Chrysene	12.592	228	464685	1021.25 ug/L		99
22) benzo (b) fluoranthene	13.556	252	304044	919.44 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	509603	1084.89 ug/L		100
24) benzo (a) pyrene	13.835	252	320552	995.17 ug/L		99
26) Indeno(1,2,3-cd)pyrene	14.948	276	337277	1030.10 ug/L		98
27) Dibenz (a,h) anthracene	14.969	278	238097	914.56 ug/L		99
28) Benzo (g,h,i) perylene	15.258	276	355979	985.00 ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:33 2012 PAH

File :D:\Data\SVOC\101212\101202.D
Operator :
Acquired : 12 Oct 2012 12:25 am using AcqMethod DRPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101203.D
Acq On : 12 Oct 2012 12:50 am
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

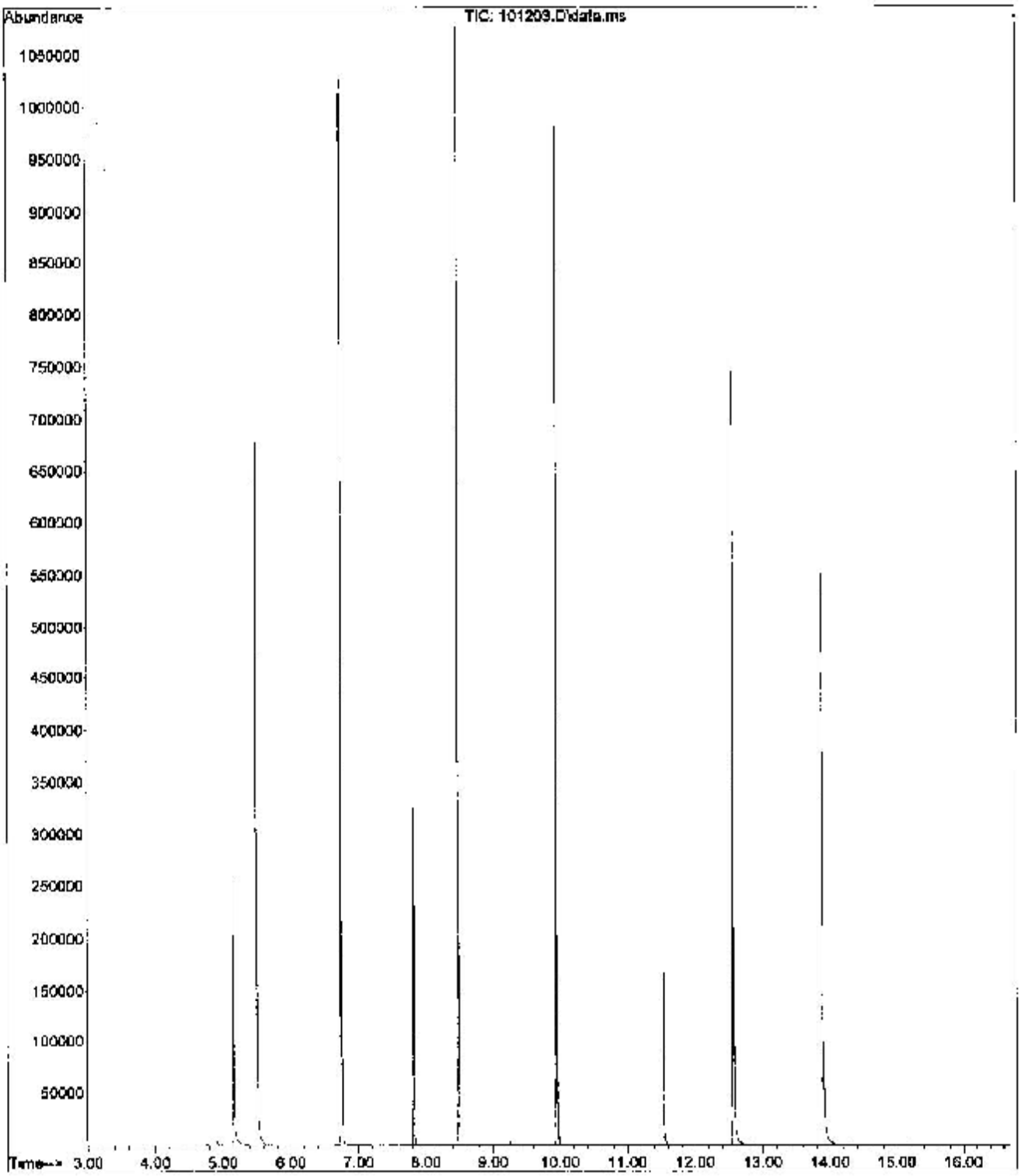
Quant Time: Oct 12 10:06:14 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	Qion	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	260588	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	829511	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	411097	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	665528	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	599141	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	555535	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	197250	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	182397	497.60 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	121910	496.94 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.437	107	45	N.D.	
5) Naphthalene	6.769	128	57	N.D.	
6) 2-Methylnaphthalene	7.459	142	27	N.D.	
7) 1-Methylnaphthalene	7.550	142	26	N.D.	
9) Acenaphthylene	8.341	152	17	N.D.	
11) Acenaphthene	8.511	152	16	N.D.	
12) Fluorene	9.023	166	48	N.D.	
14) Phenanthrene	9.968	178	162	N.D.	
15) Anthracene	10.021	178	50	N.D.	
17) Fluoranthene	11.148	202	73	N.D.	
18) Pyrene	11.370	202	81	N.D.	
19) Benzo (a) anthracene	12.566	228	1576	N.D.	
21) Chrysene	12.566	228	1097	N.D.	
22) benzo (b) fluoranthene	13.553	252	32	N.D.	
23) benzo (k) fluoranthene	13.578	252	152	N.D.	
24) benzo (a) pyrene	13.833	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	28	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	19	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	46	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:44 2012 PAH

File : D:\Data\SVOC\101212\101203.D
Operator :
Acquired : 12 Oct 2012 12:50 am using AcqMethod DBPAH101012PHENOL.M
Instrument : GP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 1:0



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101204.D
Acq On : 12 Oct 2012 1:15 am
Operator :
Sample : MB-3308
Misc : MBLK 0-PAH-SIM-S-LIBBY
ALS Vial : 1 Sample Multiplier: 1

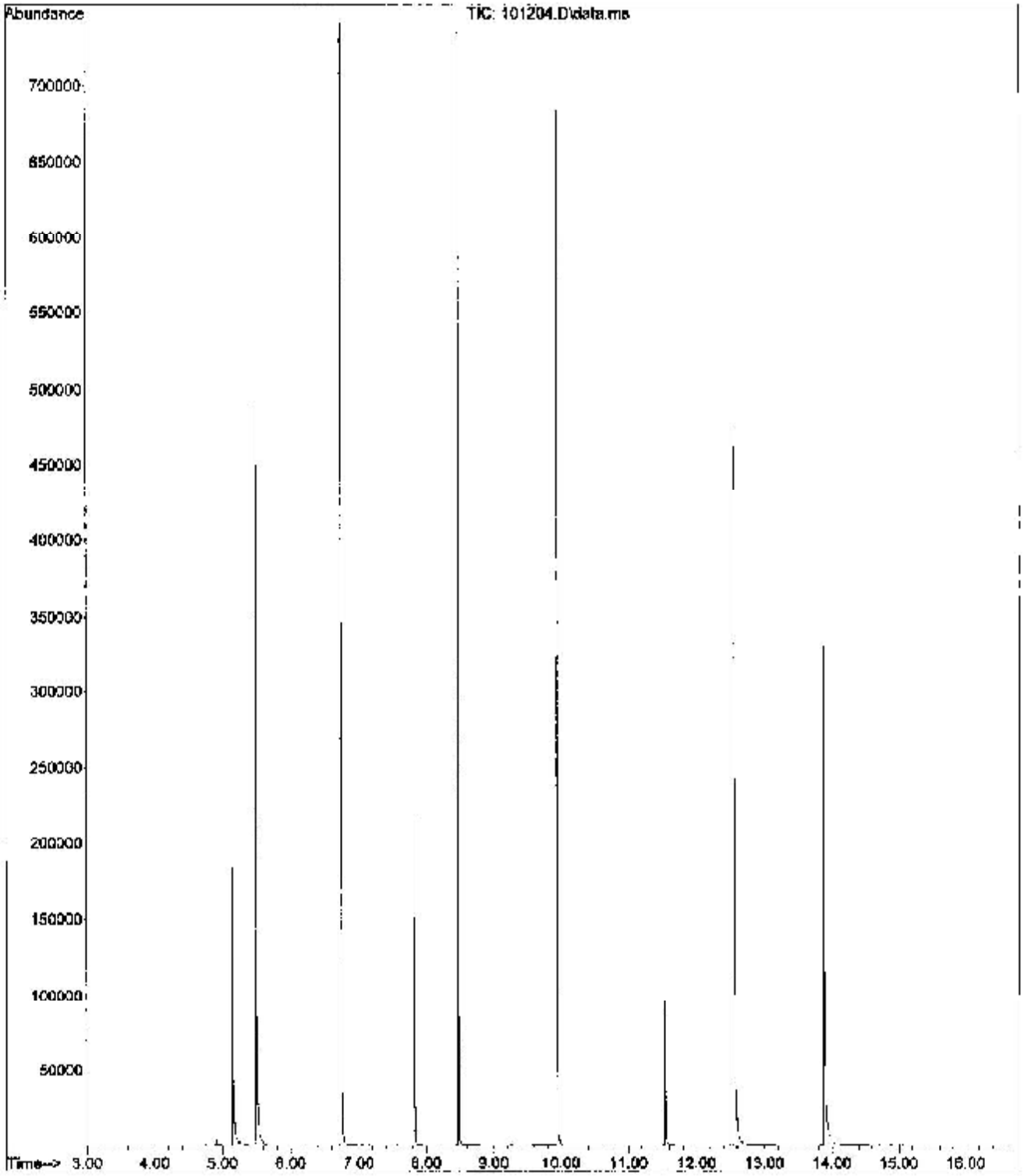
Quant Time: Oct 12 10:06:25 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	185478	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	580947	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	282701	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	457012	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	389209	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	351588	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	138037	979.73 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	122000	475.23 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	75400	447.58 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	2	N.D.	
5) Naphthalene	6.766	128	50	N.D.	
6) 2-Methylnaphthalene	7.459	142	9	N.D.	
7) 1-Methylnaphthalene	7.556	142	2	N.D.	
9) Acenaphthylene	8.341	152	2	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.020	166	1	N.D.	
14) Phenanthrene	9.966	178	14	N.D.	
15) Anthracene	10.018	178	1	N.D.	
17) Fluoranthene	11.145	202	3	N.D.	
18) Pyrene	11.371	202	1	N.D.	
19) Benzo (a) anthracene	12.566	228	1005	N.D.	
21) Chrysene	12.566	228	925	N.D.	
22) benzo (b) fluoranthene	13.553	252	7	N.D.	
23) benzo (k) fluoranthene	13.581	252	50	N.D.	
24) benzo (a) pyrene	13.835	252	51	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	14	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	5	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:55 2012 PAH

File : D:\Data\SVOC\101212\101204.D
Operator :
Acquired : 12 Oct 2012 1:15 am using AcqMethod DBPAH101C12PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3308
Misc Info : MBLK O-PAH-STM-S-LIBBY
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101205.D
Acq On : 13 Oct 2012 1:40 am
Operator :
Sample : LCS-3308
Misc : LCS O-PAH-SIM-S-LIBBY
ALS Vial : 2 Sample Multiplier: 1

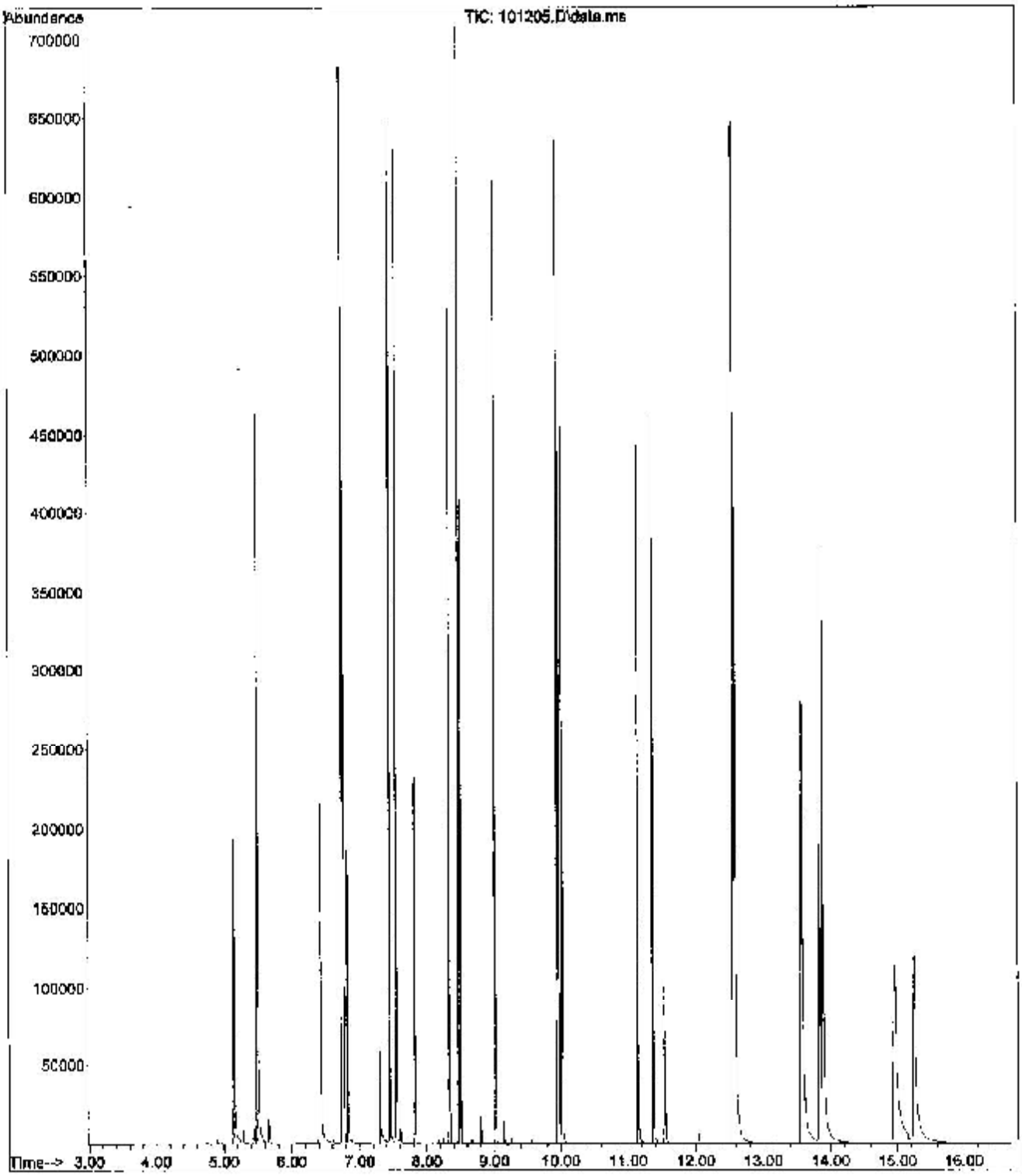
Quant Time: Oct 12 10:05:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	170903	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	546429	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	276036	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	435158	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.565	240	406341	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.085	264	379146	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	143893	1108.40	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128548	532.37	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	81409	507.52	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	103180	1025.27	ug/L		100
5) Naphthalene	6.767	128	380796	1098.48	ug/L		100
6) 2-Methylnaphthalene	7.453	142	227235	1118.87	ug/L		99
7) 1-Methylnaphthalene	7.548	142	213616	1111.60	ug/L		100
9) Acenaphthylene	8.340	152	322837	1159.69	ug/L		100
11) Acenaphthene	8.509	152	101219	1090.43	ug/L		100
12) Fluorene	9.022	166	234870	1103.90	ug/L		99
14) Phenanthrene	9.969	178	328052	1104.73	ug/L		100
15) Anthracene	10.020	178	307195	1157.98	ug/L		100
17) Fluoranthene	11.146	202	313877	1174.21	ug/L		99
18) Pyrene	11.368	202	333576	1193.91	ug/L		99
19) Benzo (a) anthracene	12.557	228	252698	1078.51	ug/L	#	100
21) Chrysene	12.591	228	320736	1092.51	ug/L	#	79
22) Benzo (b) fluoranthene	13.554	252	190662	893.62	ug/L	#	100
23) Benzo (k) fluoranthene	13.579	252	338752	1117.74	ug/L		100
24) Benzo (a) pyrene	13.835	252	203944	962.07	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.948	276	211718	1043.10	ug/L		99
27) Dibenz (a,h) anthracene	14.967	278	145873	904.75	ug/L		98
28) Benzo (g,h,i) perylene	15.258	276	231123	1032.28	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:07 2012 PAH

File : D:\Data\SVOC\101212\101205.D
Operator :
Acquired : 12 Oct 2012 1:40 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3308
Misc Info : LCS O-PAH-SIM-S-LIBBY
Vial Number: 2



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101206.D
Acq On : 12 Oct 2012 2:05 am
Operator :
Sample : 1209149-001A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 3 Sample Multiplier: 1

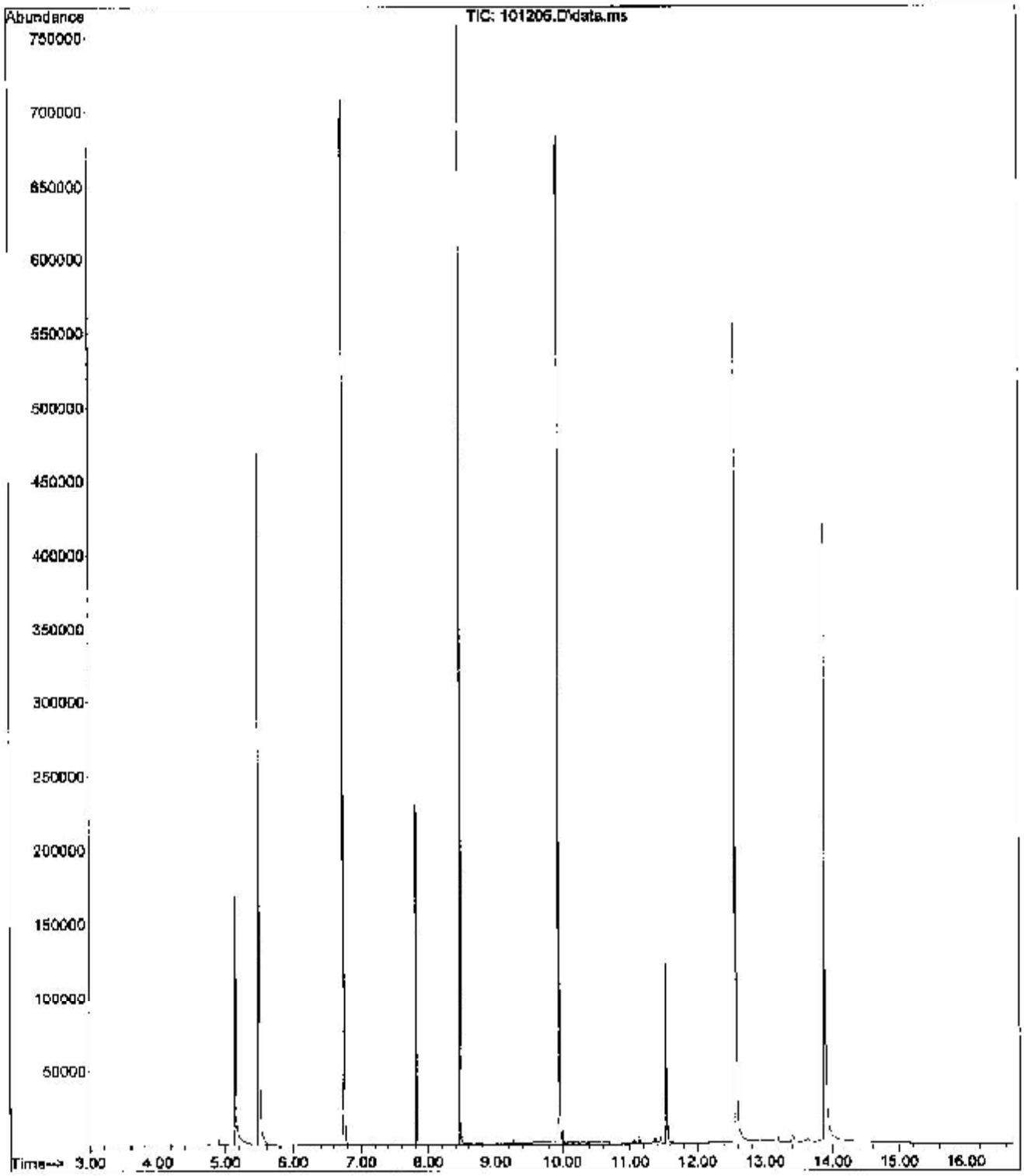
Quant Time: Oct 12 10:06:39 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.497	152	183913	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	581016	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	293070	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	484933	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	454274	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	464087	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	126181	903.21 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128253	499.53 ug/L	0.00
16) Terphenyl d14 (surr)	11.540	244	95125	532.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.404	107	519	N.D.	
5) Naphthalene	6.766	128	789	N.D.	
6) 2-Methylnaphthalene	7.457	142	329	N.D.	
7) 1-Methylnaphthalene	7.552	142	272	N.D.	
9) Acenaphthylene	8.341	152	63	N.D.	
11) Acenaphthene	8.509	152	88	N.D.	
12) Fluorene	9.024	166	373	N.D.	
14) Phenanthrene	9.969	178	2143	6.48 ug/L #	70
15) Anthracene	10.021	178	1008	N.D.	
17) Fluoranthene	11.146	202	3936	13.21 ug/L #	53
18) Pyrene	11.368	202	3938	12.65 ug/L #	18
19) Benzo (a) anthracene	12.564	228	2532	9.70 ug/L #	100
21) Chrysene	12.564	228	802	N.D.	
22) benzo (b) fluoranthene	13.557	252	348	N.D.	
23) benzo (k) fluoranthene	13.645	252	734	N.D.	
24) benzo (a) pyrene	13.835	252	412	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	90	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	28	N.D.	
28) Benzo (g,h,i) perylene	15.260	276	223	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:20 2012 PAH

File : D:\Data\SVOC\101212\101206.D
Operator :
Acquired : 12 Oct 2012 2:05 am using AcqMethod DBPAH101012PHENOL.M
Instrument : BP-MSD
Sample Name: 1209149-C01A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 3



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101207.D
Acq On : 12 Oct 2012 2:30 am
Operator :
Sample : 1209149-002A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 4 Sample Multiplier: 1

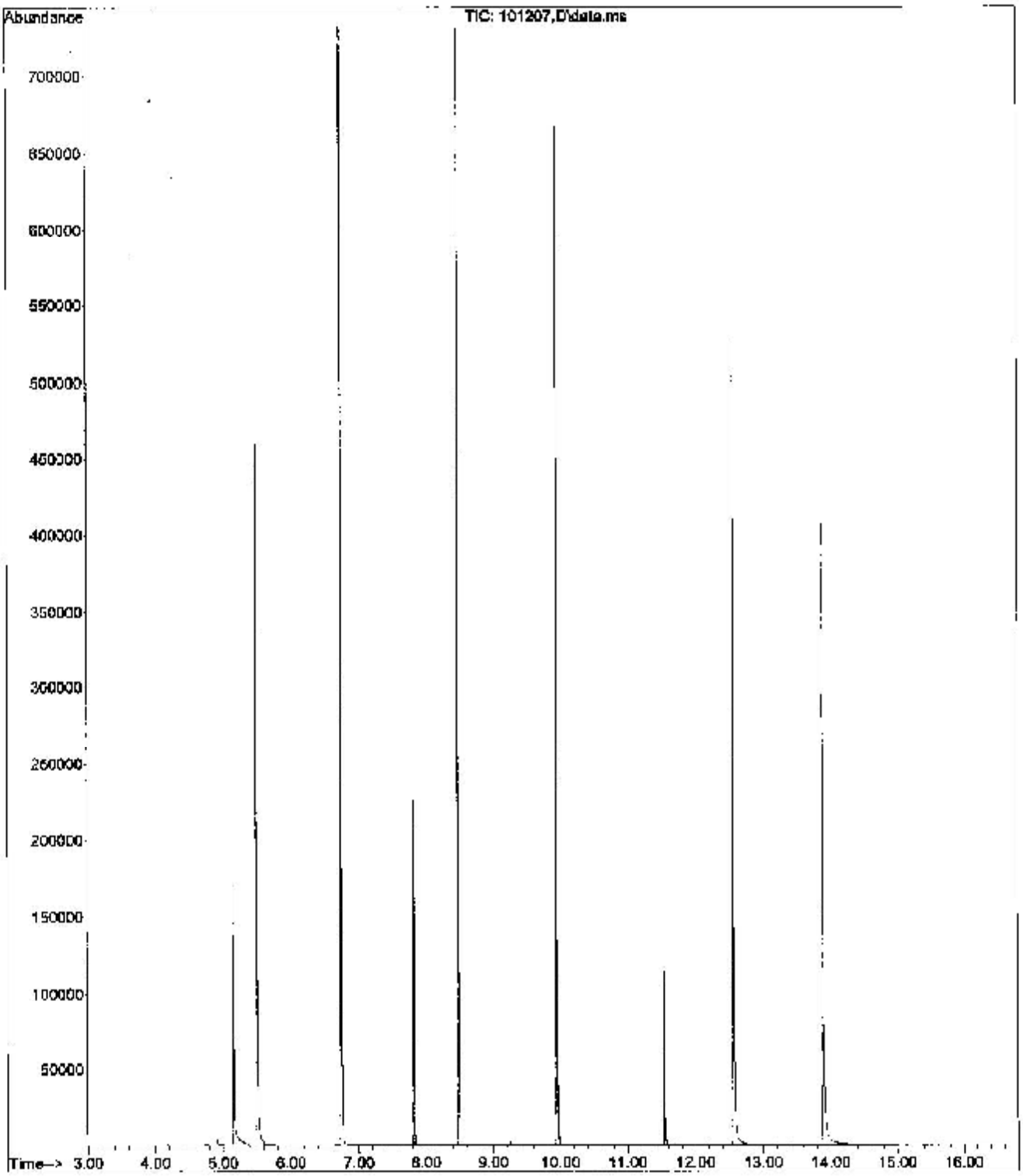
Quant Time: Oct 12 10:06:53 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	179009	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	568611	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	281391	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	455260	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	413269	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	413930	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132552	974.80 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127875	508.93 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	85519	509.60 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.450	107	77	N.D.	
5) Naphthalene	6.769	128	101	N.D.	
6) 2-Methylnaphthalene	7.459	142	37	N.D.	
7) 1-Methylnaphthalene	7.554	142	38	N.D.	
9) Acenaphthylene	8.338	152	3	N.D.	
11) Acenaphthene	8.511	152	11	N.D.	
12) Fluorene	9.024	166	45	N.D.	
14) Phenanthrene	9.970	178	138	N.D.	
15) Anthracene	10.018	178	5	N.D.	
17) Fluoranthene	11.148	202	27	N.D.	
18) Pyrene	11.370	202	14	N.D.	
19) Benzo (a) anthracene	12.566	228	1133	N.D.	
21) Chrysene	12.566	228	953	N.D.	
22) benzo (b) fluoranthene	13.557	252	42	N.D.	
23) benzo (k) fluoranthene	13.583	252	153	N.D.	
24) benzo (a) pyrene	13.835	252	93	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	24	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:55 2012 PAH

File : D:\Data\SVOC\101212\101207.D
Operator :
Acquired : 12 Oct 2012 2:30 am using AcqMethod DBPAH101012MIDNOT.M
Instrument : HP-MSD
Sample Name: 1209149-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101208.D
Acq On : 12 Oct 2012 2:55 am
Operator :
Sample : 1209169-002AMS
Misc : MS O PAH-SIM-S-LIBBY
ALS Vial : 5 Sample Multiplier: 1

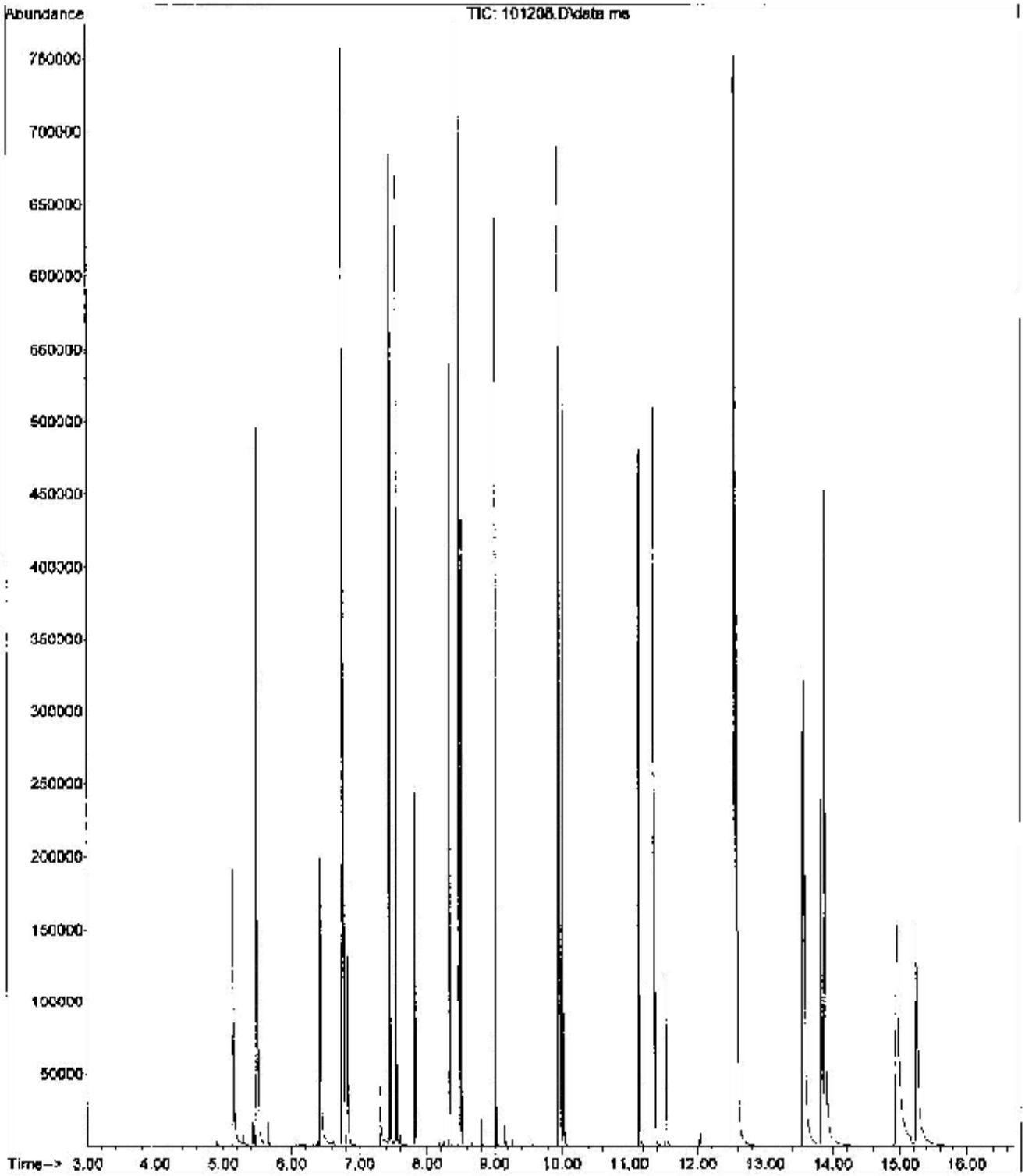
Quant Time: Oct 12 10:07:03 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:25 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	188299	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	603358	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	305215	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	485265	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	457114	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	446578	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	145867	1019.80 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	135636	508.73 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	90504	505.96 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	111593	1006.43 ug/L		99
5) Naphthalene	6.766	128	402167	1050.67 ug/L		100
6) 2-Methylnaphthalene	7.453	142	241853	1078.48 ug/L		99
7) 1-Methylnaphthalene	7.550	142	226336	1066.66 ug/L		100
9) Acenaphthylene	8.338	152	345345	1123.49 ug/L		100
11) Acenaphthene	8.511	152	106525	1037.88 ug/L		100
12) Fluorene	9.021	166	249744	1061.59 ug/L		100
14) Phenanthrene	9.968	178	347700	1049.99 ug/L		100
15) Anthracene	10.020	178	332911	1125.34 ug/L		100
17) Fluoranthene	11.146	202	345356	1158.57 ug/L		99
18) Pyrene	11.368	202	362449	1163.30 ug/L		99
19) Benzo (a) anthracene	12.557	228	289938	1109.67 ug/L	#	100
21) Chrysene	12.592	228	347424	1051.97 ug/L	#	98
22) benzo (b) fluoranthene	13.555	252	223168	929.80 ug/L	#	100
23) benzo (k) fluoranthene	13.577	252	374588	1098.70 ug/L		100
24) benzo (a) pyrene	13.835	252	247984	1056.92 ug/L		100
26) Indeno(1,2,3-cd)pyrene	14.945	276	272011	1133.03 ug/L		98
27) Dibenz (a,h) anthracene	14.967	278	189790	996.12 ug/L		98
28) Benzo (g,h,i) perylene	15.257	276	270245	1024.75 ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:06 2012 PAH

File : D:\Data\SVOC\101212\101208.D
Operator :
Acquired : 12 Oct 2012 2:55 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-002AMS
Misc Info : MS O-PAH-SIM-S-LIBBY
Vial Number: 5



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101209.D
Acq On : 12 Oct 2012 3:20 am
Operator :
Sample : 1209149-003A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 6 Sample Multiplier: 1

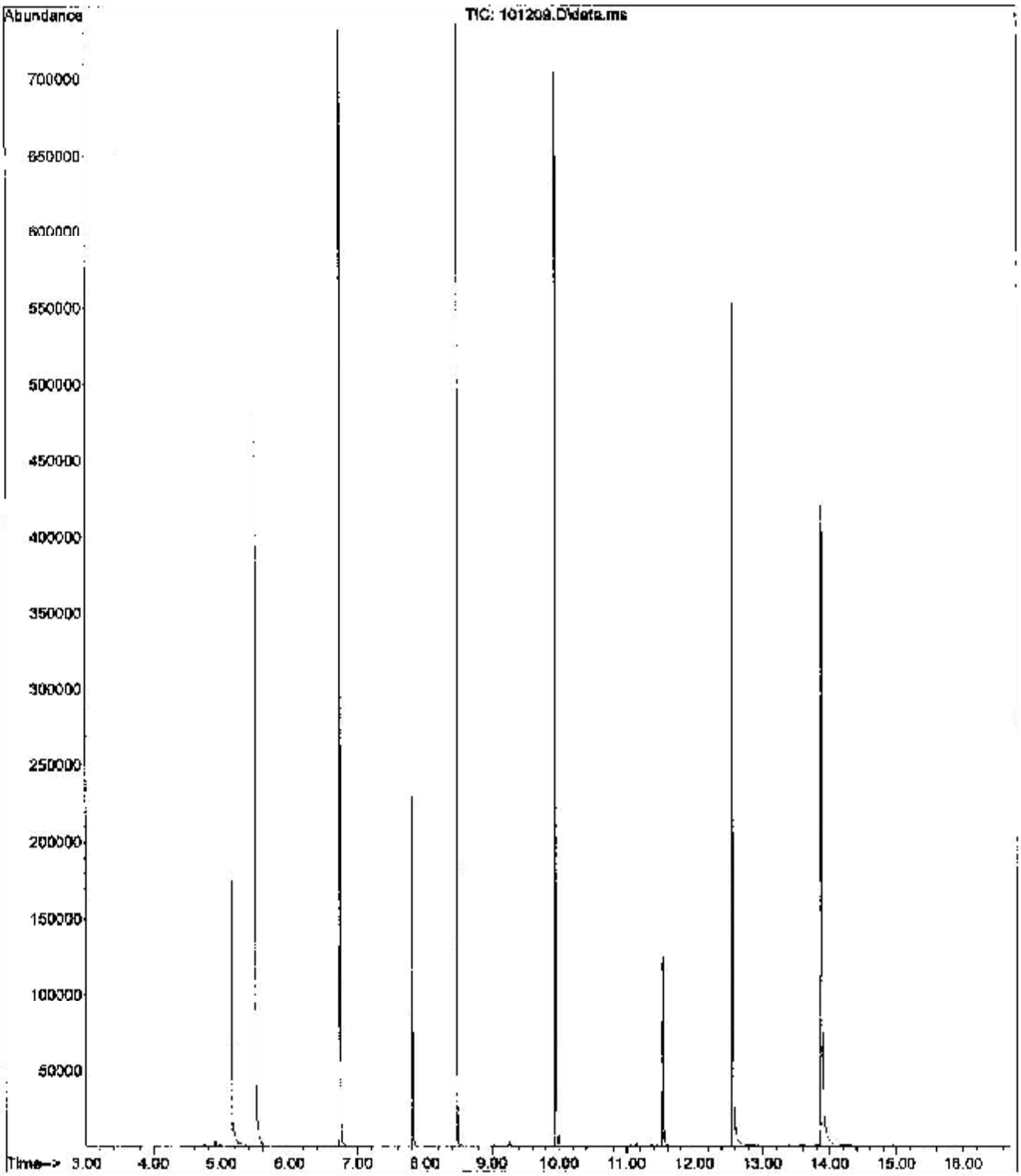
Quant Time: Oct 12 10:07:09 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	183263	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	577604	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	291302	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	482790	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	442562	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	436622	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	137603	988.46 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128686	504.18 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	94203	529.34 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.451	107	157	N.D.	
5) Naphthalene	6.769	128	227	N.D.	
6) 2-Methylnaphthalene	7.458	142	110	N.D.	
7) 1-Methylnaphthalene	7.552	142	197	N.D.	
9) Acenaphthylene	8.342	152	150	N.D.	
11) Acenaphthene	8.511	152	97	N.D.	
12) Fluorene	9.023	166	298	N.D.	
14) Phenanthrene	9.968	178	2757	8.37 ug/L	99
15) Anthracene	10.021	178	347	N.D.	
17) Fluoranthene	11.148	202	1468	N.D.	
18) Pyrene	11.368	202	1885	6.08 ug/L #	55
19) Benzo (a) anthracene	12.564	228	2461	9.47 ug/L #	100
21) Chrysene	12.590	228	1424	N.D.	
22) benzo (b) fluoranthene	13.556	252	561	N.D.	
23) benzo (k) fluoranthene	13.642	252	668	N.D.	
24) benzo (a) pyrene	13.835	252	971	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	371	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	140	N.D.	
28) Benzo (g,h,i) perylene	15.256	276	1283	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:27 2012 PAH

File : D:\Data\SVOC\101212\101209.D
Operator :
Acquired : 12 Oct 2012 3:20 am using AcqMethod DBPAH101012PHENOL.M
Instrument : BP-MSD
Sample Name: 1209149-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 6



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101210.D
Acq On : 12 Oct 2012 3:45 am
Operator :
Sample : 1209149-004A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 7 Sample Multiplier: 1

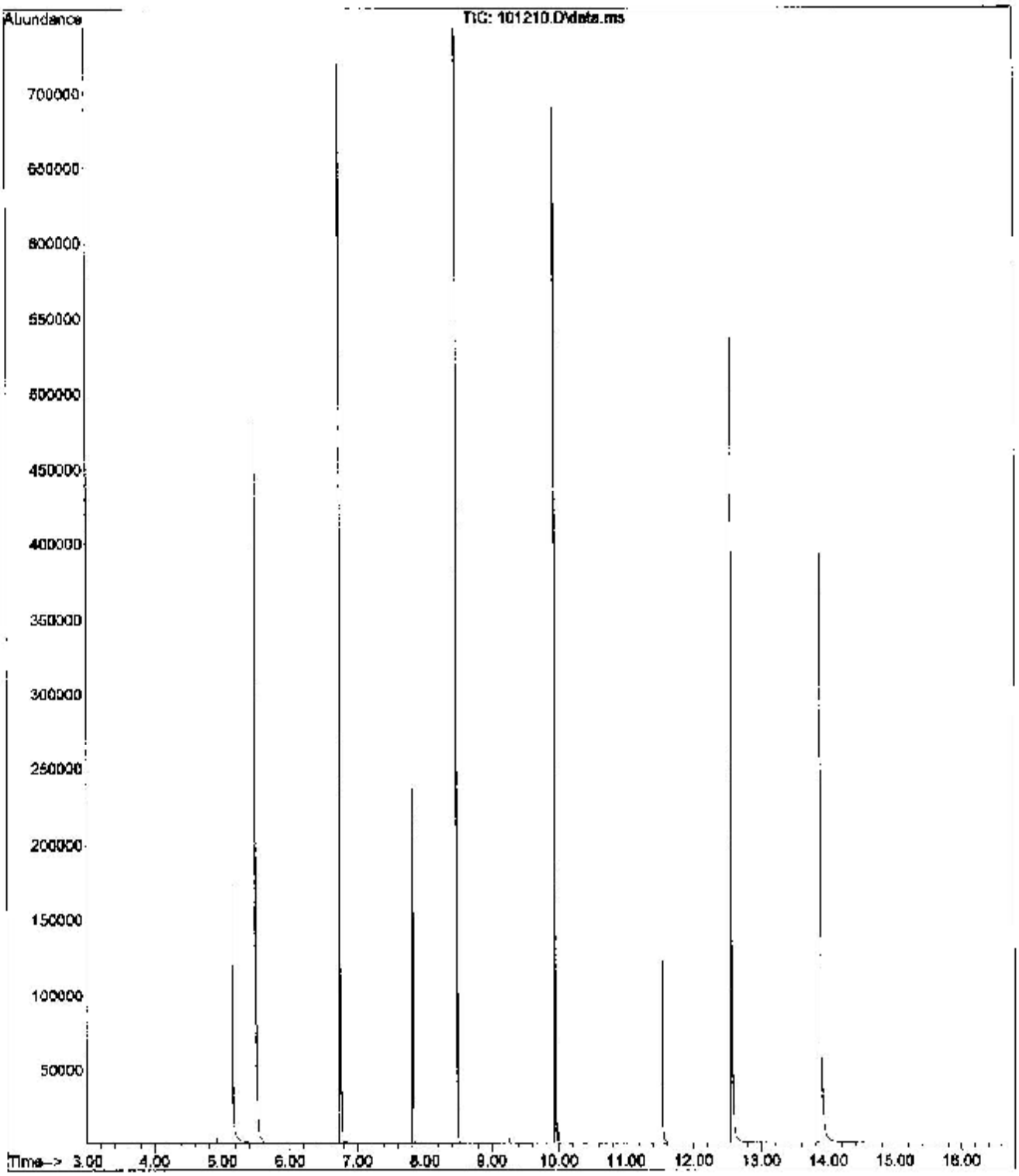
Quant Time: Oct 12 10:07:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	181831	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	575192	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	284813	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	473608	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	431785	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	409682	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	134751	975.59 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	129142	508.09 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	94200	539.59 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.454	107	209	N.D.	
5) Naphthalene	6.766	128	536	N.D.	
6) 2-Methylnaphthalene	7.459	142	59	N.D.	
7) 1-Methylnaphthalene	7.552	142	48	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.509	152	16	N.D.	
12) Fluorene	9.024	166	143	N.D.	
14) Phenanthrene	9.967	178	135	N.D.	
15) Anthracene	10.020	178	30	N.D.	
17) Fluoranthene	11.150	202	104	N.D.	
18) Pyrene	11.370	202	134	N.D.	
19) Benzo (a) anthracene	12.564	228	1163	N.D.	
21) Chrysene	12.564	228	809	N.D.	
22) Benzo (b) fluoranthene	13.559	252	64	N.D.	
23) Benzo (k) fluoranthene	13.578	252	181	N.D.	
24) Benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	17	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	5	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:40 2012 PAH

File : D:\Data\SVOC\101212\101210.D
Operator :
Acquired : 12 Oct 2012 3:45 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-004A
Misc Info : SAMP O-PAH-STM-S-LIBBY
Vial Number: 7



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101211.D
Acq On : 12 Oct 2012 4:10 am
Operator :
Sample : 1209149-004ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 8 Sample Multiplier: 1

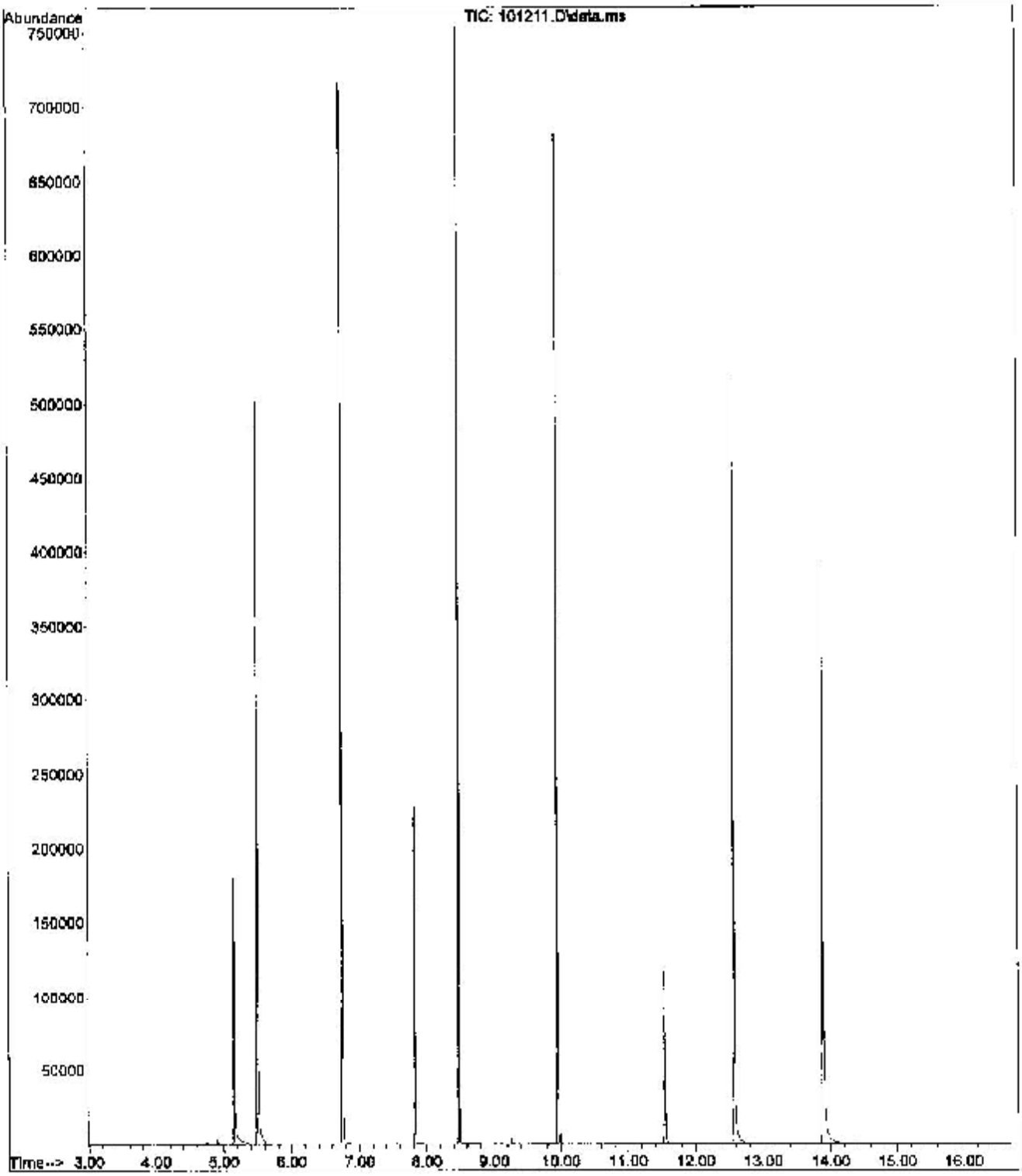
Quant Time: Oct 12 10:07:32 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	185404	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	588928	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	292790	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	480423	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.564	240	432432	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.883	264	406580	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139247	988.72 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131212	504.19 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	94240	532.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.450	107	197	N.D.	
5) Naphthalene	6.769	128	231	N.D.	
6) 2-Methylnaphthalene	7.458	142	78	N.D.	
7) 1-Methylnaphthalene	7.552	142	77	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.508	152	36	N.D.	
12) Fluorene	9.023	166	337	N.D.	
14) Phenanthrene	9.968	178	156	N.D.	
15) Anthracene	10.020	178	22	N.D.	
17) Fluoranthene	11.150	202	96	N.D.	
18) Pyrene	11.371	202	125	N.D.	
19) Benzo (a) anthracene	12.564	228	1140	N.D.	
21) Chrysene	12.564	228	780	N.D.	
22) Benzo (b) fluoranthene	13.555	252	33	N.D.	
23) Benzo (k) fluoranthene	13.576	252	143	N.D.	
24) Benzo (a) pyrene	13.833	252	60	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	8	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	6	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:50 2012 PAH

File : D:\Data\SVOC\101212\101211.D
Operator :
Acquired : 12 Oct 2012 4:10 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-004ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 8



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101212.D
Acq On : 12 Oct 2012 4:34 am
Operator :
Sample : 1209172-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 9 Sample Multiplier: 1

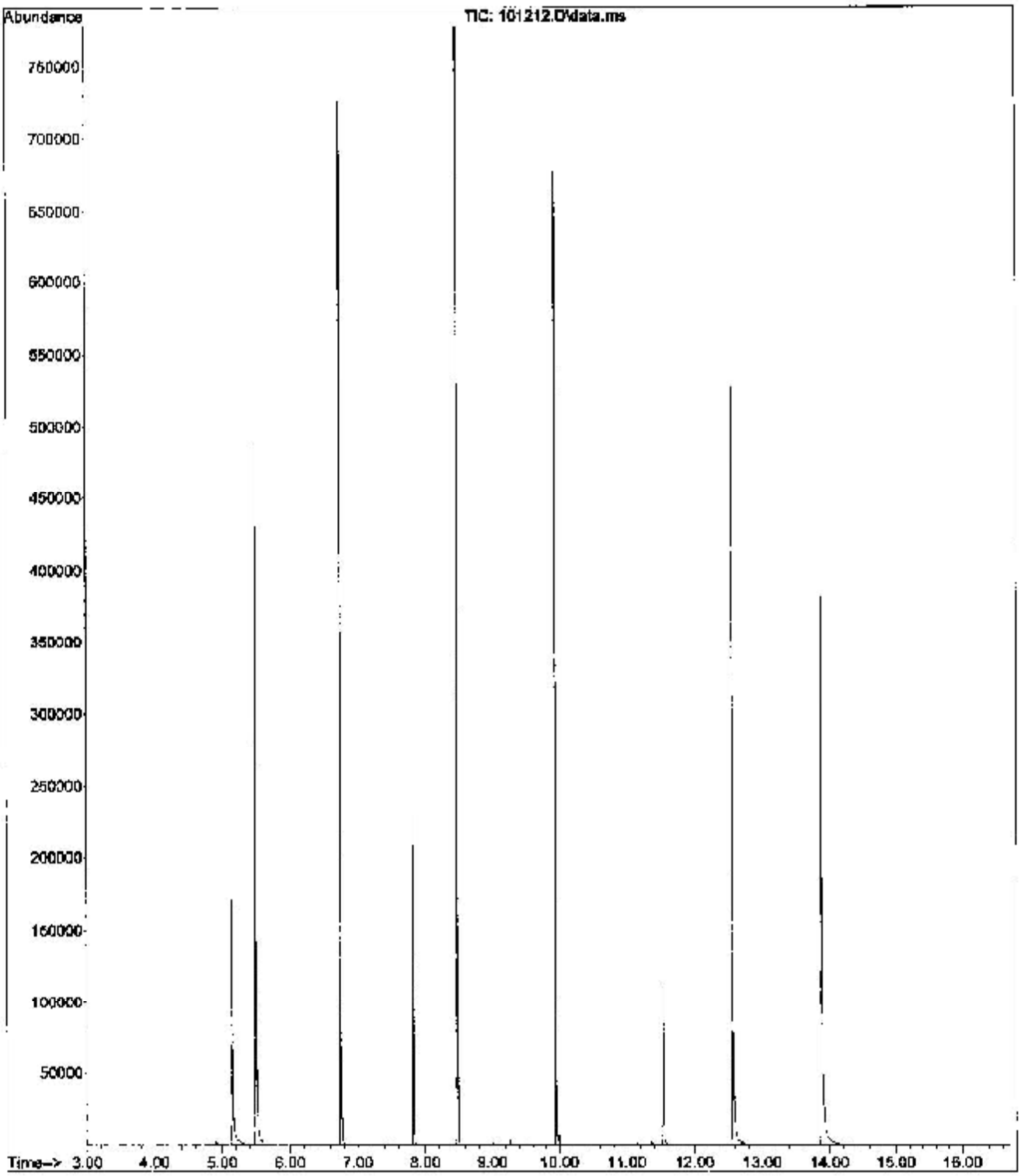
Quant Time: Oct 12 10:07:37 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	186425	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	594025	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	292832	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	479407	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	433678	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	421613	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132056	932.52 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128530	489.65 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	89083	504.10 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.453	107	246	N.D.	
5) Naphthalene	6.766	128	1232	N.D.	
6) 2-Methylnaphthalene	7.457	142	530	N.D.	
7) 1-Methylnaphthalene	7.552	142	230	N.D.	
9) Acenaphthylene	8.340	152	79	N.D.	
11) Acenaphthene	8.509	152	57	N.D.	
12) Fluorene	8.823	166	763	N.D.	
14) Phenanthrene	9.969	178	1044	N.D.	
15) Anthracene	10.021	178	277	N.D.	
17) Fluoranthene	11.149	202	1334	N.D.	
18) Pyrene	11.370	202	1411	N.D.	
19) Benzo (a) anthracene	12.563	228	1653	6.40 ug/L #	100
21) Chrysene	12.590	228	616	N.D.	
22) benzo (b) fluoranthene	13.559	252	261	N.D.	
23) benzo (k) fluoranthene	13.572	252	469	N.D.	
24) benzo (a) pyrene	13.835	252	238	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	97	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	17	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	54	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:01 2012 PAH

File : D:\Data\SVOC\101212\101212.D
Operator :
Acquired : 12 Oct 2012 4:34 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209172-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 9



Quantitation Report (QT Reviewed)

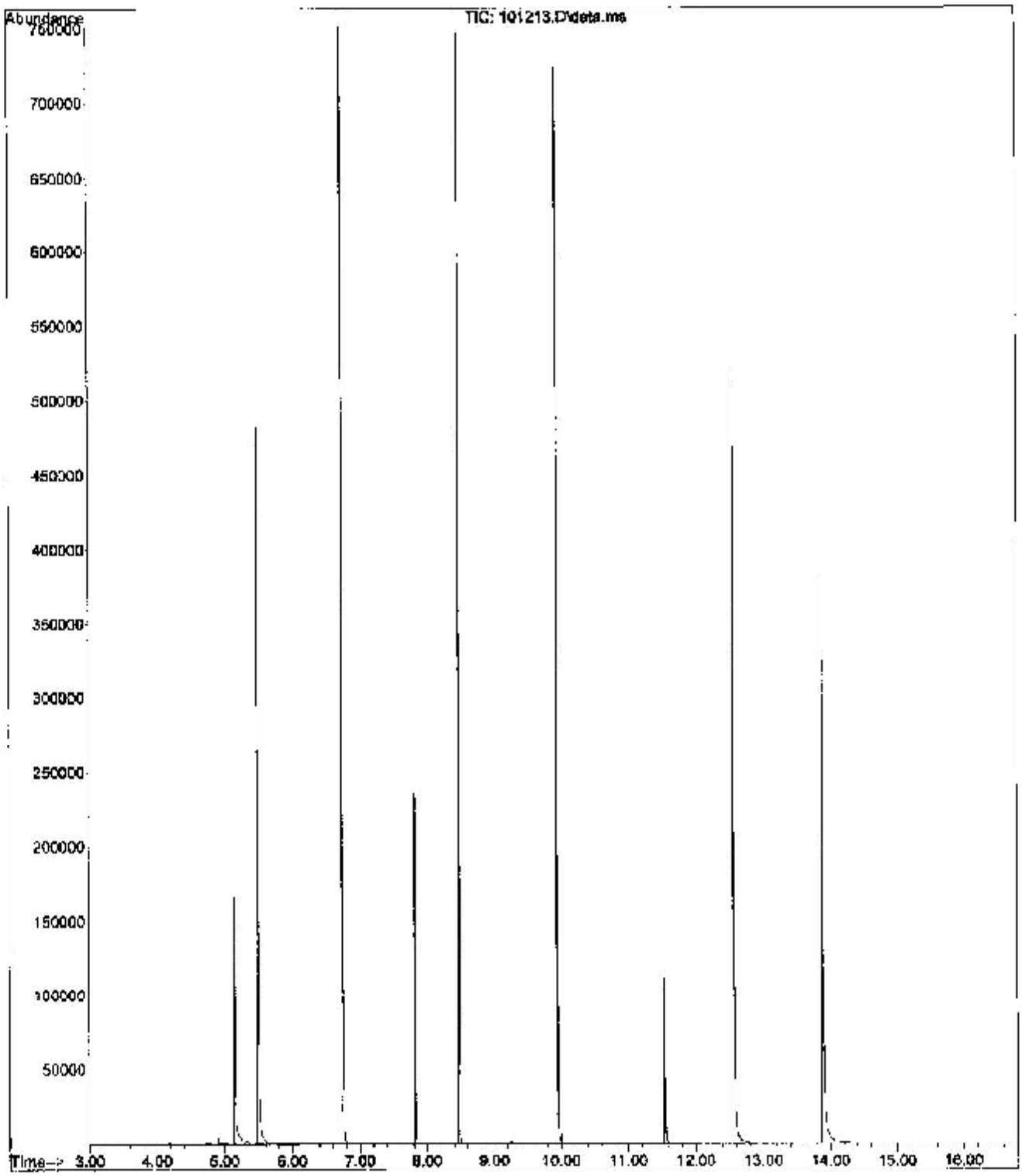
Data Path : D:\Data\SVOC\101212\
Data File : 101213.D
Acq On : 12 Oct 2012 4:59 am
Operator :
Sample : 1209172-007A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 12 10:07:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	184766	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	586872	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	294050	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	479321	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	425279	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	408886	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132260	942.35 ug/L	0.00
8) 2 Fluorobiphenyl (surr)	7.822	172	132378	510.45 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	89747	507.95 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.405	107	91	N.D.	
5) Naphthalene	6.766	128	197	N.D.	
6) 2-Methylnaphthalene	7.458	142	34	N.D.	
7) 1-Methylnaphthalene	7.554	142	40	N.D.	
9) Acenaphthylene	8.338	152	1	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.021	166	8	N.D.	
14) Phenanthrene	9.969	178	106	N.D.	
15) Anthracene	10.024	178	12	N.D.	
17) Fluoranthene	11.146	202	11	N.D.	
18) Pyrene	11.368	202	36	N.D.	
19) Benzo (a) anthracene	12.564	228	1189	N.D.	
21) Chrysene	12.564	228	845	N.D.	
22) benzo (b) fluoranthene	13.553	252	19	N.D.	
23) benzo (k) fluoranthene	13.583	252	139	N.D.	
24) benzo (a) pyrene	13.883	252	1026	5.00 ug/L #	58
26) Indeno(1,2,3-cd)pyrene	14.943	276	15	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	4	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

```
File         :D:\Data\SVOC\101212\101213.D
Operator     :
Acquired     : 12 Oct 2012    4:59 am using AcqMethod DBPAH101012PHENOL.M
Instrument   :    HP-MSD
Sample Name: 1209172-007A
Misc Info    : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 10
```



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_1210126 | CCV Name: CAL MID POINT

Run No: 6128 | CCV SeqNo: 121768

Lab File ID (Standard): 101014.D | Date Analyzed: 10/10/2012

Instrument ID: GCMS-3 | Time Analyzed: 17:46

GC Column: | ID (mm): | Length (M):

		IS1 (14DCBZ)		IS2 Acenaphthene-d		IS3 Chrysene-d12		IS4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.498	370842	8.480	586943	12.569	703988	6.747
	UPPER LIMIT	422182	5.998	741284	8.980	1173886	13.069	1407976	7.247
	LOWER LIMIT	105546	4.998	185321	7.980	293472	12.069	351994	6.247
	SAMPLE NO.								
01	ICV-3308	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3308	209723	5.496	335186	8.478	483323	12.567	672101	6.745
03	CCV-3308	225869	5.498	394635	8.481	629788	12.568	745071	6.747
04	CCB-3308	260588	5.498	411097	8.48	599141	12.566	829611	6.747
05	MB-3308	185475	5.498	282701	8.48	389209	12.566	580947	6.747
06	LCS-3308	170903	5.498	276036	8.48	406341	12.565	546429	6.747
07	1209149-001A	183913	5.497	293070	8.48	454274	12.567	581016	6.747
08	1209149-002A	179009	5.490	281391	8.48	413269	12.566	566811	6.747
09	1209149-002AMS	188299	5.498	305215	8.48	457114	12.566	603358	6.747
10	1209149-003A	183253	5.498	291302	8.48	442562	12.566	577604	6.747
11	1209149-004A	181831	5.498	284813	8.48	431785	12.566	575192	6.747
12	1209149-004ADUP	185404	5.498	292790	8.478	432432	12.564	586928	6.745
13	1209172-001A	186425	5.496	292832	8.48	433678	12.566	594025	6.747
14	1209172-007A	184765	5.496	294050	8.48	425279	12.566	586872	6.747

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012B

Run No: 0128

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121768

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS5 Perylene-d1		6 Phenanthrene-d	
		AREA #	RT #	AREA #	RT #
	12 HOUR STD	569722	13.889	614915	9.945
	UPPER LIMIT	1139444	14.389	1229830	10.445
	LOWER LIMIT	284861	13.389	307458	9.445
	SAMPLE NO.				
01	CCV-3308	611996	13.885	656042	9.946
02	CCB-3308	555535	13.885	685528	9.947
03	MB-3308	351588	13.885	457012	9.945
04	LCS-3308	379148	13.885	435158	9.945
05	1209149-001A	464087	13.885	484933	9.946
06	1209149-002A	413930	13.885	465260	9.946
07	1209149-002AMS	446578	13.885	485265	9.946
08	1209149-003A	436622	13.885	482780	9.944
09	1209149-004A	405682	13.885	473608	9.945
10	1209149-004ADUP	406580	13.883	480423	9.944
11	1209172-001A	421813	13.885	479407	9.945
12	1209172-007A	408886	13.885	479921	9.945
13	ICB-3308	445839	13.885	542903	9.944
14	ICV-3308	472138	13.887	518454	9.945

IS5 Perylene-d12 = Perylene-d12

IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

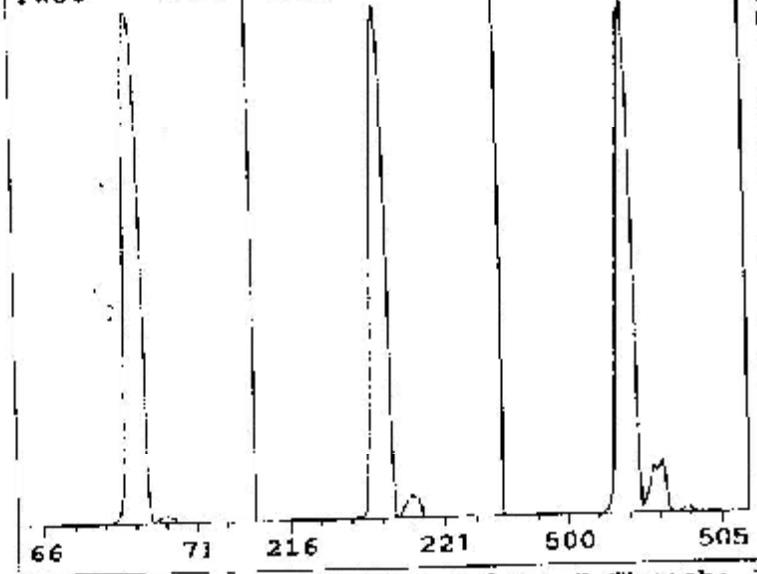
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00	Ion Pol	Pos
Ab	496024	Ab	310727	Ab	13192		
Pw50	0.57	Pw50	0.53	Pw50	0.55		

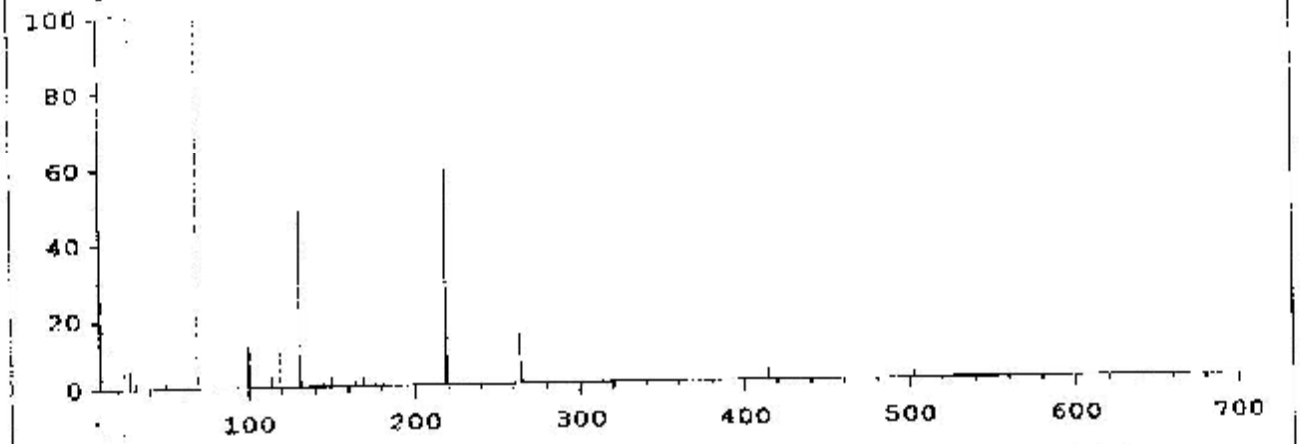
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFcus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

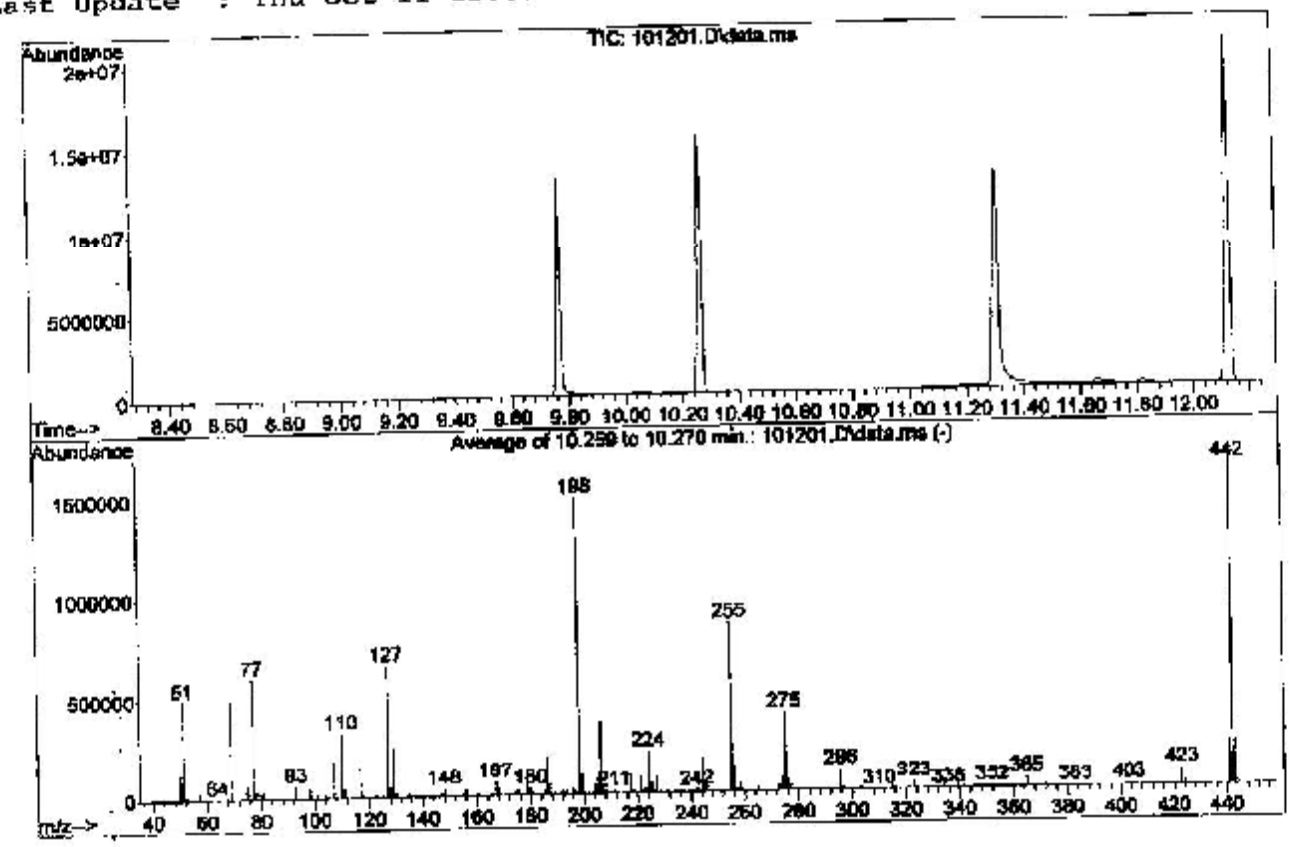
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	46.6	59.1	2.8	2.3	

DFTPP

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

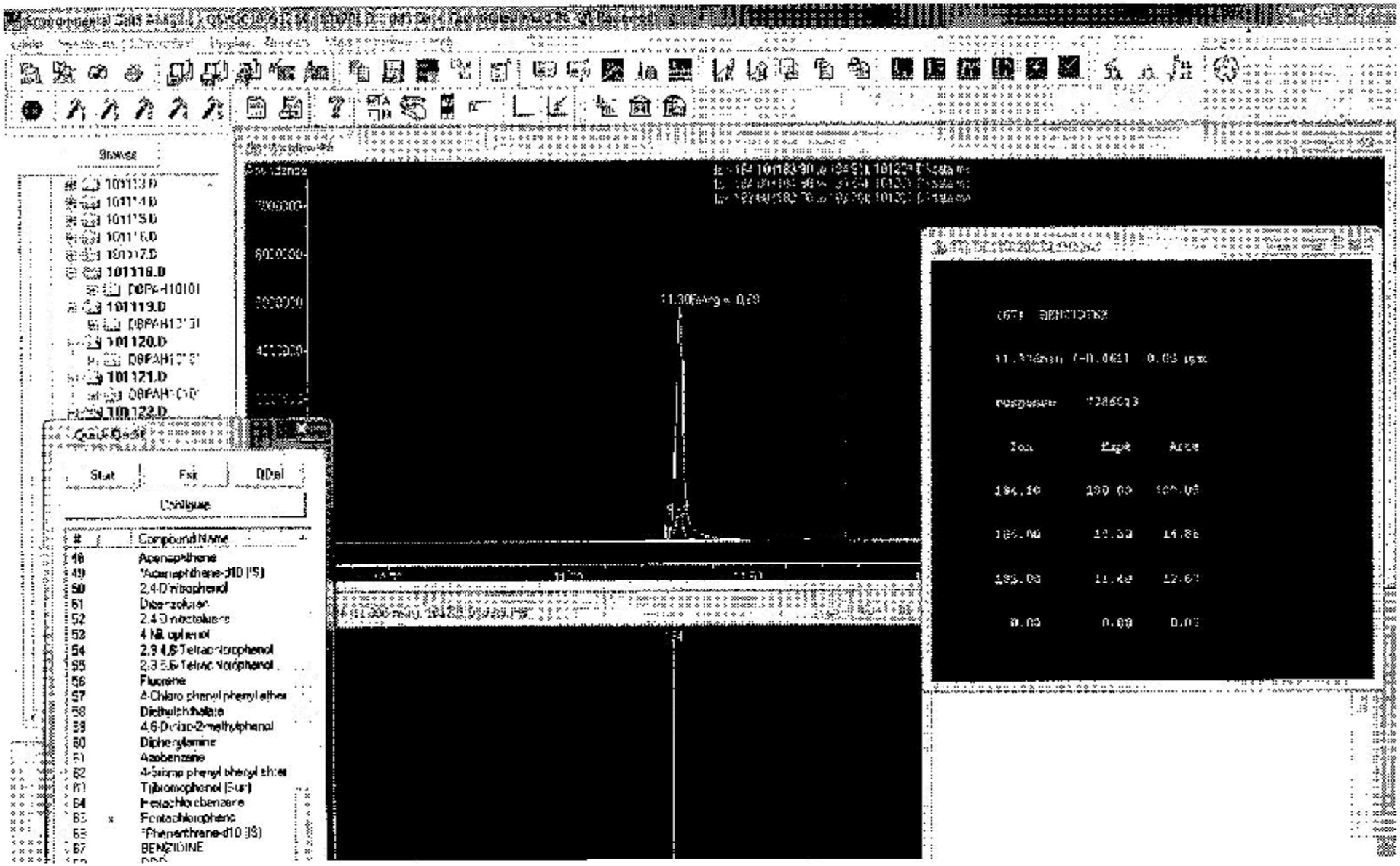
Integration File: RTEINTSG8270.P

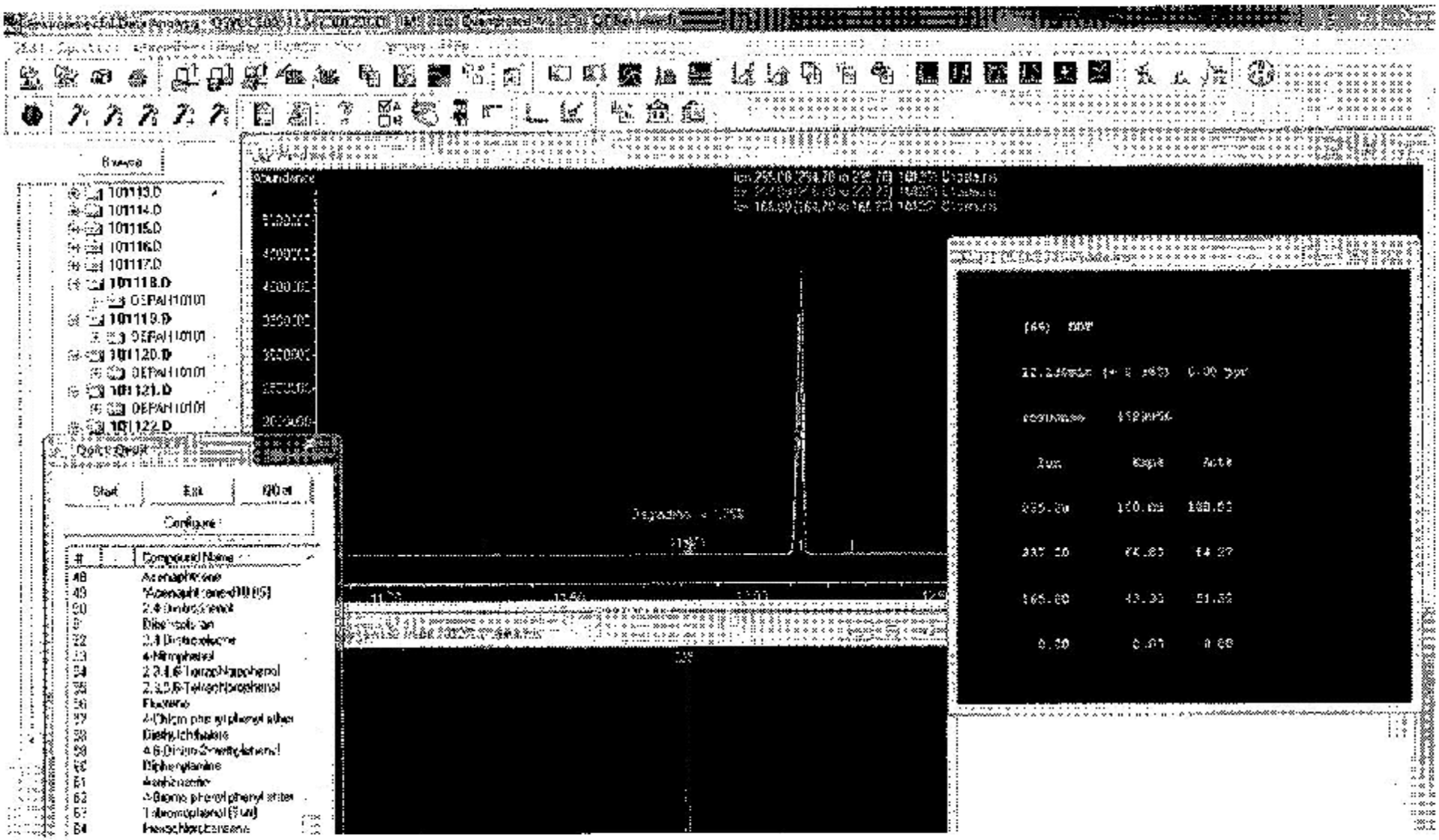
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

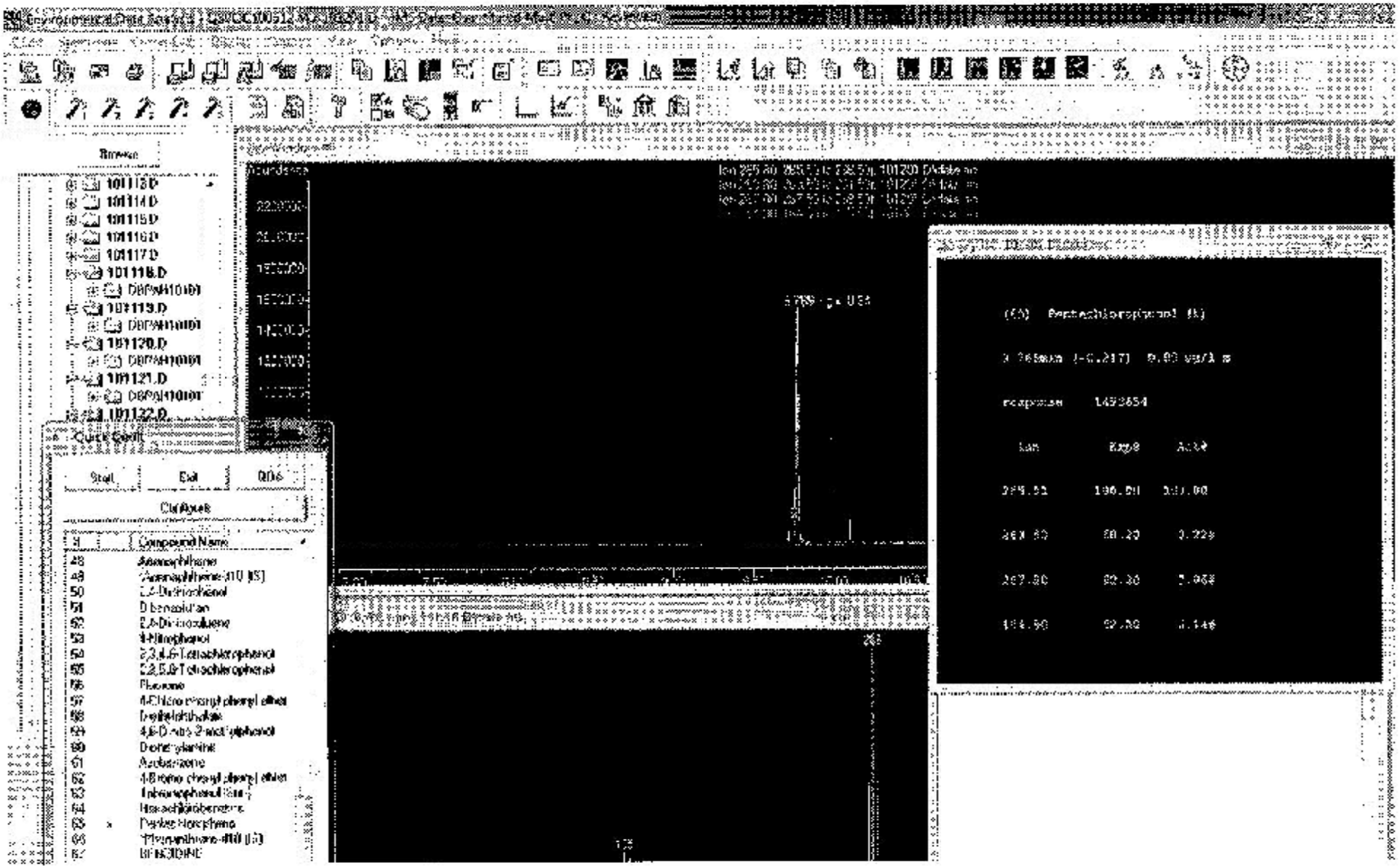


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Start
Exit
Delete
Configure
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expd Actd


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
DEPAH101101
101119.D
DEPAH101101
101120.D
DEPAH101101
101121.D
DEPAH101101
101122.D
Start
Exit
Configure
Compound Name
Acenaphthene
Diphenylamine
Fluoranthene
Pyrene
Benzo[a]anthracene
Chrysene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Indeno[1,2,3-cd]pyrene
Dibenz[a,h]anthracene
Benzo[g,h,i]perylene
Area
Height
Ratio
235.00
180.00
64.27
165.00
51.32
0.00
0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confirm
Stat
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
Phenanthrene
Anthracene
Dibutylphthalate
Fluoranthene
Benzidine
Pyrene
Terphenyl-d14 (S)
(S) Pentachlorophenol (S)
response 1493654
Ion Ratio Abund
295.92 100.00 100.00
297.90 80.20 79.98
299.90 32.30 32.14

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 25, 2012 and October 11 & 12, 2012 A water sample was analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended on September 25, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120925-30
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

For the water matrix, a Method Blank and sample duplicate were analyzed. Neither an LCS nor an LCSD were prepared or analyzed due to practical time constraints. The NWTPH-Dx method does not recommend LCS or LCSD.

Libby Environmental, Inc.

Chain of Custody Record

I009

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/25/12 Page: 1 of 1

Client: GeoEngineers, Inc
Address: 11015 Bayview Ave, Ste 200, Tacoma, WA 98402
Phone: (206) 728-2674 Fax:
Client Project # 0504-042-02

Project Manager: Neil Morton
Project Name: Irondale
Location: Irondale, WA City: Irondale
Collector: AMW Date of Collection: 9/25/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-WELL-92512	8'	1130	SED	2-4oz Jar							X	⊗						Extend / hold PAHs
2 DW2-92512	-	1310	Water	6-VOA Amber							X							" "
3 IRZ-B1-92512	9'	1545	SED	2-4oz Jar							X							" "
4 IRZ-B2-92512	11'	1550									X							" "
5 IRZ-B3-92512	10'	1555									X							" "
6 IRZ-B4-92512	8'	1600									X	⊗						" "
7 IRZ-B5-92512	7'	1610									X	⊗						" "
8 IRZ-ESW1-92512	4'	1715									X	⊗						" "
9																		10-8-12 run cPAH per Neil via email Standard TAT
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/25/12 1930	[signature]	9-25-12 19:30
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120925-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120925-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/25/12	93	nd	nd
LCS	9/25/12	int	93%	
LCSD	9/25/12	int	97%	
IRZ-WSW1-92512	9/25/12	84	nd	nd
IRZ-WSW1-92512 Dup	9/25/12	86	nd	nd
IRZ-B1-92512	9/26/12	102	nd	nd
IRZ-B2-92512	9/26/12	94	nd	nd
IRZ-B3-92512	9/26/12	98	nd	nd
IRZ-B4-92512	9/26/12	97	nd	nd
IRZ-B5-92512	9/26/12	94	nd	nd
IRZ-B5-92512 Dup	9/26/12	94	nd	nd
IRZ-ESW1-92512	9/26/12	91	nd	nd
IRZ-ESW1-92512 Dup	9/26/12	96	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120925-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended) in Water

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (µg/l)	Bunker C (µg/l)
Method Blank	9/25/12	91	nd	nd
DW2-92512	9/25/12	85	nd	nd
DW2-92512 Dup	9/25/12	84	nd	nd
Practical Quantitation Limi			200	400

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/25/2012

Libby Job #: L120925-30		Instrument: Shimadsu GC14A				Analyst/s: Paul Burke	
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	6:15:14	C180	3 µl		572		
500 ppm Diesel 791	6:15:14	D178	3 µl		533		
1000 ppm LCS 343	7:31:59	C181	3 µl	int	932		
1000 ppm LCSD 343	7:31:59	D179	3 µl	int	970		
Method Blank	8:01:57	C182	3 µl	18.6	nd	nd	nd
Method Blank	8:01:57	D180	3 µl	18.1	nd	nd	nd
IRZ-B4-92412	8:48:21	C183	3 µl	19.6	nd	nd	nd
IRZ-ESW3-92412	8:48:21	D181	3 µl	18.9	nd	nd	nd
IRZ-WSW1092512	12:13:07	C184	3 µl	16.7	nd	nd	nd
IRZ-WSW1092512 Dup	12:13:07	D182	3 µl	17.2	nd	nd	nd
DW2-92512	13:27:42	C185	3 µl	17.1	nd	nd	nd
DW2-92512 Dup	13:27:42	D183	3 µl	16.9	nd	nd	nd
500 ppm Diesel 791	14:07:16	C186	3 µl		528		
500 ppm Diesel 791	14:07:16	D184	3 µl		536		

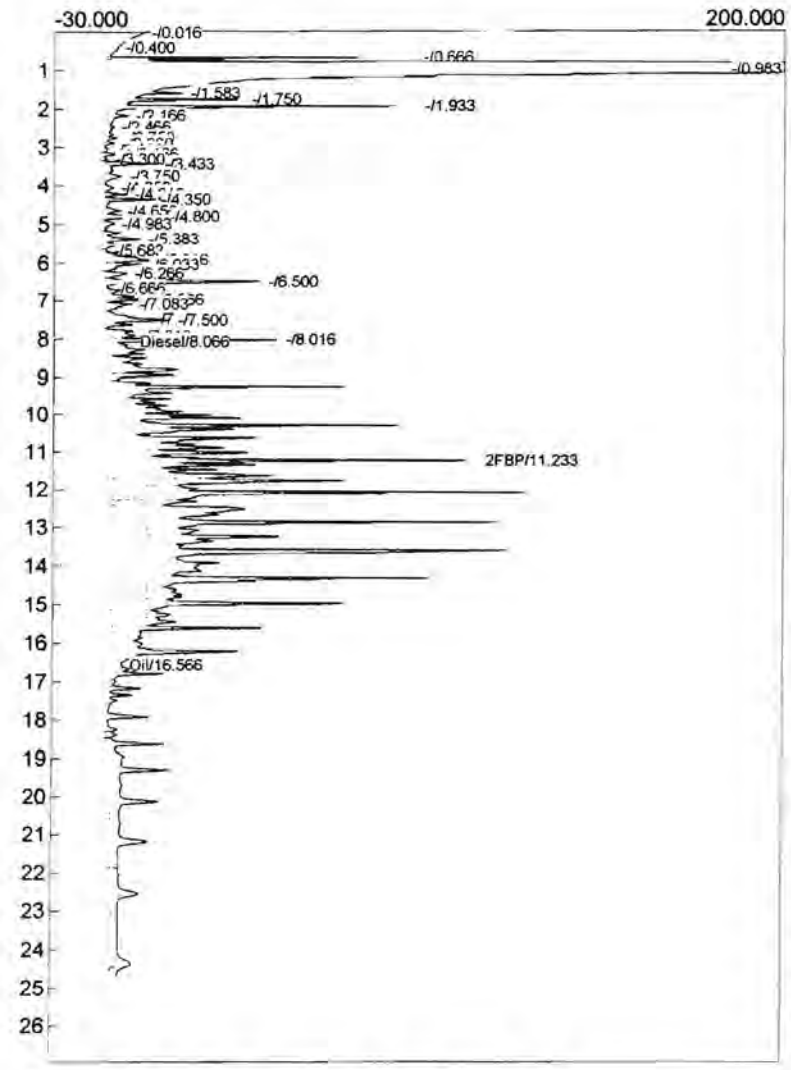
Analysis date: 09/25/2012 06:15:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C180.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	8.066	11611.2930	4.324	572.3643	ppm
FBP	11.233	706.3605	114.673	28.2544	ppm
il	16.566	1621.9875	3.314	79.7432	ppm
		13939.6410		680.3619	

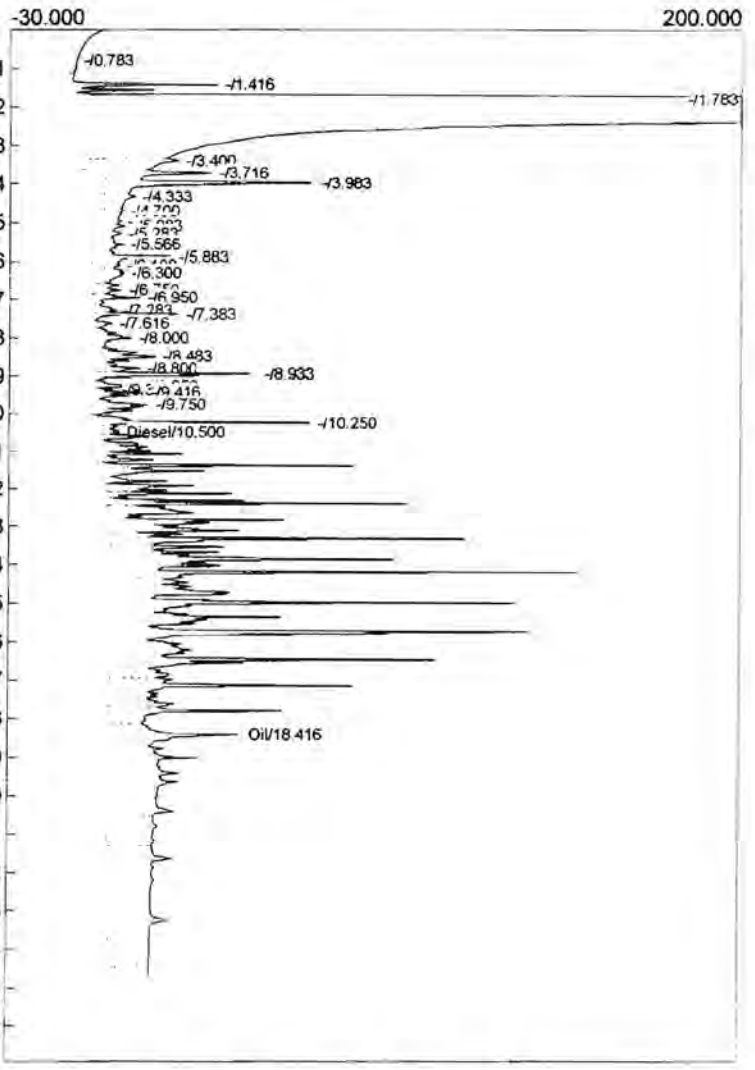
Analysis date: 09/25/2012 06:15:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D178.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.500	10028.5995	4.540	532.7235	ppm
Oil	18.416	5593.4170	41.657	296.0253	ppm
		15622.0165		828.7488	

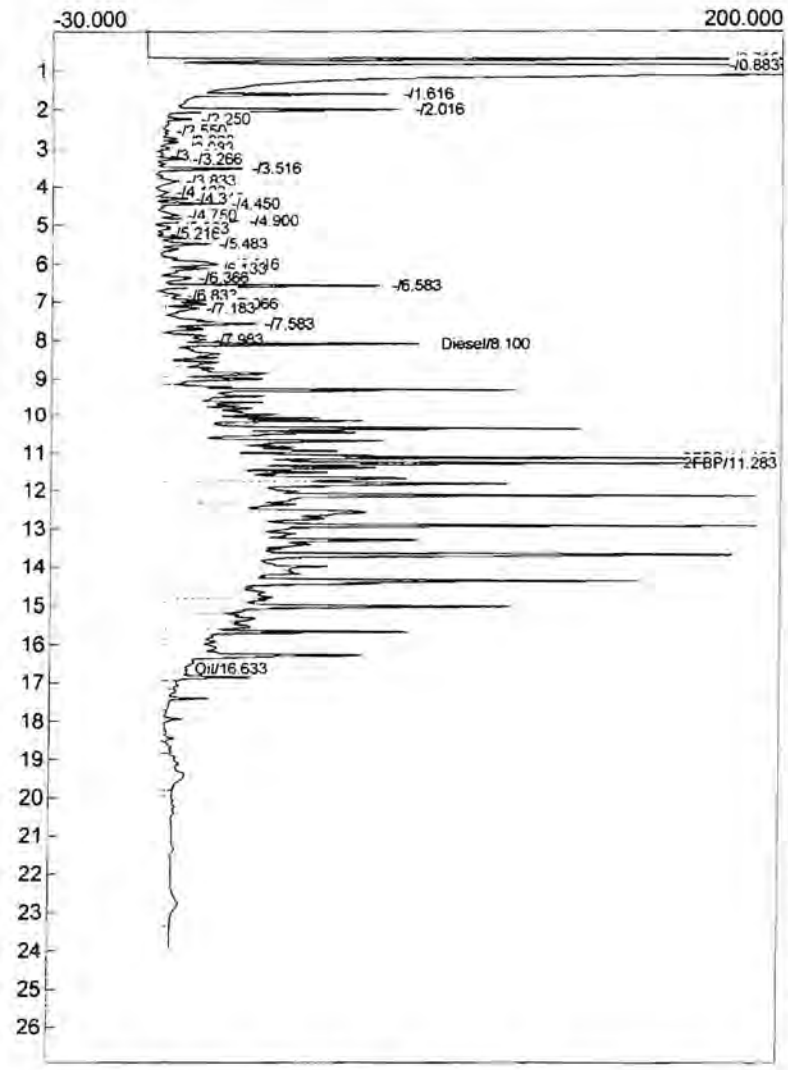
Analysis date: 09/25/2012 07:31:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C181.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

emperature program:

nit temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	8.100	18854.0425	84.683	931.7192	ppm
FBP	11.150	800.8165	173.727	32.0327	ppm
FBP	11.283	1075.2130	172.159	43.0085	ppm
il	16.633	1187.9050	7.099	58.4020	ppm
		21917.9770		1065.1624	

93%

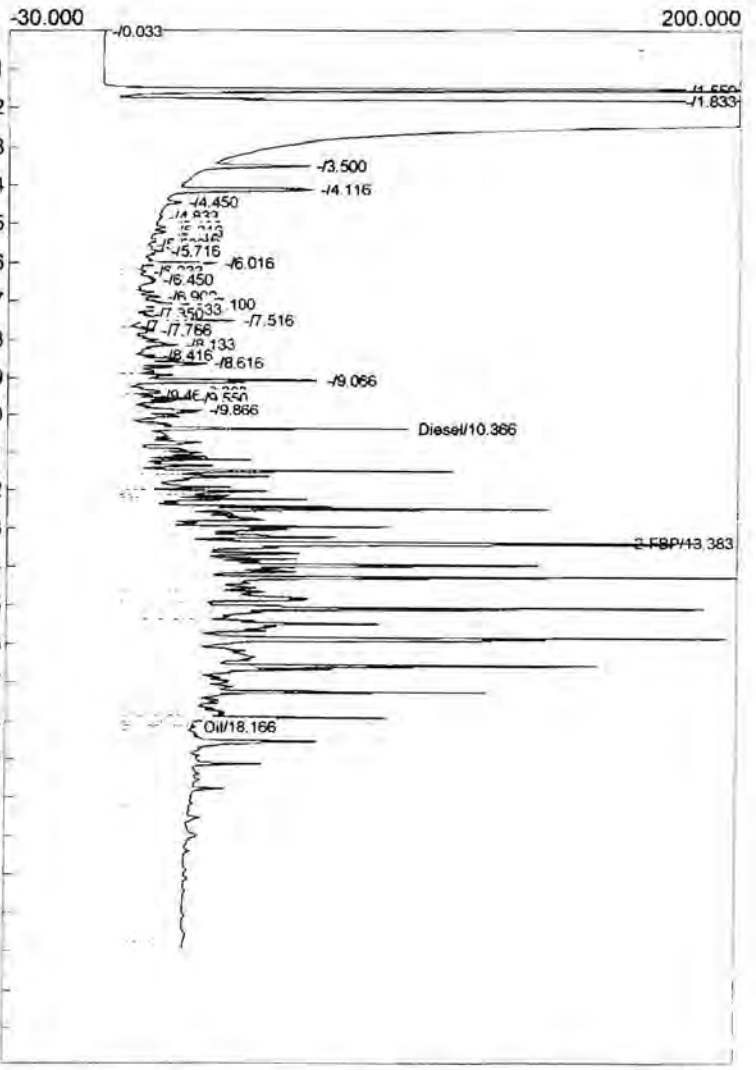
Analysis date: 09/25/2012 07:31:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D179.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.366	18138.1960	90.991	970.4994	ppm
2-FBP	13.383	1263.9955	197.876	42.1332	ppm
Oil	18.166	7024.8105	22.567	372.1265	ppm
		26427.0020		1384.7591	

97%

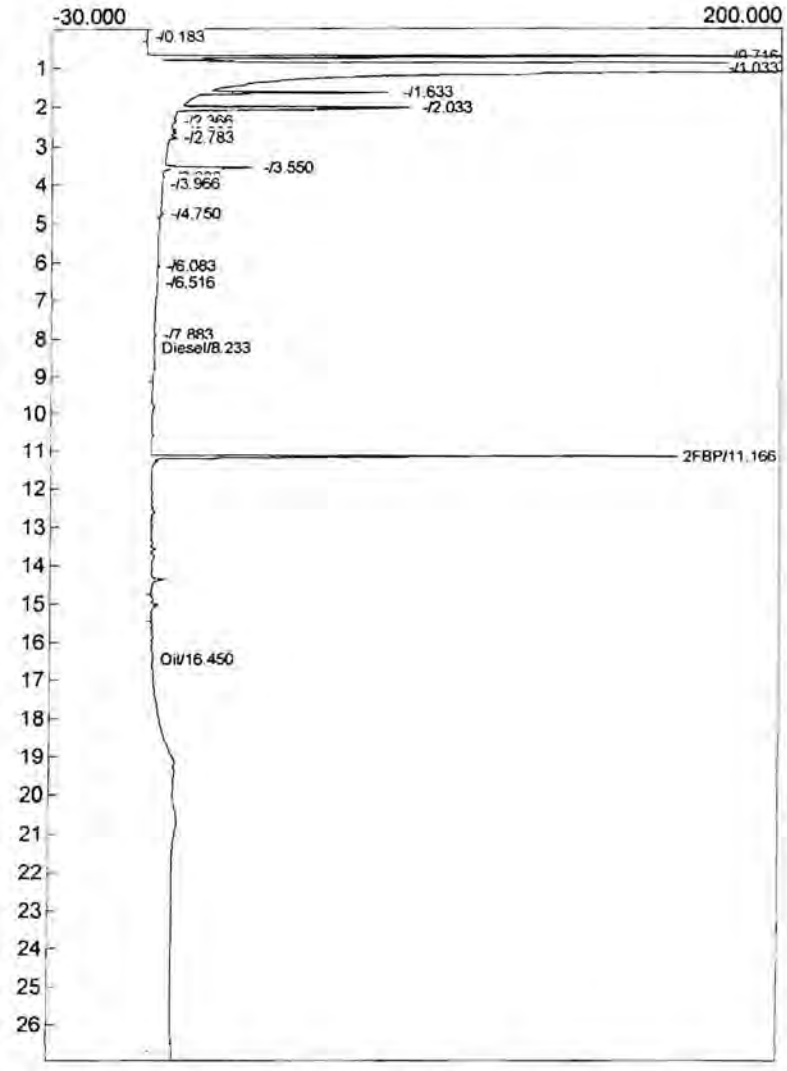
Analysis date: 09/25/2012 08:01:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C182.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	8.233	631.3230	0.205	31.0383	ppm
FBP	11.166	465.9685	174.024	18.6387	ppm
il	16.450	3947.2625	0.977	194.0626	ppm
		5044.5540		243.7396	

93%

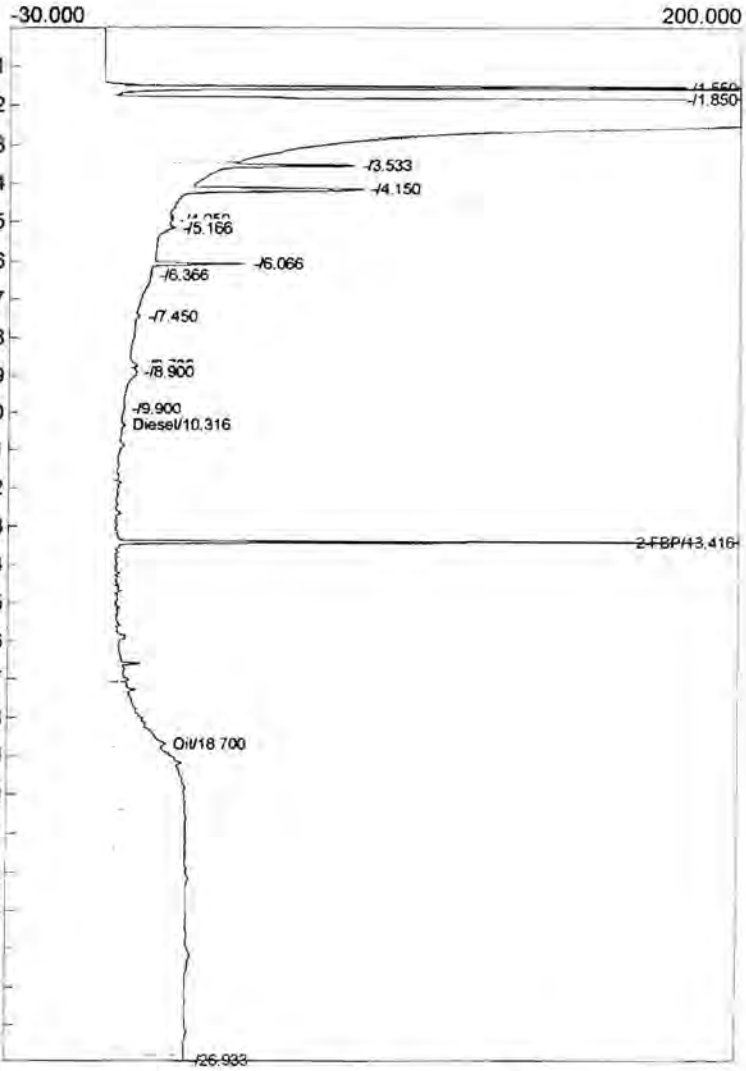
Analysis date: 09/25/2012 08:01:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D180.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.316	953.3635	1.263	50.3457	ppm
2-FBP	13.416	541.6440	238.628	18.0548	ppm
Oil	18.700	11475.3305	16.341	610.2338	ppm
		12970.3380		678.6343	

90%

Analysis date: 09/25/2012 08:01:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C182.CHR ()
Sample: Method Blank
Operator: PB

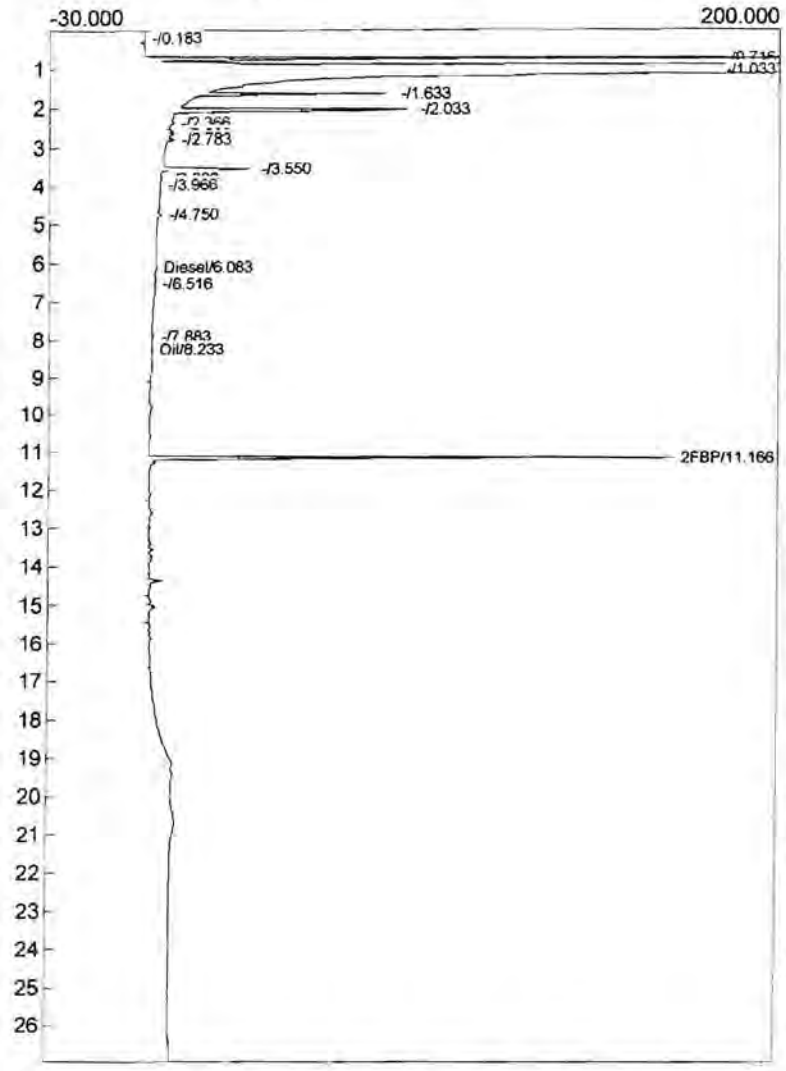
emperature program:

it temp	Hold	Ramp	Final temp

vents:

*used for Bunker C air blank only

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	6.083	4.4320	0.502	0.2179	ppm
il	8.233	4578.5855	0.205	225.1706	ppm
FBP	11.166	465.9685	174.024	18.6387	ppm
		5048.9860		244.0272	

Analysis date: 09/25/2012 08:01:57
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D180.CHR ()
Sample: Method Blank
Operator: PB

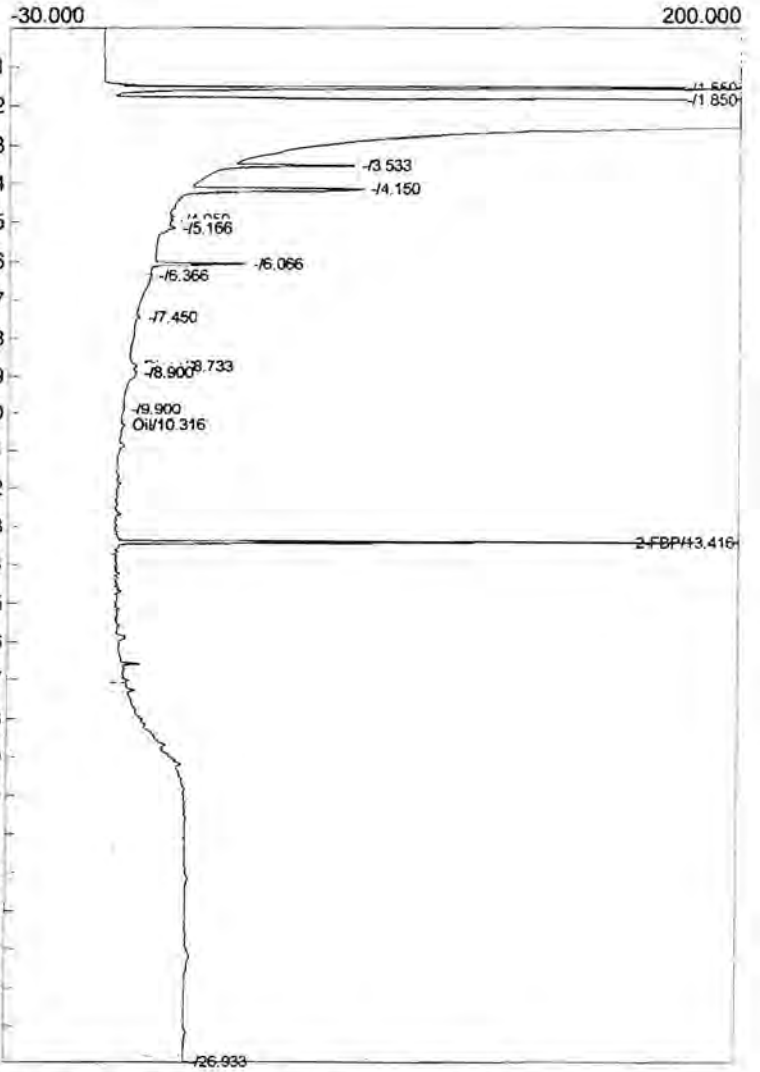
Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

*used for Bunker C air blank only

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.733	6.2240	1.220	0.3287	ppm
Oil	10.316	12428.6940	1.263	661.6155	ppm
2-FBP	13.416	541.6440	238.628	18.0548	ppm
		12976.5620		679.9990	

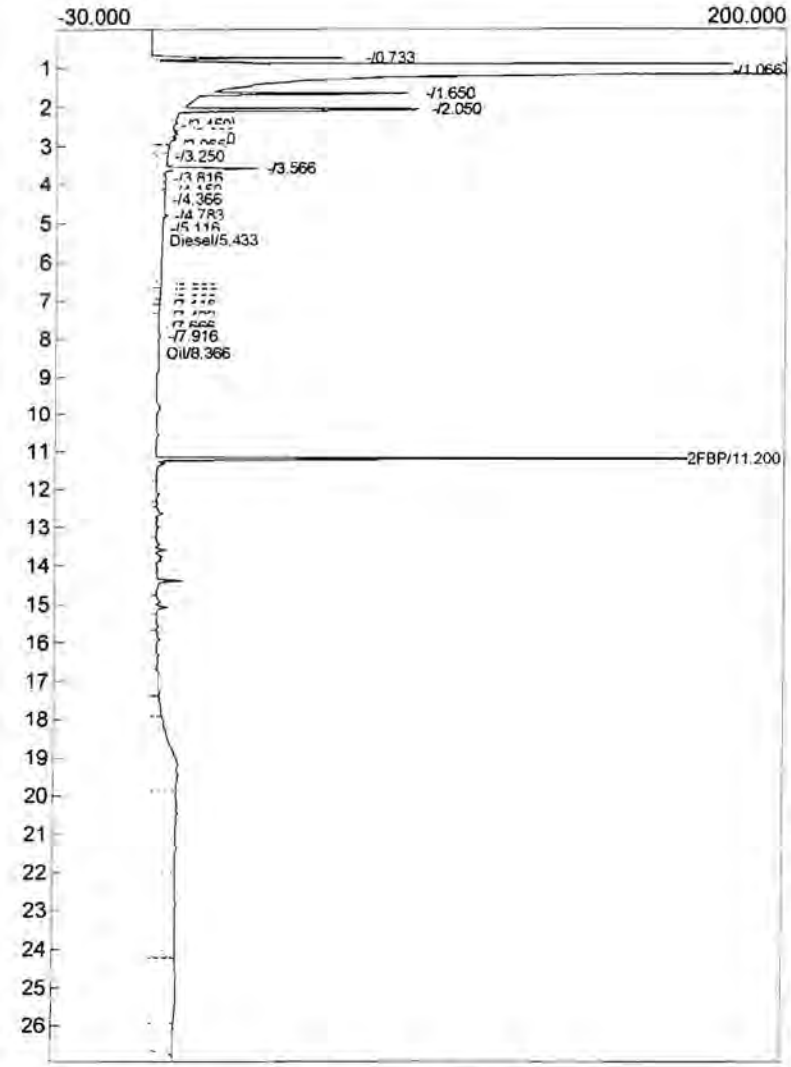
Analysis date: 09/25/2012 08:48:21
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C183.CHR ()
Sample: IRZ-B4-92412
Operator: PB

Temperature program:

nit temp Hold Ramp Final temp

Events:

Time Event
).000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.433	89.9040	1.601	4.4200	ppm
il	8.366	4491.7465	0.833	220.8894	ppm
FBP	11.200	489.6345	181.552	19.5854	ppm
		5071.2850		244.8948	

nd 98%

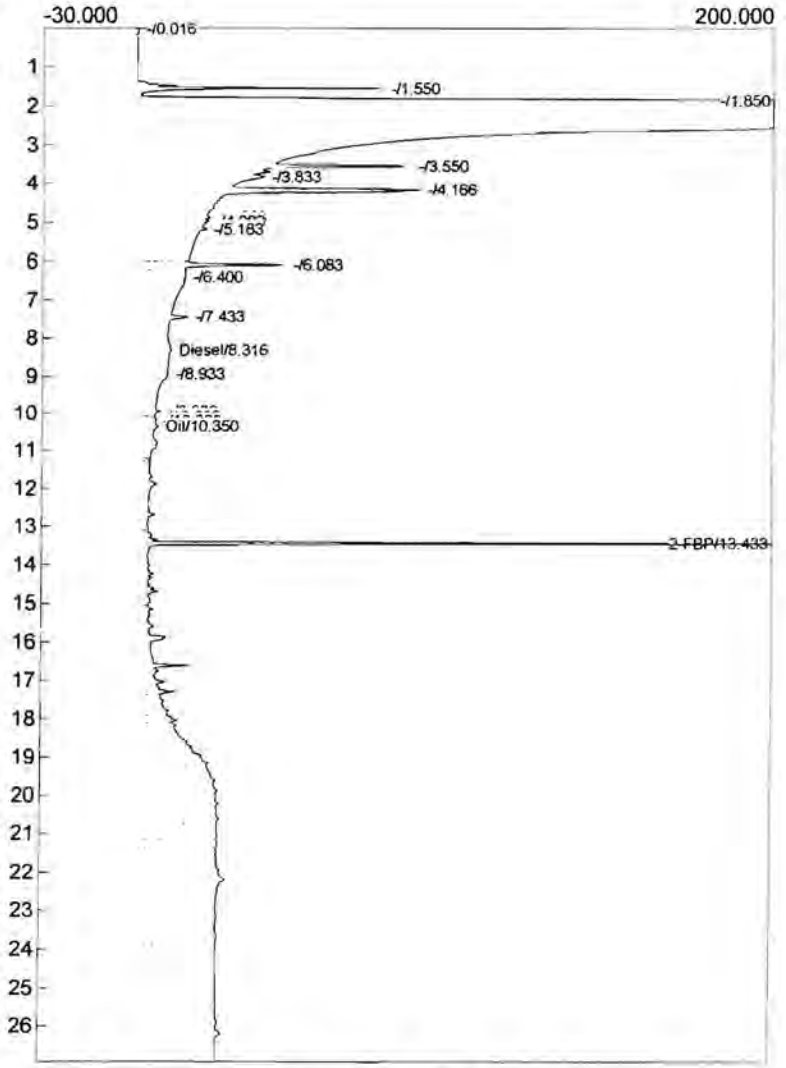
Analysis date: 09/25/2012 08:48:21
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D181.CHR ()
Sample: IRZ-ESW3-92412
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.316	360.3440	7.273	19.0292	ppm
Oil	10.350	12461.6200	3.180	663.3900	ppm
2-FBP	13.433	567.8720	218.797	18.9291	ppm
		13389.8360		701.3483	

nd 95%

Analysis date: 09/25/2012 12:13:07
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C184.CHR ()
Sample: IRS-WSW1-92512
Operator: PB

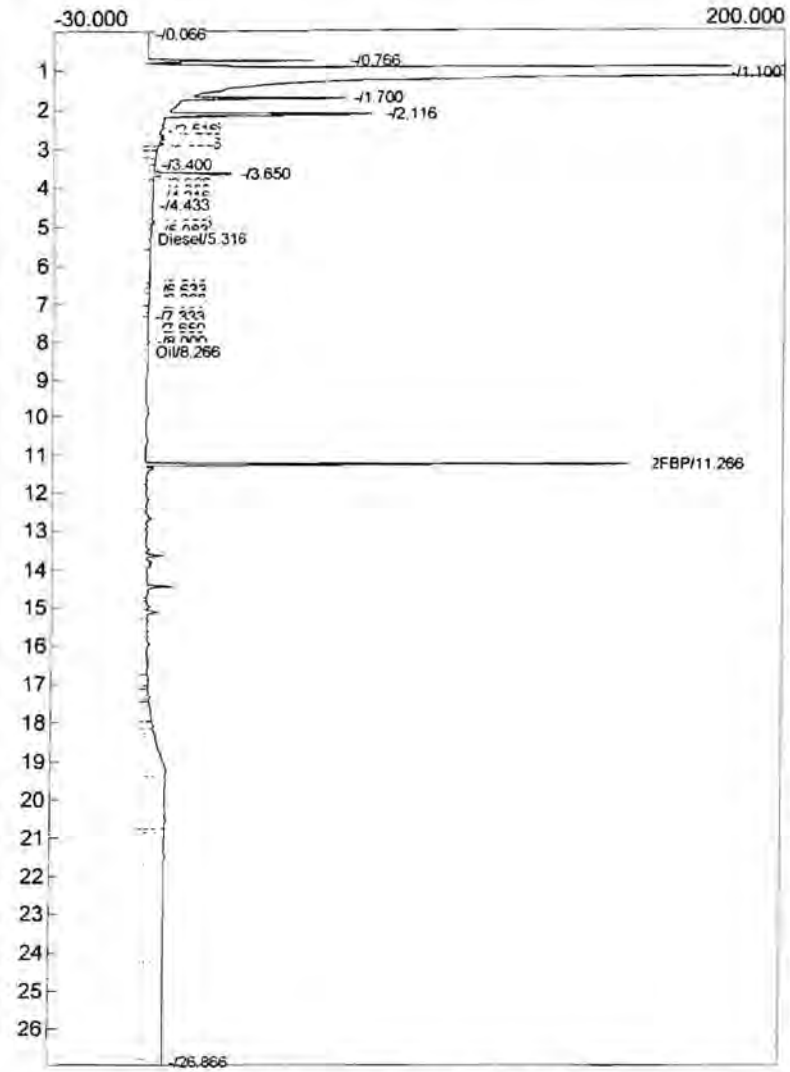
PB 4-25-12

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.316	78.4220	1.311	3.8555	ppm
il	8.266	4565.4620	0.865	224.5236	ppm
FBP	11.266	416.5715	157.113	16.7429	ppm
		5062.4555		245.1220	

nd 84%

Analysis date: 09/25/2012 12:13:07
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D182.CHR ()
Sample: IRS-WSW1-92512 Dup
Operator: PB

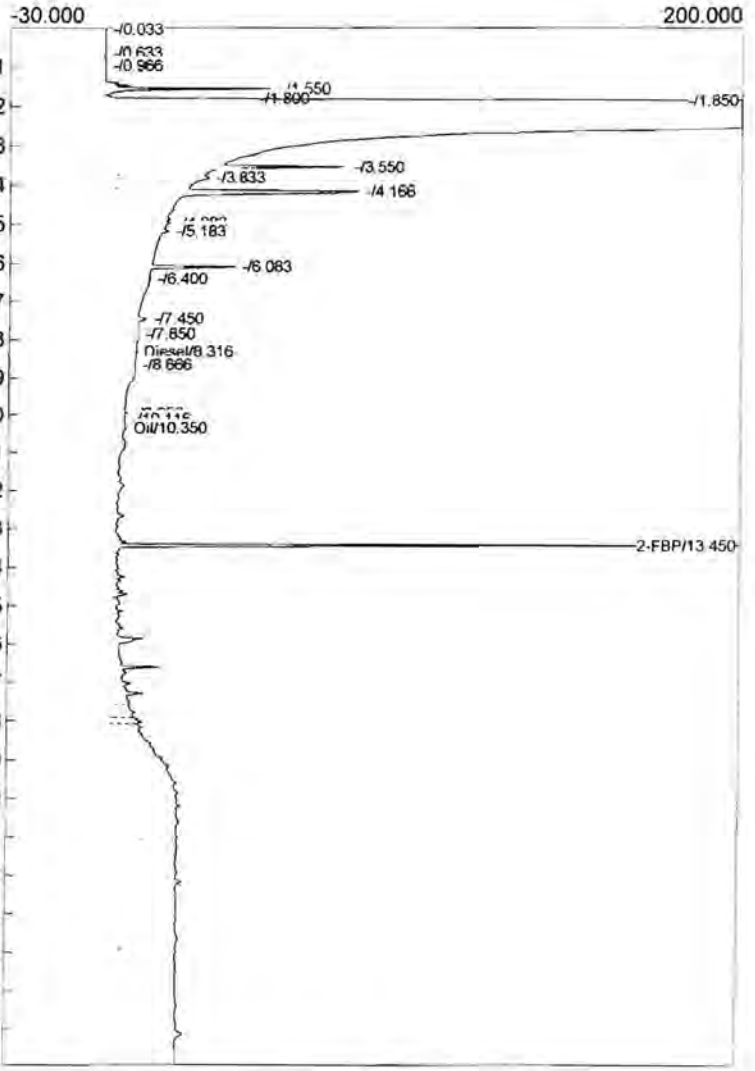
PB 9-13-12

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.316	134.4385	6.180	7.0995	ppm
Oil	10.350	11073.4720	2.994	588.6534	ppm
2-FBP	13.450	515.6090	198.942	17.1870	ppm
		11723.5195		612.9399	

nd 86%

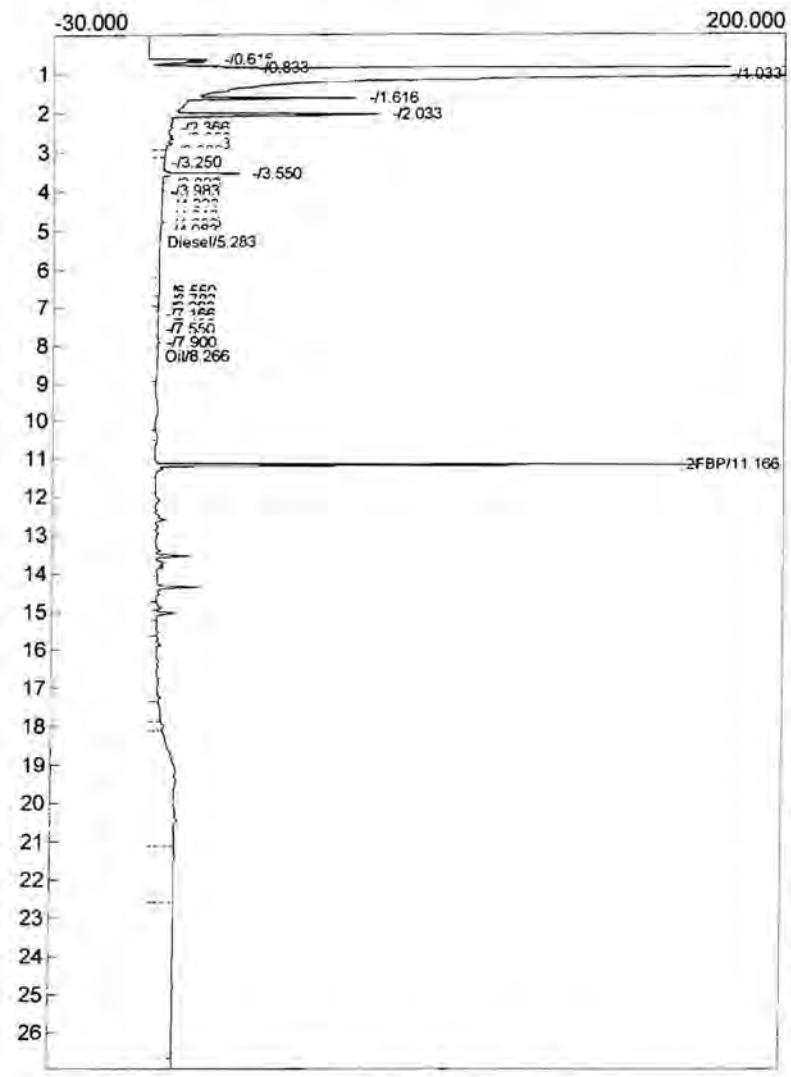
Analysis date: 09/25/2012 13:27:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C185.CHR ()
Sample: DW2-92512
Operator: PB

emperature program:

nit temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.283	71.0040	1.214	3.4908	ppm
il	8.266	4564.4000	0.746	224.4712	ppm
FBP	11.166	427.2060	181.638	17.0882	ppm
		5062.6100		245.0503	

nd 85%

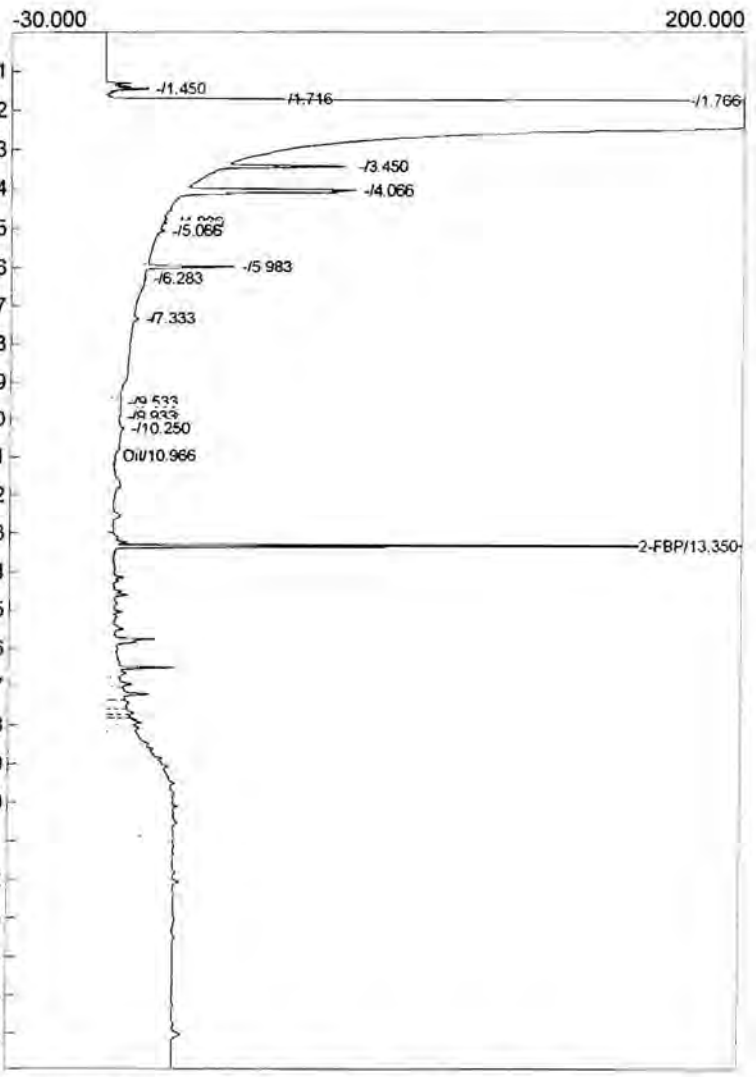
Analysis date: 09/25/2012 13:27:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D183.CHR ()
Sample: DW2-92512 Dup
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.966	11443.4885	0.757	608.5177	ppm
2-FBP	13.350	506.5510	216.437	16.8850	ppm
		11950.0395		625.4027	

nd 84%

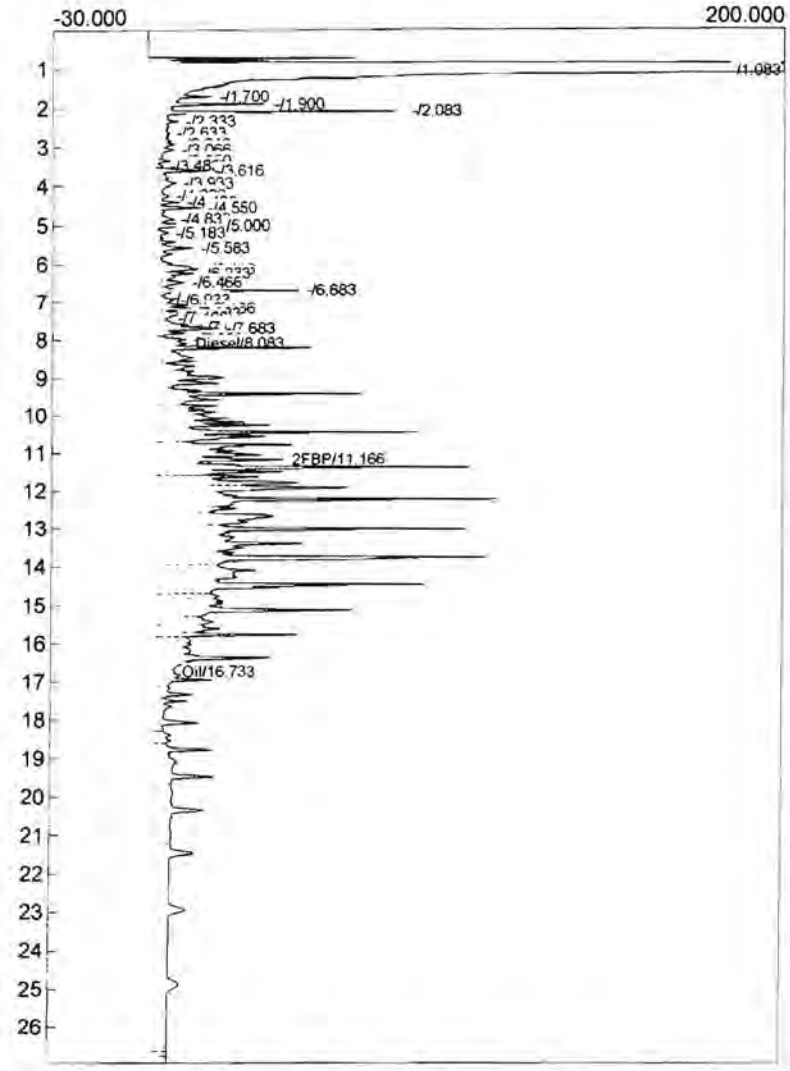
Analysis date: 09/25/2012 14:07:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C186.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.083	10721.3410	8.437	528.3672	ppm
FBP	11.166	227.3395	39.217	9.0936	ppm
il	16.733	2714.7195	5.114	133.4661	ppm
		13663.4000		670.9268	

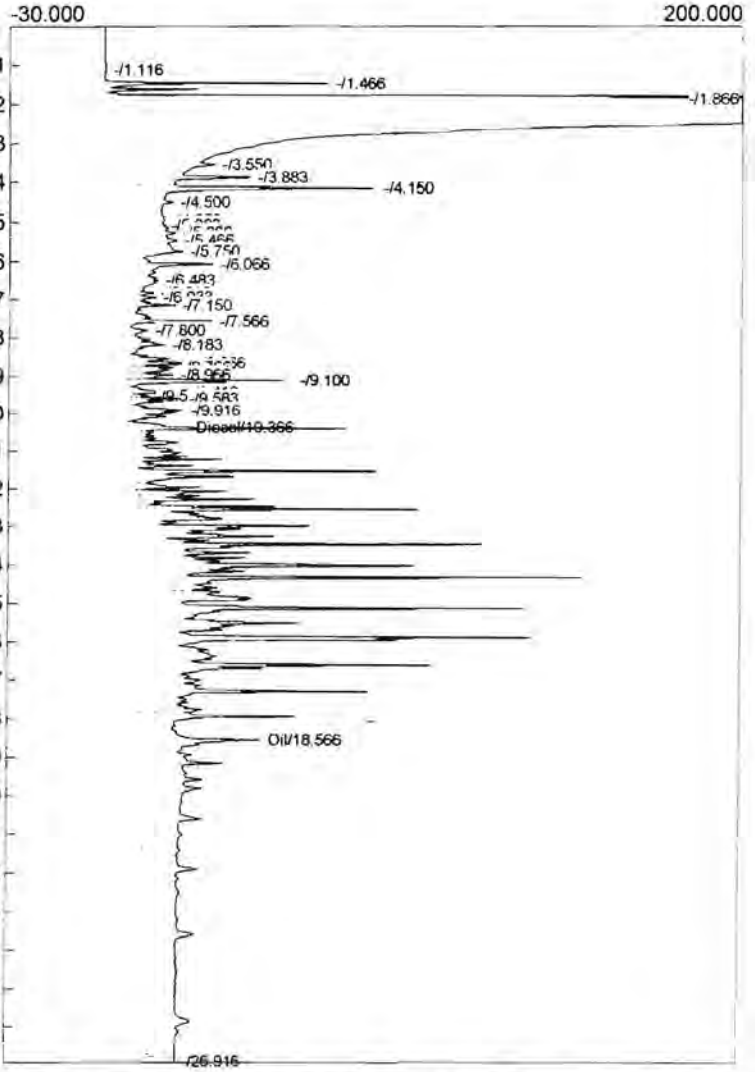
Analysis date: 09/25/2012 14:07:16
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D184.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

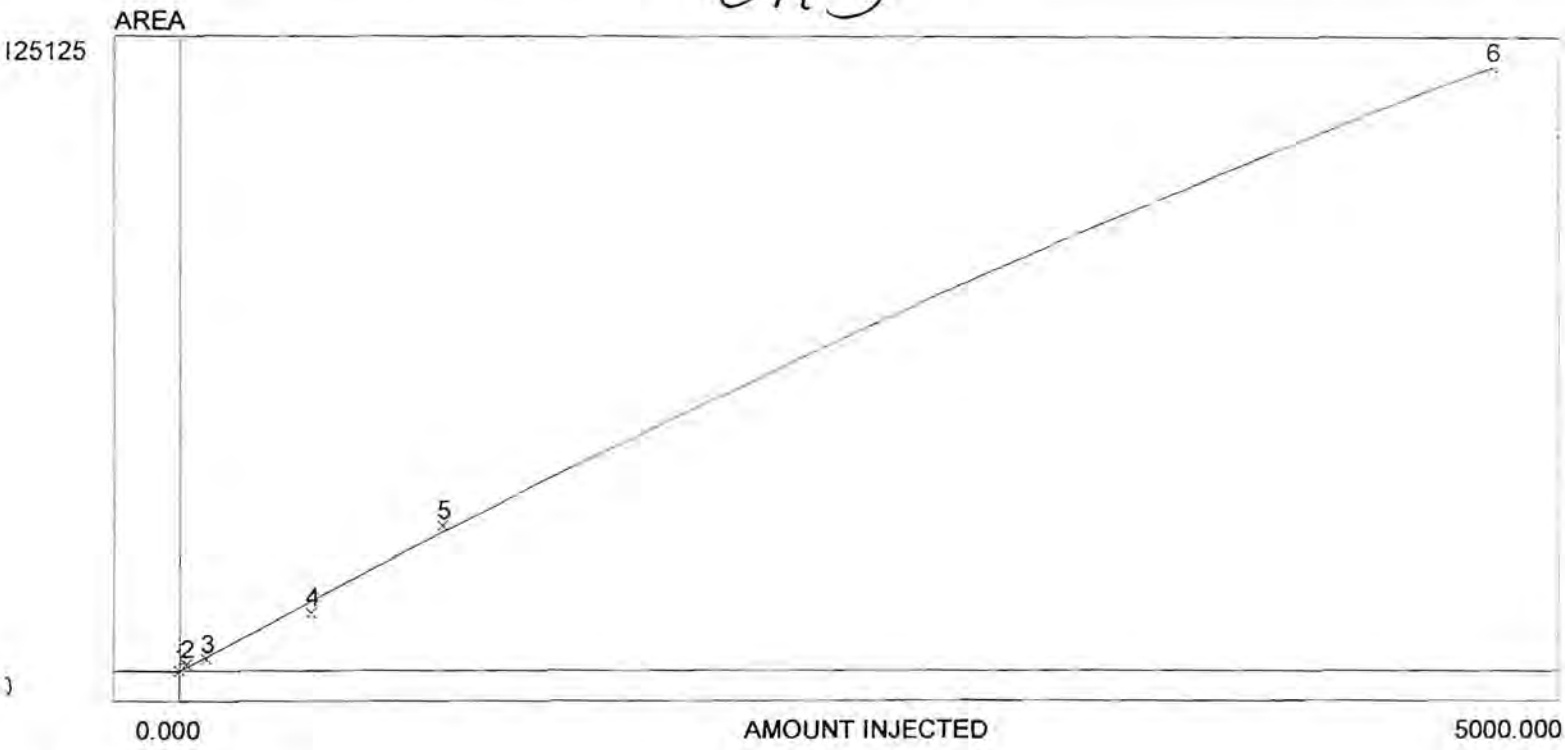
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.366	10083.0770	15.188	535.6395	ppm
Oil	18.566	6057.9465	37.635	320.7224	ppm
		16141.0235		856.3620	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

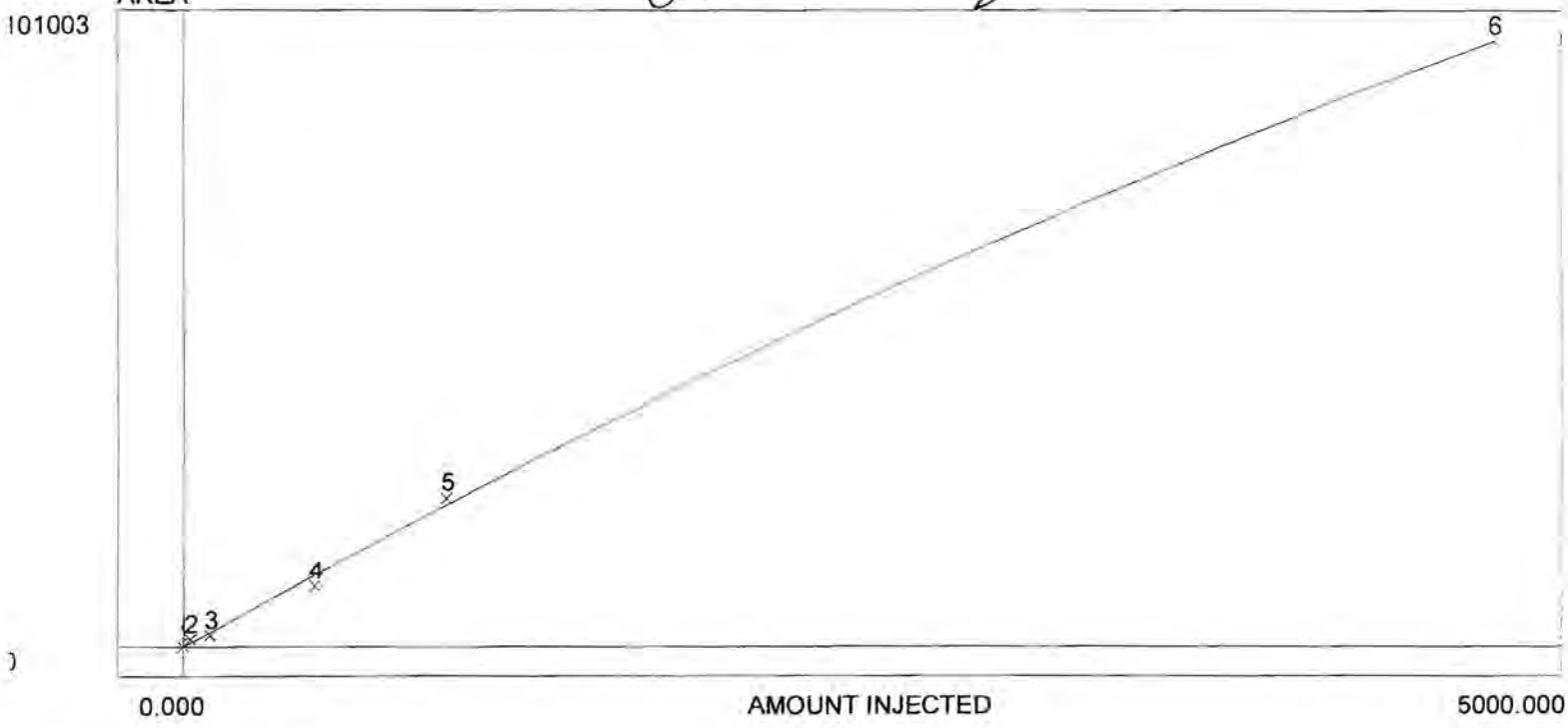


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X²+29.3544X
R2: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1410.471	25.000	56.419	1410.471	N/A	N/A
3	2574.179	100.000	25.742	2574.179	N/A	N/A
4	12043.265	500.000	24.087	12043.265	N/A	N/A
5	29871.863	1000.000	29.872	29871.863	N/A	N/A
6	125124.670	5000.000	25.025	125124.670	N/A	N/A

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

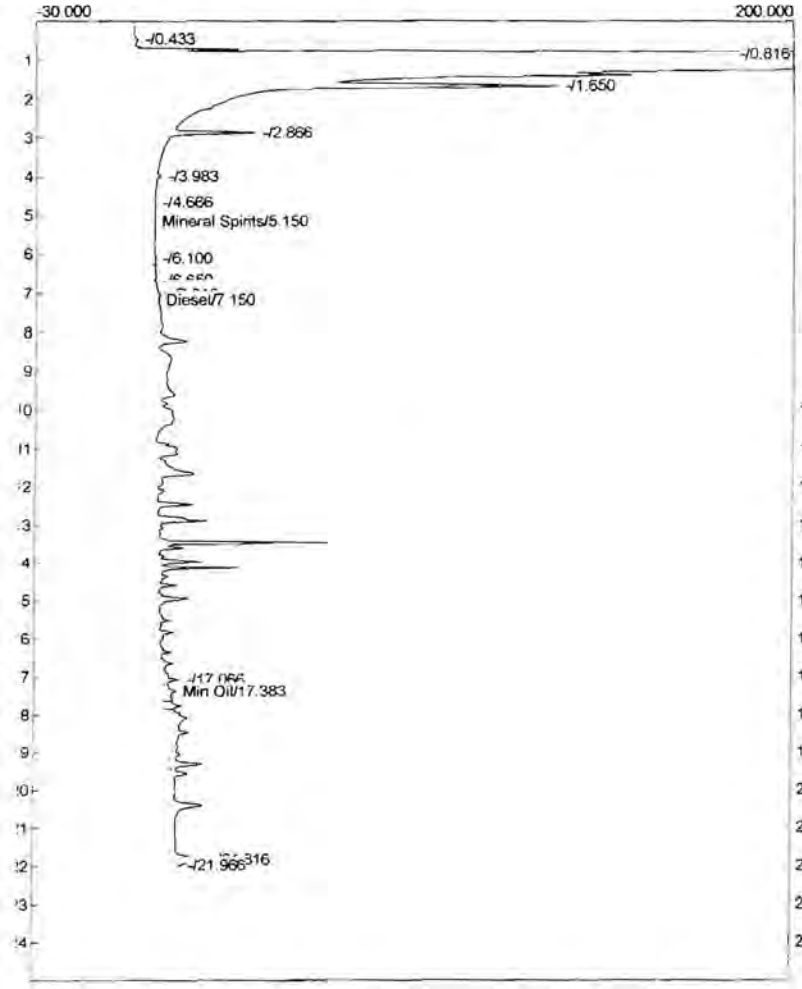
Ch 4



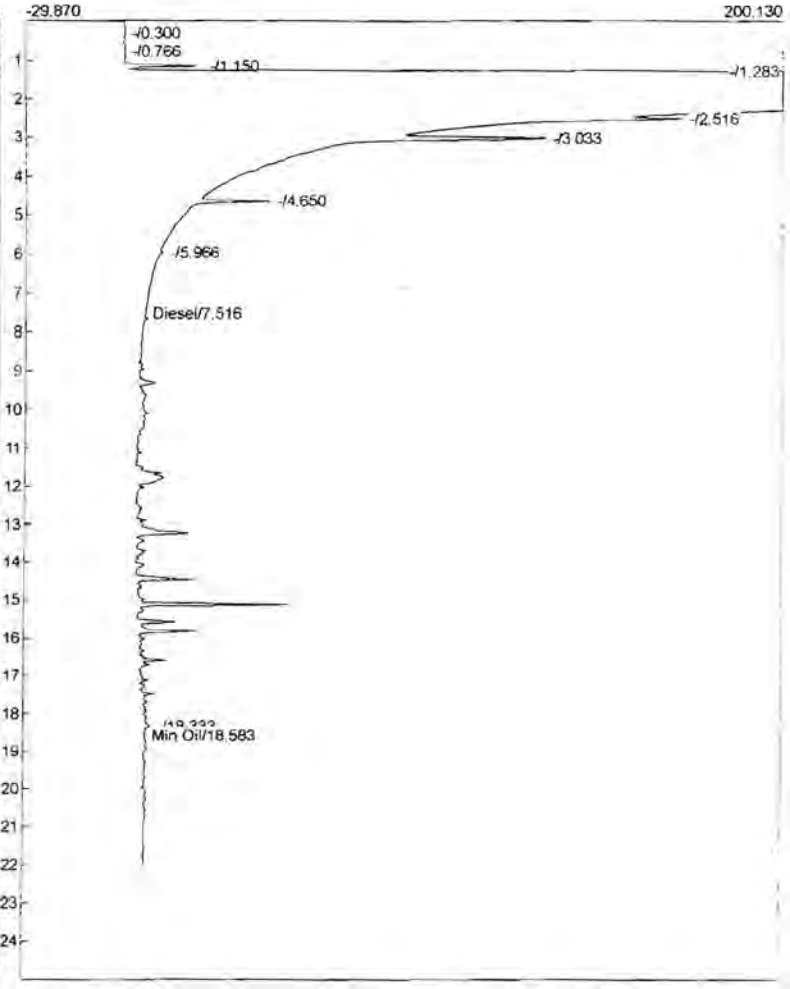
Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
Y=-0.0008X²+24.2883X
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1271.716	25.000	50.869	1271.716	N/A	N/A
3	1927.394	100.000	19.274	1927.394	N/A	N/A
4	10086.605	500.000	20.173	10086.605	N/A	N/A
5	24554.042	1000.000	24.554	24554.042	N/A	N/A
6	101002.720	5000.000	20.201	101002.720	N/A	N/A

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



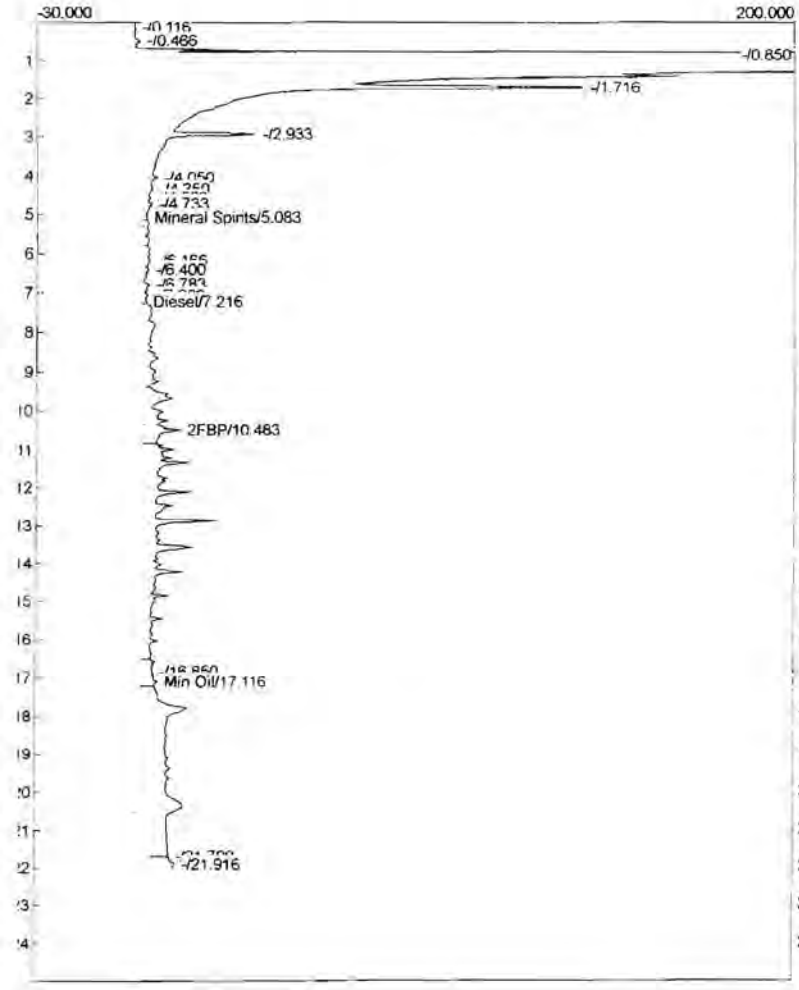
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



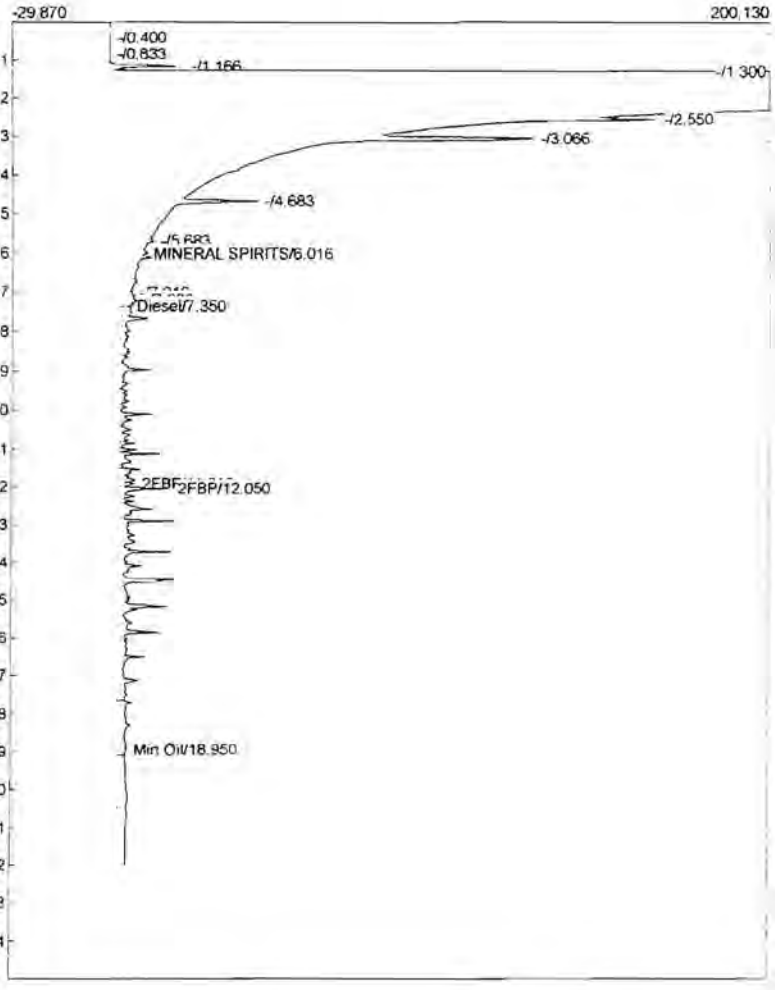
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPI
Diesel	7.150	1410.4710	0.518	13.6936	ppn
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppn
Min Oil	18.583	209.2665	1.582	14.7689	ppn
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



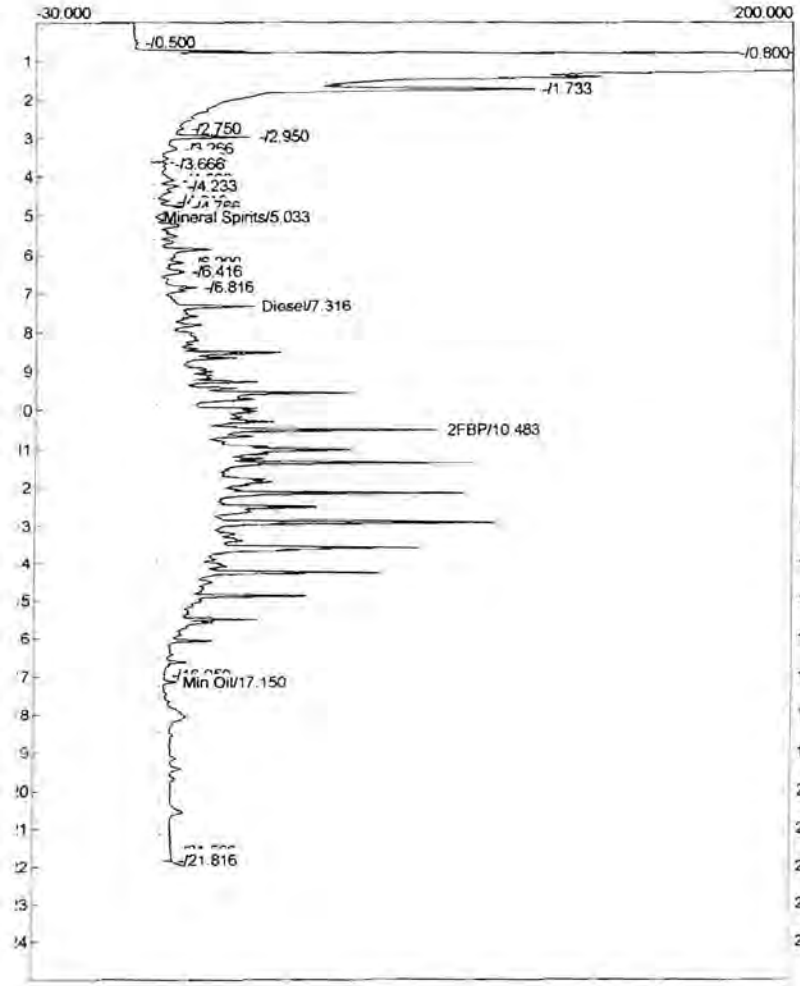
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

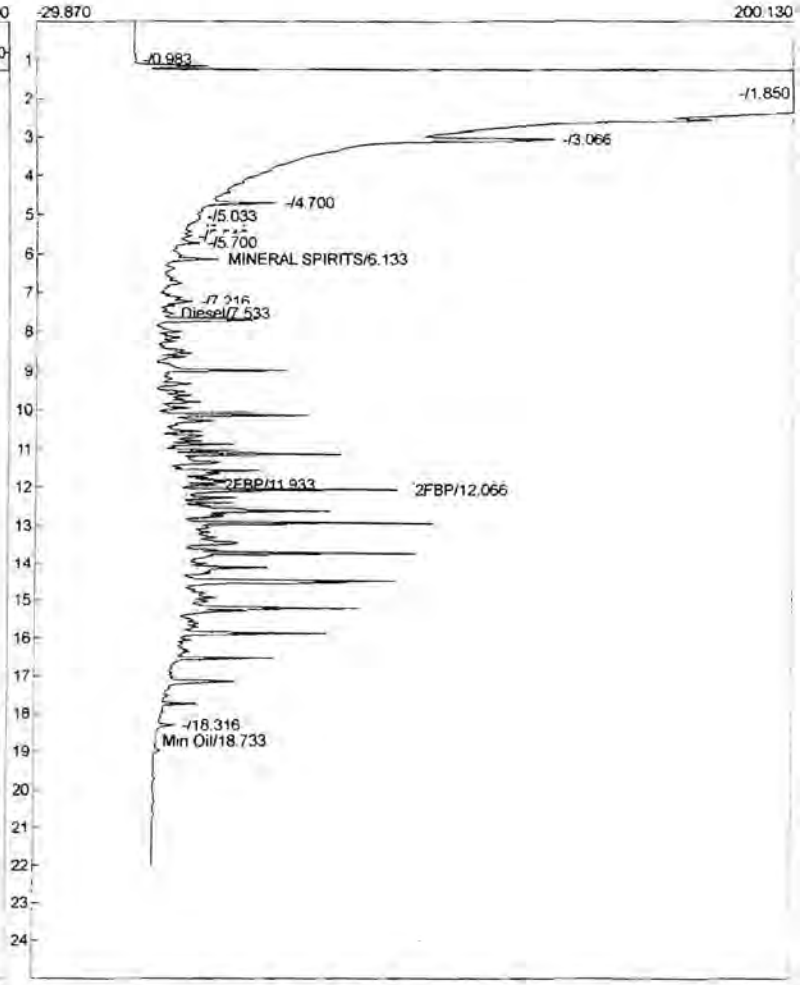
Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



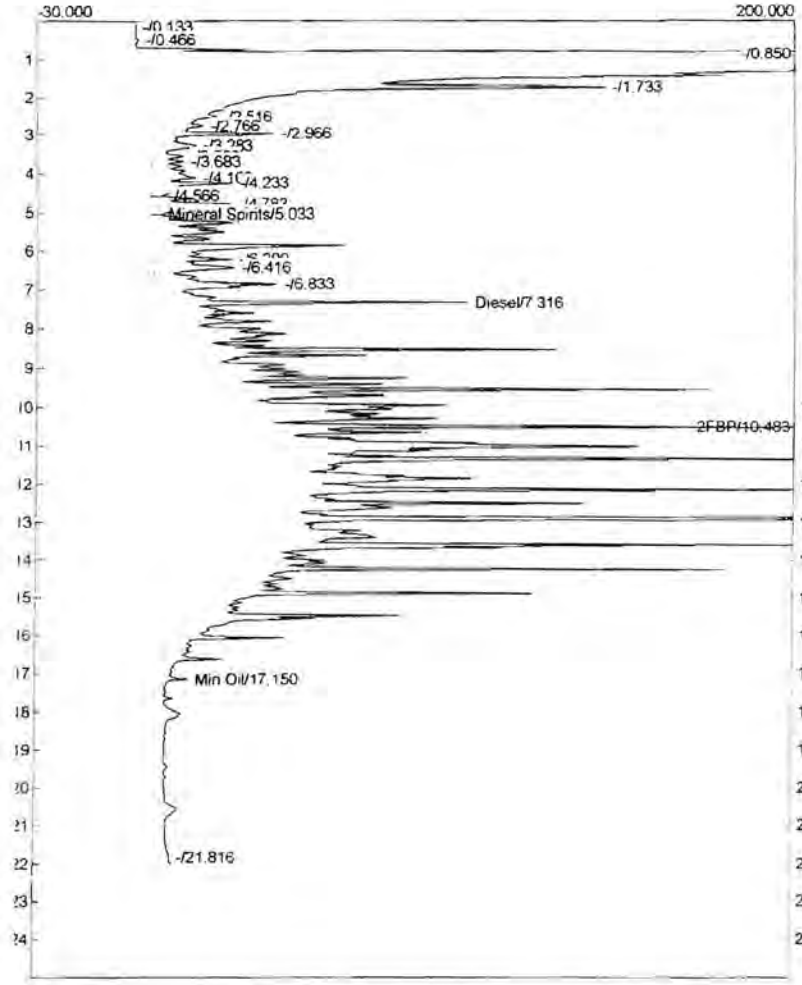
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	ppm
		13327.5880		605.4694	

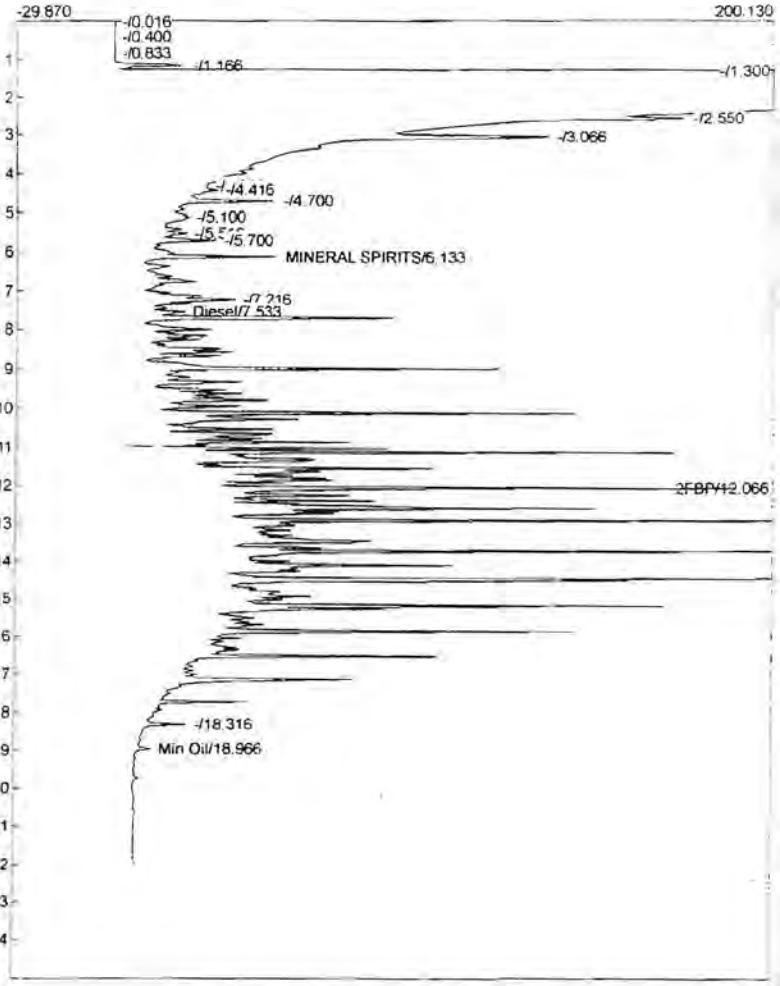
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

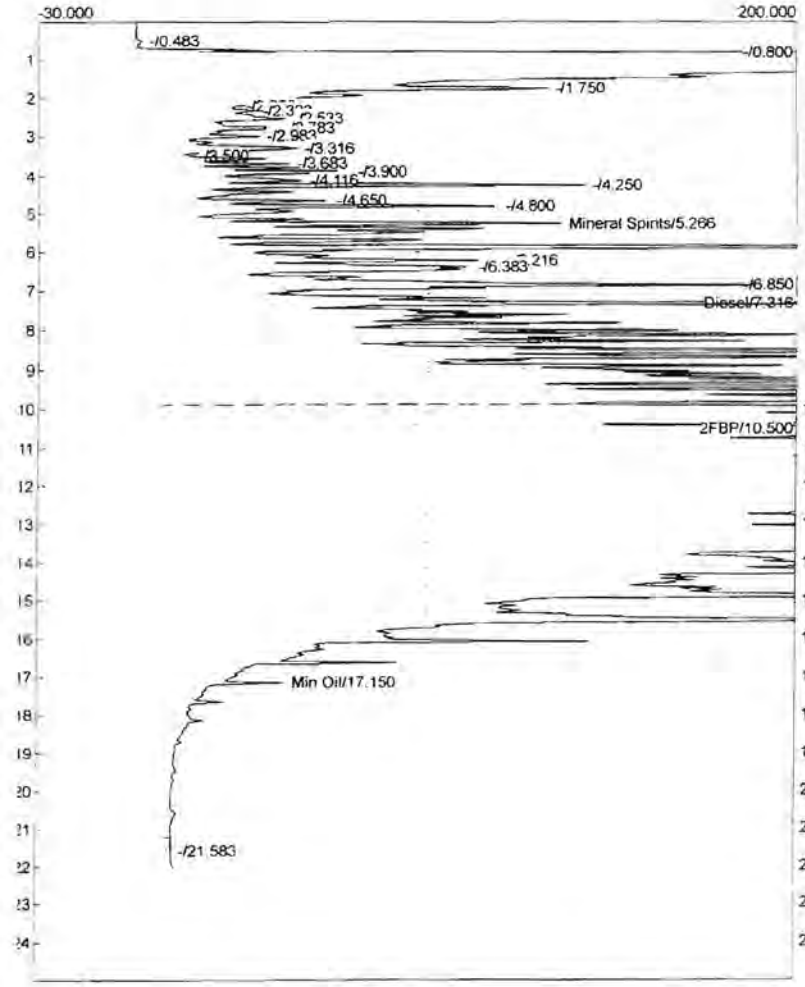




Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

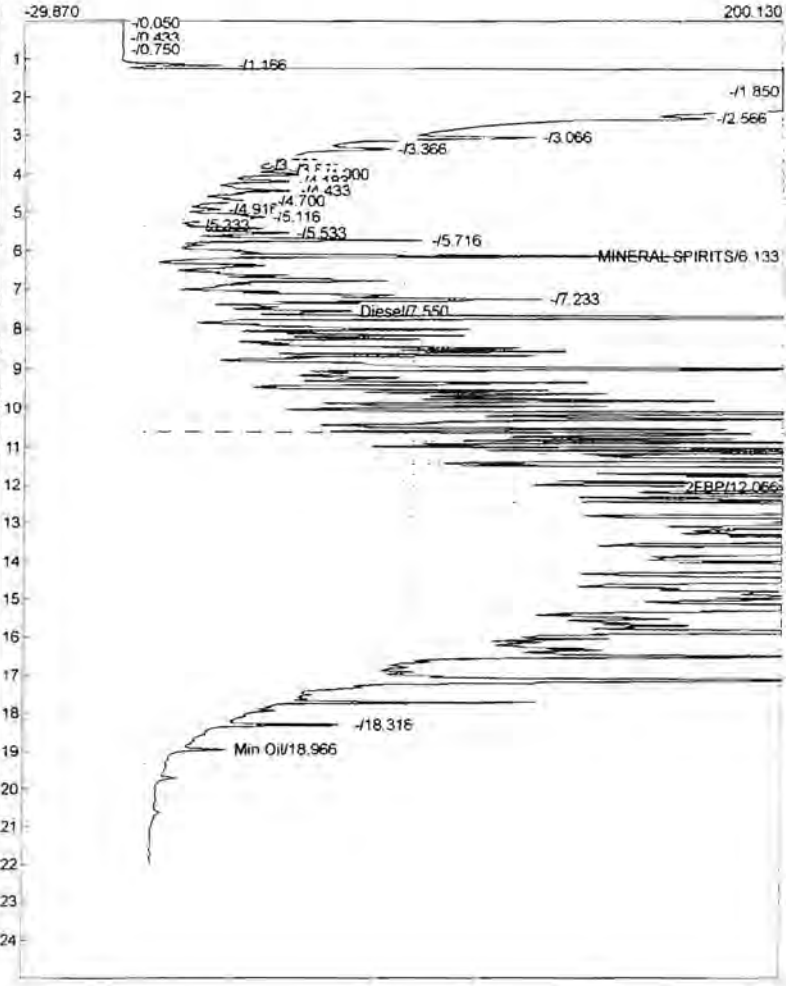
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



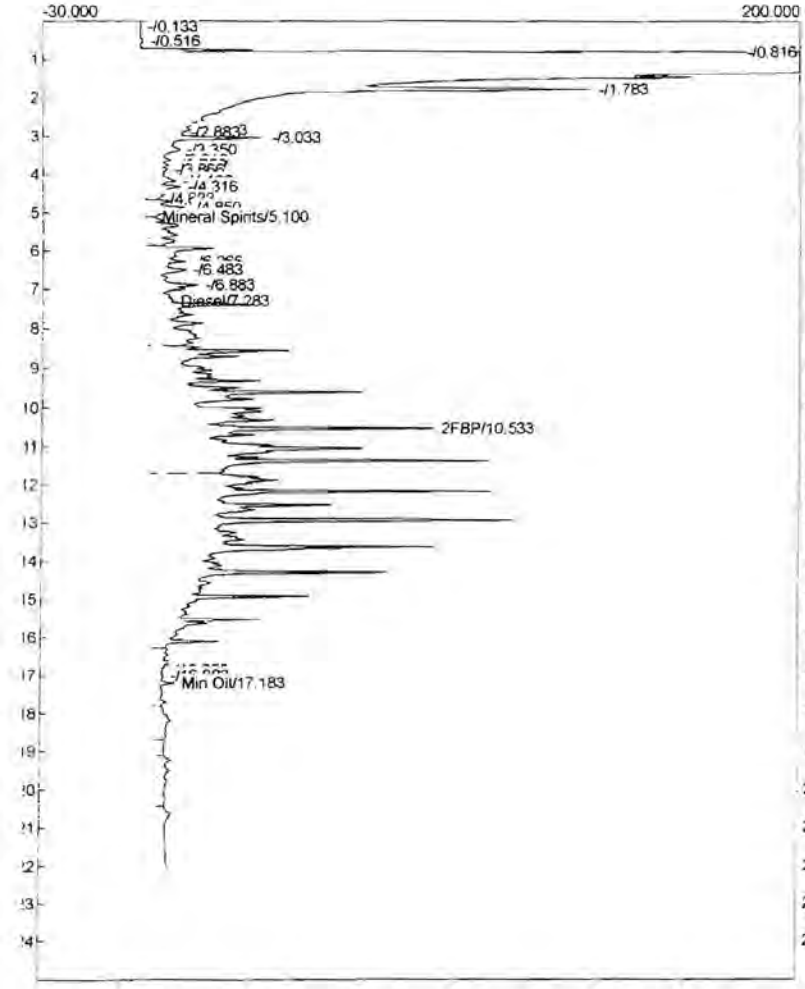
Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

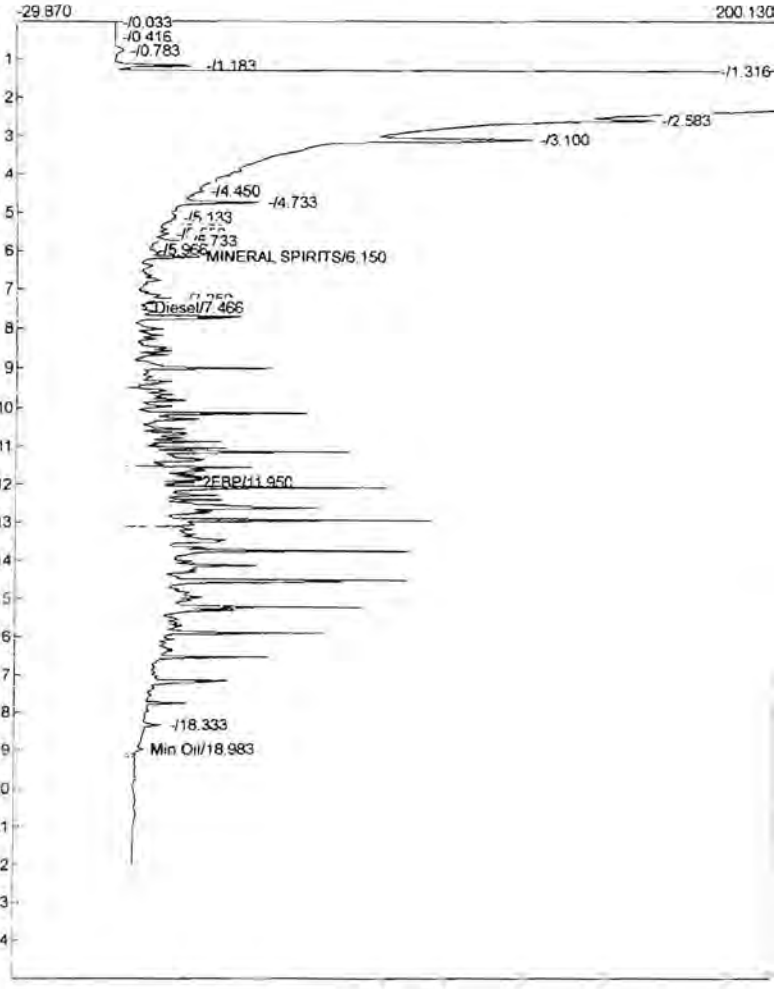


UnComponent	Retention	Area	Height	External	U
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPI
Diesel	7.466	9633.4975	5.799	402.0800	ppn
2FBP	11.950	98.4805	20.159	4.9240	ppn
Min Oil	18.983	249.4535	4.581	17.6050	ppn
		10413.3785		455.0074	

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209174

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 7 sample(s) on 9/27/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209174

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209174-001	IRZ-WSW1-92512	09/25/2012 11:30 AM	09/27/2012 12:54 PM
1209174-002	IRZ-B1-92512	09/25/2012 3:45 PM	09/27/2012 12:54 PM
1209174-003	IRZ-B2-92512	09/25/2012 3:50 PM	09/27/2012 12:54 PM
1209174-004	IRZ-B3-92512	09/25/2012 3:55 PM	09/27/2012 12:54 PM
1209174-005	IRZ-B4-92512	09/25/2012 4:00 PM	09/27/2012 12:54 PM
1209174-006	IRZ-B5-92512	09/25/2012 4:10 PM	09/27/2012 12:54 PM
1209174-007	IRZ-ESW1-92512	09/25/2012 5:15 PM	09/27/2012 12:54 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209174**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209174**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/25/2012 11:30:00 AM

Project: Irondale

Lab ID: 1209174-001 **Matrix:** Sediment

Client Sample ID: IRZ-WSW1-92512

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3353		Analyst: PH
Chrysene	ND	44.3		µg/Kg-dry	1	10/12/2012 9:59:00 AM
Benzo(a)pyrene	ND	44.3		µg/Kg-dry	1	10/12/2012 9:59:00 AM
2,4-Dimethylphenol	ND	25.7		µg/Kg-dry	1	10/12/2012 9:59:00 AM
Surr: 2-Fluorobiphenyl	95.8	50.4-142		%REC	1	10/12/2012 9:59:00 AM
Surr: Phenol-d6	95.8	48.2-143		%REC	1	10/12/2012 9:59:00 AM
Surr: Terphenyl-d14 (surr)	102	48.8-157		%REC	1	10/12/2012 9:59:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	11.8			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209174**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/25/2012 4:00:00 PM

Project: Irondale

Lab ID: 1209174-005 **Matrix:** Sediment

Client Sample ID: IRZ-B4-92512

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3353		Analyst: PH
Chrysene	ND	51.3		µg/Kg-dry	1	10/12/2012 10:24:00 AM
Benzo(a)pyrene	ND	51.3		µg/Kg-dry	1	10/12/2012 10:24:00 AM
2,4-Dimethylphenol	ND	29.7		µg/Kg-dry	1	10/12/2012 10:24:00 AM
Surr: 2-Fluorobiphenyl	93.7	50.4-142		%REC	1	10/12/2012 10:24:00 AM
Surr: Phenol-d6	88.6	48.2-143		%REC	1	10/12/2012 10:24:00 AM
Surr: Terphenyl-d14 (surr)	93.7	48.8-157		%REC	1	10/12/2012 10:24:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (9.64 ug/kg) and the PQL.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	18.4			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209174**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/25/2012 4:10:00 PM

Project: Irondale

Lab ID: 1209174-006 **Matrix:** Sediment

Client Sample ID: IRZ-B5-92512

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3353		Analyst: PH
Chrysene	ND	51.8		µg/Kg-dry	1	10/11/2012 11:37:00 AM
Benzo(a)pyrene	ND	51.8		µg/Kg-dry	1	10/11/2012 11:37:00 AM
2,4-Dimethylphenol	ND	30.0		µg/Kg-dry	1	10/11/2012 11:37:00 AM
Surr: 2-Fluorobiphenyl	91.9	50.4-142		%REC	1	10/11/2012 11:37:00 AM
Surr: Phenol-d6	81.7	48.2-143		%REC	1	10/11/2012 11:37:00 AM
Surr: Terphenyl-d14 (surr)	93.7	48.8-157		%REC	1	10/11/2012 11:37:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (9.73 ug/kg) and the PQL.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	17.7			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209174**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/25/2012 5:15:00 PM

Project: Irondale

Lab ID: 1209174-007 **Matrix:** Sediment

Client Sample ID: IRZ-ESW1-92512

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3353		Analyst: PH
Chrysene	ND	52.1		µg/Kg-dry	1	10/12/2012 10:49:00 AM
Benzo(a)pyrene	ND	52.1		µg/Kg-dry	1	10/12/2012 10:49:00 AM
2,4-Dimethylphenol	ND	30.2		µg/Kg-dry	1	10/12/2012 10:49:00 AM
Surr: 2-Fluorobiphenyl	93.4	50.4-142		%REC	1	10/12/2012 10:49:00 AM
Surr: Phenol-d6	89.2	48.2-143		%REC	1	10/12/2012 10:49:00 AM
Surr: Terphenyl-d14 (surr)	95.9	48.8-157		%REC	1	10/12/2012 10:49:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (9.79 ug/kg) and the PQL.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	15.7			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209174
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3353**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6130**
Client ID: **ICB**	Batch ID: **3353**		Analysis Date: **10/10/2012**	SeqNo: **121789**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3353**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6130**
Client ID: **ICV**	Batch ID: **3353**		Analysis Date: **10/10/2012**	SeqNo: **121790**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCV-3353A**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6130**
Client ID: **CCV**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121792**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	974	50.0	1,000	0	97.4	80	120				
Benzo(a)pyrene	996	50.0	1,000	0	99.6	80	120				
2,4-Dimethylphenol	1,010	29.0	1,000	0	101	80	120				
Surr: 2-Fluorobiphenyl	485		500.0		97.1	50.4	142				
Surr: Phenol-d6	959		1,000		95.9	48.2	143				
Surr: Terphenyl-d14 (surr)	522		500.0		104	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209174
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3353A**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6130**
Client ID: **CCV**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121792**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCB-3353A**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6130**
Client ID: **CCB**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121793**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	494		500.0		98.9	50.4	142				
Surr: Phenol-d6	923		1,000		92.3	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **MB-3353**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/5/2012**	RunNo: **6130**
Client ID: **MBLKS**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121794**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	463		500.0		92.5	50.4	142				
Surr: Phenol-d6	871		1,000		87.1	48.2	143				
Surr: Terphenyl-d14 (surr)	467		500.0		93.4	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209174
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-3353**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **10/5/2012**	RunNo: **6130**
Client ID: **LCSS**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121795**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	908	50.0	1,000	0	90.8	76.1	123				
Benzo(a)pyrene	860	50.0	1,000	0	86.0	58.1	146				
2,4-Dimethylphenol	834	29.0	1,000	0	83.4	50	150				
Surr: 2-Fluorobiphenyl	491		500.0		98.2	50.4	142				
Surr: Phenol-d6	957		1,000		95.7	48.2	143				
Surr: Terphenyl-d14 (surr)	506		500.0		101	48.8	157				

Sample ID: **1209174-006AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **10/5/2012**	RunNo: **6130**
Client ID: **IRZ-B5-92512**	Batch ID: **3353**		Analysis Date: **10/11/2012**	SeqNo: **121797**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	896	52.1	1,042	0	86.0	45.2	146				
Benzo(a)pyrene	854	52.1	1,042	0	82.0	34.4	179				
2,4-Dimethylphenol	806	30.2	1,042	0	77.3	50	150				
Surr: 2-Fluorobiphenyl	477		520.8		91.5	50.4	142				
Surr: Phenol-d6	886		1,042		85.1	48.2	143				
Surr: Terphenyl-d14 (surr)	495		520.8		95.0	48.8	157				

Sample ID: **1209174-007ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **10/5/2012**	RunNo: **6130**
Client ID: **IRZ-ESW1-92512**	Batch ID: **3353**		Analysis Date: **10/12/2012**	SeqNo: **121803**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.3						0	0	30	
Benzo(a)pyrene	ND	50.3						0	0	30	
2,4-Dimethylphenol	ND	29.1						0	0	30	
Surr: 2-Fluorobiphenyl	473		502.5		94.2	50.4	142		0		
Surr: Phenol-d6	916		1,005		91.1	48.2	143		0		
Surr: Terphenyl-d14 (surr)	483		502.5		96.1	48.8	157		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209174
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209174-007ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **10/5/2012** RunNo: **6130**
Client ID: **IRZ-ESW1-92512** Batch ID: **3353** Analysis Date: **10/12/2012** SeqNo: **121803**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (9.45 ug/kg) and the PQL.

Sample ID: **CCV-3353B** SampType: **CCV** Units: **µg/Kg** Prep Date: **10/12/2012** RunNo: **6130**
Client ID: **CCV** Batch ID: **3353** Analysis Date: **10/12/2012** SeqNo: **122222**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,000	50.0	1,000	0	100	80	120				
Benzo(a)pyrene	1,180	50.0	1,000	0	118	80	120				
2,4-Dimethylphenol	1,040	29.0	1,000	0	104	80	120				
Surr: 2-Fluorobiphenyl	494		500.0		98.9	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	519		500.0		104	48.8	157				

Sample ID: **CCB-3353B** SampType: **CCB** Units: **µg/Kg** Prep Date: **10/12/2012** RunNo: **6130**
Client ID: **CCB** Batch ID: **3353** Analysis Date: **10/12/2012** SeqNo: **122223**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	509		500.0		102	50.4	142				
Surr: Phenol-d6	1,040		1,000		104	48.2	143				
Surr: Terphenyl-d14 (surr)	532		500.0		106	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209174**
Logged by: **Clare Griggs**	Date Received: **9/27/2012 12:54:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?						

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples were not received in a cooler						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Unknown prior to receipt						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☑	NA	☐
	Not received in a cooler with ice						
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☑	No	☐	NA	☐

Person Notified:	Emily	Date:	9/27/2012
By Whom:	Mike Ridgeway	Via:	☐ eMail ☑ Phone ☐ Fax ☐ In Person
Regarding:	Missing sample IRZ-WSW1-92512		
Client Instructions:	Client is sending missing sample next day.		

18. Additional remarks/Disrepancies

Missing sample IRZ-WSW1-92512 received 9/28/12

Item Information

Libby Environmental, Inc.

Chain of Custody Record 209174

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-27-12 Page: 1 of 1

Client: Libby Environmental, Inc.
Address: (See above)
City: State: Zip:
Phone: Fax
Client Project # 0504-042-02

Project Manager: Jamie Deyman
Project Name: Irondale
Location: City, State: Irondale, WA
Collector: AMW Date of Collection: 9-25-12
Email: libbyenw@aol.com

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-WSW1-92512	8'	1130	Soil	Jar							X							Extract but
2 IRZ-B1-92512	9'	1545	↓	↓							X							Hold Analysis
3 IRZ-B2-92512	11'	1550									X							
4 IRZ-B3-92512	10'	1555									X							
5 IRZ-B4-92512	8'	1600									X							
6 IRZ-B5-92512	7'	1610									X							
7 IRZ-ESW1-92512	4'	1705	↓	↓							X							↓
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9-27-12	[signature]	9-27-12 1254
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

HOLD

TAT: 24HR 48HR 5-DAY

Distribution: White - Lab; Yellow - File; Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record 1209174

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98505
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-27-12 Page: 1 of 1

Client: Libby Environmental, Inc.
Address: (see above)
City: State: Zip:
Phone: Fax:
Client Project # 0504-042-02

Project Manager: Jamie Deyman
Project Name: Irondale
Location: City, State: Irondale, WA
Collector: AMW Date of Collection: 9-25-12
Email: libbyenv@aol.com

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SIM VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	Field Notes
1 IRZ-WSW1-92512	8'	1130	Sed	Jar								X	X			Extract but
2 IRZ-B1-92512	9'	1545	↓	↓									X			Hold Analysis
3 IRZ-B2-92512	11'	1550											X			
4 IRZ-B3-92512	10'	1555											X			
5 IRZ-B4-92512	8'	1600											X			
6 IRZ-B5-92512	7'	1610											X			
7 IRZ-ESW1-92512	4'	1715	↓	↓									X			
8																Run PAH per Emily A. 10/9/12 cg
9																
10																
11																
12																
13																
14																
15																
16																
17																

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9-27-12	[signature]	9-27-12 1254
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt
Good Condition?
Cold?
Seals Intact?
Total Number of Containers

Remarks:
HOLD
TAT: 24HR 48HR 5-DAY

LEGAL ACTION/CLAUSE: Placement of delivery of samples and/or failure to pay, Client agrees to pay the costs of collection including court costs and reasonable attorney fees. @ Libby Environmental's sole discretion.

Distribution: White - Lab; Yellow - File; Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

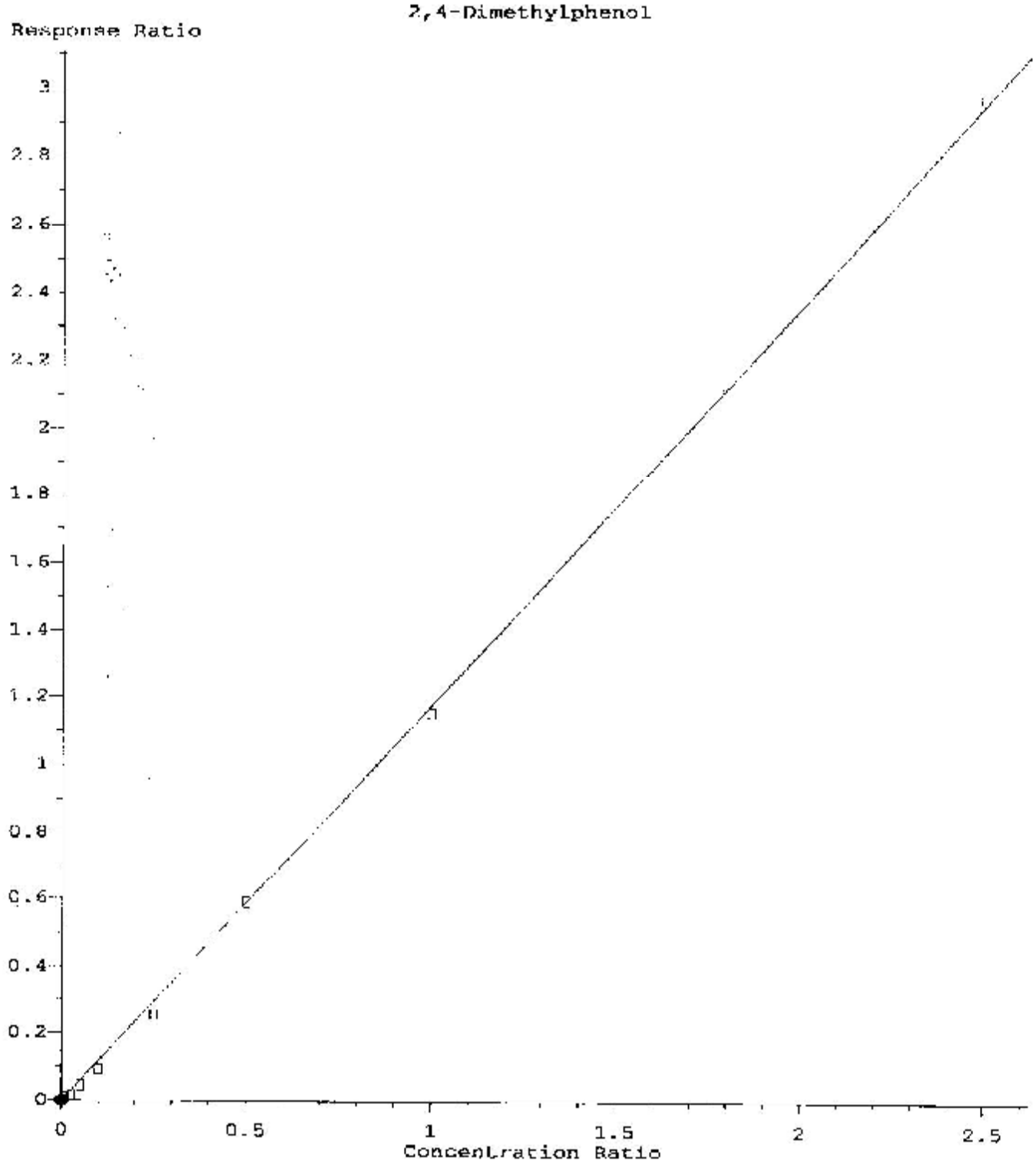
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

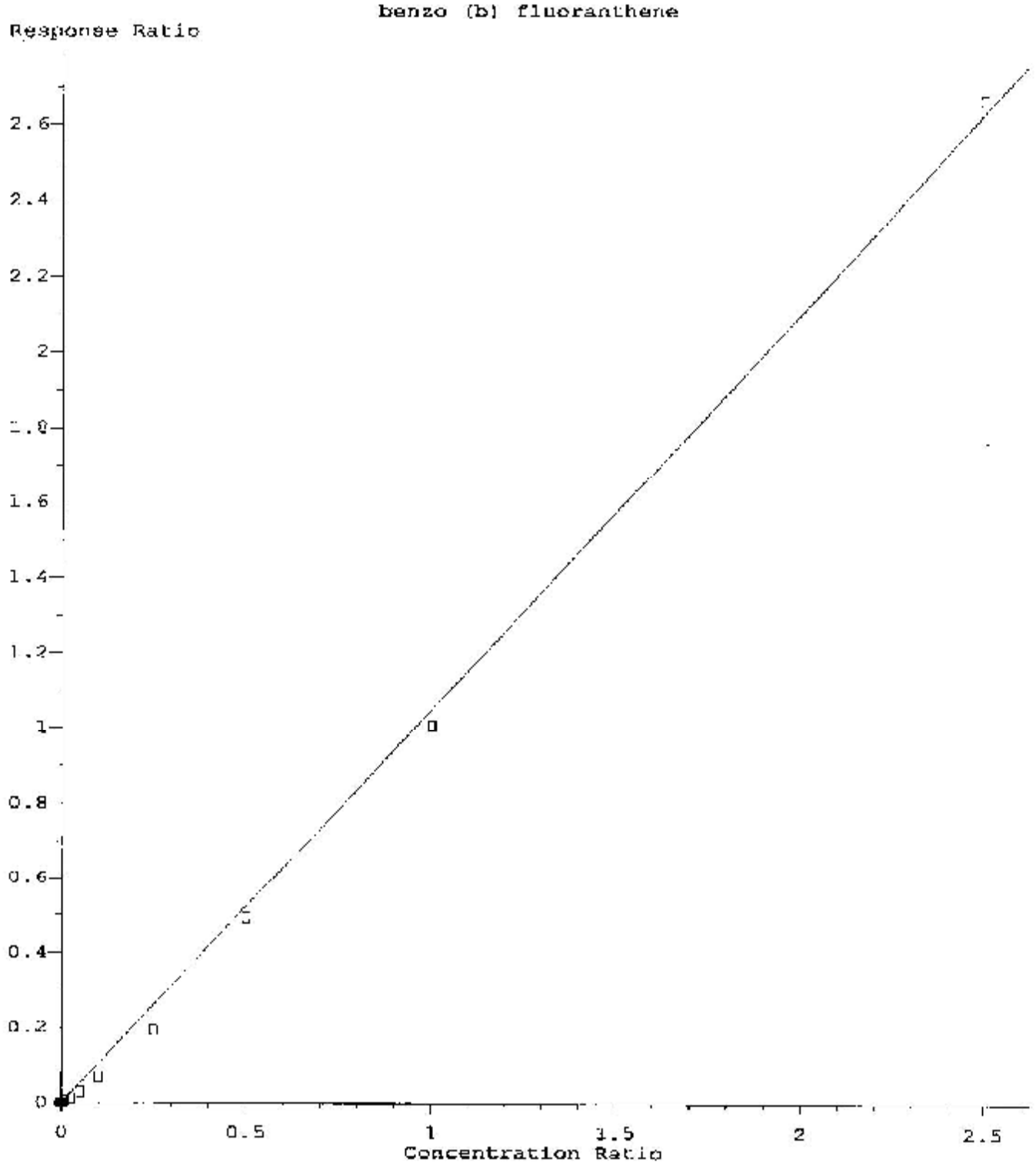
25)	I	Perylene-d12 (IS)	ISTD								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

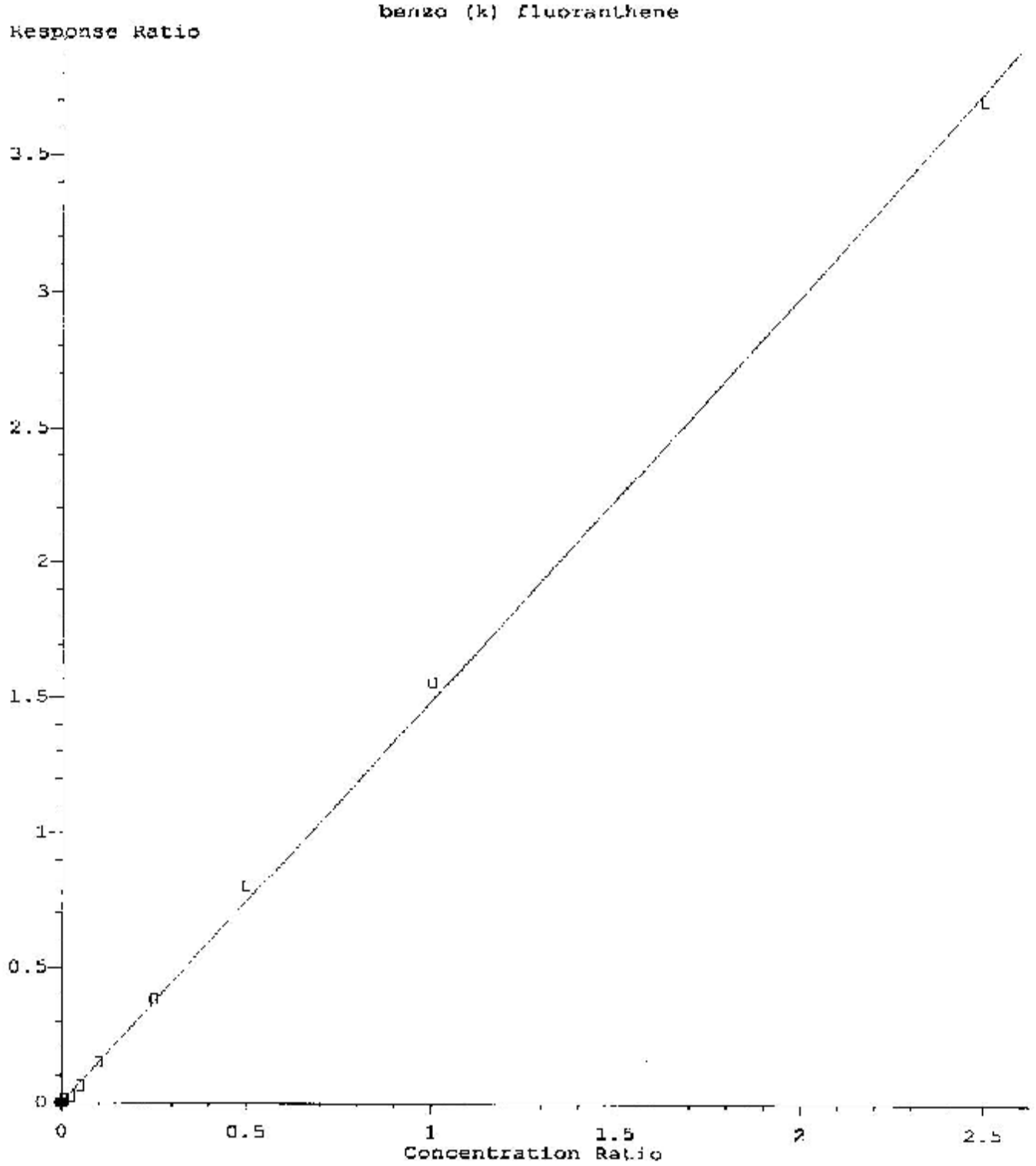
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



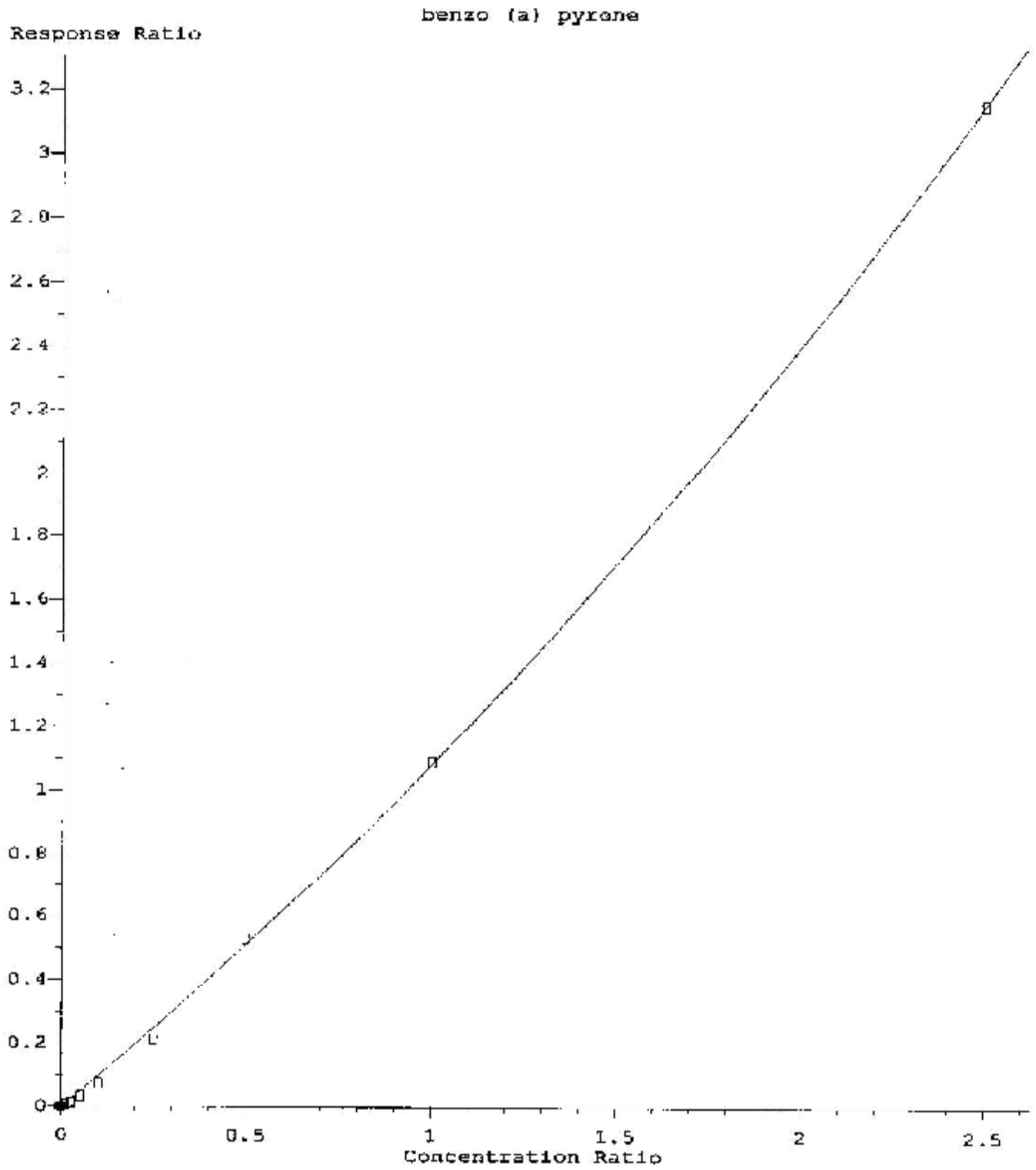
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



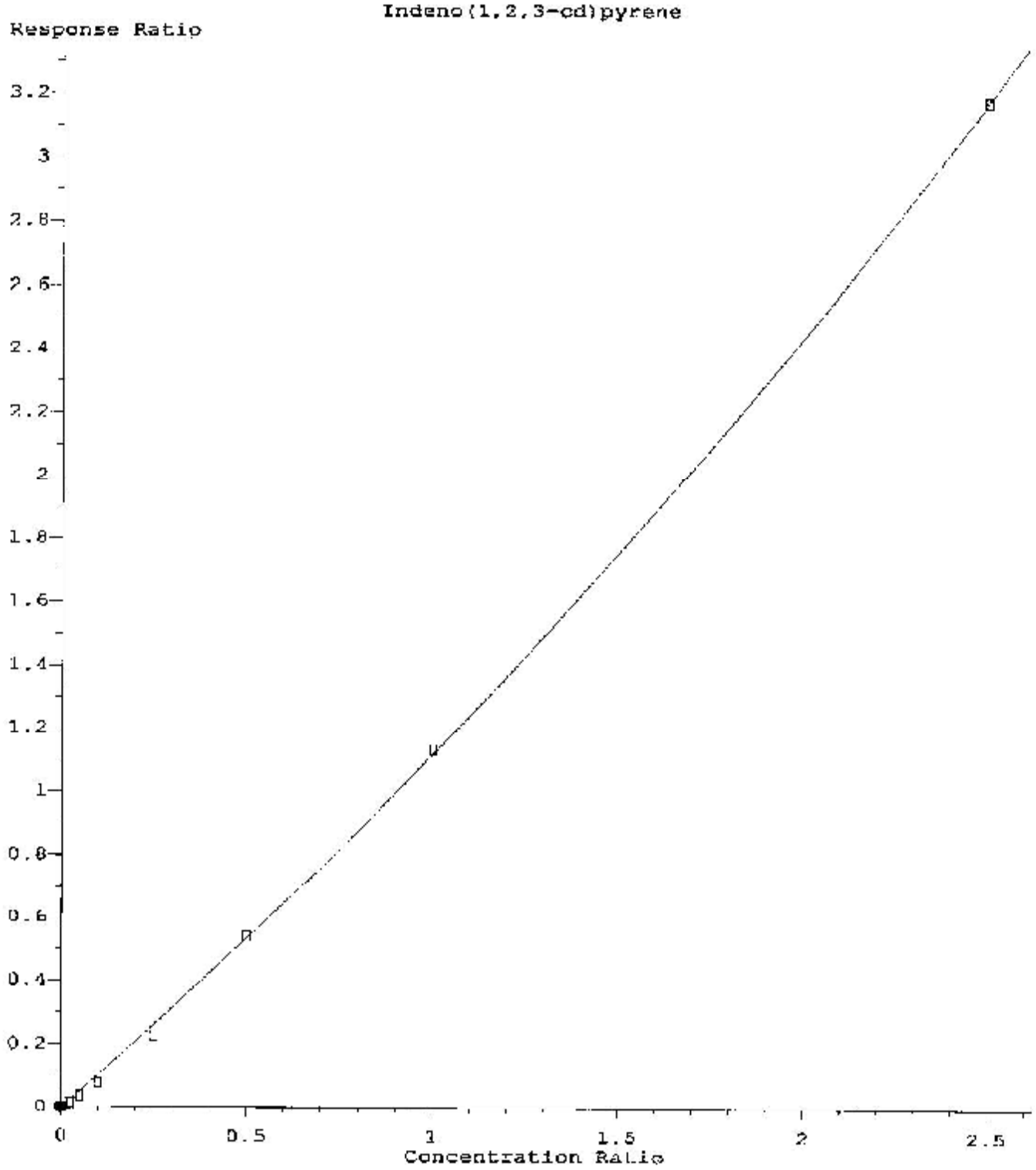
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



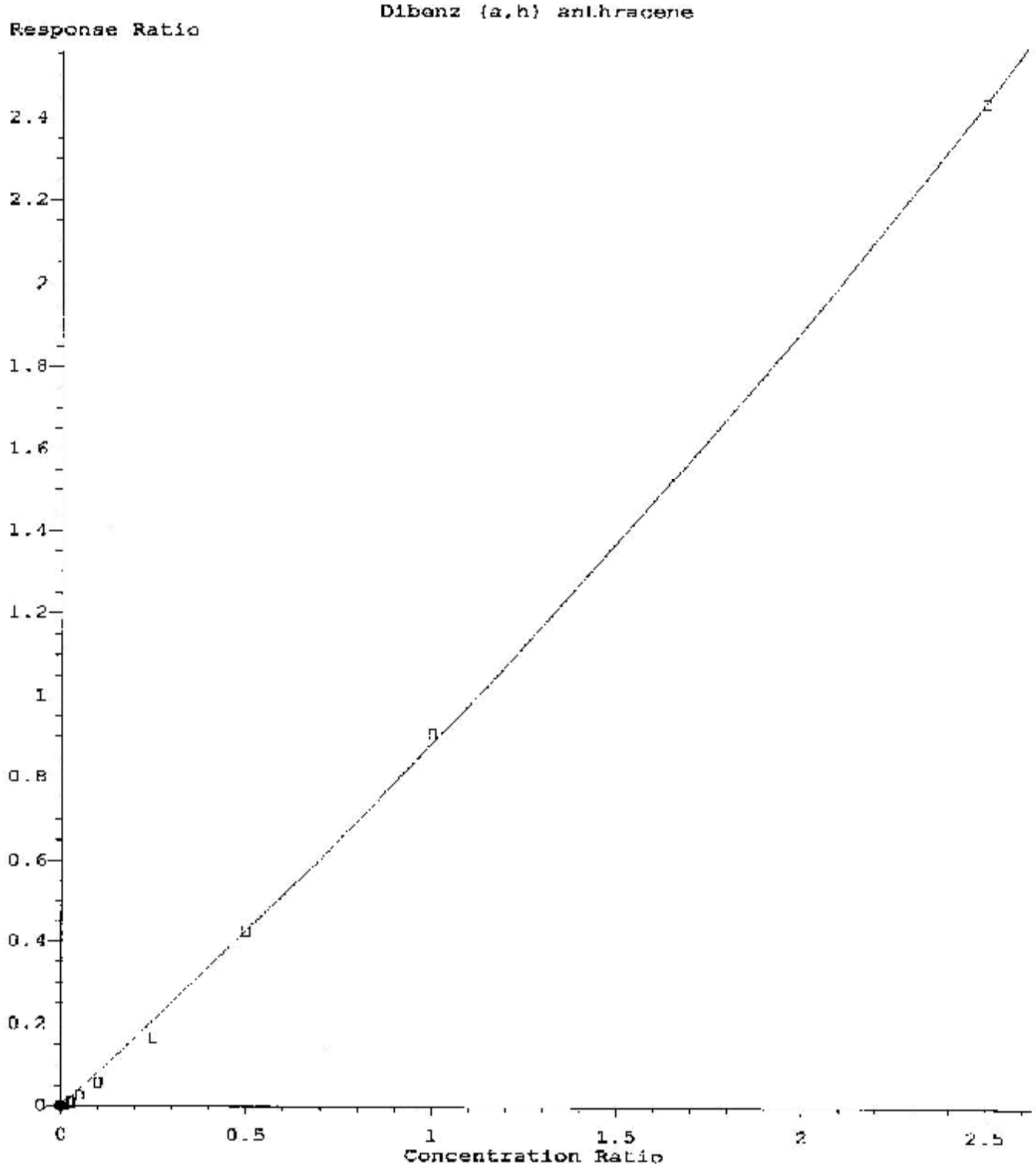
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



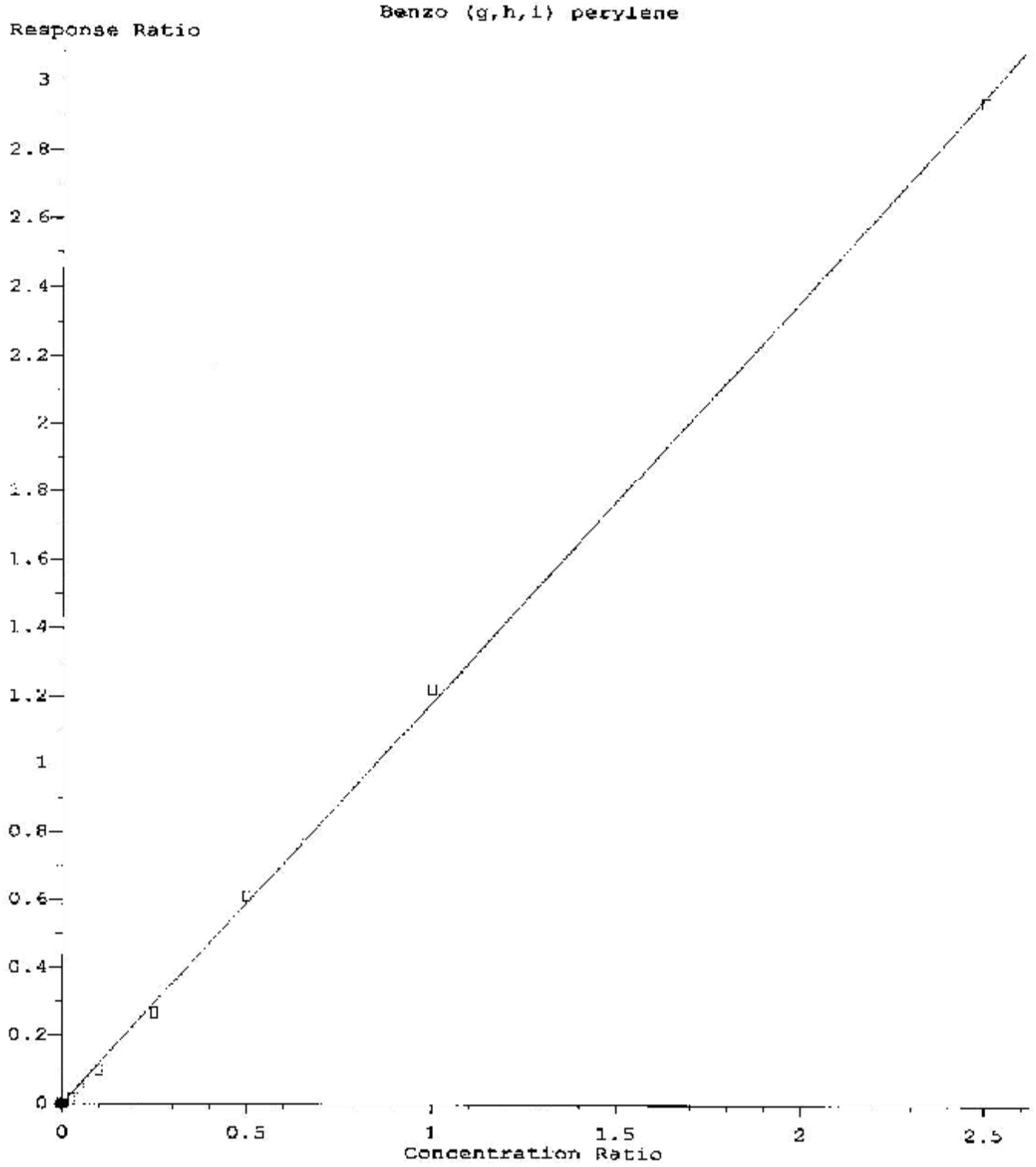
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

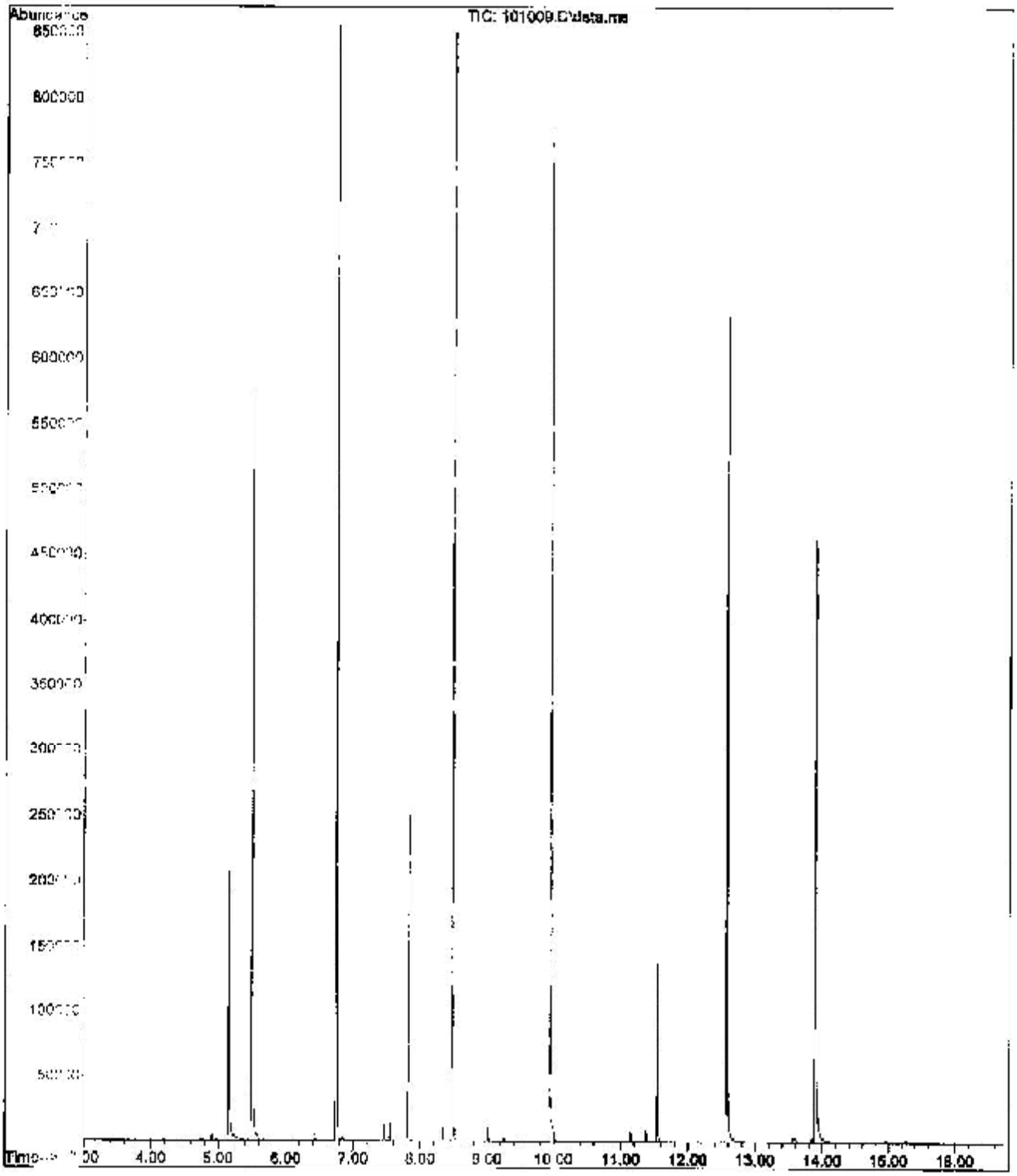
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	155780	971.54 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.430	107	1703m	13.70 ug/L		
5) Naphthalene	6.766	128	9729	22.54 ug/L		100
6) 2-Methylnaphthalene	7.455	142	5421	21.44 ug/L		100
7) 1-Methylnaphthalene	7.550	142	5172	21.59 ug/L		100
9) Acenaphthylene	8.338	152	7063	20.38 ug/L		100
11) Acenaphthene	8.508	152	2661	23.37 ug/L		99
12) Fluorene	9.021	166	5847	22.40 ug/L		97
14) Phenanthrene	9.967	178	8863	23.95 ug/L		100
15) Anthracene	10.020	178	6894	20.35 ug/L		97
17) Fluoranthene	11.145	202	6586	19.76 ug/L	#	94
18) Pyrene	11.368	202	6766	19.42 ug/L	#	85
19) Benzo (a) anthracene	12.559	228	6945	23.77 ug/L	#	100
21) Chrysene	12.592	228	8752m	25.21 ug/L		
22) benzo (b) fluoranthene	13.556	252	2936	11.32 ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	5957	16.17 ug/L		99
24) benzo (a) pyrene	13.835	252	2906	12.19 ug/L	#	52
26) Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51 ug/L		
27) Dibenz (a,h) anthracene	14.967	278	2052m	14.50 ug/L		
28) Benzo (g,h,i) perylene	15.256	276	3732m	18.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

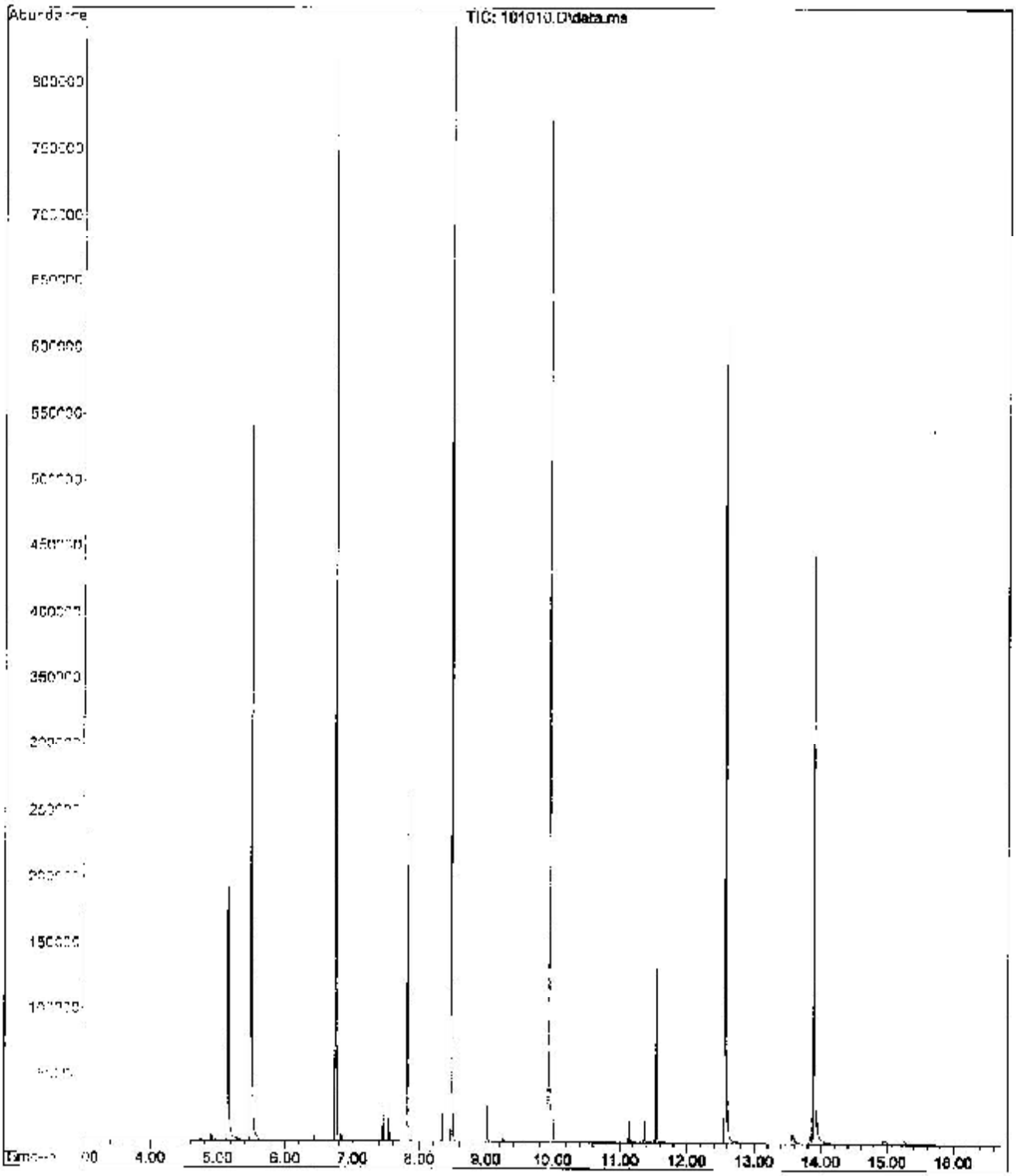
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mschem\1\methods\DSPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo (a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo (b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo (k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo (a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz (a,h) anthracene	14.964	278	7702m	28.18 ug/L	
28) Benzo (g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DSPAH101 EL.M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

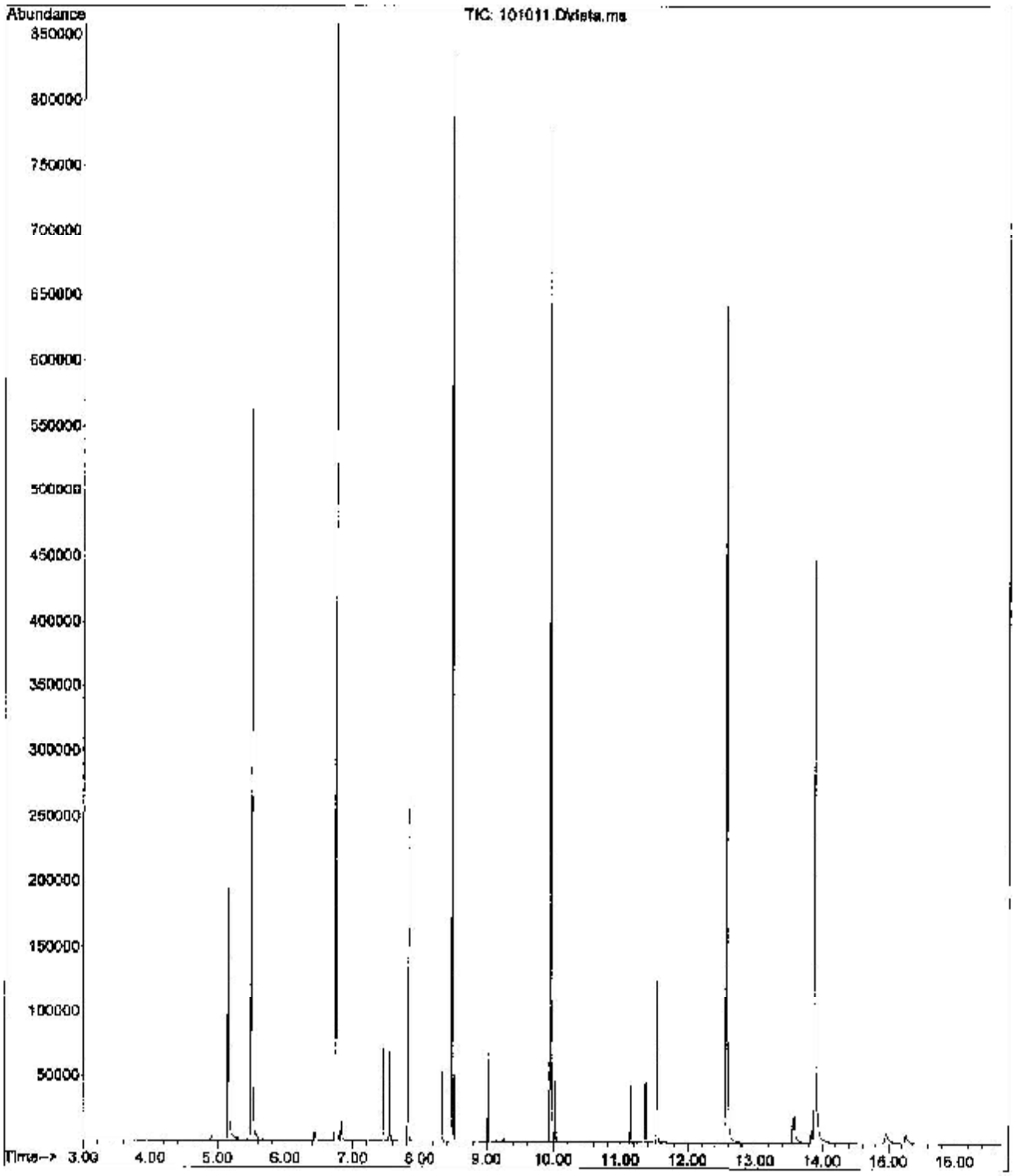
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

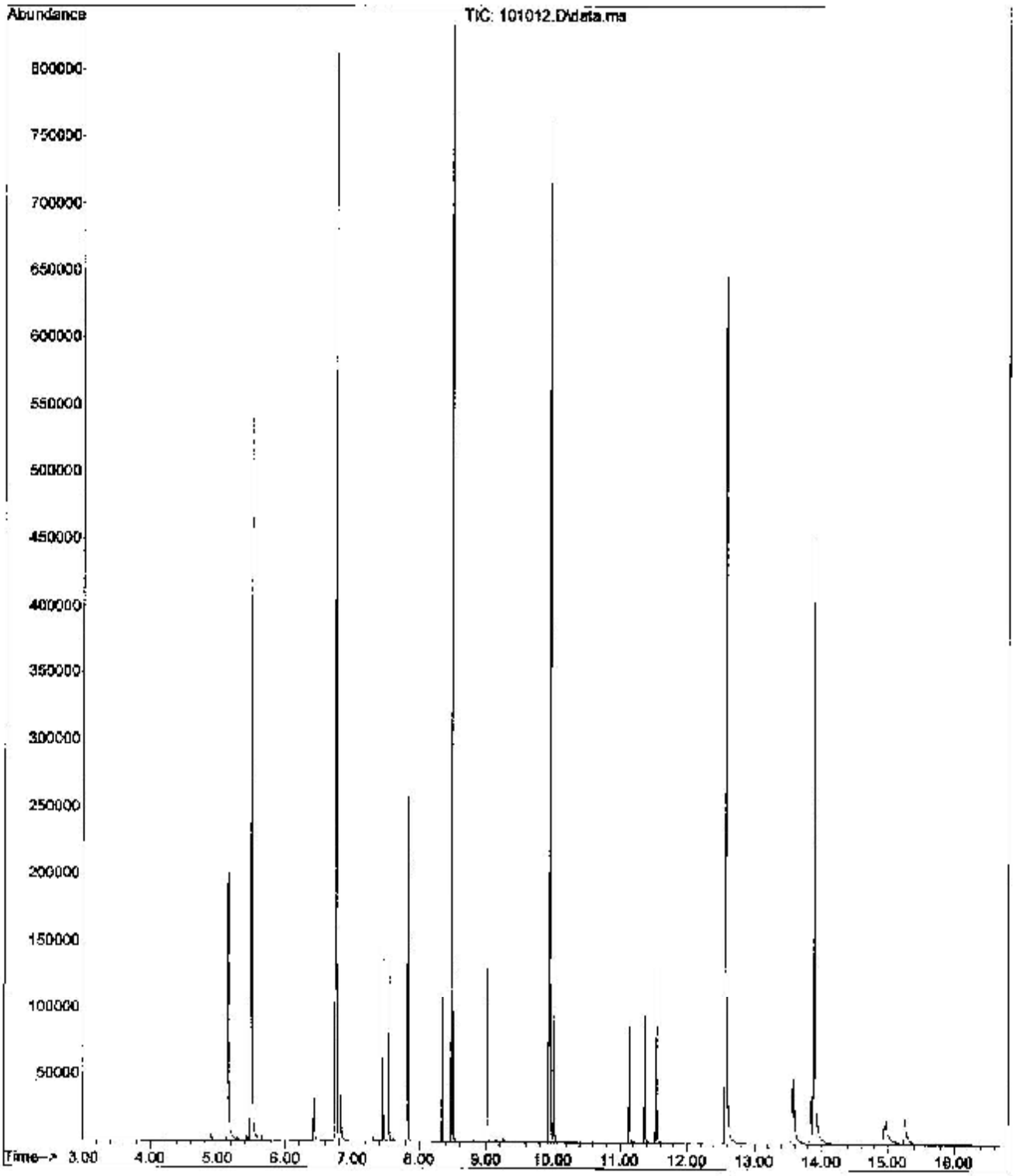
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PEB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

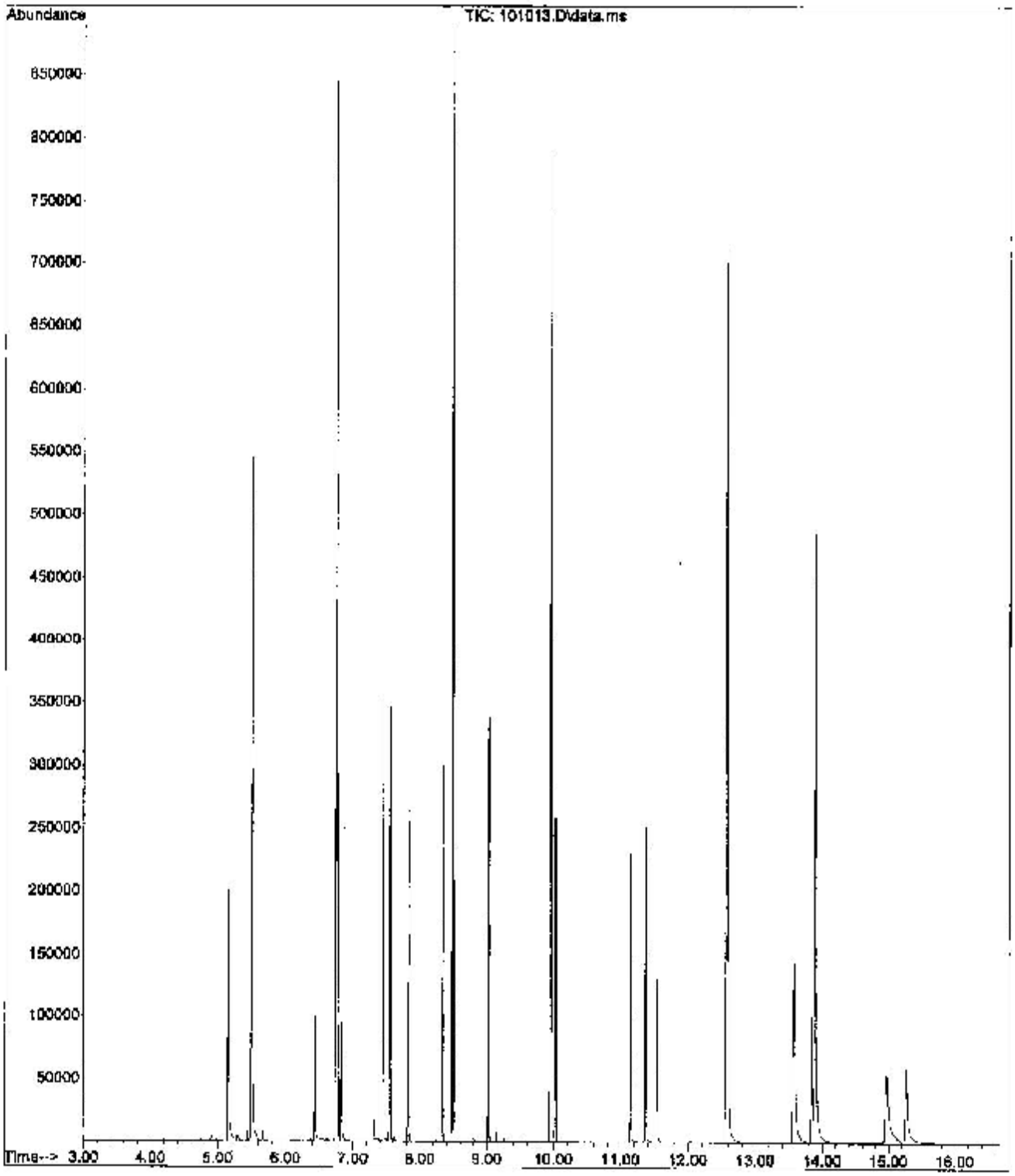
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.150	99	155773	999.49 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L	
5) Naphthalene	6.767	128	210515	496.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L	98
7) 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L	97
9) Acenaphthylene	8.338	152	176929	519.35 ug/L	100
11) Acenaphthene	8.509	152	56451	496.90 ug/L	99
12) Fluorene	9.022	166	132700	509.61 ug/L	97
14) Phenanthrene	9.969	178	184698	505.37 ug/L	100
15) Anthracene	10.019	178	169453	506.64 ug/L	98
17) Fluoranthene	11.146	202	171838	522.16 ug/L	95
18) Pyrene	11.360	202	181345	527.17 ug/L	94
19) Benzo (a) anthracene	12.559	228	140369	486.48 ug/L #	100
21) Chrysene	12.593	228	176026	496.99 ug/L	95
22) benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L #	100
23) benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L	99
24) benzo (a) pyrene	13.837	252	108063	433.23 ug/L #	89
26) Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L	
27) Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L	
28) Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

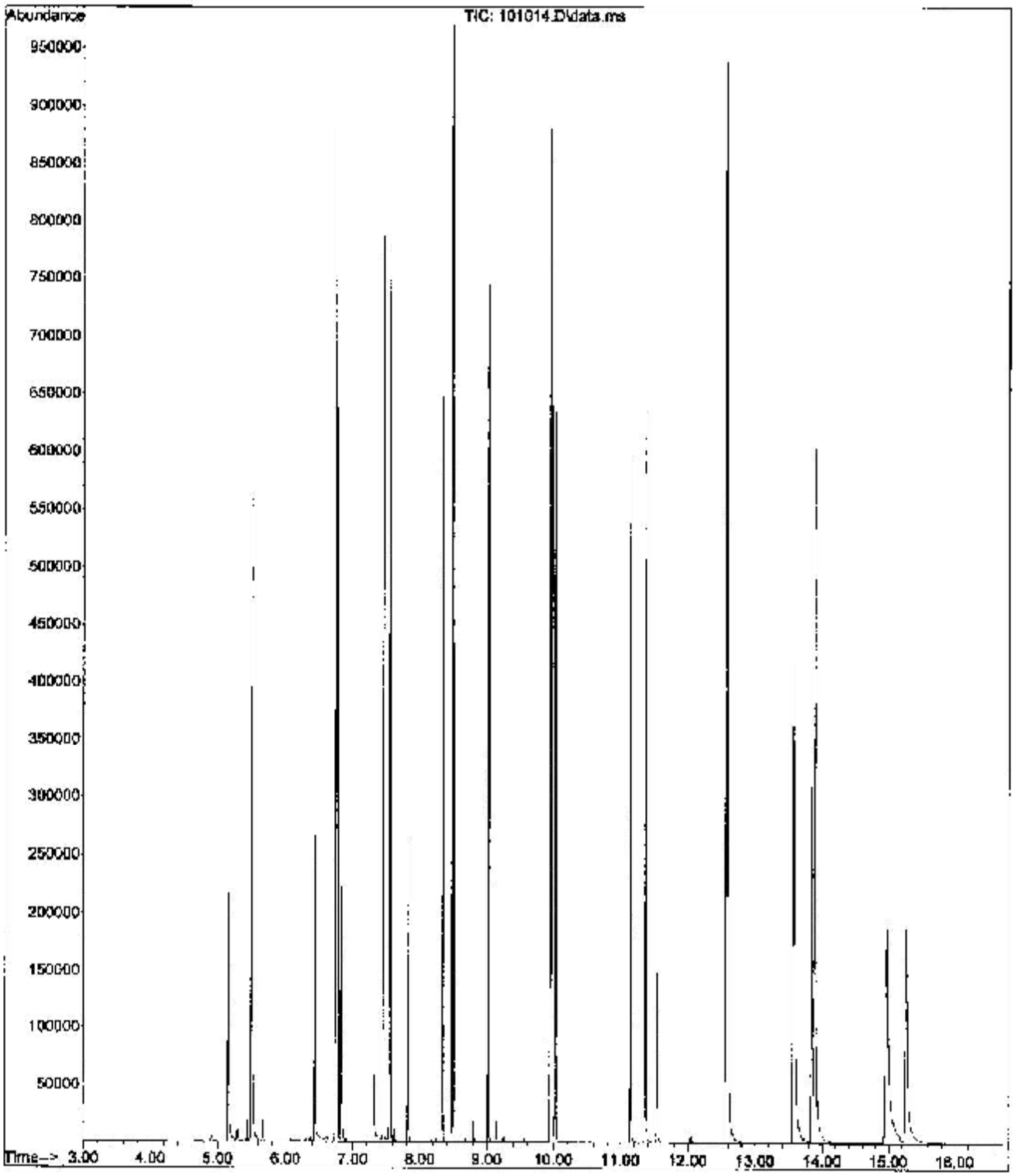
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	160048	999.62 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	124230	1000.93 ug/L		99
5) Naphthalene	6.766	128	457822	1024.89 ug/L		100
6) 2-Methylnaphthalene	7.453	142	281274	1074.77 ug/L		98
7) 1-Methylnaphthalene	7.548	142	262852	1060.43 ug/L		97
9) Acenaphthylene	8.339	152	404284	1127.02 ug/L		100
11) Acenaphthene	8.508	152	125725	1008.83 ug/L		99
12) Fluorene	9.021	166	299270	1047.68 ug/L		96
14) Phenanthrene	9.969	178	415711	999.13 ug/L		100
15) Anthracene	10.020	178	407576	1070.40 ug/L		98
17) Fluoranthene	11.146	202	441099	1177.36 ug/L		95
18) Pyrene	11.369	202	458851	1171.65 ug/L		94
19) Benzo (a) anthracene	12.560	228	363248	1105.82 ug/L	#	100
21) Chrysene	12.595	228	427345	1035.64 ug/L		97
22) benzo (b) fluoranthene	13.558	252	289328	938.23 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	470685	1074.58 ug/L		100
24) benzo (a) pyrene	13.839	252	310058	1030.12 ug/L		95
26) Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	242693m	1378.50 ug/L		
28) Benzo (g,h,i) perylene	15.261	276	347803m	1372.47 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

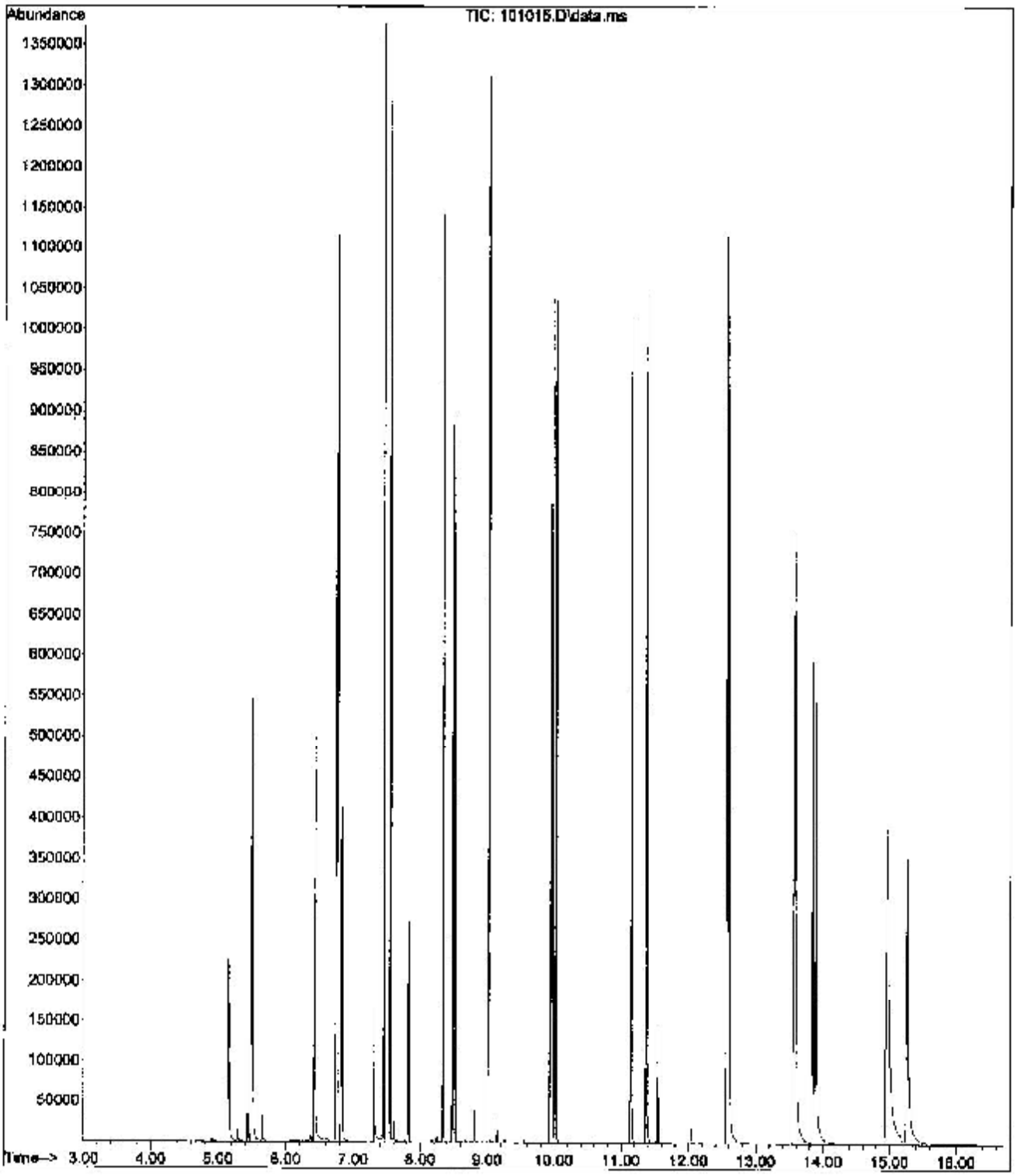
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

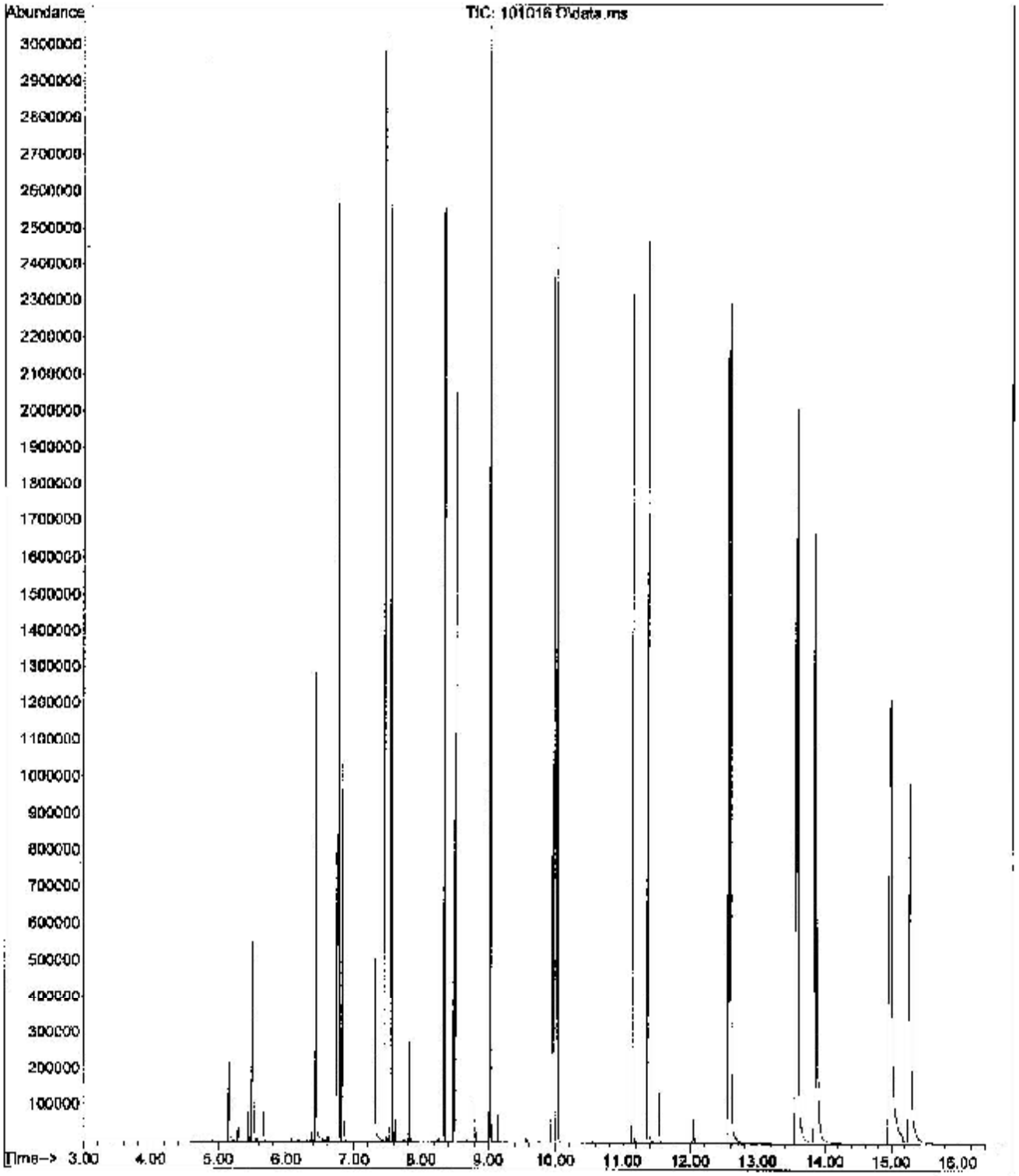
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.590	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 10 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

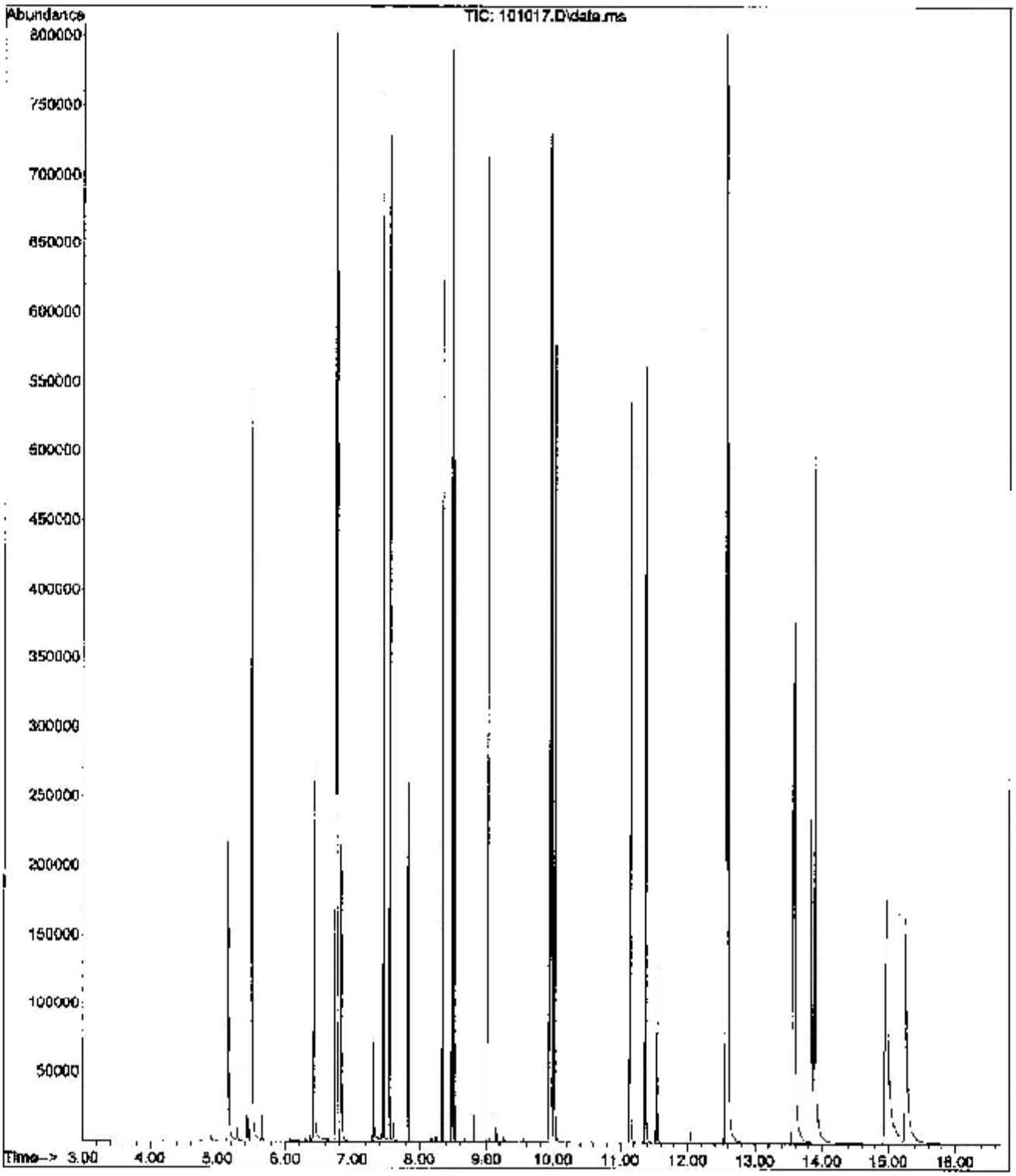
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

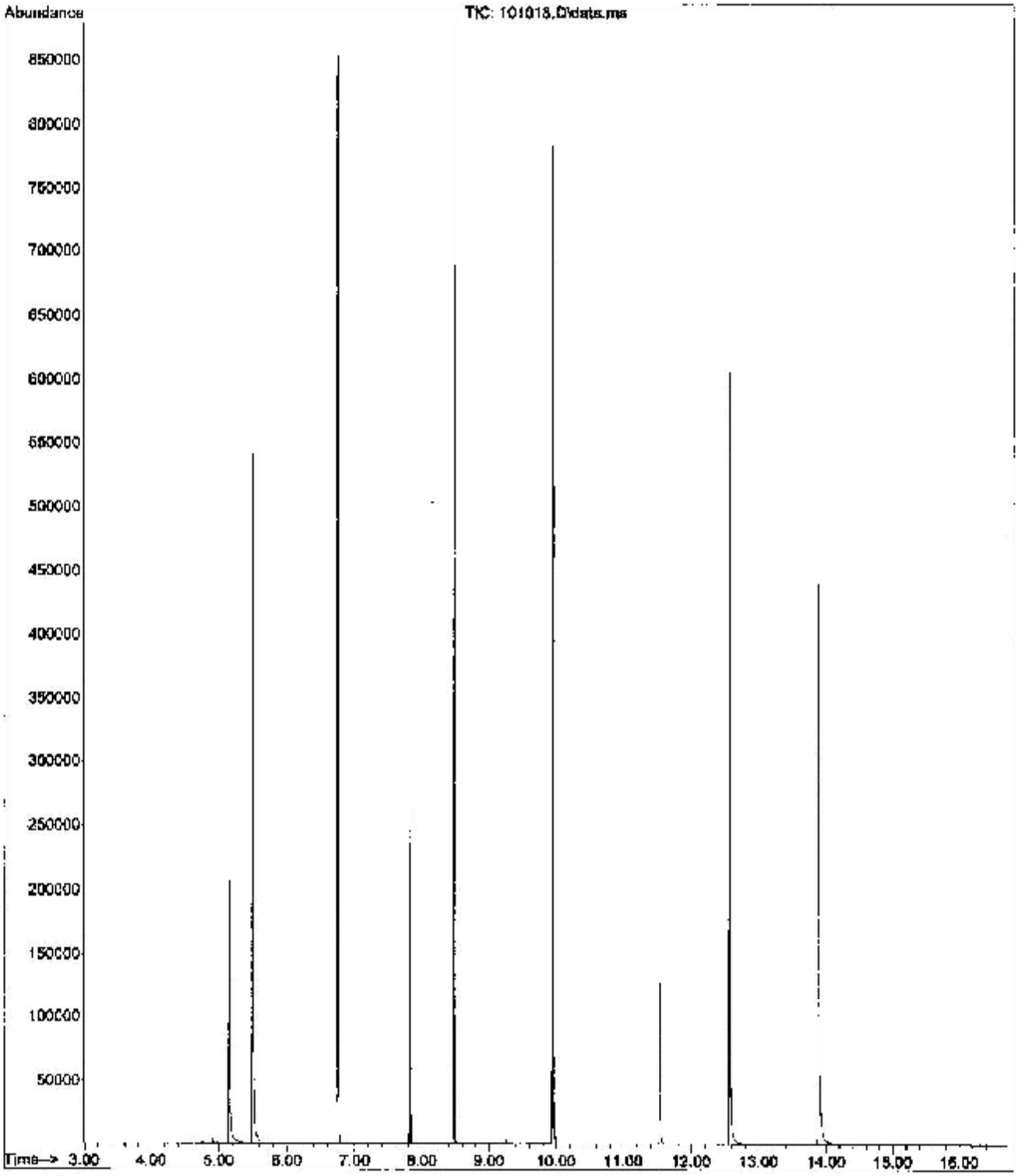
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

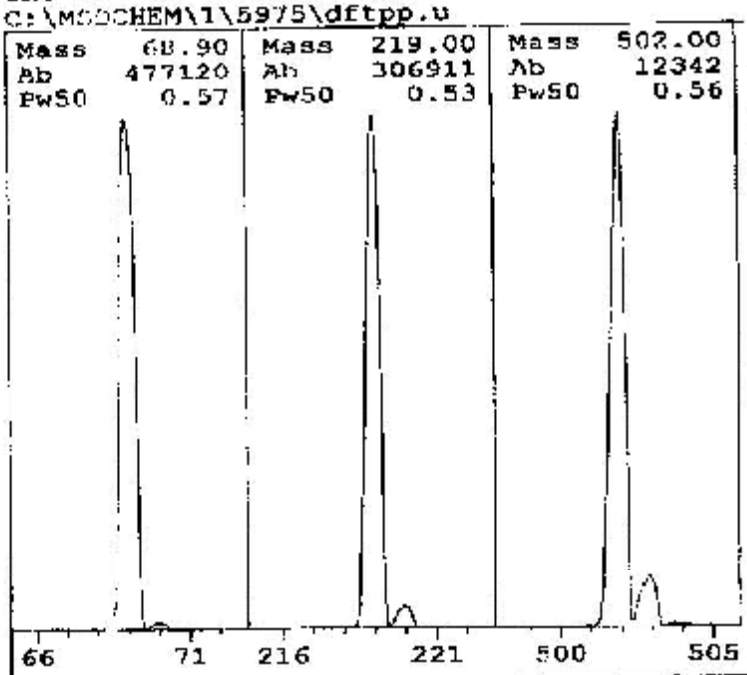


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

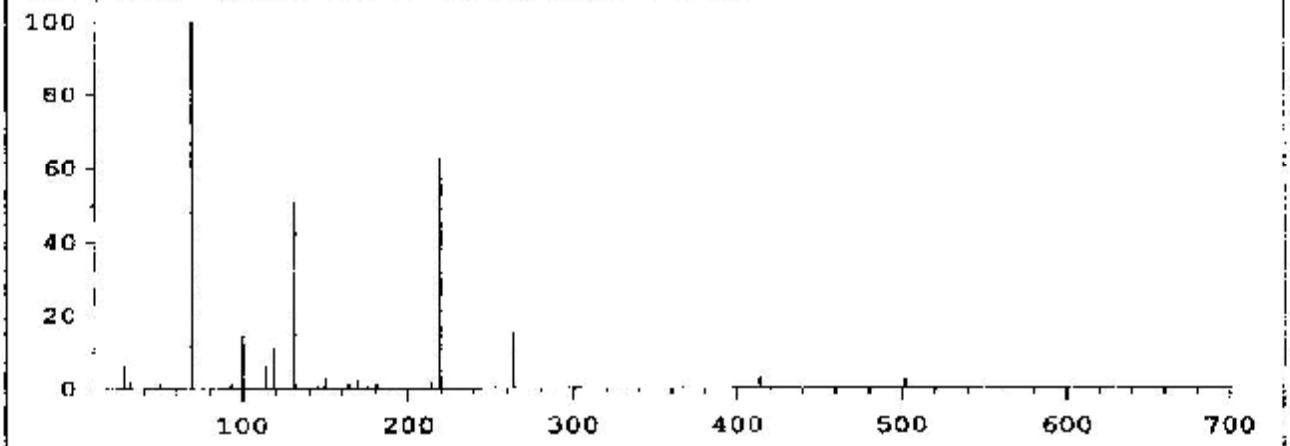


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O-0.56% N2-6.00% O2-1.93% CO2-0.18% N2/H2O-1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

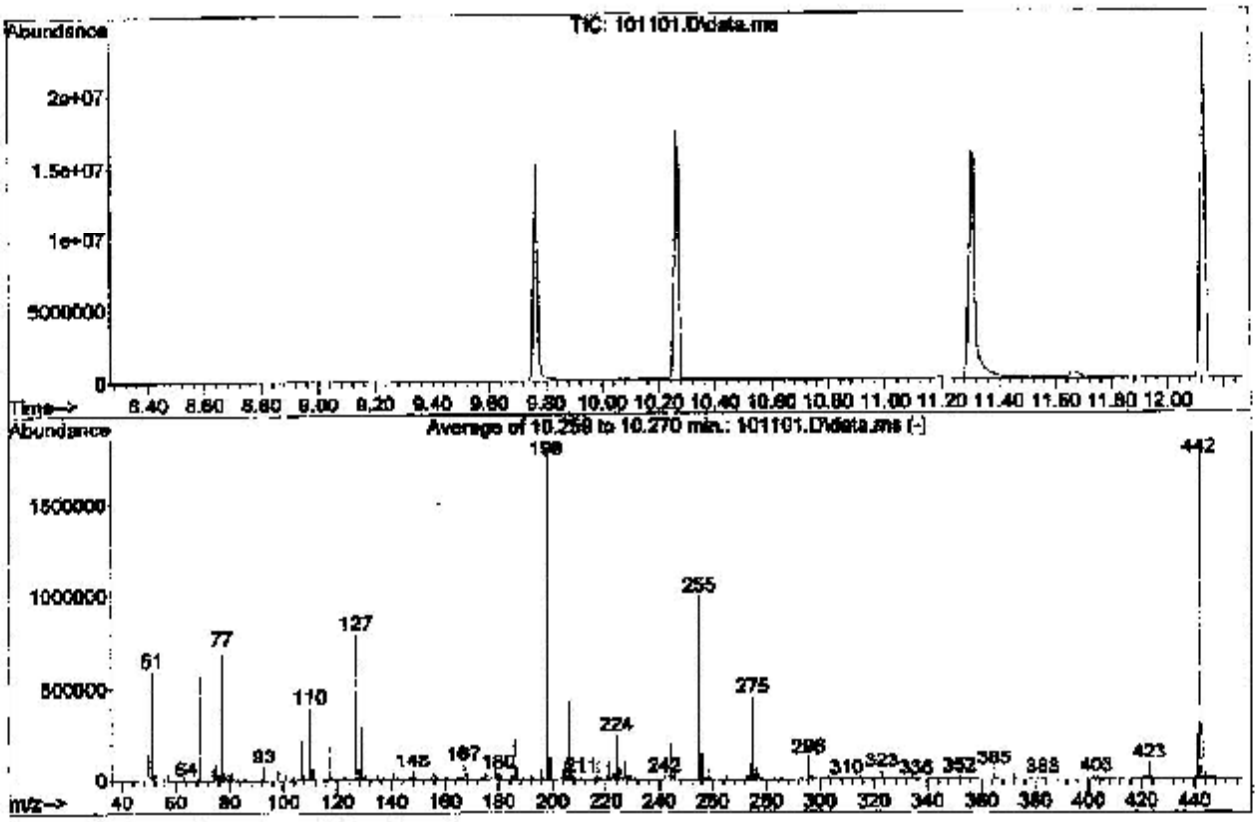
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

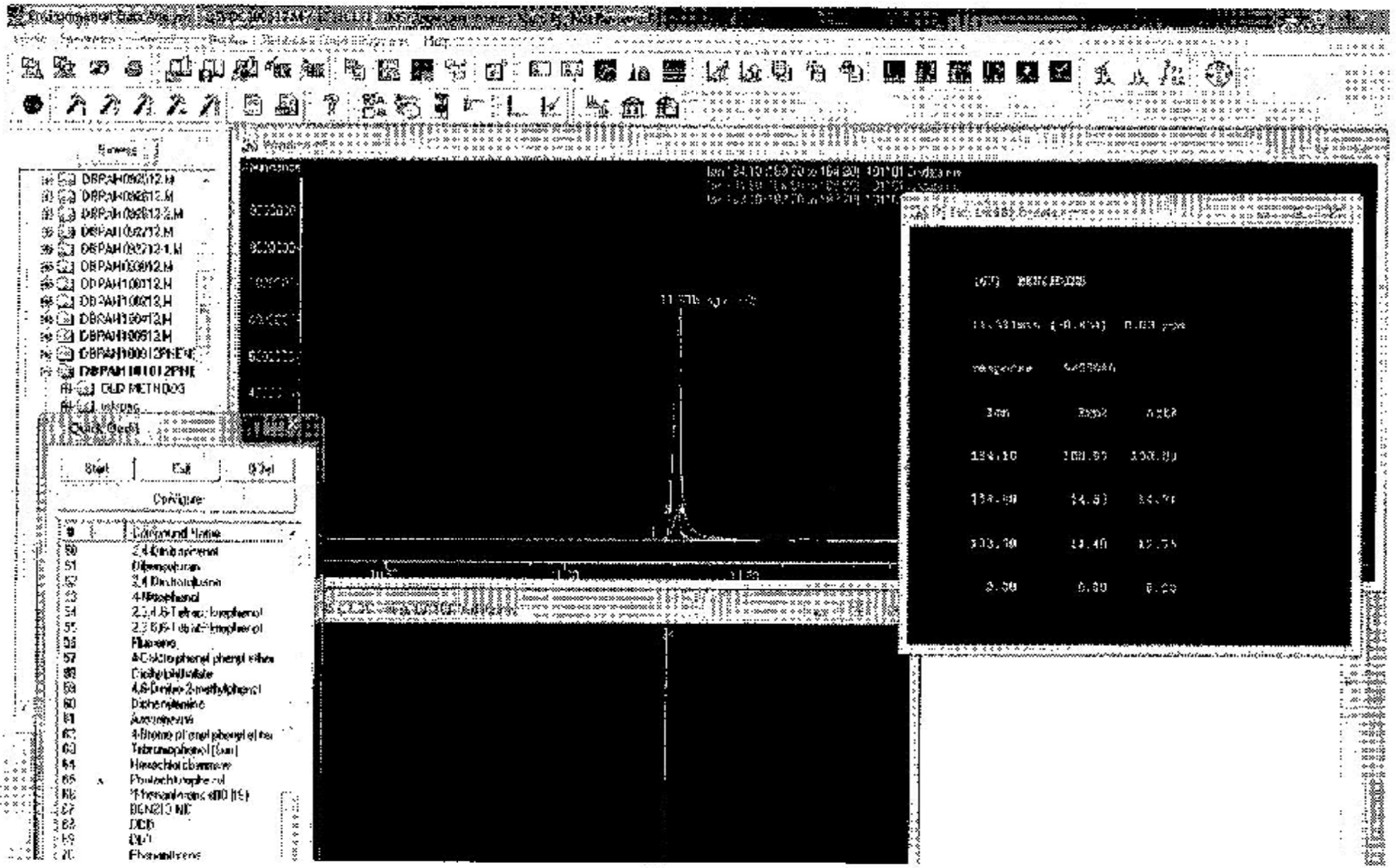
Integration File: RTEINTSG8270.P

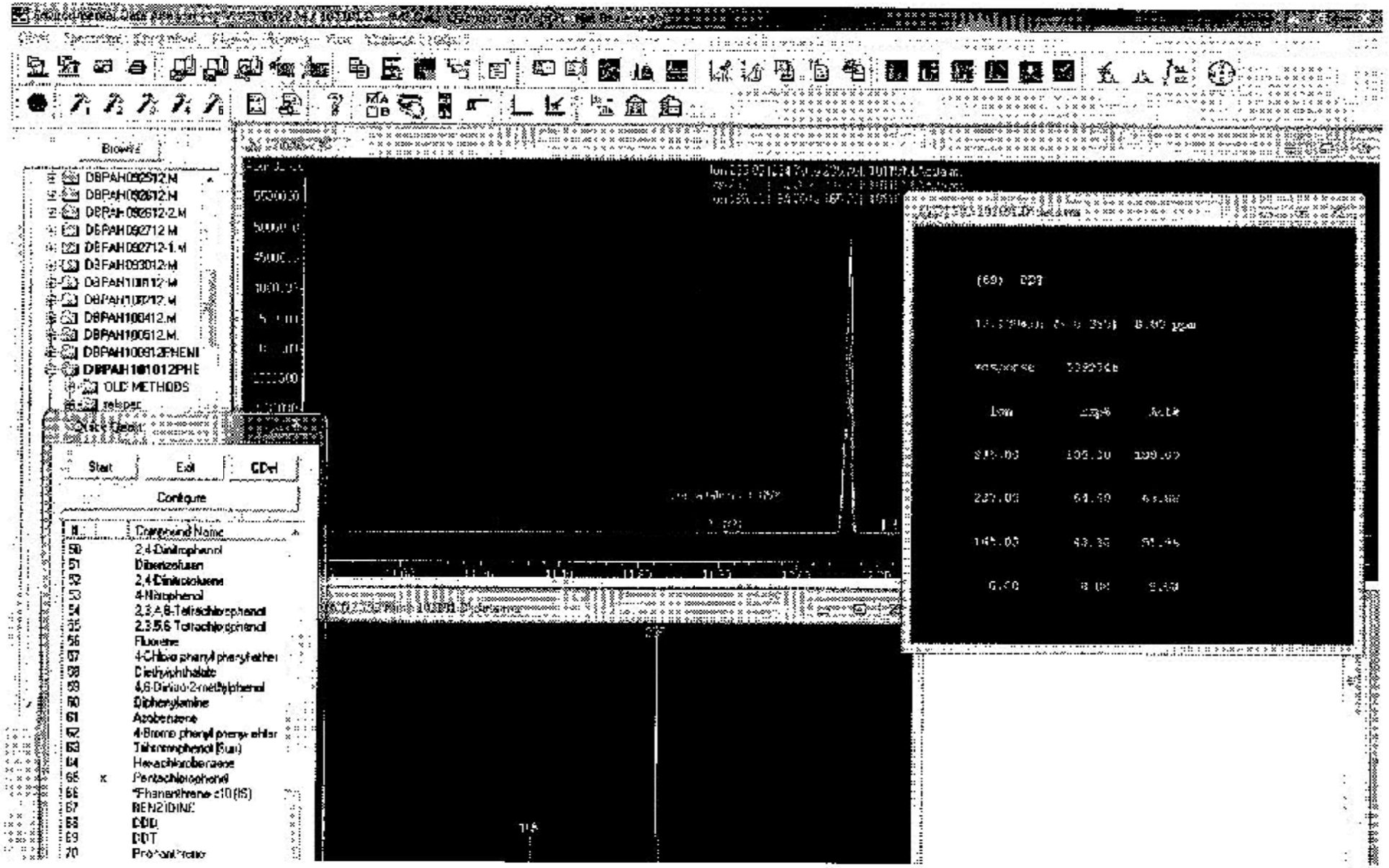
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

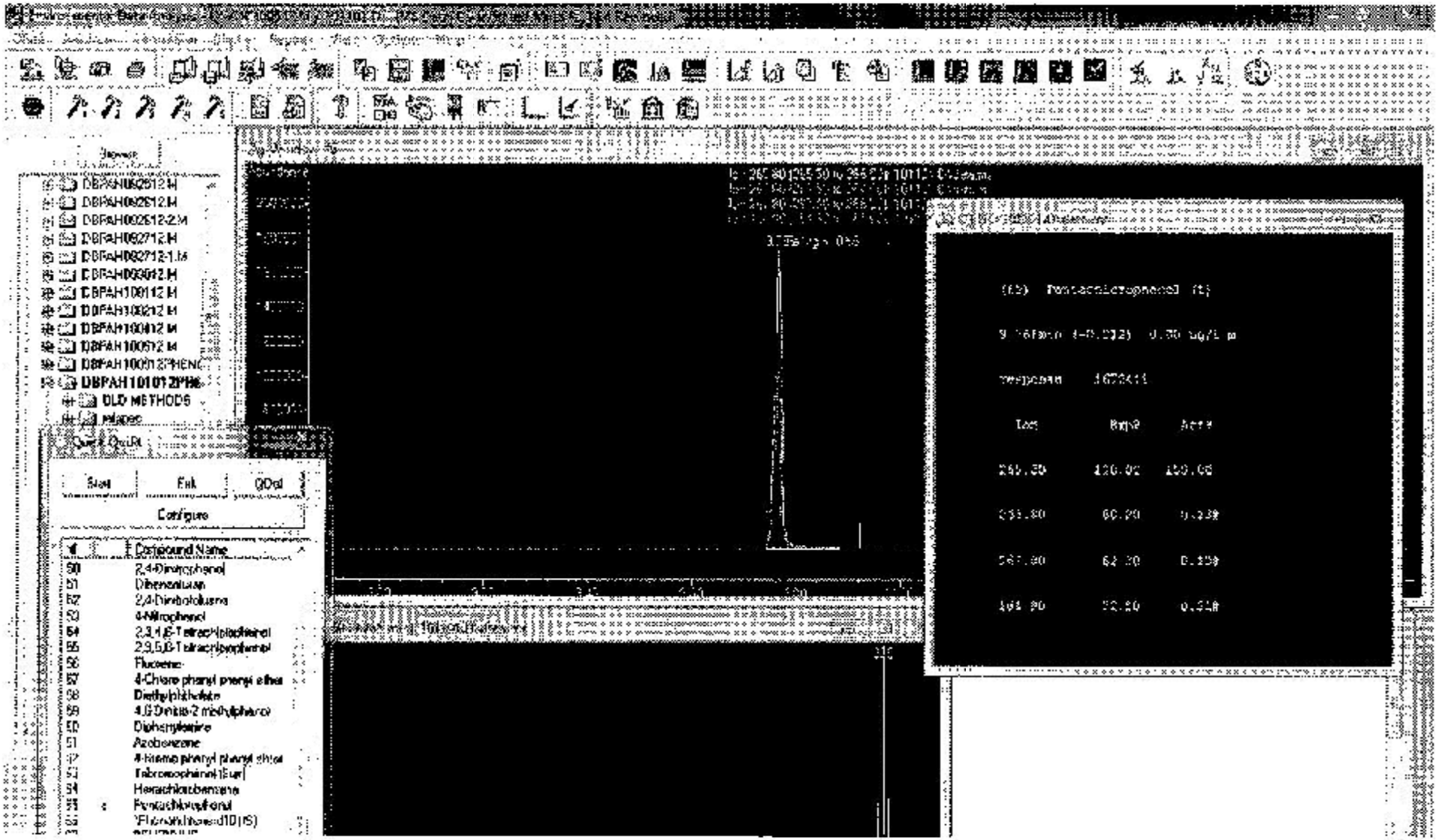


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100212.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl phenyl ether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
*Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


DBPAH100512.M
DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQual
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromo phenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Response 1672411
Lost Resp Actu
250.00 120.00 150.00
251.00 60.00 0.238
252.00 64.00 0.254
253.00 52.00 0.210

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

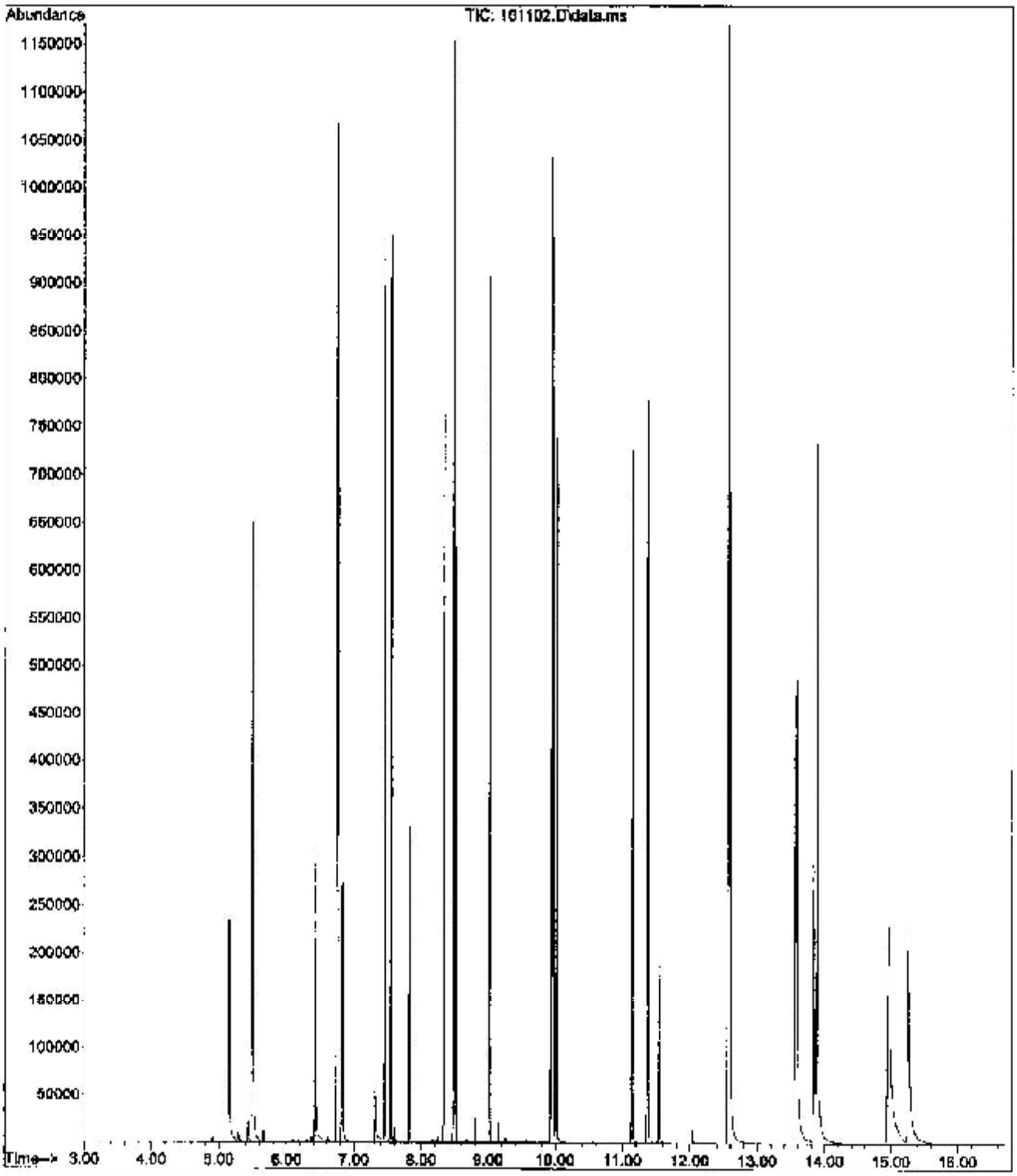
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

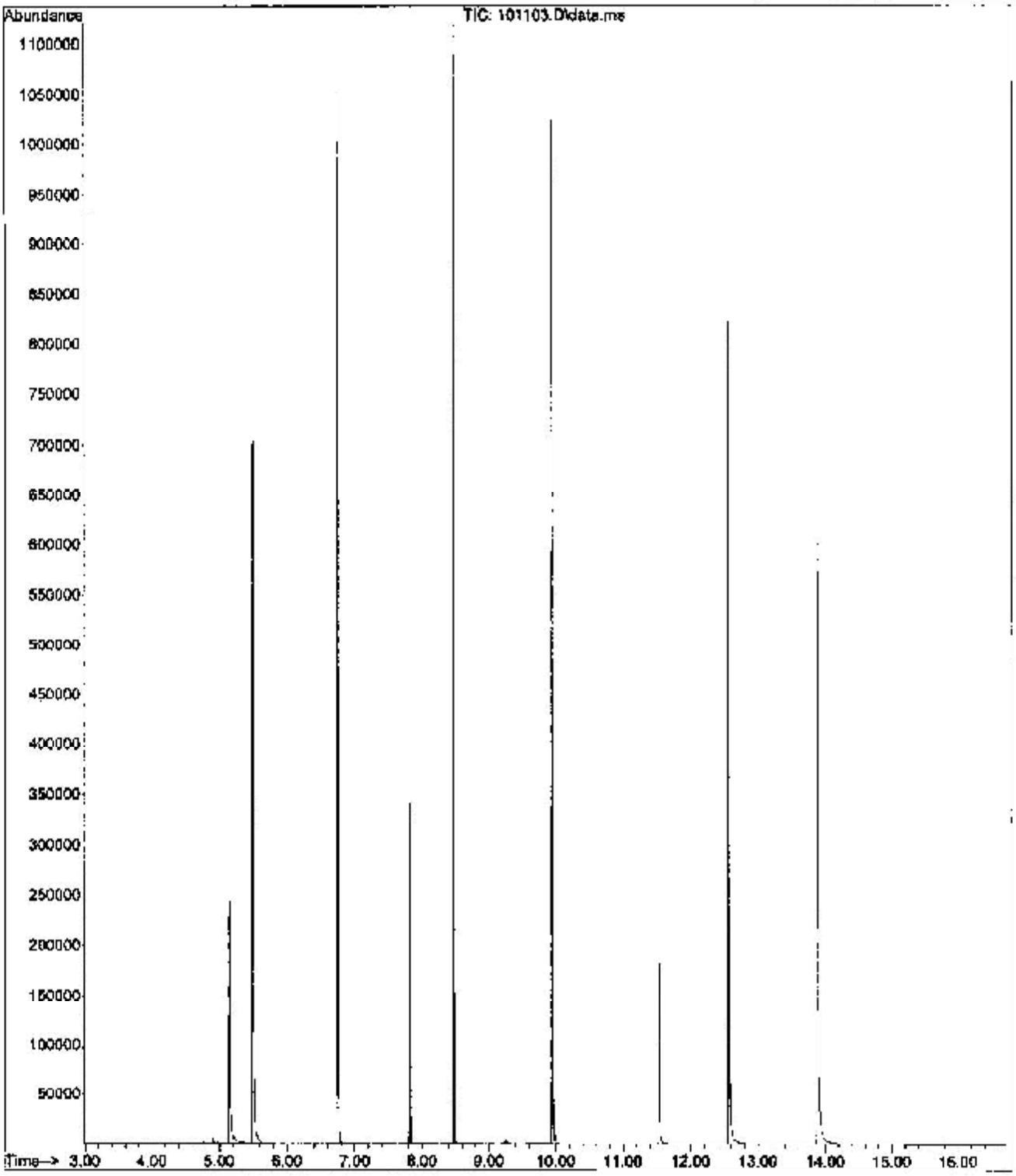
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **10/5/2012 9:26:04 A**
Prep End Date: **10/5/2012 9:26:04 A**

Prep Batch ID **3353** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: **°C** Final Temp **°C**

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3353		Soil			10	0	0	10	1.000	10/5/2012	10/5/2012
LCS-3353		Soil			10	0	0	10	1.000	10/5/2012	10/5/2012
1209174-001A	IRZ-WSW1-92512	Sediment			12.79	0	0	10	0.782	10/5/2012	10/5/2012
1209174-002A	IRZ-B1-92512	Sediment			12.93	0	0	10	0.773	10/5/2012	10/6/2012
1209174-003A	IRZ-B2-92512	Sediment			11.25	0	0	10	0.889	10/5/2012	10/5/2012
1209174-004A	IRZ-B3-92512	Sediment			13.13	0	0	10	0.762	10/5/2012	10/6/2012
Possible double BN Surr											
1209174-005A	IRZ-B4-92512	Sediment			11.96	0	0	10	0.837	10/5/2012	10/5/2012
1209174-006A	IRZ-B5-92512	Sediment			11.74	0	0	10	0.852	10/5/2012	10/5/2012
1209174-006AMS		Sediment			11.67	0	0	10	0.857	10/5/2012	10/5/2012
1209174-007A	IRZ-E6W1-92512	Sediment			11.4	0	0	10	0.877	10/5/2012	10/5/2012
1209174-007ADUP		Sediment			11.81	0	0	10	0.847	10/5/2012	10/6/2012
1210029-001A	SURZ-F14B1-100212	Soil			12.06	0	0	10	0.829	10/5/2012	10/5/2012
1210029-002A	SURZ-F14B2-100212	Soil			11.31	0	0	10	0.884	10/5/2012	10/5/2012
1210029-003A	SURZ-SSW1-100212	Soil			11.89	0	0	10	0.841	10/5/2012	10/5/2012
1210029-003ADUP		Soil			11.64	0	0	10	0.859	10/5/2012	10/5/2012
1210029-004A	SURZ-WSW1-100212	Soil			12.44	0	0	10	0.804	10/5/2012	10/5/2012
1210029-005A	F16B1-10212	Soil			12.99	0	0	10	0.770	10/5/2012	10/5/2012
1210029-006A	F15NSW-10212	Soil			11.01	0	0	10	0.908	10/5/2012	10/5/2012
1210029-007A	F16B2-10212	Soil			13.34	0	0	10	0.750	10/5/2012	10/5/2012
1210029-008A	SURZ-WSW2-10212	Soil			12.61	0	0	10	0.793	10/5/2012	10/5/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

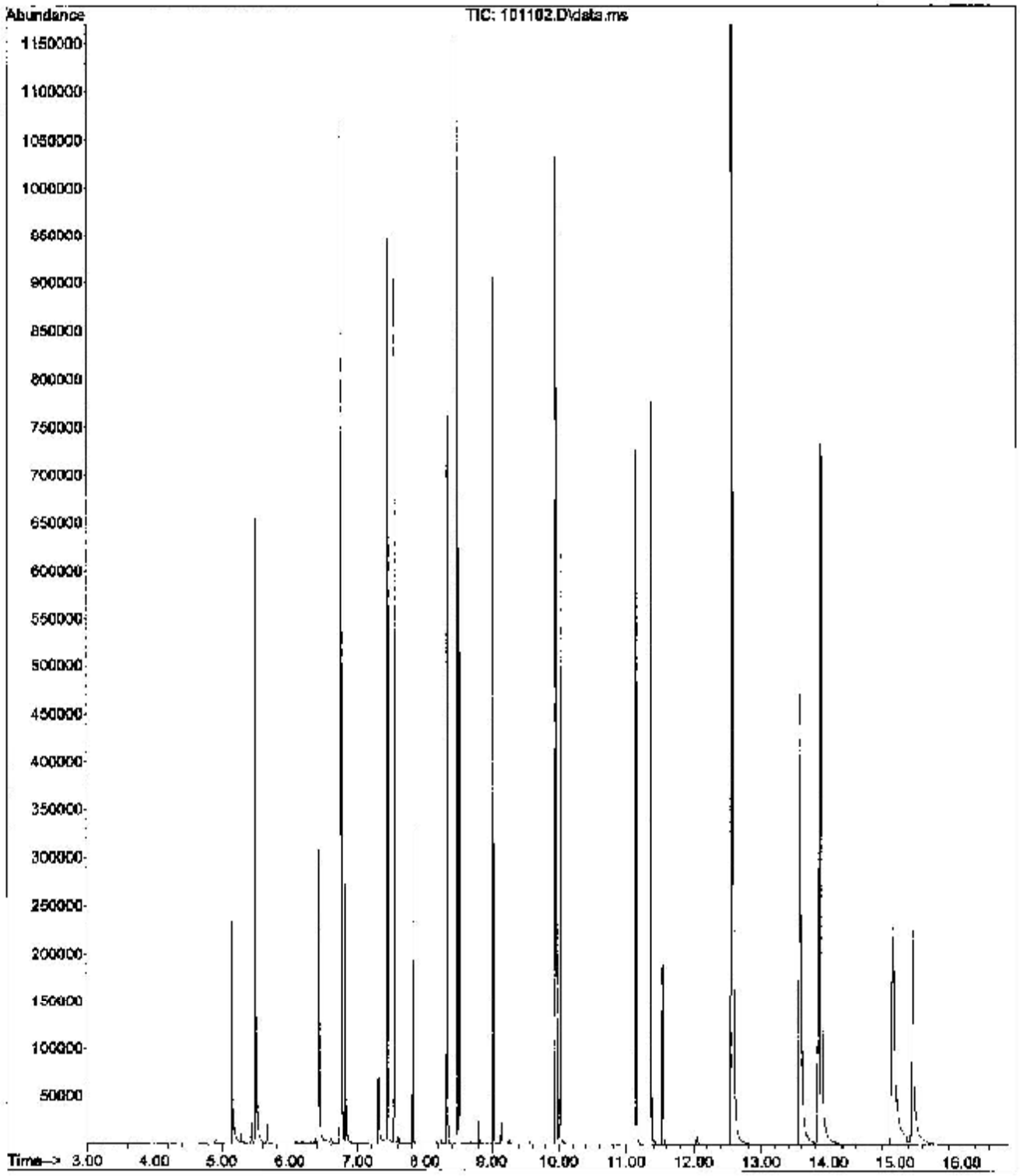
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5] Naphthalene	6.766	128	544594	1027.95	ug/L		100
6] 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7] 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9] Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11] Acenaphthene	8.508	152	149723	996.95	ug/L		99
12] Fluorene	9.020	166	358083	1040.24	ug/L		96
14] Phenanthrene	9.967	178	503861	993.14	ug/L		100
15] Anthracene	10.018	178	490231	1081.63	ug/L		98
17] Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18] Pyrene	11.368	202	554385	1161.39	ug/L		94
19] Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21] Chrysene	12.592	228	513400	973.60	ug/L		93
22] benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24] benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26] Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27] Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28] Benzo (g,h,i) perylene	15.258	276	403938	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:14 2012 PAH

File : D:\Data\SVOC\1C1112\101102.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101C12PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB O-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

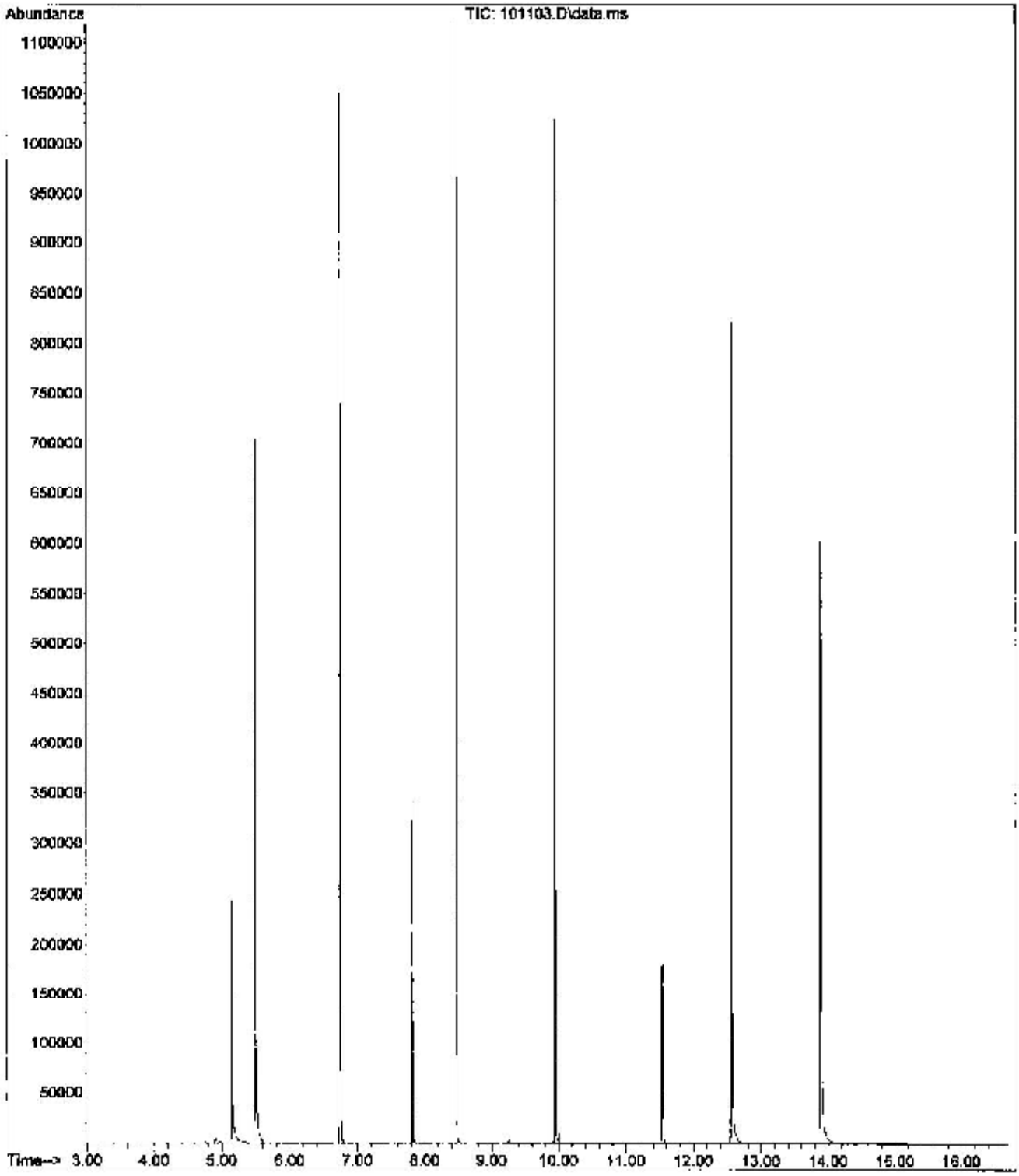
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\madchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710040	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.566	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:21 2012 PAH

File :D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101104.D
Acq On : 11 Oct 2012 10:47 am
Operator :
Sample : MB-3353
Misc : MBLK 0-PAH-S-SIM
ALS Vial : 111 Sample Multiplier: 1

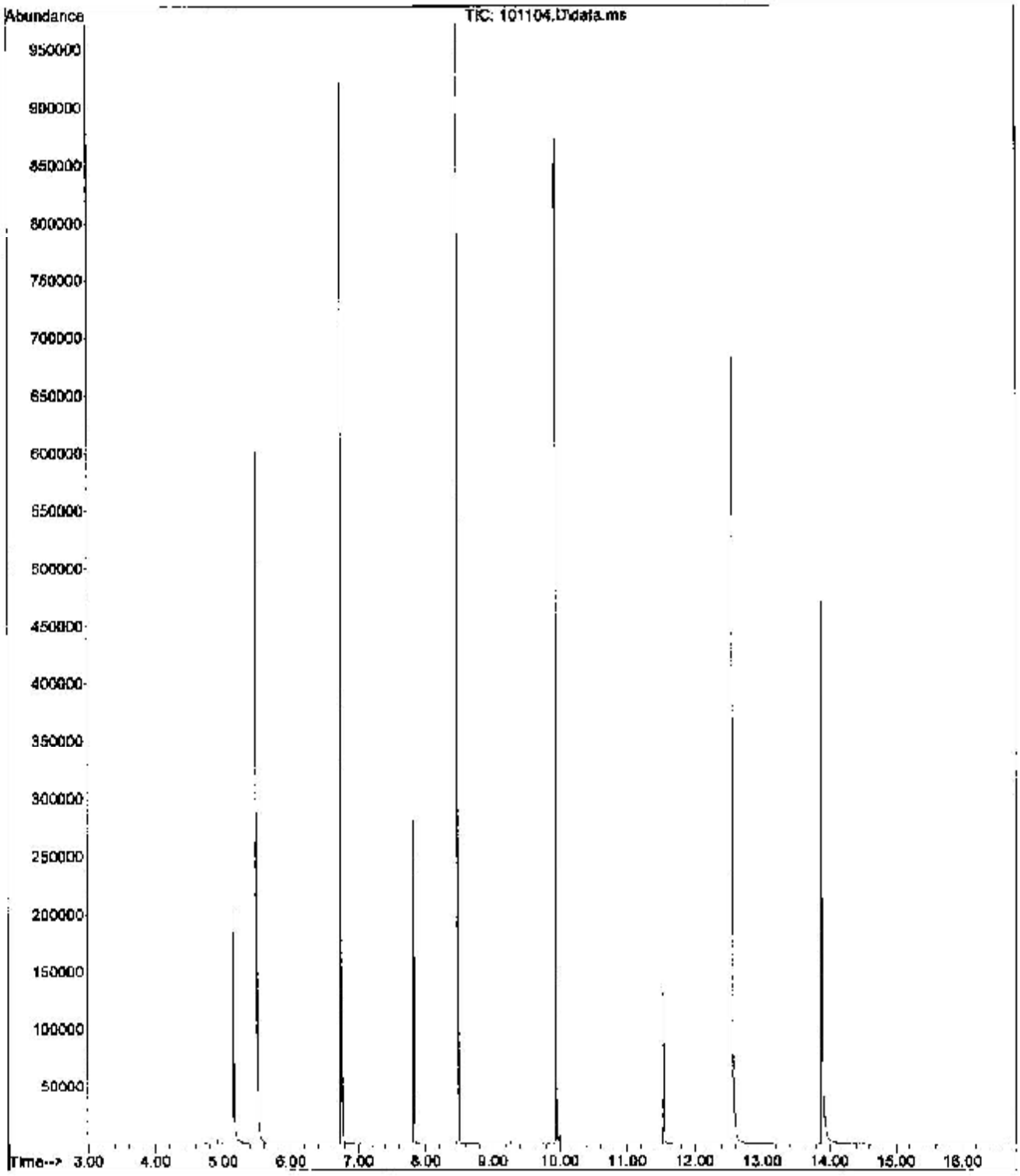
Quant Time: Oct 11 14:05:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	229710	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	740476	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	370265	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	604432	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	542591	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	501236	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	152040	871.33	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	151360	462.58	ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	104091	467.19	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.396	107	39	N.D.		
5) Naphthalene	6.766	128	38	N.D.		
6) 2-Methylnaphthalene	7.455	142	41	N.D.		
7) 1-Methylnaphthalene	7.550	142	25	N.D.		
9) Acenaphthylene	8.338	152	3	N.D.		
11) Acenaphthene	8.508	152	2	N.D.		
12) Fluorene	9.019	166	4	N.D.		
14) Phenanthrene	9.967	178	50	N.D.		
15) Anthracene	10.020	178	1	N.D.		
17) Fluoranthene	11.146	202	2	N.D.		
18) Pyrene	11.370	202	11	N.D.		
19) Benzo (a) anthracene	12.566	228	1390	N.D.		
21) Chrysene	12.566	228	1310	N.D.		
22) benzo (b) fluoranthene	13.553	252	17	N.D.		
23) benzo (k) fluoranthene	13.579	252	91	N.D.		
24) benzo (a) pyrene	13.885	252	1583	6.05	ug/L #	85
26) Indeno(1,2,3-cd)pyrene	14.945	276	9	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	16	N.D.		
28) Benzo (g,h,i) perylene	15.255	276	14	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 09:42:00 2012 PAH

File : D:\Data\SVOC\101112\101104.D
Operator :
Acquired : 11 Oct 2012 10:47 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3353
Misc Info : MBLK 6-PAH-S-SIM
Vial Number: 111



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101105.D
Acq On : 11 Oct 2012 11:12 am
Operator :
Sample : LCS-3353
Misc : LCS O-PAH-S-SIM
ALS Vial : 112 Sample Multiplier: 1

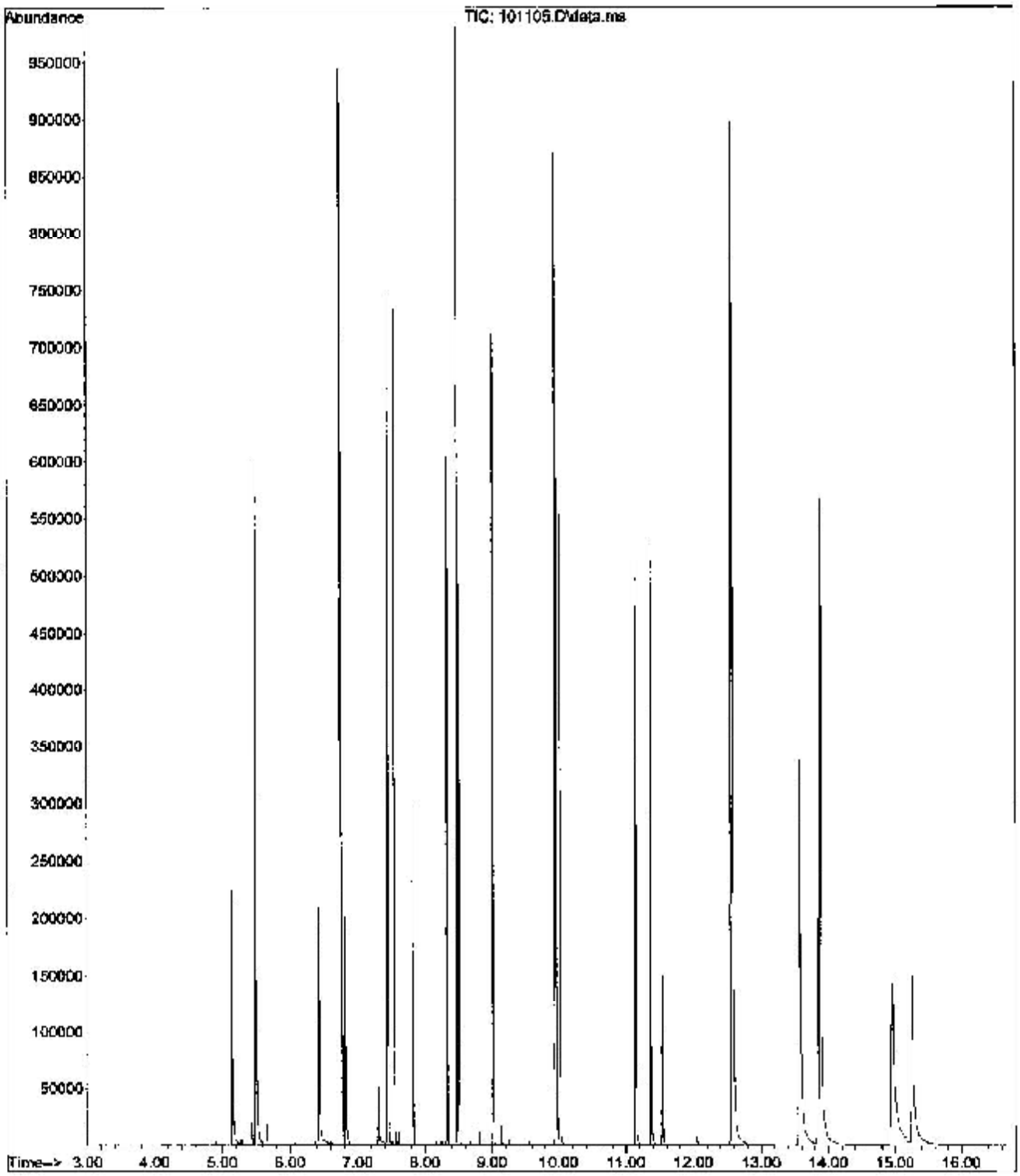
Quant Time: Oct 11 14:06:11 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	225942	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	740680	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	382348	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	608612	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	590336	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	561221	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	164324	957.43 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	160695	490.97 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	113578	506.27 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	110984	834.17 ug/L		100
5) Naphthalene	6.766	128	442750	942.24 ug/L		100
6) 2-Methylnaphthalene	7.453	142	265620	964.87 ug/L		98
7) 1-Methylnaphthalene	7.548	142	248427	953.71 ug/L		97
9) Acenaphthylene	8.338	152	375727	995.71 ug/L		100
11) Acenaphthene	8.509	152	117927	917.18 ug/L		99
12) Fluorene	9.020	166	275280	934.08 ug/L		97
14) Phenanthrene	9.968	178	386161	929.79 ug/L		100
15) Anthracene	10.019	178	365919	985.96 ug/L		98
17) Fluoranthene	11.145	202	377469	1009.66 ug/L		95
18) Pyrene	11.370	202	398291	1019.26 ug/L		94
19) Benzo (a) anthracene	12.557	228	313333	956.17 ug/L	#	100
21) Chrysene	12.592	228	387352	908.19 ug/L		93
22) benzo (b) fluoranthene	13.556	252	228353	736.70 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	426400	968.43 ug/L		100
24) benzo (a) pyrene	13.837	252	257760	860.43 ug/L		92
26) Indeno(1,2,3-cd)pyrene	14.950	276	271969	910.87 ug/L		97
27) Dibenz (a,h) anthracene	14.969	278	191394	804.85 ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	282288	851.76 ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 09:42:45 2012 PAH

File :D:\Data\SVOC\101112\101105.D
Operator :
Acquired : 11 Oct 2012 11:12 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS 3353
Misc Info : LCS O-PAH-S-STM
Vial Number: 112



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101106.D
Acq On : 11 Oct 2012 11:37 am
Operator :
Sample : 1209174-006A
Misc : SAMP O PAH-S-SIM
ALS Vial : 113 Sample Multiplier: 1

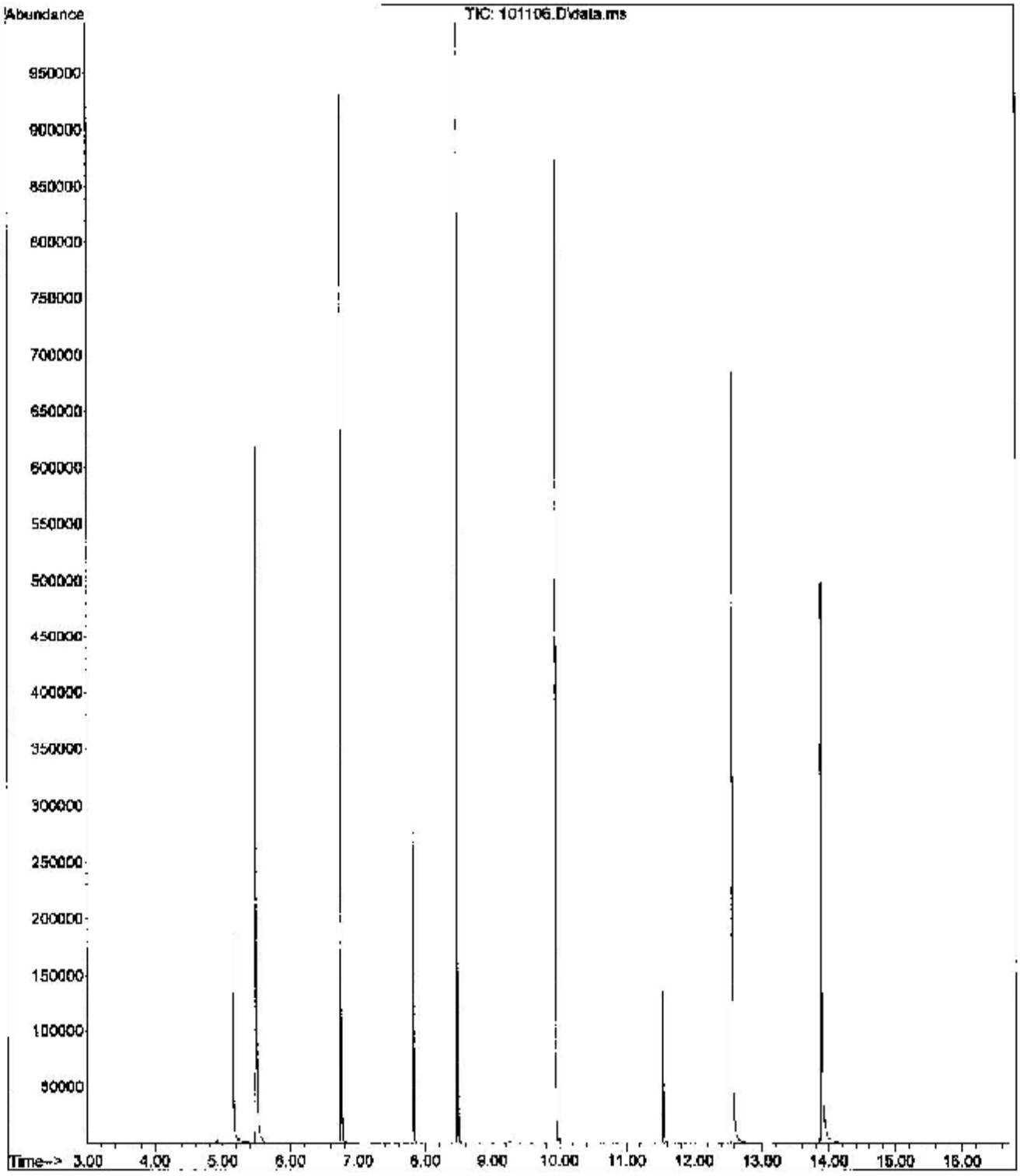
Quant Time: Oct 11 14:06:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	232234	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	748695	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.477	164	374960	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	617344	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	560480	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	519311	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	144157	817.17 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	152044	459.57 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	106654	468.68 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.454	107	40	N.D.	
5) Naphthalene	6.766	128	95	N.D.	
6) 2-Methylnaphthalene	7.457	142	54	N.D.	
7) 1-Methylnaphthalene	7.548	142	44	N.D.	
9) Acenaphthylene	8.338	152	2	N.D.	
11) Acenaphthene	8.506	152	14	N.D.	
12) Fluorene	9.025	166	18	N.D.	
14) Phenanthrene	9.966	178	106	N.D.	
15) Anthracene	10.018	178	7	N.D.	
17) Fluoranthene	11.149	202	17	N.D.	
18) Pyrene	11.357	202	2	N.D.	
19) Benzo (a) anthracene	12.566	228	1489	N.D.	
21) Chrysene	12.566	228	1312	N.D.	
22) benzo (b) fluoranthene	13.557	252	36	N.D.	
23) benzo (k) fluoranthene	13.579	252	125	N.D.	
24) benzo (a) pyrene	13.832	252	63	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	45	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	4	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 09:43:03 2012 PAH

File :D:\Data\SVOC\101112\101106.D
Operator :
Acquired : 11 Oct 2012 11:37 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209174-006A
Misc Info : SAMP C-PAH-S-SIM
Vial Number: 113



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101107.D
Acq On : 11 Oct 2012 12:02 pm
Operator :
Sample : 1209174-006AMS
Misc : MS O-PAH-S-SIM
ALS Vial : 114 Sample Multiplier: 1

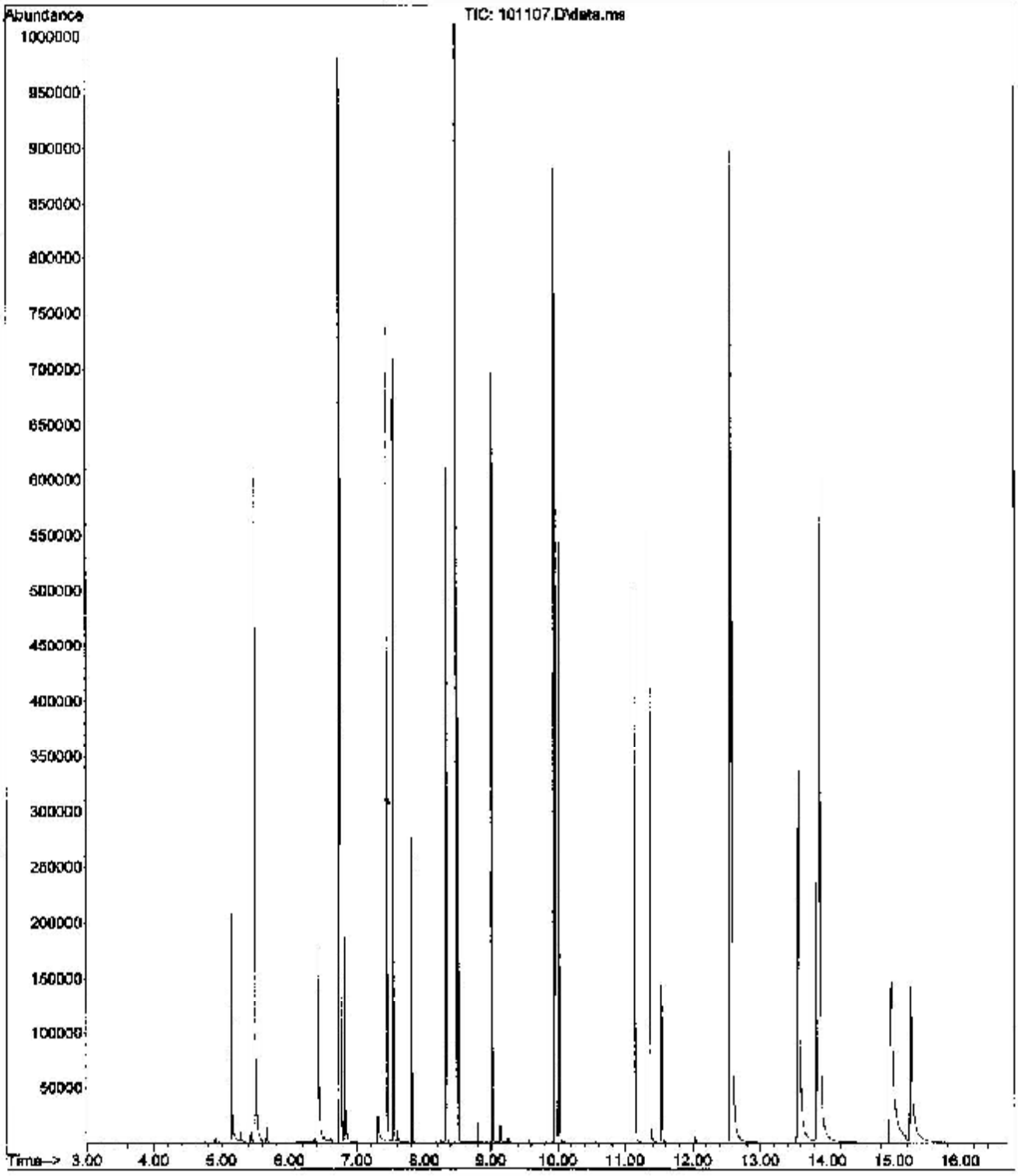
Quant Time: Oct 11 14:06:33 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.497	152	235834	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	768306	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	396432	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	631984	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	614892	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	590228	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	152381	850.61	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	155402	457.73	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	110649	474.97	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.428	107	107413	773.47	ug/L		100
5) Naphthalene	6.767	128	438103	898.83	ug/L		100
6) 2-Methylnaphthalene	7.453	142	259860	910.00	ug/L		99
7) 1-Methylnaphthalene	7.548	142	245139	907.25	ug/L		97
9) Acenaphthylene	8.338	152	368160	940.58	ug/L		100
11) Acenaphthene	8.509	152	115426	865.84	ug/L		99
12) Fluorene	9.020	166	270187	894.23	ug/L		97
14) Phenanthrene	9.968	178	377373	875.03	ug/L		100
15) Anthracene	10.019	178	358649	930.89	ug/L		98
17) Fluoranthene	11.145	202	372856	960.44	ug/L		95
18) Pyrene	11.367	202	392716	967.83	ug/L		94
19) Benzo (a) anthracene	12.557	228	314318	923.70	ug/L	#	100
21) Chrysene	12.592	228	382247	860.43	ug/L	#	73
22) benzo (b) fluoranthene	13.555	252	228754	708.52	ug/L	#	100
23) benzo (k) fluoranthene	13.578	252	409224	892.30	ug/L		100
24) benzo (a) pyrene	13.835	252	255161	819.68	ug/L		91
26) Indeno(1,2,3-cd)pyrene	14.945	276	271118	865.26	ug/L		97
27) Dibenz (a,h) anthracene	14.967	278	189753	759.96	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	281386	807.31	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 09:43:15 2012 PAH

File :D:\Data\SVOC\101112\101107.D
Operator :
Acquired : 11 Oct 2012 12:02 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209174-006AMS
Misc Info : MS O-PAH-S-SIM
Vial Number: 114



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101223.D
Acq On : 12 Oct 2012 9:08 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

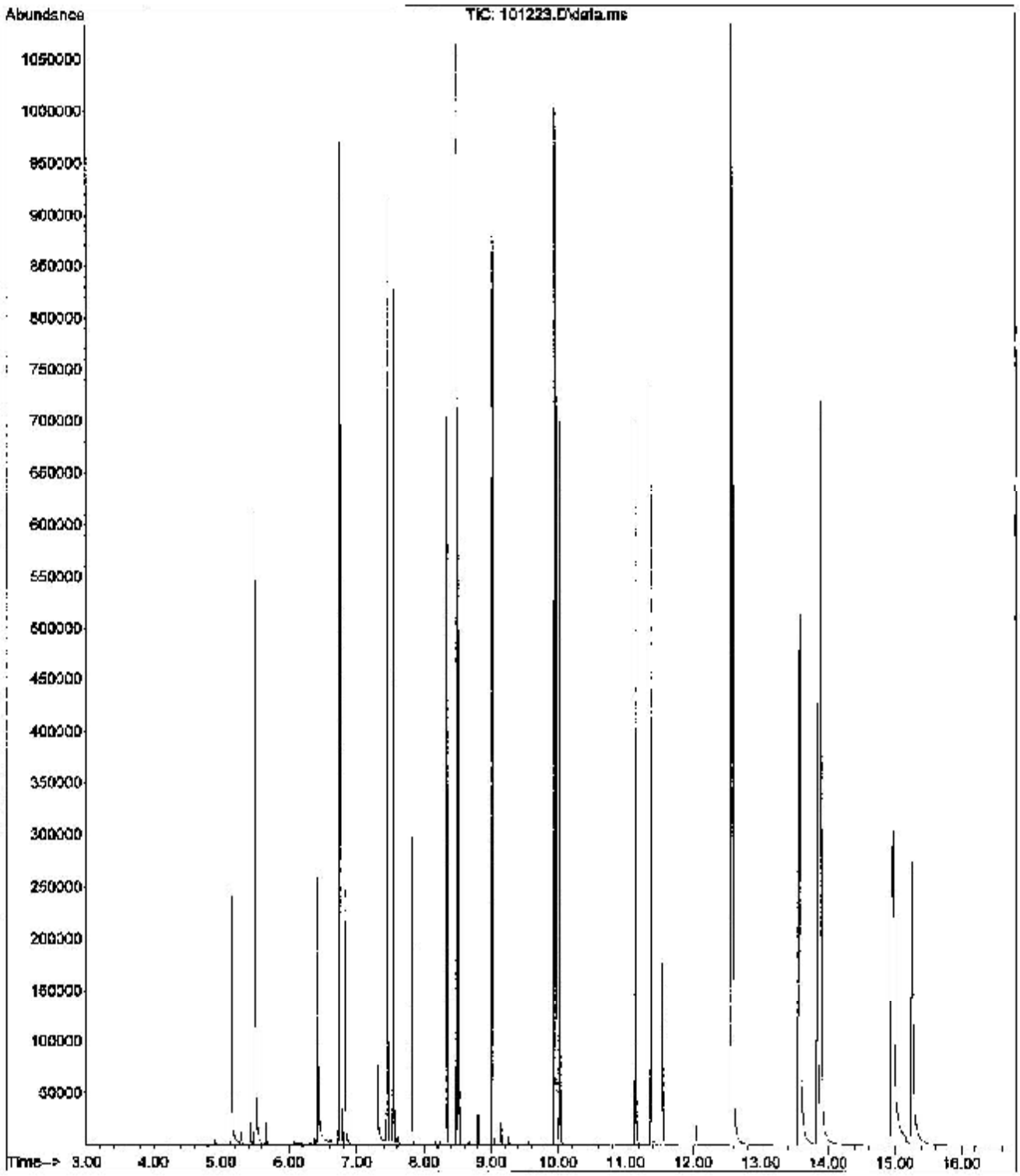
Quant Time: Oct 12 10:11:14 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	232440	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	769594	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	409961	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	684284	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.569	240	656491	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	673837	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol d6	5.151	99	184781	1046.53	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	168102	494.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	130860	518.80	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.426	107	141723	1035.44	ug/L		100
5] Naphthalene	6.767	128	506311	1037.03	ug/L		100
6] 2-Methylnaphthalene	7.453	142	313499	1096.00	ug/L		99
7] 1-Methylnaphthalene	7.550	142	292369	1080.24	ug/L		99
9] Acenaphthylene	8.338	152	461251	1176.44	ug/L		100
11] Acenaphthene	8.509	152	140439	1018.70	ug/L		99
12] Fluorene	9.020	166	336532	1065.01	ug/L		100
14] Phenanthrene	9.967	178	468756	1003.85	ug/L		100
15] Anthracene	10.019	178	465796	1116.59	ug/L		100
17] Fluoranthene	11.146	202	507278	1206.82	ug/L		98
18] Pyrene	11.368	202	526112	1197.48	ug/L		95
19] Benzo (a) anthracene	12.559	228	437208	1186.64	ug/L	#	100
21] Chrysene	12.593	228	475010	1001.48	ug/L		95
22] benzo (b) fluoranthene	13.557	252	369867	1073.00	ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	548307	1119.81	ug/L		99
24] benzo (a) pyrene	13.837	252	400009	1178.80	ug/L		94
26] Indeno(1,2,3-cd)pyrene	14.948	276	428674	1180.75	ug/L		95
27] Dibenz (a,h) anthracene	14.969	278	343883	1188.01	ug/L		98
28] Benzo (g,h,i) perylene	15.258	276	435906	1095.46	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Mon Oct 15 09:39:33 2012 PAH

File : D:\Data\SVOC\101212\101223.D
Operator :
Acquired : 12 Oct 2012 9:08 am using AcqMethod DBPAH101012PHENOL.M
Instrument. : HP-MSD
Sample Name: CCV-
Misc Info : CCV 8-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101224.D
Acq On : 12 Oct 2012 9:33 am
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

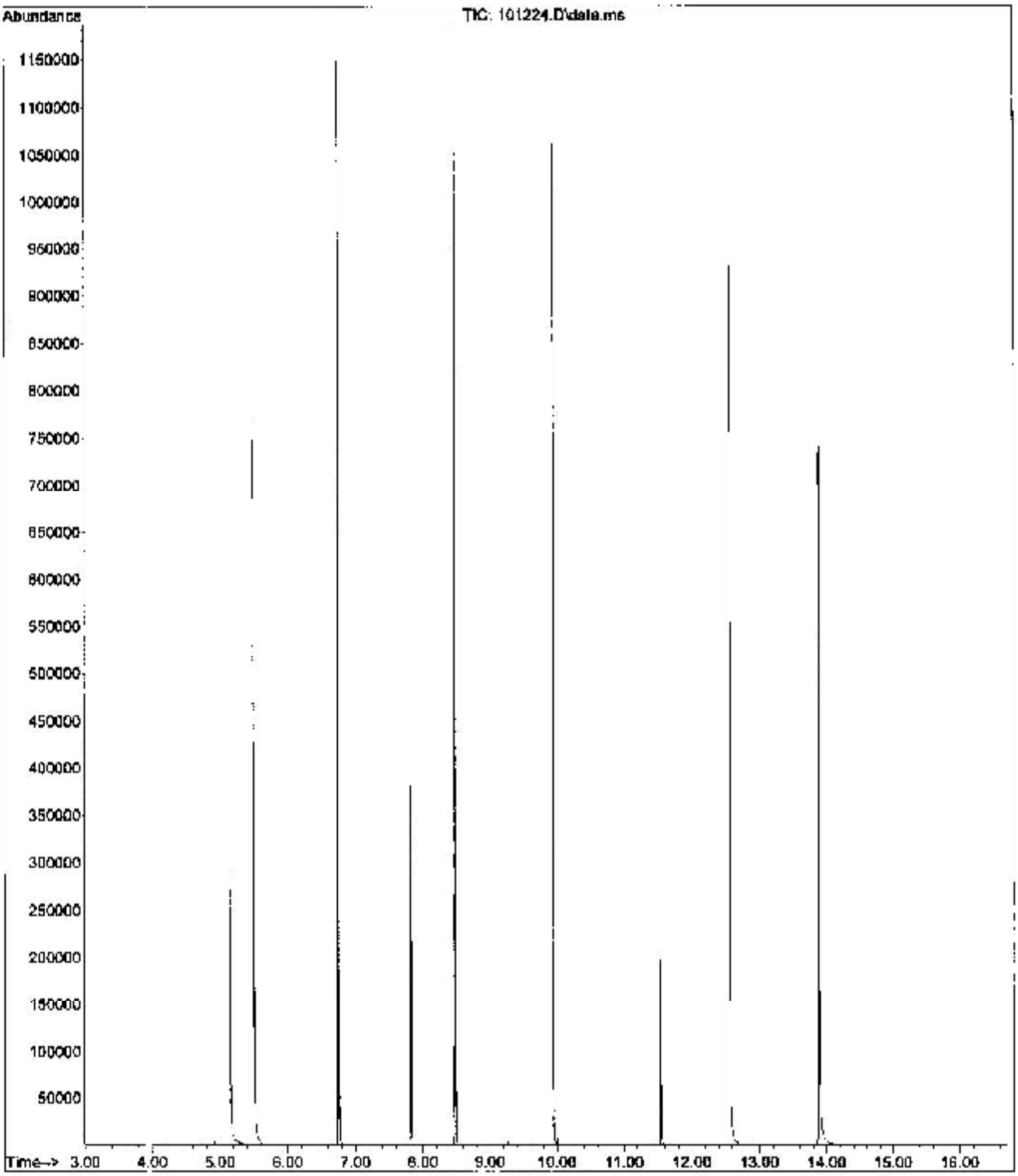
Quant Time: Oct 12 10:11:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	288230	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	926215	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	467893	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	758766	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	706470	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	701425	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	227099	1037.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	208471	509.35 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	148894	532.35 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.519	107	5	N.D.	
5) Naphthalene	6.766	128	107	N.D.	
6) 2-Methylnaphthalene	7.457	142	43	N.D.	
7) 1-Methylnaphthalene	7.576	142	4	N.D.	
9) Acenaphthylene	8.341	152	39	N.D.	
11) Acenaphthene	8.508	152	20	N.D.	
12) Fluorene	9.024	166	65	N.D.	
14) Phenanthrene	9.969	178	197	N.D.	
15) Anthracene	10.021	178	111	N.D.	
17) Fluoranthene	11.147	202	70	N.D.	
18) Pyrene	11.371	202	149	N.D.	
19) Benzo (a) anthracene	12.566	228	1949	N.D.	
21) Chrysene	12.566	228	1409	N.D.	
22) benzo (b) fluoranthene	13.557	252	96	N.D.	
23) benzo (k) fluoranthene	13.584	252	386	N.D.	
24) benzo (a) pyrene	13.837	252	168	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.948	276	92	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	61	N.D.	
28) Benzo (g,h,i) perylene	15.261	276	95	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Mon Oct 15 09:39:57 2012 PAH

File : D:\Data\SVOC\101212\101224.D
Operator :
Acquired : 12 Oct 2012 9:33 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 110



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101225.D
Acq On : 12 Oct 2012 9:59 am
Operator :
Sample : 1209174-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 21 Sample Multiplier: 1

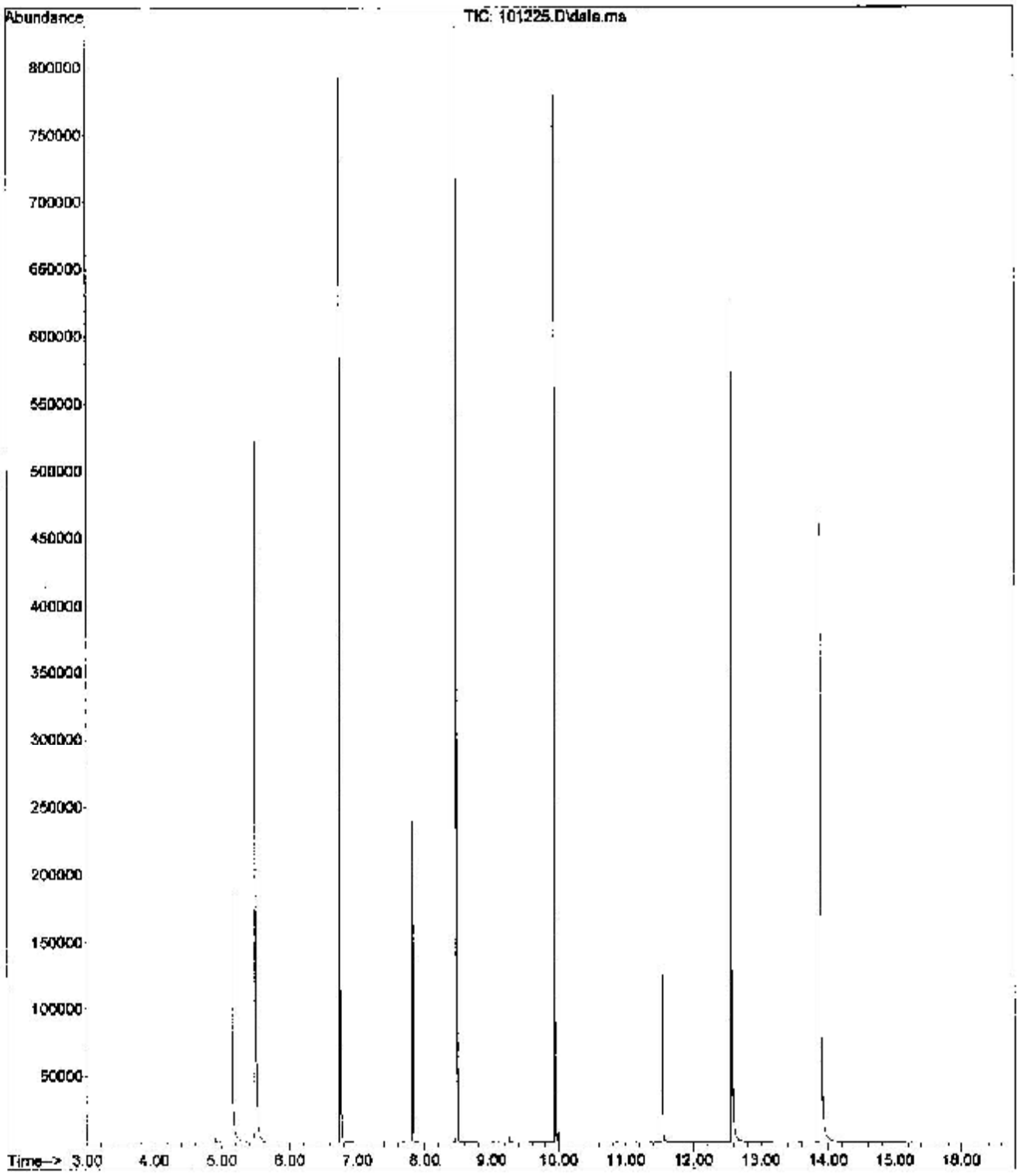
Quant Time: Oct 12 10:15:49 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	201571	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	645201	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	327129	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	539754	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	492535	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	473955	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	146730	958.29 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	136572	479.02 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	101431	509.80 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.455	107	140	N.D.	
5) Naphthalene	6.766	128	138	N.D.	
6) 2-Methylnaphthalene	7.458	142	74	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.341	152	4	N.D.	
11) Acenaphthene	8.508	152	15	N.D.	
12) Fluorene	9.021	166	184	N.D.	
14) Phenanthrene	9.967	178	134	N.D.	
15) Anthracene	10.020	178	18	N.D.	
17) Fluoranthene	11.156	202	63	N.D.	
18) Pyrene	11.372	202	75	N.D.	
19) Benzo (a) anthracene	12.568	228	1254	N.D.	
21) Chrysene	12.568	228	935	N.D.	
22) benzo (b) fluoranthene	13.561	252	62	N.D.	
23) benzo (k) fluoranthene	13.583	252	167	N.D.	
24) benzo (a) pyrene	13.838	252	86	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.953	276	39	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	19	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:32:34 2012 PAH

File : D:\Data\SVOC\1012\2\101225.D
Operator :
Acquired : 12 Oct 2012 9:59 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209174-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 21



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101226.D
Acq On : 12 Oct 2012 10:24 am
Operator :
Sample : 1209174-005A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 22 Sample Multiplier: 1

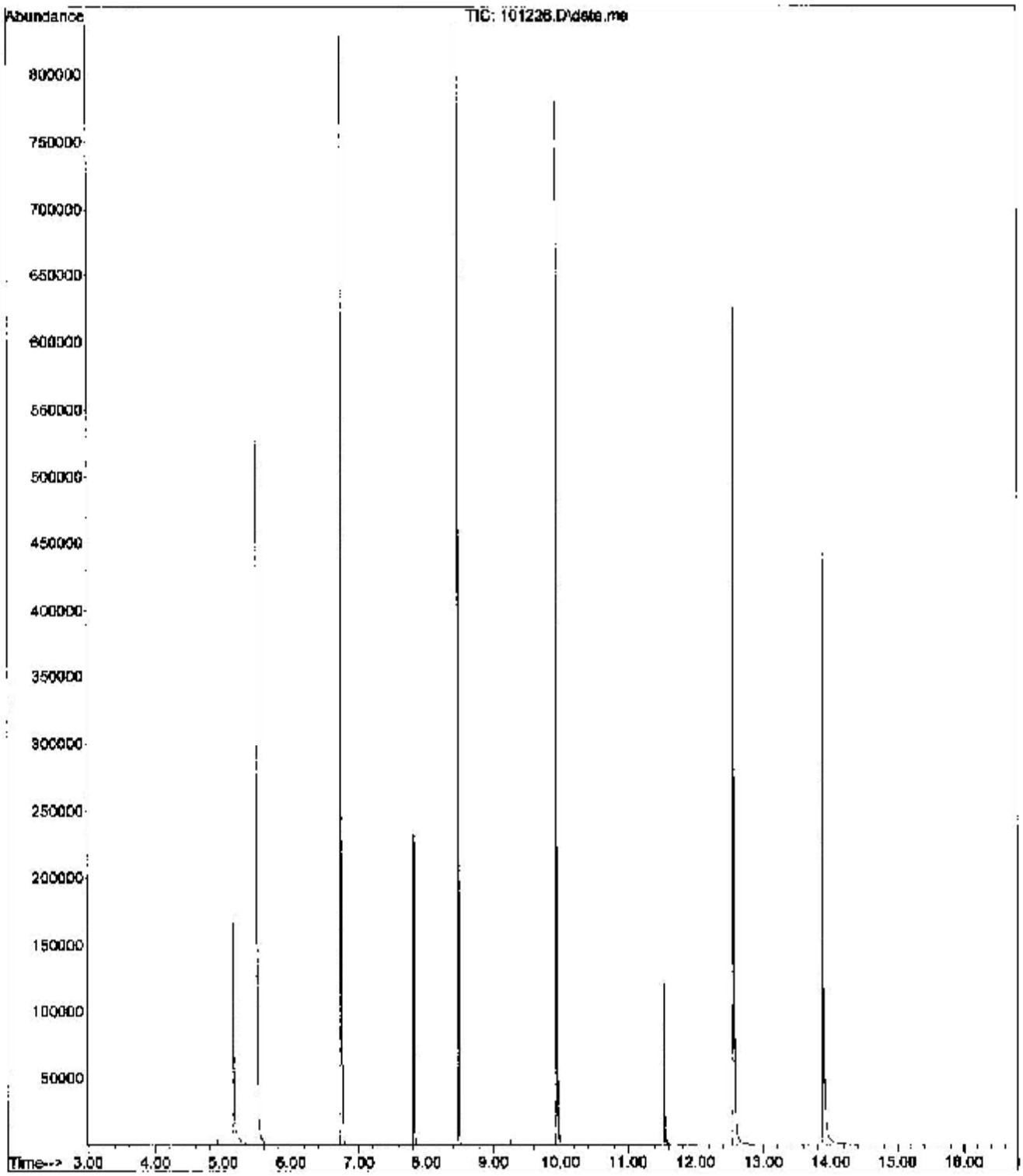
Quant Time: Oct 12 17:32:58 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202845	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	650899	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	327671	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	535575	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.569	240	480327	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.889	264	468363	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	136485	885.78 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	134745	468.47 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	92473	468.41 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.400	107	41	N.D.	
5) Naphthalene	6.769	128	81	N.D.	
6) 2-Methylnaphthalene	7.457	142	74	N.D.	
7) 1-Methylnaphthalene	7.550	142	69	N.D.	
9) Acenaphtylene	8.336	152	1	N.D.	
11) Acenaphthene	8.506	152	7	N.D.	
12) Fluorene	9.023	166	17	N.D.	
14) Phenanthrene	9.969	178	202	N.D.	
15) Anthracene	10.019	178	8	N.D.	
17) Fluoranthene	0.000		0	N.D.	
18) Pyrene	11.372	202	128	N.D.	
19) Benzo (a) anthracene	12.567	228	1466	5.08 ug/L #	100
21) Chrysene	12.567	228	1344	N.D.	
22) benzo (b) fluoranthene	13.561	252	112	N.D.	
23) benzo (k) fluoranthene	13.584	252	166	N.D.	
24) benzo (a) pyrene	13.887	252	1114	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.950	276	15	N.D.	
27) Dibenz (a,h) anthracene	14.971	278	16	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	25	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:33:02 2012 PAH

File : D:\Data\SVOC\121212\101226.D
Operator :
Acquired : 12 Oct 2012 10:24 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209174-005A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 22



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101227.D
Acq On : 12 Oct 2012 10:49 am
Operator :
Sample : 1209174-007A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 23 Sample Multiplier: 1

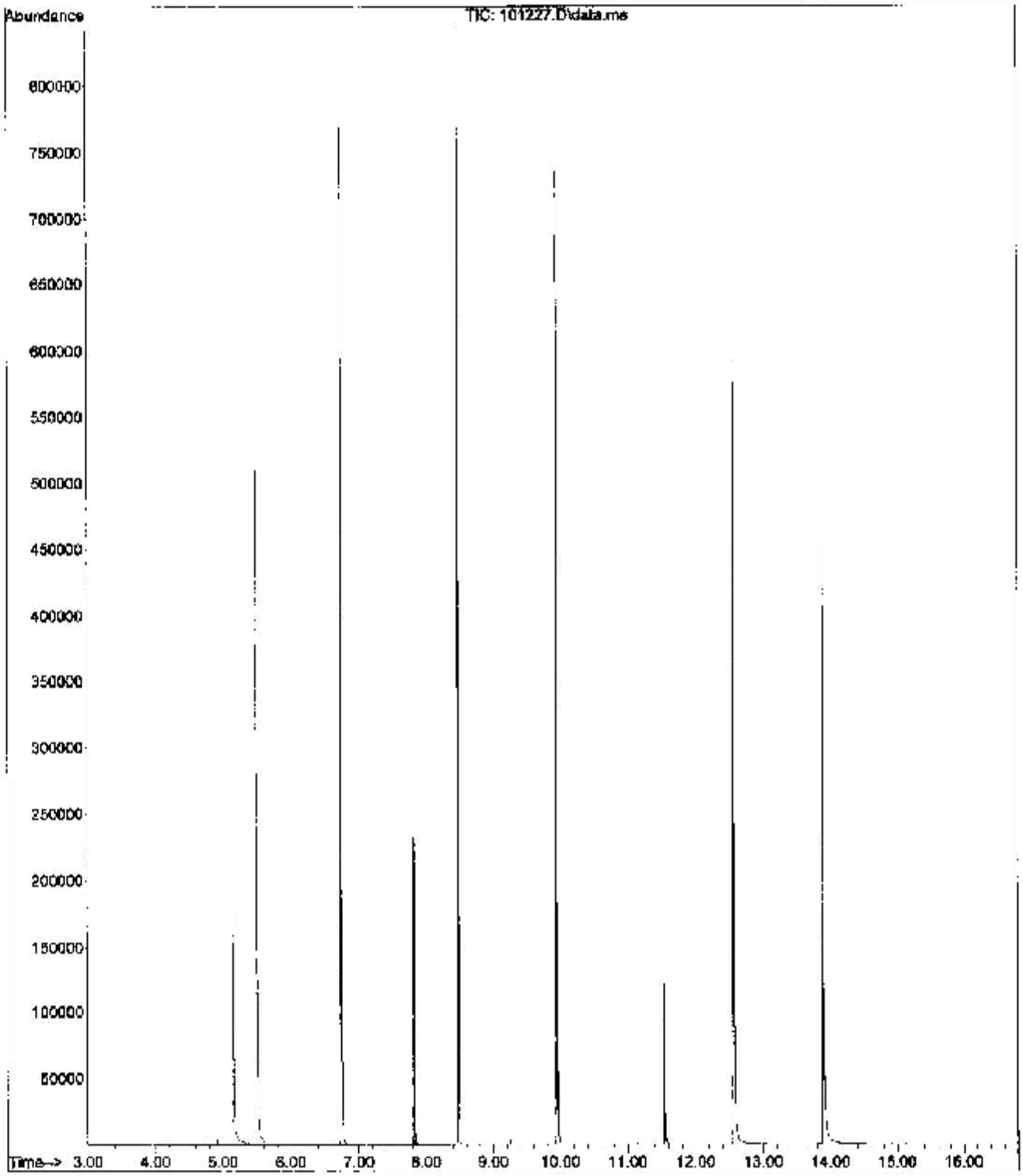
Quant Time: Oct 12 11:06:00 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	198958	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	637466	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	320454	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	524258	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	475784	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	464820	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	134796	891.91 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131592	467.15 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	92696	479.67 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.449	107	121	N.D.	
5) Naphthalene	6.767	128	421	N.D.	
6) 2-Methylnaphthalene	7.459	142	145	N.D.	
7) 1-Methylnaphthalene	7.552	142	103	N.D.	
9) Acenaphthylene	8.340	152	78	N.D.	
11) Acenaphthene	8.475	152	27	N.D.	
12) Fluorene	9.024	166	127	N.D.	
14) Phenanthrene	9.968	178	706	N.D.	
15) Anthracene	10.021	178	155	N.D.	
17) Fluoranthene	11.148	202	542	N.D.	
18) Pyrene	11.371	202	591	N.D.	
19) Benzo (a) anthracene	12.566	228	1588	5.63 ug/L #	100
21) Chrysene	12.566	228	885	N.D.	
22) benzo (b) fluoranthene	13.561	252	213	N.D.	
23) benzo (k) fluoranthene	13.580	252	381	N.D.	
24) benzo (a) pyrene	13.840	252	197	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	42	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	32	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	74	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:33:13 2012 PAH

File : D:\Data\SVOC\101212\101227.D
Operator :
Acquired : 12 Oct 2012 10:49 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209174-007A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 23



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101228.D
Acq On : 12 Oct 2012 11:14 am
Operator :
Sample : 1209174-007ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 24 Sample Multiplier: 1

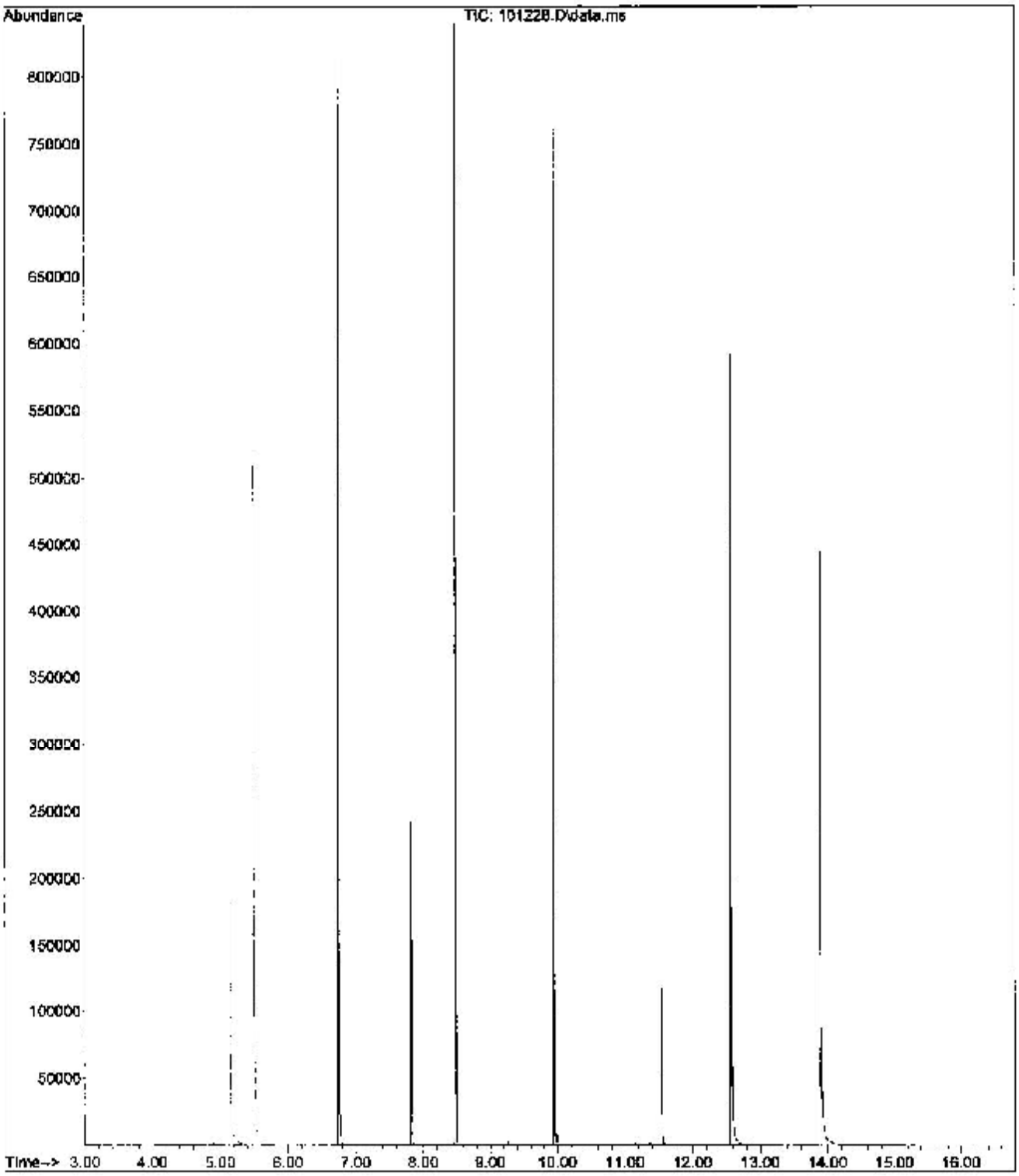
Quant Time: Oct 12 17:33:34 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	201278	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	646638	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.477	164	326081	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	533506	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.569	240	481274	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	466710	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139284	910.98 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	134615	471.10 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	94462	480.34 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.461	107	63	N.D.	
5) Naphthalene	6.766	128	518	N.D.	
6) 2-Methylnaphthalene	7.457	142	128	N.D.	
7) 1-Methylnaphthalene	7.550	142	91	N.D.	
9) Acenaphthylene	8.341	152	108	N.D.	
11) Acenaphthene	8.477	152	26	N.D.	
12) Fluorene	9.023	166	115	N.D.	
14) Phenanthrene	9.969	178	663	N.D.	
15) Anthracene	10.022	178	213	N.D.	
17) Fluoranthene	11.149	202	1204	N.D.	
18) Pyrene	11.369	202	1275	N.D.	
19) Benzo (a) anthracene	12.567	228	1894	6.59 ug/L #	100
21) Chrysene	12.593	228	559	N.D.	
22) benzo (b) fluoranthene	13.563	252	210	N.D.	
23) benzo (k) fluoranthene	13.580	252	492	N.D.	
24) benzo (a) pyrene	13.837	252	394	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.948	276	133	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	14	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	67	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:33:41 2012 PAH

File : D:\Data\SVOC\101212\101228.D
Operator :
Acquired : 12 Oct 2012 11:14 am using AcqMethod DBPAH101012PHENOL.M
Instrument. : HP-MSD
Sample Name: 1209174-007ADUP
Misc Info : DUP 8-PAH-SIM-S-LIBBY
Vial Number: 24



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012D

Run No: 5130

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

QC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121791

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351996	6.247
	SAMPLE NO.								
01	ICV-3353	197741	5.496	328003	8.48	493899	12.569	642102	6.747
02	ICB-3353	209728	5.498	335188	8.478	483323	12.567	672101	6.745
03	CCV-3353A	248823	5.498	446598	8.478	729888	12.568	835095	6.747
04	CCB-3353A	258696	5.496	437548	8.478	648472	12.566	875931	6.747
05	MB-3353	228710	5.496	370265	8.478	542591	12.566	740478	6.745
06	LCS-3353	225942	5.497	382348	8.478	590335	12.568	740680	6.745
07	1209174-008A	232234	5.498	374960	8.477	550460	12.566	748895	6.747
08	1209174-008AMS	235834	5.497	398432	8.478	614892	12.566	768305	6.745
09	CCV-3353B	232440	5.498	409961	8.48	656491	12.569	769594	6.745
10	CCB-3353B	288230	5.496	467893	8.478	706470	12.567	926216	6.745
11	1209174-001A	201571	5.496	327129	8.478	492535	12.568	645201	6.747
12	1209174-005A	202645	5.498	327671	8.478	480327	12.569	650899	6.745
13	1209174-007A	198958	5.497	320454	8.478	475784	12.568	637486	6.747
14	1209174-007ADUP	201278	5.498	326061	8.477	481274	12.569	646638	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012D

Run No: 6130

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121791

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		S5 Perylene-d1		6 Phenanthrene-d	
		AREA #	RT #	AREA #	RT #
	12 HOUR STD	569722	13.889	614915	9.945
	UPPER LIMIT	1139444	14.389	1229830	10.445
	LOWER LIMIT	284861	13.389	307458	9.445
	SAMPLE NO.				
01	ICB-3353	445838	13.885	542903	9.944
02	ICV-3353	472138	13.887	518454	9.945
03	CCV-3353A	702387	13.885	743459	9.945
04	CCB-3353A	599480	13.885	710840	9.945
05	MB-3353	501236	13.885	604432	9.945
06	LCS-3353	561221	13.887	606512	9.944
07	1209174-008A	519311	13.887	617344	9.946
08	1209174-008AMS	590228	13.885	631984	9.944
09	1209174-001A	473955	13.887	538754	9.945
10	1209174-005A	466363	13.889	535575	9.945
11	1209174-007A	484820	13.887	524258	9.947
12	1209174-007ADUP	486710	13.887	533506	9.945
13	CCV-3353B	673837	13.887	684284	9.945
14	CCB-3353B	701425	13.887	758755	9.945

IS5 Perylene-d12 = Perylene-d12

IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

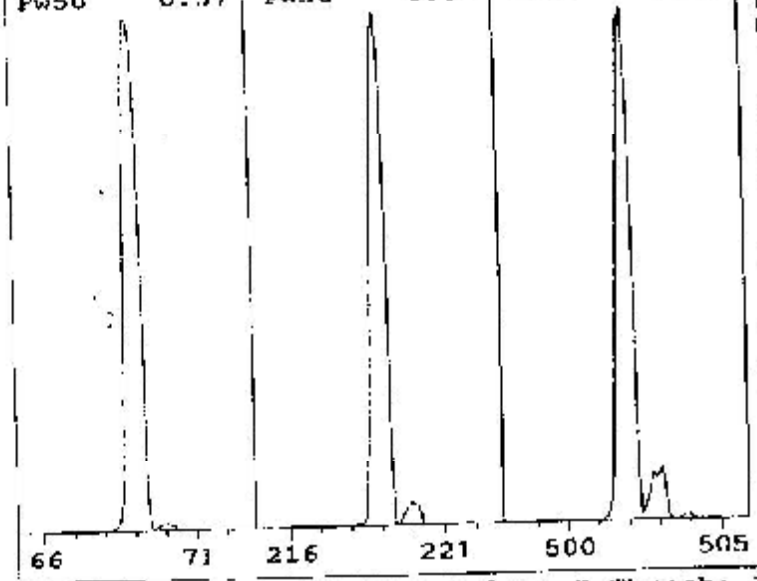
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00	Ion Pol	Pos
Ab	496024	Ab	310727	Ab	13192		
Pw50	0.57	Pw50	0.53	Pw50	0.55		

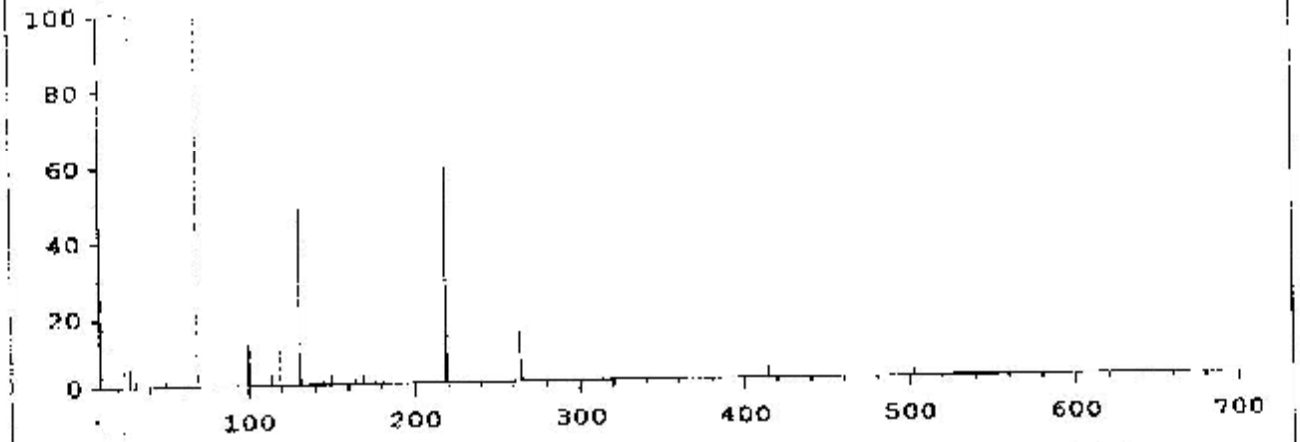
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

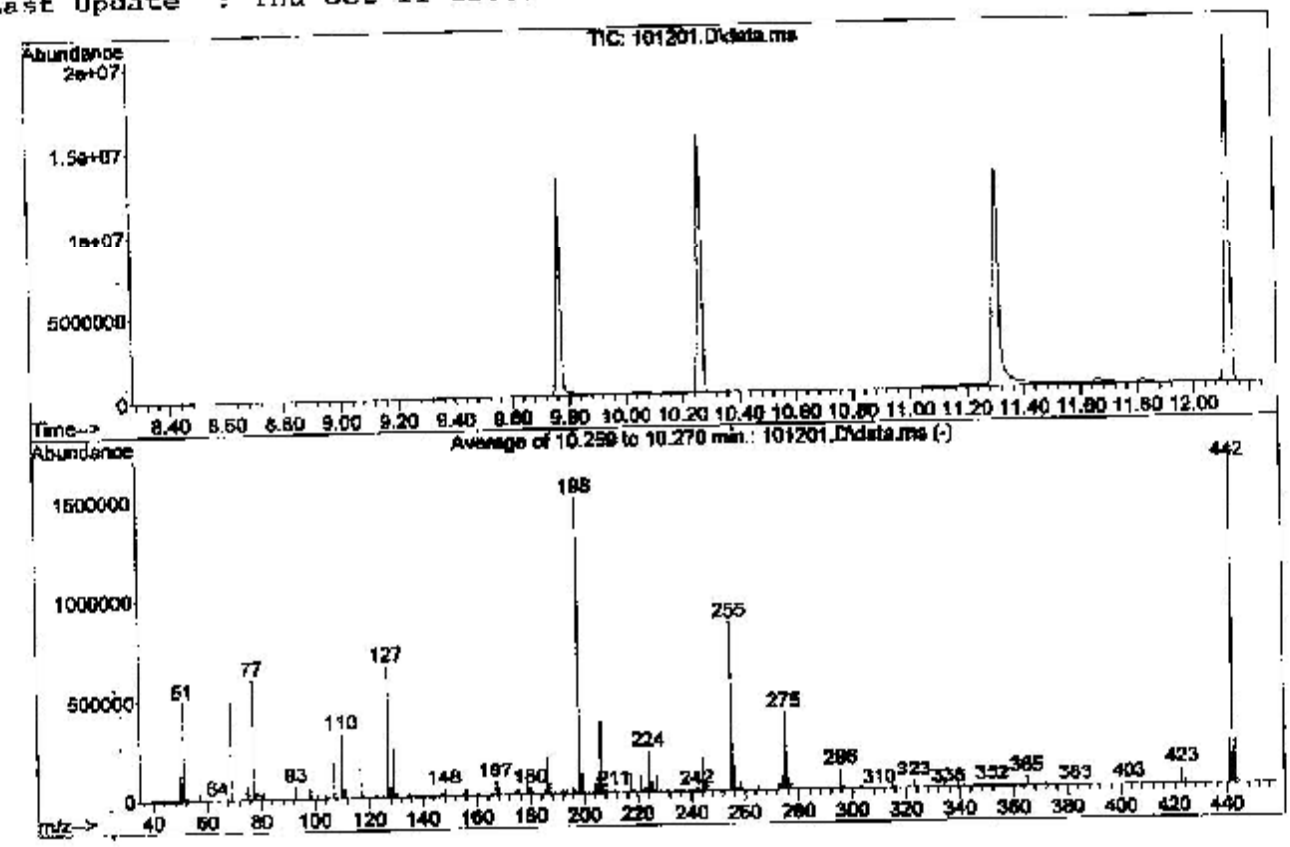
MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	48.6	59.1	2.8	2.3	

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

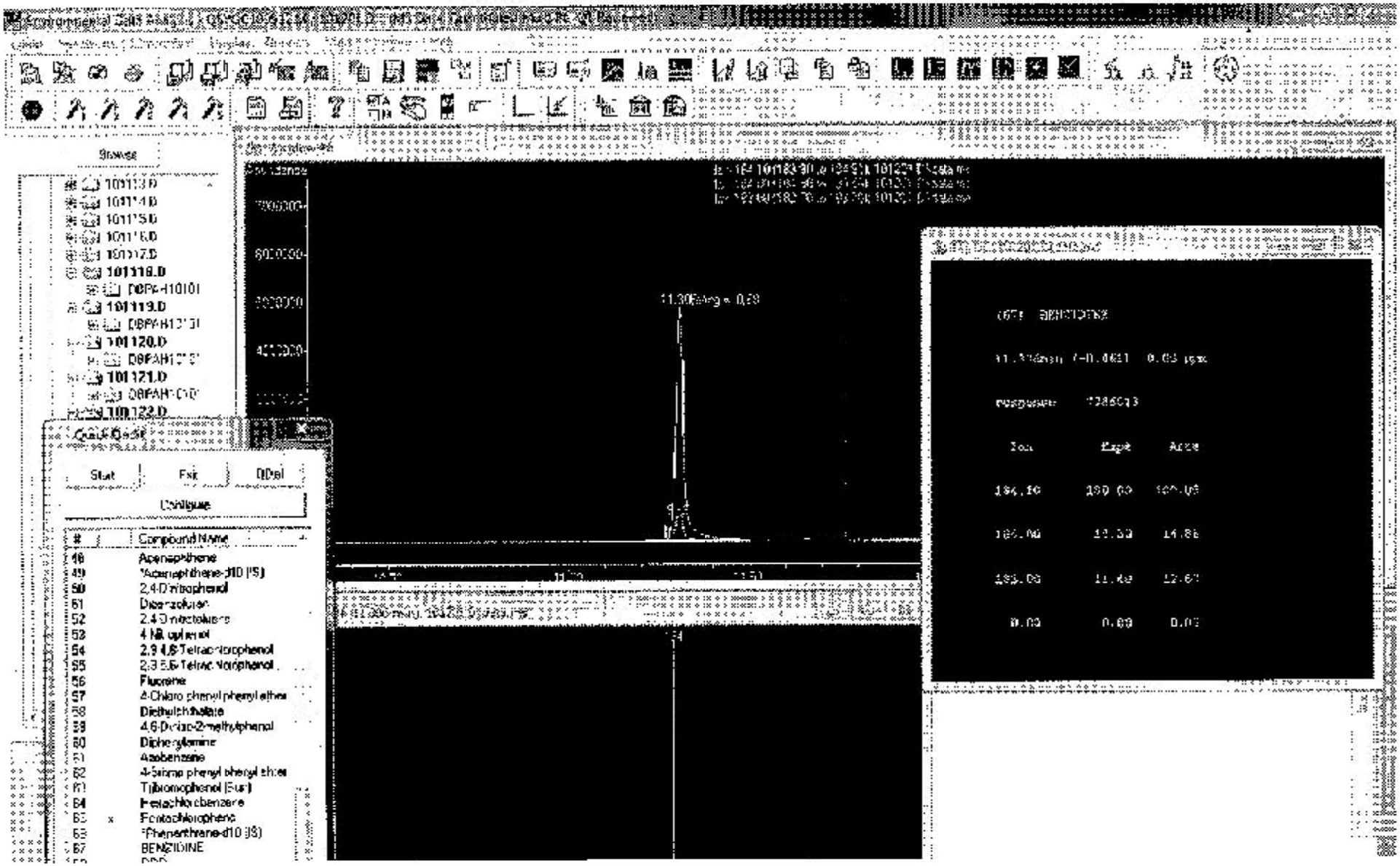
Integration File: RTEINTSG8270.P

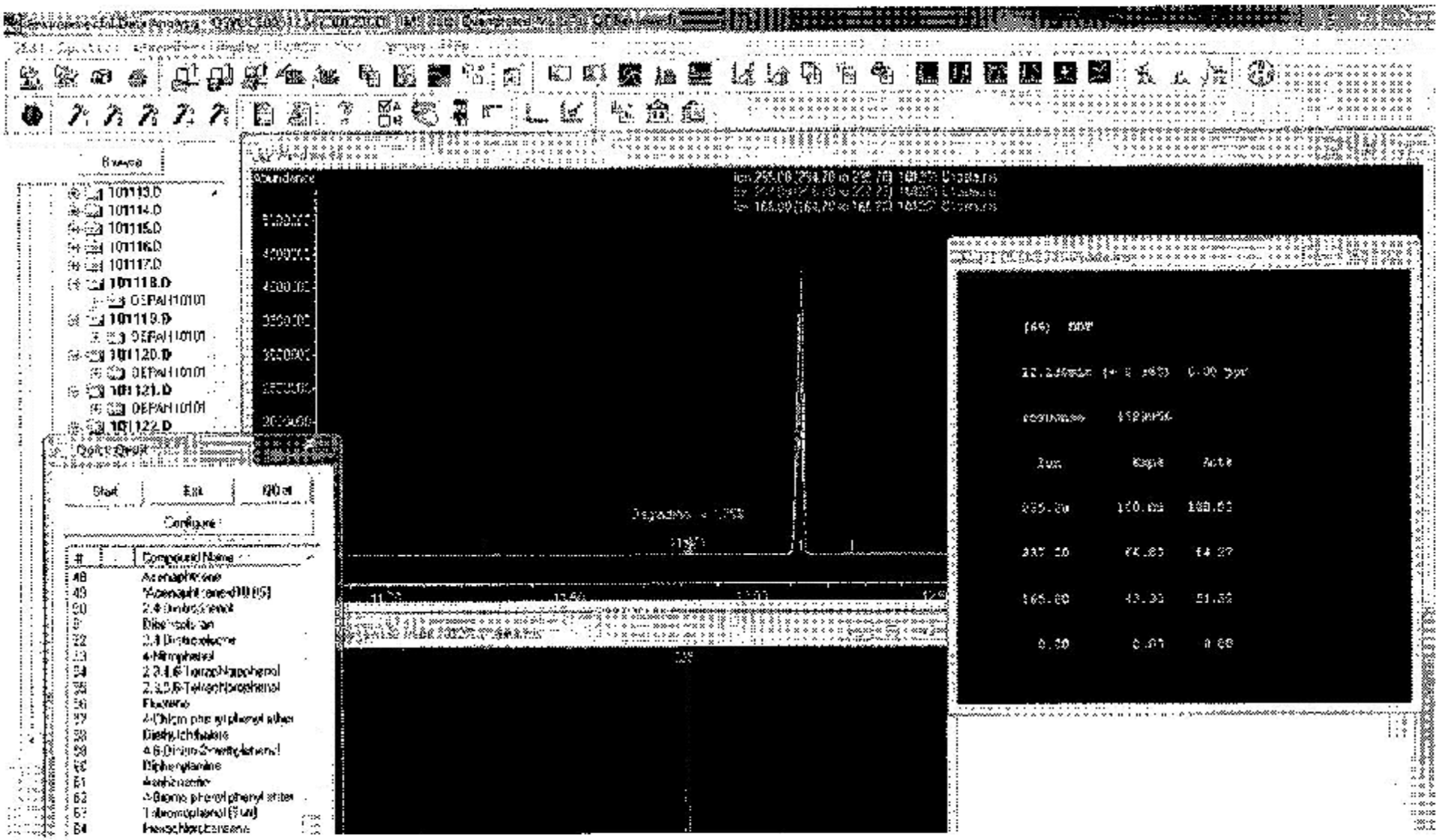
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

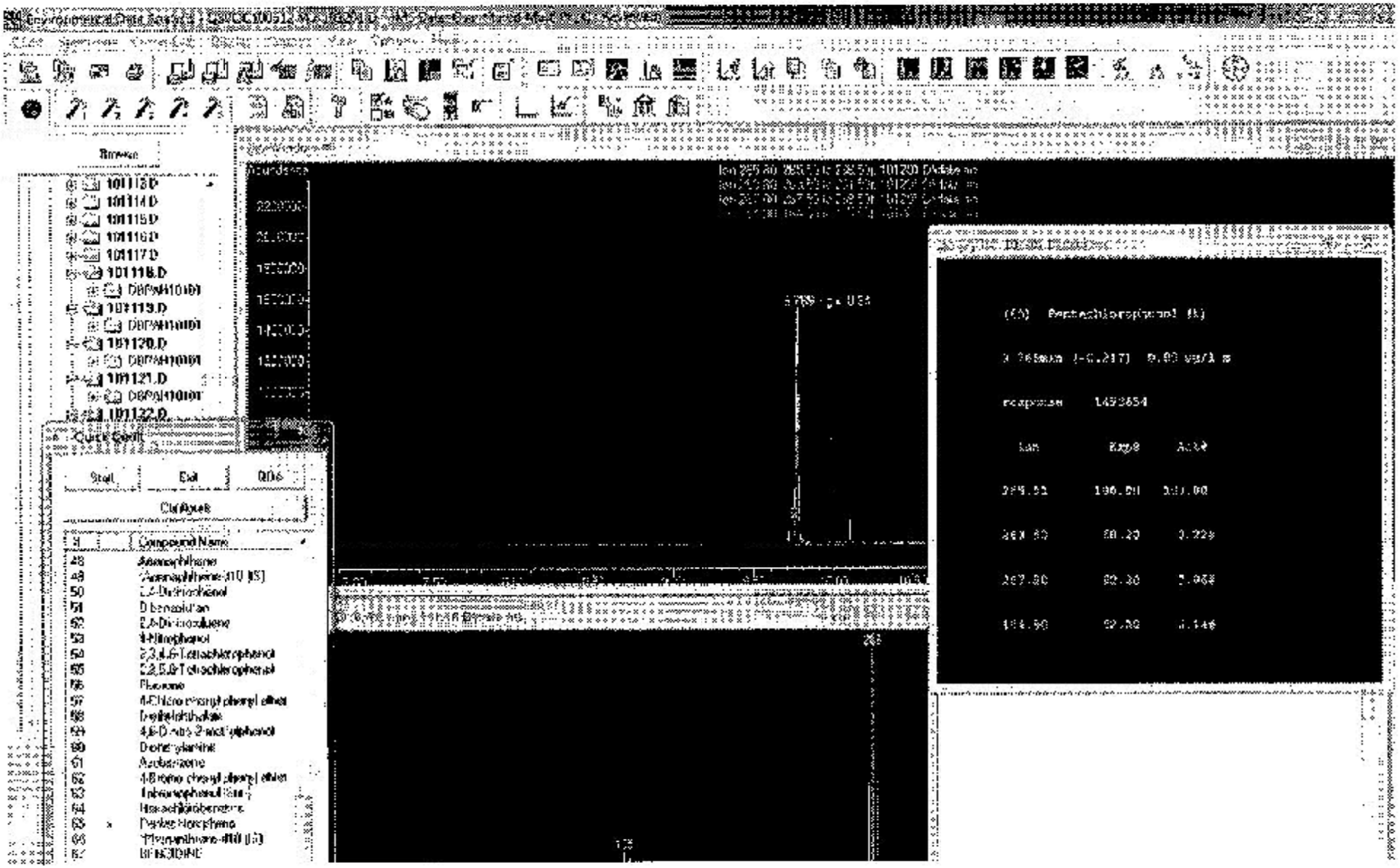


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Start
Exit
Edit
Continue
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Hexachlorobenzene
64 Pentachlorophenol
65 Phenanthrene-d10 (S)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expe Actu
184.10 100.00 100.00
185.00 15.53 14.86
186.00 11.42 12.67
0.00 0.00 0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
DEPAH101101
101119.D
DEPAH101101
101120.D
DEPAH101101
101121.D
DEPAH101101
101122.D
Start
Exit
Configure
Compound Name
Acenaphthene
Diphenylamine
Fluoranthene
Pyrene
Benzo[a]anthracene
Chrysene
Bis(2-ethylhexyl)phthalate
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Indeno[1,2,3-cd]pyrene
Dibenz[a,h]anthracene
Benzo[g,h,i]perylene
Mass
Area
Ratio
235.00
165.00
0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confirm
Stat
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl-phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl-phenyl ether
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
Phenanthrene
Anthracene
Carbazole
Di-n-butylphthalate
Fluoranthene
Benzidine
Pyrene
Butylbenzylphthalate
3,3'-Dichlorobenzidine
Benzo(a)anthracene
Chrysene-d12 (IS)
Chrysene
bis(2-Ethylhexyl)phthalate
Di-n-octylphthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Perylene-d12 (IS)
Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene
Benzo(g,h,i)perylene
(A) Pentachlorophenol (A)
Response 1493654
Ion Ratio Lower Upper
265.92 100.00 100.00
263.92 80.20 0.22%
267.90 82.30 5.98%
184.90 62.02 1.14%

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 26, 2012 and October 12, 2012. A separate soil sample had a fertility analysis performed.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120926-30
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

N/A

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

I010

Date: 9/26/12 Page: 1 of 1

Client: GeoEngineers
Address: 1101 S. Fawcett Ave Ste 200 Tacoma, WA 98402
Phone: 253 3834940 Fax:
Client Project # 0504-042-02

Project Manager: Neil Morton
Project Name: Iron Dale
Location: Irondale, WA City: Irondale, WA
Collector: Aaron Waggoner Date of Collection: 9-26-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ-WSW1-92612	7'	0915	Sed	2-4oz Jar							X	⊗					Extract
2 IRZ-B1-92612	12'	0920	Sed	2-4oz Jar							X						
3 IRZ-B2-92612	12'	1120	Sed	2-4oz Jar							X						
4 IRZ-ESW1-92612	4.5'	1200	Sed	2-4oz Jar							X						
5 IRZ-Dupe1-92612	-	1200	Sed	2-4oz Jar							X						Dupe of IRZ-ESW1-92612
6 IRZ-B3-92612	10'	1300	Sed	2-4oz Jar							X						
7 IRZ-WSW2-92612	7'	1335	Sed	2-4oz Jar							X	⊗					10-8-12 run cPAH per Neil via email Standard TAT
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/26/12 1600	[signature]	9/26/12 1600
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
Extract / Hold PAHs

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/26/12 Page: 1 of 1

Client: GeoEngineers

Project Manager: Neil Morton

Address: 1101 S. Fawcett Ave, Ste 200, Tacoma, WA 98402

Project Name: Frondale

Phone: 253-383-4940 Fax:

Location: Frondale City: Frondale, WA

Client Project #

Collector: Paul Robinette Date of Collection: ~~Pat~~

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	Fertility analysis		Field Notes
1 Topsoil 1-92112	Top		soil	4 oz											X			see below
2																		
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9-26-12 ~~389~~	Paul Bond	9-26-12 1547

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Magnesium, nitrate, Potassium, phosphorus, calcium, mingr elements, soluble salts/conductivity and ~~PH~~. 48 hr

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120926-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/26/2012

Libby Job #: L120926-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	6:40:45	C187	3 µl		568		
500 ppm Diesel 791	6:40:45	D185	3 µl		552		
1000 ppm LCS 343	7:08:36	C188	3 µl	int	982		
1000 ppm LCSD 343	7:08:36	D186	3 µl	int	1071		
Method Blank	7:45:26	C189	3 µl	20.3	nd	nd	nd
Method Blank	7:45:26	D187	3 µl	18.1	nd	nd	nd
IRZ-B1-92512	8:21:49	C190	3 µl	20.4	nd	nd	nd
IRZ-B2-92512	8:21:49	D188	3 µl	18.9	nd	nd	nd
IRZ-B3-92512	8:54:24	C191	3 µl	19.6	nd	nd	nd
IRZ-B4-92512	8:54:24	D189	3 µl	19.3	nd	nd	nd
IRZ-B5-92512	9:28:28	C192	3 µl	18.8	nd	nd	nd
IRZ-B5-92512 Dup	9:28:28	D190	3 µl	18.8	nd	nd	nd
IRZ-ESW1-92512	10:02:14	C193	3 µl	18.1	nd	nd	nd
IRZ-ESW1-92512 Dup	10:02:14	D191	3 µl	19.2	nd	nd	nd
IRZ-B1-92612	10:35:24	C194	3 µl	19.0	nd	nd	nd
IRZ-WSW1-92612	10:35:24	D192	3 µl	20.0	nd	nd	nd
IRZ-B2-92612	11:57:46	C195	3 µl	19.6	nd	nd	nd
No Sample	11:57:46	D193	3 µl				
IRZ-ESW1-92612	12:51:38	C196	3 µl	18.8	nd	nd	nd
IRZ-Dupe1-92612	12:51:38	D194	3 µl	20.1	nd	nd	nd
IRZ-B3-92612	13:30:34	C197	3 µl	16.4	nd	nd	nd
No Sample	13:30:34	D195	3 µl				

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/26/2012

Libby Job #: L120926-30		Instrument: Shimadsu GC14A				Analyst/s: Paul Burke	
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
IRZ-WSW2-92612	14:06:44	C18	3 µl	17.6	nd	nd	nd
IRZ-WSW2-92612 Dup	14:06:44	D196	3 µl	19.3	nd	nd	nd
500 ppm Diesel 791	14:44:14	C199	3 µl		444		
500 ppm Diesel 791	14:44:14	D197	3 µl		468		

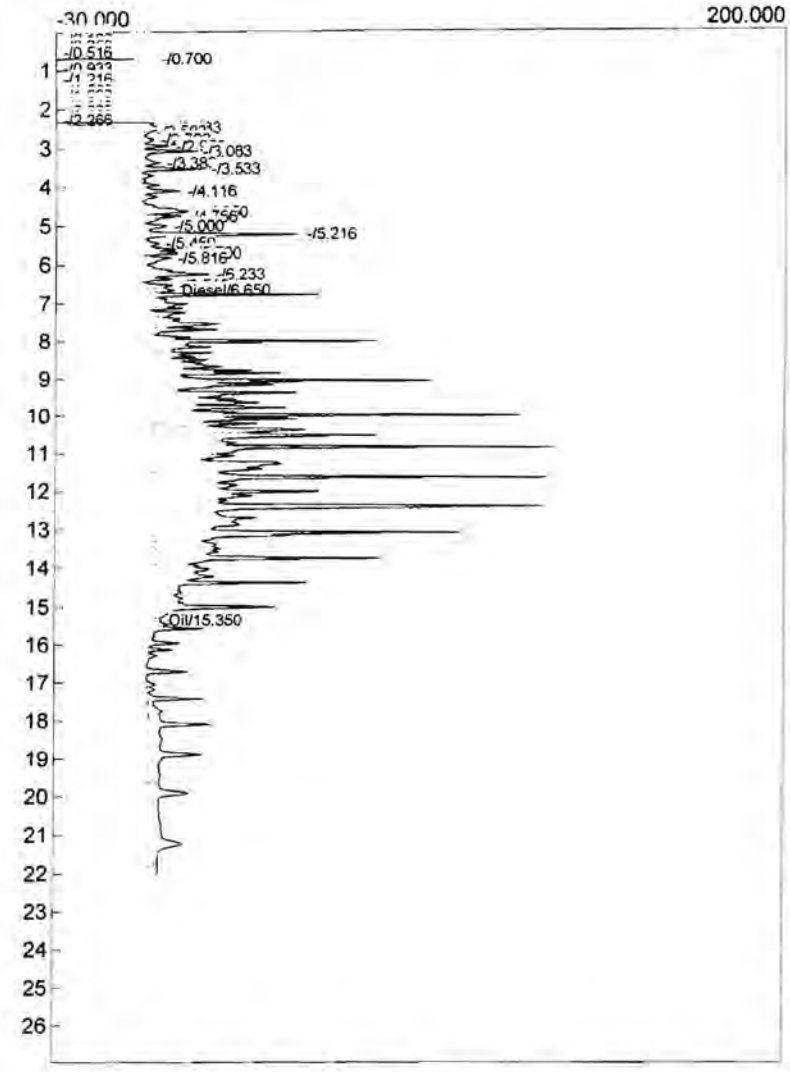
Analysis date: 09/26/2012 06:40:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C187.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

'emperature program:

iit temp	Hold	Ramp	Final temp

vents:

ime	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	6.650	11532.1275	5.832	568.4505	ppm
)il	15.350	1223.7225	1.727	60.1629	ppm
		12755.8500		628.6134	

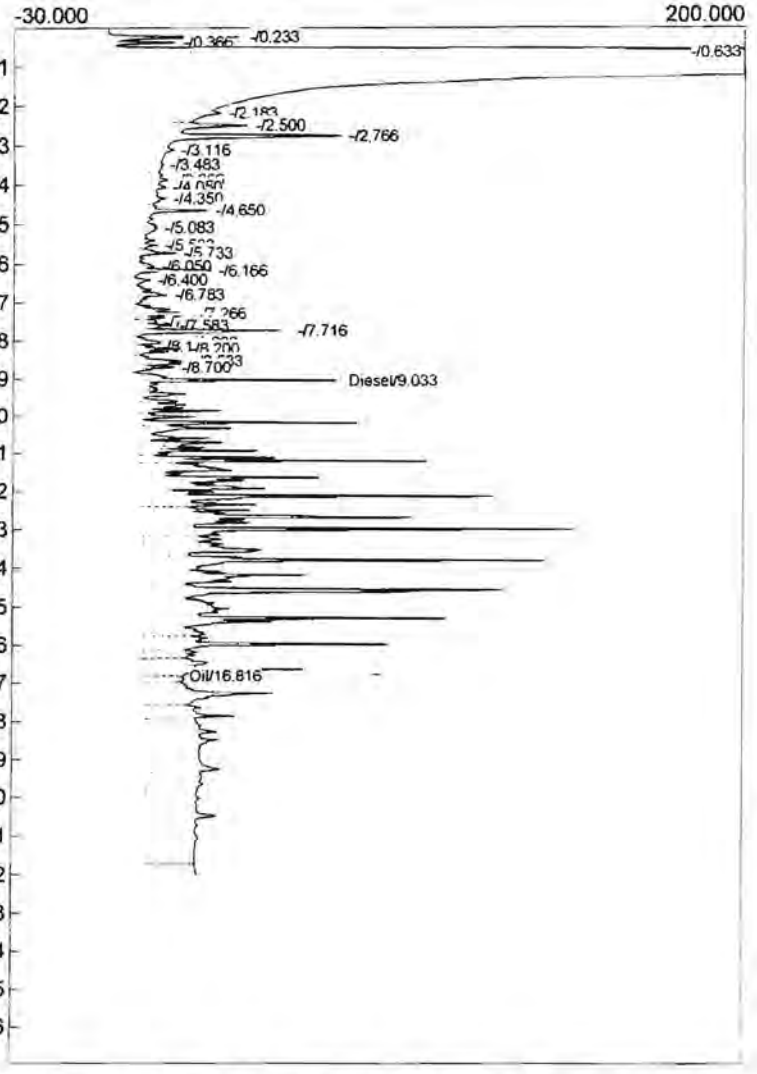
Analysis date: 09/26/2012 06:40:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D185.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.033	10385.6535	64.379	551.8359	ppm
Oil	16.816	5072.1020	11.579	268.3092	ppm
		15457.7555		820.1451	

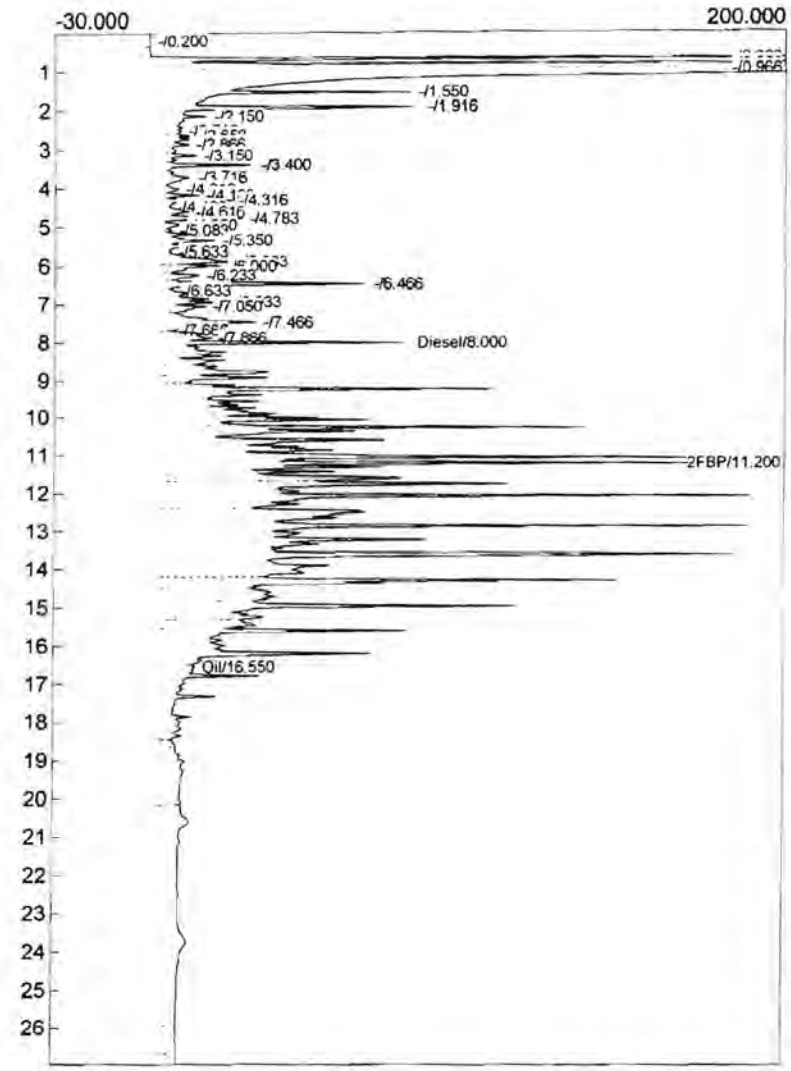
Lab name: Libby Environmental
Analysis date: 09/26/2012 07:08:36
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C188.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.000	19848.7900	77.586	981.1726	ppm
2FBP	11.200	938.2410	169.594	37.5296	ppm
Oil	16.550	3563.6105	10.130	175.2008	ppm
		24350.6415		1193.9031	

98%

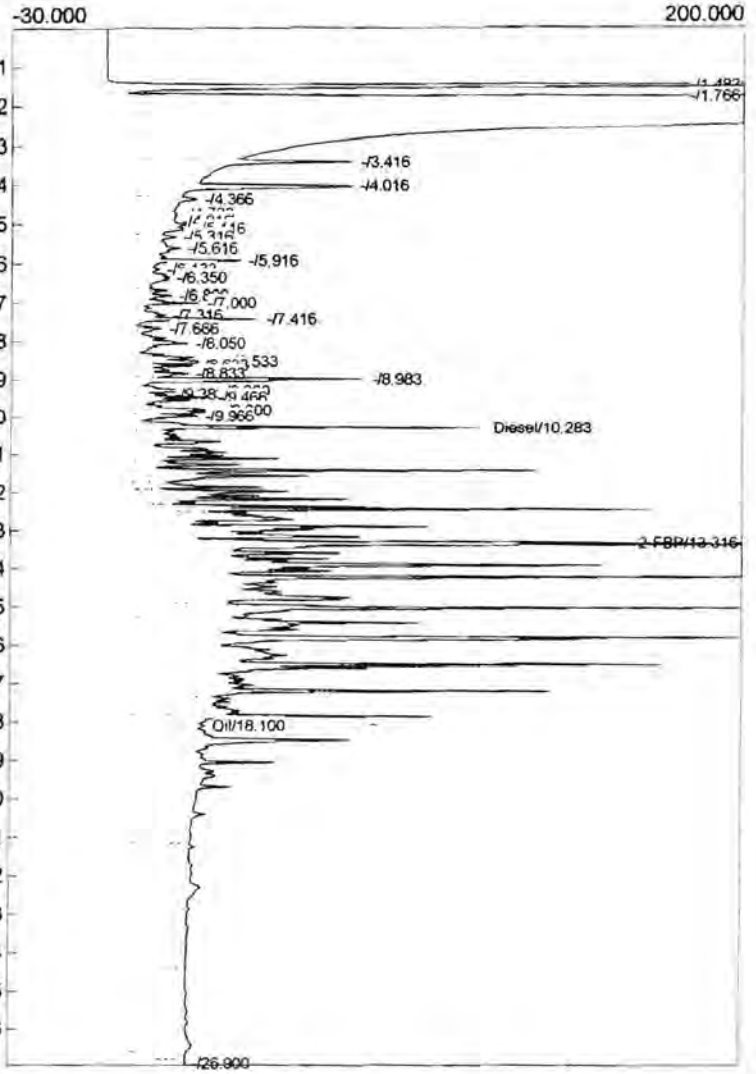
Analysis date: 09/26/2012 07:08:36
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D186.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.283	19975.2725	110.380	1070.6809	ppm
2-FBP	13.316	1481.9045	226.456	49.3968	ppm
Oil	18.100	10123.4965	22.523	537.8031	ppm
		31580.6735		1657.8808	

107%

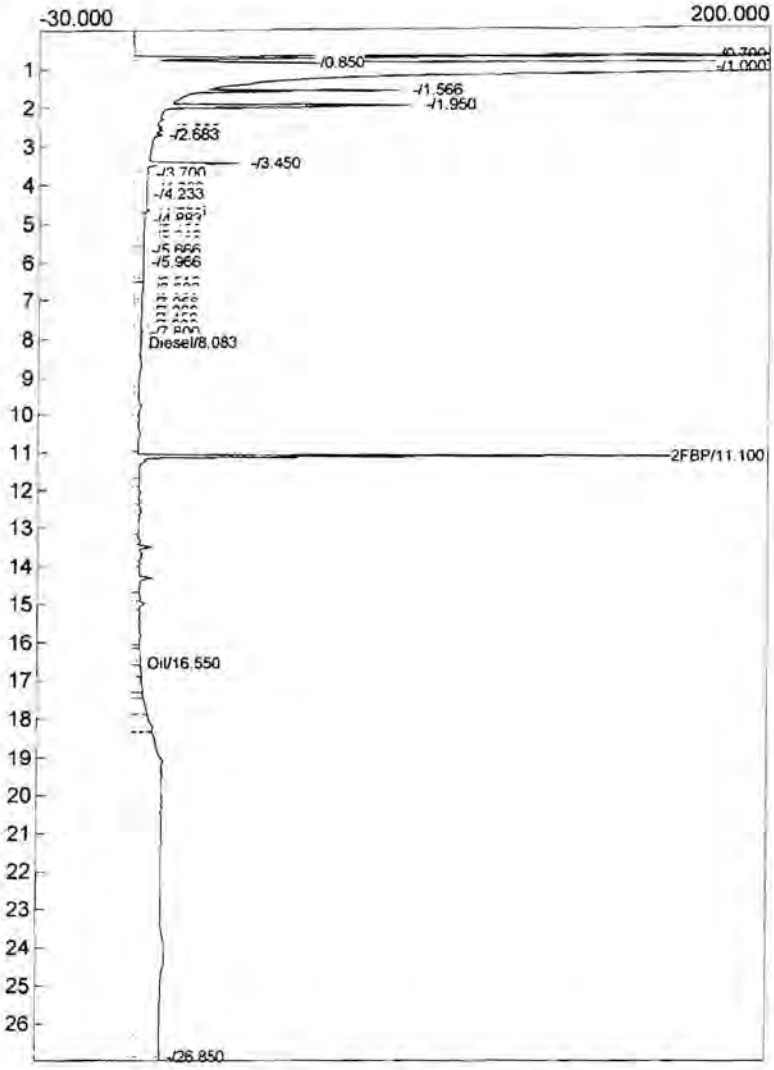
Lab name: Libby Environmental
Analysis date: 09/26/2012 07:45:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C189.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.083	912.6565	1.050	44.8697	ppm
2FBP	11.100	507.6840	180.475	20.3074	ppm
Oil	16.550	4328.1795	1.142	212.8255	ppm
		5748.5200		278.0026	

102%

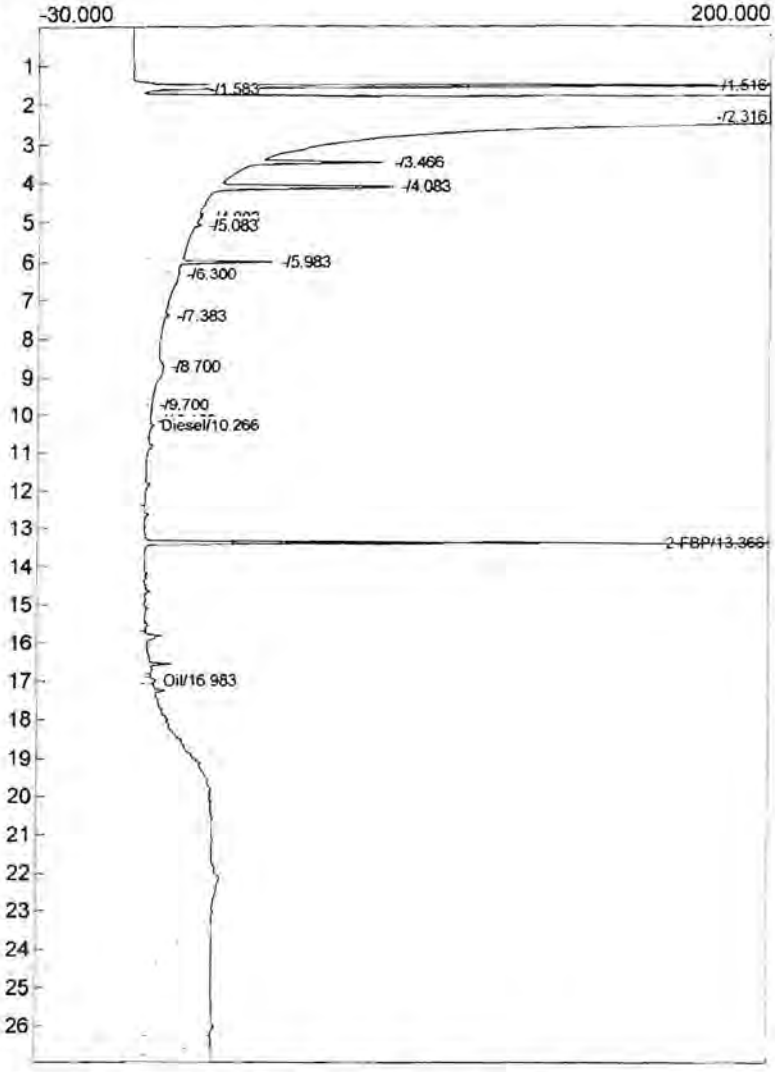
Lab name: Libby Environmental
Analysis date: 09/26/2012 07:45:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D187.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.266	797.9910	2.091	42.1407	ppm
2-FBP	13.366	543.8870	232.824	18.1296	ppm
Oil	16.983	10761.3515	3.686	571.9462	ppm
		12103.2295		632.2165	

91%

Lab name: Libby Environmental
Analysis date: 09/26/2012 07:45:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C189.CHR ()
Sample: Method Blank
Operator: PB

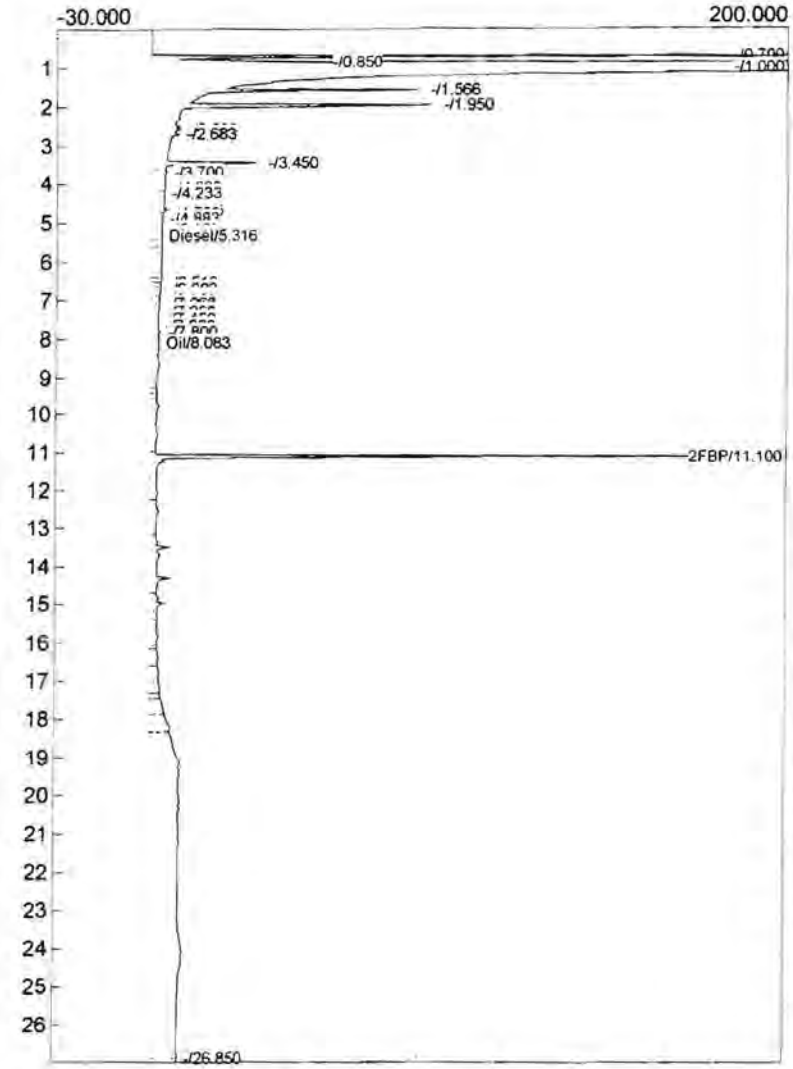
* USED for Bunker C air blank only

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.316	111.9400	1.753	5.5034	ppm
Oil	8.083	5240.8360	1.050	257.8198	ppm
2FBP	11.100	507.6840	180.475	20.3074	ppm
		5860.4600		283.6306	

Lab name: Libby Environmental
Analysis date: 09/26/2012 07:45:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D187.CHR ()
Sample: Method Blank
Operator: PB

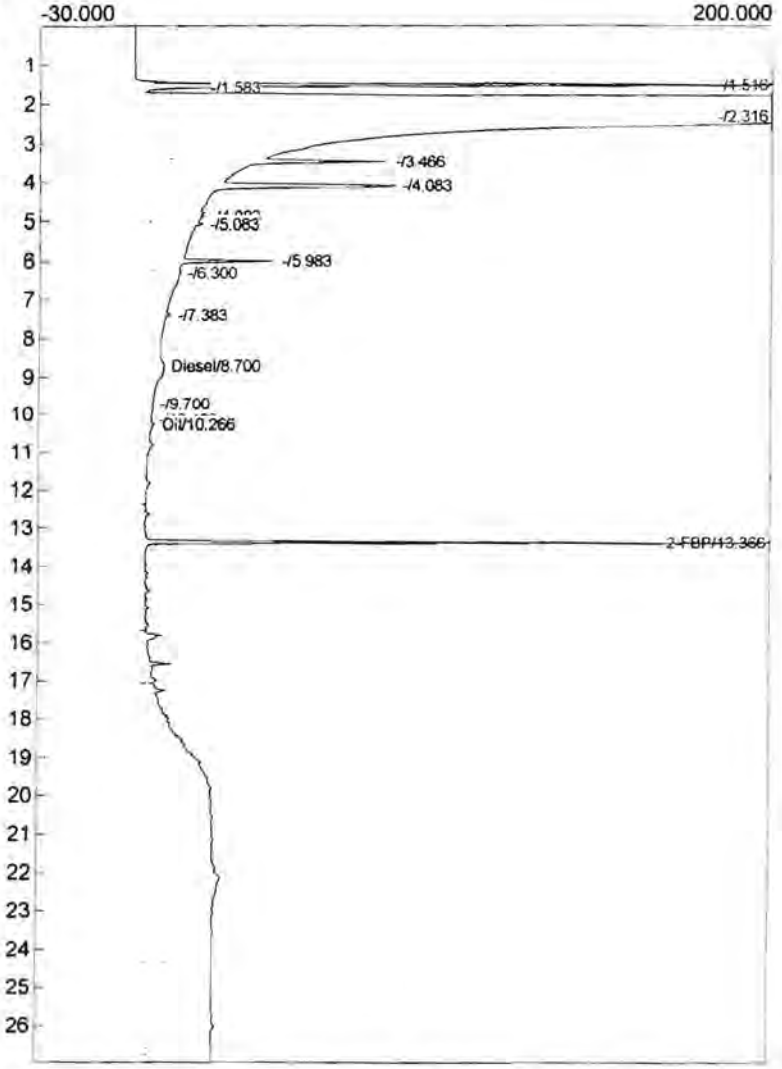
* USED For Bunker C air blank only.

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.700	262.0900	4.912	13.8406	ppm
Oil	10.266	11559.3425	2.091	614.7616	ppm
2-FBP	13.366	543.8870	232.824	18.1296	ppm
		12365.3195		646.7318	

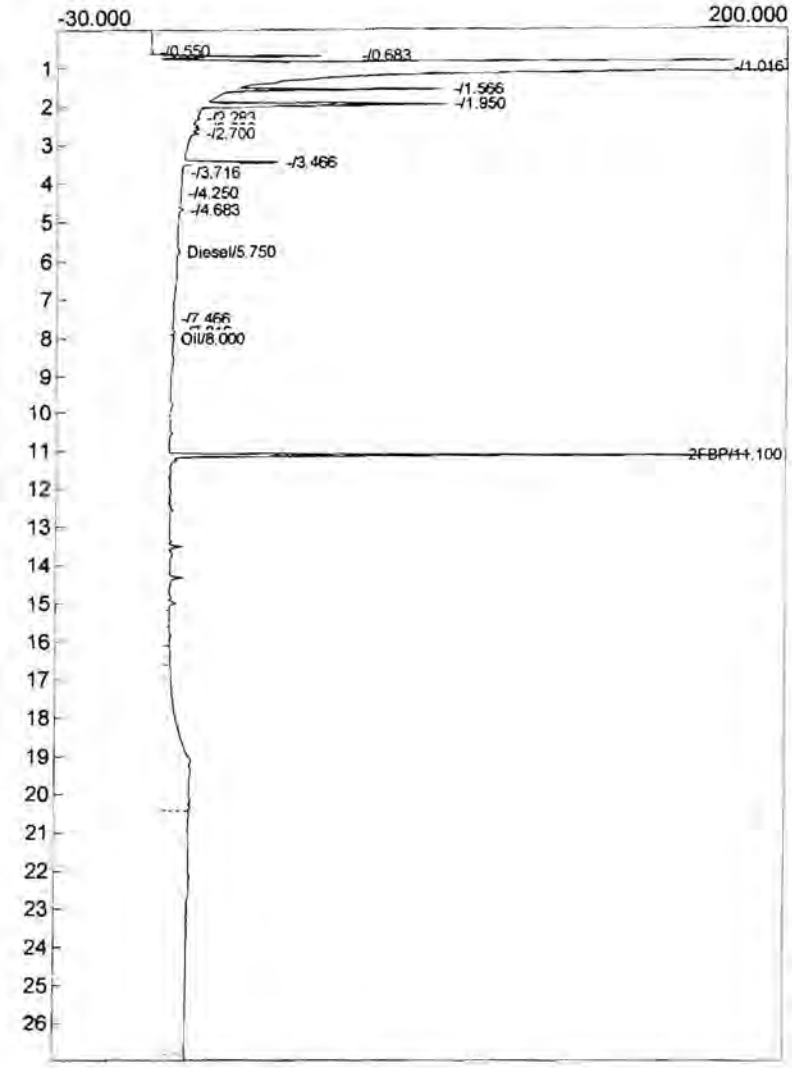
Lab name: Libby Environmental
Analysis date: 09/26/2012 08:21:49
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C190.CHR ()
Sample: IRZ-B1-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.750	229.9320	3.013	11.3043	ppm
Oil	8.000	4446.3155	1.295	218.6496	ppm
2FBP	11.100	509.9800	189.178	20.3992	ppm
		5186.2275		250.3532	

nd 102%

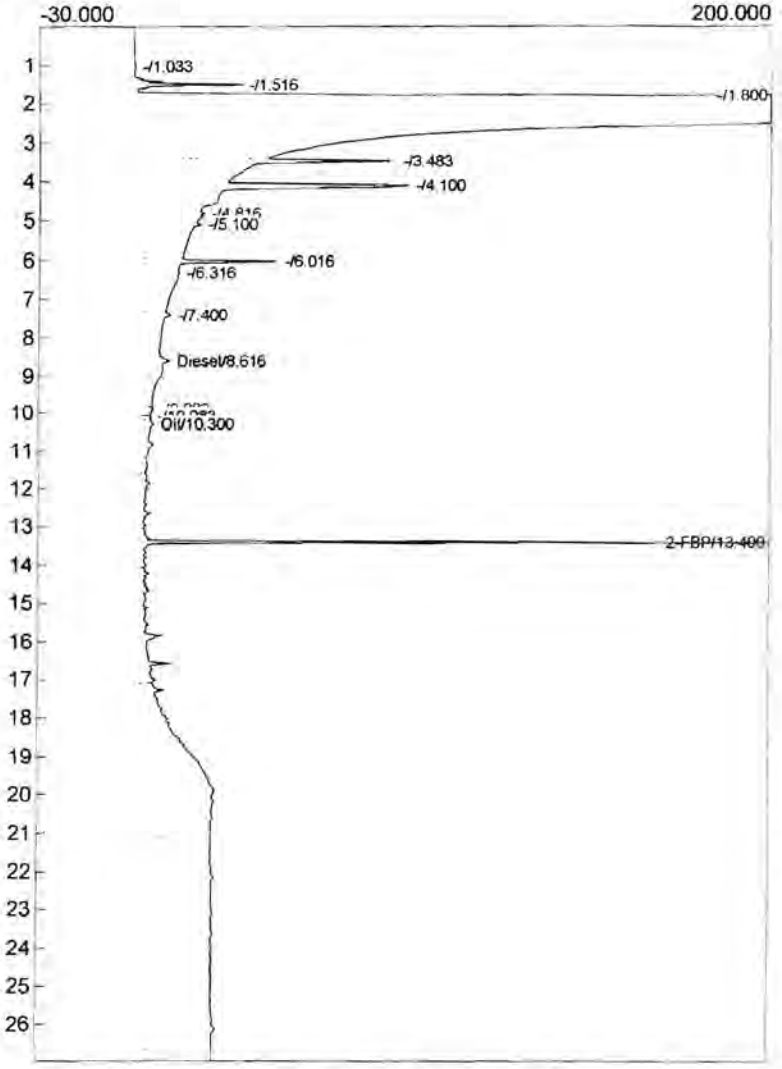
Lab name: Libby Environmental
Analysis date: 09/26/2012 08:21:49
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D188.CHR ()
Sample: IRZ-B2-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.616	369.5240	7.742	19.5140	ppm
Oil	10.300	11889.3110	2.849	632.5453	ppm
2-FBP	13.400	566.2010	253.881	18.8734	ppm
		12825.0360		670.9327	

nd 94%

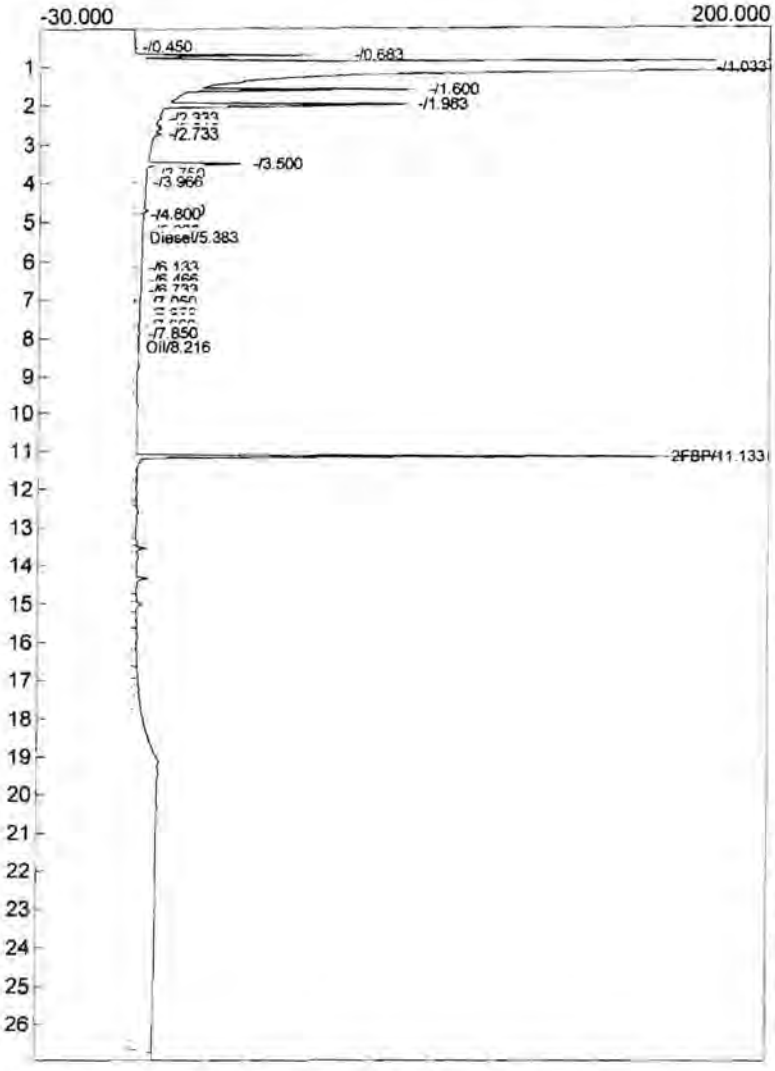
Analysis date: 09/26/2012 08:54:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C191.CHR ()
Sample: IRZ-B3-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.383	64.1455	1.512	3.1536	ppm
Oil	8.216	4329.0055	0.734	212.8662	ppm
2FBP	11.133	489.2885	196.004	19.5715	ppm
		4882.4395		235.5914	

nd 98%

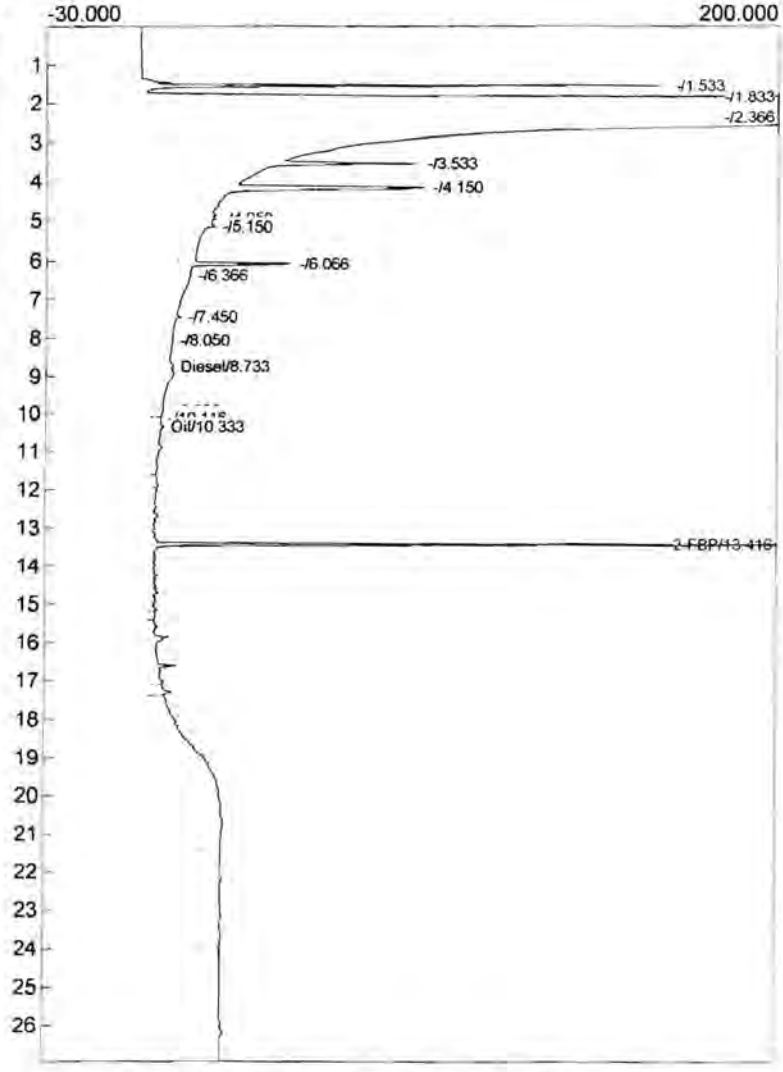
Analysis date: 09/26/2012 08:54:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D189.CHR ()
Sample: IRZ-B4-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.733	347.2760	6.052	18.3391	ppm
Oil	10.333	11941.0325	3.144	635.3329	ppm
2-FBP	13.416	579.6190	223.256	19.3206	ppm
		12867.9275		672.9926	

nd 97%

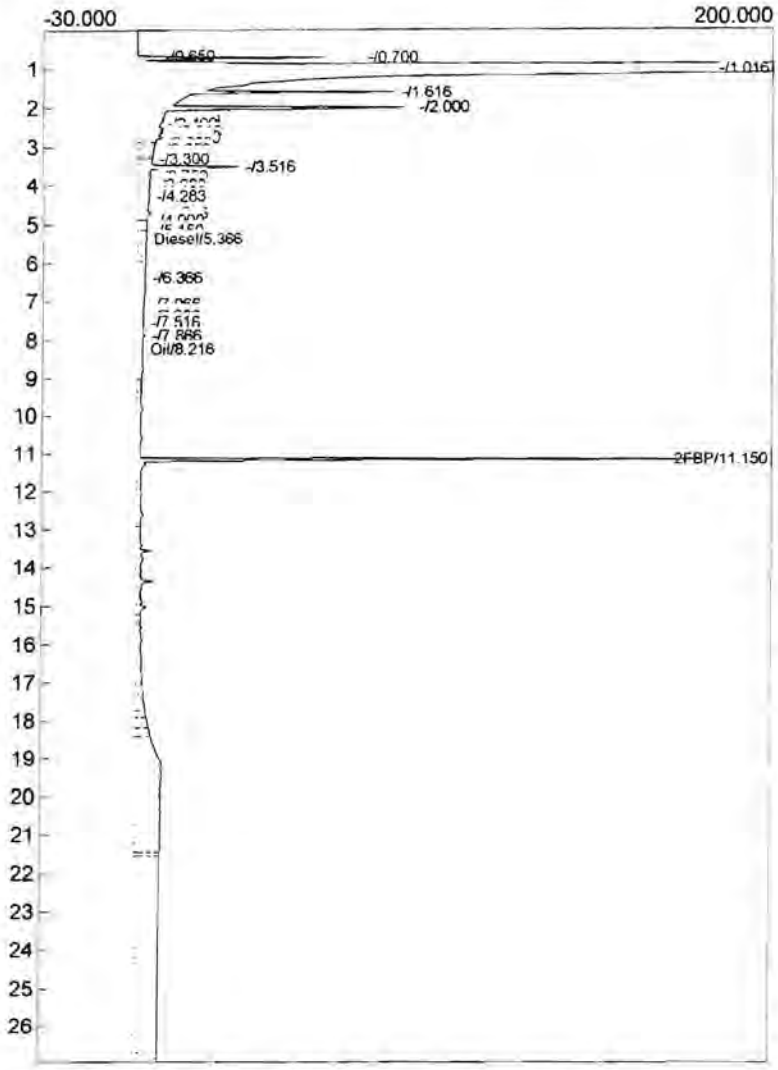
Lab name: Libby Environmental
Analysis date: 09/26/2012 09:28:28
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C192.CHR ()
Sample: IRZ-B5-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.366	58.5845	1.644	2.8802	ppm
Oil	8.216	4147.6260	0.714	203.9241	ppm
2FBP	11.150	469.9690	190.118	18.7988	ppm
		4676.1795		225.6031	

nd 94%

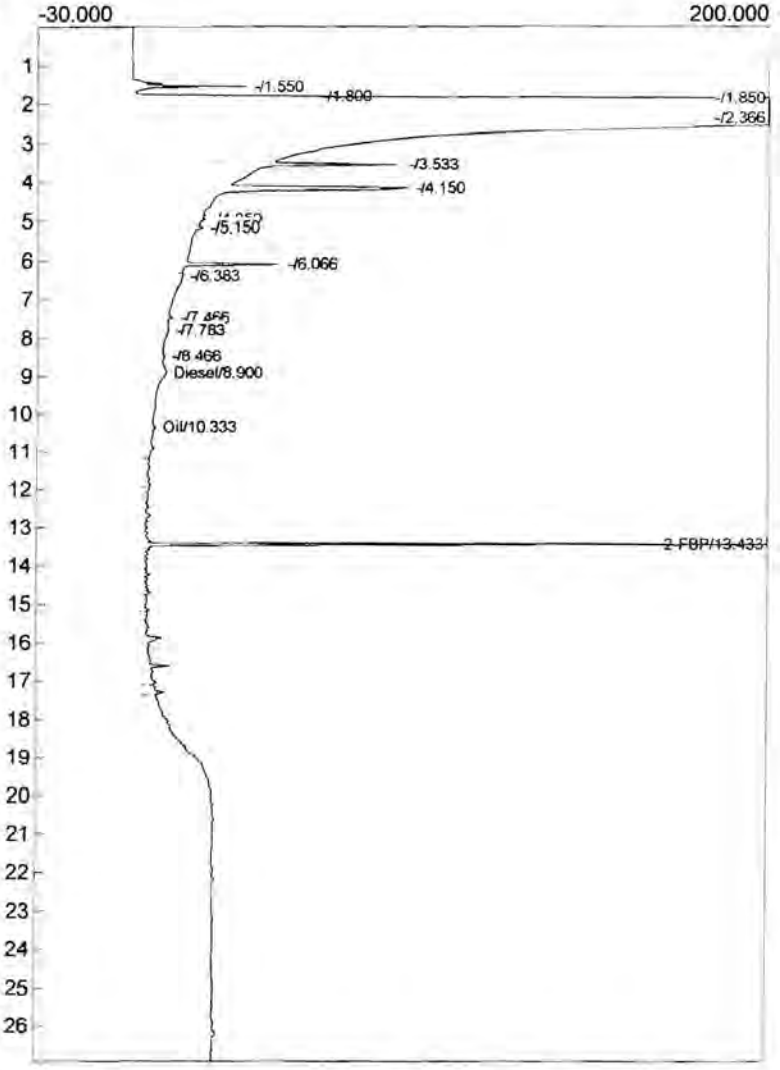
Lab name: Libby Environmental
Analysis date: 09/26/2012 09:28:28
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D190.CHR ()
Sample: IRZ-B5-92512 Dup
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.900	418.0330	6.643	22.0757	ppm
Oil	10.333	12031.7245	3.406	640.2207	ppm
2-FBP	13.433	565.0930	257.914	18.8364	ppm
		13014.8505		681.1329	

nd 94%

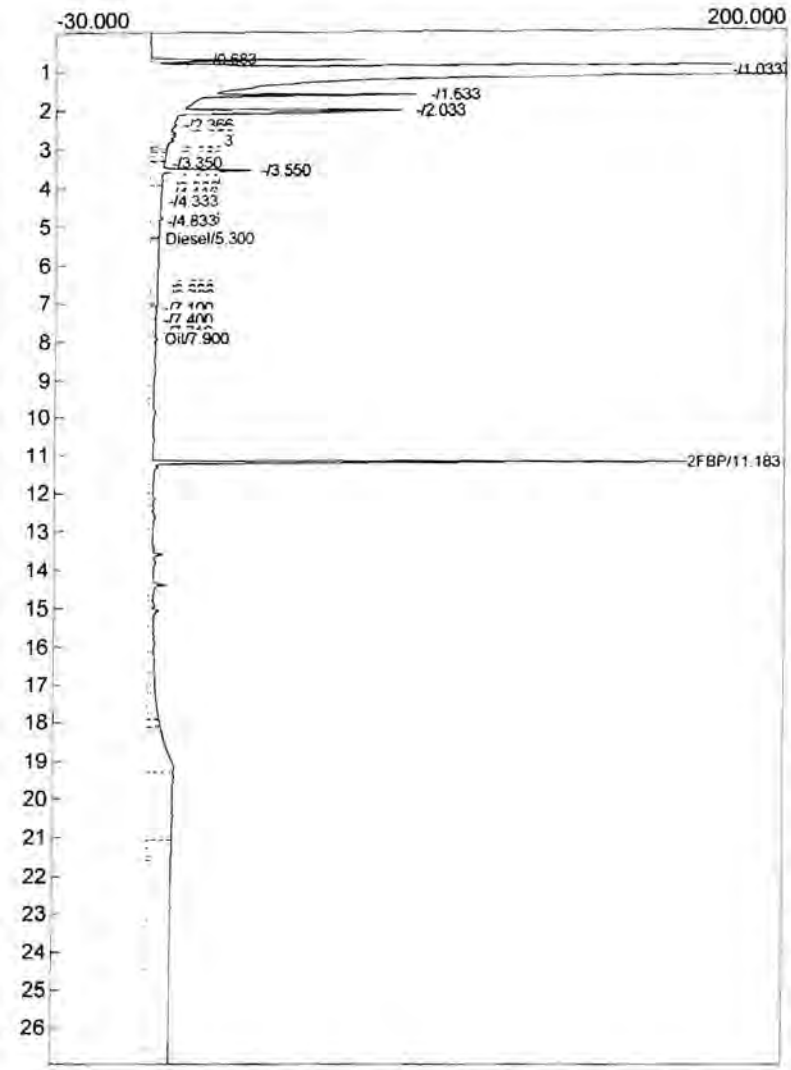
Lab name: Libby Environmental
Analysis date: 09/26/2012 10:02:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C193.CHR ()
Sample: IRZ-ESW1-92512
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.300	77.9420	1.504	3.8319	ppm
Oil	7.900	4220.3420	1.294	207.5091	ppm
2FBP	11.183	452.9420	180.878	18.1177	ppm
		4751.2260		229.4587	

nd 91%

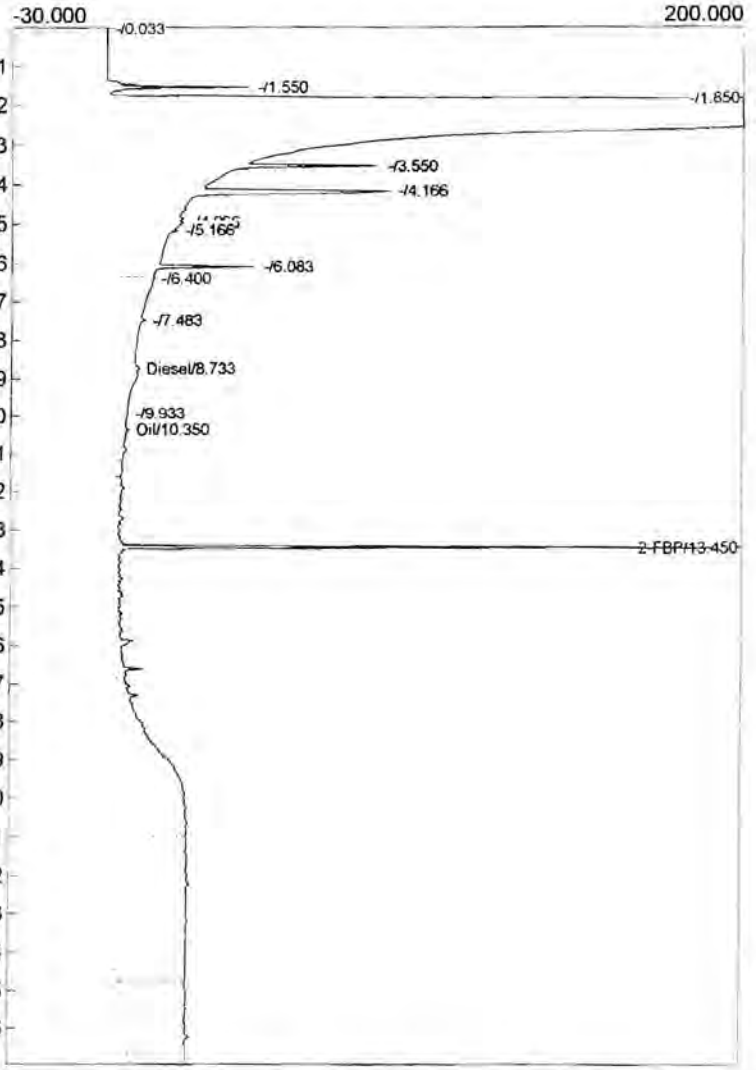
Lab name: Libby Environmental
Analysis date: 09/26/2012 10:02:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D191.CHR ()
Sample: IRZ-ESW1-92512 Dup
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.733	333.7175	6.153	17.6231	ppm
Oil	10.350	11972.4630	3.041	637.0268	ppm
2-FBP	13.450	577.0700	243.936	19.2357	ppm
		12883.2505		673.8856	

nd 96%

Lab name: Libby Environmental

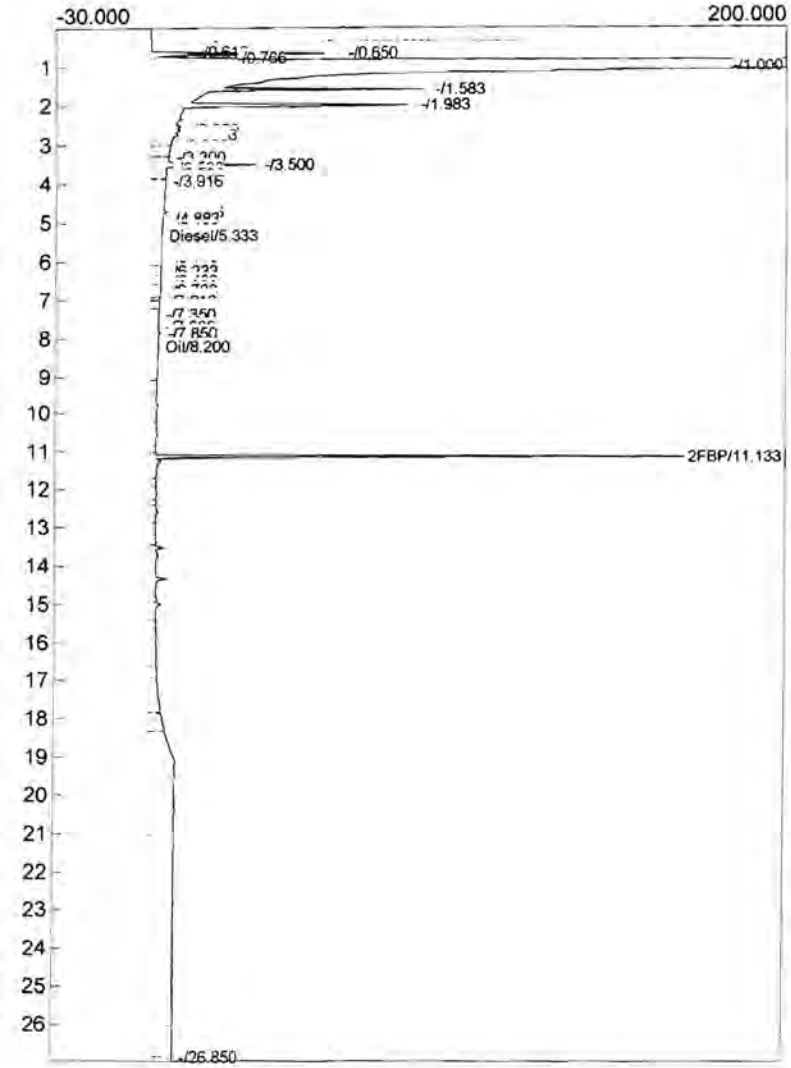
Analysis date: 09/26/2012 10:35:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C194.CHR ()
Sample: ~~IRZ-ESW1-02512~~
Operator: PB IRZ-B1-92612

Temperature program: PB 9-26-12

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.333	93.8065	2.157	4.6119	ppm
Oil	8.200	4628.4580	1.272	227.6293	ppm
2FBP	11.133	473.9255	182.603	18.9570	ppm
		5196.1900		251.1982	

nd 95%

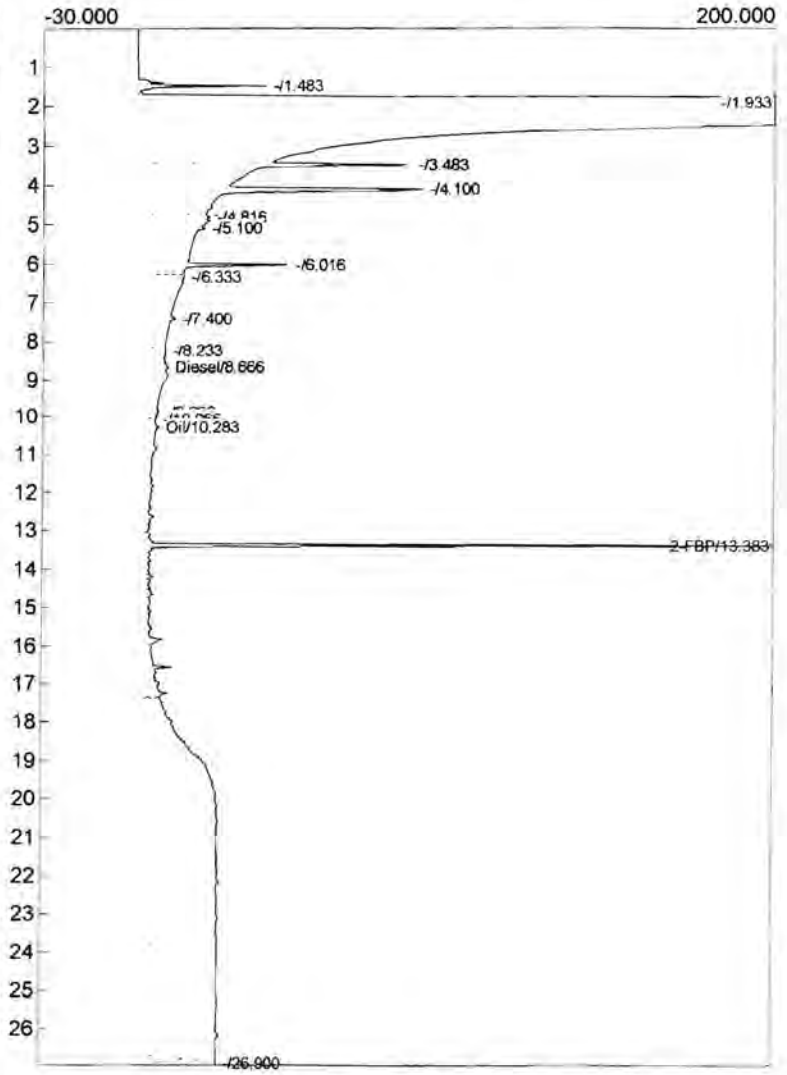
Analysis date: 09/26/2012 10:35:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D192.CHR ()
Sample: ~~IRZ-ESW1-02512 Dup~~
Operator: PB IRZ-WSW1-92612

Temperature program: PB 9-26-12

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.666	264.2850	4.964	13.9565	ppm
Oil	10.283	11985.7290	2.199	637.7418	ppm
2-FBP	13.383	601.8320	268.909	20.0611	ppm
		12851.8460		671.7594	

nd 100%

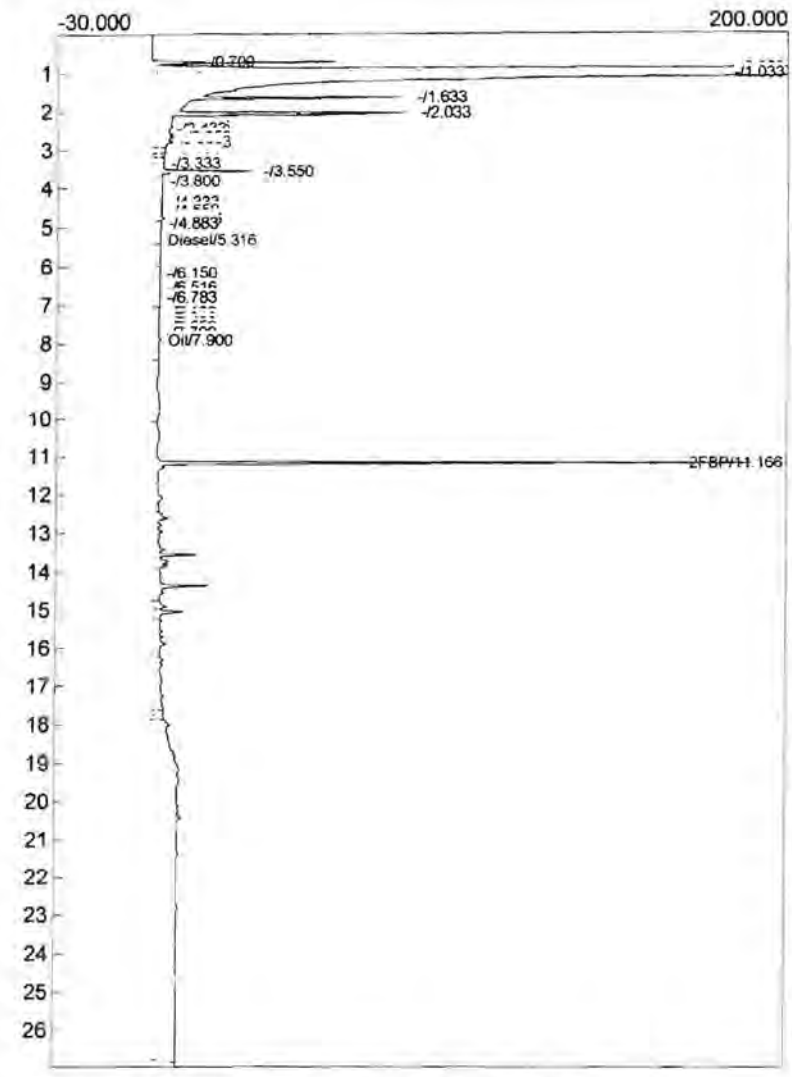
Analysis date: 09/26/2012 11:57:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C195.CHR ()
Sample: IRZ-B2-92612
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.316	42.1515	0.984	2.0723	ppm
Oil	7.900	5171.3005	1.284	254.3917	ppm
2FBP	11.166	488.8210	198.211	19.5528	ppm
		5702.2730		276.0168	

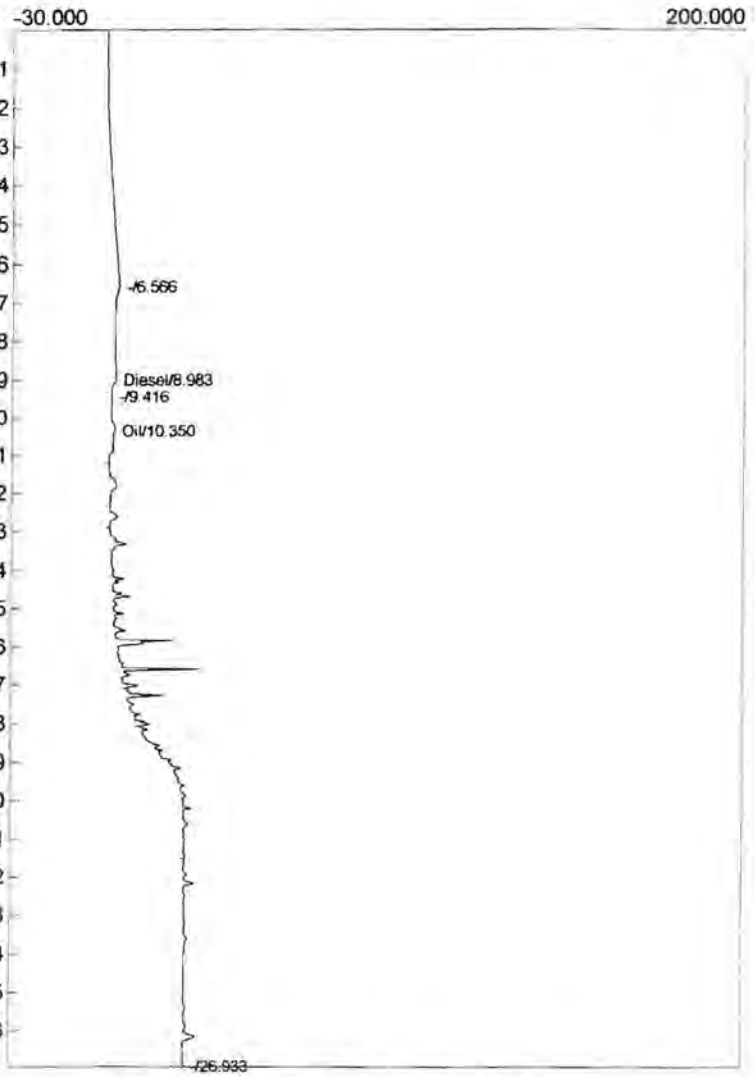
Analysis date: 09/26/2012 11:57:46
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D193.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.983	46.0100	1.239	2.4297	ppm
Oil	10.350	3577.7420	1.298	188.9352	ppm
		3623.7520		191.3649	

nd 98%

Lab name: Libby Environmental

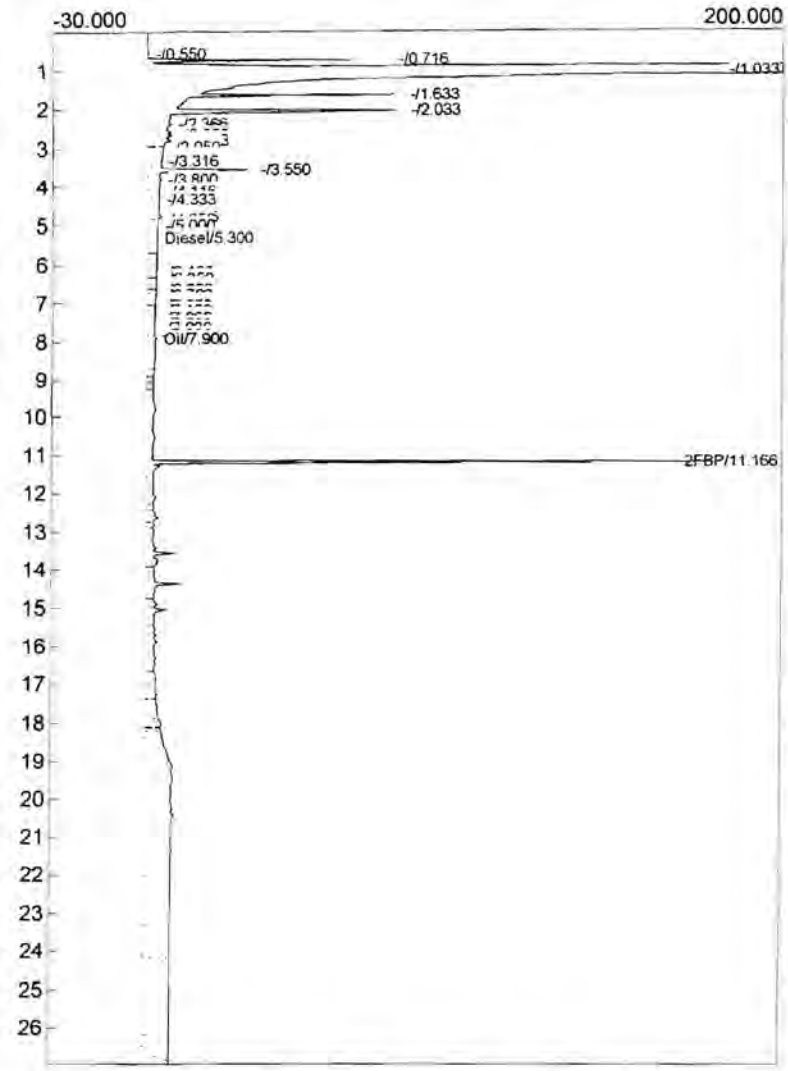
Analysis date: 09/26/2012 12:51:38
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C196.CHR ()
Sample: IRZ-ESW1-92612
Operator: PB

emperature program:

Init temp	Hold	Ramp	Final temp

vents:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
)iesel	5.300	82.9780	1.762	4.0795	ppm
)il	7.900	4921.3945	1.711	242.0712	ppm
FBP	11.166	469.9060	183.140	18.7962	ppm
		5474.2785		264.9470	

nd 94%

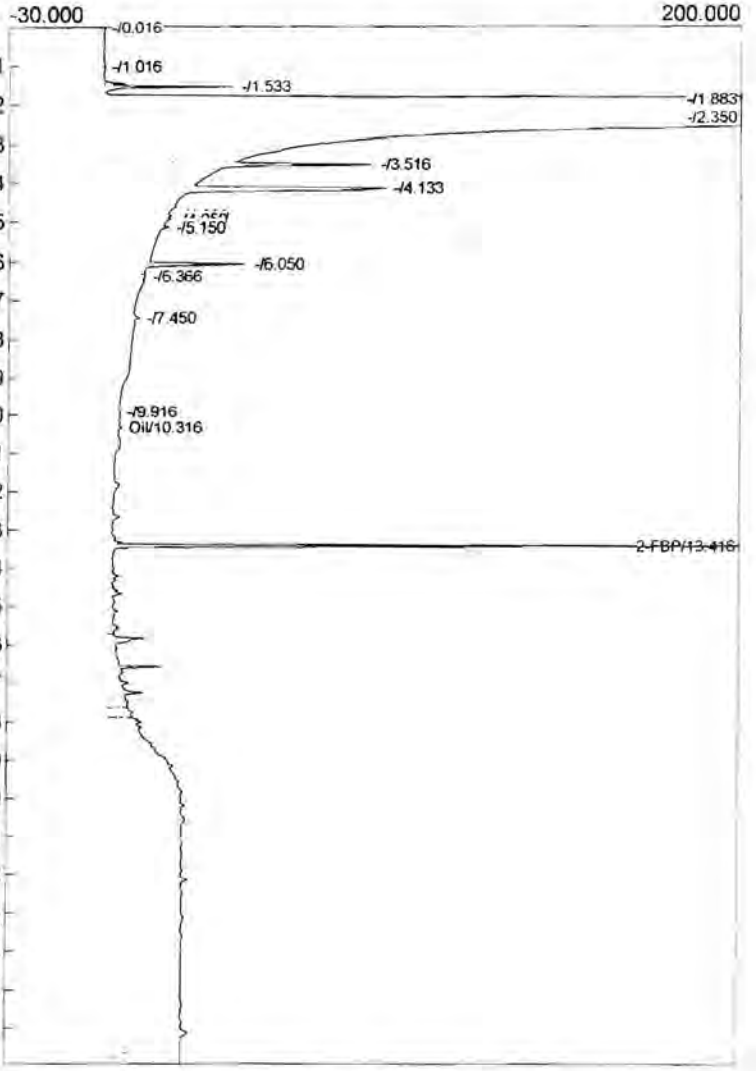
Analysis date: 09/26/2012 12:51:38
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D194.CHR ()
Sample: IRZ-Dupe1-92612
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	10.316	12192.1120	2.145	648.8649	ppm
2-FBP	13.416	603.2595	272.785	20.1087	ppm
		12795.3715		668.9735	

nd 101%

Lab name: Libby Environmental

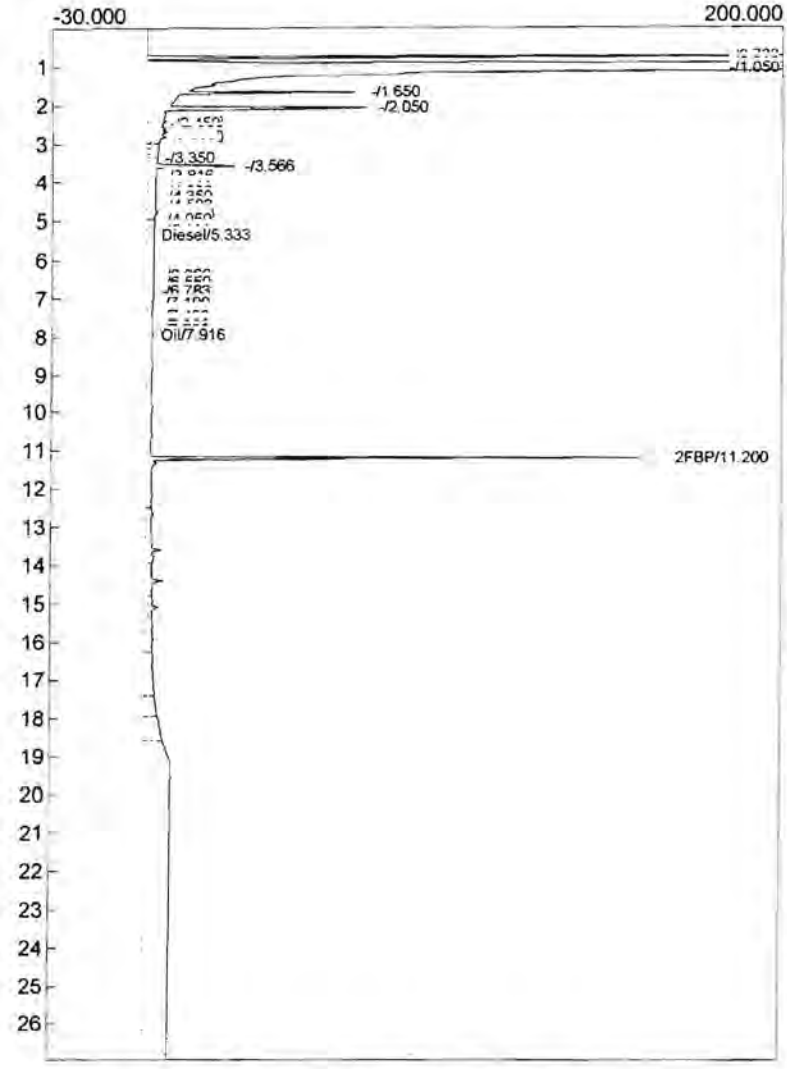
Analysis date: 09/26/2012 13:30:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C197.CHR ()
Sample: IRZ-B3-92612
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.333	64.3740	1.065	3.1649	ppm
Oil	7.916	4496.9075	1.124	221.1438	ppm
2FBP	11.200	408.9065	163.466	16.3563	ppm
		4970.1880		240.6650	

nd

82%

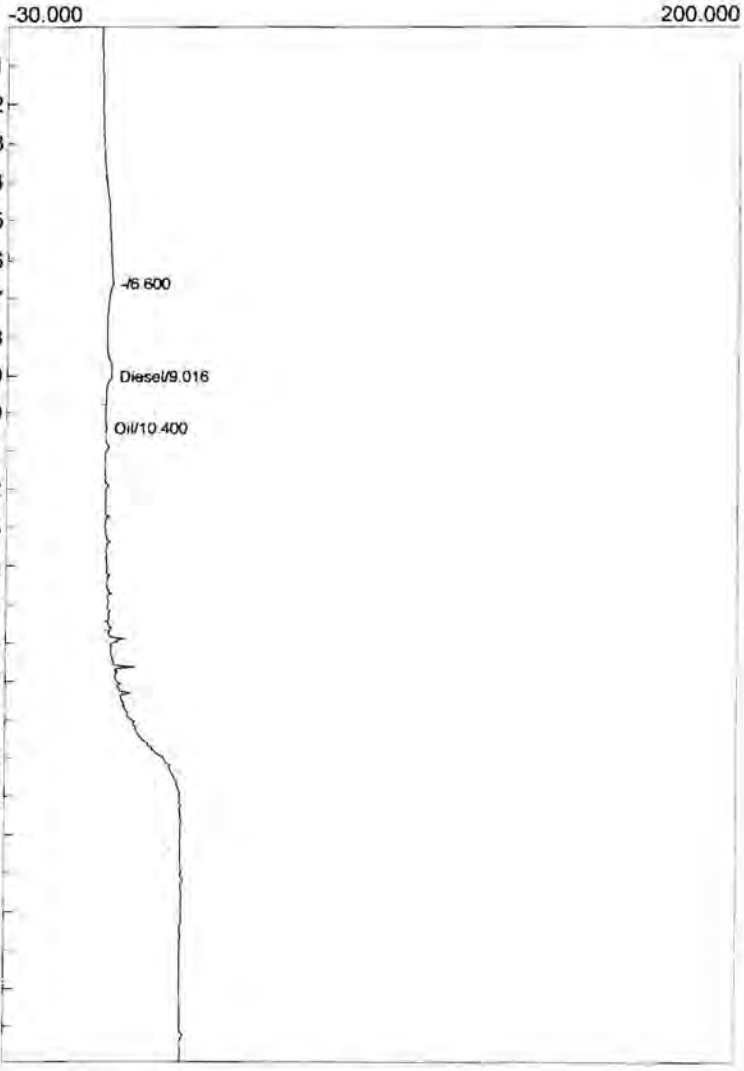
Analysis date: 09/26/2012 13:30:34
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D195.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	9.016	67.8670	1.780	3.5840	ppm
Oil	10.400	4094.0350	0.391	216.3095	ppm
		4161.9020		219.8934	

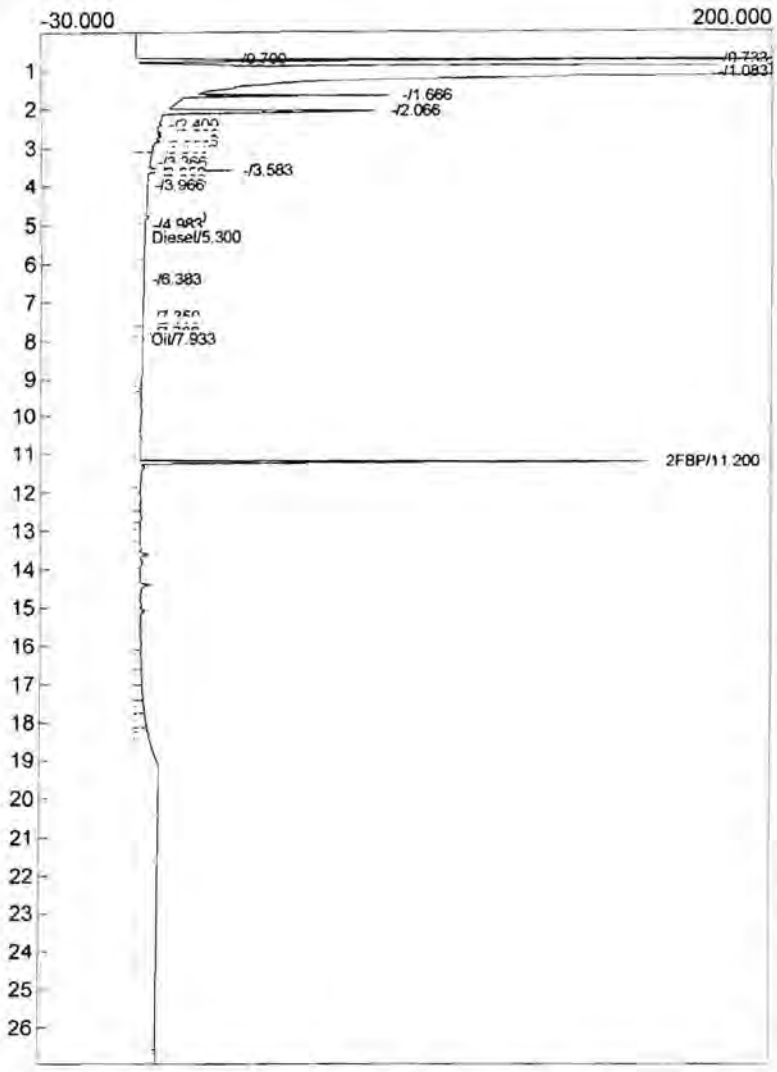
Analysis date: 09/26/2012 14:06:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C198.CHR ()
Sample: IRZ-WSW2-92612
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

ime Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.300	70.6725	1.778	3.4745	ppm
Oil	7.933	4077.5665	1.507	200.4702	ppm
2FBP	11.200	440.7620	163.950	17.6305	ppm
		4589.0010		221.5752	

nd 88%

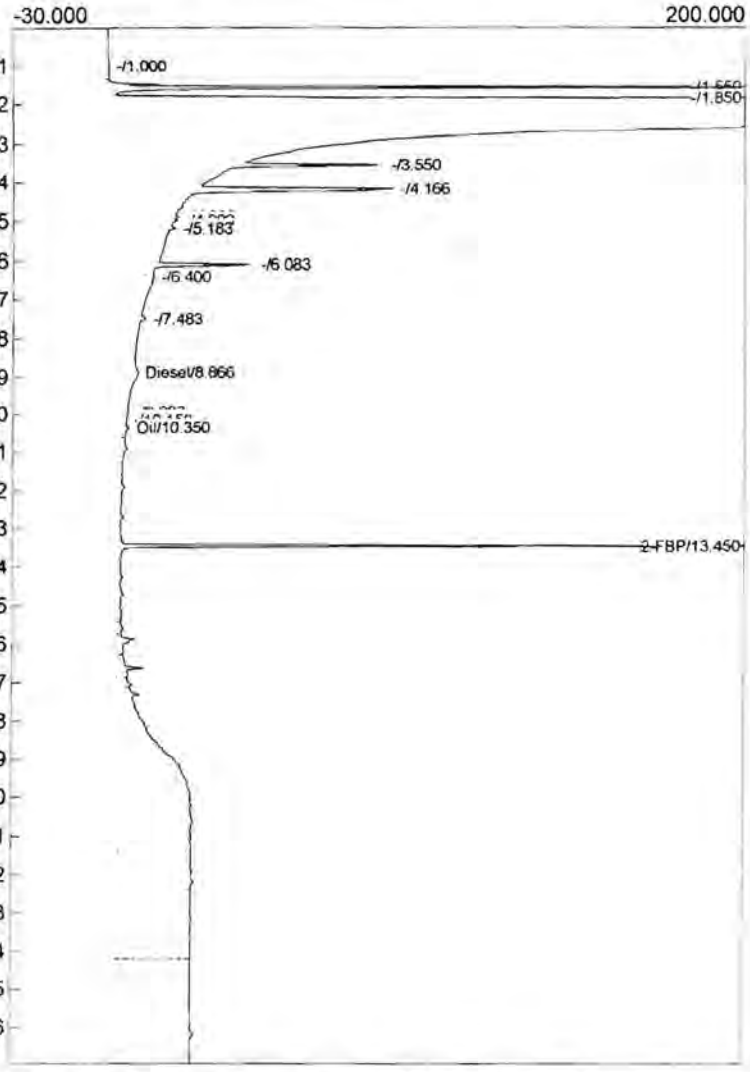
Analysis date: 09/26/2012 14:06:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D196.CHR ()
Sample: IRZ-WSW2-92612 Dup
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.866	295.4470	5.384	15.6021	ppm
Oil	10.350	12184.0330	2.734	648.4294	ppm
2-FBP	13.450	577.7690	225.823	19.2590	ppm
		13057.2490		683.2905	

nd 96%

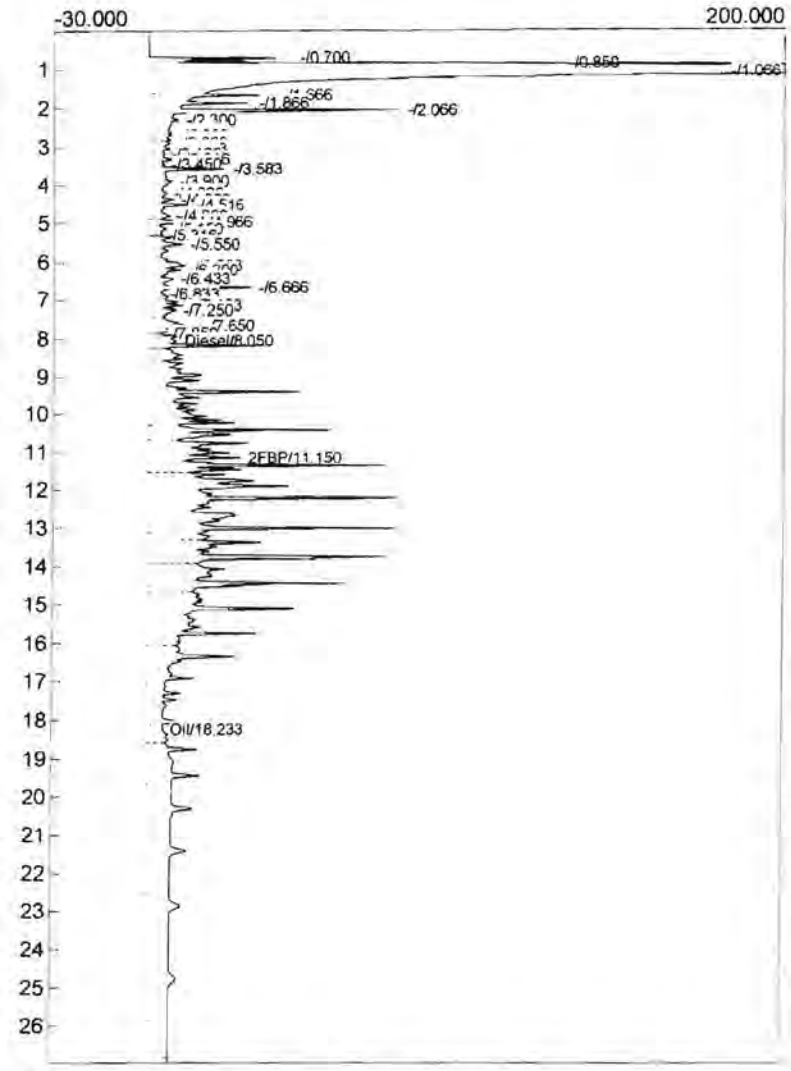
Analysis date: 09/26/2012 14:44:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C199.CHR ()
Sample: ~~IRZ-WSW2-92612~~
Operator: PB 500 ppm Diesel #791

Temperature program: PB 9-26-12

Init temp Hold Ramp Final temp

Events:

Time Event
.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.050	9020.8125	7.709	444.2970	ppm
2FBP	11.150	170.3830	28.139	6.8153	ppm
Oil	18.233	3405.1795	3.837	167.4117	ppm
		12596.3750		618.5241	

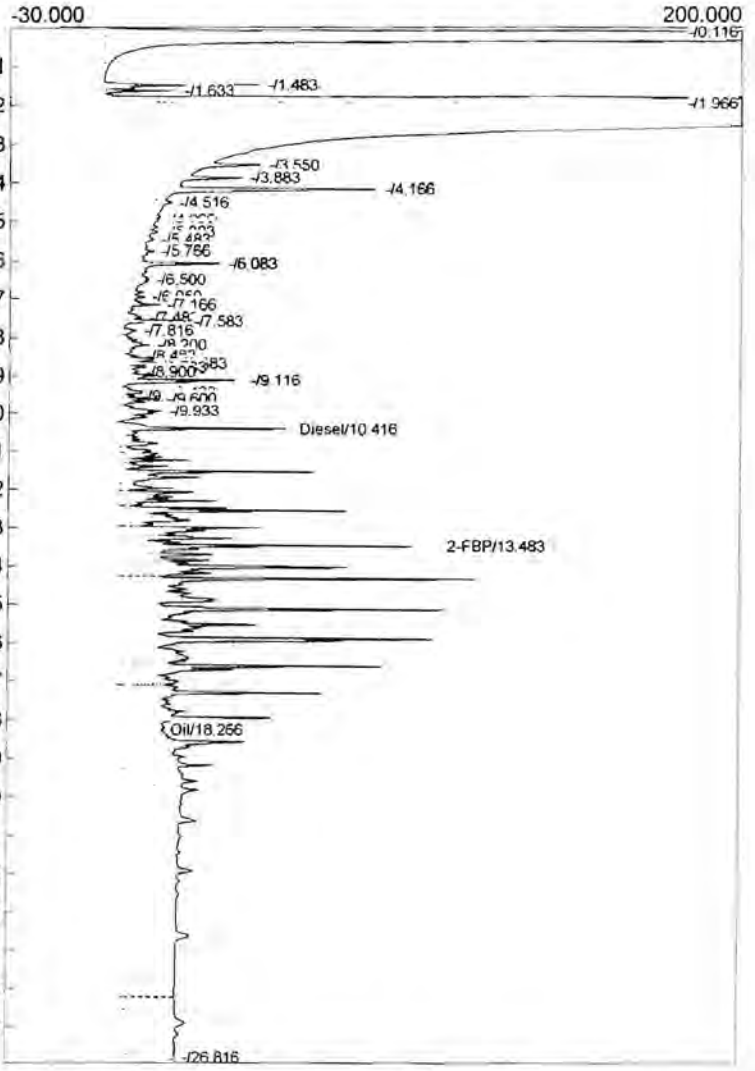
Analysis date: 09/26/2012 14:44:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D197.CHR ()
Sample: ~~IRZ-WSW2-92612 Dup~~
Operator: PB 500 ppm Diesel #791

Temperature program: PB 9-26-12

Init temp Hold Ramp Final temp

Events:

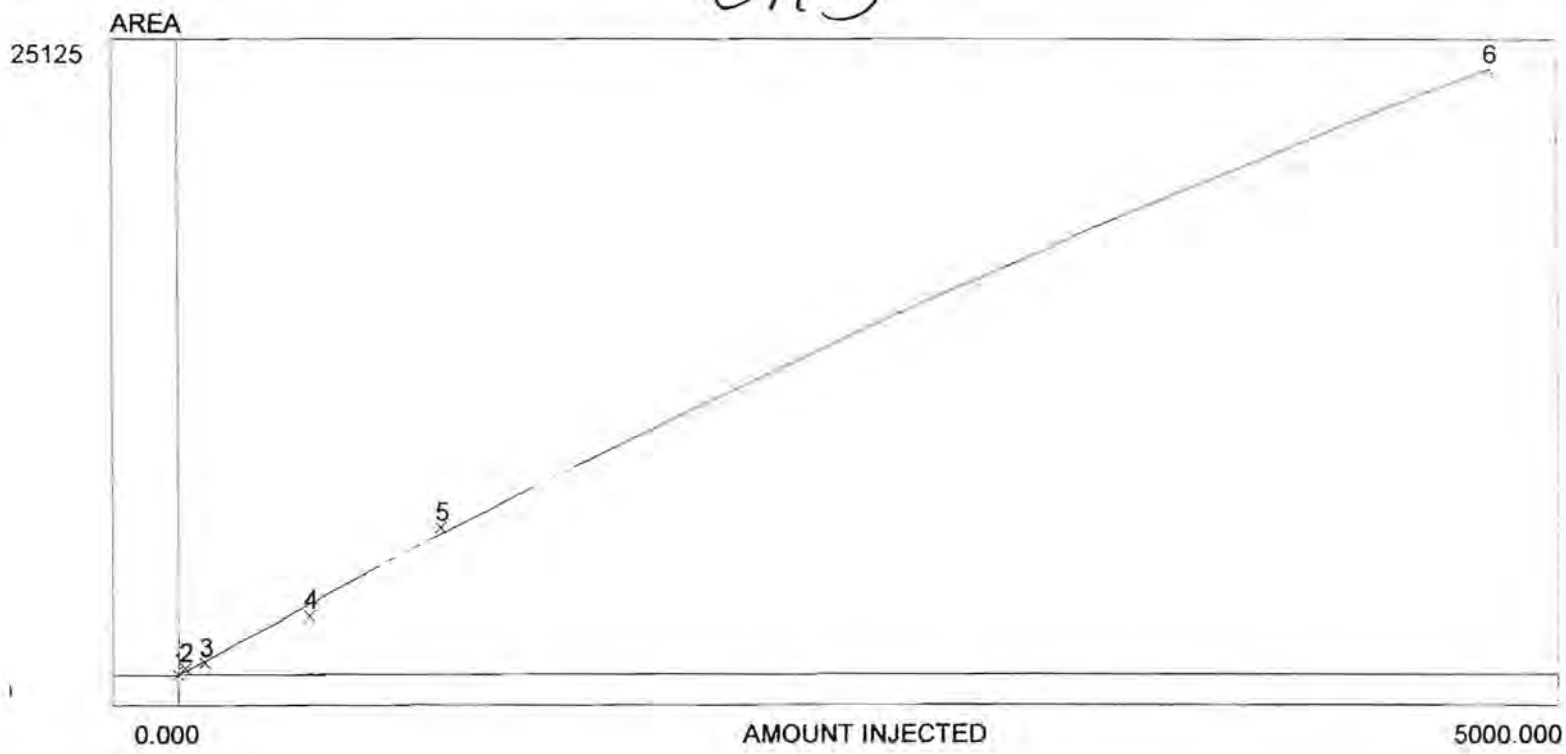
Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.416	8827.6600	53.948	468.4396	ppm
2-FBP	13.483	483.7140	100.205	16.1238	ppm
Oil	18.266	8878.4365	12.765	471.1576	ppm
		18189.8105		955.7209	

:alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

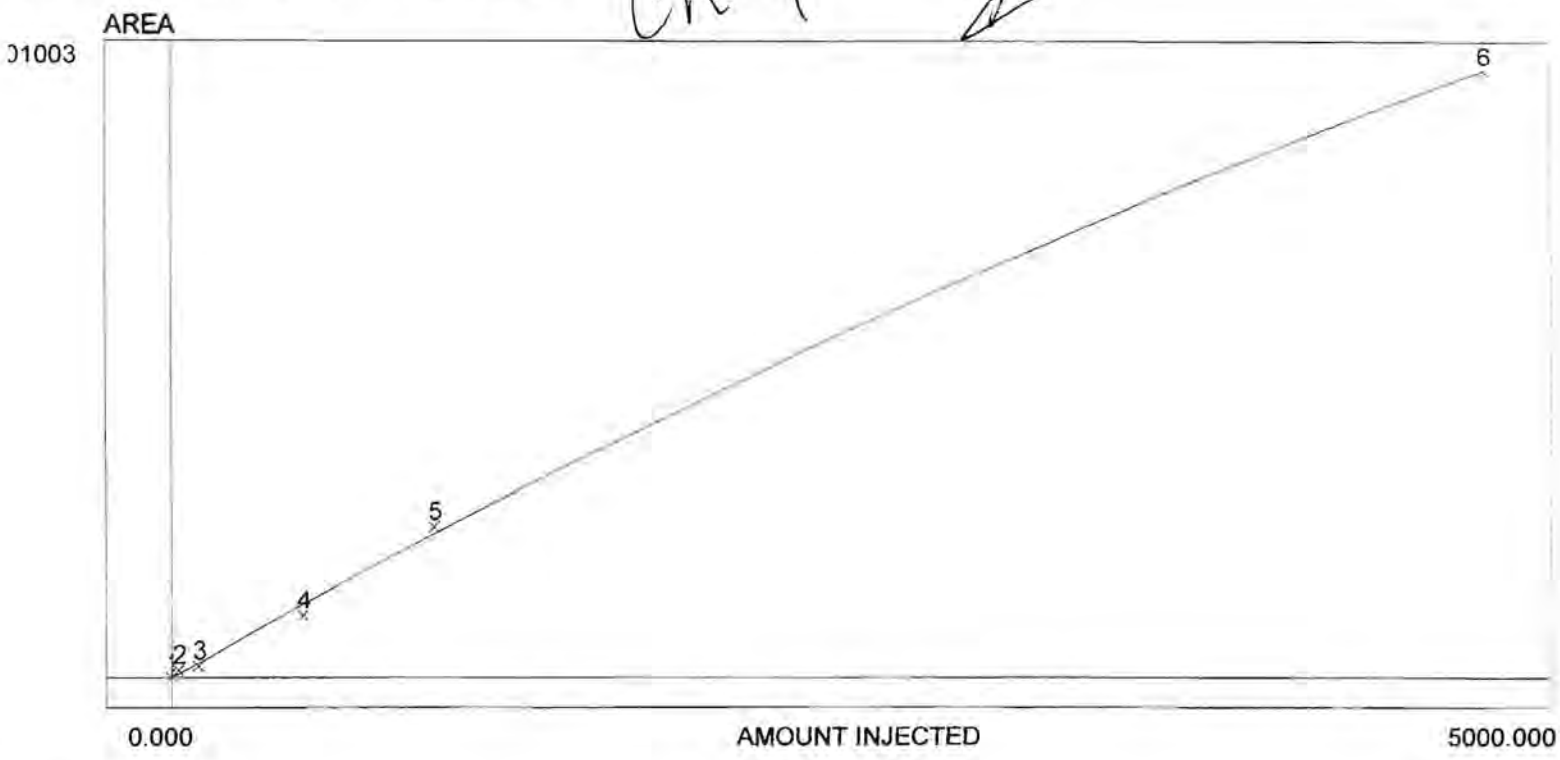


\vg slope of curve: 25.03
'-axis intercept: 0.00
.inearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
'=-0.0009X²+29.3544X
2: 0.9993
.ast calibrated: Wed Mar 14 13:52:31 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1410.471	25.000	56.419	1410.471	N/A	N/A
2574.179	100.000	25.742	2574.179	N/A	N/A
12043.265	500.000	24.087	12043.265	N/A	N/A
29871.863	1000.000	29.872	29871.863	N/A	N/A
125124.670	5000.000	25.025	125124.670	N/A	N/A

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

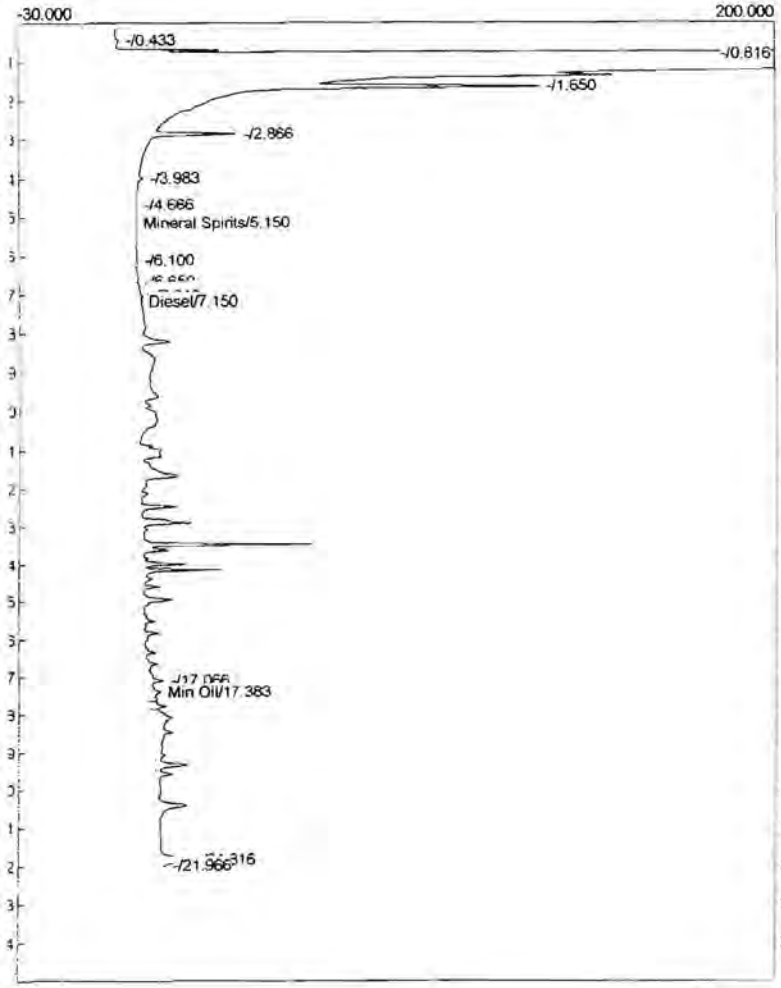
Ch 4



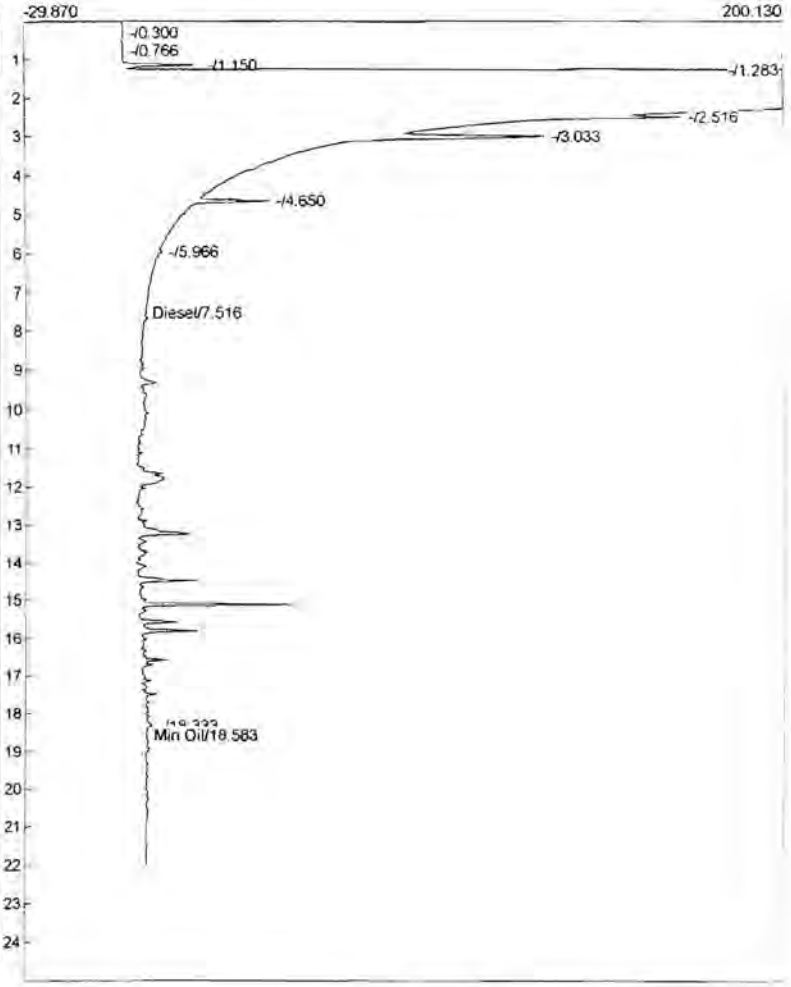
vg slope of curve: 20.21
-axis intercept: 0.00
inearity: 0.84
umber of levels: 6
D/rel SD of CF's: 16.3/72.6
=-0.0008X²+24.2883X
²: 0.9993
ast calibrated: Wed Mar 14 13:57:45 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1271.716	25.000	50.869	1271.716	N/A	N/A
1927.394	100.000	19.274	1927.394	N/A	N/A
10086.605	500.000	20.173	10086.605	N/A	N/A
24554.042	1000.000	24.554	24554.042	N/A	N/A
101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

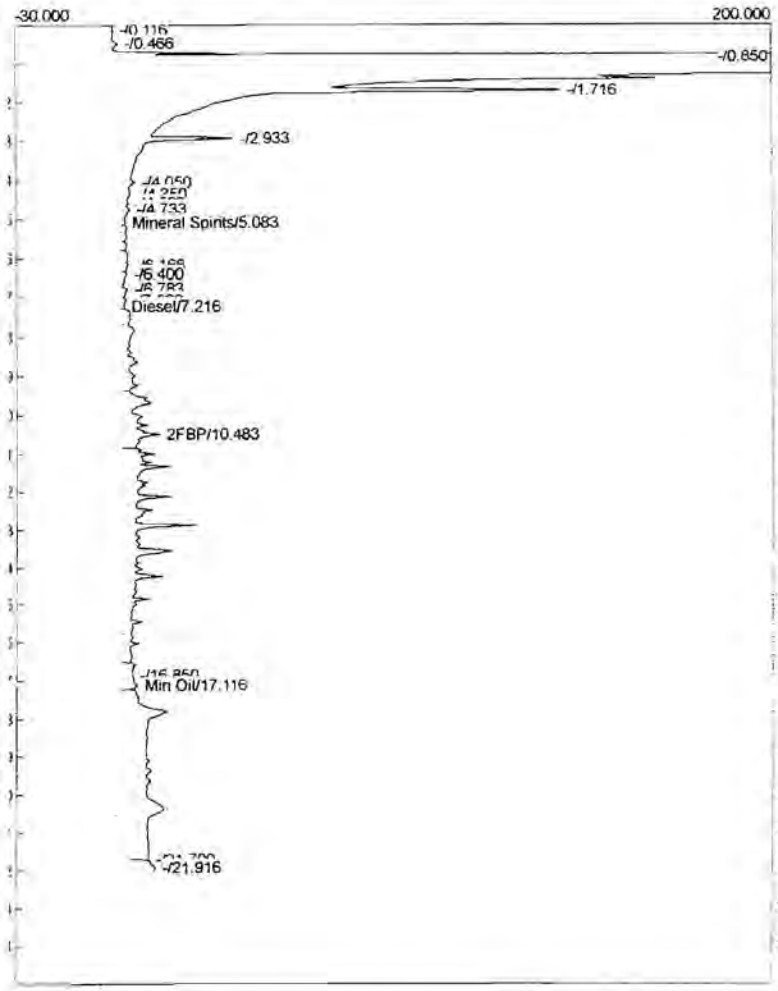


Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW

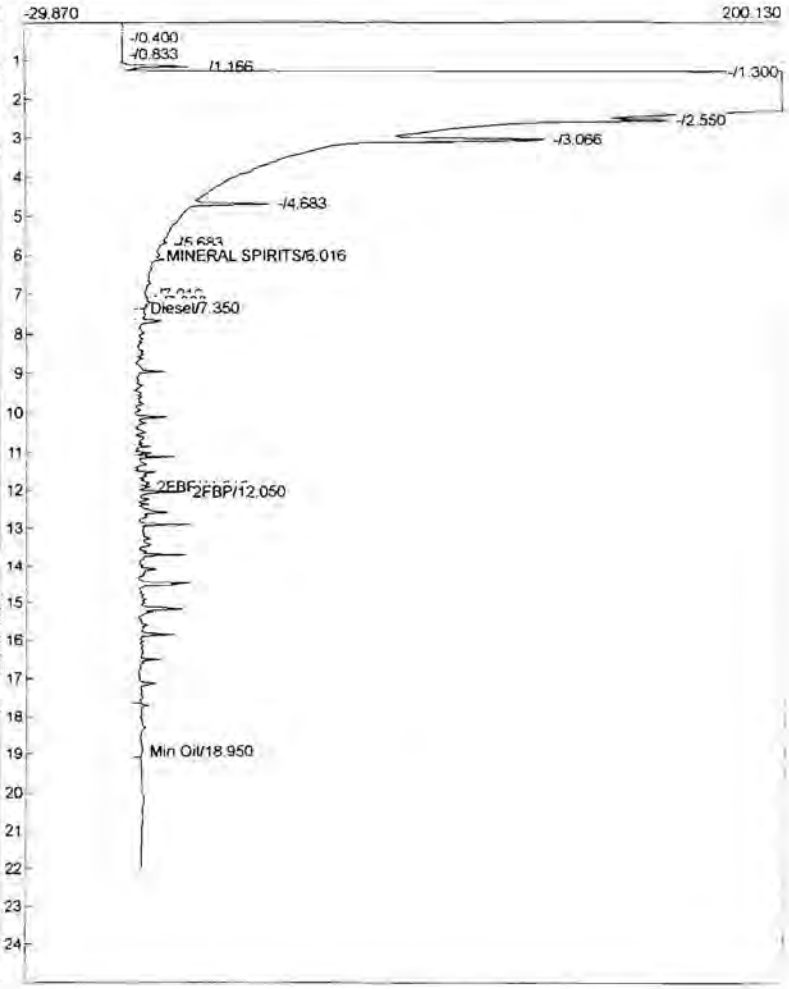


Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPM	Diesel	7.516	1271.7155	1.965	89.4973	ppm
Diesel	7.150	1410.4710	0.518	13.6936	ppm	Min Oil	18.583	209.2665	1.582	14.7689	ppm
Min Oil	17.383	577.2305	3.576	0.0000							
								1480.9820		104.2662	
		1995.5095		14.0798							

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



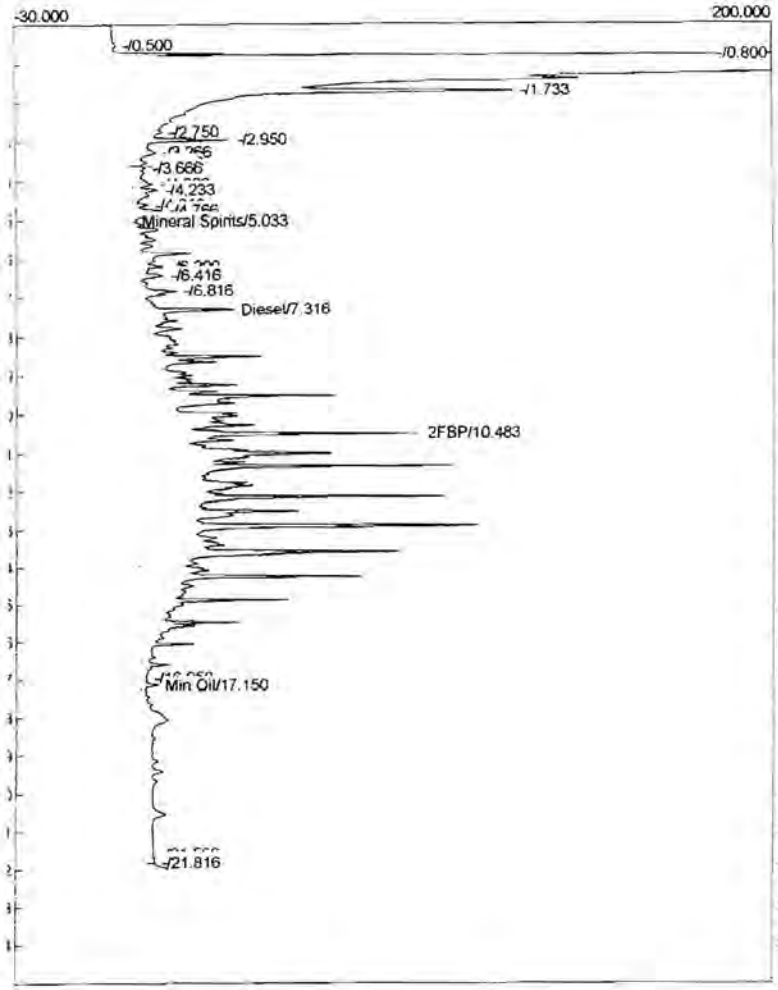
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
lineral Spirits	5.083	84.6325	1.090	4.1869	PPI
iesel	7.216	2410.4095	0.627	119.2471	ppn
FBP	10.483	163.7695	10.998	6.5508	ppn
in Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

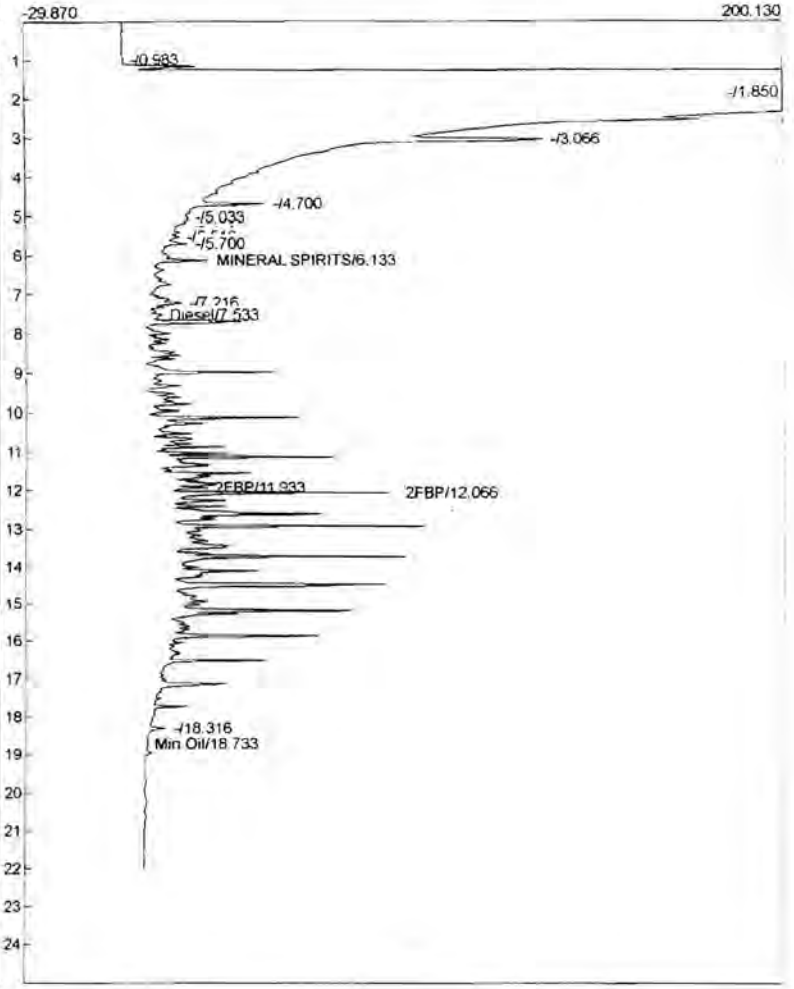
Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPI
Diesel	7.350	1849.7390	2.625	130.1759	ppn
2FBP	11.916	20.8250	4.775	1.0413	ppn
2FBP	12.050	56.8300	15.516	2.8415	ppn
Min Oil	18.950	514.9365	2.757	36.3413	ppn
		2727.9475		190.5003	

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



Component	Retention	Area	Height	External	Units
lineral Spirits	5.033	323.3415	0.632	15.9963	PPM
iesel	7.316	11375.2115	30.144	562.7511	ppm
FBP	10.483	668.0530	86.276	26.7221	ppm
lin Oil	17.150	960.9820	5.210	0.0000	
		13327.5880		605.4694	

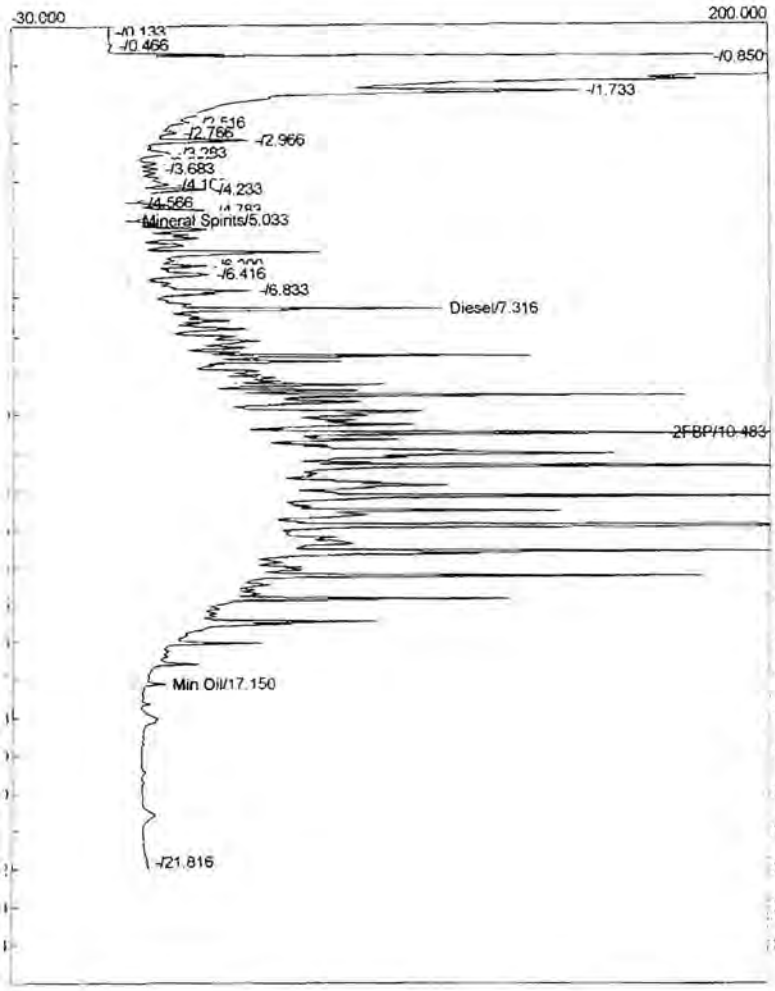
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

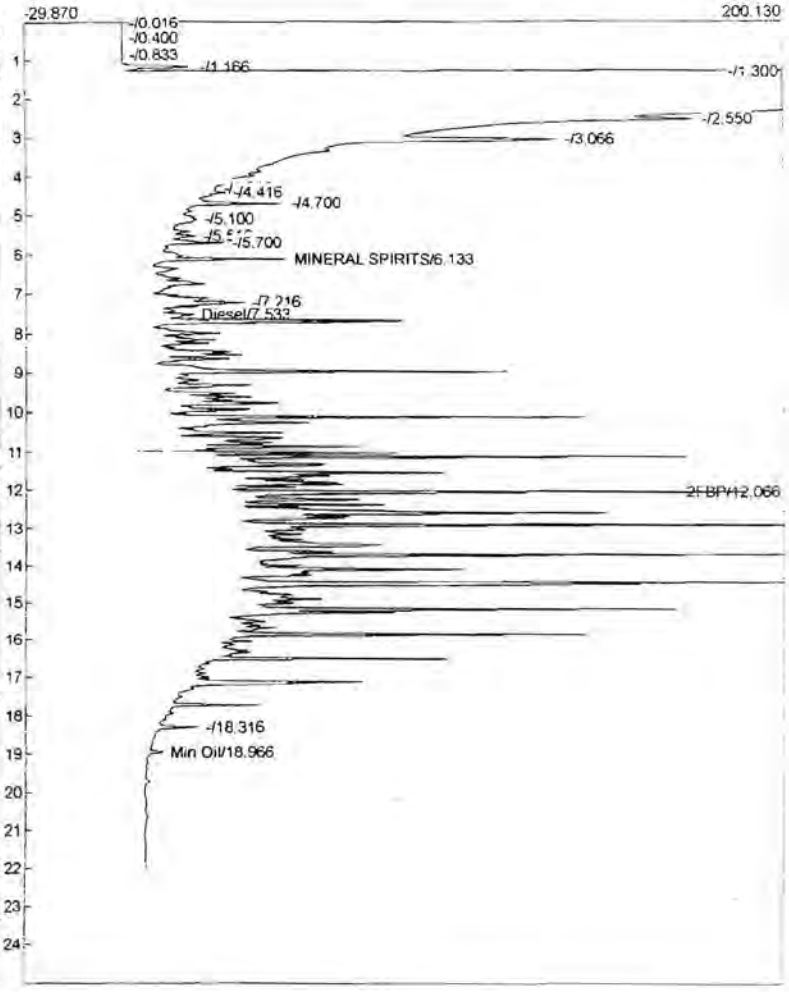


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

nalysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

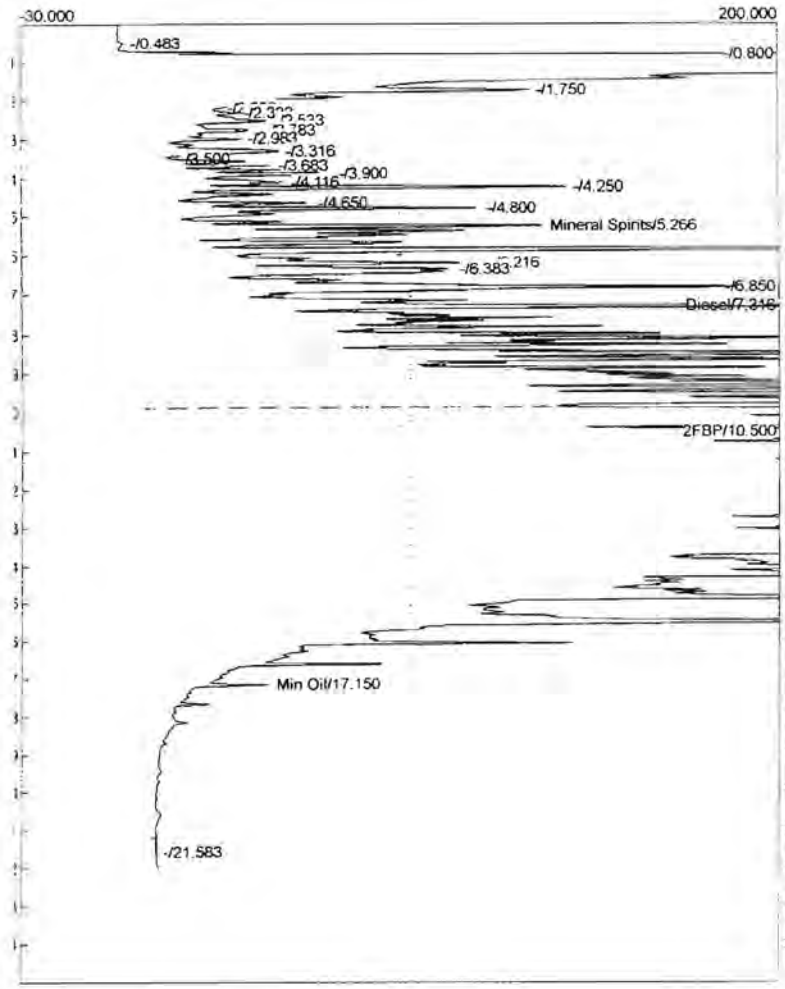
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



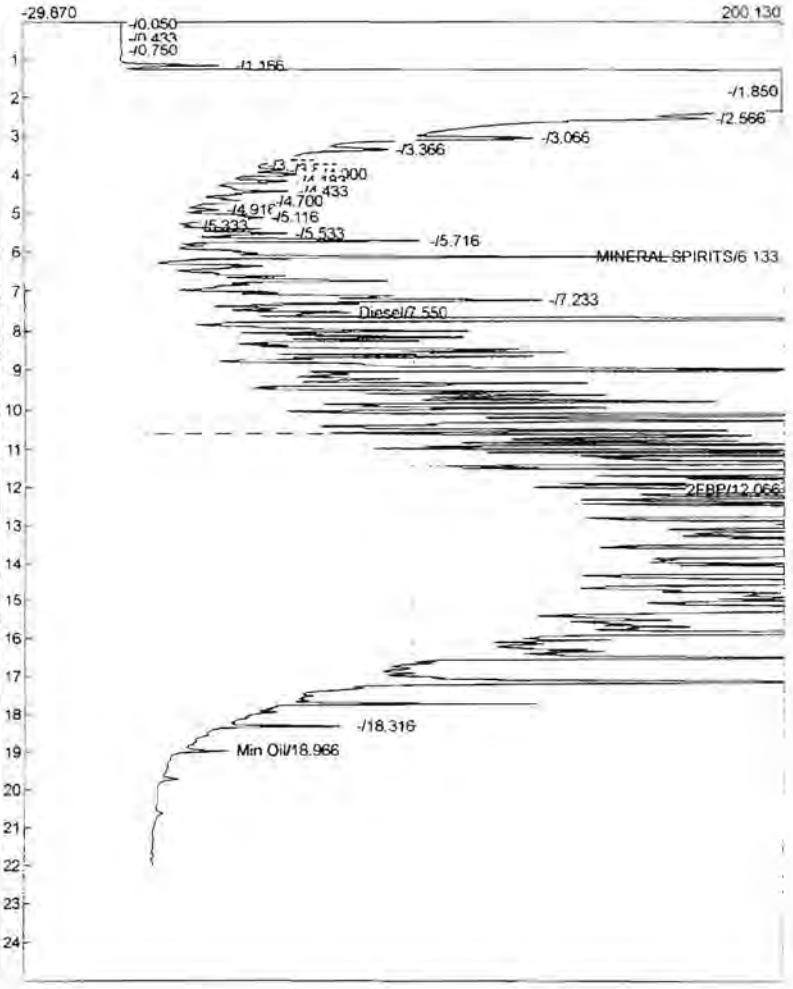


Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
lineral Spirits	5.033	995.3365	2.641	49.2410	PP	MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
iesel	7.316	28291.8845	95.034	1399.6476	pp	Diesel	7.533	23510.5725	17.032	1654.5630	pp
FBP	10.483	1579.9780	244.836	63.1991	pp	2FBP	12.066	1043.4695	193.880	52.1735	pp
lin Oil	17.150	221.1300	7.549	0.0000		Min Oil	18.966	300.3670	6.980	21.1982	pp
		31088.3290		1512.0877				25578.2480		1778.8751	

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

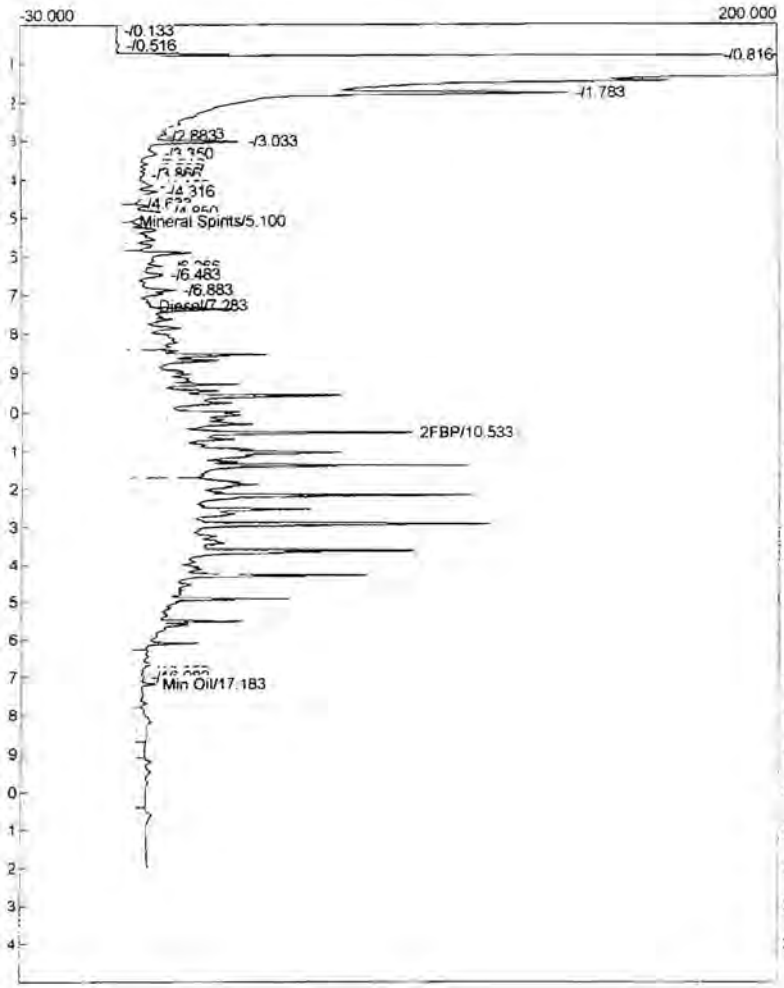


Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

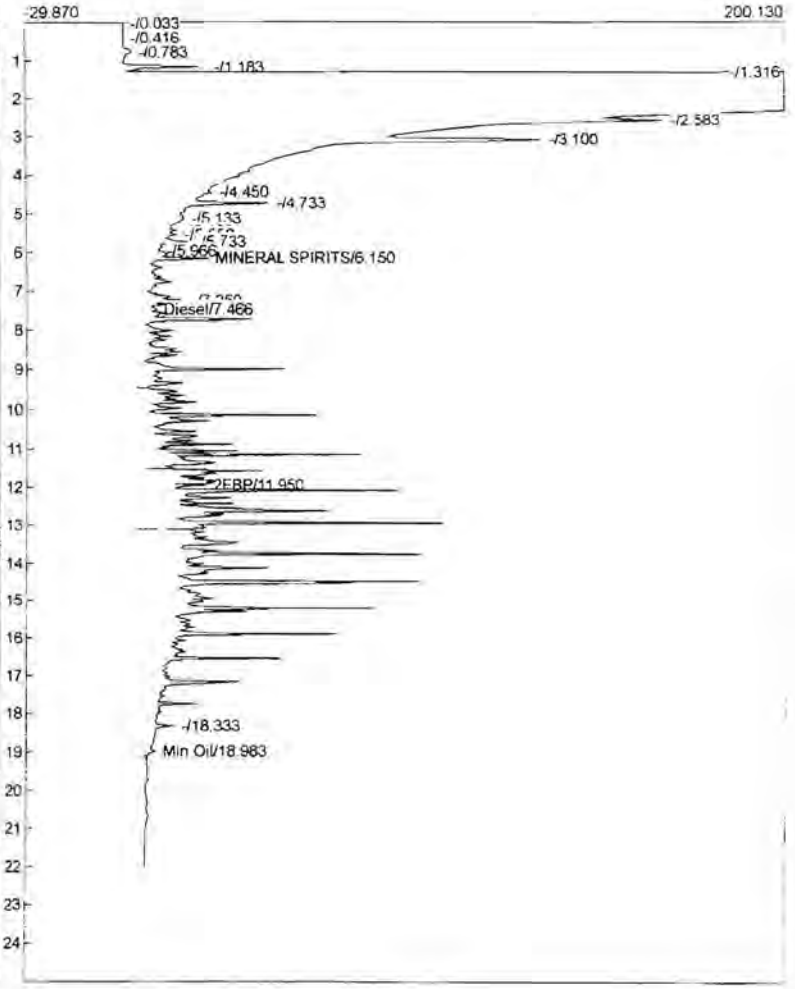


Component	Retention	Area	Height	External	UnComponent	Retention	Area	Height	External	U
ineral Spirits	5.266	4030.7350	121.832	199.4073	MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
iesel	7.316	118321.9850	479.109	5853.5897	Diesel	7.550	97612.4720	63.265	6869.5047	pp
FBP	10.500	6802.6800	1015.018	272.1072	2FBP	12.066	3390.2460	772.659	169.5123	pp
in Oil	17.150	1309.9915	36.600	0.0000	Min Oil	18.966	734.9465	24.851	51.8684	pp
		130465.3915		6325.1043			103855.8265		7239.9516	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM	INERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm	Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm	2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	17.183	642.7165	6.075	0.0000		Min Oil	18.983	249.4535	4.581	17.6050	ppm
		13859.6135		466.6252				10413.3785		455.0074	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120926-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/26/12	102	nd	nd
LCS	9/26/12	int	98%	
LCSD	9/26/12	int	107%	
IRZ-WSW1-92612	9/26/12	100	nd	nd
IRZ-B1-92612	9/26/12	95	nd	nd
IRZ-B2-92612	9/26/12	98	nd	nd
IRZ-ESW1-92612	9/26/12	94	nd	nd
IRZ-Dupe1-92612	9/26/12	101	nd	nd
IRZ-B3-92612	9/26/12	82	nd	nd
IRZ-WSW2-92612	9/26/12	88	nd	nd
IRZ-WSW2-92612 Dup	9/26/12	96	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

Twiss ANALYTICAL, INC.

PAP-Accredited NAPT 2011 | Soil 2010 NAPT Participating Laboratory | EnviroStars ★★★★★

October 8, 2012

Neil Morton
Libby Environmental
4139 Libby Rd NE
Olympia, WA 98506

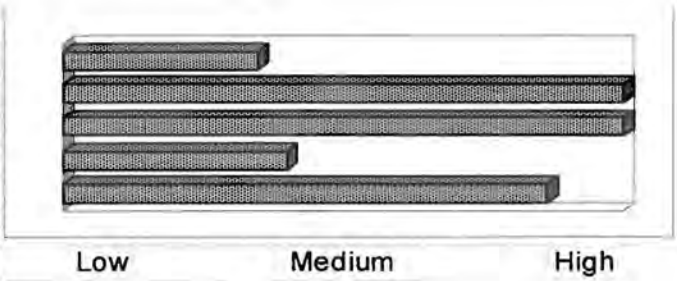
Project: Irondale
Sample Date: 9/21/12

Work Order #: 127454
Sample Received: 10/2/12

Report on Analysis

Sample ID: Topsoil
Lab No.: 127454-01

pH	1:2 soil to water		6.95
Phosphorus	Bray 1	ppm	106
Potassium	NH4OAc	ppm	631
Calcium	NH4OAc	meq/100 g	4.00
Magnesium	NH4OAc	meq/100 g	1.73
Sodium	NH4OAc	meq/100 g	0.2
SMP Buffer Index*			7.04
Organic Matter	ASTM D 2974	% by Wt	3
Nitrate-Nitrogen	KCl	ppm	10.5
Sol Salts (EC)	1:2 soil:water	dS/m	0.362



All analyses performed on air-dried soil passed through a 2 mm sieve.
NA= not analyzed NR=not required

Micronutrients	Results	Units	Method
Manganese	19.8	ppm	DTPA
Zinc	3.45	ppm	DTPA
Copper	1.94	ppm	DTPA
Iron	24.7	ppm	DTPA
Sulfate-Sulfur	10.6	ppm	Calcium Phosphate Extractable

Project: Irondale **Work Order #: 127454**
Sample Date: 9/21/12 **Sample Received: 10/2/12**

Overall Soil Fertility Levels

The soil sample submitted from your site was found to have the following general nutrient ranges:

pH	Neutral	6.6-7.3
Phosphorus (P)	Excessive	>100 ppm
Potassium (K)	High	250-800 ppm
Calcium	Low	<5 meq/100g
Magnesium	High	>1.5 meq/100g
Organic Matter	Moderate	3-5 %
Nitrate-Nitrogen	Medium	10-20 ppm
Electrical Conductivity	Salinity Negligible	<0.4 dS/m
Zinc (Zn)	Adequate	>1.0 ppm
Copper (Cu)	Adequate	>0.6 ppm
Manganese (Mn)	Adequate	>1.5 ppm
Iron (Fe)	Adequate	>24 ppm
Sulfate-Sulfur (SO_4-S)	Sufficient	>10 ppm

Twiss ANALYTICAL, INC.

PAP-Accredited NAPT 2011 | Soil 2010 NAPT Participating Laboratory | EnviroStars ★★★★★

Project: Irondale
Sample Date: 9/21/12

Work Order #: 127454
Sample Received: 10/2/12

Recommendation:

One soil sample was submitted by Libby Environment on 10/2/12 for analysis to determine its suitability for use as a topsoil. The required pH range in the scope submitted with the sample is 5.0-6.5. The pH of this soil can be *lowered* into this range by incorporating 10 lb of finely ground elemental sulfur per 1000 sq ft, depth 6 inches, of soil for every ½ pH unit decrease desired.

The present nutrient content of both the macronutrients (N, P, K) and micronutrients (Zn, Mn, Cu, Fe, SO_4-S) are all adequate for both woody ornamentals and turf for the first growing season. The soluble salts/conductivity is well within an acceptable range for all plants. One mineral, Ca, is a bit low. Add 50 lbs of gypsum per 1000 sq ft of soil to boost the calcium level without raising the pH even higher. The organic matter is slightly low, as well. Applying 2 inches of aged manure or mature compost into the top 6-8 of soil will increase the organic matter as well as serve as a nutrient reserve.

Nitrogen is used faster than other nutrients. Additional nitrogen may be needed during the growing season if plants show signs of deficiency (slow growth and yellowing older leaves). Apply not more than 1 lb of actual nitrogen per 1000 sq ft, as needed. That would be equivalent to 5 lbs of 21-0-0.

For ongoing maintenance, once a year in the spring, woody ornamentals can be fertilized lightly (5 lbs per 1000 sq ft) with a complete fertilizer such as 10-20-20. Per WSU recommendations, turf should be maintained with a fertilizer in a ratio of 3:1:2.

Thank you for the opportunity to help you prepare a healthy landscape.

Nancy Parrott

Nancy Parrott
QA Manager/Chemist

WDOE Accreditation C#594

1311 N. 35th St.
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F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209172

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 7 sample(s) on 9/27/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209172

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209172-001	IRZ-WSW1-92612	09/26/2012 9:15 AM	09/27/2012 12:54 PM
1209172-002	IRZ-B1-92612	09/26/2012 9:20 AM	09/27/2012 12:54 PM
1209172-003	IRZ-B2-92612	09/26/2012 11:20 AM	09/27/2012 12:54 PM
1209172-004	IRZ-ESW1-92612	09/26/2012 12:00 PM	09/27/2012 12:54 PM
1209172-005	IRZ-Dupe1-92612	09/26/2012 12:00 PM	09/27/2012 12:54 PM
1209172-006	IRZ-B3-92612	09/26/2012 1:00 PM	09/27/2012 12:54 PM
1209172-007	IRZ-WSW2-92612	09/26/2012 1:35 PM	09/27/2012 12:54 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209172**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209172**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/26/2012 9:15:00 AM

Project: Irondale

Lab ID: 1209172-001 **Matrix:** Sediment

Client Sample ID: IRZ-WSW1-92612

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3308		Analyst: PH
Chrysene	ND	46.6		µg/Kg-dry	1	10/12/2012 4:34:00 AM
Benzo(a)pyrene	ND	46.6		µg/Kg-dry	1	10/12/2012 4:34:00 AM
2,4-Dimethylphenol	ND	27.1		µg/Kg-dry	1	10/12/2012 4:34:00 AM
Surr: 2-Fluorobiphenyl	97.9	50.4-142		%REC	1	10/12/2012 4:34:00 AM
Surr: Phenol-d6	93.3	48.2-143		%REC	1	10/12/2012 4:34:00 AM
Surr: Terphenyl-d14 (surr)	101	48.8-157		%REC	1	10/12/2012 4:34:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	22.2			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209172**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/26/2012 1:35:00 PM

Project: Irondale

Lab ID: 1209172-007 **Matrix:** Sediment

Client Sample ID: IRZ-WSW2-92612

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3308		Analyst: PH
Chrysene	ND	44.6		µg/Kg-dry	1	10/12/2012 4:59:00 AM
Benzo(a)pyrene	ND	44.6		µg/Kg-dry	1	10/12/2012 4:59:00 AM
2,4-Dimethylphenol	ND	25.9		µg/Kg-dry	1	10/12/2012 4:59:00 AM
Surr: 2-Fluorobiphenyl	102	50.4-142		%REC	1	10/12/2012 4:59:00 AM
Surr: Phenol-d6	94.2	48.2-143		%REC	1	10/12/2012 4:59:00 AM
Surr: Terphenyl-d14 (surr)	102	48.8-157		%REC	1	10/12/2012 4:59:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	13.6			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209172
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3308**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6128**
Client ID: **CCV**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121754**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,020	50.0	1,000	0	102	80	120				
Benzo(a)pyrene	995	50.0	1,000	0	99.5	80	120				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	80	120				
Surr: 2-Fluorobiphenyl	488		500.0		97.5	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	500		500.0		100	48.8	157				

Sample ID: **CCB-3308**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6128**
Client ID: **CCB**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121755**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	498		500.0		99.5	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	497		500.0		99.4	48.8	157				

Sample ID: **MB-3308**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **MBLKS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121756**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	475		500.0		95.0	50.4	142				
Surr: Phenol-d6	980		1,000		98.0	48.2	143				
Surr: Terphenyl-d14 (surr)	448		500.0		89.5	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209172
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **MB-3308**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **MBLKS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121756**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **LCS-3308**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **LCSS**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121757**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,090	50.0	1,000	0	109	76.1	123				
Benzo(a)pyrene	982	50.0	1,000	0	98.2	58.1	146				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	50	150				
Surr: 2-Fluorobiphenyl	532		500.0		106	50.4	142				
Surr: Phenol-d6	1,110		1,000		111	48.2	143				
Surr: Terphenyl-d14 (surr)	508		500.0		102	48.8	157				

Sample ID: **1209149-002AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **BATCH**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121760**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	979	46.5	930.7	0	105	45.2	146				
Benzo(a)pyrene	984	46.5	930.7	0	106	34.4	179				
2,4-Dimethylphenol	937	27.0	930.7	0	101	50	150				
Surr: 2-Fluorobiphenyl	473		465.4		102	50.4	142				
Surr: Phenol-d6	949		930.7		102	48.2	143				
Surr: Terphenyl-d14 (surr)	471		465.4		101	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209172
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209149-004ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6128**
Client ID: **BATCH**	Batch ID: **3308**		Analysis Date: **10/12/2012**	SeqNo: **121763**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	45.1						0	0	30	
Benzo(a)pyrene	ND	45.1						0	0	30	
2,4-Dimethylphenol	ND	26.2						0	0	30	
Surr: 2-Fluorobiphenyl	455		451.3		101	50.4	142		0		
Surr: Phenol-d6	892		902.6		98.9	48.2	143		0		
Surr: Terphenyl-d14 (surr)	480		451.3		106	48.8	157		0		

Sample ID: **ICB-3308**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6128**
Client ID: **ICB**	Batch ID: **3308**		Analysis Date: **10/10/2012**	SeqNo: **121766**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3308**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6128**
Client ID: **ICV**	Batch ID: **3308**		Analysis Date: **10/10/2012**	SeqNo: **121767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/16/2012*

Work Order: 1209172
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICV-3308** SampType: **ICV** Units: **µg/Kg** Prep Date: **10/10/2012** RunNo: **6128**
Client ID: **ICV** Batch ID: **3308** Analysis Date: **10/10/2012** SeqNo: **121767**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209172**
Logged by: **Clare Griggs**	Date Received: **9/27/2012 12:54:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples were not received in a cooler						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Unknown prior to receipt						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA	☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☐	No	☑		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

Chain of Custody Record 1209172

I010

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/26/12 Page: 1 of 1

Client: GeoEngineers
Project Manager: Neil Morton
Address: 1101 S. Fawcett Ave Ste 200 Tacoma, WA 98402
Project Name: Irondale
Phone: 253 383 4940 Fax:
Location: Irondale, WA City: Irondale, WA
Client Project # 0504-042-02
Collector: Aaron Waggoner Date of Collection: 9-26-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-WSW01-92612	7'	0915	Sed	2-4oz Jar							X							Extract
2 IRZ-B1-92612	12'	0920	Sed	2-4oz Jar							X							
3 IRZ-B2-92612	12'	1120	Sed	2-4oz Jar							X							
4 IRZ-ESW01-92612	4.5'	1200	Sed	2-4oz Jar							X							
5 IRZ-Dupe1-92612	-	1200	Sed	2-4oz Jar							X							Dupe of IRZ-ESW01-92612
6 IRZ-B3-92612	10'	1300	Sed	2-4oz Jar							X							
7 IRZ-WSW2-92612	7'	1335	Sed	2-4oz Jar							X							
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/26/12 1600	[signature]	9/26/12 1600
[signature]	9/27/12 12:54	[signature]	12:54 9/27
[signature]			

Sample Receipt:
Good Condition?
Cold?
Seals Intact?
Total Number of Containers

Remarks:
Extract / Hold
PAHs

Distribution: White, Lab Yellow, File, Pink - Originator

Libby Environmental, Inc. — Chain of Custody Record 1209172 — I010

4139 Libby Road NE, Olympia, WA 98506 | Ph: 360-352-2110 | Fax: 360-352-4154

Date: 9/26/12 | Page: 1 of 1

Client: GeoEngineers | Project Manager: Neil Morton

Address: 1101 S. Fawcett Ave Ste 200 Tacoma, WA 98402 | Project Name: Irondale

Phone: 253 383 4940 | Fax: | Location: Irondale, WA | City: Irondale, WA

Client Project # 0504-042-02 | Collector: Aaron Waagner | Date of Collection: 9-26-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Gx	NWTPH-Dx Ext	PAH 8270	PCB's 8082	RTCA 5 Metals		Field Notes
1 IRZ-WSW1-92612	7'	0915	Sed	2-4oz Jar							X	X					
2 IRZ-B1-92612	12'	0920	Sed	2-4oz Jar							X	X					No Dx, change to PAH extrachm + hold. CG
3 IRZ-B2-92612	12'	1120	Sed	2-4oz Jar							X	X					
4 IRZ-ESW1-92612	4.5'	1200	Sed	2-4oz Jar							X	X					
5 IRZ-Dupe1-92612	-	1200	Sed	2-4oz Jar							X	X					Dupe of IRZ-ESW1-92612
6 IRZ-B3-92612	10'	1300	Sed	2-4oz Jar							X	X					
7 IRZ-WSW2-92612	7'	1335	Sed	2-4oz Jar							X	X					
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/26/12 1600	[signature]	9/26/12 1600
[signature]	9/27/12 12:54	[signature]	12:54 9/27

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Extract/Hold PAHs

Distribution: White - Lab; Yellow - Rec. Trip - Originator

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record 1209172A

I010

Date: 9/26/12 Page: 1 of 1

Client: Geo Engineers
Address: 1101 S. Fawcett Ave Ste 200 Tacoma, WA 98402
Phone: 253 383 4940 Fax:
Client Project # 0504-042-02

Project Manager: Neil Morton
Project Name: Irondale
Location: Irondale, WA City: Irondale, WA
Collector: Aaron Wagoner Date of Collection: 9-26-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext	PAH 8270	PCB's 8082	MTCA 5 Metals	Field Notes
1 IRZ-WS01-92612	7'	0915	Soil	2-4oz Jar							X					
2 IRZ-B1-92612	12'	0920	Soil	2-4oz Jar							X					Run PAH per Emily A 10/1/12 cgf
3 IRZ-B2-92612	12'	1120	Soil	2-4oz Jar							X					
4 IRZ-ES01-92612	4.5'	1200	Soil	2-4oz Jar							X					
5 IRZ-Dupe1-92612	-	1200	Soil	2-4oz Jar							X					Dupe of IRZ-ES01-92612
6 IRZ-B3-92612	10'	1300	Soil	2-4oz Jar							X					
7 IRZ-WS02-92612	7'	1335	Soil	2-4oz Jar							X					
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/26/12 1600	[signature]	9/26/12 1600
[signature]	9/27/12 1254	[signature]	1254 9/27

Sample Receipt:
Good Condition?
Cold?
Seals Intact?
Total Number of Containers

Remarks:
Extra H/Hold PAHs

Distribution: White - with Report; Yellow - File Copy; Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

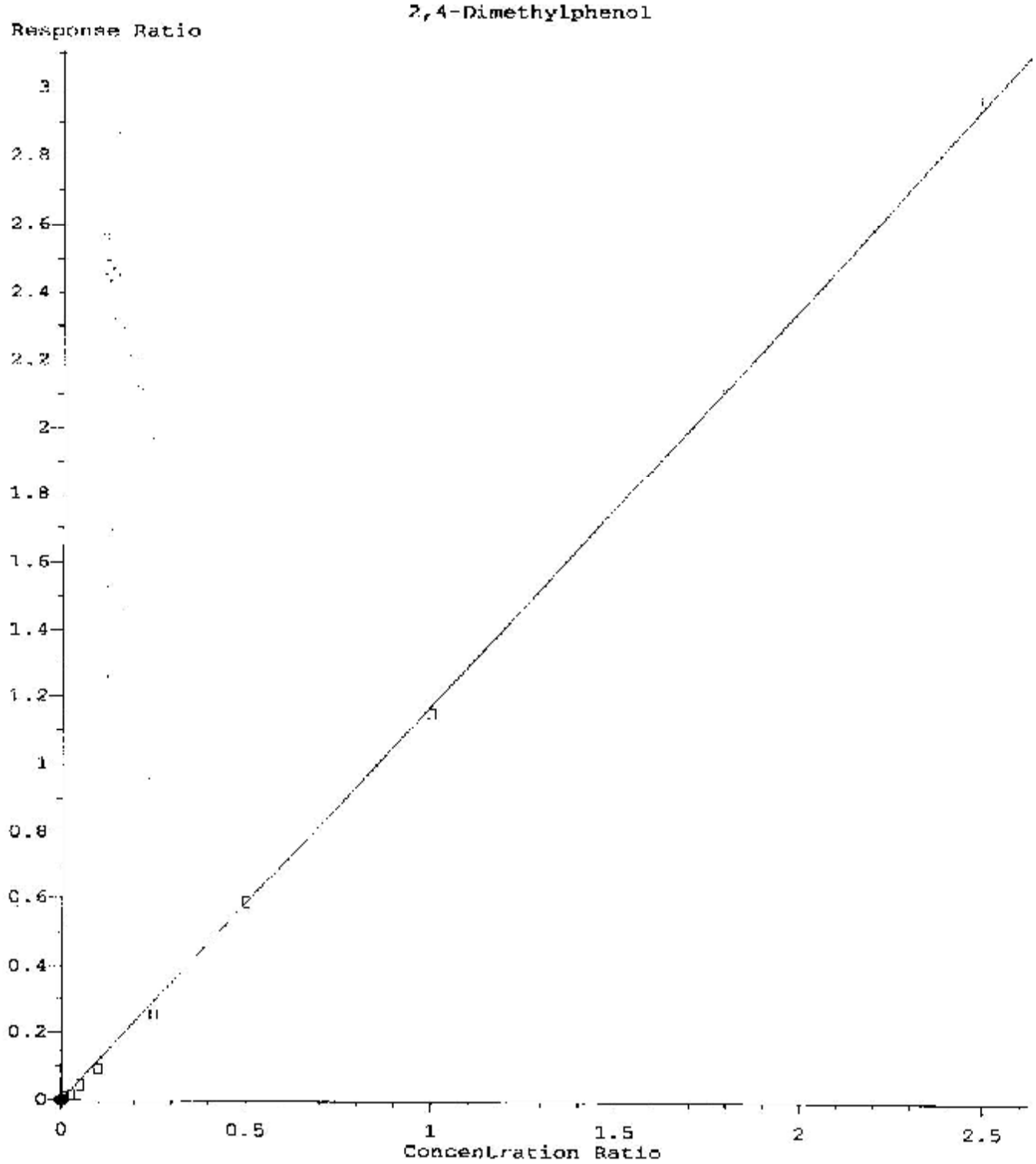
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

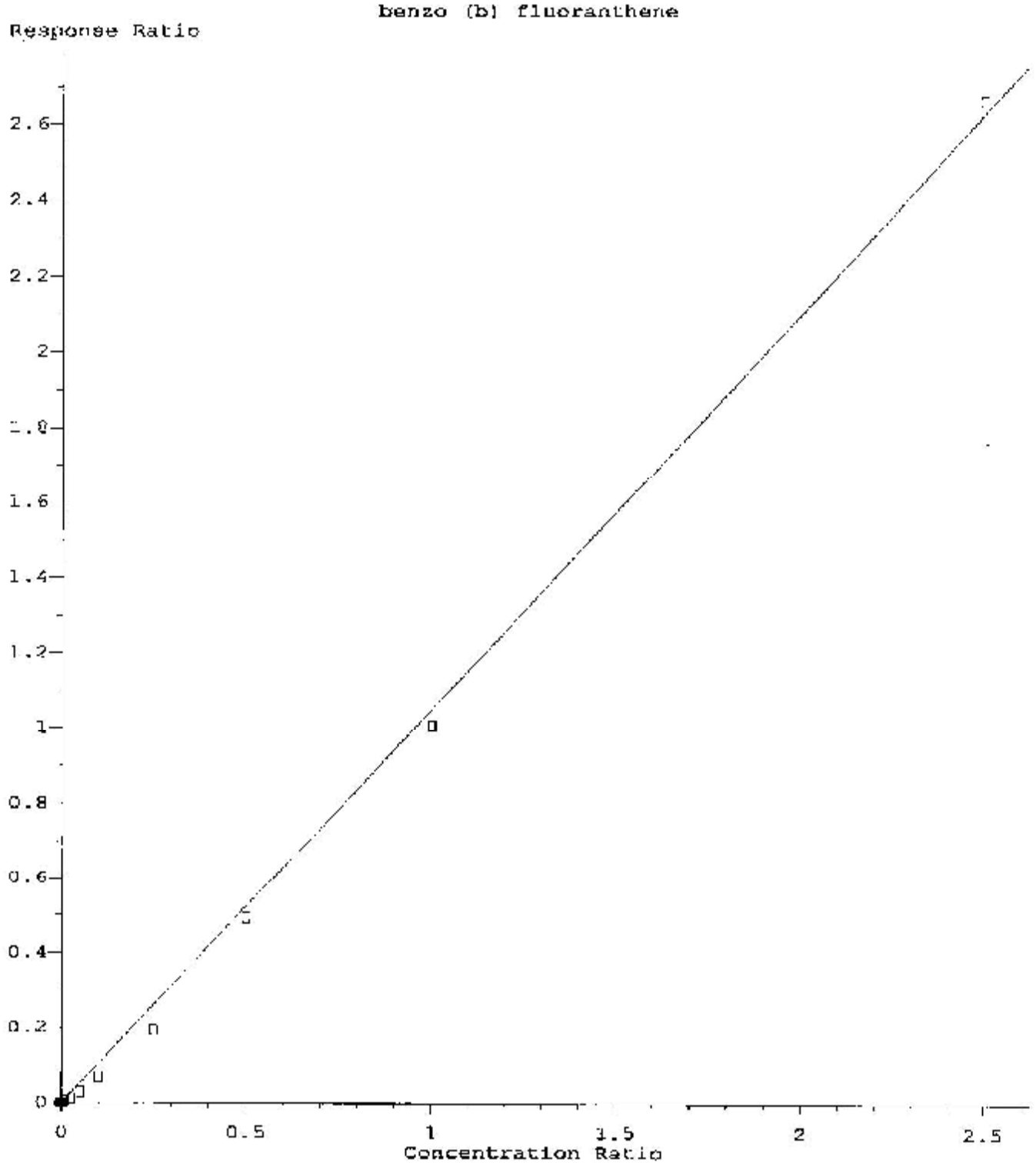
25)	I	Perylene-d12 (IS)	----------	----------	----------	ISTD	----------	----------	----------	----------	
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

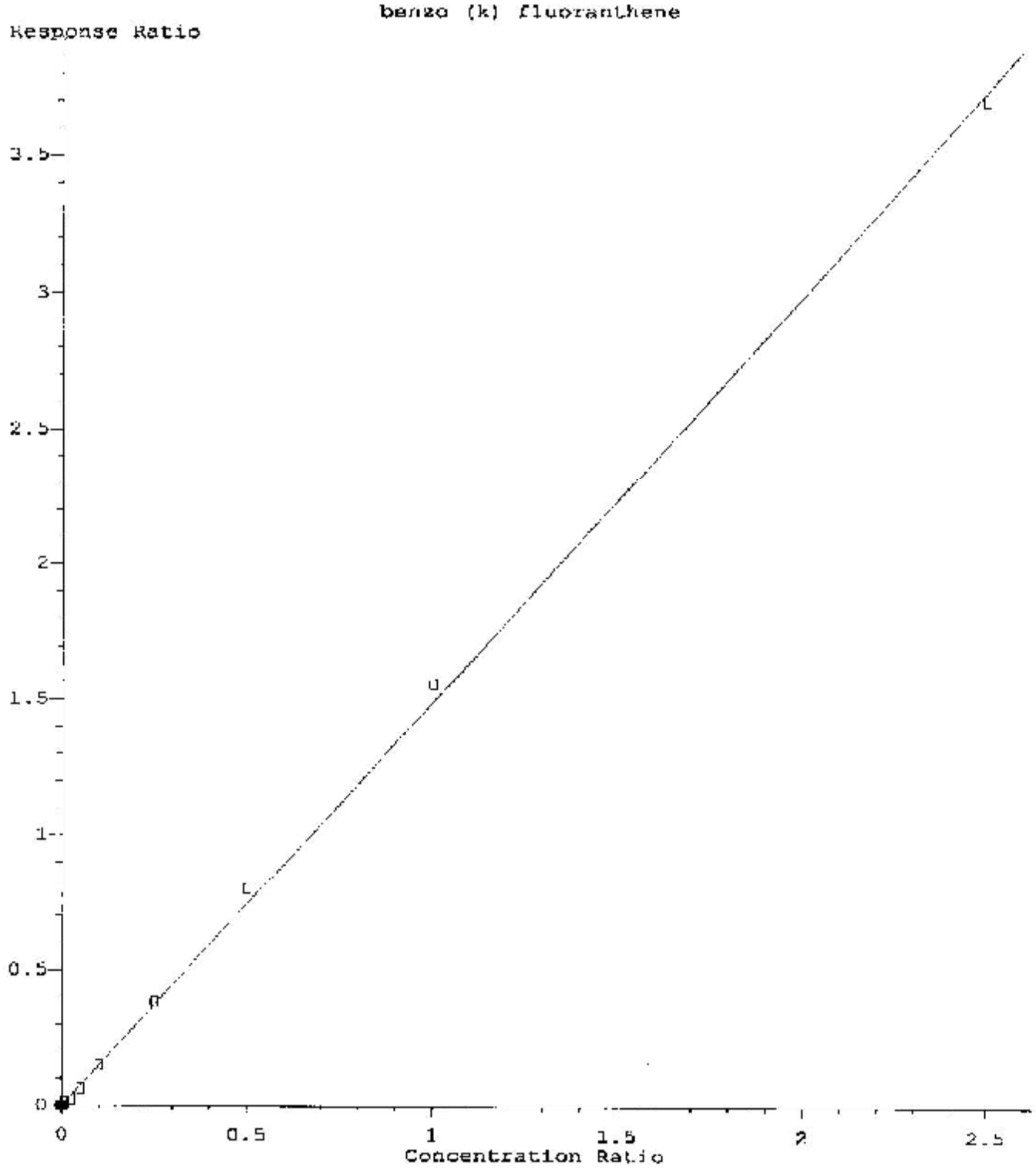
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



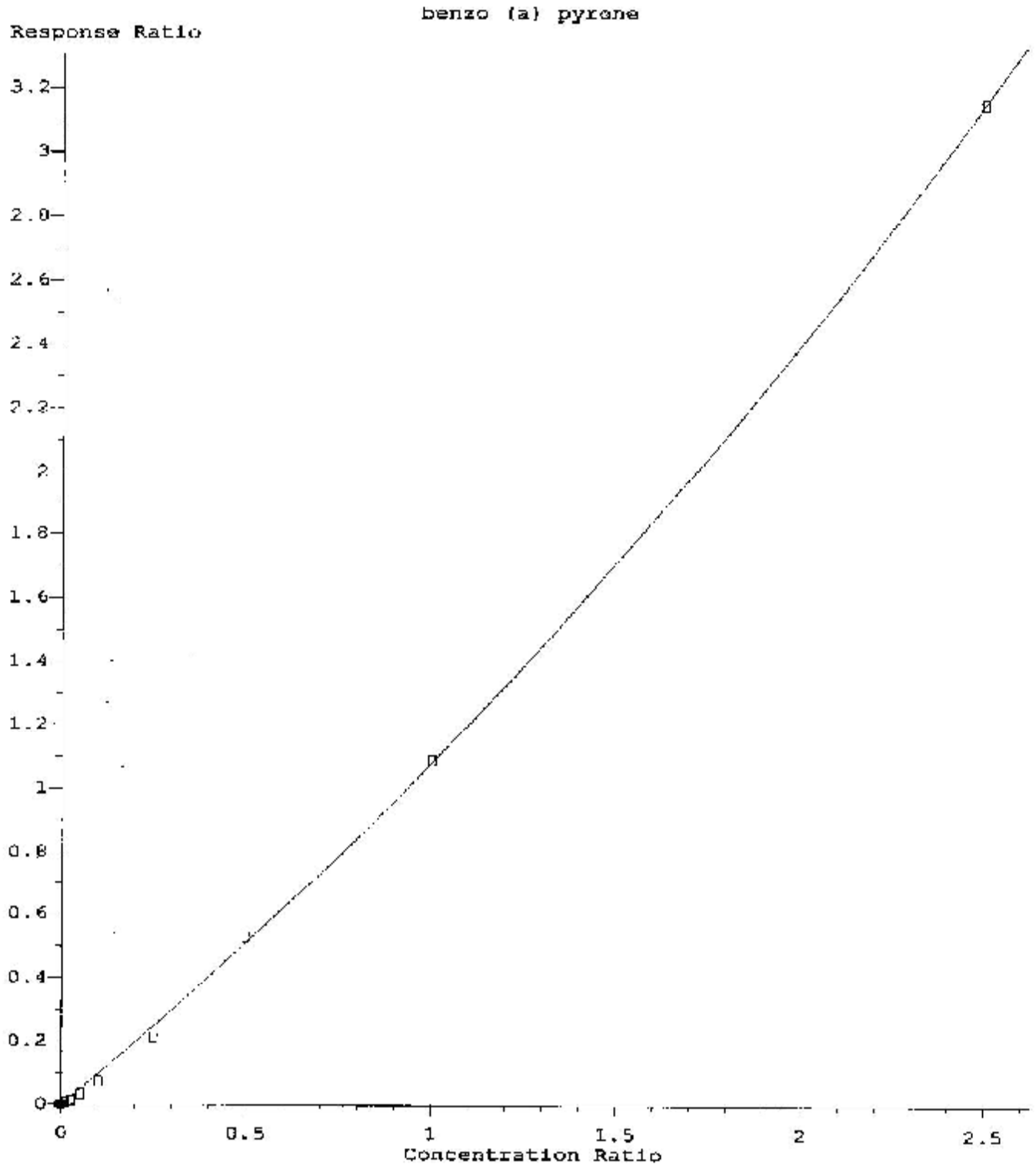
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



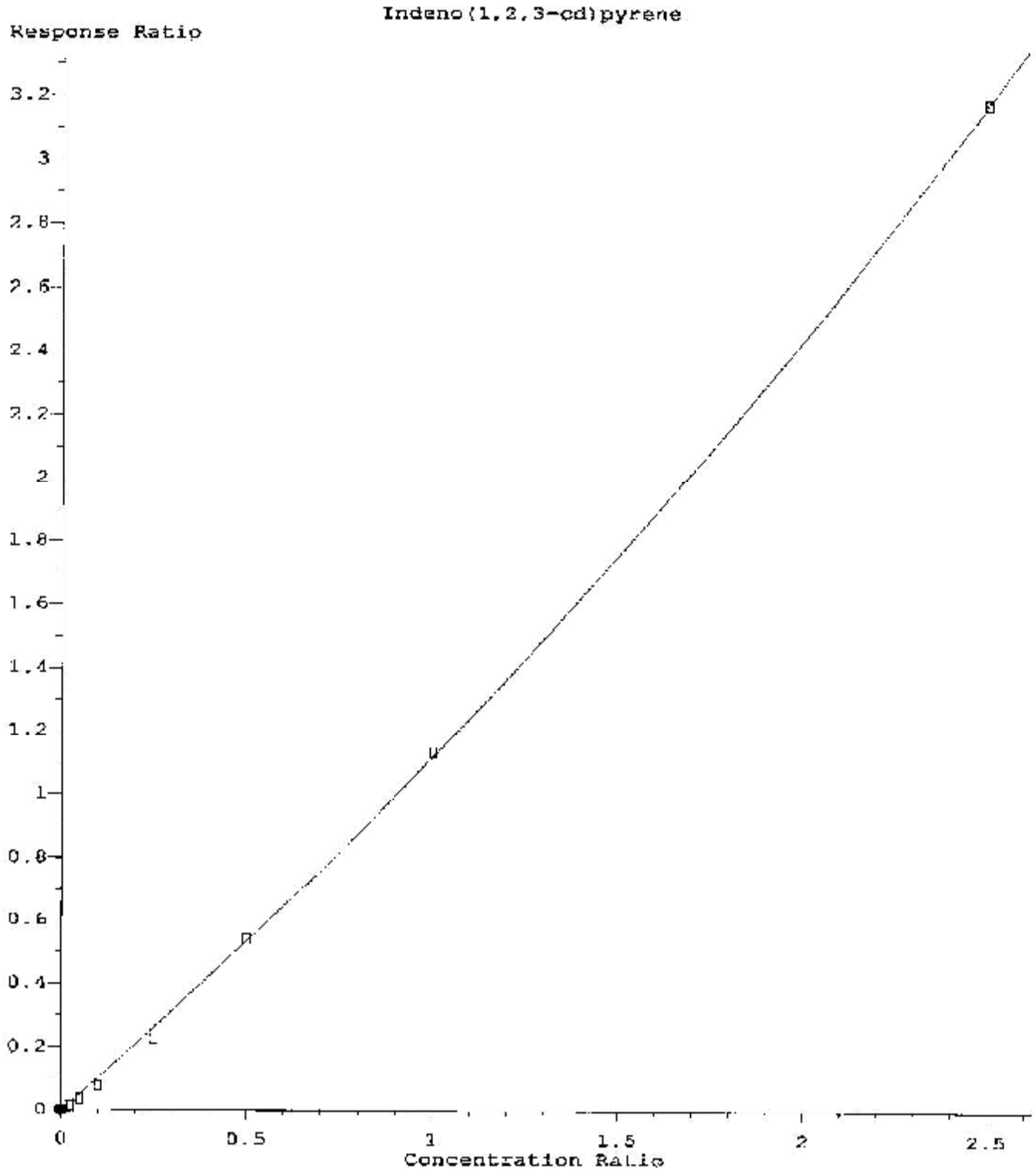
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



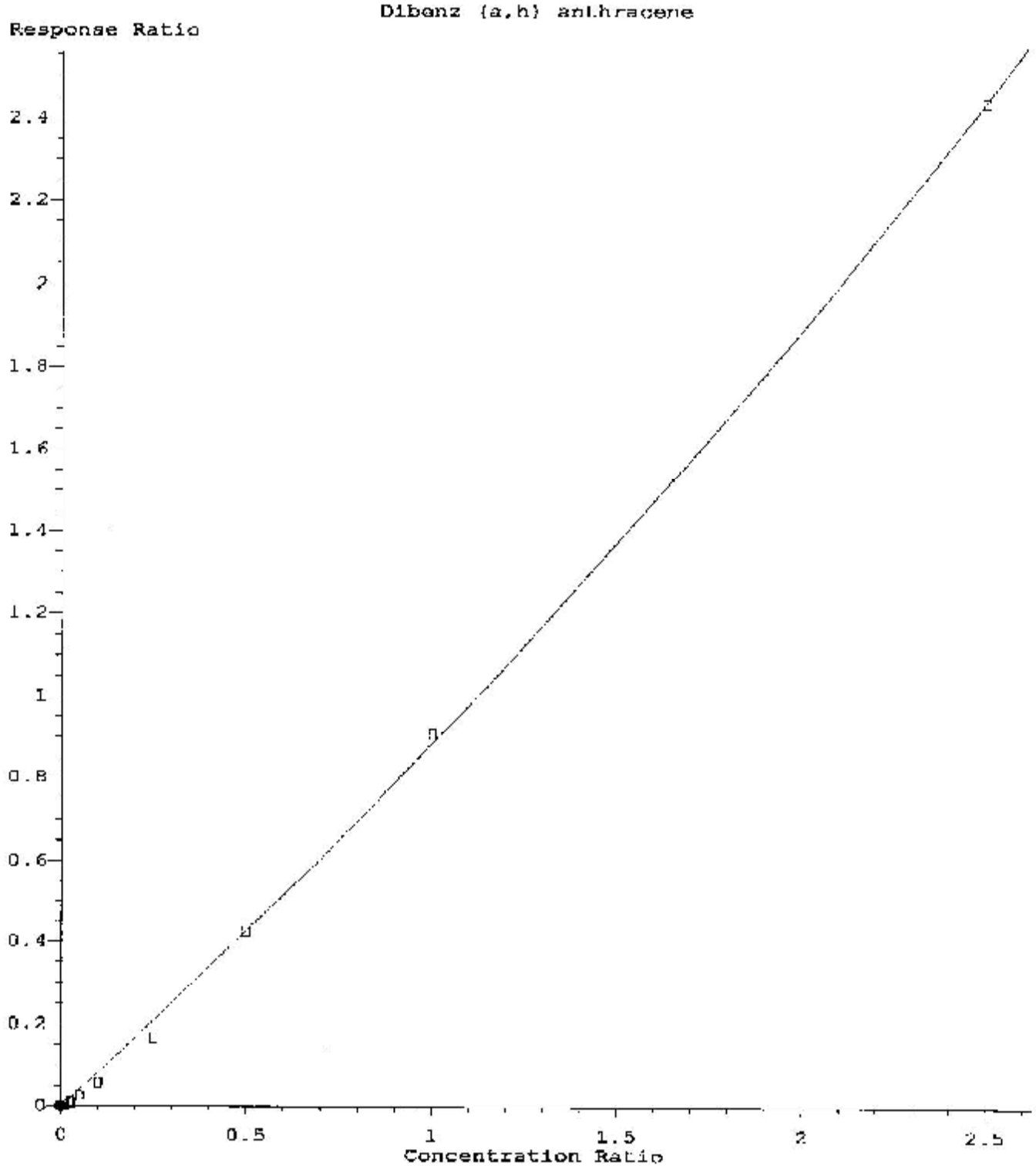
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



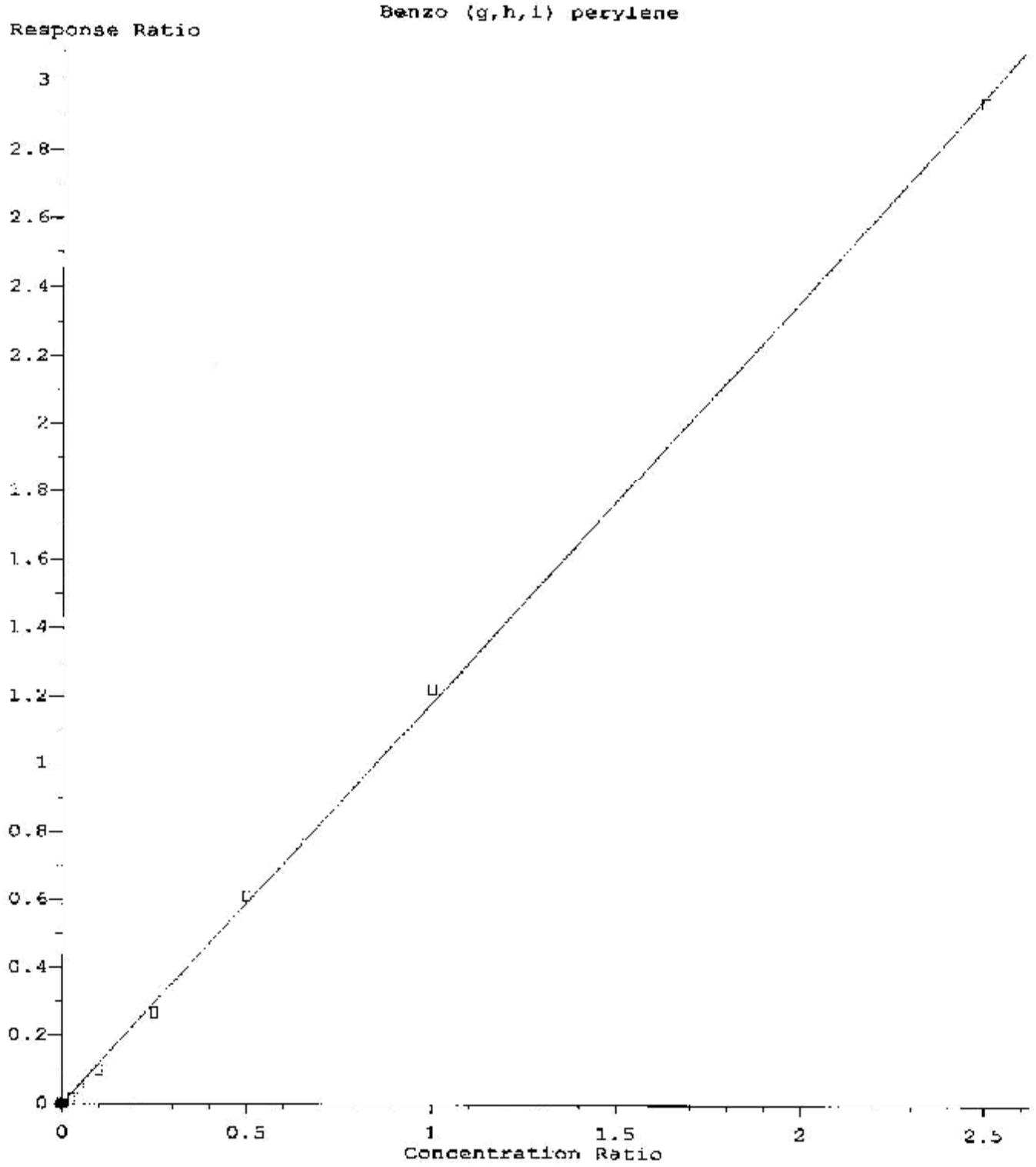
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

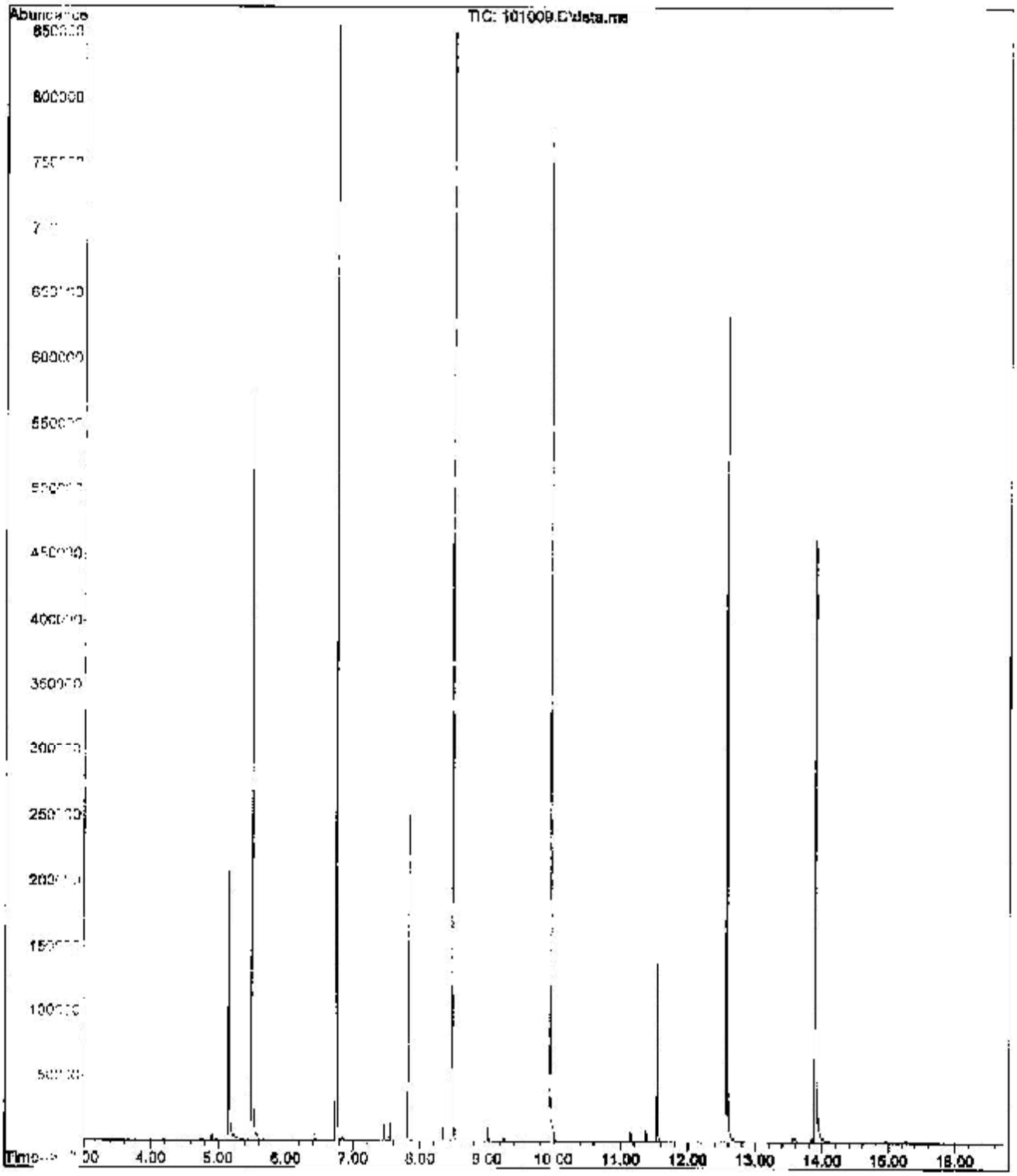
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	155780	971.54	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.430	107	1703m	13.70	ug/L		
5) Naphthalene	6.766	128	9729	22.54	ug/L		100
6) 2-Methylnaphthalene	7.455	142	5421	21.44	ug/L		100
7) 1-Methylnaphthalene	7.550	142	5172	21.59	ug/L		100
9) Acenaphthylene	8.338	152	7063	20.38	ug/L		100
11) Acenaphthene	8.508	152	2661	23.37	ug/L		99
12) Fluorene	9.021	166	5847	22.40	ug/L		97
14) Phenanthrene	9.967	178	8863	23.95	ug/L		100
15) Anthracene	10.020	178	6894	20.35	ug/L		97
17) Fluoranthene	11.145	202	6586	19.76	ug/L	#	94
18) Pyrene	11.368	202	6766	19.42	ug/L	#	85
19) Benzo (a) anthracene	12.559	228	6945	23.77	ug/L	#	100
21) Chrysene	12.592	228	8752m	25.21	ug/L		
22) benzo (b) fluoranthene	13.556	252	2936	11.32	ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	5957	16.17	ug/L		99
24) benzo (a) pyrene	13.835	252	2906	12.19	ug/L	#	52
26) Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51	ug/L		
27) Dibenz (a,h) anthracene	14.967	278	2052m	14.50	ug/L		
28) Benzo (g,h,i) perylene	15.256	276	3732m	18.27	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

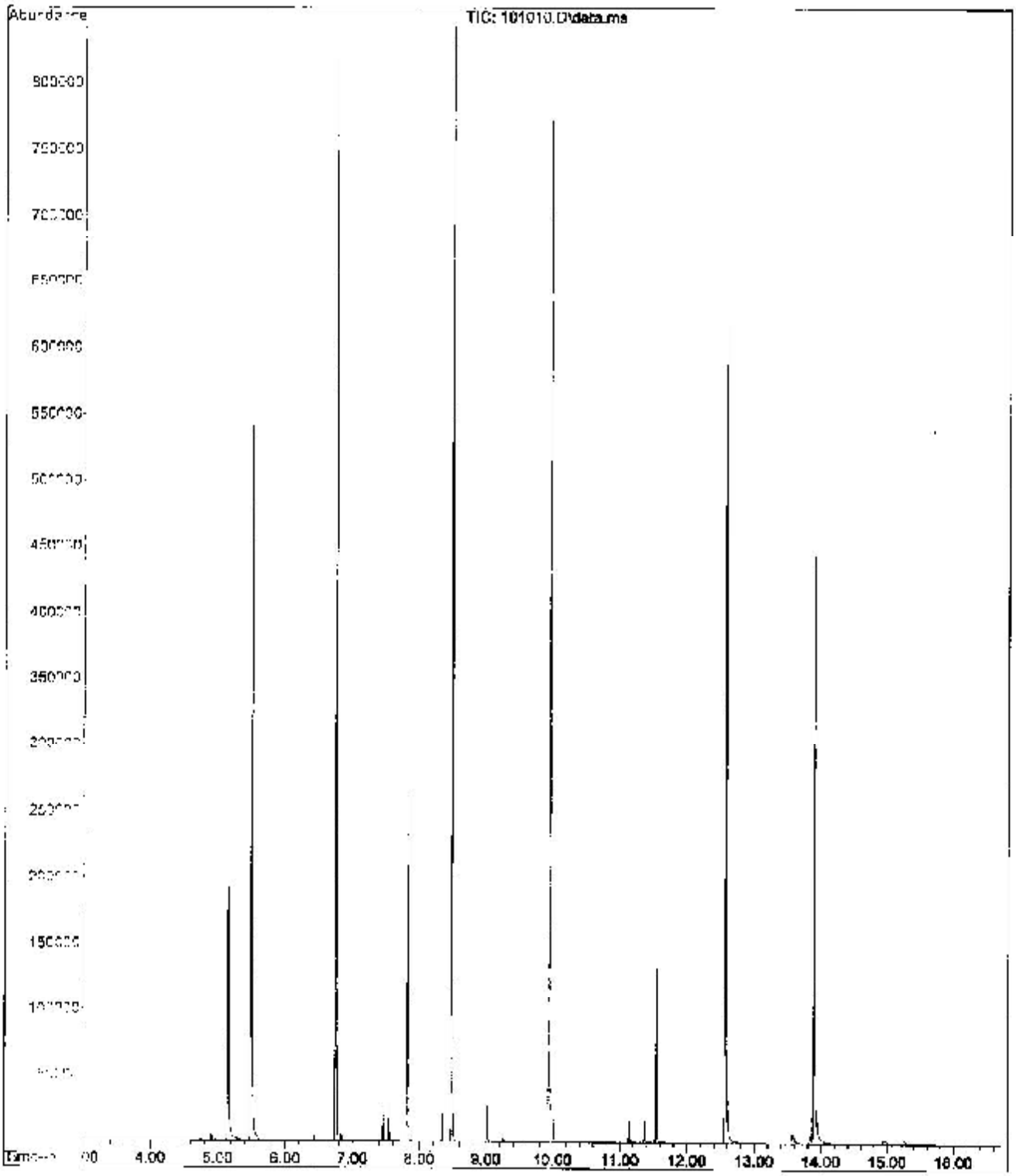
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mschem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	5037	44.80 ug/L	100
12) Fluorene	9.021	166	11078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo (a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo (b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo (k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo (a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz (a,h) anthracene	14.964	278	3702m	28.18 ug/L	
28) Benzo (g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 EL.M Thu Oct 11 09:27:4 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

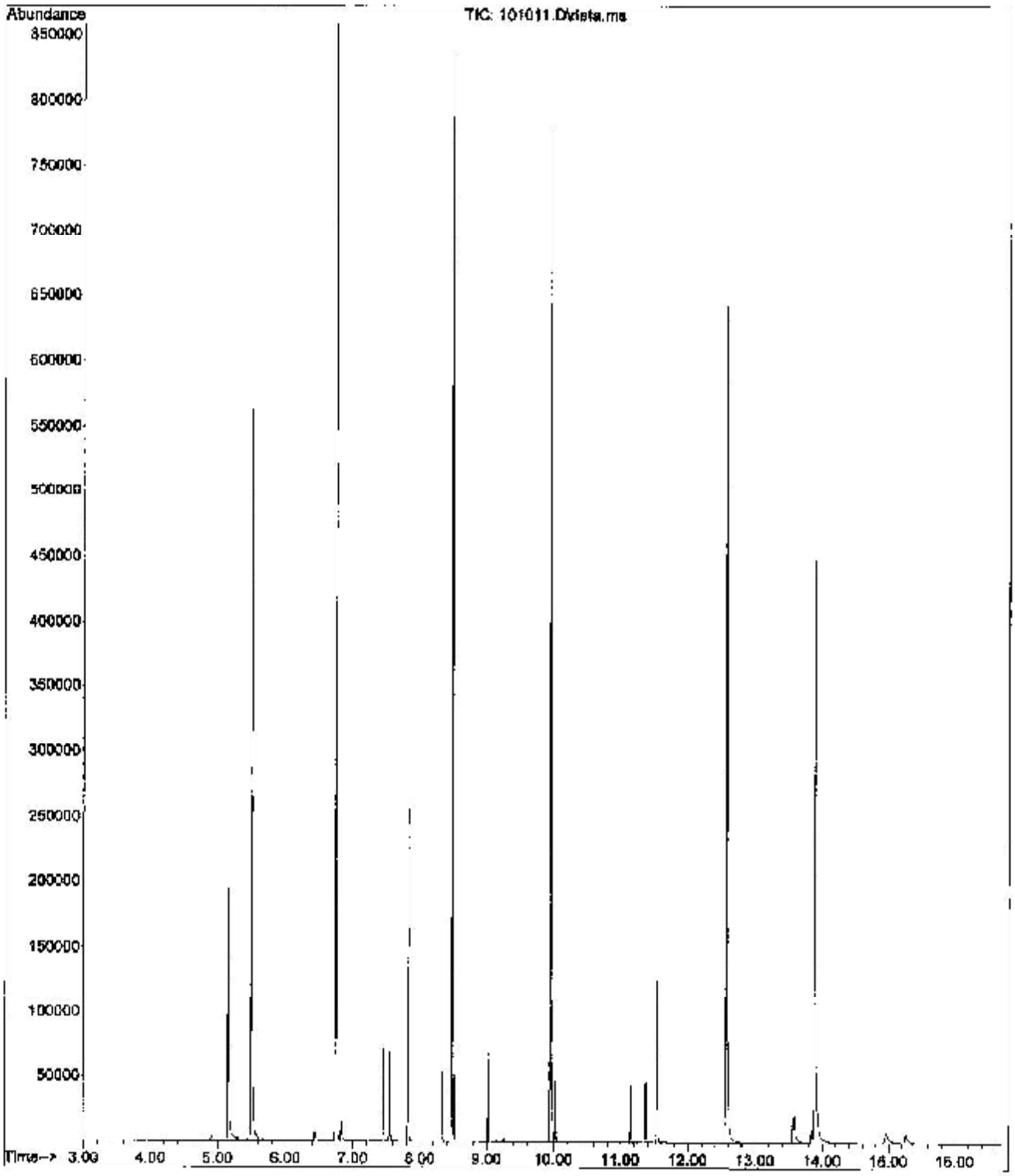
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

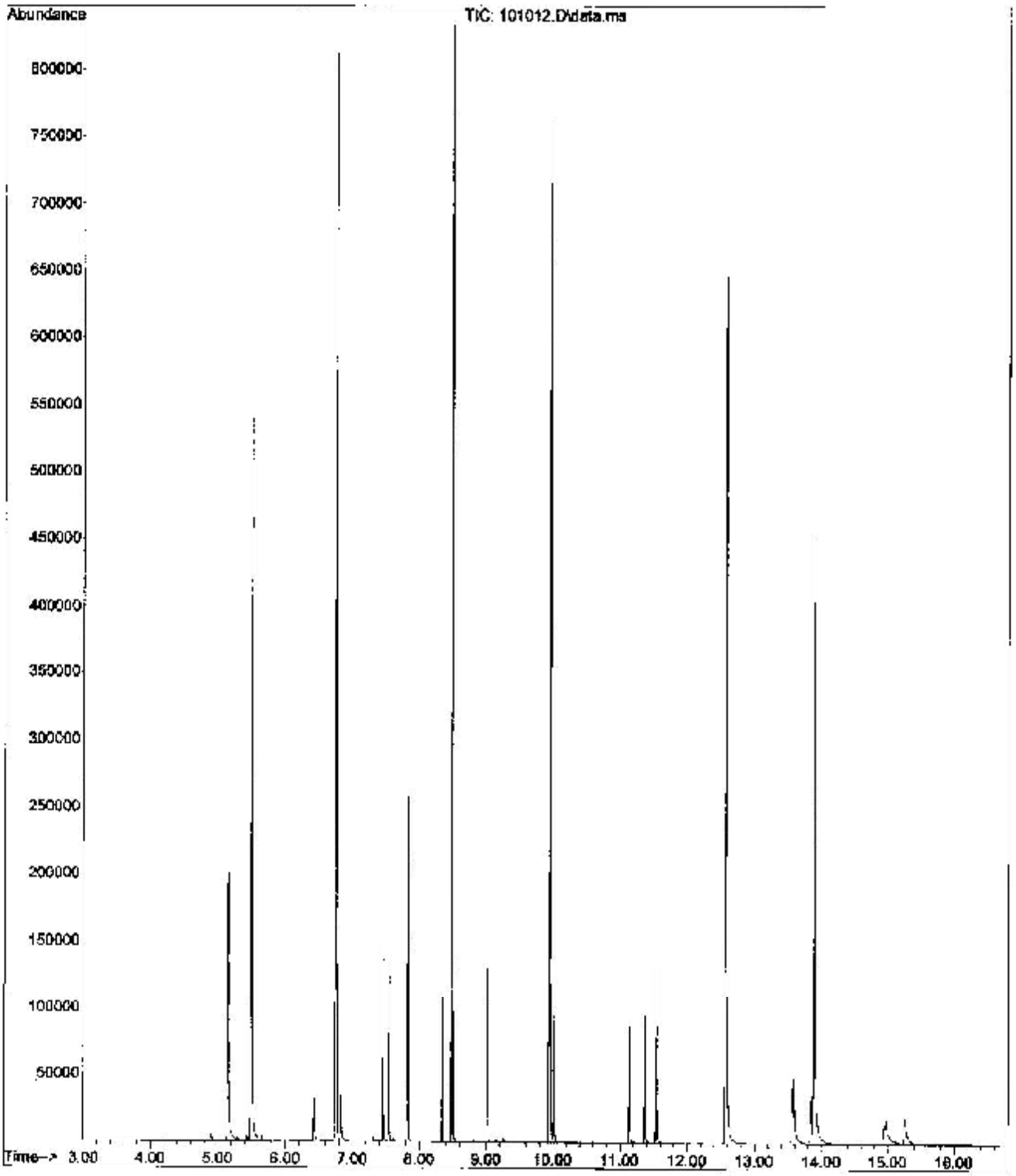
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PEB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

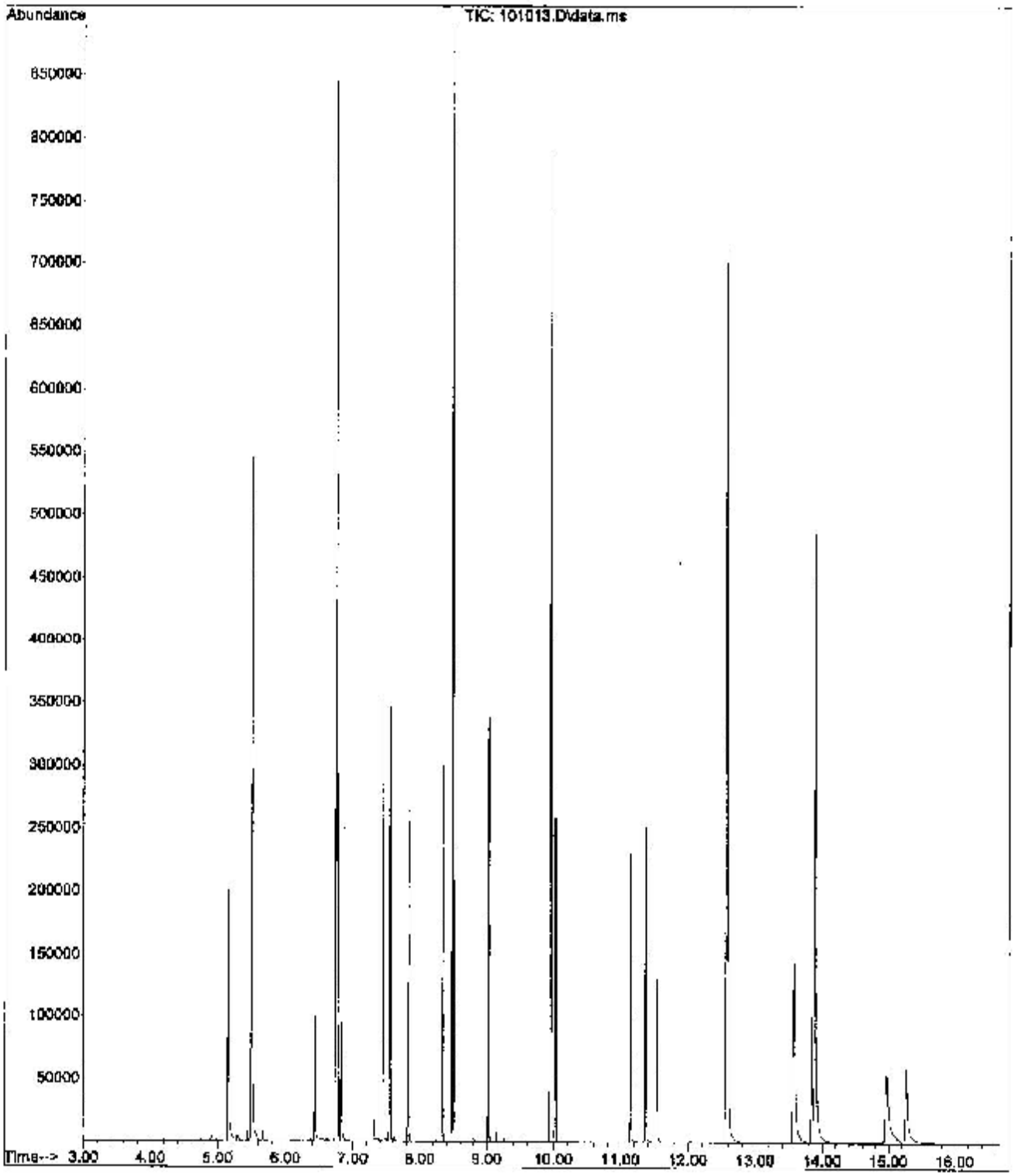
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.150	99	155773	999.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L		
5] Naphthalene	6.767	128	210515	496.23 ug/L		100
6] 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L		98
7] 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L		97
9] Acenaphthylene	8.338	152	176929	519.35 ug/L		100
11] Acenaphthene	8.509	152	56451	496.90 ug/L		99
12] Fluorene	9.022	166	132700	509.61 ug/L		97
14] Phenanthrene	9.969	178	184698	505.37 ug/L		100
15] Anthracene	10.019	178	169453	506.64 ug/L		98
17] Fluoranthene	11.146	202	171838	522.16 ug/L		95
18] Pyrene	11.360	202	181345	527.17 ug/L		94
19] Benzo (a) anthracene	12.559	228	140369	486.48 ug/L	#	100
21] Chrysene	12.593	228	176026	496.99 ug/L		95
22] benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L	#	100
23] benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L		99
24] benzo (a) pyrene	13.837	252	108063	433.23 ug/L	#	89
26] Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L		
27] Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L		
28] Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

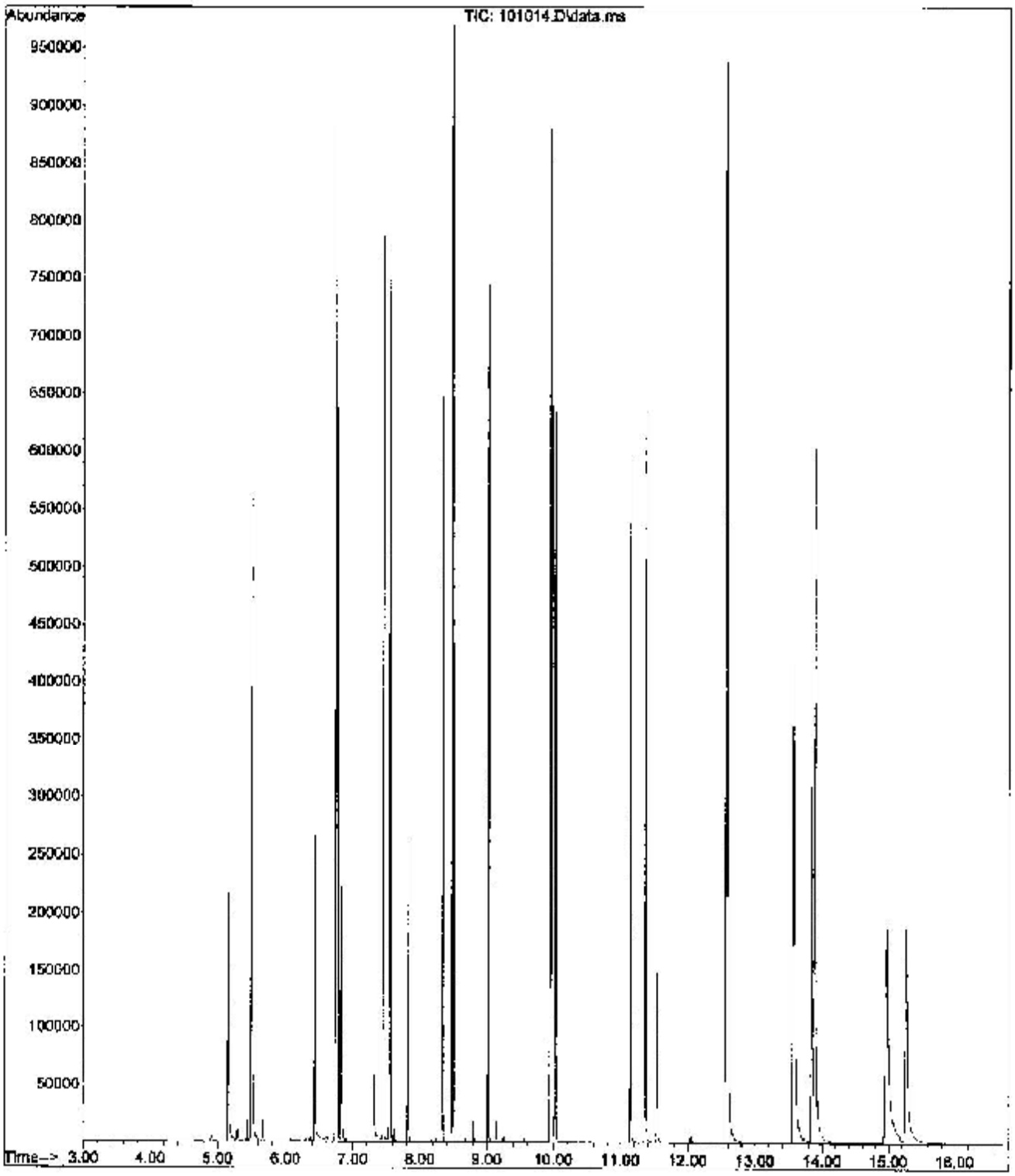
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

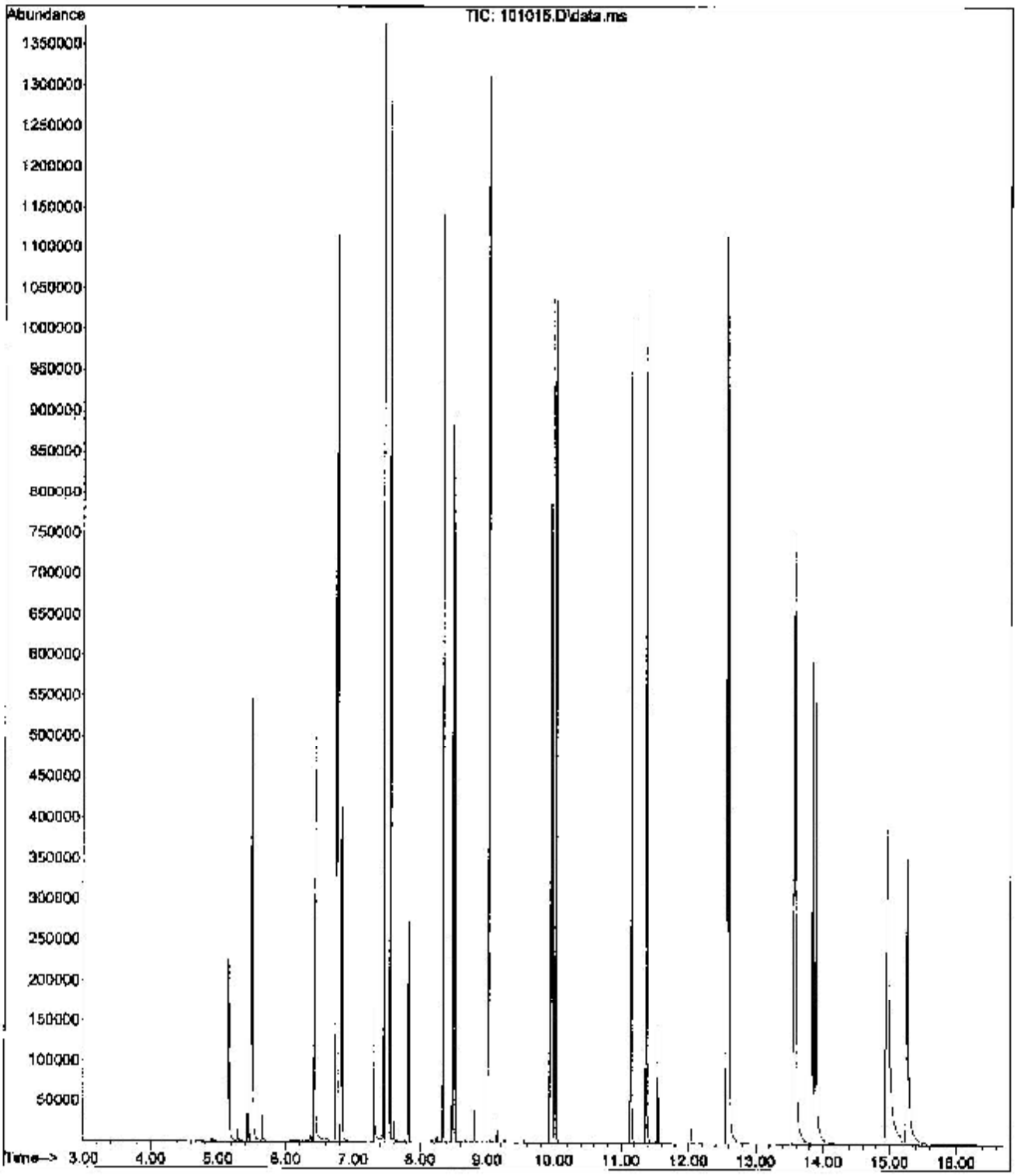
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	163666	1047.53 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L	99
5) Naphthalene	6.766	128	816382	1904.32 ug/L	100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L	98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L	97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L	100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L	99
12) Fluorene	9.021	166	512109	1923.55 ug/L	97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L	100
15) Anthracene	10.020	178	699103	2061.68 ug/L	98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L	95
18) Pyrene	11.370	202	759797	2178.54 ug/L	94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L #	100
21) Chrysene	12.593	228	718133	1956.30 ug/L	98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L #	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L	100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L	
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L	
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

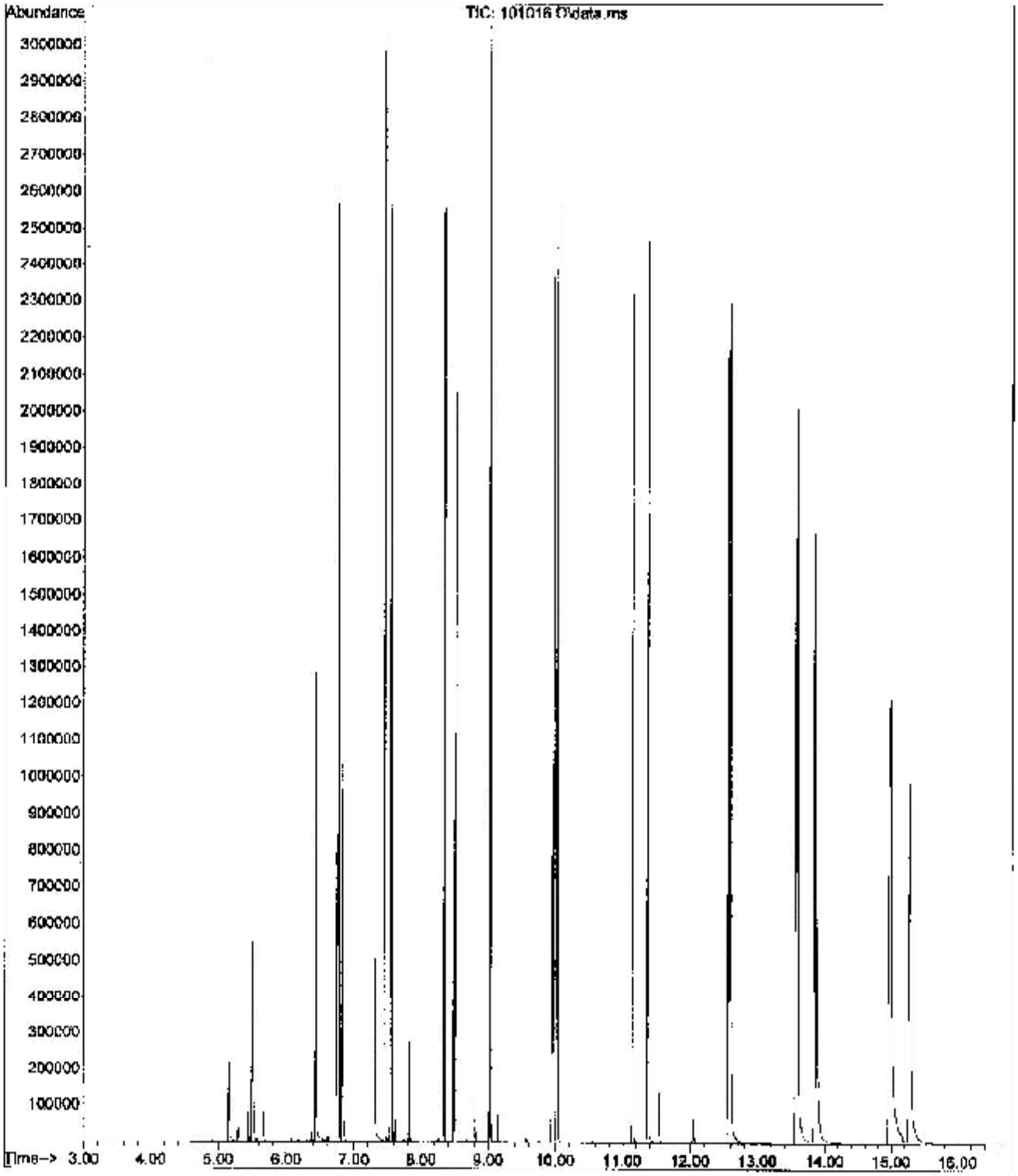
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

```
File        :D:\Data\SVOC\101012-1\101016.D
Operator    :
Acquired    : 10 Oct 2012    6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument  :    HP-MSD
Sample Name: 5000 PPB STD
Misc Info   : CCV  G-PAH-S-SIM-LIBBY
Vial Number: 108
```



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 10 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

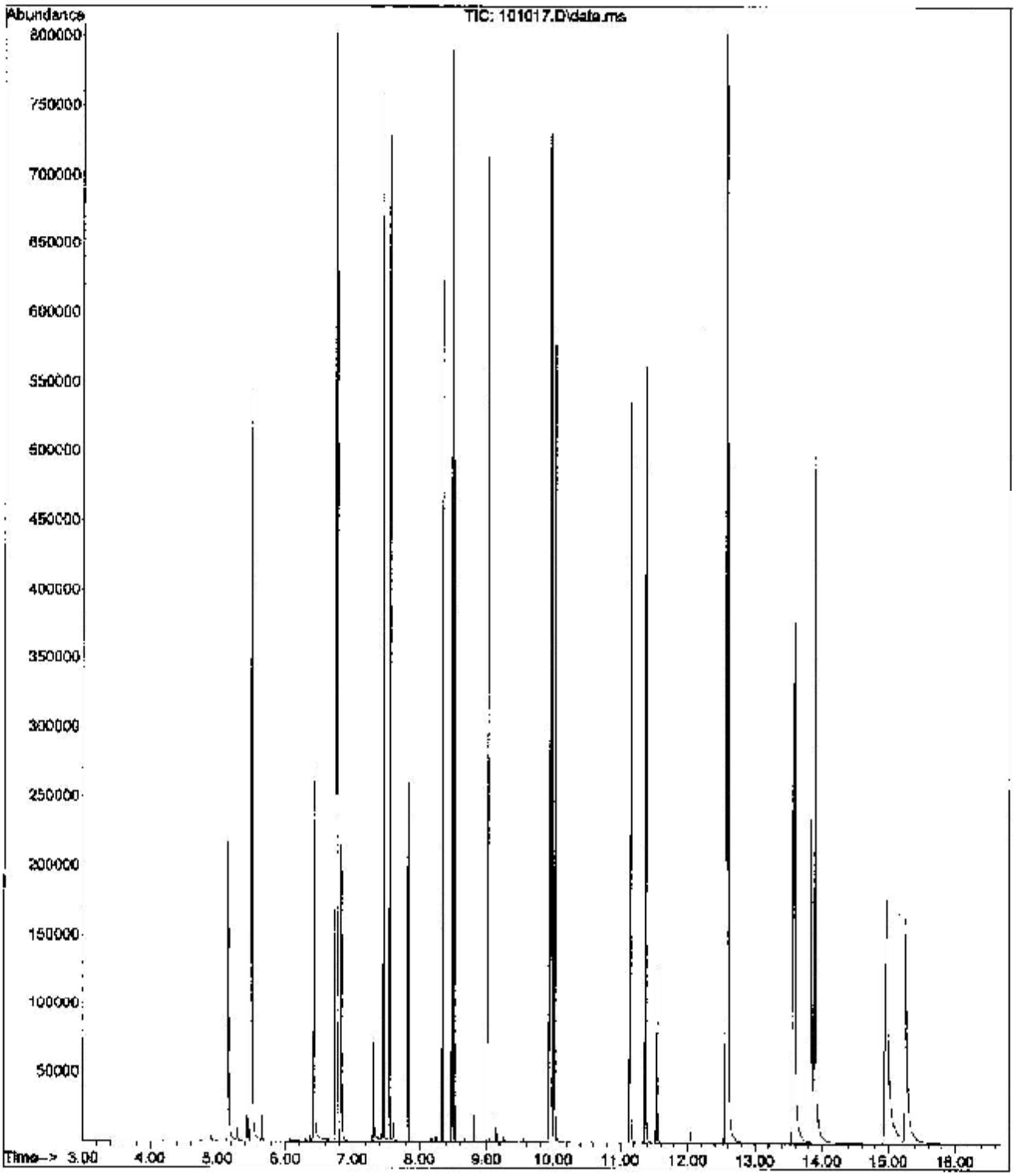
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

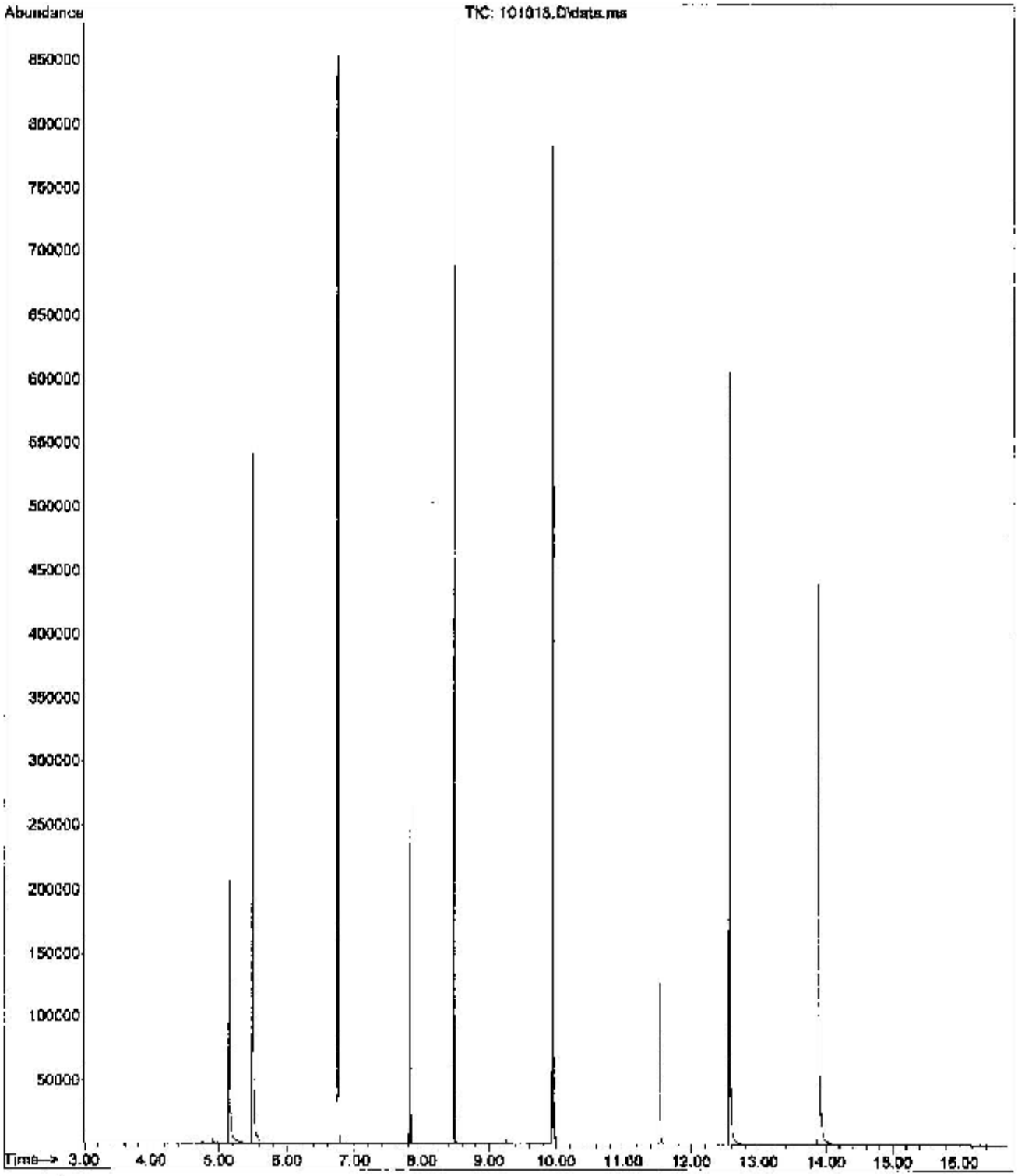
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

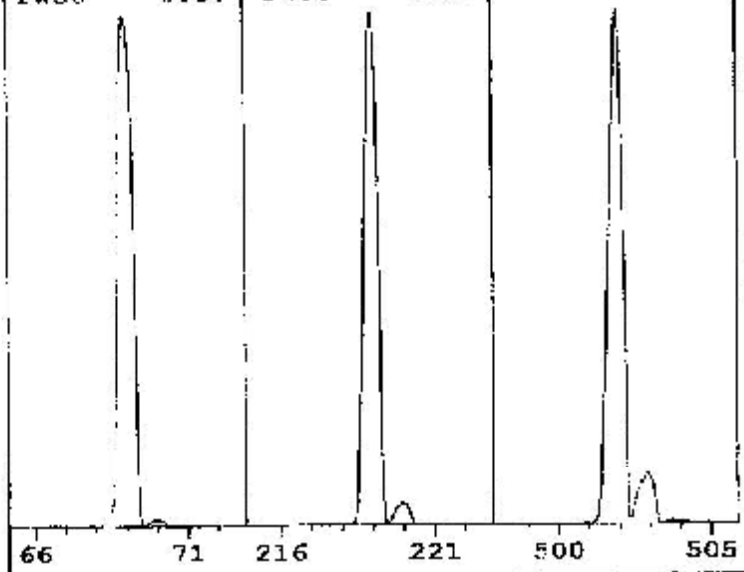


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

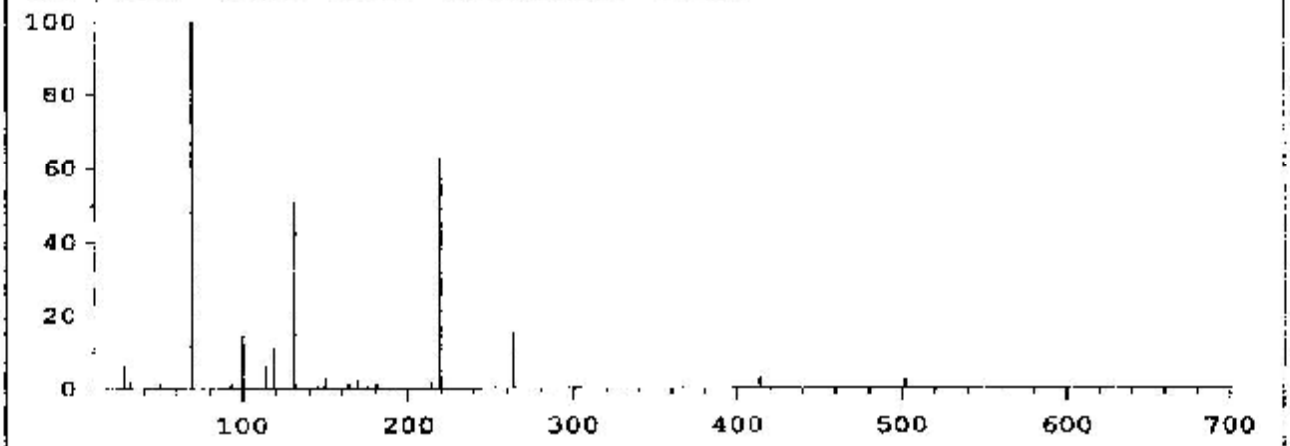


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O~0.56% N2~6.00% O2~1.93% CO2~0.18% N2/H2O~1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

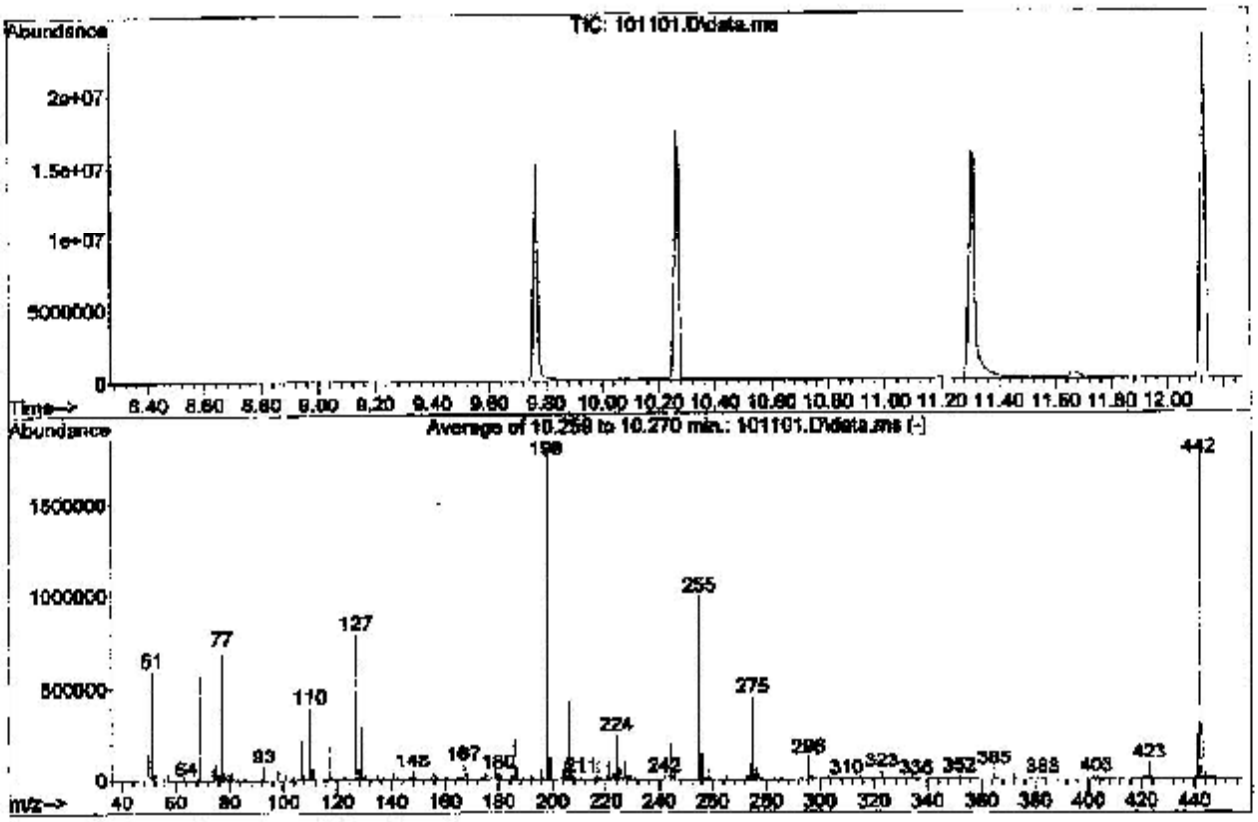
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

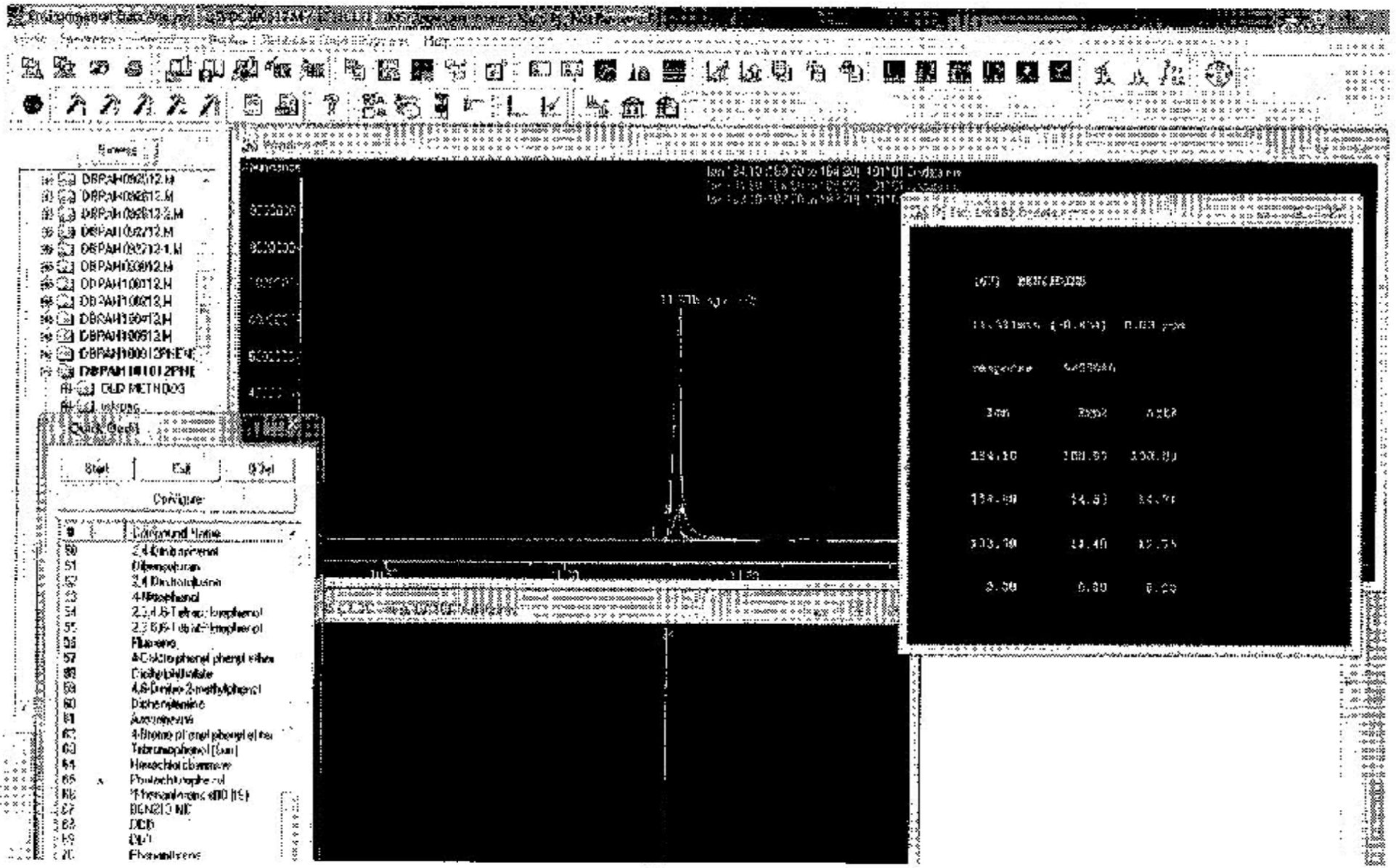
Integration File: RTEINTSG8270.P

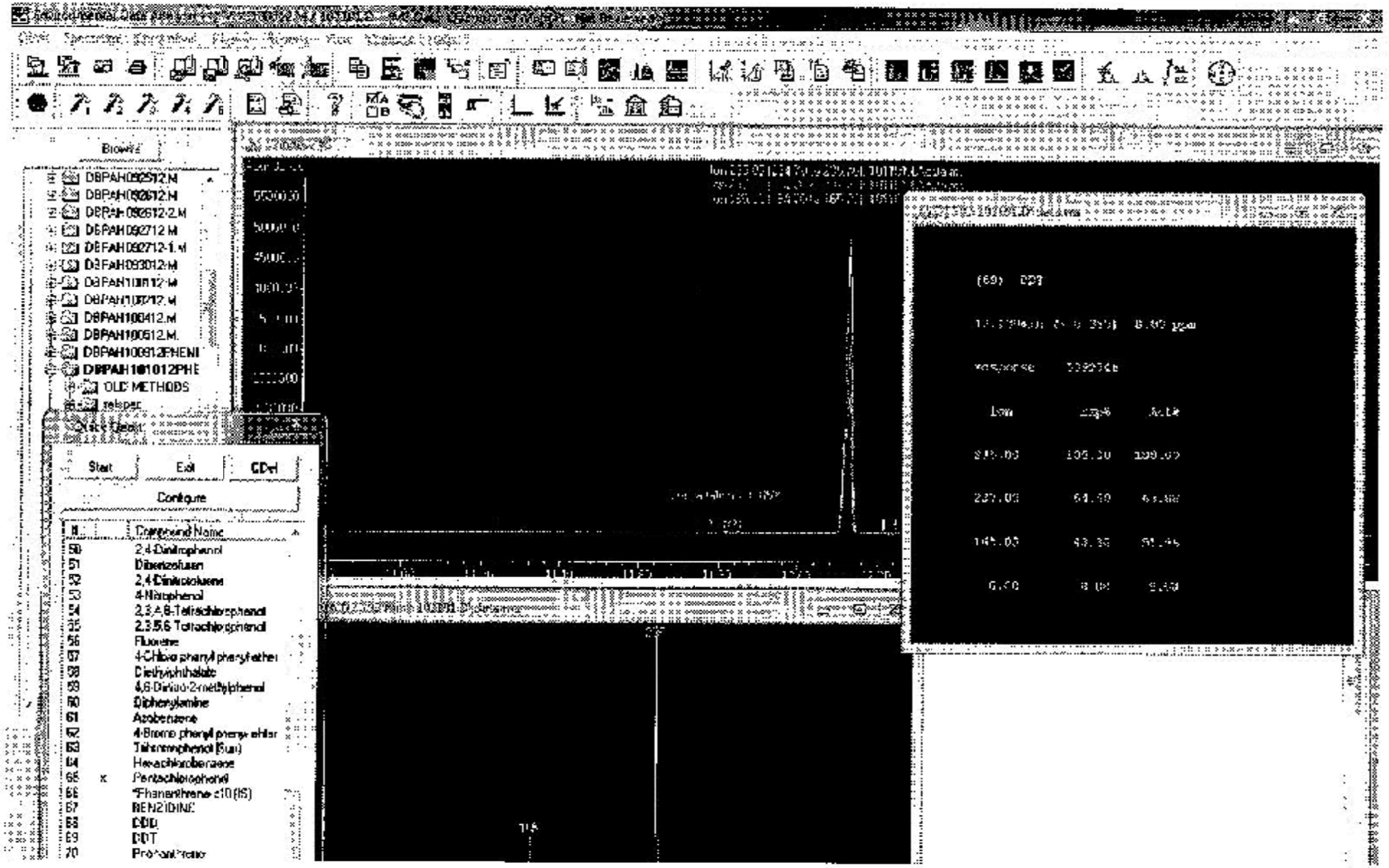
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012



AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS

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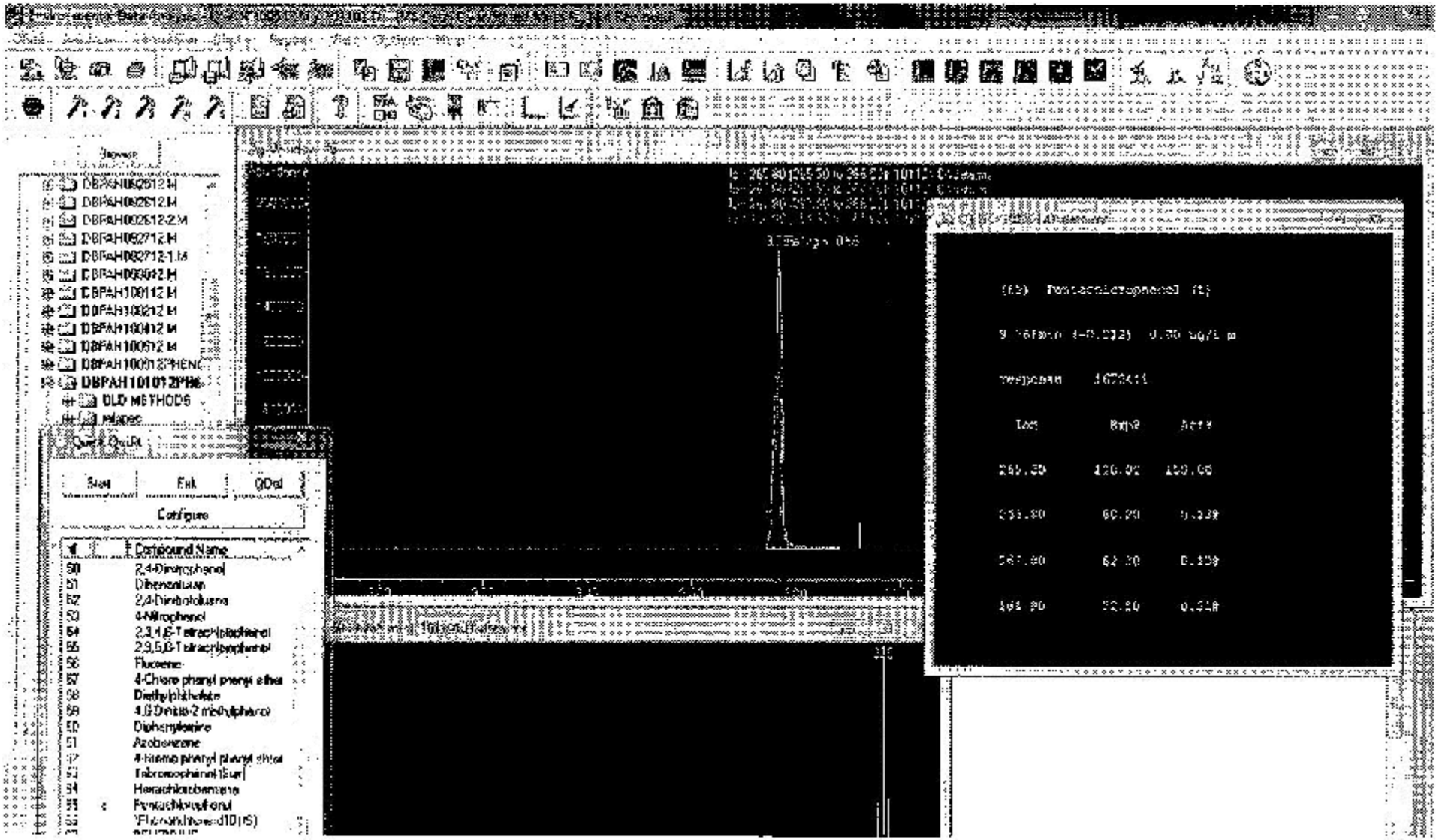
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 *Phenanthrene-d10 (IS)
67 BENZIDINE
68 DDD
69 DDT
70 Pronamide
(69) DDT
Low
Actual


DBPAH100512.M
DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQcal
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Lost
Rqd0
Act#

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

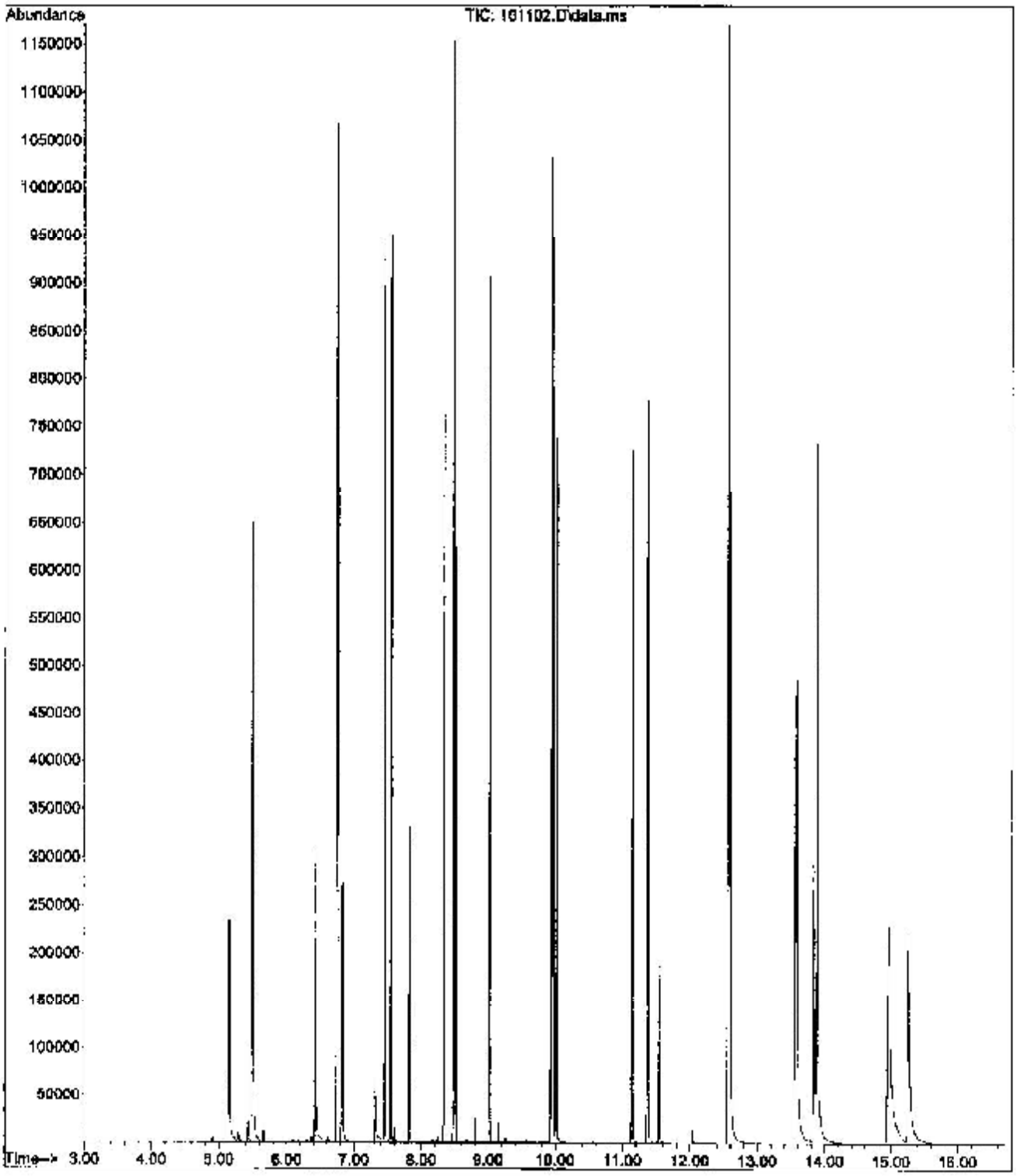
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB O-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

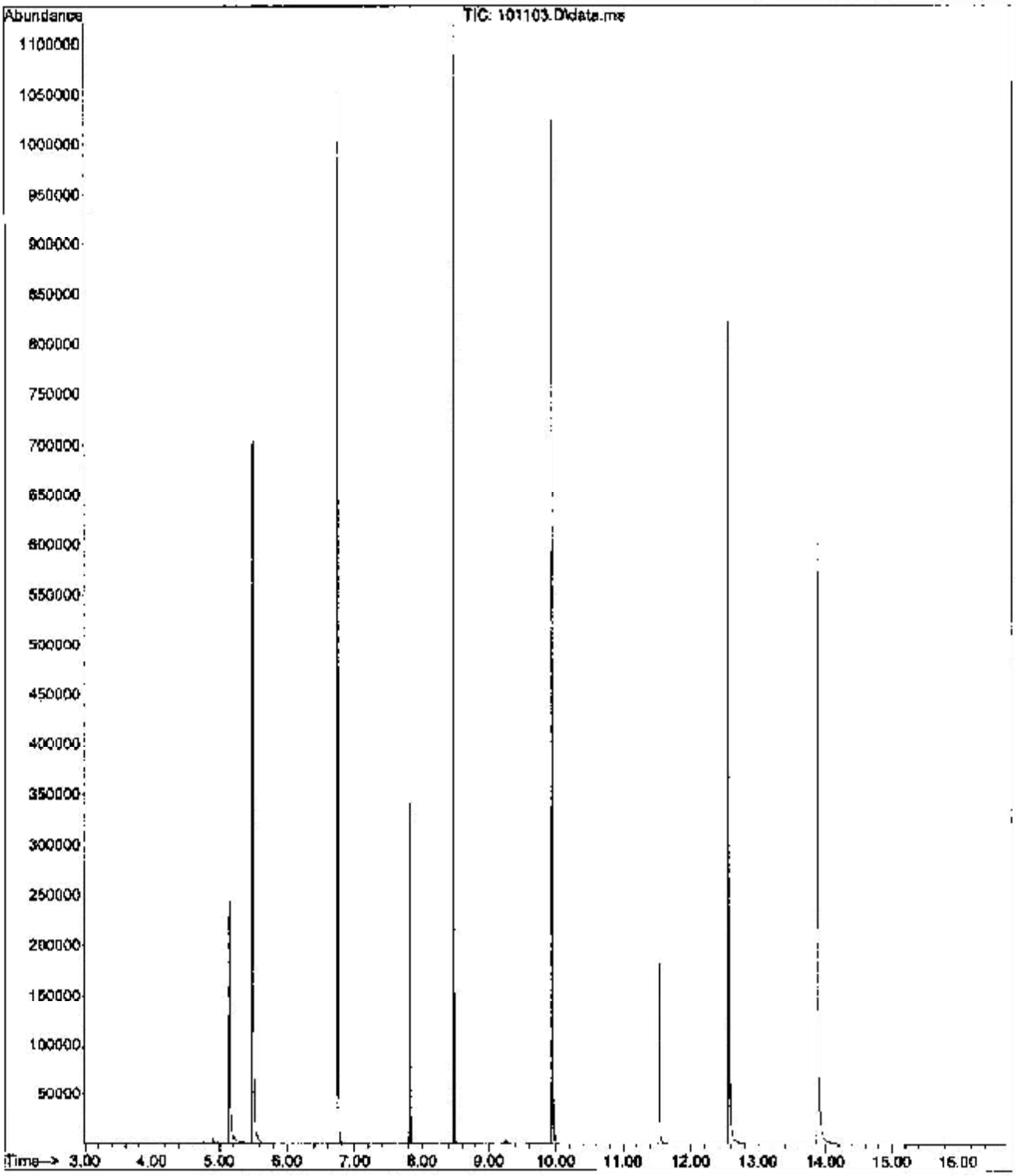
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/28/2012 4:27:45 P**
Prep End Date: **9/28/2012 4:27:45 P**

Prep Batch ID **3308** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3308		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
LCS-3308		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
1209149-001A	IR2-B1-92412	Sediment			12.3	0	0	10	0.813	9/28/2012	9/28/2012
1209149-002AMS		Sediment			12.7	0	0	10	0.787	9/28/2012	9/28/2012
1209149-002A	IR2-B2-92412	Sediment			12.81	0	0	10	0.781	9/28/2012	9/28/2012
1209149-004ADUP		Sediment			12.92	0	0	10	0.774	9/28/2012	9/28/2012
1209149-003A	IR2-ESW1-92412	Sediment			12.89	0	0	10	0.776	9/28/2012	9/28/2012
1209149-004A	IR2-SSW1-92412	Sediment			11.23	0	0	10	0.890	9/28/2012	9/28/2012
1209149-005A	IR2-B3-92412	Sediment			12.15	0	0	10	0.823	9/28/2012	9/28/2012
1209149-006A	IR2-ESW2-92412	Sediment			12.45	0	0	10	0.803	9/28/2012	9/28/2012
1209149-007A	IR2-B4-92412	Sediment			12.75	0	0	10	0.784	9/28/2012	9/28/2012
1209149-008A	IR2-ESW3-92412	Sediment			12.47	0	0	10	0.802	9/28/2012	9/28/2012
1209149-009A	IR2-WSW1-92512	Sediment			13.07	0	0	10	0.765	9/28/2012	9/28/2012
1209172-001A	IR2-WSW1-92612	Sediment			13.77	0	0	10	0.726	9/28/2012	9/28/2012
1209172-002ADUP		Sediment			12.28	0	0	10	0.814	9/28/2012	9/28/2012
1209172-002A	IR2-B1-92612	Sediment			11.82	0	0	10	0.846	9/28/2012	9/28/2012
1209172-003A	IR2-B2-92612	Sediment			11.32	0	0	10	0.883	9/28/2012	9/28/2012
1209172-004A	IR2-ESW1-92612	Sediment			12.02	0	0	10	0.832	9/28/2012	9/28/2012
1209172-005A	IR2-Dup1-92612	Sediment			12.92	0	0	10	0.774	9/28/2012	9/28/2012
1209172-006A	IR2-B3-92612	Sediment			11.88	0	0	10	0.842	9/28/2012	9/28/2012
1209172-007A	IR2-WSW2-92612	Sediment			12.96	0	0	10	0.772	9/28/2012	9/28/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101202.D
Acq On : 12 Oct 2012 12:25 am
Operator :
Sample : CCV-
Misc : CCV C-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

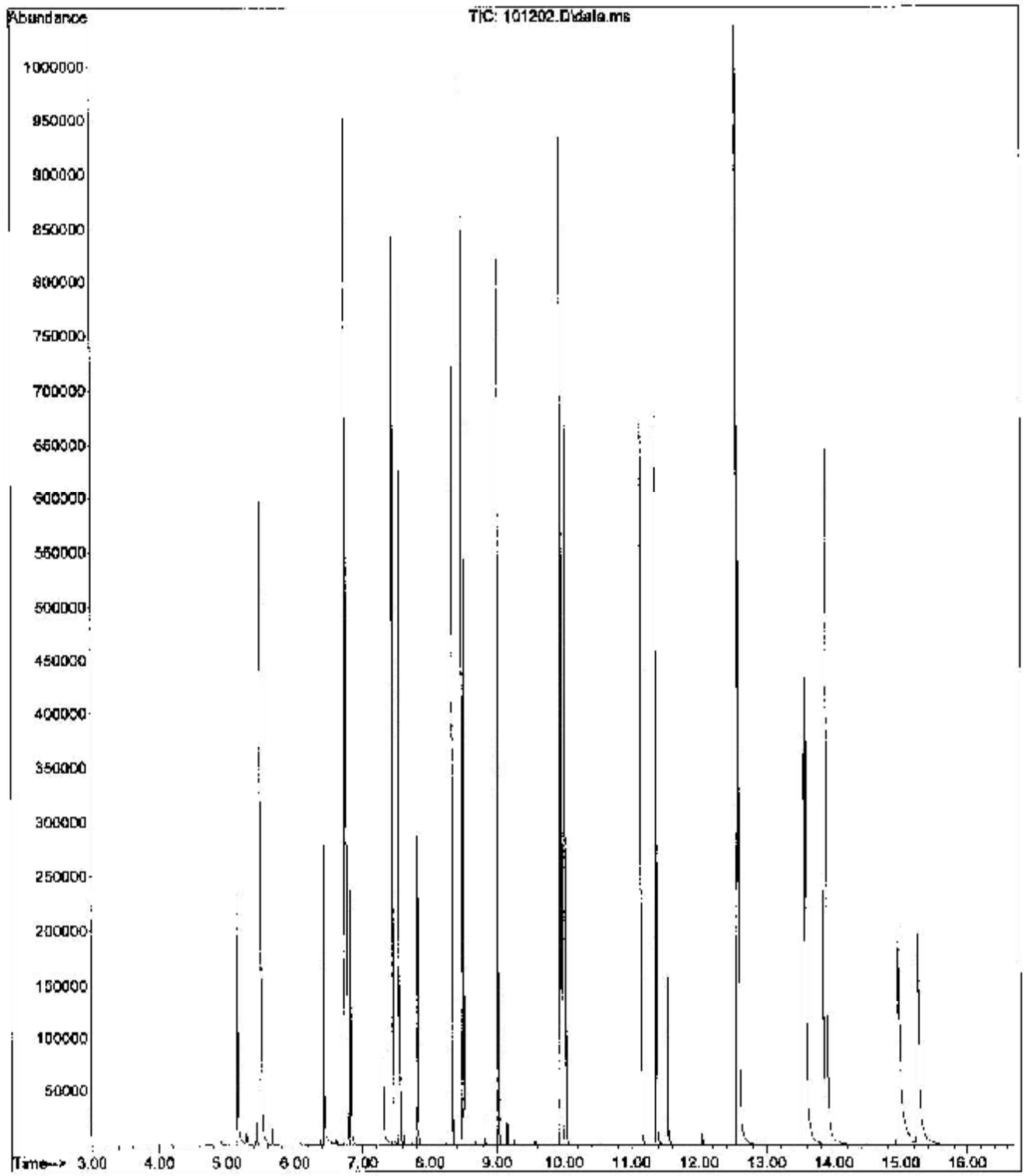
Quant Time: Oct 12 10:04:59 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	225869	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	745071	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.481	164	394635	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	656043	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	629788	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	611996	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	174346	1016.16	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	160518	487.54	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	120917	500.02	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.427	107	136550	1026.67	ug/L		100
5) Naphthalene	6.766	128	480347	1033.15	ug/L		100
6) 2-Methylnaphthalene	7.453	142	296907	1072.16	ug/L		99
7) 1-Methylnaphthalene	7.550	142	277998	1060.94	ug/L		99
9) Acenaphthylene	8.339	152	430688	1134.64	ug/L		100
11) Acenaphthene	8.509	152	134690	1014.94	ug/L		100
12) Fluorene	9.022	166	319862	1051.56	ug/L		100
14) Phenanthrene	9.969	178	446875	998.19	ug/L		100
15) Anthracene	10.020	178	434844	1087.27	ug/L		100
17) Fluoranthene	11.146	202	473255	1174.35	ug/L		99
18) Pyrene	11.369	202	492080	1168.23	ug/L		99
19) Benzo (a) anthracene	12.559	228	386014	1092.80	ug/L	#	100
21) Chrysene	12.592	228	464685	1021.25	ug/L		99
22) benzo (b) fluoranthene	13.556	252	304044	919.44	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	509603	1084.89	ug/L		100
24) benzo (a) pyrene	13.835	252	320552	995.17	ug/L		99
26) Indeno(1,2,3-cd)pyrene	14.948	276	337277	1030.10	ug/L		98
27) Dibenz (a,h) anthracene	14.969	278	238097	914.56	ug/L		99
28) Benzo (g,h,i) perylene	15.258	276	355979	985.00	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:33 2012 PAH

File :D:\Data\SVOC\101212\101202.D
Operator :
Acquired : 12 Oct 2012 12:25 am using AcqMethod DRPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101203.D
Acq On : 12 Oct 2012 12:50 am
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

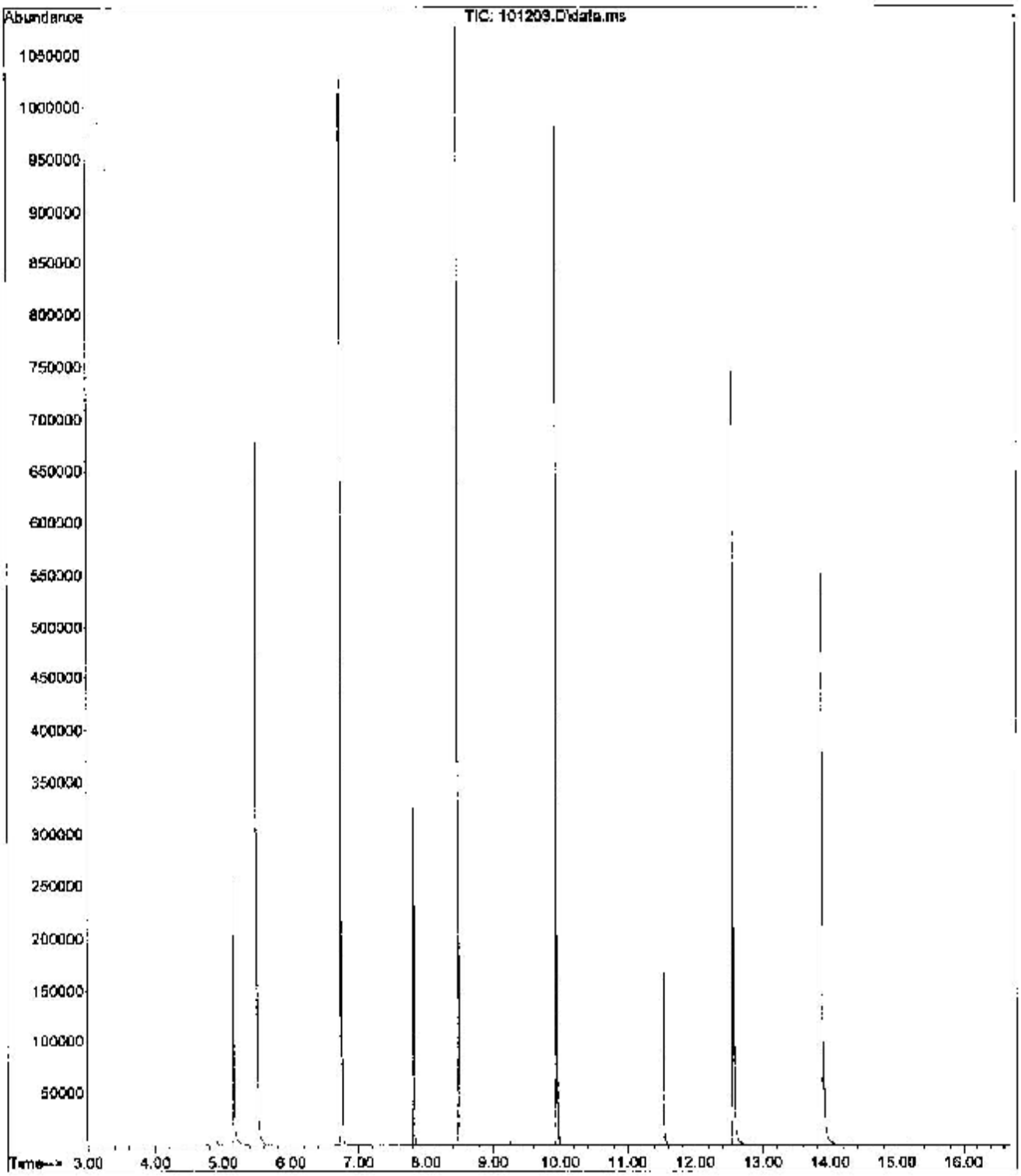
Quant Time: Oct 12 10:06:14 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	Qion	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	260588	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	829511	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	411097	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	665528	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	599141	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	555535	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	197250	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	182397	497.60 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	121910	496.94 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.437	107	45	N.D.	
5) Naphthalene	6.769	128	57	N.D.	
6) 2-Methylnaphthalene	7.459	142	27	N.D.	
7) 1-Methylnaphthalene	7.550	142	26	N.D.	
9) Acenaphthylene	8.341	152	17	N.D.	
11) Acenaphthene	8.511	152	16	N.D.	
12) Fluorene	9.023	166	48	N.D.	
14) Phenanthrene	9.968	178	162	N.D.	
15) Anthracene	10.021	178	50	N.D.	
17) Fluoranthene	11.148	202	73	N.D.	
18) Pyrene	11.370	202	81	N.D.	
19) Benzo (a) anthracene	12.566	228	1576	N.D.	
21) Chrysene	12.566	228	1097	N.D.	
22) benzo (b) fluoranthene	13.553	252	32	N.D.	
23) benzo (k) fluoranthene	13.578	252	152	N.D.	
24) benzo (a) pyrene	13.833	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	28	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	19	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	46	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:44 2012 PAH

File : D:\Data\SVOC\101212\101203.D
Operator :
Acquired : 12 Oct 2012 12:50 am using AcqMethod DBPAH101012PHENOL.M
Instrument : GP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 1:0



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101204.D
Acq On : 12 Oct 2012 1:15 am
Operator :
Sample : MB-3308
Misc : MBLK 0-PAH-SIM-S-LIBBY
ALS Vial : 1 Sample Multiplier: 1

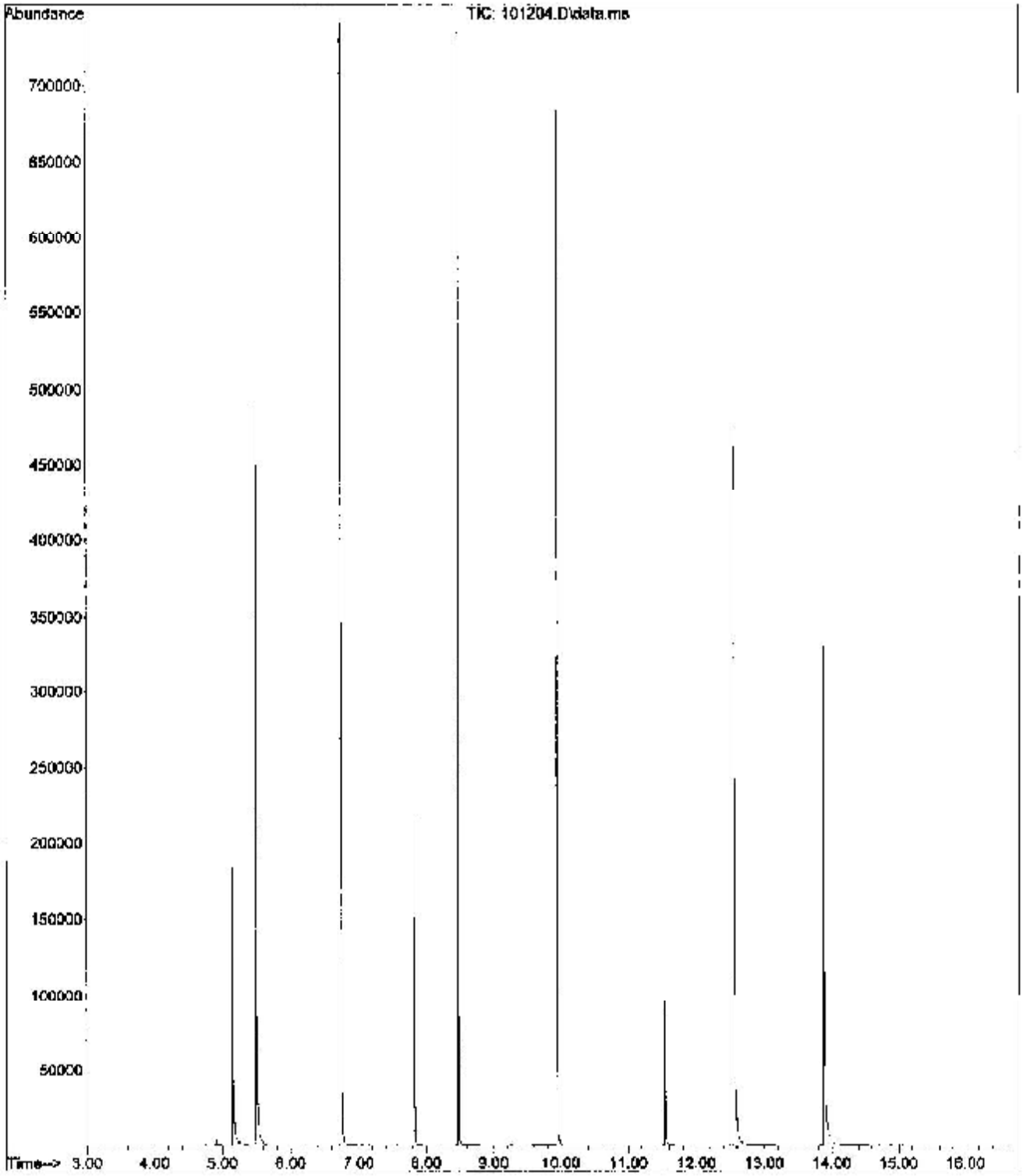
Quant Time: Oct 12 10:06:25 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	185478	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	580947	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	282701	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	457012	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	389209	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	351588	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	138037	979.73 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	122000	475.23 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	75400	447.58 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	2	N.D.	
5) Naphthalene	6.766	128	50	N.D.	
6) 2-Methylnaphthalene	7.459	142	9	N.D.	
7) 1-Methylnaphthalene	7.556	142	2	N.D.	
9) Acenaphthylene	8.341	152	2	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.020	166	1	N.D.	
14) Phenanthrene	9.966	178	14	N.D.	
15) Anthracene	10.018	178	1	N.D.	
17) Fluoranthene	11.145	202	3	N.D.	
18) Pyrene	11.371	202	1	N.D.	
19) Benzo (a) anthracene	12.566	228	1005	N.D.	
21) Chrysene	12.566	228	925	N.D.	
22) benzo (b) fluoranthene	13.553	252	7	N.D.	
23) benzo (k) fluoranthene	13.581	252	50	N.D.	
24) benzo (a) pyrene	13.835	252	51	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	14	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	5	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:24:55 2012 PAH

File : D:\Data\SVOC\101212\101204.D
Operator :
Acquired : 12 Oct 2012 1:15 am using AcqMethod DBPAH101C12PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3308
Misc Info : MBLK O-PAH-STM-S-LIBBY
Vial Number: 1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101205.D
Acq On : 13 Oct 2012 1:40 am
Operator :
Sample : LCS-3308
Misc : LCS O-PAH-SIM-S-LIBBY
ALS Vial : 2 Sample Multiplier: 1

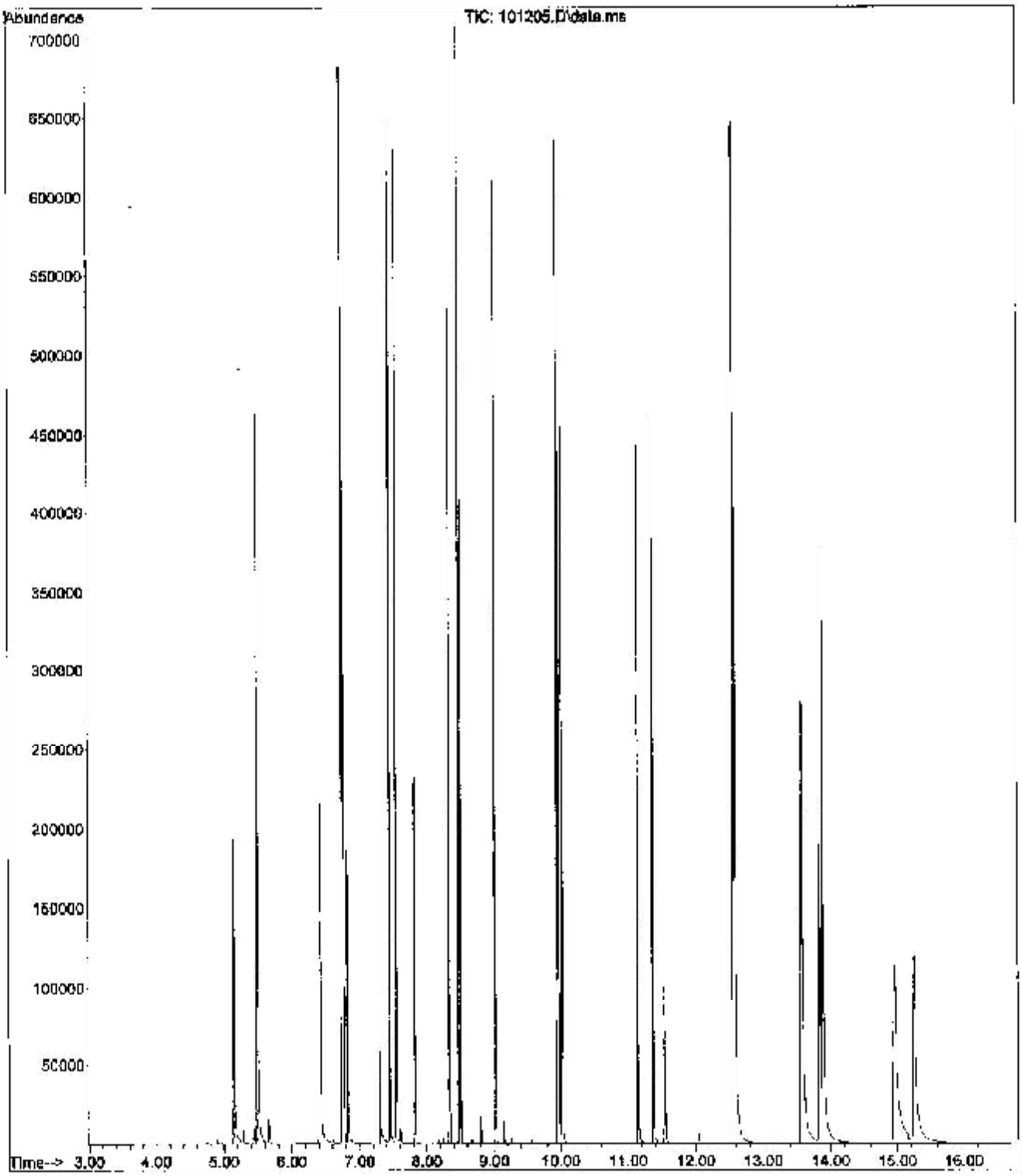
Quant Time: Oct 12 10:05:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	170903	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	546429	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	276036	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	435158	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.565	240	406341	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.085	264	379146	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	143893	1108.40	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128548	532.37	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	81409	507.52	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	103180	1025.27	ug/L		100
5) Naphthalene	6.767	128	380796	1098.48	ug/L		100
6) 2-Methylnaphthalene	7.453	142	227235	1118.87	ug/L		99
7) 1-Methylnaphthalene	7.548	142	213616	1111.60	ug/L		100
9) Acenaphthylene	8.340	152	322837	1159.69	ug/L		100
11) Acenaphthene	8.509	152	101219	1090.43	ug/L		100
12) Fluorene	9.022	166	234870	1103.90	ug/L		99
14) Phenanthrene	9.969	178	328052	1104.73	ug/L		100
15) Anthracene	10.020	178	307195	1157.98	ug/L		100
17) Fluoranthene	11.146	202	313877	1174.21	ug/L		99
18) Pyrene	11.368	202	333576	1193.91	ug/L		99
19) Benzo (a) anthracene	12.557	228	252698	1078.51	ug/L	#	100
21) Chrysene	12.591	228	320736	1092.51	ug/L	#	79
22) Benzo (b) fluoranthene	13.554	252	190662	893.62	ug/L	#	100
23) Benzo (k) fluoranthene	13.579	252	338752	1117.74	ug/L		100
24) Benzo (a) pyrene	13.835	252	203944	962.07	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.948	276	211718	1043.10	ug/L		99
27) Dibenz (a,h) anthracene	14.967	278	145873	904.75	ug/L		98
28) Benzo (g,h,i) perylene	15.258	276	231123	1032.28	ug/L		98

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:07 2012 PAH

File : D:\Data\SVOC\101212\101205.D
Operator :
Acquired : 12 Oct 2012 1:40 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3308
Misc Info : LCS O-PAH-SIM-S-LIBBY
Vial Number: 2



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101206.D
Acq On : 12 Oct 2012 2:05 am
Operator :
Sample : 1209149-001A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 3 Sample Multiplier: 1

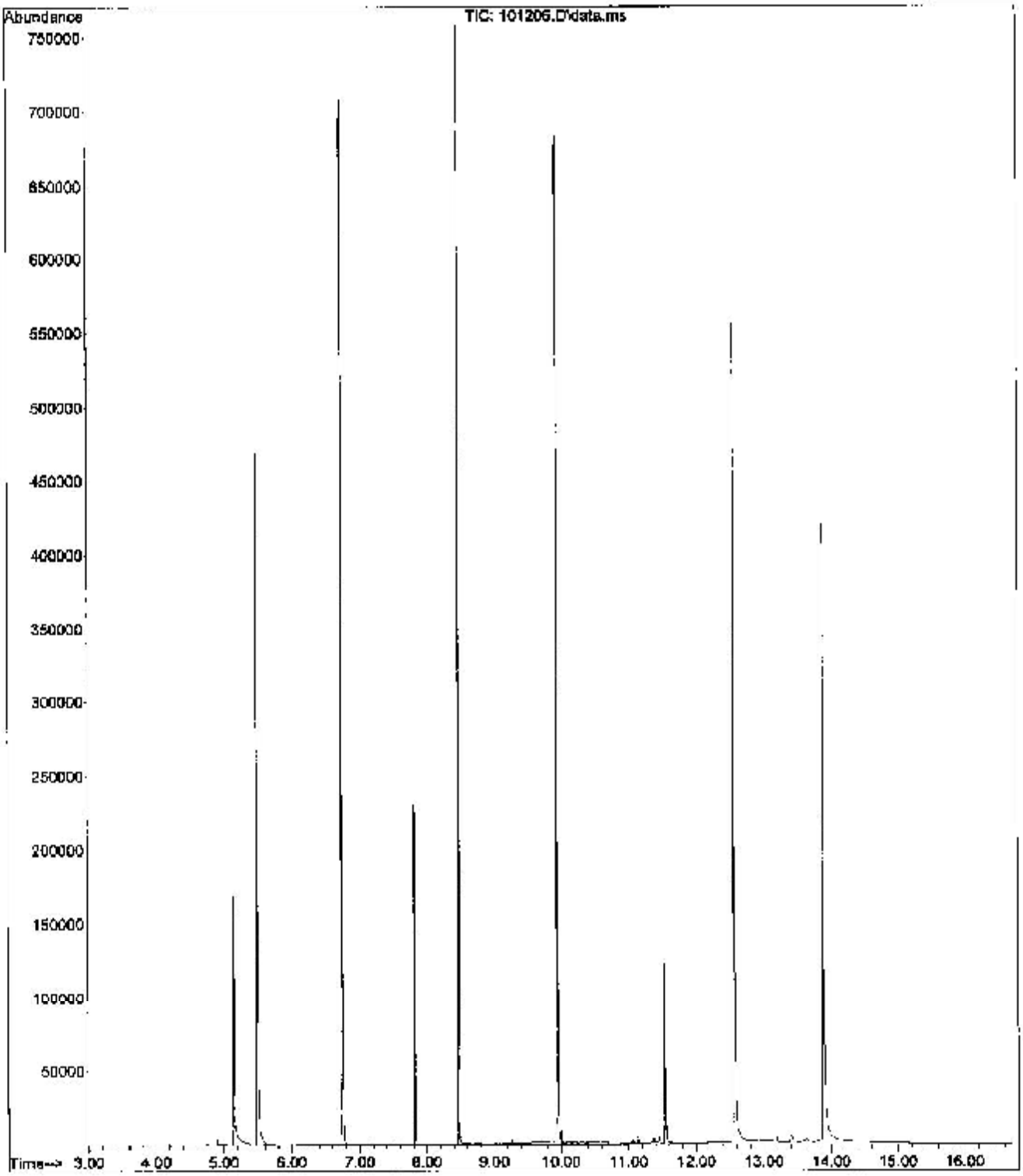
Quant Time: Oct 12 10:06:39 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.497	152	183913	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	581016	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	293070	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	484933	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	454274	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	464087	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	126181	903.21 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128253	499.53 ug/L	0.00
16) Terphenyl d14 (surr)	11.540	244	95125	532.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.404	107	519	N.D.	
5) Naphthalene	6.766	128	789	N.D.	
6) 2-Methylnaphthalene	7.457	142	329	N.D.	
7) 1-Methylnaphthalene	7.552	142	272	N.D.	
9) Acenaphthylene	8.341	152	63	N.D.	
11) Acenaphthene	8.509	152	88	N.D.	
12) Fluorene	9.024	166	373	N.D.	
14) Phenanthrene	9.969	178	2143	6.48 ug/L #	70
15) Anthracene	10.021	178	1008	N.D.	
17) Fluoranthene	11.146	202	3936	13.21 ug/L #	53
18) Pyrene	11.368	202	3938	12.65 ug/L #	18
19) Benzo (a) anthracene	12.564	228	2532	9.70 ug/L #	100
21) Chrysene	12.564	228	802	N.D.	
22) benzo (b) fluoranthene	13.557	252	348	N.D.	
23) benzo (k) fluoranthene	13.645	252	734	N.D.	
24) benzo (a) pyrene	13.835	252	412	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	90	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	28	N.D.	
28) Benzo (g,h,i) perylene	15.260	276	223	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:20 2012 PAH

File : D:\Data\SVOC\101212\101206.D
Operator :
Acquired : 12 Oct 2012 2:05 am using AcqMethod DBPAH101012PHENOL.M
Instrument : BP-MSD
Sample Name: 1209149-C01A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 3



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101207.D
Acq On : 12 Oct 2012 2:30 am
Operator :
Sample : 1209149-002A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 4 Sample Multiplier: 1

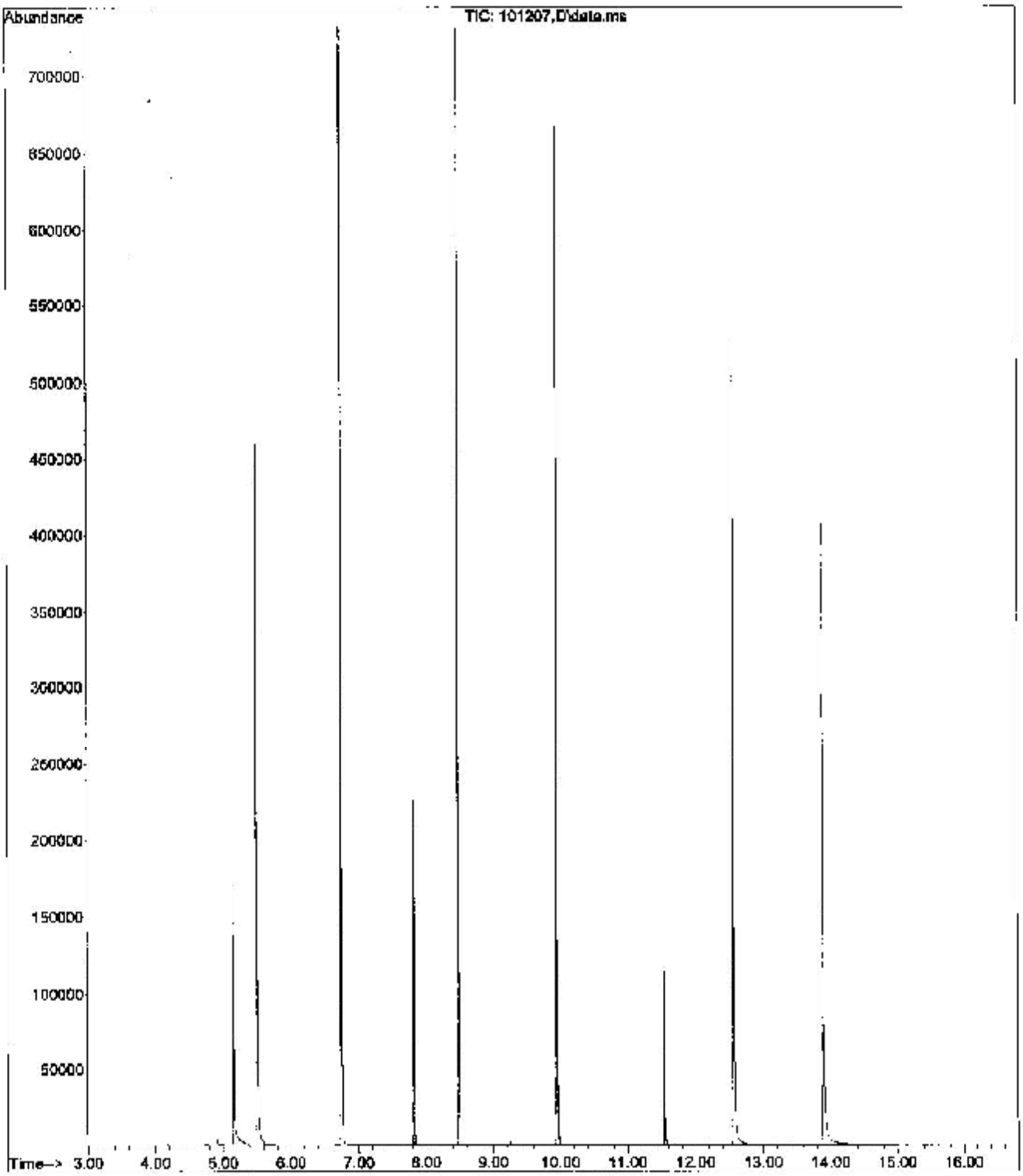
Quant Time: Oct 12 10:06:53 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	179009	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	568611	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	281391	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	455260	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	413269	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	413930	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132552	974.80 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127875	508.93 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	85519	509.60 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.450	107	77	N.D.	
5) Naphthalene	6.769	128	101	N.D.	
6) 2-Methylnaphthalene	7.459	142	37	N.D.	
7) 1-Methylnaphthalene	7.554	142	38	N.D.	
9) Acenaphthylene	8.338	152	3	N.D.	
11) Acenaphthene	8.511	152	11	N.D.	
12) Fluorene	9.024	166	45	N.D.	
14) Phenanthrene	9.970	178	138	N.D.	
15) Anthracene	10.018	178	5	N.D.	
17) Fluoranthene	11.148	202	27	N.D.	
18) Pyrene	11.370	202	14	N.D.	
19) Benzo (a) anthracene	12.566	228	1133	N.D.	
21) Chrysene	12.566	228	953	N.D.	
22) benzo (b) fluoranthene	13.557	252	42	N.D.	
23) benzo (k) fluoranthene	13.583	252	153	N.D.	
24) benzo (a) pyrene	13.835	252	93	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	24	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:25:55 2012 PAH

File : D:\Data\SVOC\101212\101207.D
Operator :
Acquired : 12 Oct 2012 2:30 am using AcqMethod DBPAH101012MIDNOT.M
Instrument : HP-MSD
Sample Name: 1209149-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 4



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101208.D
Acq On : 12 Oct 2012 2:55 am
Operator :
Sample : 1209169-002AMS
Misc : MS O PAH-SIM-S-LIBBY
ALS Vial : 5 Sample Multiplier: 1

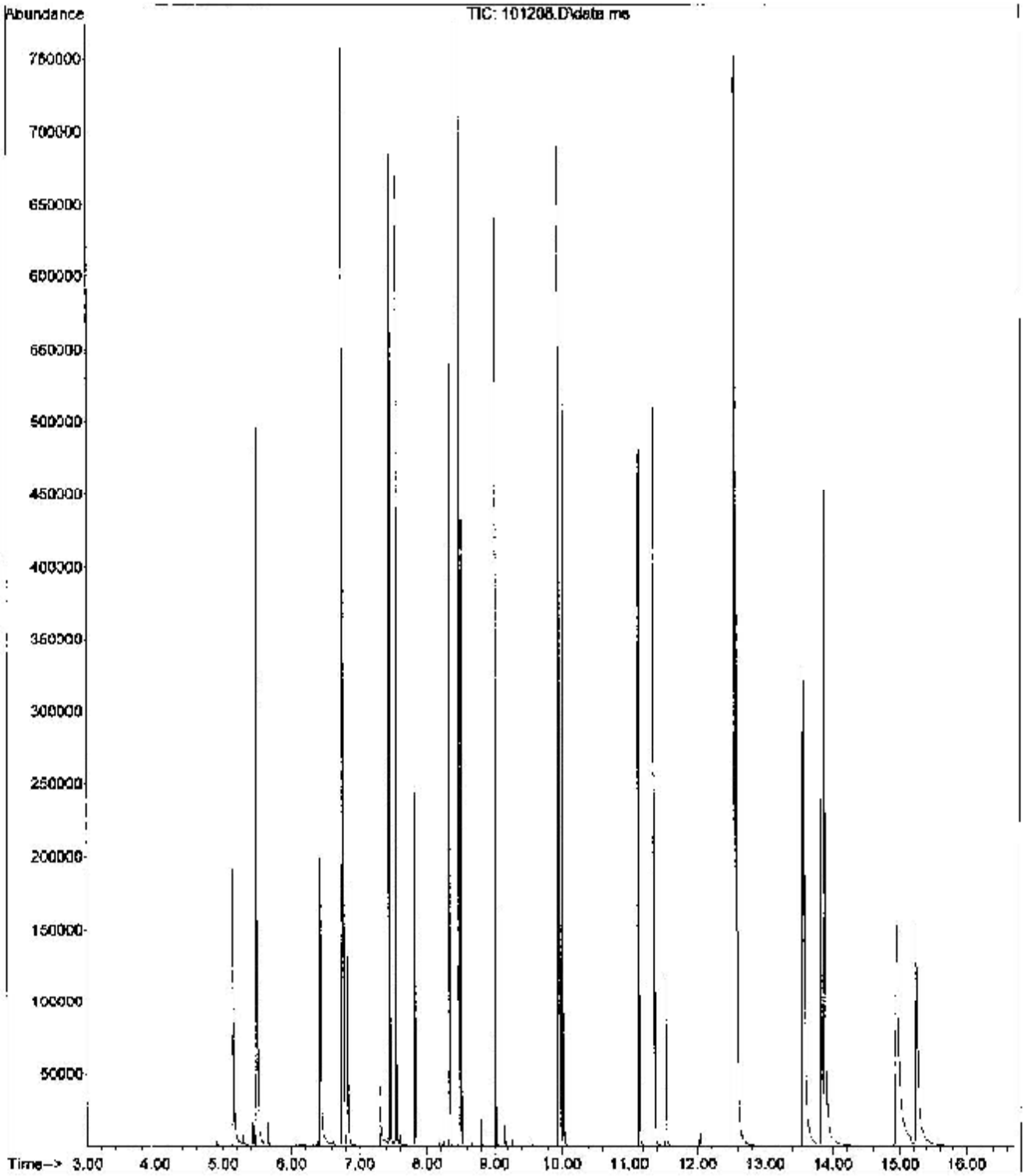
Quant Time: Oct 12 10:07:03 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:25 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	188299	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	603358	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	305215	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	485265	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	457114	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	446578	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	145867	1019.80 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	135636	508.73 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	90504	505.96 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	111593	1006.43 ug/L		99
5) Naphthalene	6.766	128	402167	1050.67 ug/L		100
6) 2-Methylnaphthalene	7.453	142	241853	1078.48 ug/L		99
7) 1-Methylnaphthalene	7.550	142	226336	1066.66 ug/L		100
9) Acenaphthylene	8.338	152	345345	1123.49 ug/L		100
11) Acenaphthene	8.511	152	106525	1037.88 ug/L		100
12) Fluorene	9.021	166	249744	1061.59 ug/L		100
14) Phenanthrene	9.968	178	347700	1049.99 ug/L		100
15) Anthracene	10.020	178	332911	1125.34 ug/L		100
17) Fluoranthene	11.146	202	345356	1158.57 ug/L		99
18) Pyrene	11.368	202	362449	1163.30 ug/L		99
19) Benzo (a) anthracene	12.557	228	289938	1109.67 ug/L	#	100
21) Chrysene	12.592	228	347424	1051.97 ug/L	#	98
22) benzo (b) fluoranthene	13.555	252	223168	929.80 ug/L	#	100
23) benzo (k) fluoranthene	13.577	252	374588	1098.70 ug/L		100
24) benzo (a) pyrene	13.835	252	247984	1056.92 ug/L		100
26) Indeno(1,2,3-cd)pyrene	14.945	276	272011	1133.03 ug/L		98
27) Dibenz (a,h) anthracene	14.967	278	189790	996.12 ug/L		98
28) Benzo (g,h,i) perylene	15.257	276	270245	1024.75 ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:06 2012 PAH

File : D:\Data\SVOC\101212\101208.D
Operator :
Acquired : 12 Oct 2012 2:55 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-002AMS
Misc Info : MS O-PAH-SIM-S-LIBBY
Vial Number: 5



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101209.D
Acq On : 12 Oct 2012 3:20 am
Operator :
Sample : 1209149-003A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 6 Sample Multiplier: 1

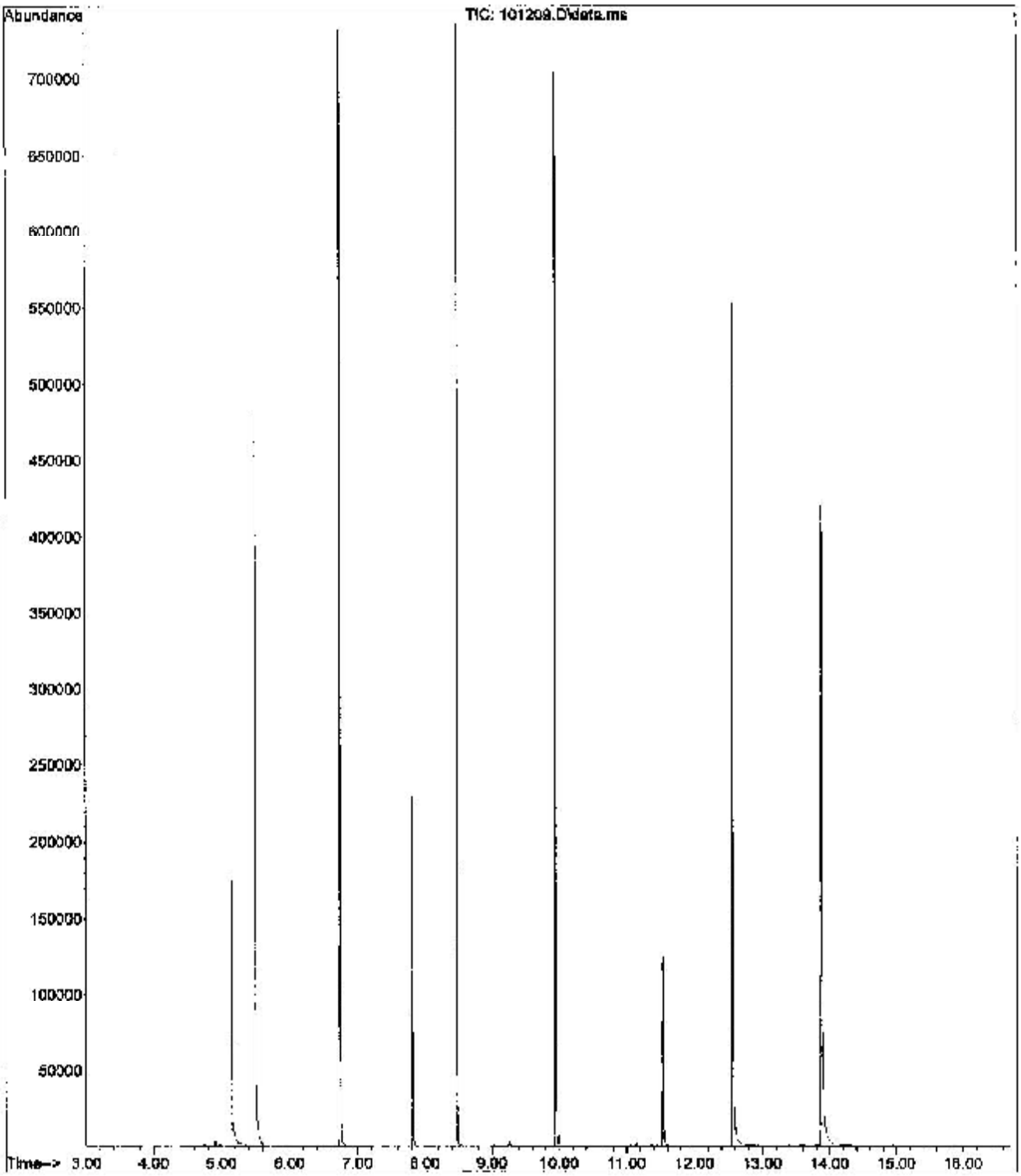
Quant Time: Oct 12 10:07:09 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	183263	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	577604	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	291302	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	482790	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	442562	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	436622	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	137603	988.46 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128686	504.18 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	94203	529.34 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.451	107	157	N.D.	
5) Naphthalene	6.769	128	227	N.D.	
6) 2-Methylnaphthalene	7.458	142	110	N.D.	
7) 1-Methylnaphthalene	7.552	142	197	N.D.	
9) Acenaphthylene	8.342	152	150	N.D.	
11) Acenaphthene	8.511	152	97	N.D.	
12) Fluorene	9.023	166	298	N.D.	
14) Phenanthrene	9.968	178	2757	8.37 ug/L	99
15) Anthracene	10.021	178	347	N.D.	
17) Fluoranthene	11.148	202	1468	N.D.	
18) Pyrene	11.368	202	1885	6.08 ug/L #	55
19) Benzo (a) anthracene	12.564	228	2461	9.47 ug/L #	100
21) Chrysene	12.590	228	1424	N.D.	
22) benzo (b) fluoranthene	13.556	252	561	N.D.	
23) benzo (k) fluoranthene	13.642	252	668	N.D.	
24) benzo (a) pyrene	13.835	252	971	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	371	N.D.	
27) Dibenz (a,h) anthracene	14.962	278	140	N.D.	
28) Benzo (g,h,i) perylene	15.256	276	1283	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:27 2012 PAH

File :D:\Data\SVOC\101212\101209.D
Operator :
Acquired : 12 Oct 2012 3:20 am using AcqMethod DBPAH101012PHENOL.M
Instrument : EP-MSD
Sample Name: 1209149-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 6



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101210.D
Acq On : 12 Oct 2012 3:45 am
Operator :
Sample : 1209149-004A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 7 Sample Multiplier: 1

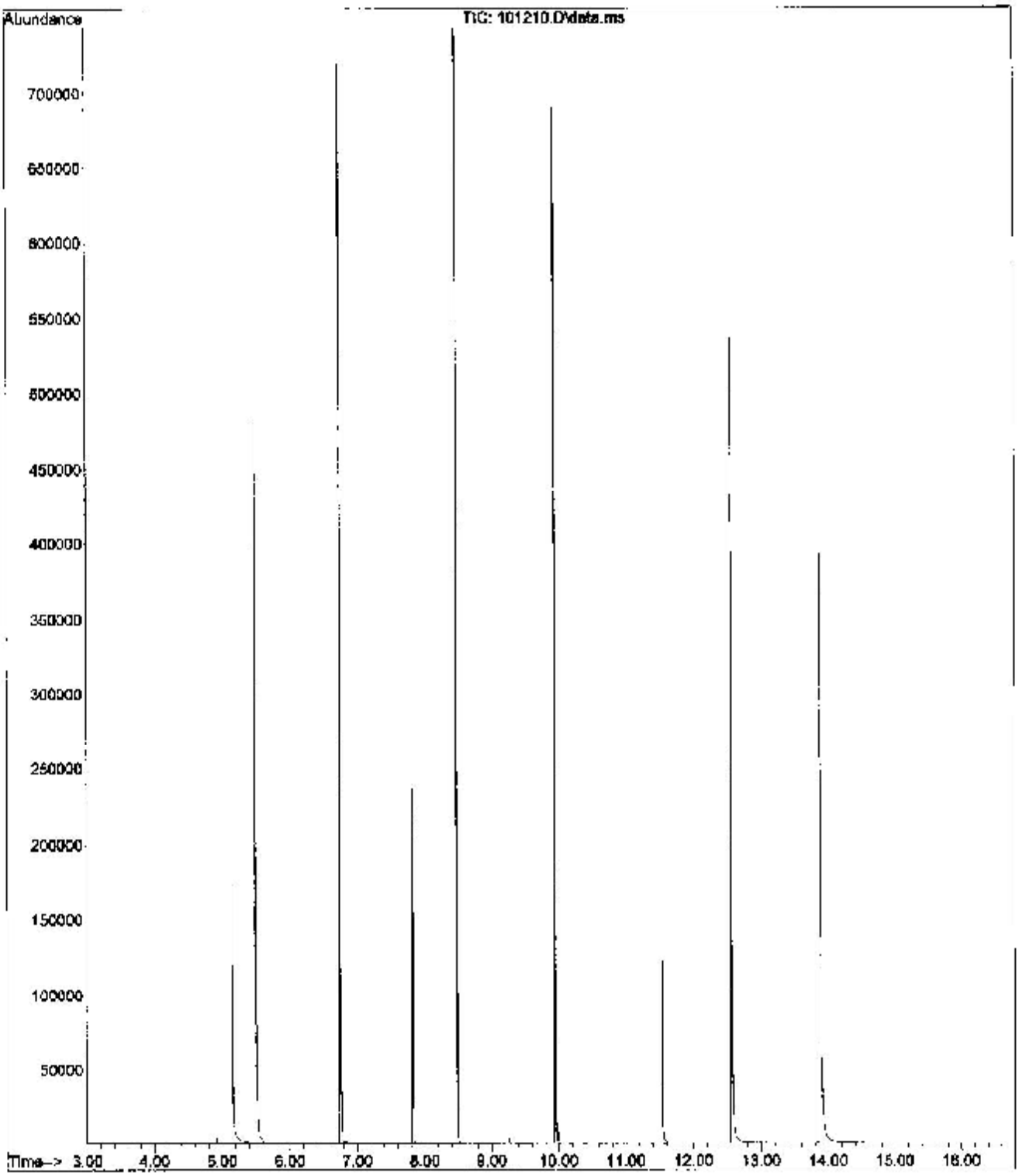
Quant Time: Oct 12 10:07:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	181831	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	575192	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	284813	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	473608	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	431785	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	409682	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	134751	975.59 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	129142	508.09 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	94200	539.59 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.454	107	209	N.D.	
5) Naphthalene	6.766	128	536	N.D.	
6) 2-Methylnaphthalene	7.459	142	59	N.D.	
7) 1-Methylnaphthalene	7.552	142	48	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.509	152	16	N.D.	
12) Fluorene	9.024	166	143	N.D.	
14) Phenanthrene	9.967	178	135	N.D.	
15) Anthracene	10.020	178	30	N.D.	
17) Fluoranthene	11.150	202	104	N.D.	
18) Pyrene	11.370	202	134	N.D.	
19) Benzo (a) anthracene	12.564	228	1163	N.D.	
21) Chrysene	12.564	228	809	N.D.	
22) Benzo (b) fluoranthene	13.559	252	64	N.D.	
23) Benzo (k) fluoranthene	13.578	252	181	N.D.	
24) Benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	17	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	5	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:40 2012 PAH

File : D:\Data\SVOC\101212\101210.D
Operator :
Acquired : 12 Oct 2012 3:45 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-004A
Misc Info : SAMP O-PAH-STM-S-LIBBY
Vial Number: 7



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101211.D
Acq On : 12 Oct 2012 4:10 am
Operator :
Sample : 1209149-004ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 8 Sample Multiplier: 1

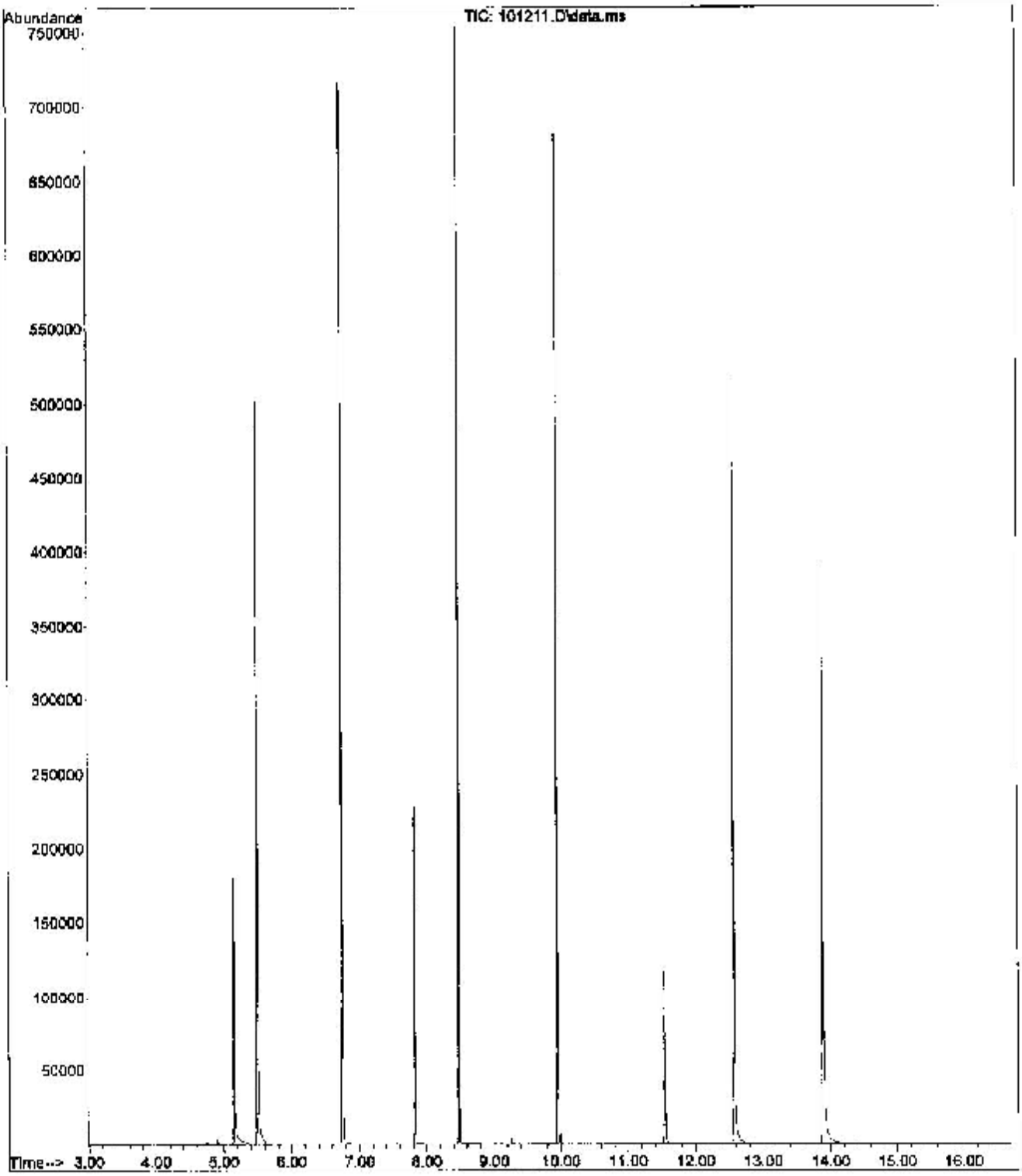
Quant Time: Oct 12 10:07:32 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	185404	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	588928	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	292790	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	480423	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.564	240	432432	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.883	264	406580	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139247	988.72 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131212	504.19 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	94240	532.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.450	107	197	N.D.	
5) Naphthalene	6.769	128	231	N.D.	
6) 2-Methylnaphthalene	7.458	142	78	N.D.	
7) 1-Methylnaphthalene	7.552	142	77	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.508	152	36	N.D.	
12) Fluorene	9.023	166	337	N.D.	
14) Phenanthrene	9.968	178	156	N.D.	
15) Anthracene	10.020	178	22	N.D.	
17) Fluoranthene	11.150	202	96	N.D.	
18) Pyrene	11.371	202	125	N.D.	
19) Benzo (a) anthracene	12.564	228	1140	N.D.	
21) Chrysene	12.564	228	780	N.D.	
22) Benzo (b) fluoranthene	13.555	252	33	N.D.	
23) Benzo (k) fluoranthene	13.576	252	143	N.D.	
24) Benzo (a) pyrene	13.833	252	60	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	8	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.258	276	6	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:26:50 2012 PAH

File : D:\Data\SVOC\101212\101211.D
Operator :
Acquired : 12 Oct 2012 4:10 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209149-004ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 8



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101212.D
Acq On : 12 Oct 2012 4:34 am
Operator :
Sample : 1209172-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 9 Sample Multiplier: 1

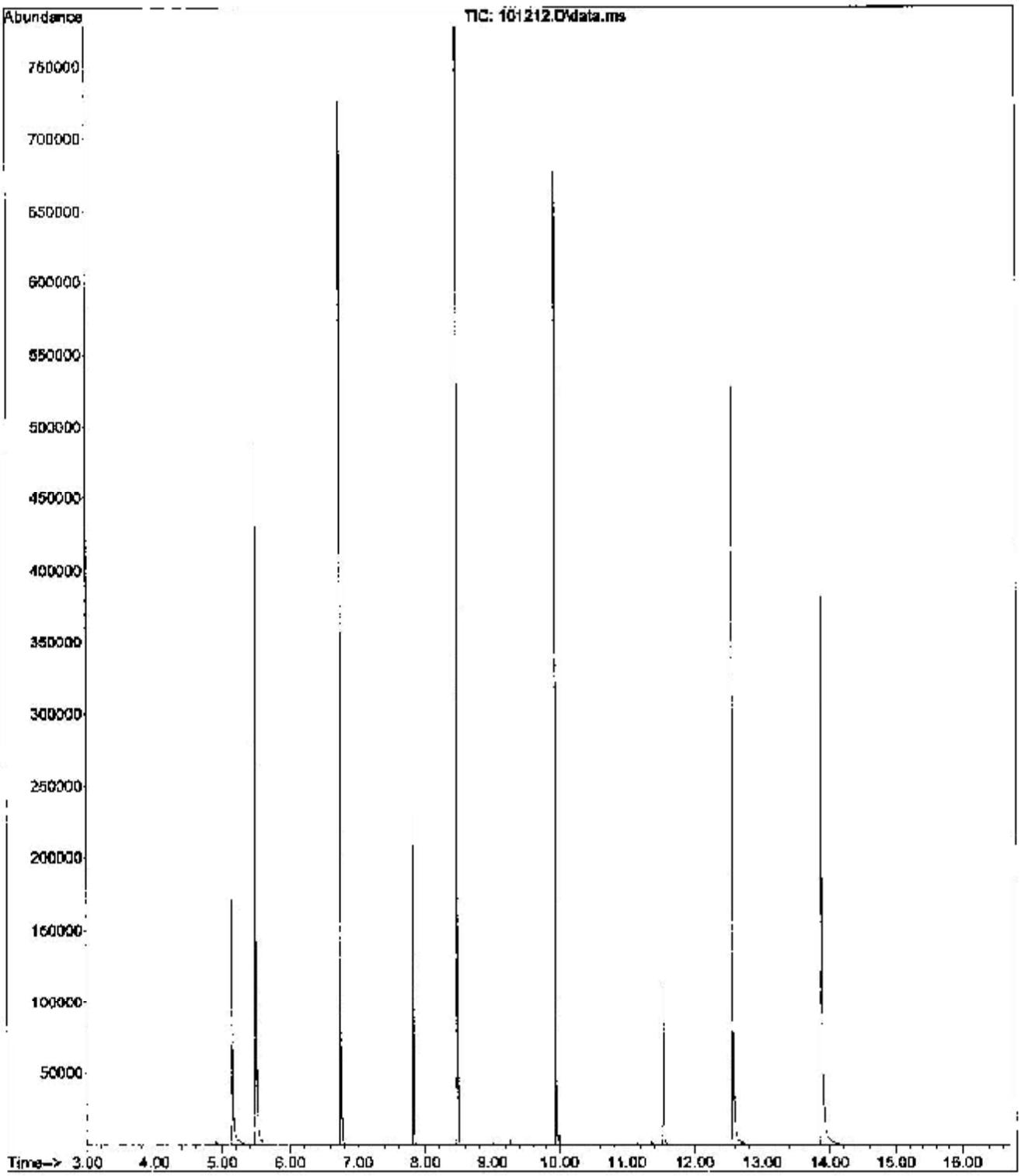
Quant Time: Oct 12 10:07:37 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	186425	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	594025	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	292832	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	479407	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	433678	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	421613	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132056	932.52 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128530	489.65 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	89083	504.10 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.453	107	246	N.D.	
5) Naphthalene	6.766	128	1232	N.D.	
6) 2-Methylnaphthalene	7.457	142	530	N.D.	
7) 1-Methylnaphthalene	7.552	142	230	N.D.	
9) Acenaphthylene	8.340	152	79	N.D.	
11) Acenaphthene	8.509	152	57	N.D.	
12) Fluorene	8.823	166	763	N.D.	
14) Phenanthrene	9.969	178	1044	N.D.	
15) Anthracene	10.021	178	277	N.D.	
17) Fluoranthene	11.149	202	1334	N.D.	
18) Pyrene	11.370	202	1411	N.D.	
19) Benzo (a) anthracene	12.563	228	1653	6.40 ug/L #	100
21) Chrysene	12.590	228	616	N.D.	
22) benzo (b) fluoranthene	13.559	252	261	N.D.	
23) benzo (k) fluoranthene	13.572	252	469	N.D.	
24) benzo (a) pyrene	13.835	252	238	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	97	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	17	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	54	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:01 2012 PAH

File : D:\Data\SVOC\101212\101212.D
Operator :
Acquired : 12 Oct 2012 4:34 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209172-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 9



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101213.D
Acq On : 12 Oct 2012 4:59 am
Operator :
Sample : 1209172-007A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Oct 12 10:07:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	184766	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	586872	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	294050	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	479321	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	425279	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	408886	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	132260	942.35 ug/L	0.00
8) 2 Fluorobiphenyl (surr)	7.822	172	132378	510.45 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	89747	507.95 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.405	107	91	N.D.	
5) Naphthalene	6.766	128	197	N.D.	
6) 2-Methylnaphthalene	7.458	142	34	N.D.	
7) 1-Methylnaphthalene	7.554	142	40	N.D.	
9) Acenaphthylene	8.338	152	1	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.021	166	8	N.D.	
14) Phenanthrene	9.969	178	106	N.D.	
15) Anthracene	10.024	178	12	N.D.	
17) Fluoranthene	11.146	202	11	N.D.	
18) Pyrene	11.368	202	36	N.D.	
19) Benzo (a) anthracene	12.564	228	1189	N.D.	
21) Chrysene	12.564	228	845	N.D.	
22) benzo (b) fluoranthene	13.553	252	19	N.D.	
23) benzo (k) fluoranthene	13.583	252	139	N.D.	
24) benzo (a) pyrene	13.883	252	1026	5.00 ug/L #	58
26) Indeno(1,2,3-cd)pyrene	14.943	276	15	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	4	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

```
File         :D:\Data\SVOC\101212\101213.D
Operator     :
Acquired     : 12 Oct 2012    4:59 am using AcqMethod DBPAH101012PHENOL.M
Instrument   :    HP-MSD
Sample Name: 1209172-007A
Misc Info    : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 10
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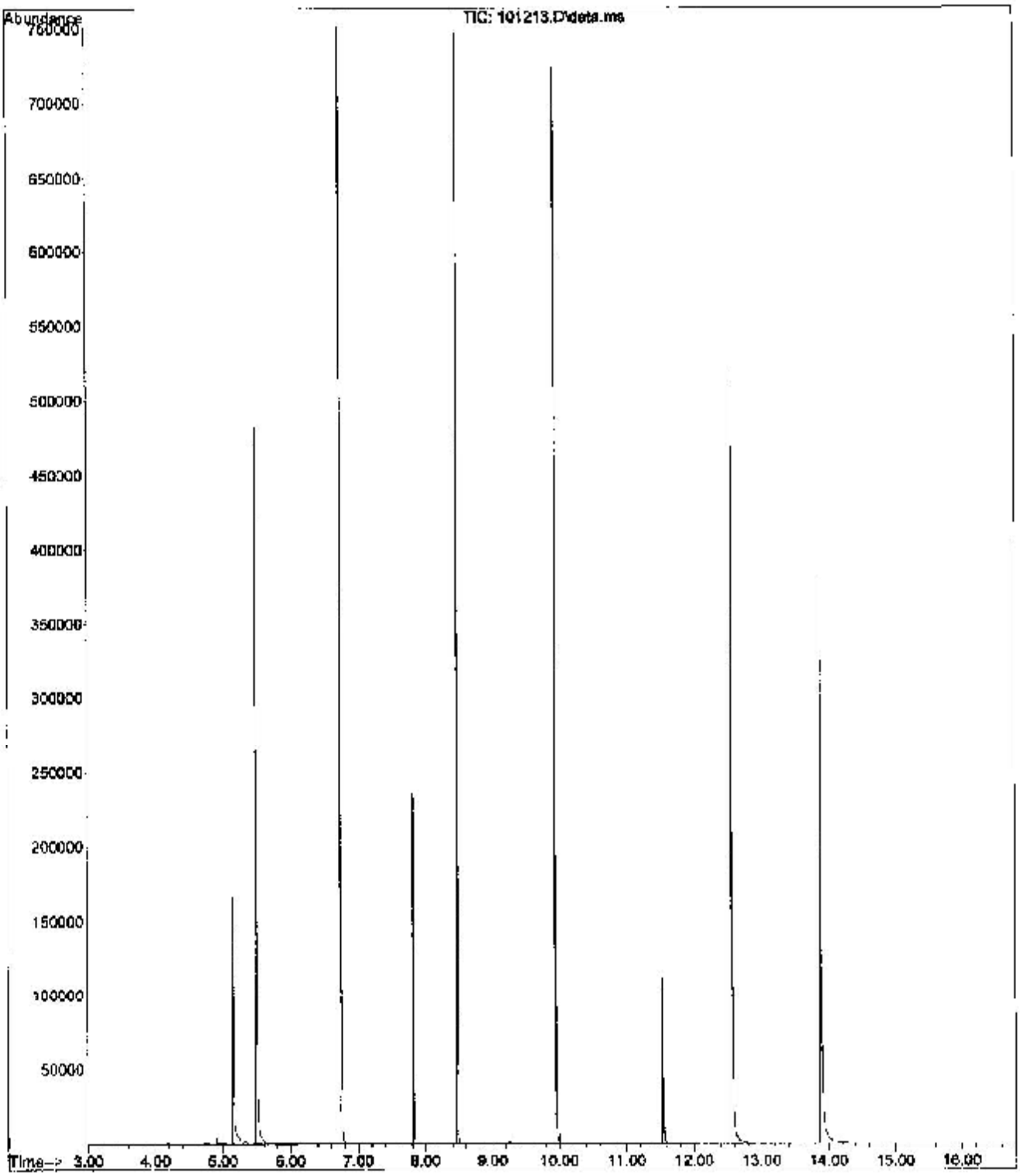


INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_1210126 | CCV Name: CAL MID POINT

Run No: 6128 | CCV SeqNo: 121768

Lab File ID (Standard): 101014.D | Date Analyzed: 10/10/2012

Instrument ID: GCMS-3 | Time Analyzed: 17:46

GC Column: ID (mm): Length (M):

		IS1 (14DCBZ)		IS2 Acenaphthene-d		IS3 Chrysene-d12		IS4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.498	370842	8.480	586943	12.569	703988	6.747
	UPPER LIMIT	422182	5.998	741284	8.980	1173886	13.069	1407976	7.247
	LOWER LIMIT	105546	4.998	185321	7.980	293472	12.069	351994	6.247
	SAMPLE NO.								
01	ICV-3308	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3308	209723	5.496	335186	8.478	483323	12.567	672101	6.745
03	CCV-3308	225869	5.498	394635	8.481	629788	12.568	745071	6.747
04	CCB-3308	260588	5.498	411097	8.48	599141	12.566	829611	6.747
05	MB-3308	185475	5.498	282701	8.48	389209	12.566	580947	6.747
06	LCS-3308	170803	5.498	276036	8.48	406341	12.565	546429	6.747
07	1209149-001A	183913	5.497	293070	8.48	454274	12.567	581016	6.747
08	1209149-002A	179009	5.498	281391	8.48	413269	12.566	566811	6.747
09	1209149-002AMS	188299	5.498	305215	8.48	457114	12.566	603358	6.747
10	1209149-003A	183253	5.498	291302	8.48	442562	12.566	577604	6.747
11	1209149-004A	181831	5.498	284813	8.48	431785	12.566	575192	6.747
12	1209149-004ADUP	185404	5.498	292790	8.478	432432	12.564	586928	6.745
13	1209172-001A	186425	5.496	292832	8.48	433678	12.566	594025	6.747
14	1209172-007A	184765	5.496	294050	8.48	425279	12.566	586872	6.747

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012B

CCV Name: CAL MID POINT

Run No: 0128

CCV SeqNo: 121768

Lab File ID (Standard): 101014.D

Date Analyzed: 10/10/2012

Instrument ID: GCMS-3

Time Analyzed: 17:48

GC Column: ID (mm): Length (M):

		IS5 Perylene-d1		6 Phenanthrene-d					
		AREA #	RT #	AREA #	RT #				
	12 HOUR STD	589722	13.889	614915	9.945				
	UPPER LIMIT	1179444	14.389	1229830	10.445				
	LOWER LIMIT	294861	13.389	307458	9.445				
	SAMPLE NO.								
01	CCV-3308	611996	13.885	656042	9.946				
02	CCB-3308	555535	13.885	685528	9.947				
03	MB-3308	351588	13.885	457012	9.945				
04	LCS-3308	379148	13.885	435158	9.945				
05	1209149-001A	464087	13.885	484933	9.946				
06	1209149-002A	413930	13.885	465260	9.946				
07	1209149-002AMS	446578	13.885	485265	9.946				
08	1209149-003A	436622	13.885	482780	9.944				
09	1209149-004A	405682	13.885	473608	9.945				
10	1209149-004ADUP	406580	13.883	480423	9.944				
11	1209172-001A	421813	13.885	479407	9.945				
12	1209172-007A	408886	13.885	479921	9.945				
13	ICB-3308	445839	13.885	542903	9.944				
14	ICV-3308	472138	13.887	518454	9.945				

IS5 Perylene-d12 = Perylene-d12

IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

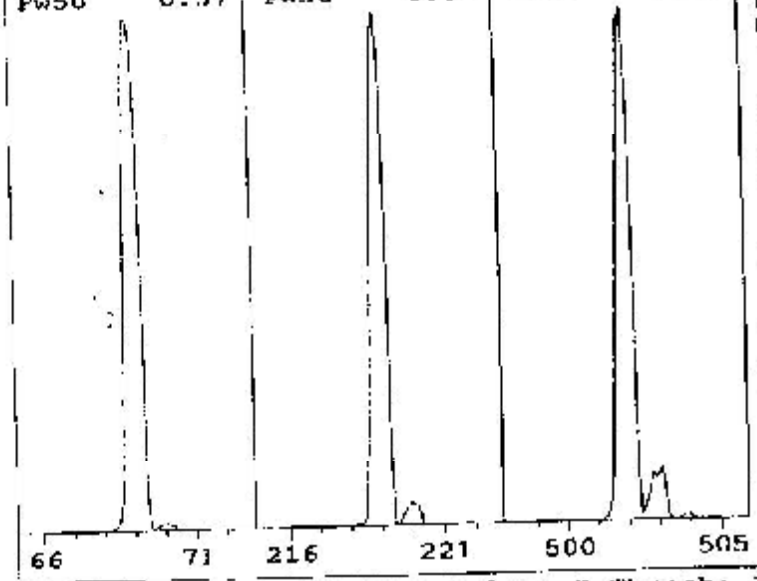
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00	Ion Pol	Pos
Ab	496024	Ab	310727	Ab	13192		
Pw50	0.57	Pw50	0.53	Pw50	0.55		

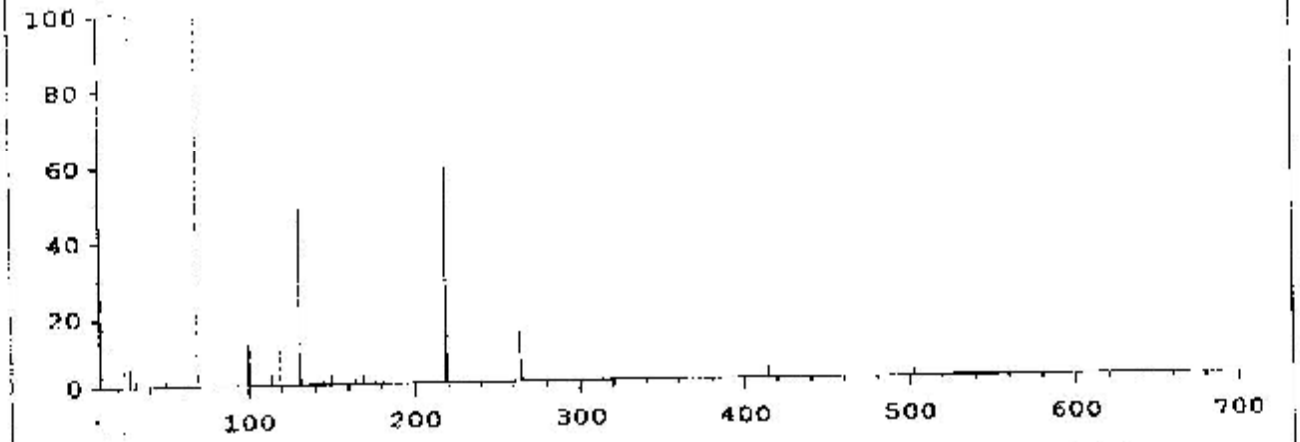
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

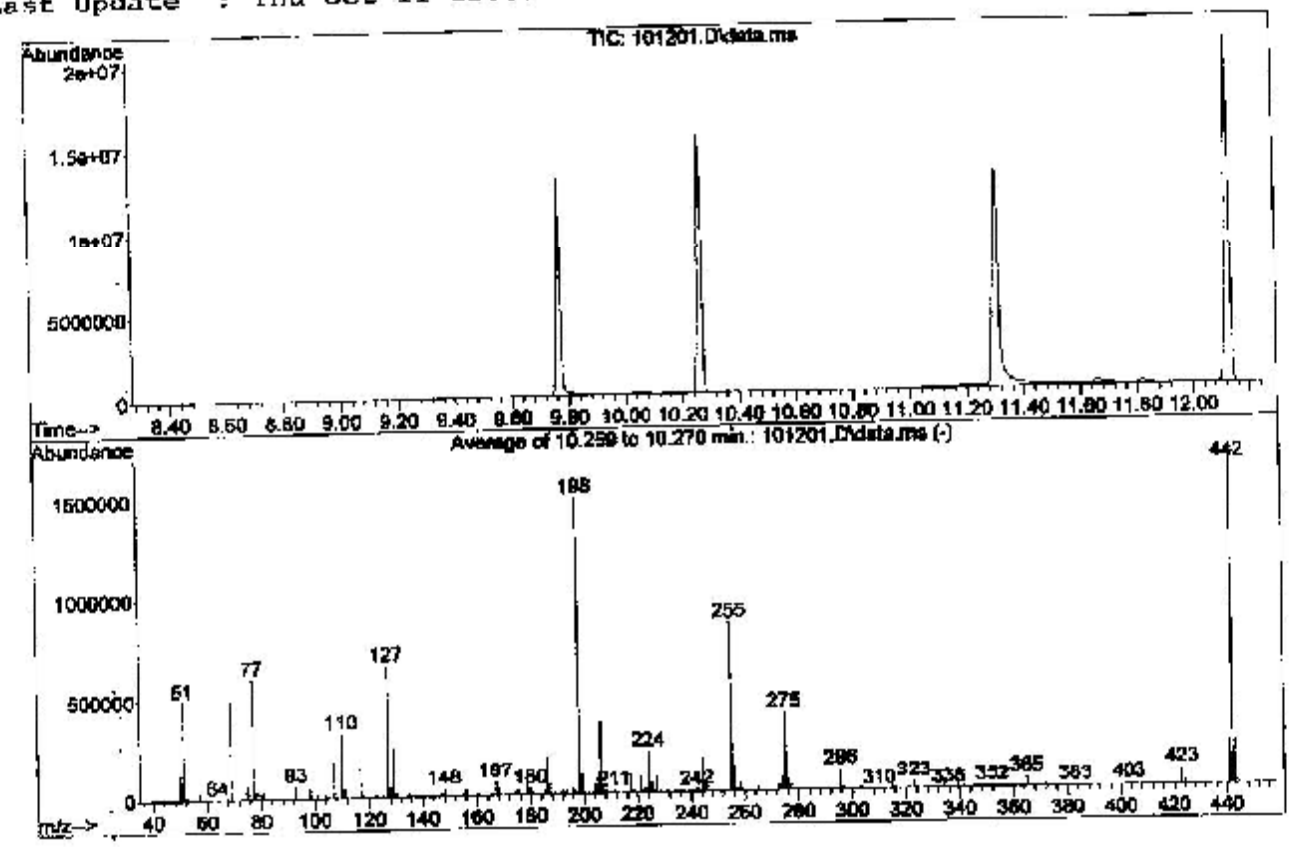
MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	48.6	59.1	2.8	2.3	

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

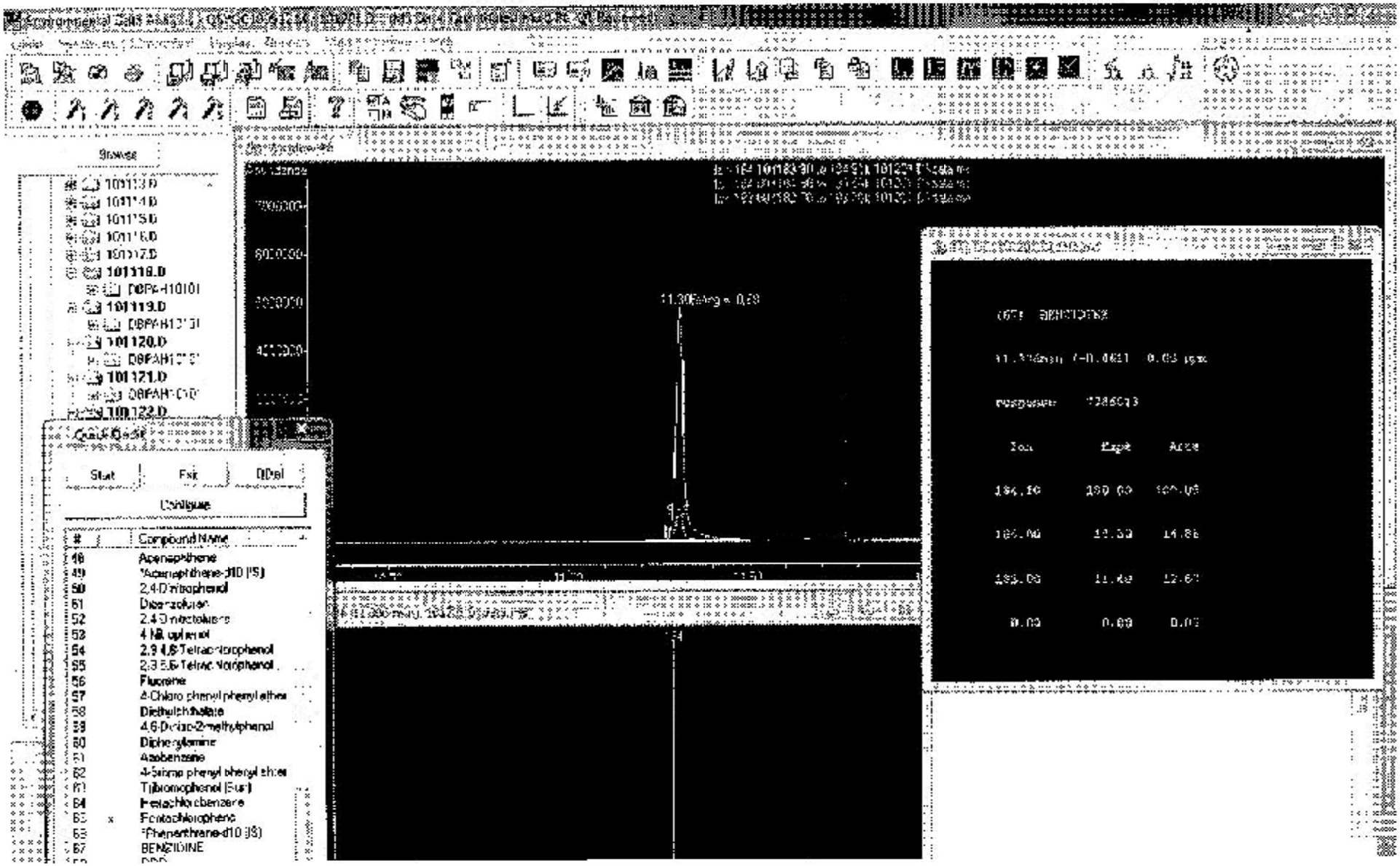
Integration File: RTEINTSG8270.P

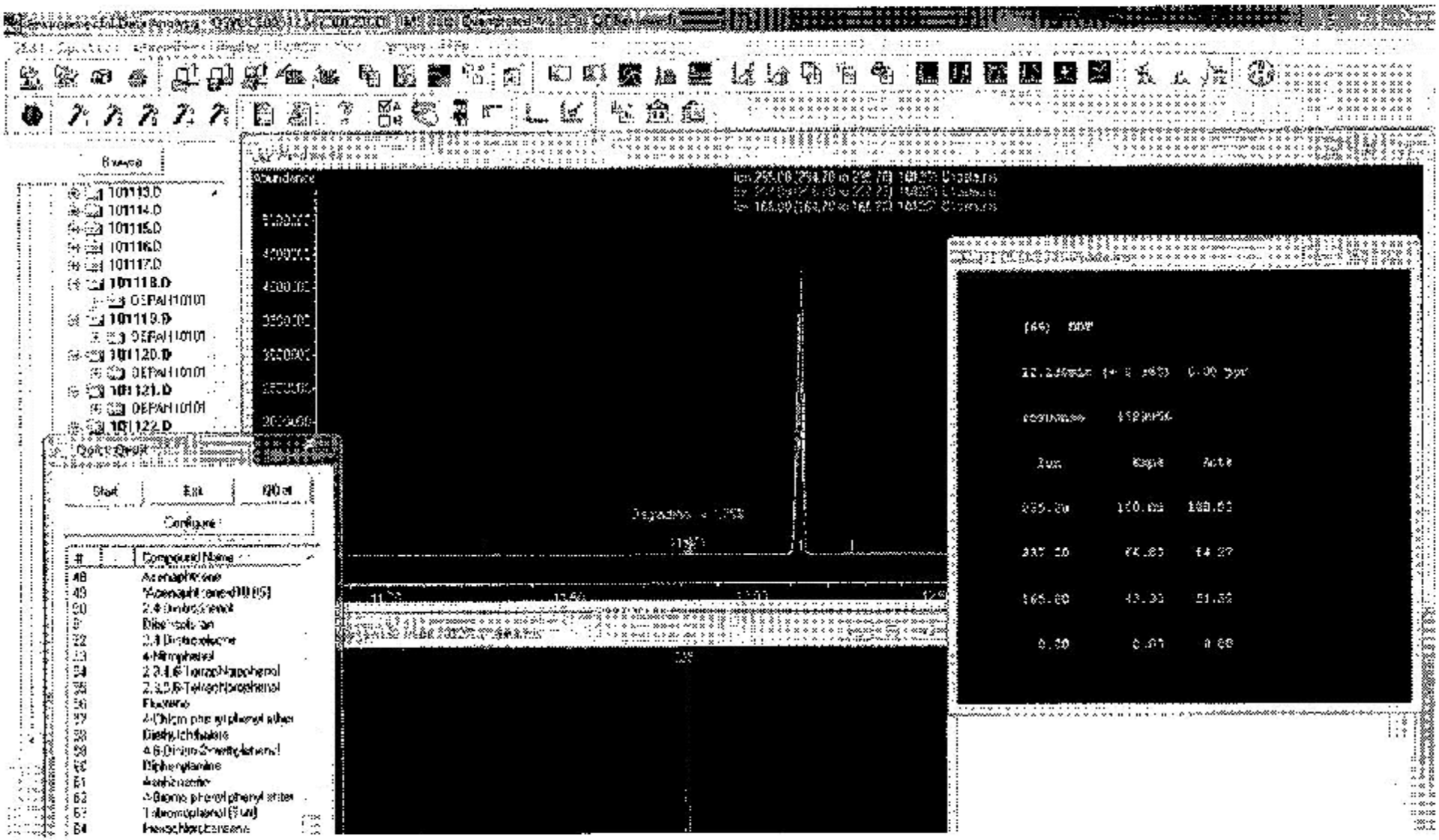
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

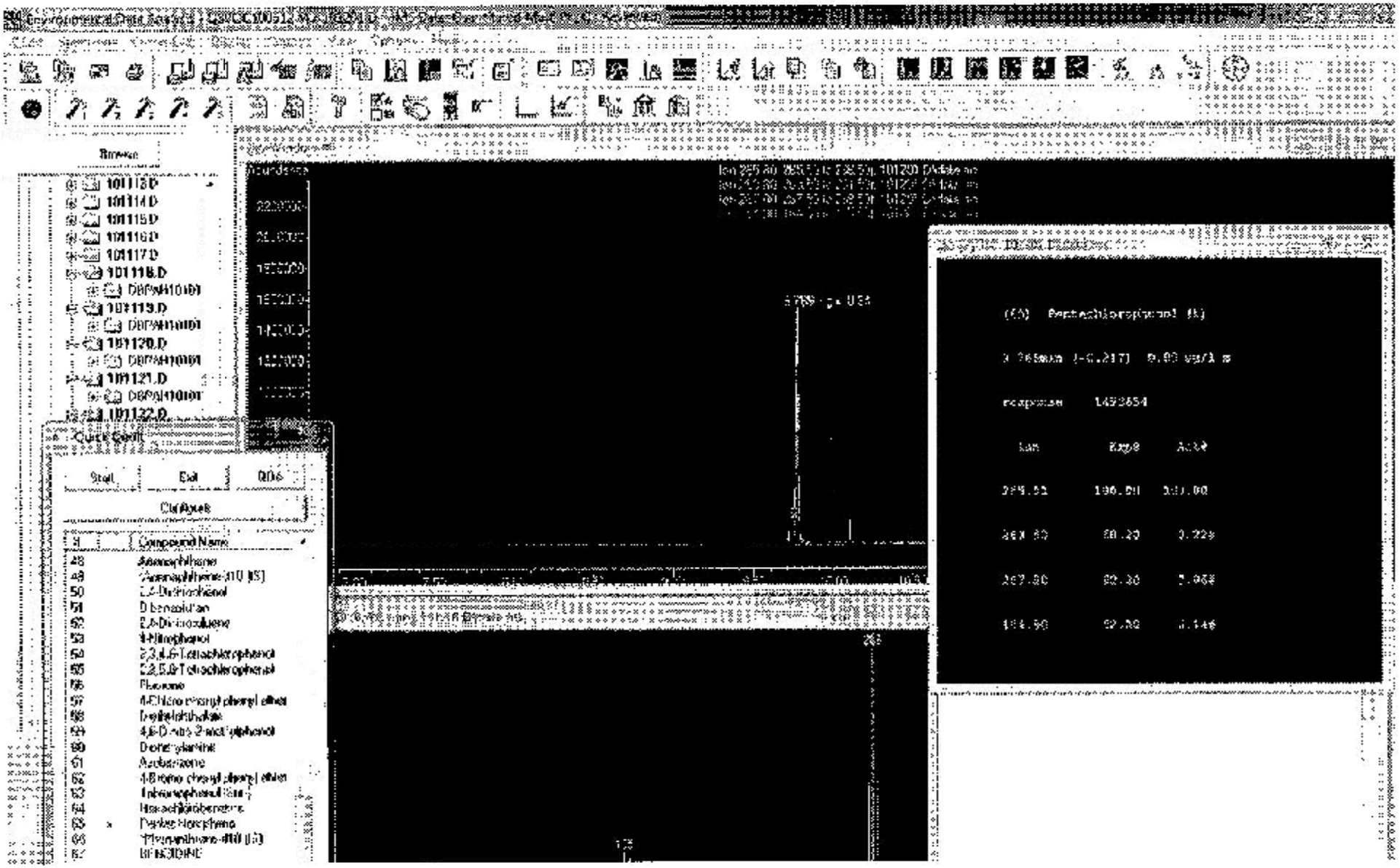


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Quick Sequence
Start
Exit
DDel
Configure
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expd Actd
184.10 100.00 100.00
185.00 11.00 14.86
186.00 11.00 12.67
0.00 0.00 0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
DEPAH101101
101119.D
DEPAH101101
101120.D
DEPAH101101
101121.D
DEPAH101101
101122.D
Start
Exit
Configure
Compound Name
Acenaphthene
Diphenylamine
Fluoranthene
Pyrene
Benzo[a]anthracene
Chrysene
Benzo[b]fluoranthene
Benzo[k]fluoranthene
Benzo[a]pyrene
Indeno[1,2,3-cd]pyrene
Dibenz[a,h]anthracene
Benzo[g,h,i]perylene
Area
Ratio
Actu
235.30
180.83
64.27
165.00
51.32
0.00
0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confirm
Stop
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
Fluorene
Diethylphthalate
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
(45) Pentachlorophenol (S)
Response 1493654
Ion Ratio Area
295.92 100.00 100.00
263.92 88.20 3.22%
297.90 82.30 5.96%
186.90 62.50 1.14%

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 7, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 27, 2012 and October 12, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120927-30
Date: 11-7-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

The cPAH report includes data results from Libby project L120928-30.

Libby Environmental, Inc.

Chain of Custody Record

I011

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9/27/12 Page: 1 of

Client: GeoEngineers

Project Manager: Neil Morton

Address: 11015 Fairlawn Ave. Ste 20, Tacoma, WA 98402

Project Name: Irondale

Phone: 253 3834940 Fax:

Location: Irondale, WA City: Irondale, WA

Client Project # 0504-042-02

Collector: Aaron Waggoner Date of Collection: 9/27/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-B1-92712		0845	SED	2-4oz Jar							X							
2 IRZ-ESW2-92712		8:35	SED	2-4oz Jars							X							
3 IRZ-ESW1-92712		0830	SED	2-4oz Jars							X	⊗						10-8-12 run cPAH per Neil via email
4 IRZ-ESW3-92712		0845	SED	2-4oz Jars							X							
5 IRZ-B2-92712		1045	SED	2-4oz Jars							X	⊗						Standard TAT
6 IRZ-B3-92712		1105 ~~1084~~	SED	2-4oz Jars							X	⊗						
7 IRZ-B4-92712		1115	SED	2-4oz Jars							X							
8 IRZ-DUP01-92712		1115	SED	2-4oz Jars							X							
9 IRZ-WSW1-92712		1040	SED	1-4oz Jars							X							
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/27/12 1515	Paul Bunk	9-27-12 1515
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
Hold/Extract PAHs

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120927-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120927-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/27/12	102	nd	nd
LCS	9/27/12	int	91%	
LCSD	9/27/12	int	106%	
IRZ-B1-92712	9/27/12	90	nd	nd
IRZ-ESW2-92712	9/27/12	88	nd	nd
IRZ-ESW1-92712	9/27/12	86	nd	nd
IRZ-ESW3-92712	9/27/12	92	nd	nd
IRZ-ESW3-92712 Dup	9/27/12	82	nd	nd
IRZ-B2-92712	9/27/12	95	nd	nd
IRZ-B3-92712	9/27/12	92	nd	nd
IRZ-B4-92712	9/27/12	77	nd	nd
IRZ-Dupe1-92712	9/27/12	90	nd	nd
IRZ-WSW1-92712	9/27/12	int	nd	30300
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/27/2012

Libby Job #: L120927-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	7:18:33	C201	3 µl		462		
500 ppm Diesel 791	7:18:33	D199	3 µl		472		
1000 ppm LCS 343	7:49:25	C202	3 µl	int	908		
1000 ppm LCSD 343	7:49:25	D200	3 µl	int	1059		
Method Blank	8:21:12	C203	3 µl	17.2	nd	nd	nd
Method Blank	8:21:12	D201	3 µl	17.2	nd	nd	nd
IRZ-B1-92712	9:15:42	C204	3 µl	18.1	nd	nd	nd
IRZ-ESW2-92712	9:15:42	D202	3 µl	17.6	nd	nd	nd
IRZ-ESW1-92712	9:54:28	C205	3 µl	17.2	nd	nd	nd
IRZ-ESW3-92712	9:54:28	D203	3 µl	18.3	nd	nd	nd
IRZ-ESW3-92712 Dup	10:39:12	C206	3 µl	16.5	nd	nd	nd
No Sample	10:39:12	D204	3 µl				
IRZ-B2-92712	12:20:36	C207	3 µl	19.0	nd	nd	nd
IRZ-B3-92712	12:20:36	D205	3 µl	18.3	nd	nd	nd
IRZ-B4-92712	12:57:54	C208	3 µl	15.5	nd	nd	nd
IRZ-Dupe1-92712	12:57:54	D206	3 µl	18.1	nd	nd	nd
IRZ-WSW1-92712 (1:40) (not used)	13:31:19	c209	3 µl	23.4	nd	nd	24000
No Sample	13:31:19	207	3 µl				
IRZ-WSW1-92712 (1:16)	14:08:25	C210	3 µl	int	nd	nd	29800
No Sample	14:08:25	D20	3 µl				
500 ppm Diesel 791	14:48:44	C211	3 µl		429		
500 ppm Diesel 791	14:48:44	D209	3 µl		559		

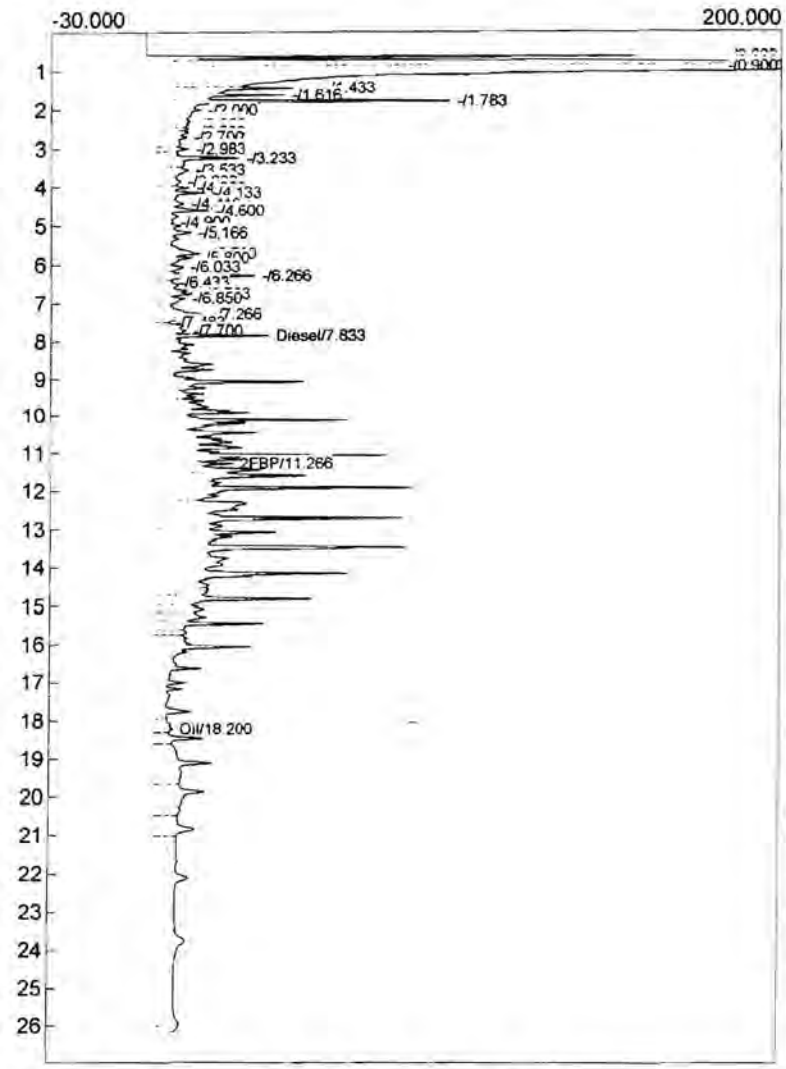
Analysis date: 09/27/2012 07:18:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C201.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

/ents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	7.833	9372.4445	34.513	461.6809	ppm
EBP	11.266	120.7575	23.363	4.8303	ppm
il	18.200	3042.0755	4.400	149.5601	ppm
		12535.2775		616.0713	

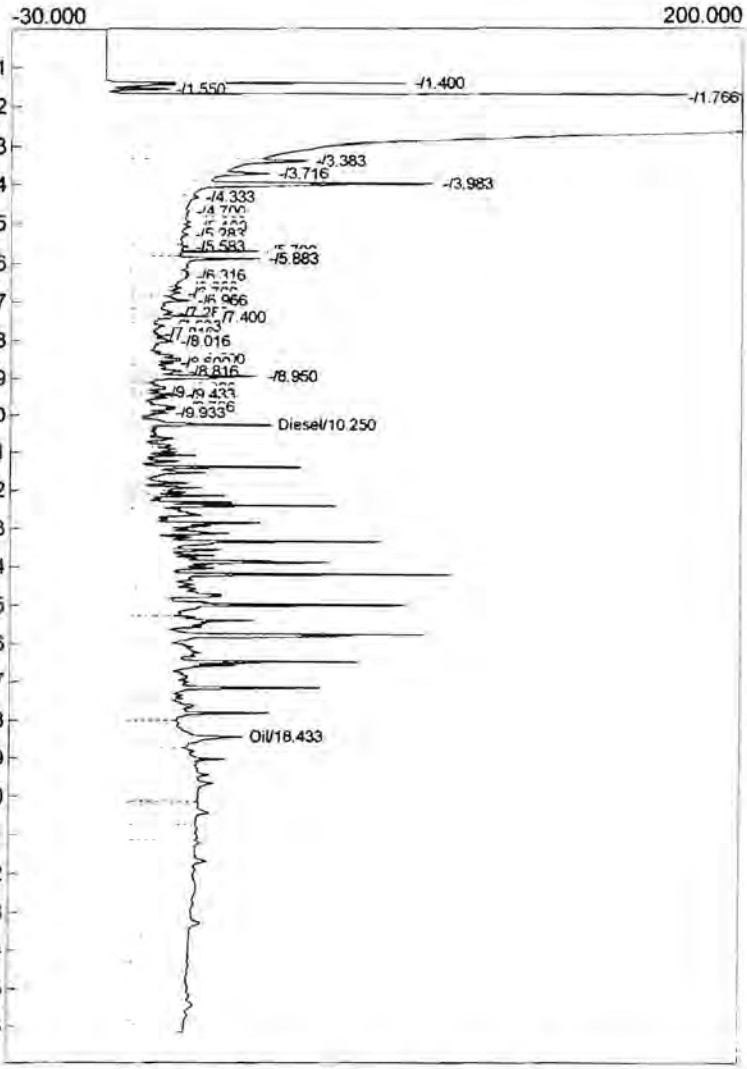
Analysis date: 09/27/2012 07:18:33
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D199.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events.

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.250	8888.4110	43.641	471.6915	ppm
Oil	18.433	9444.5410	35.100	501.4600	ppm
		18332.9520		973.1515	

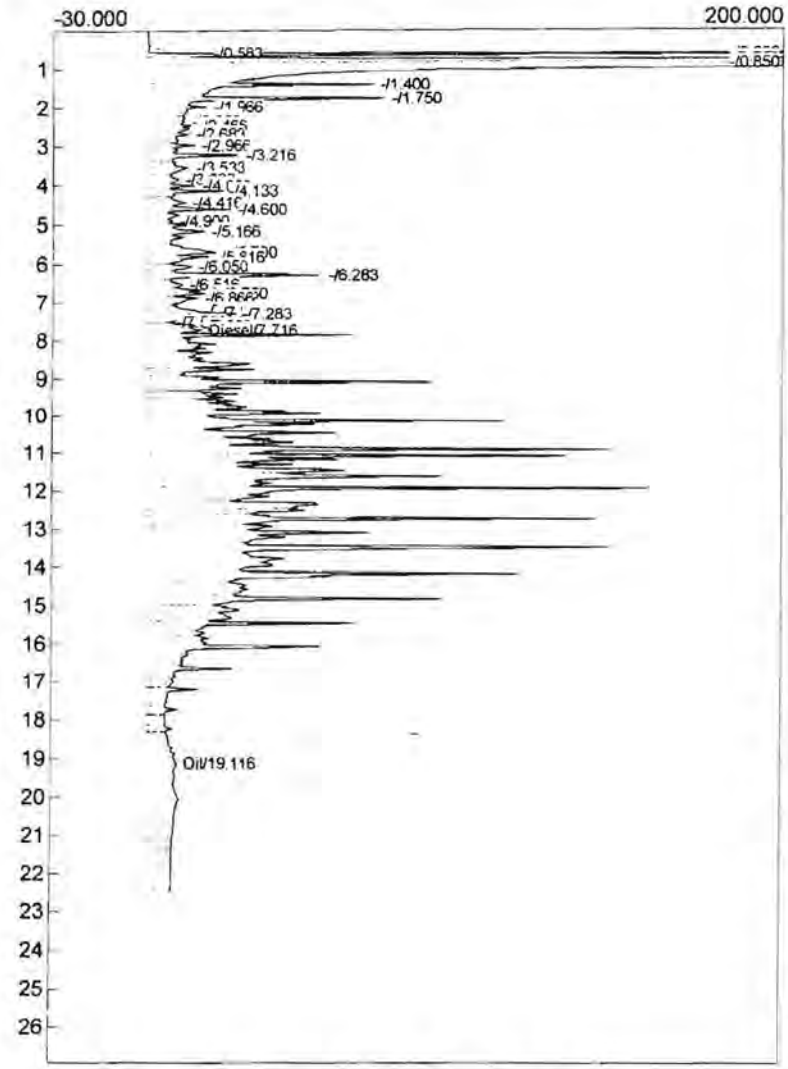
Analysis date: 09/27/2012 07:49:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C202.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	7.716	18371.5550	15.587	907.7326	ppm
il	19.116	1719.9480	7.964	84.5593	ppm
		20091.5030		992.2919	

— 91%

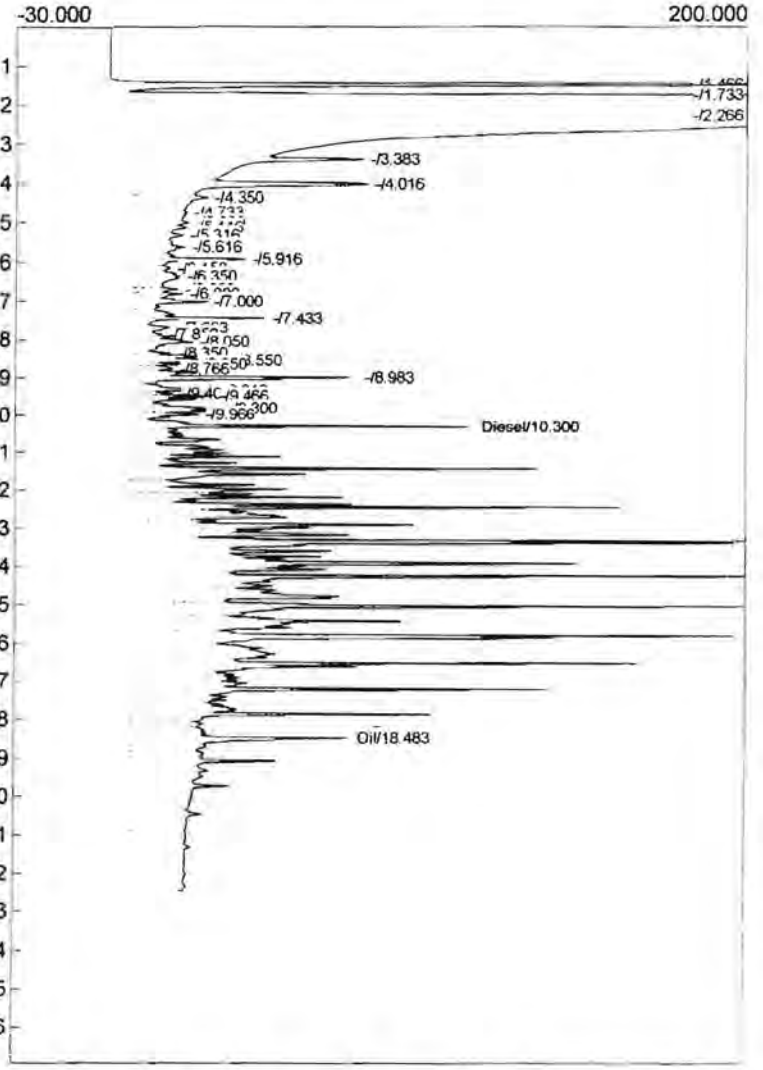
Analysis date: 09/27/2012 07:49:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D200.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.300	19766.3865	107.282	1059.2663	ppm
Oil	18.483	5092.3815	68.855	269.3874	ppm
		24858.7680		1328.6537	

— 106%

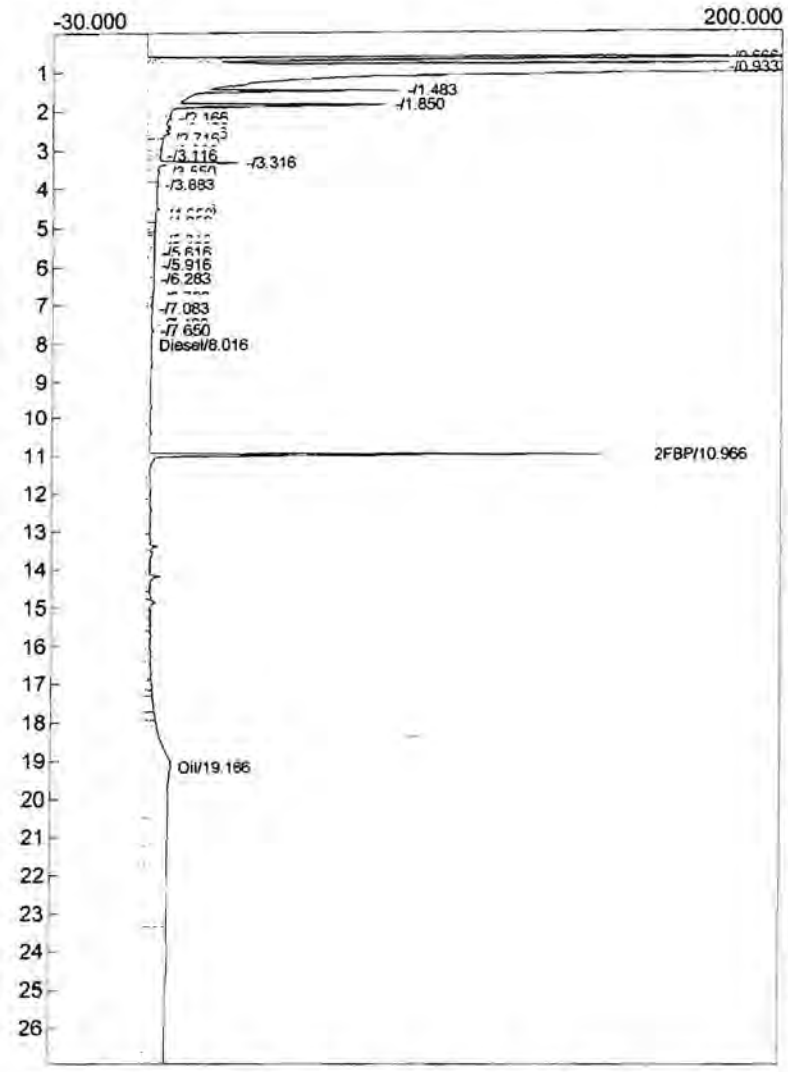
Analysis date: 09/27/2012 08:21:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5 PB 9-27-12
Carrier: He
Data file: C203.CHR ()
Sample: ~~1000 ppm LCS 343~~ Air blank Method
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	8.016	647.8180	0.381	31.8492	ppm
FBP	10.966	407.9410	157.034	17.1765	ppm
il	19.166	3109.2900	7.051	152.8647	ppm
		4165.0490		201.8904	

nd 86%

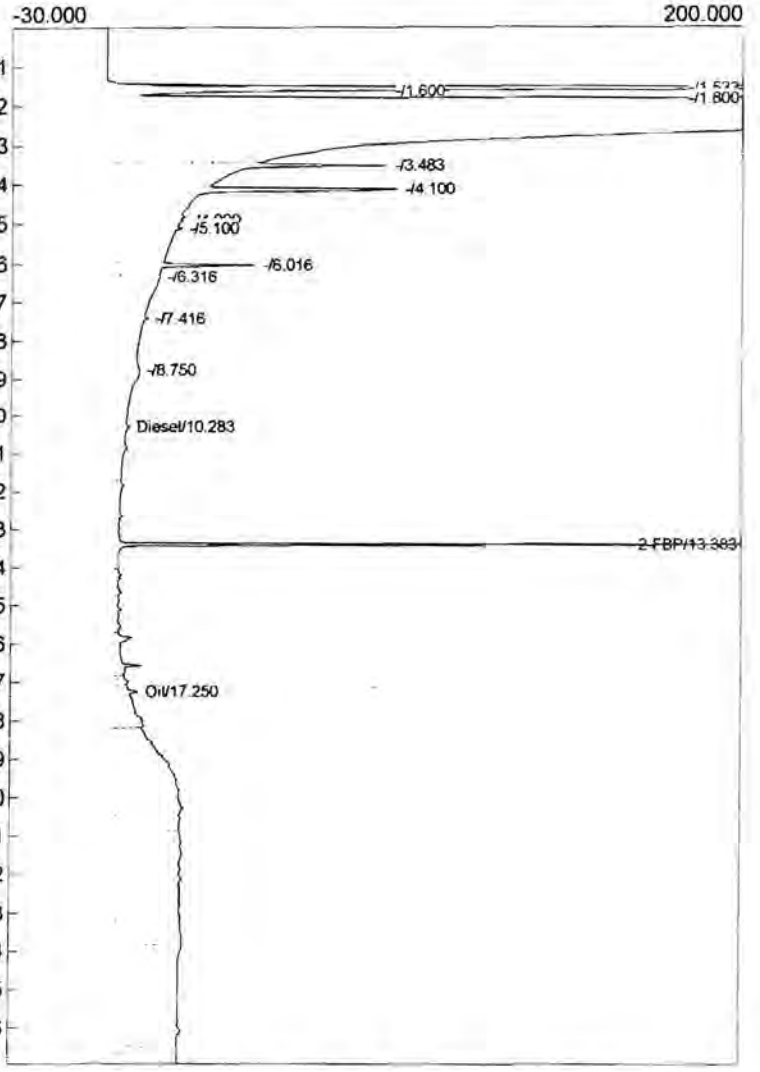
Analysis date: 09/27/2012 08:21:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5 PB 9-27-12
Carrier: He
Data file: D201.CHR ()
Sample: ~~1000 ppm LCSD 343~~ Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.283	911.8585	3.381	48.1539	ppm
2-FBP	13.383	517.3260	239.223	17.2442	ppm
Oil	17.250	10133.5460	6.499	538.3411	ppm
		11562.7305		603.7391	

nd 86%

Analysis date: 09/27/2012 08:21:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C203.CHR ()
Sample: Method Blank
Operator: PB

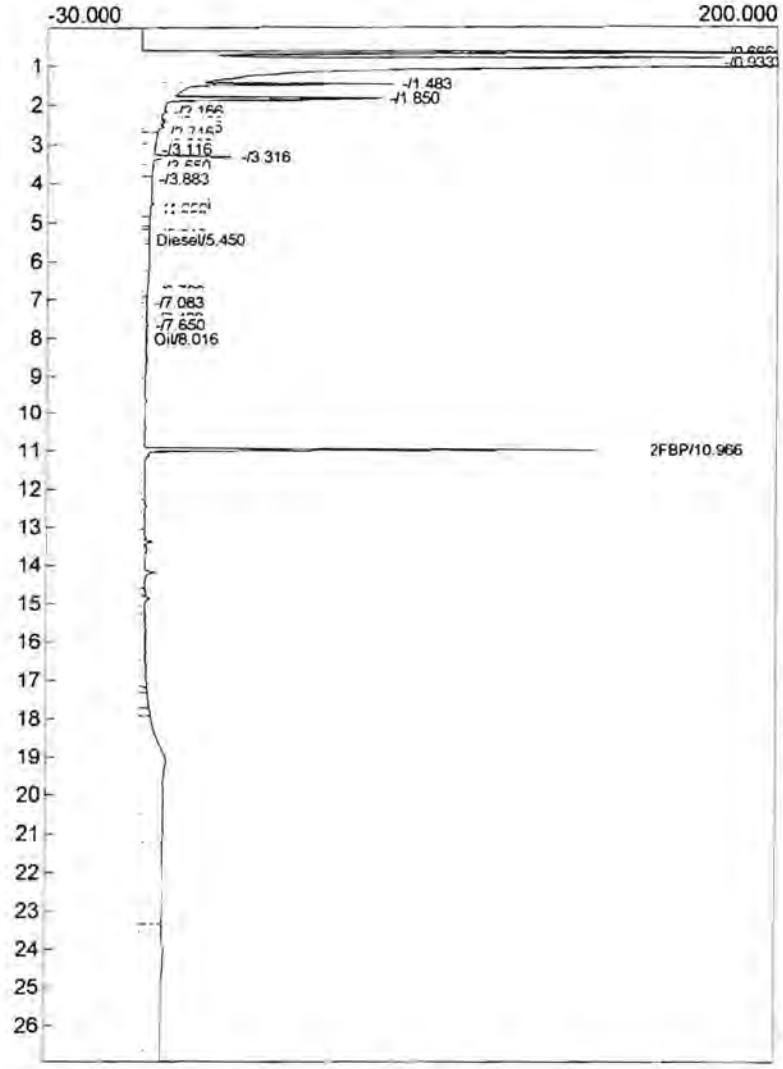
* used for Bunker C air blank only

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.450	70.1960	0.967	3.4511	ppm
)il	8.016	3757.1080	0.381	184.7139	ppm
FBP	10.966	407.9410	157.034	17.1765	ppm
		4235.2450		205.3415	

Analysis date: 09/27/2012 08:21:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D201.CHR ()
Sample: Method Blank
Operator: PB

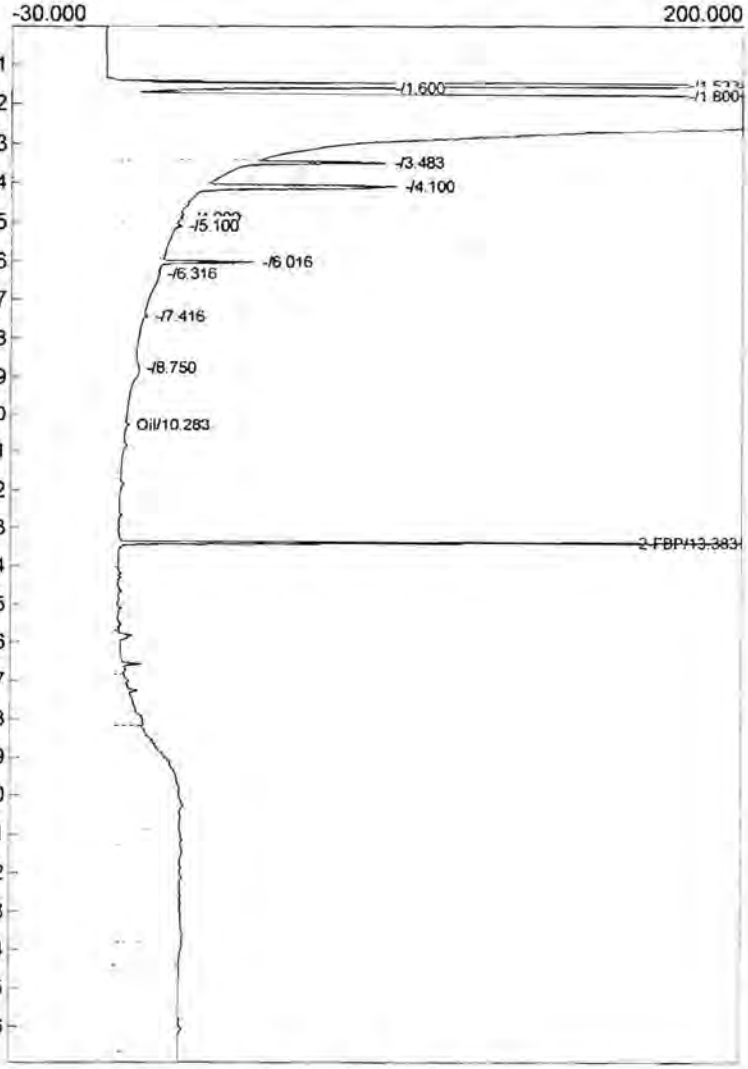
* used for Bunker C air blank only

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.283	11045.4045	3.381	587.1510	ppm
2-FBP	13.383	517.3260	239.223	17.2442	ppm
		11562.7305		604.3952	

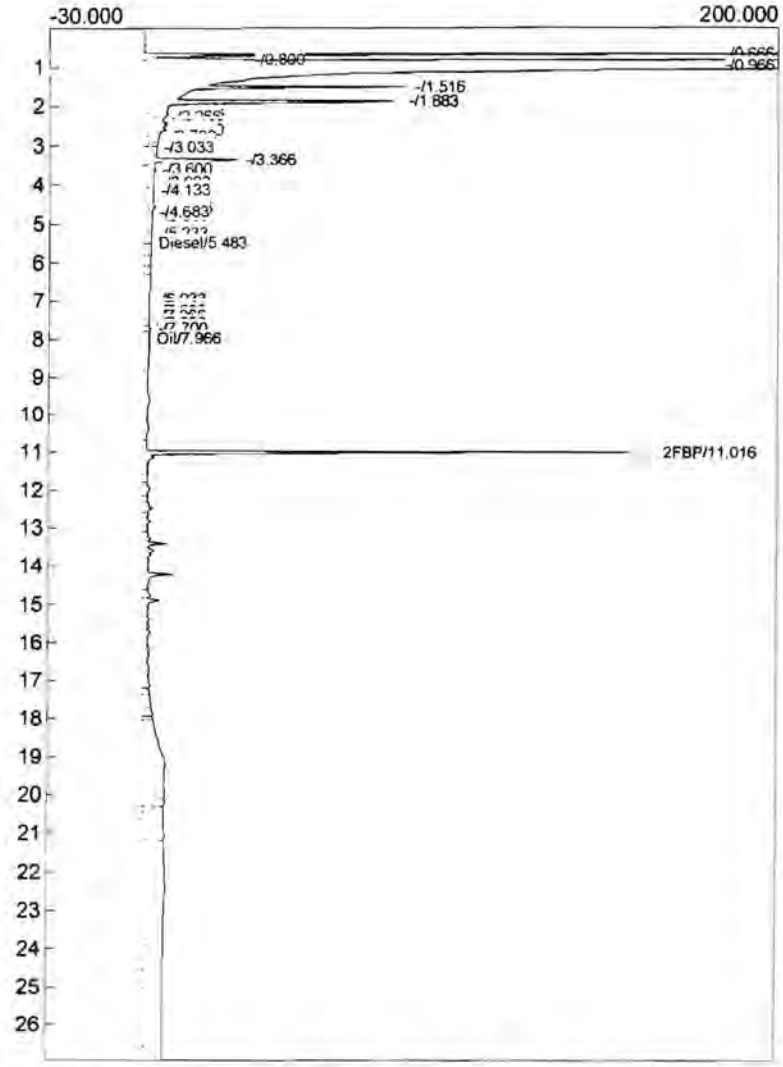
\nalysis date: 09/27/2012 09:15:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C204.CHR ()
Sample: IRZ-B1-92712
Operator: PB

emperature program:

it temp Hold Ramp Final temp

/ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.483	64.7260	1.003	3.1822	ppm
il	7.966	3767.4345	0.619	185.2216	ppm
FBP	11.016	429.3930	160.903	18.0797	ppm
		4261.5535		206.4835	

nd 90%

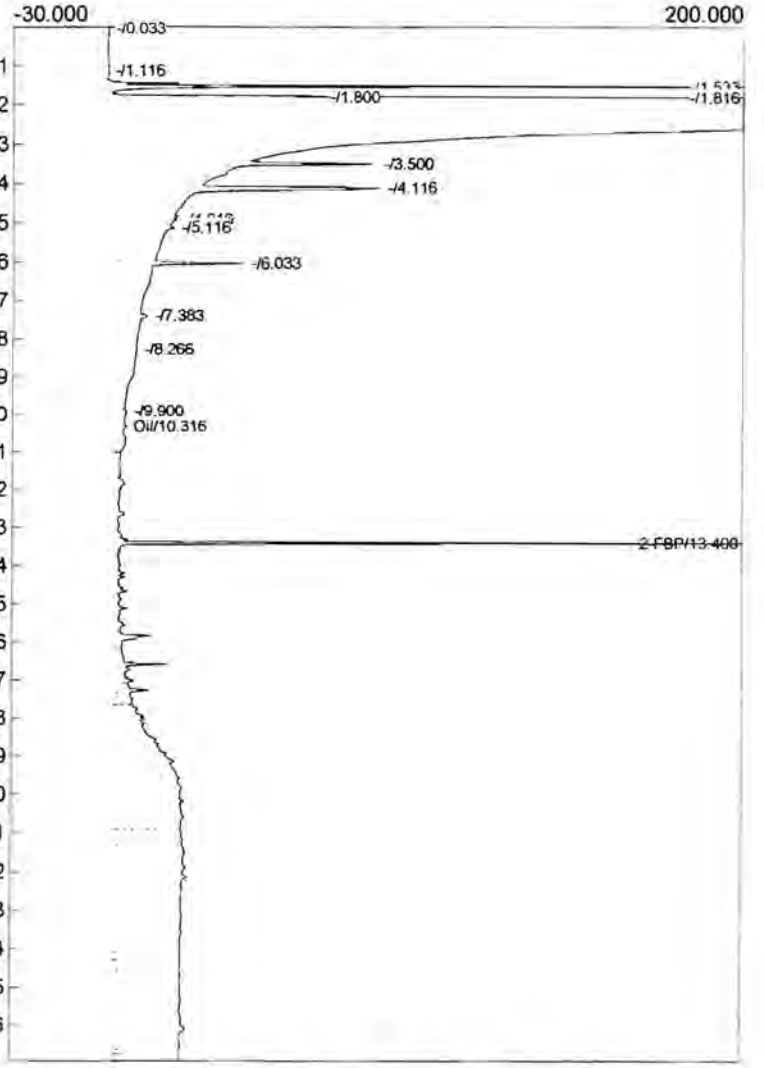
Analysis date: 09/27/2012 09:15:42
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D202.CHR ()
Sample: IRZ-ESW2-92712
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.316	11399.6710	2.492	606.1561	ppm
2-FBP	13.400	529.4935	235.036	17.6498	ppm
		11929.1645		623.8059	

nd 88%

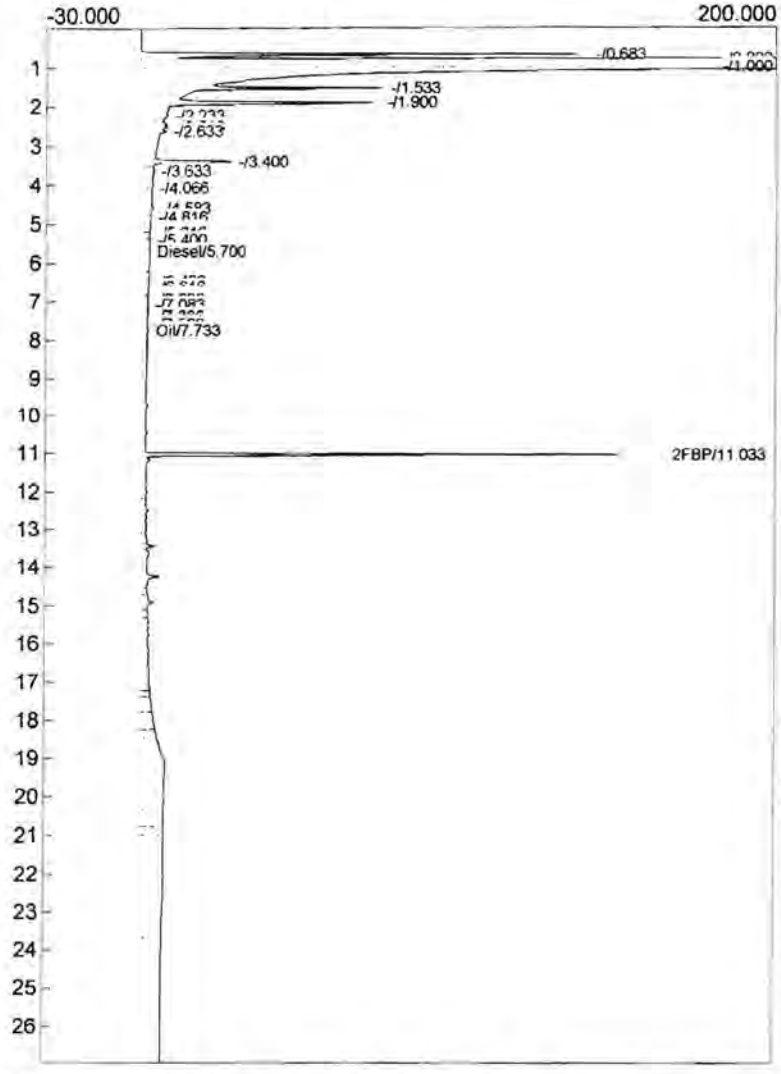
Analysis date: 09/27/2012 09:54:28
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C205.CHR ()
Sample: IRZ-ESW1-92712
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.700	46.1060	1.044	2.2667	ppm
il	7.733	3944.4970	0.774	193.9267	ppm
FBP	11.033	408.9180	163.966	17.2176	ppm
		4399.5210		213.4110	

nd 86%

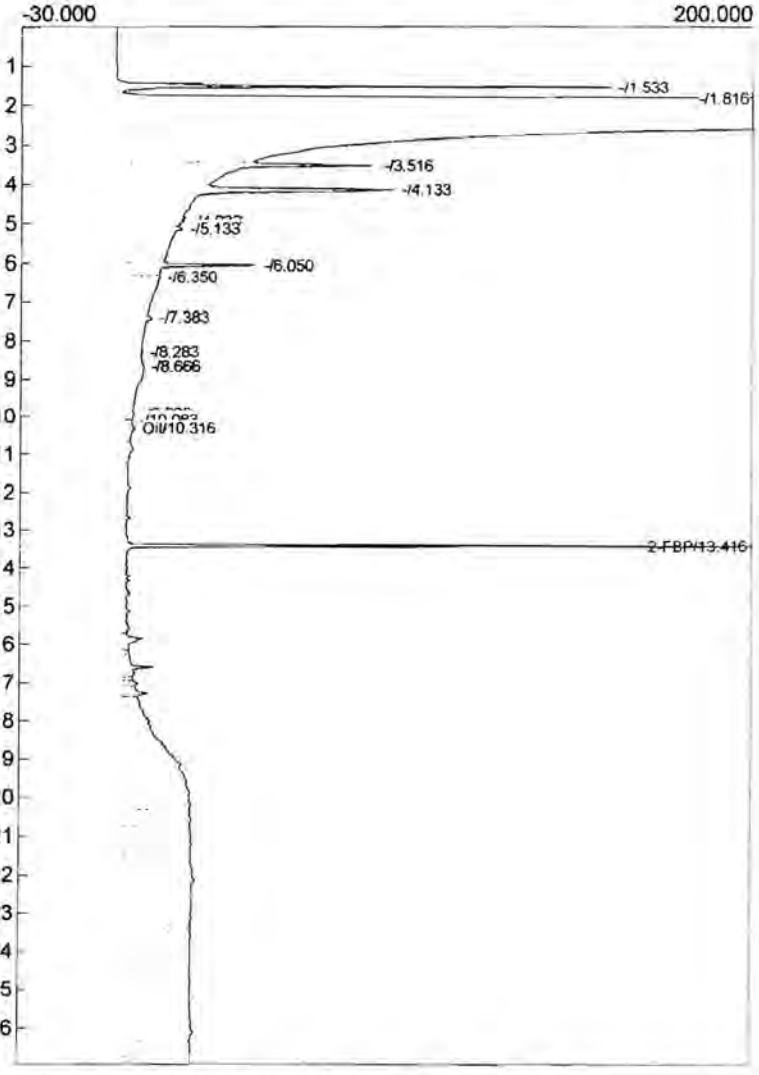
Analysis date: 09/27/2012 09:54:28
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D203.CHR ()
Sample: IRZ-ESW3-92712
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	10.316	11312.8170	2.200	601.4751	ppm
2-FBP	13.416	550.3630	247.234	18.3454	ppm
		11863.1800		619.8205	

nd 92%

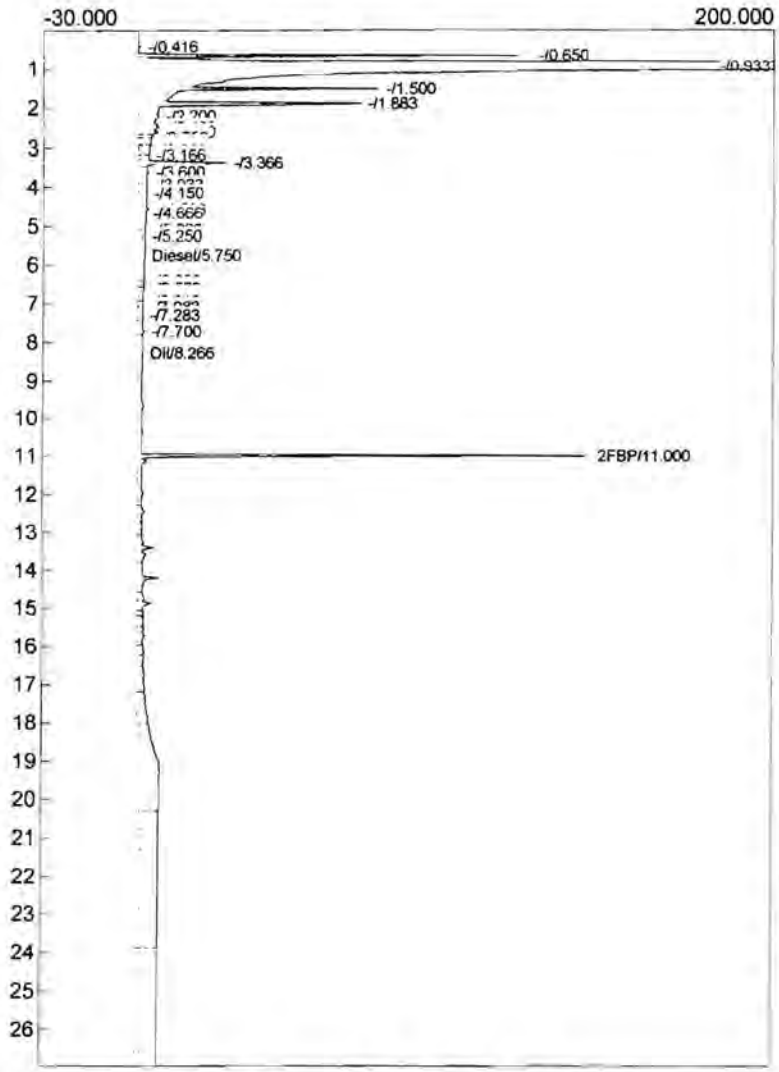
Analysis date: 09/27/2012 10:39:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C206.CHR ()
Sample: IRZ-ESW3-92712 Dup
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

/ents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.750	30.7050	0.866	1.5096	ppm
)il	8.266	3675.3255	0.487	180.6932	ppm
FBP	11.000	390.9635	141.604	16.4616	ppm
		4096.9940		198.6644	

nd 82%

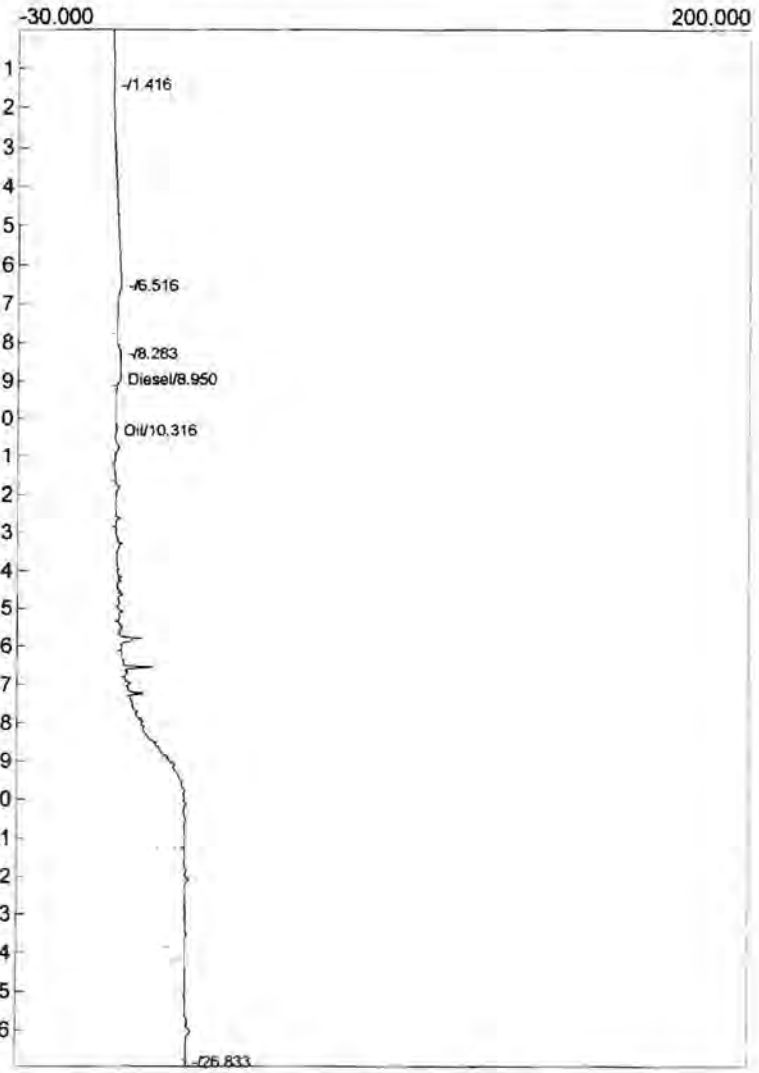
Analysis date: 09/27/2012 10:39:12
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D204.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.950	3.9190	0.455	0.2070	ppm
Oil	10.316	3829.0145	0.376	202.2194	ppm
		3832.9335		202.4264	

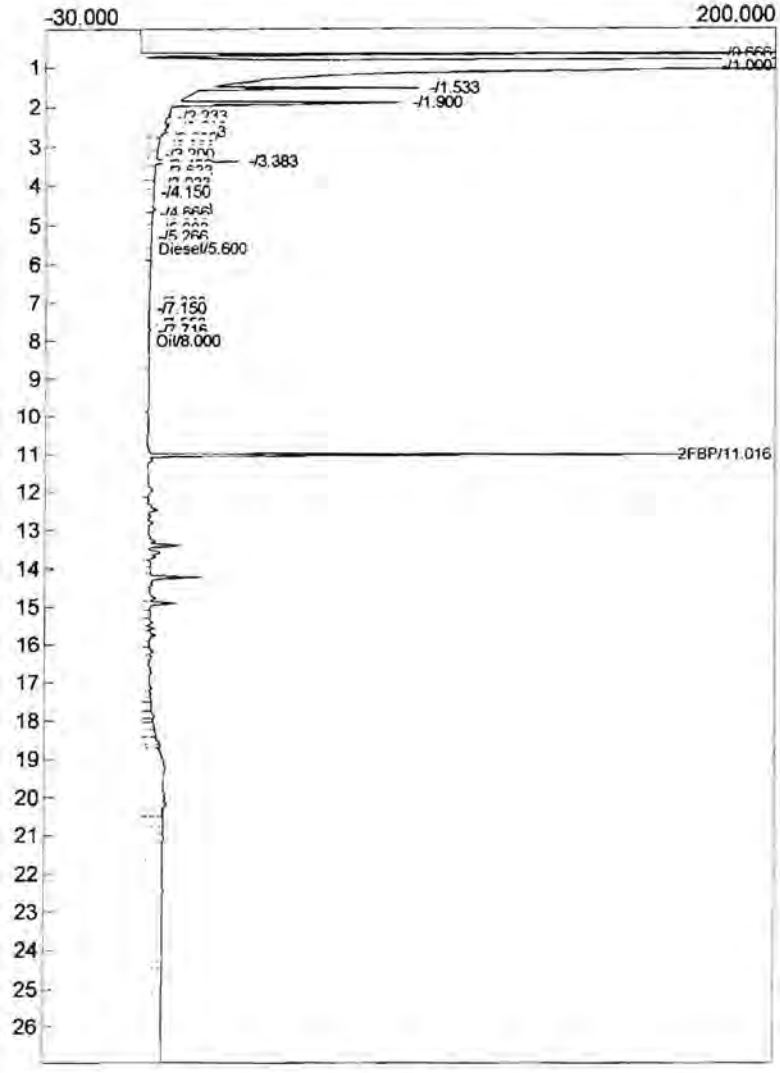
nalysis date: 09/27/2012 12:20:36
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C207.CHR ()
Sample: IRZ-B2-92712
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.600	48.7380	0.809	2.3961	ppm
)il	8.000	3679.0955	0.259	180.8785	ppm
FBP	11.016	452.2505	182.201	19.0421	ppm
		4180.0840		202.3168	

nd 95%

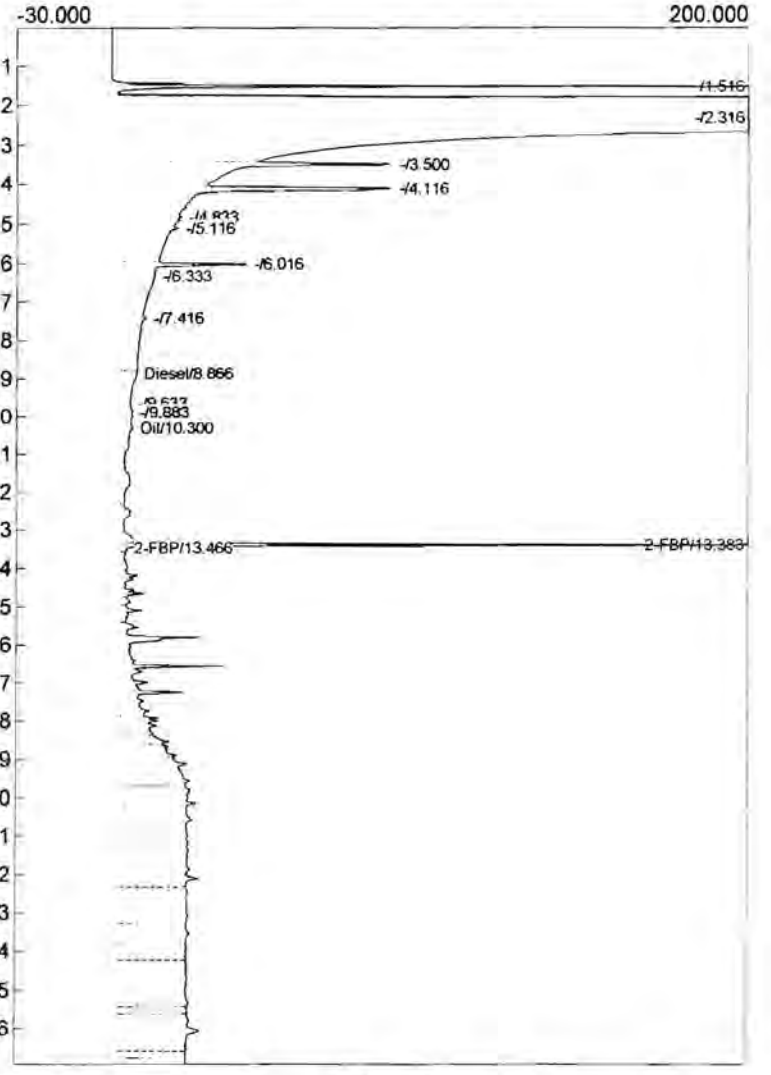
Analysis date: 09/27/2012 12:20:36
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D205.CHR ()
Sample: IRZ-B3-92712
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.866	135.5980	3.973	7.1607	ppm
Oil	10.300	11805.2715	2.793	628.0160	ppm
2-FBP	13.383	549.8740	242.625	18.3291	ppm
2-FBP	13.466	2.7275	1.023	0.0909	ppm
		12493.4710		653.5968	

nd 92%

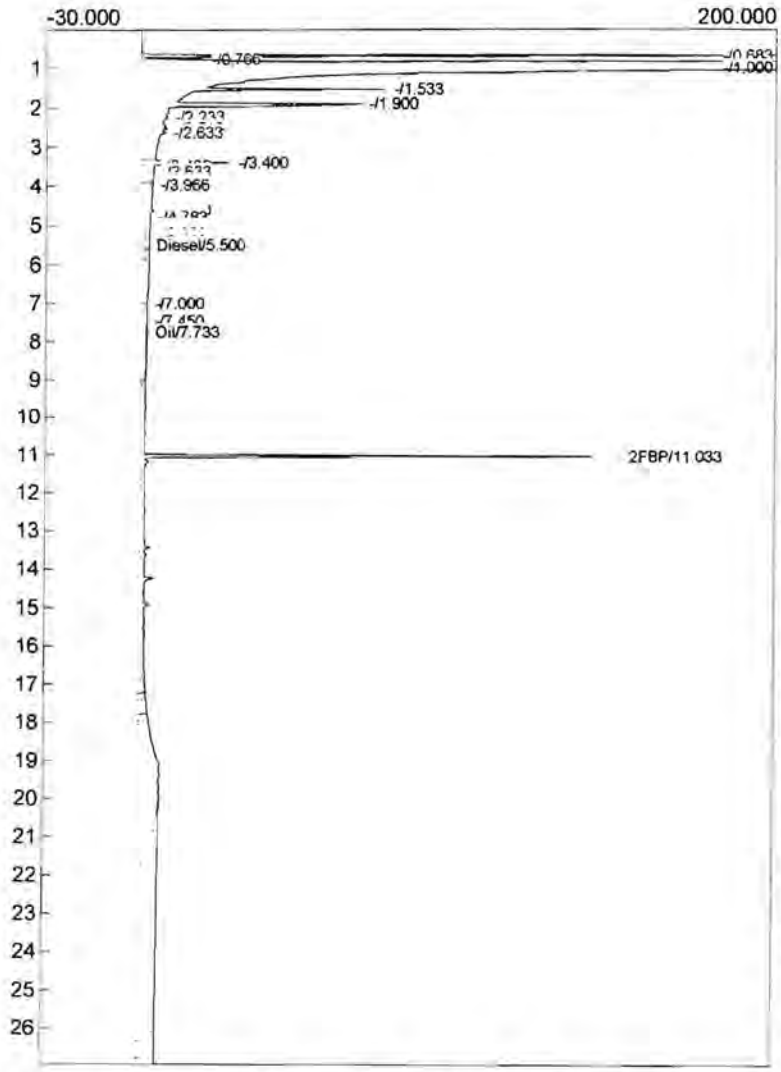
Analysis date: 09/27/2012 12:57:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C208.CHR ()
Sample: IRZ-B4-92712
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
iesel	5.500	96.1885	1.260	4.7290	ppm
)il	7.733	3129.8295	0.987	153.8745	ppm
FBP	11.033	367.2570	150.699	15.4635	ppm
		3593.2750		174.0669	

nd 77%

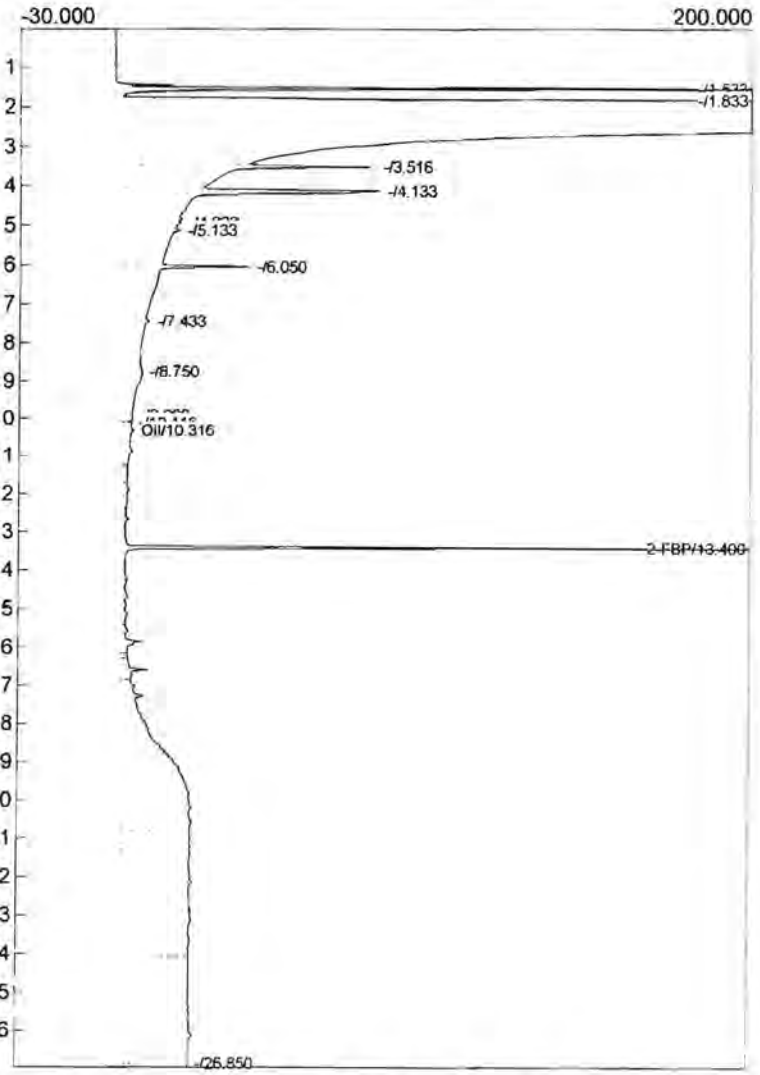
Analysis date: 09/27/2012 12:57:54
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D206.CHR ()
Sample: IRZ-DUPE1-92712
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	10.316	11723.8670	2.926	623.6287	ppm
2-FBP	13.400	542.7305	207.351	18.0910	ppm
		12266.5975		641.7197	

nd 90%

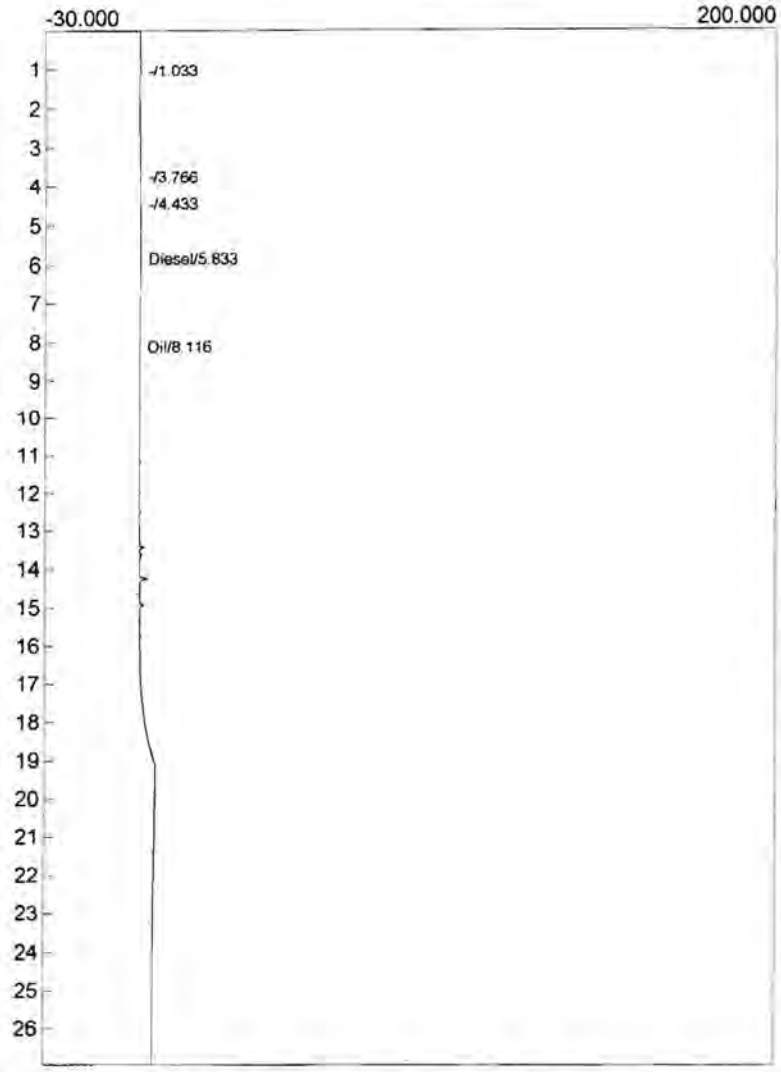
nalysis date: 09/27/2012 13:31:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C209.CHR ()
Sample: No Sample
Operator: PB

emperature program:

it temp Hold Ramp Final temp

/ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
iesel	5.833	2.1970	0.208	0.1080	ppm
il	8.116	71.7420	0.079	3.5271	ppm
		73.9390		3.6351	

Analysis date: 09/27/2012 13:31:19
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D207.CHR ()
Sample: IRZ-WSW1-92712 1:40
Operator: PB

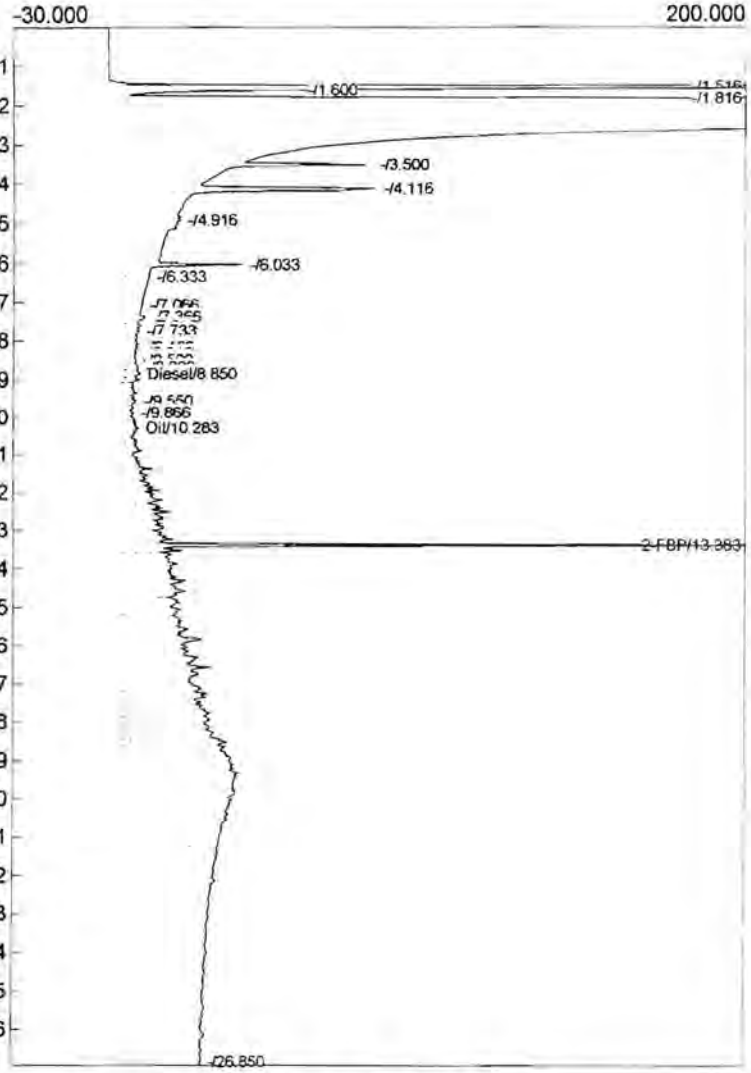
NOT used

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.850	126.1865	4.744	6.6637	ppm
Oil	10.283	22232.9885	4.267	1194.0532	ppm
2-FBP	13.383	703.1960	236.558	23.4399	ppm
		23062.3710		1224.1568	

1194 - 23 = 1171 - 570
= 601 x 40 = 24000 ppm

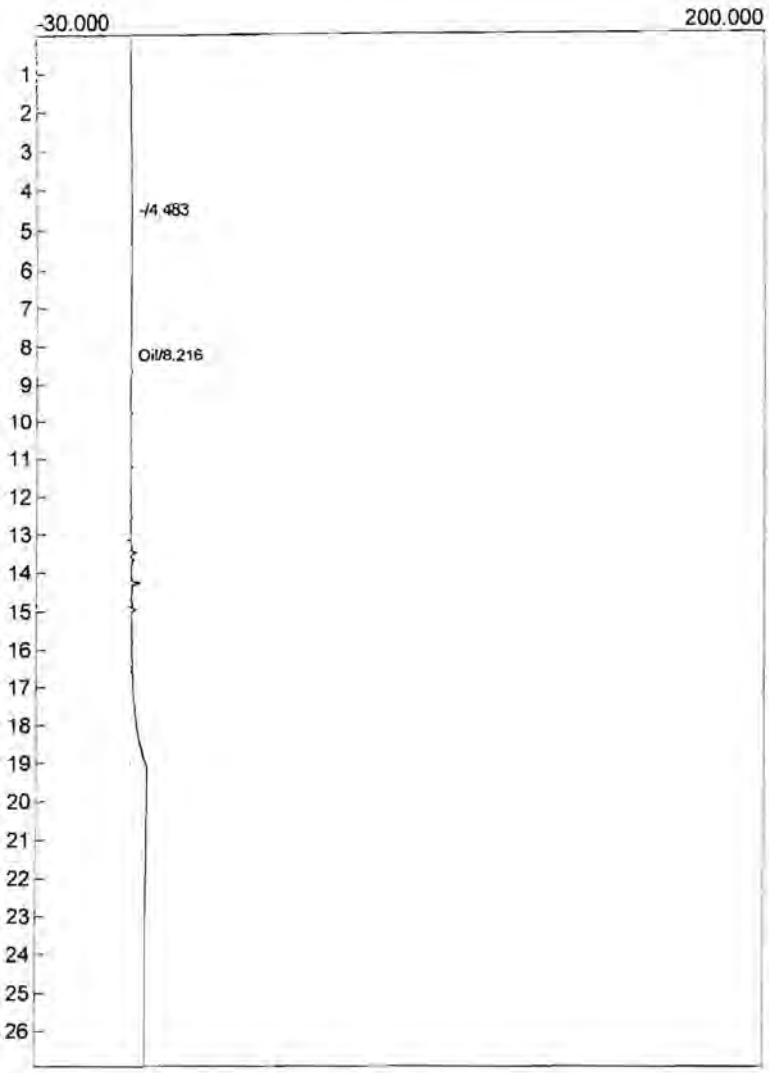
lalysis date: 09/27/2012 14:06:25
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C210.CHR ()
Sample: No Sample
Operator: PB

mperature program:

temp	Hold	Ramp	Final temp

nts:

ıe	Event
00	ZERO



Component	Retention	Area	Height	External	Units
	8.216	80.0480	0.071	3.9355	ppm
		80.0480		3.9355	

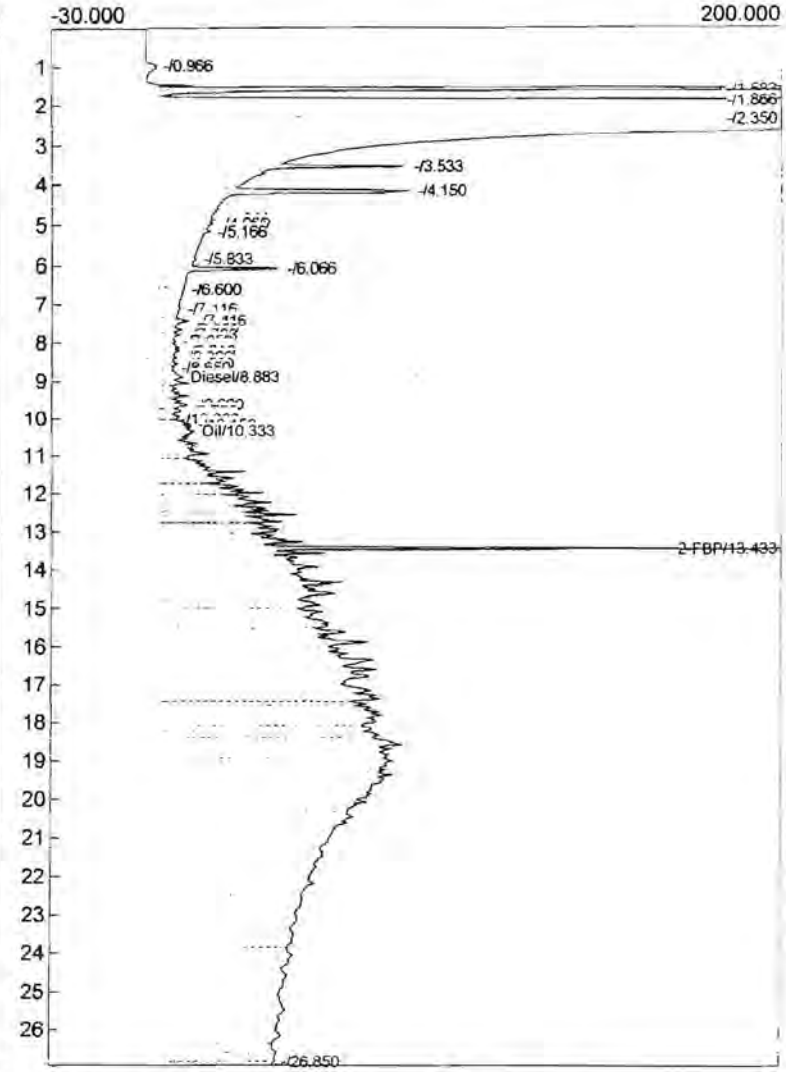
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D208.CHR ()
Sample: IRZ-WSW1-92712 1:16
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.883	199.7700	6.500	10.5496	ppm
Oil	10.333	44615.7935	9.984	2448.7377	ppm
2-FBP	13.433	1165.4835	281.313	38.8495	ppm
		45981.0470		2498.1367	

int

2449 − 587

= 1862 (16)

= 29800 ppm

Soil moisture factor 1.0167 =

(30299)

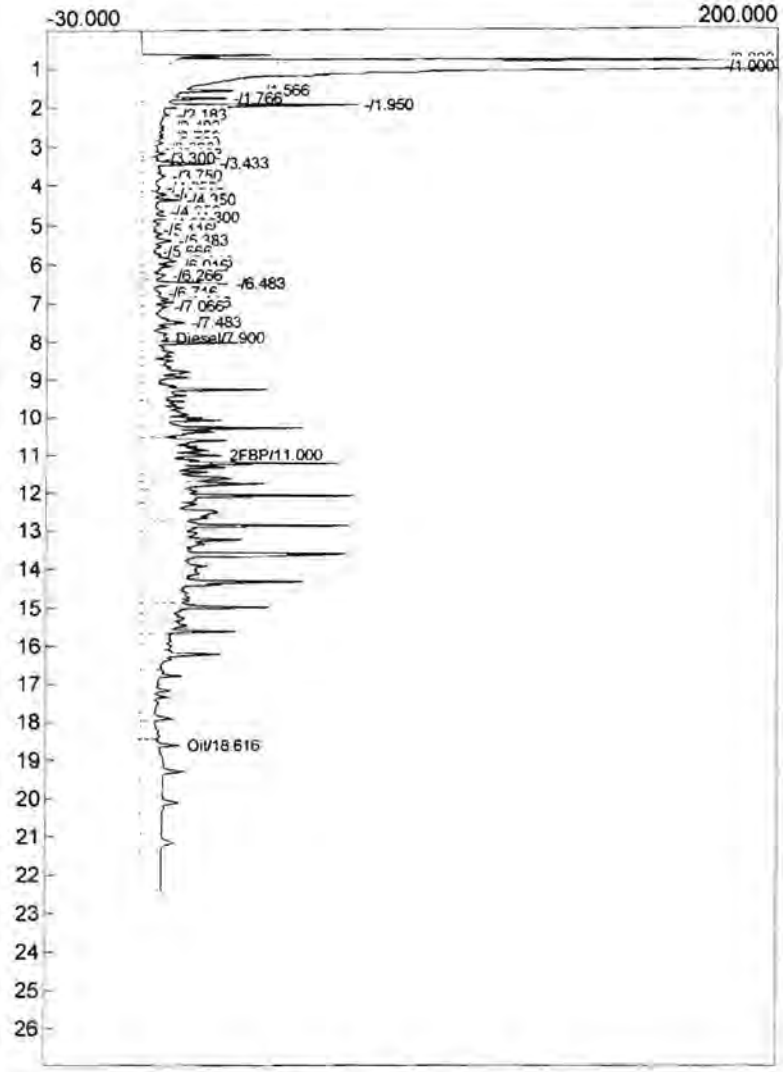
Analysis date: 09/27/2012 14:48:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C211.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
)iesel	7.900	8704.8535	8.231	428.6768	ppm
FBP	11.000	159.5620	25.131	6.7184	ppm
)il	18.616	1619.1910	12.072	79.6057	ppm
		10483.6065		515.0008	

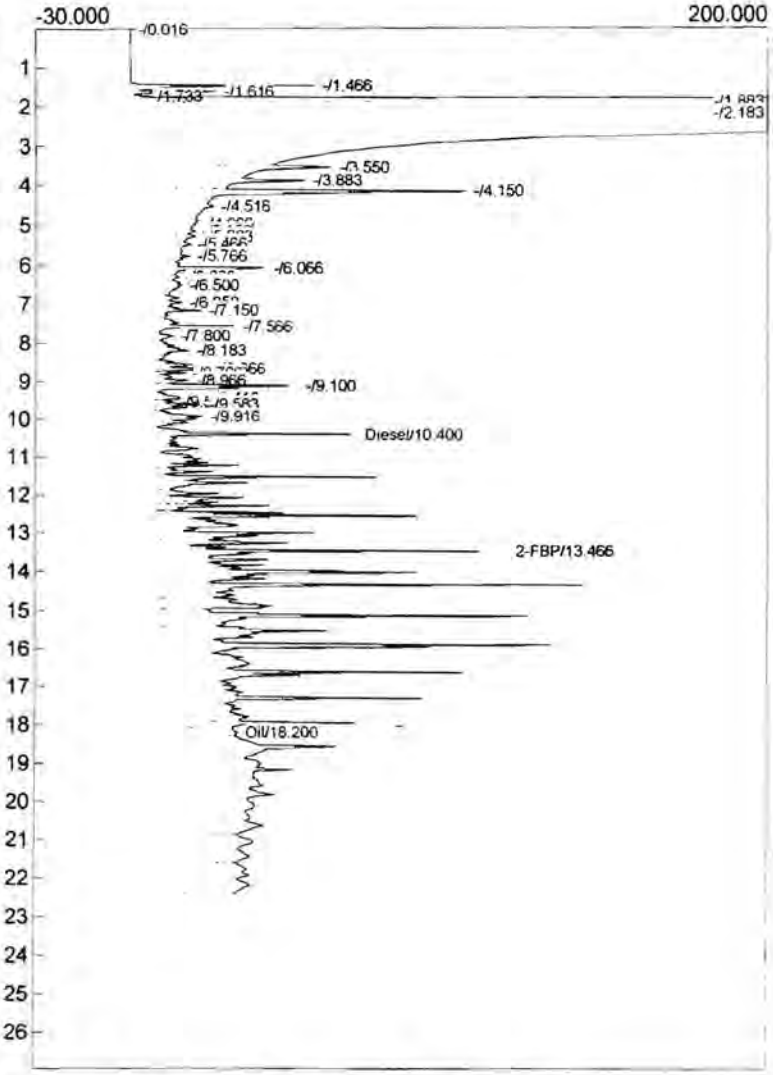
Analysis date: 09/27/2012 14:48:44
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D209.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

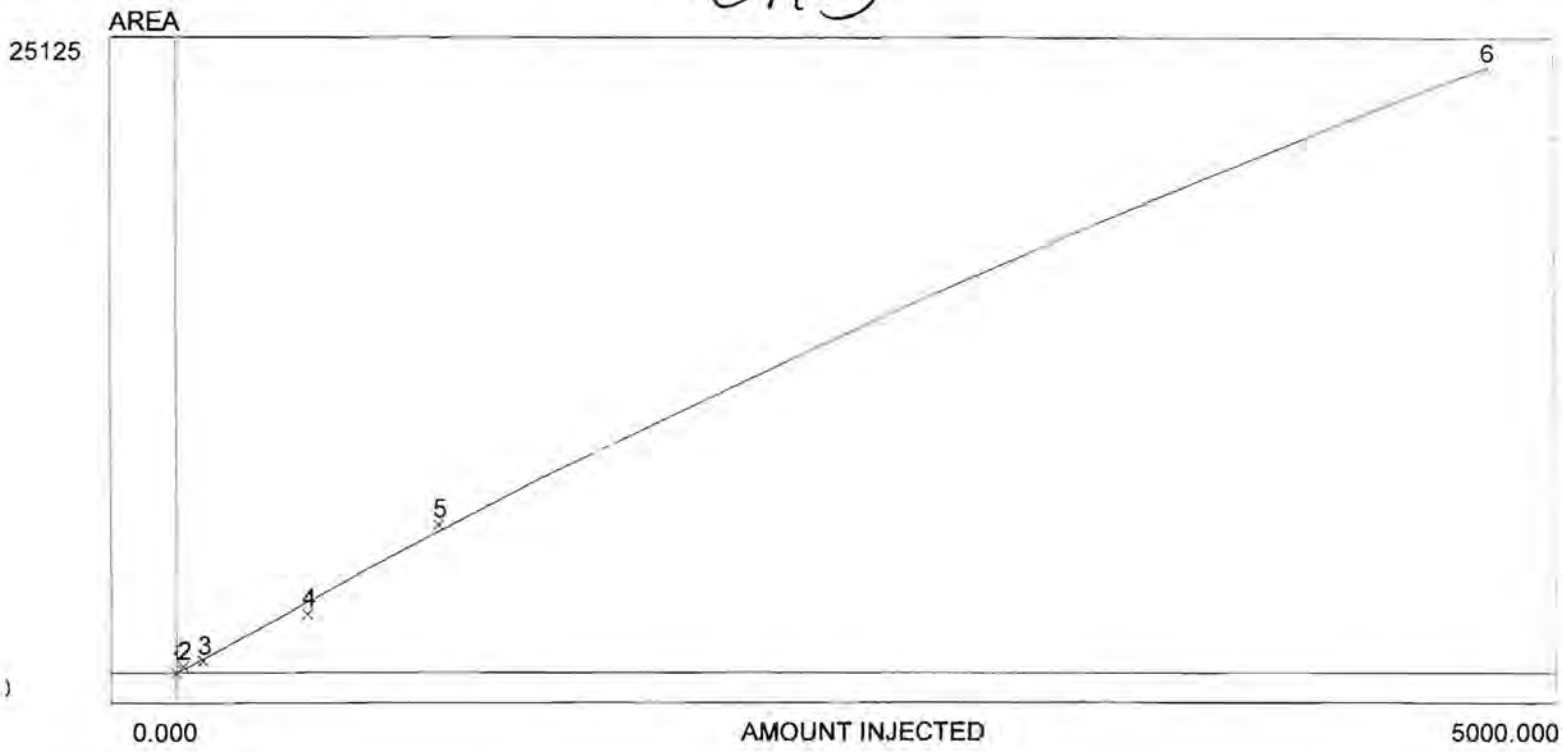
Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.400	10522.1145	63.062	559.1403	ppm
2-FBP	13.466	546.5800	109.007	18.2193	ppm
Oil	18.200	6432.0270	21.990	340.6107	ppm
		17500.7215		917.9704	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

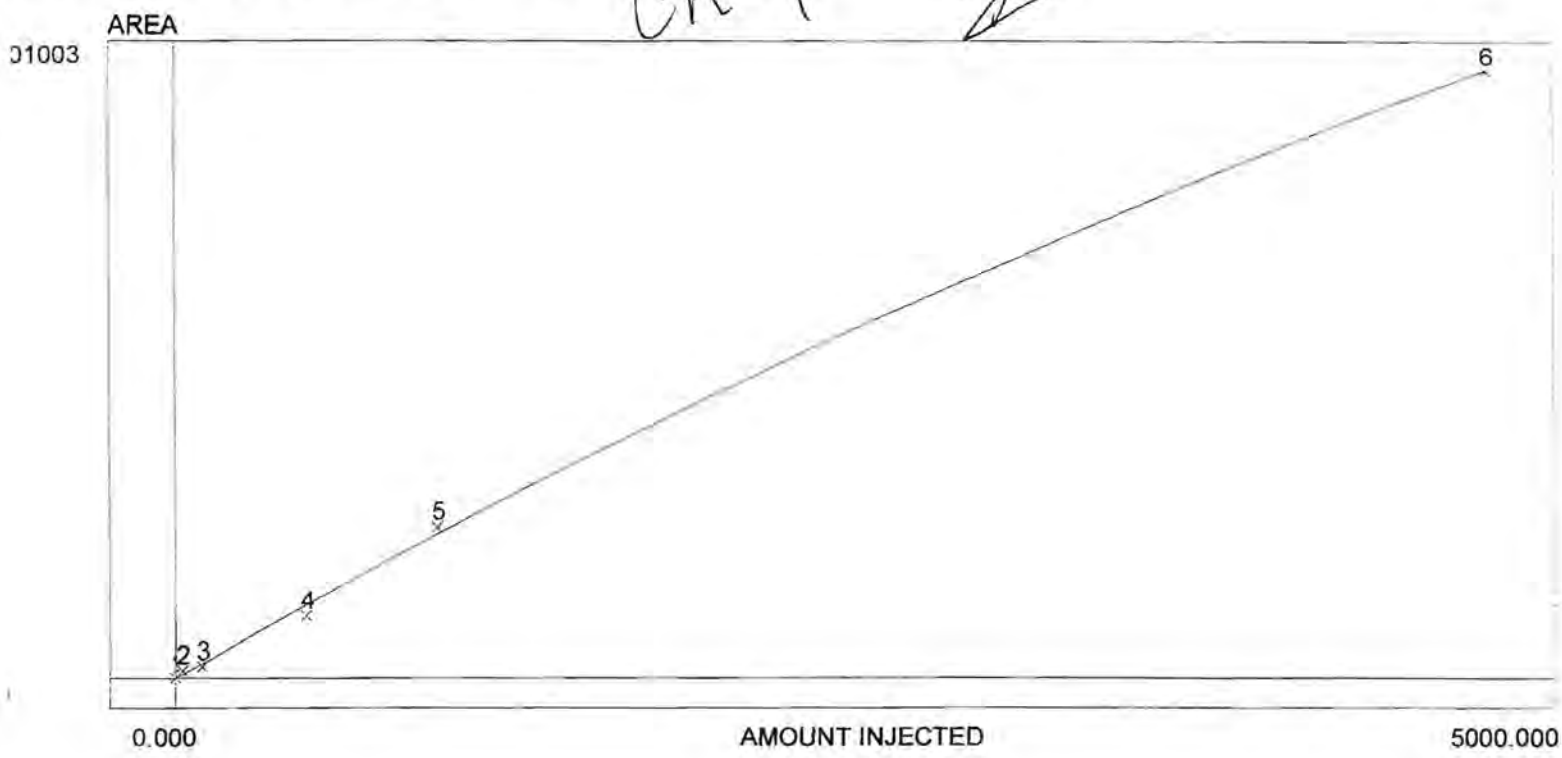


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X^a+29.3544X
R2: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1410.471	25.000	56.419	1410.471	N/A	N/A
3	2574.179	100.000	25.742	2574.179	N/A	N/A
4	12043.265	500.000	24.087	12043.265	N/A	N/A
5	29871.863	1000.000	29.872	29871.863	N/A	N/A
6	125124.670	5000.000	25.025	125124.670	N/A	N/A

alibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

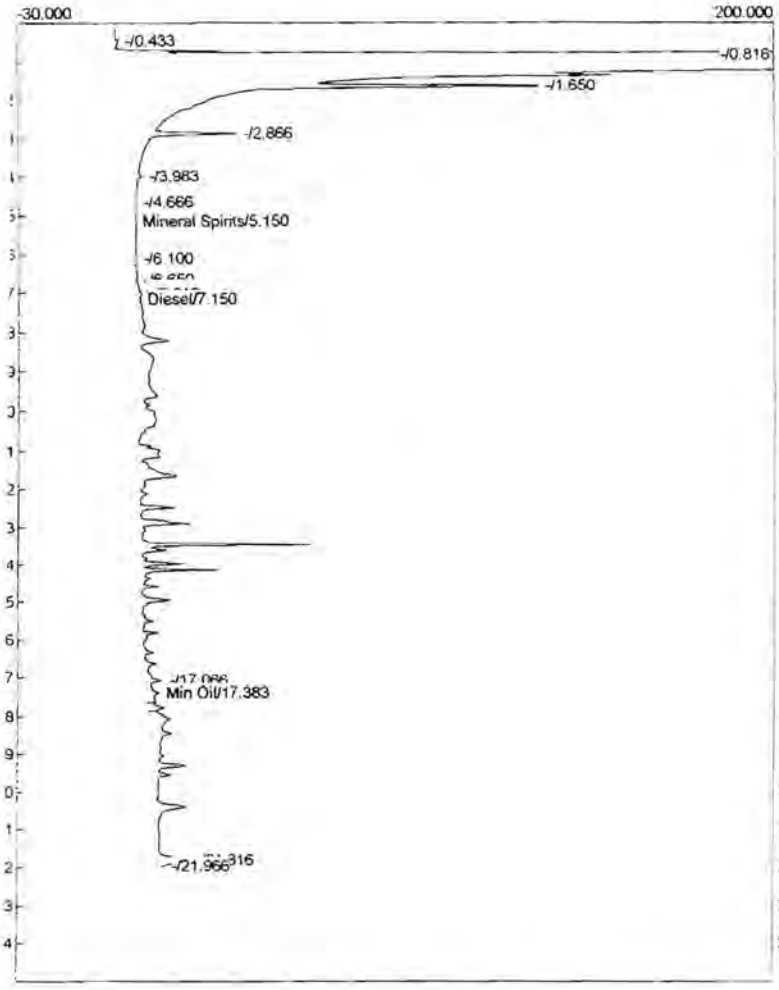
Ch 4 Z



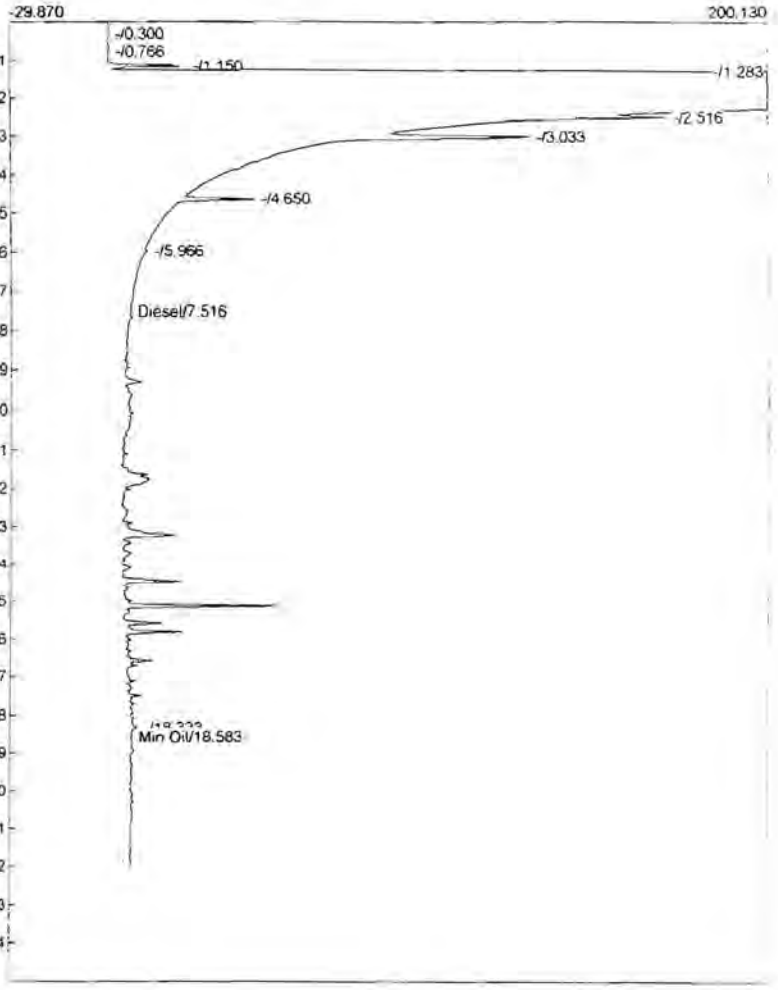
\vg slope of curve: 20.21
'-axis intercept: 0.00
.ineanity: 0.84
lumber of levels: 6
;D/rel SD of CF's: 16.3/72.6
'=-0.0008X^a+24.2883X
2: 0.9993
.ast calibrated: Wed Mar 14 13:57:45 2012

vl. Area/ht.	Amount	CF	Current	Previous #1	Previous #2
0.000	0.000	0.000	0.000	N/A	N/A
1271.716	25.000	50.869	1271.716	N/A	N/A
1927.394	100.000	19.274	1927.394	N/A	N/A
10086.605	500.000	20.173	10086.605	N/A	N/A
24554.042	1000.000	24.554	24554.042	N/A	N/A
101002.720	5000.000	20.201	101002.720	N/A	N/A

Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



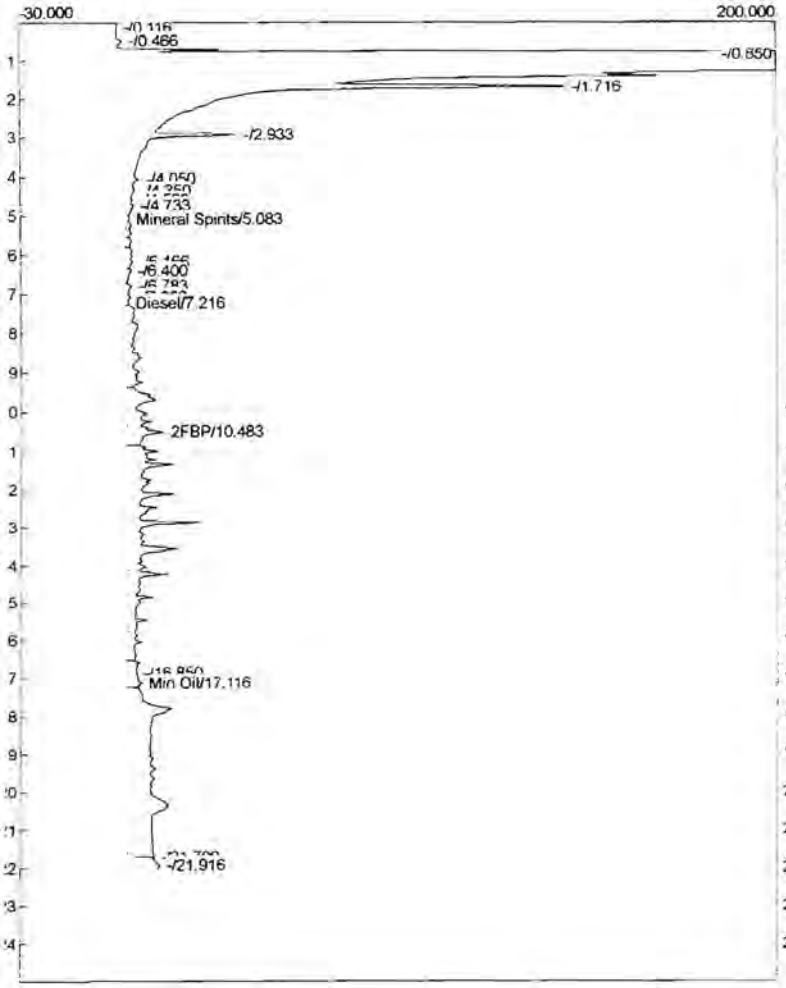
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



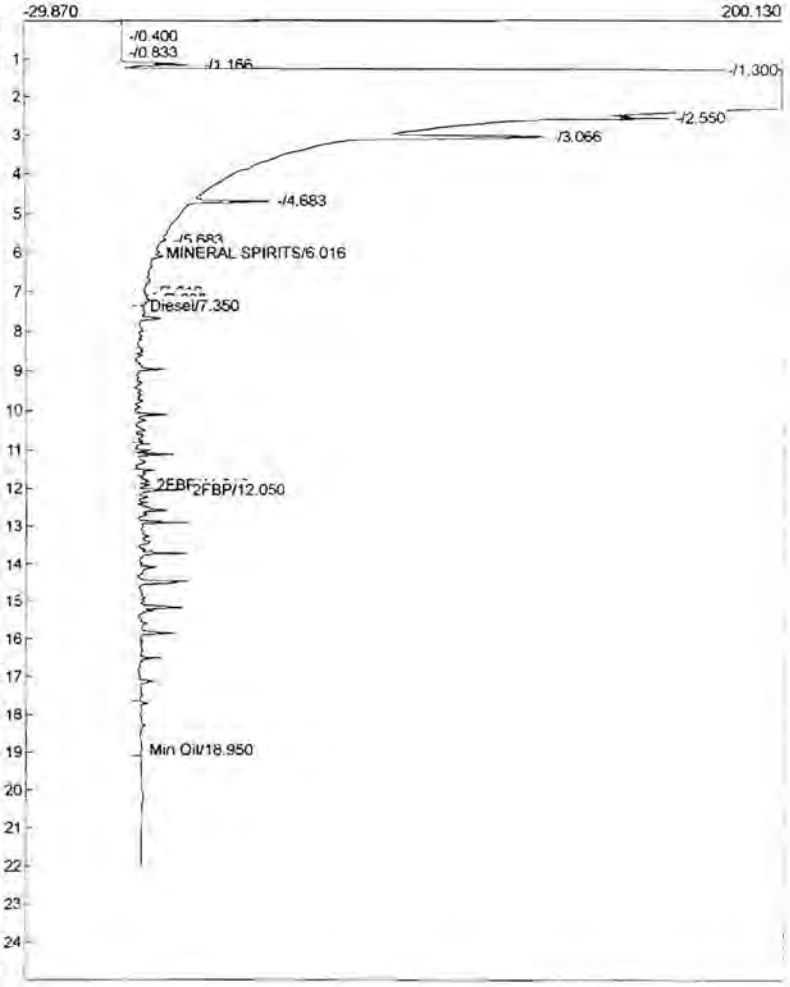
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPM
Diesel	7.150	1410.4710	0.518	13.6936	ppm
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppm
Min Oil	18.583	209.2665	1.582	14.7689	ppm
		1480.9820		104.2662	

Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



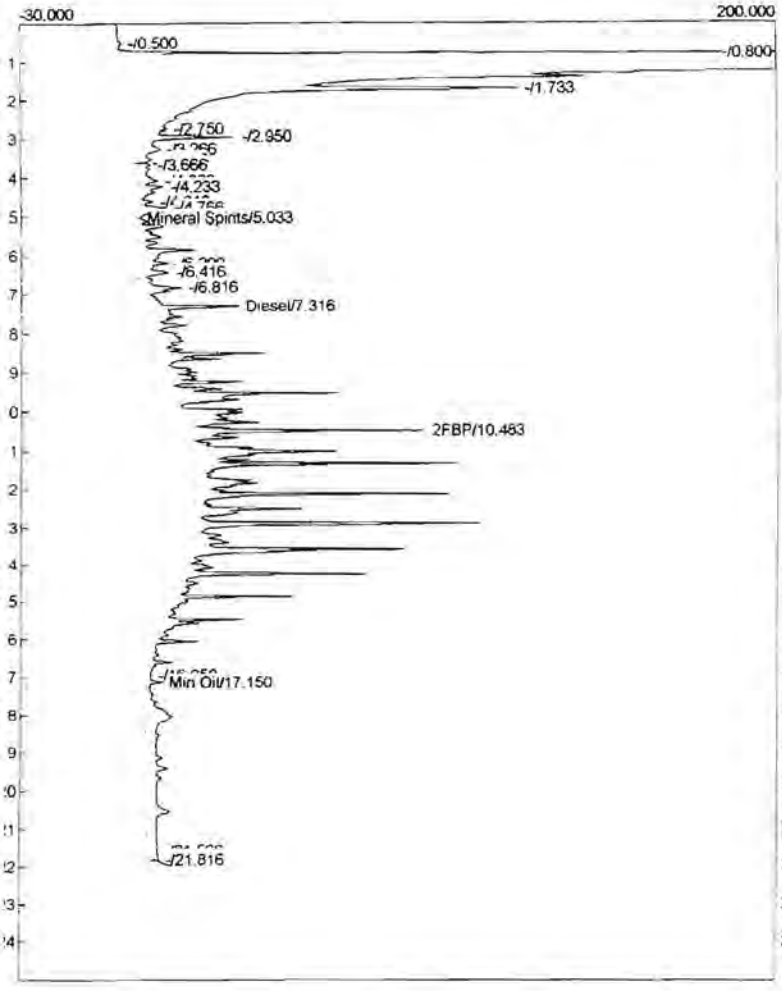
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

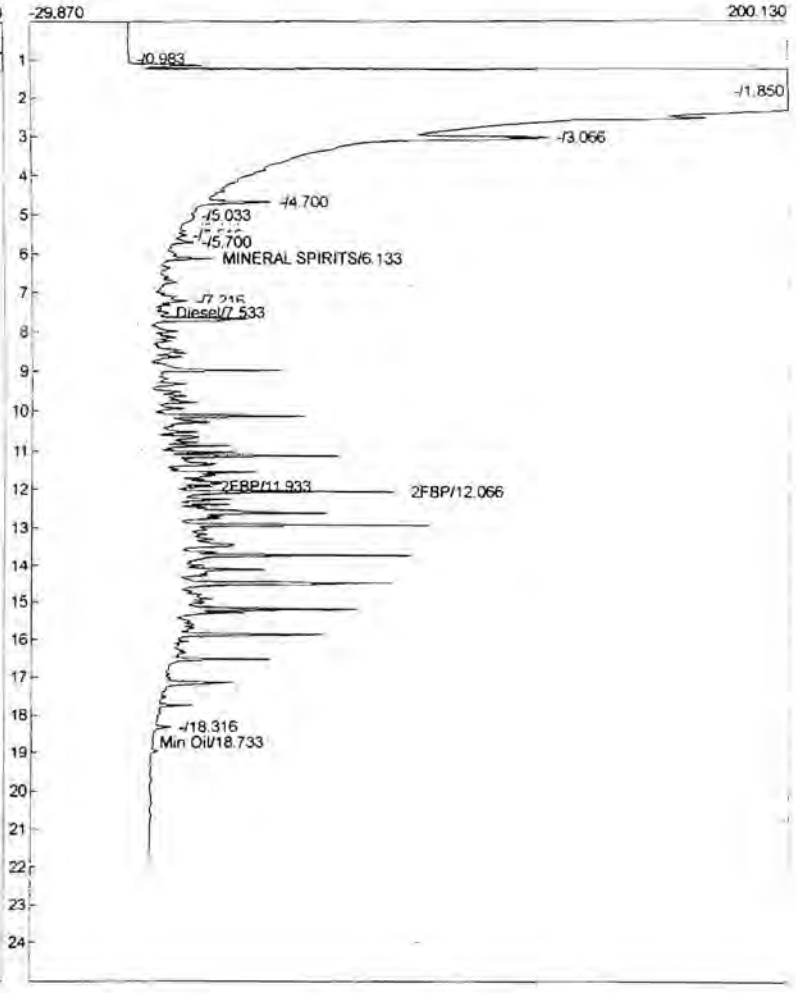
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	
		13327.5880		605.4694	

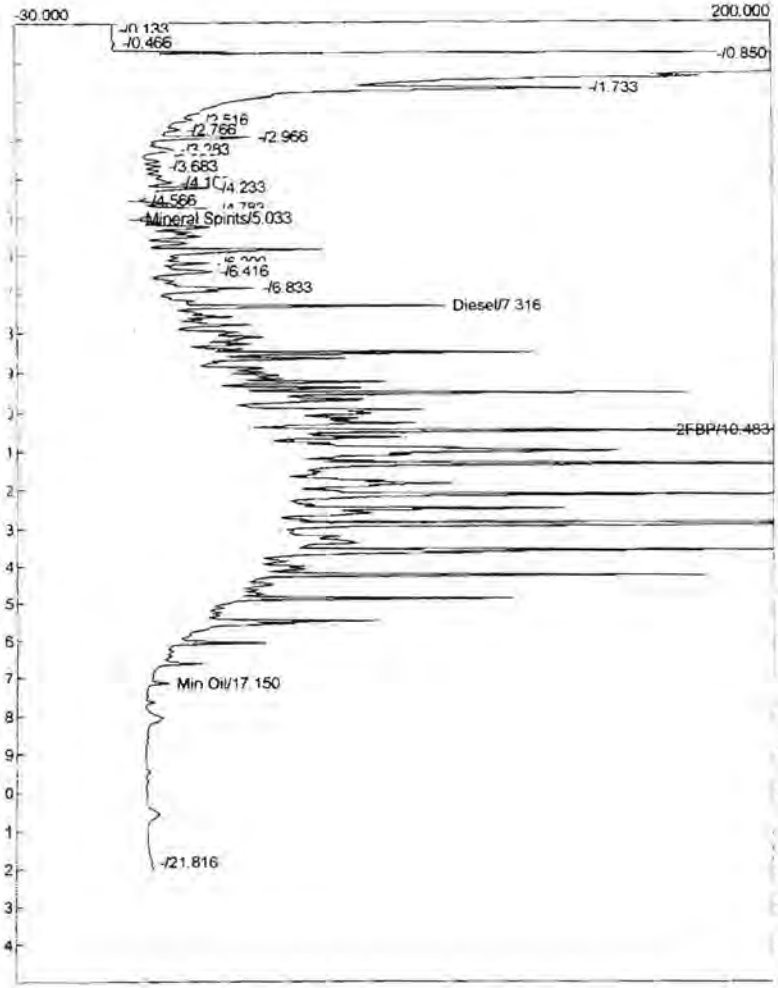
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW

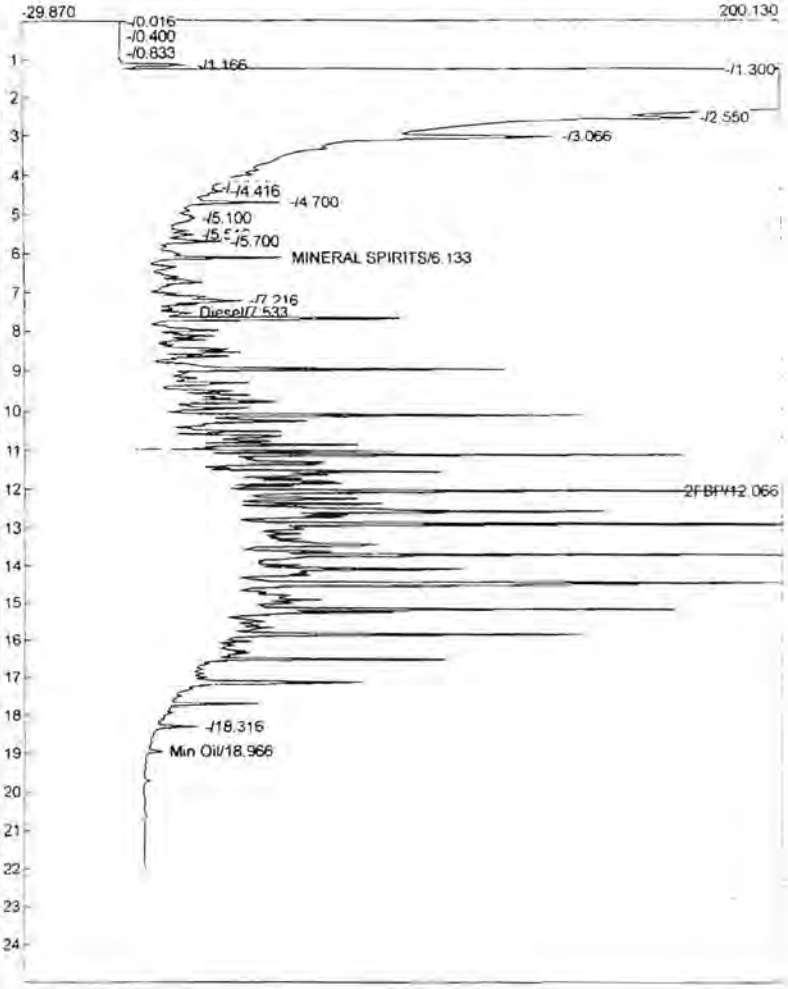


Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

nalysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

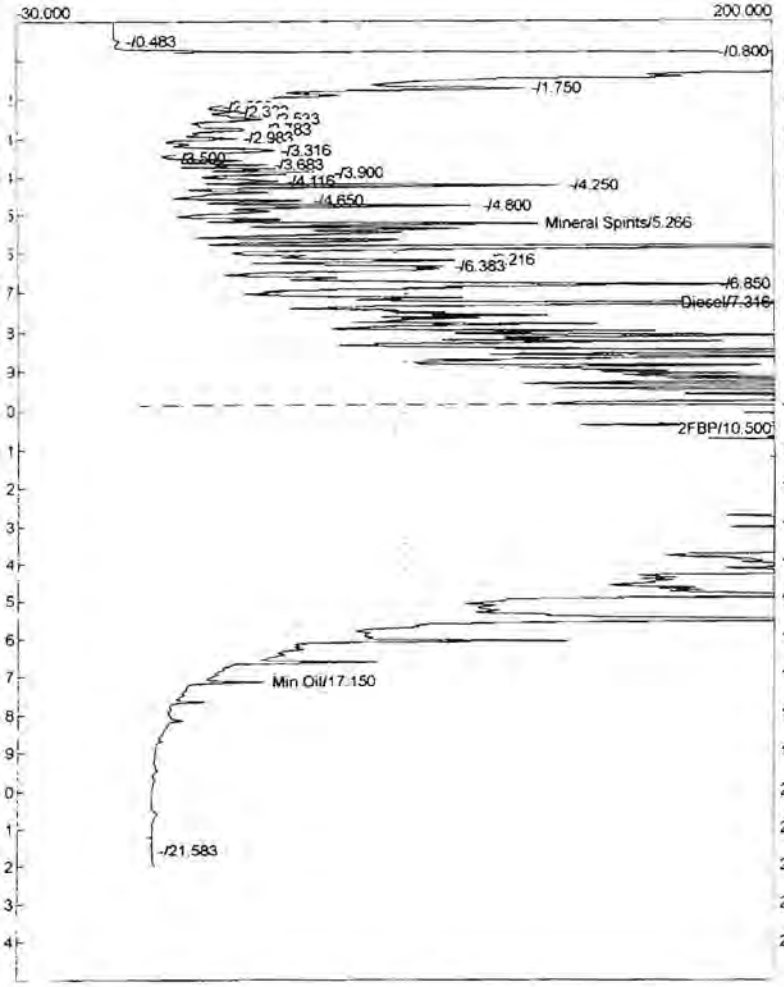




Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

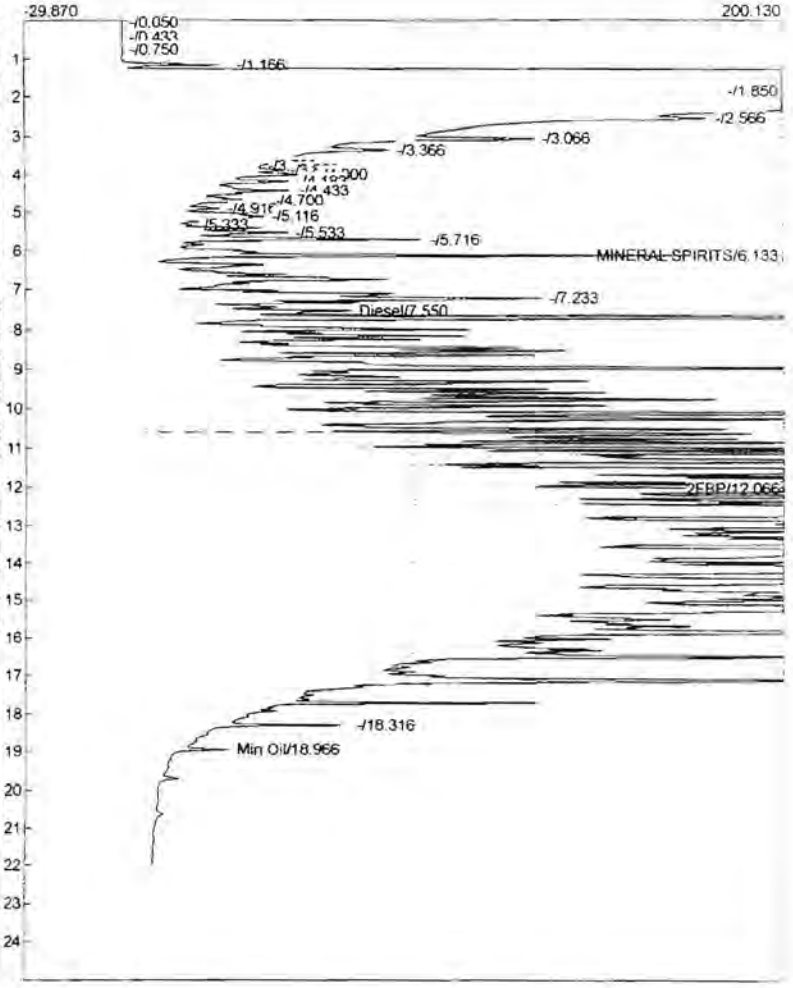
Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW



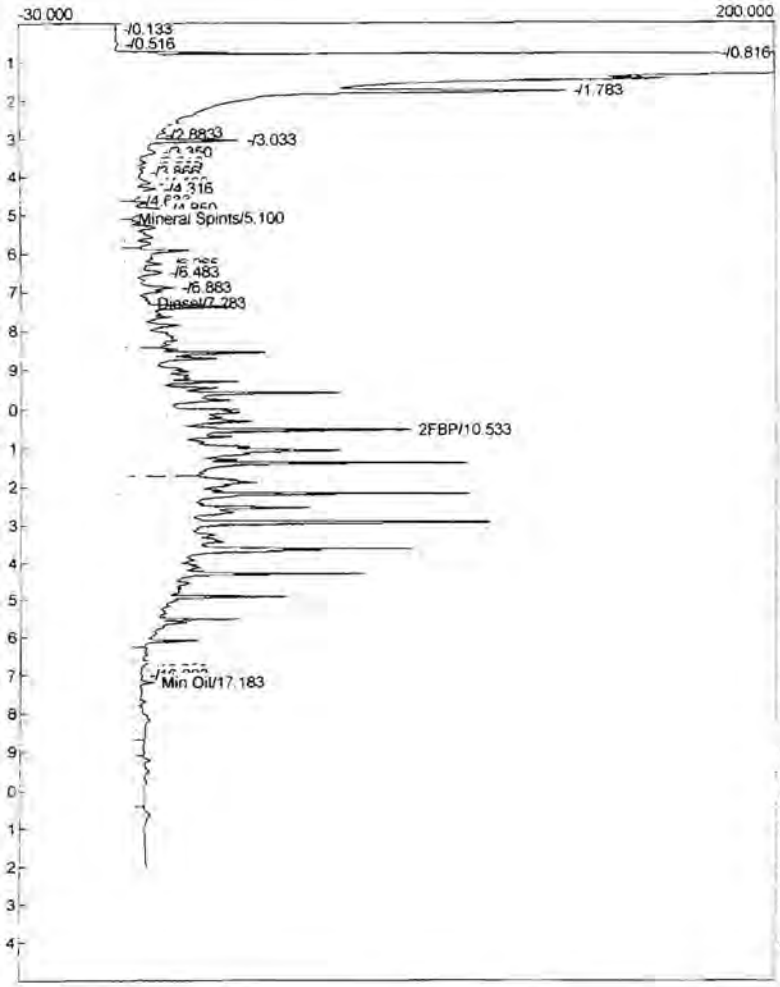
Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

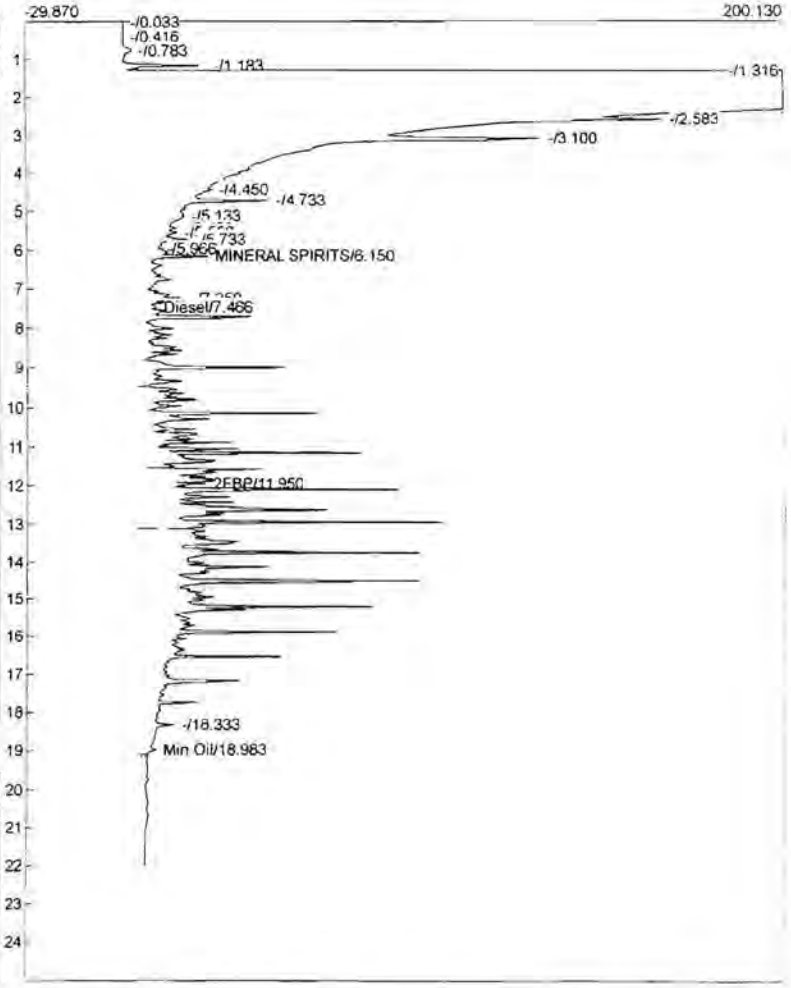


UnComponent	Retention	Area	Height	External	I
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units	Component	Retention	Area	Height	External	U
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPM	MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPM
Diesel	7.283	12055.9145	7.302	415.8831	ppm	Diesel	7.466	9633.4975	5.799	402.0800	ppm
2FBP	10.533	706.7050	85.875	28.2682	ppm	2FBP	11.950	98.4805	20.159	4.9240	ppm
Min Oil	17.183	642.7165	6.075	0.0000		Min Oil	18.983	249.4535	4.581	17.6050	ppm
		13859.6135		466.6252				10413.3785		455.0074	

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209173

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 4 sample(s) on 9/27/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209173

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209173-001	IRZ-B1-92712	09/27/2012 8:45 AM	09/27/2012 12:54 PM
1209173-002	IRZ-ESW2-92712	09/27/2012 8:35 AM	09/27/2012 12:54 PM
1209173-003	IRZ-ESW1-92712	09/27/2012 8:30 AM	09/27/2012 12:54 PM
1209173-004	IRZ-ESW3-92712	09/27/2012 8:45 AM	09/27/2012 12:54 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209173**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209173**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/27/2012 8:30:00 AM

Project: Irondale

Lab ID: 1209173-003 **Matrix:** Soil

Client Sample ID: IRZ-ESW1-92712

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	52.6		µg/Kg-dry	1	10/12/2012 7:04:00 AM
Benzo(a)pyrene	ND	52.6		µg/Kg-dry	1	10/12/2012 7:04:00 AM
2,4-Dimethylphenol	ND	30.5		µg/Kg-dry	1	10/12/2012 7:04:00 AM
Surr: 2-Fluorobiphenyl	100	50.4-142		%REC	1	10/12/2012 7:04:00 AM
Surr: Phenol-d6	92.4	48.2-143		%REC	1	10/12/2012 7:04:00 AM
Surr: Terphenyl-d14 (surr)	106	48.8-157		%REC	1	10/12/2012 7:04:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There was a detection above the MDL (9.89 ug/kg) of 11.9 ug/kg.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	21.7			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209173
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3307**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICB**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121769**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3307**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICV**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121770**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,020	50.0	1,000	0	102	80	120				
Benzo(a)pyrene	995	50.0	1,000	0	99.5	80	120				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	80	120				
Surr: 2-Fluorobiphenyl	488		500.0		97.5	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	500		500.0		100	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209173
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCB-3307**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCB**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121773**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	498		500.0		99.5	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	497		500.0		99.4	48.8	157				

Sample ID: **MB-3307**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **MBLKS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121774**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	482		500.0		96.3	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209173
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-3307**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **LCSS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121775**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	76.1	123				
Benzo(a)pyrene	981	50.0	1,000	0	98.1	58.1	146				
2,4-Dimethylphenol	990	29.0	1,000	0	99.0	50	150				
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	1,040		1,000		104	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.2	48.8	157				

Sample ID: **1209142-001AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **BATCH**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,190	55.0	1,100	0	108	45.2	146				
Benzo(a)pyrene	1,180	55.0	1,100	0	107	34.4	179				
2,4-Dimethylphenol	1,130	31.9	1,100	0	103	50	150				
Surr: 2-Fluorobiphenyl	563		549.8		102	50.4	142				
Surr: Phenol-d6	1,090		1,100		98.7	48.2	143				
Surr: Terphenyl-d14 (surr)	567		549.8		103	48.8	157				

Sample ID: **1209173-003ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **IRZ-ESW1-92712**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	57.7						0	0	30	
Benzo(a)pyrene	ND	57.7						0	0	30	R
2,4-Dimethylphenol	ND	33.5						0	0	30	
Surr: 2-Fluorobiphenyl	603		577.0		104	50.4	142		0		
Surr: Phenol-d6	1,210		1,154		105	48.2	143		0		
Surr: Terphenyl-d14 (surr)	638		577.0		111	48.8	157		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209173
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209173-003ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **9/28/2012** RunNo: **6129**
Client ID: **IRZ-ESW1-92712** Batch ID: **3307** Analysis Date: **10/12/2012** SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There was a detection above the MDL (10.9 ug/kg) of 13.9 ug/kg.
R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209173**
Logged by: **Clare Griggs**	Date Received: **9/27/2012 12:54:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples received straight from the field.						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Samples recevied approx 4 hrs from collection						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA	☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☐	No	☑		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

120973

I011

Date: 9/27/12 Page: 1 of

Client: GeoEngineers

Project Manager: Neil Morton

Address: 1101 S. Fawcett Ave. Ste 200, Tacoma, WA 98402

Project Name: Irondale

Phone: 253 3834940 Fax:

Location: Irondale, WA City: Irondale, WA

Client Project # 0504-042-02

Collector: Aaron Waggoner Date of Collection: 9/27/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Notes
1 IRZ-B1-92712		0845	SED	2-4oz Jar							X							
2 IRZ-ESW2-92712		8:35	SED	2-4oz Jars							X							
3 IRZ-ESW1-92712		0830	SED	2-4oz Jars							X							
4 IRZ-ESW3-92712		0845	SED	2-4oz Jars							X							
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
	9/27/12 12:54		1254 9/27/12
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
Hold/Extract
PAHs

Distribution: White - Lab; Yellow - File; Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

1209173

I011

4139 Libby Road NE
Olympia, WA 98506
Ph. 360-352-2110
Fax: 360-352-4154

Date: 9/27/12 Page: 1 of

Client: GeoEngineers

Project Manager: Neil Morton

Address: 1101 S. Fawcett Ave. Ste 200, Tacoma, WA 98402

Project Name: Irondale

Phone: 253 3534940 Fax:

Location: Irondale, WA City: Irondale, WA

Client Project # 0504-042-02

Collector: Aaron Waggoner Date of Collection: 9/27/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ-B1-92712		0845	SED	2-4oz Jars							X	X					No Dx, change to PAH extraction and Tacoma Lg.
2 IRZ-ESW2-92712		8:35	SED	2-4oz Jars							X	X					
3 IRZ-ESW1-92712		0830	SED	2-4oz Jars							X	X					
4 IRZ-ESW3-92712		0845	SED	2-4oz Jars							X	X					
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by:	Date / Time	Received by:	Date / Time
	9/27/12 12:52		1254 9/27/12
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Hold / Extract PAHs

Distribution: White - Lab; Yellow - File Copy; Pink - Originator

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

1209173A

I011

Date: 9/27/12 Page: 1 of

Client: GeoEngineers
Address: 1101 S. Fawcett Ave. Ste 200 Tacoma, WA 98402
Phone: 253 3534790 Fax:
Client Project # 0504-042-02

Project Manager: Neil Morton
Project Name: Irondale
Location: Irondale, WA City: Irondale, WA
Collector: Aaron Waggoner Date of Collection: 9/27/12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ-B1-92712		0845	SED	2-4oz Jars							X						
2 IRZ-ESW2-92712		8:35	SED	2-4oz Jars							X						
3 IRZ-ESW1-92712		0830	SED	2-4oz Jars							X						run PAH per email 10/9/12 CG
4 IRZ-ESW3-92712		0845	SED	2-4oz Jars							X						
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/27/12 12:54	[signature]	1257 9/27/12
Relinquished by	Date / Time	Received by:	Date / Time
Relinquished by	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
Hold / Extract
PAHs

Distribution: White - Lab; Yellow - File Copy; Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

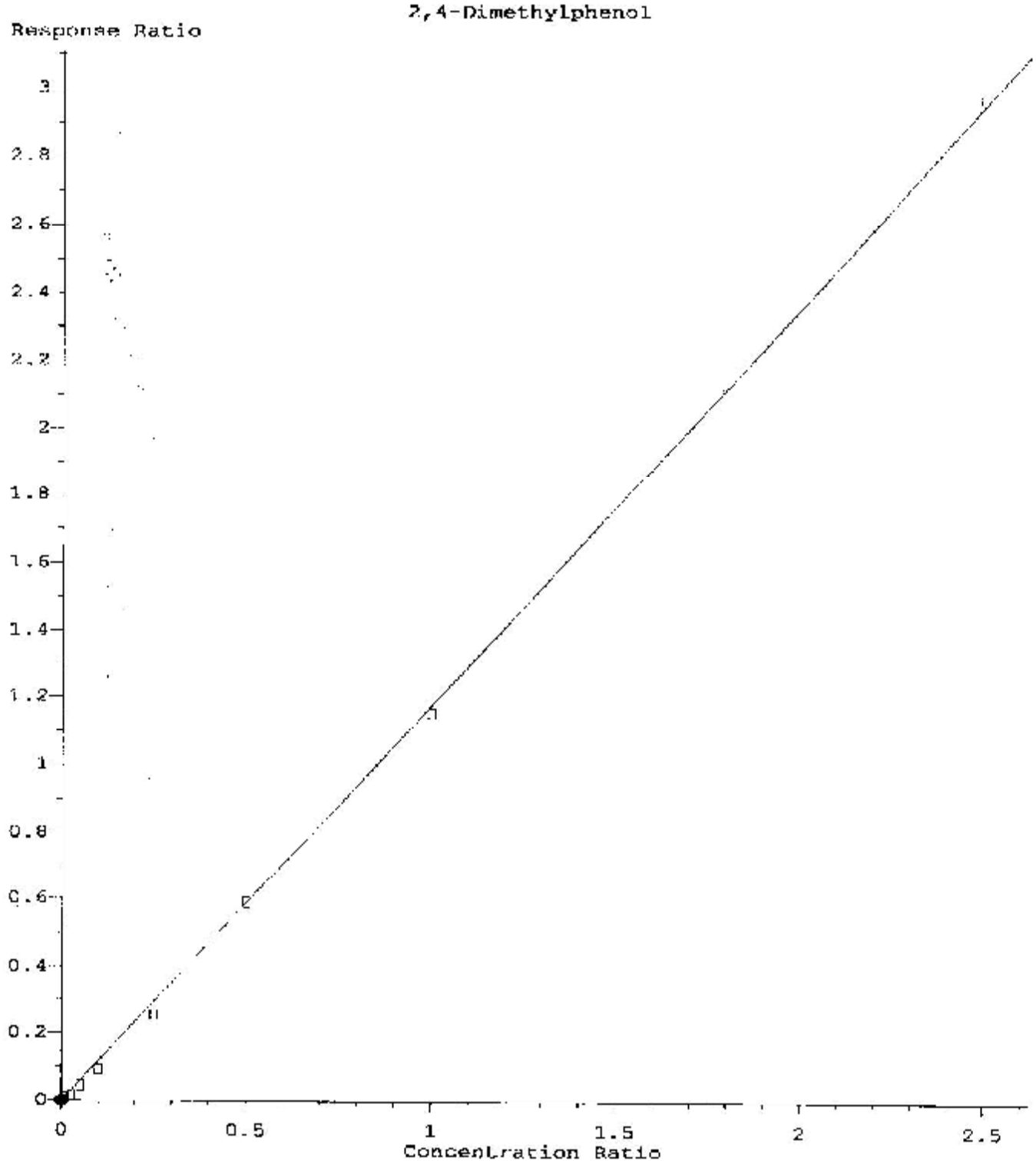
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

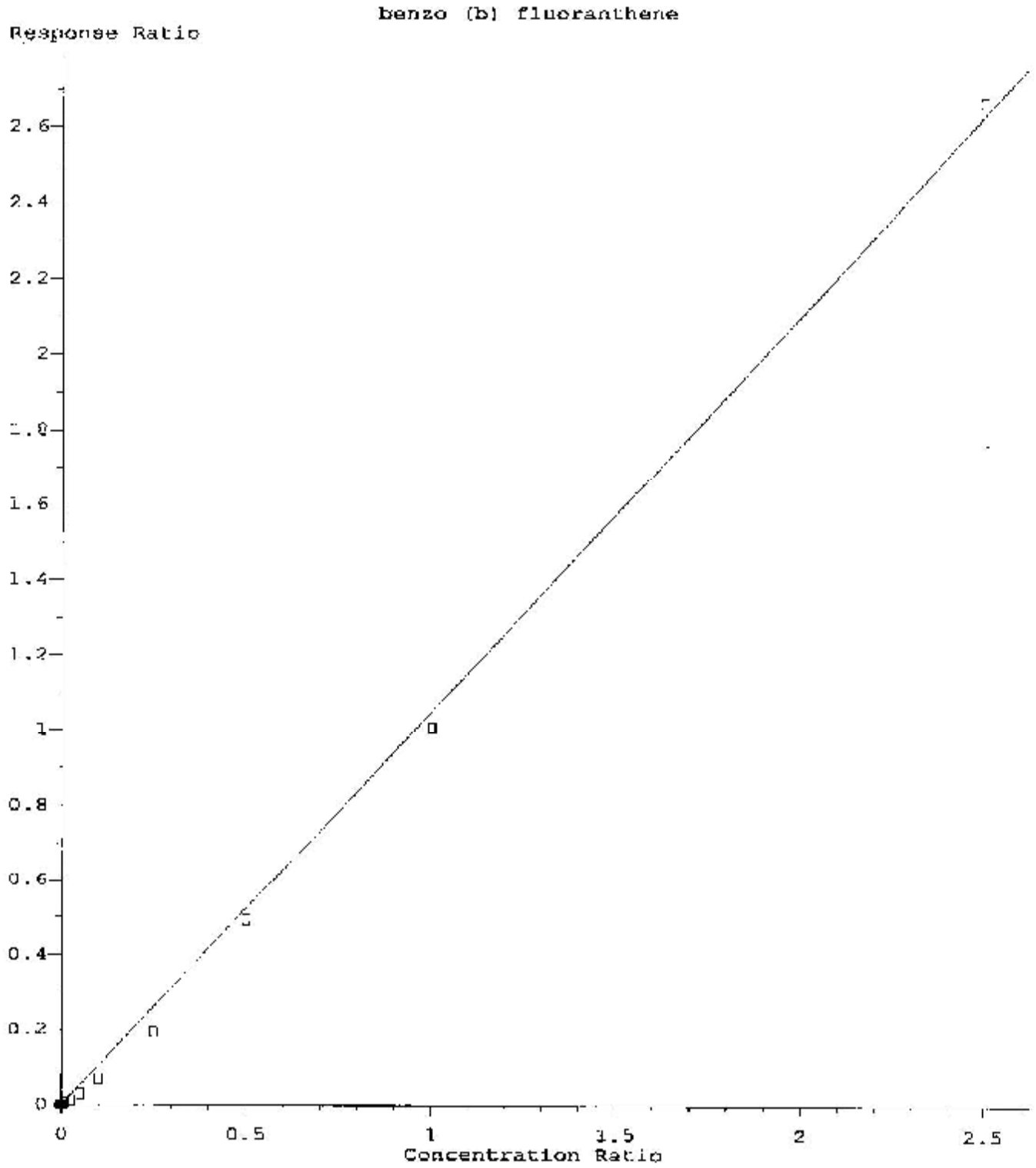
25)	I	Perylene-d12 (IS)	ISTD								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

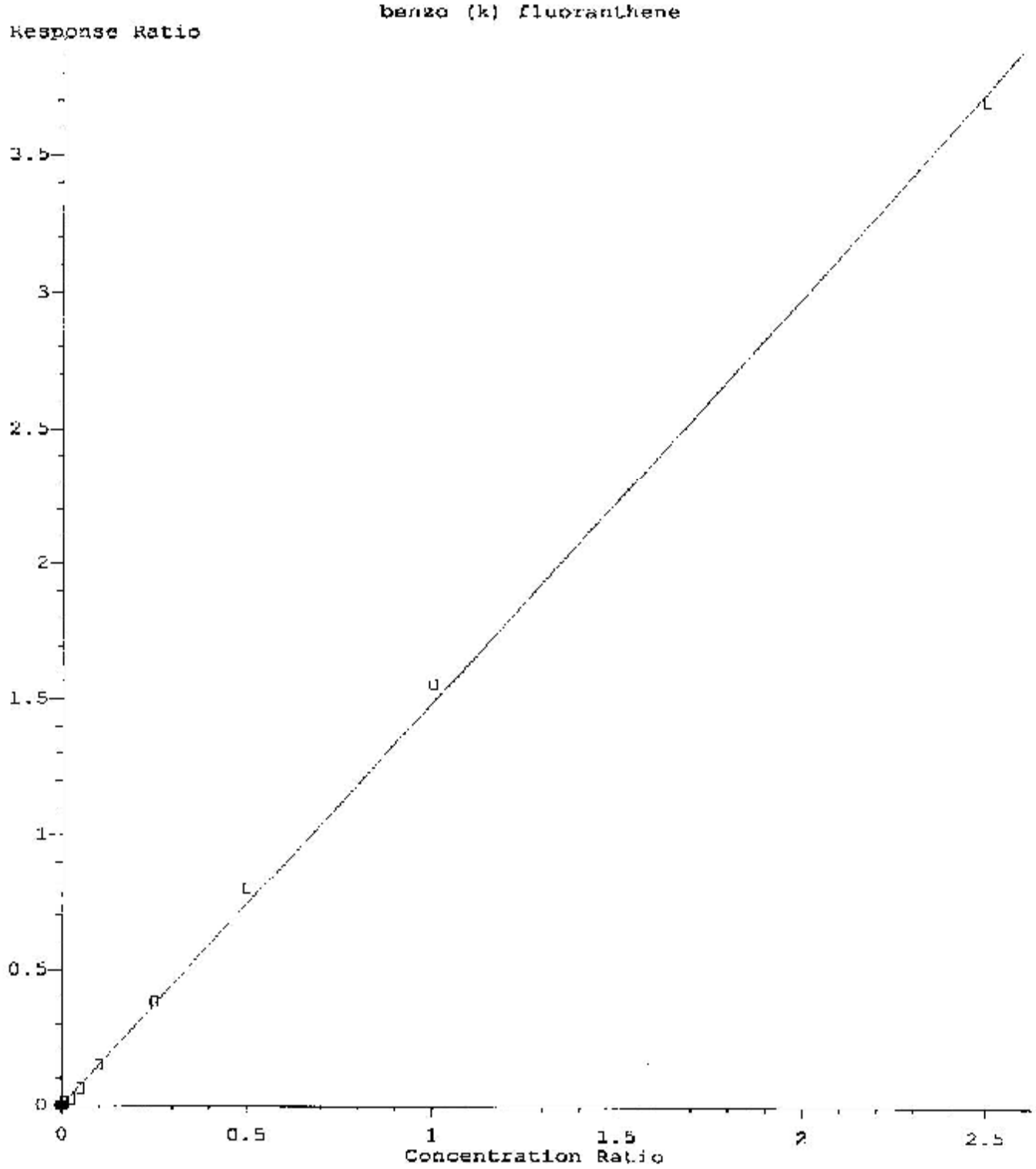
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



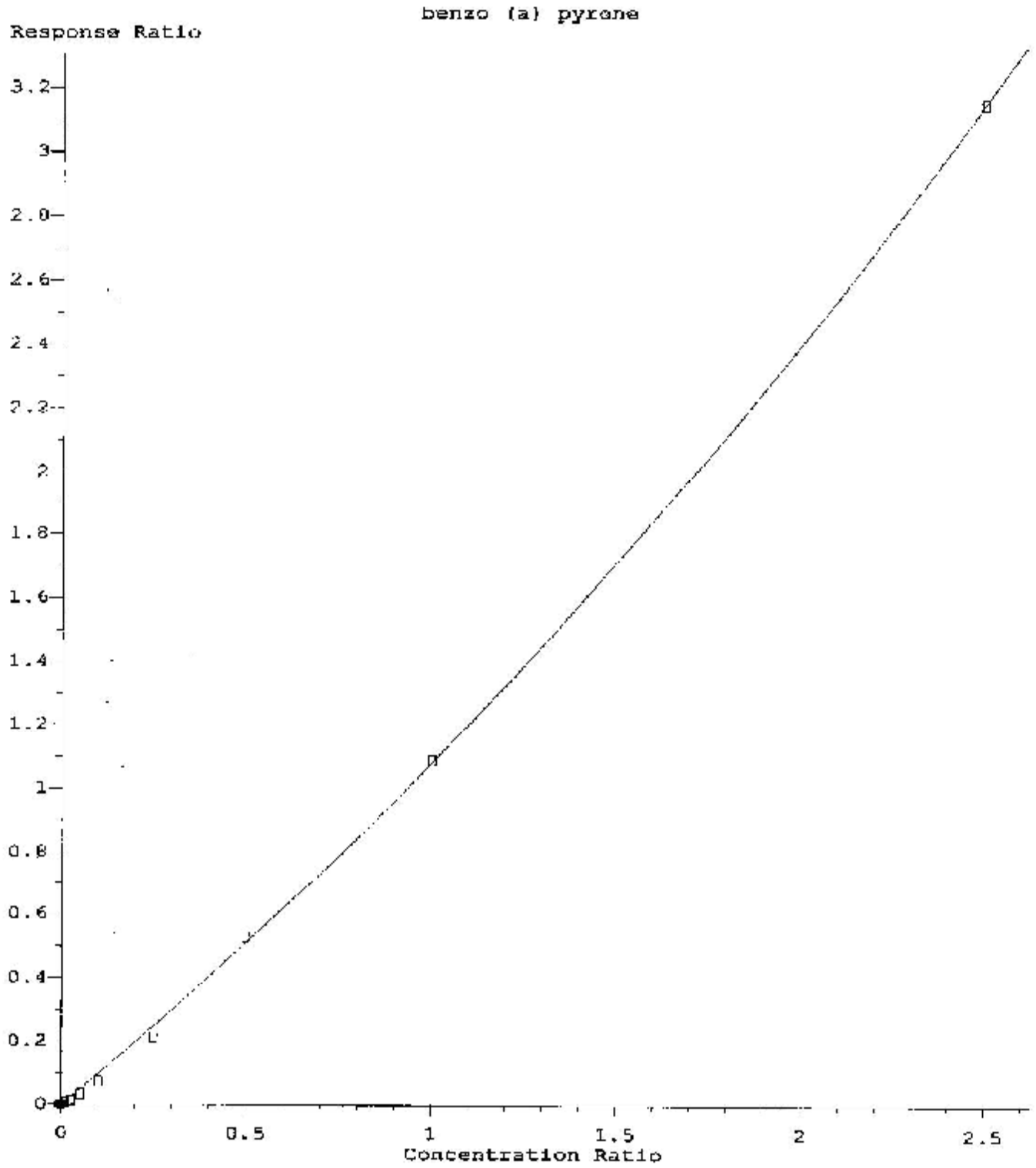
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



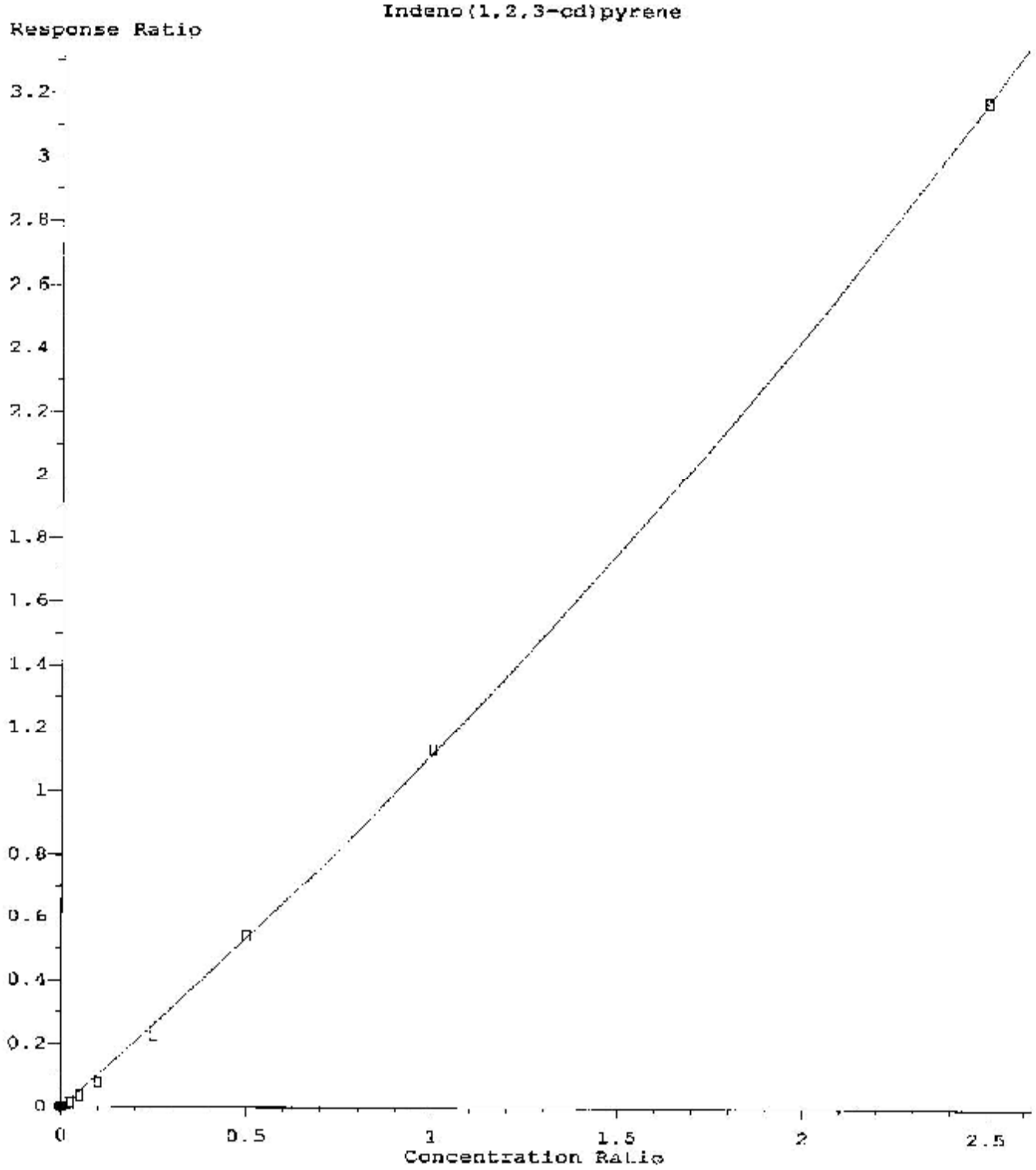
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



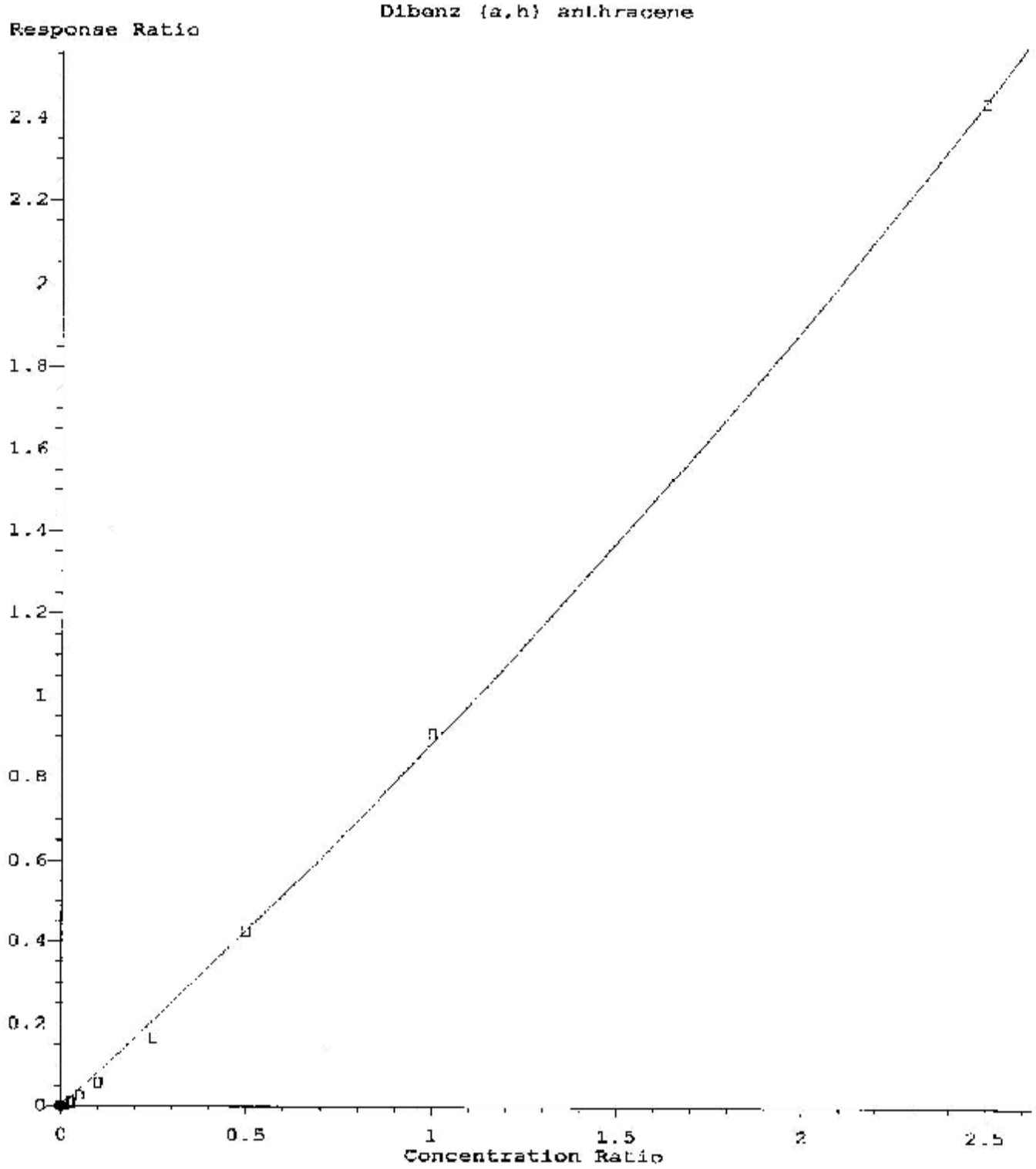
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



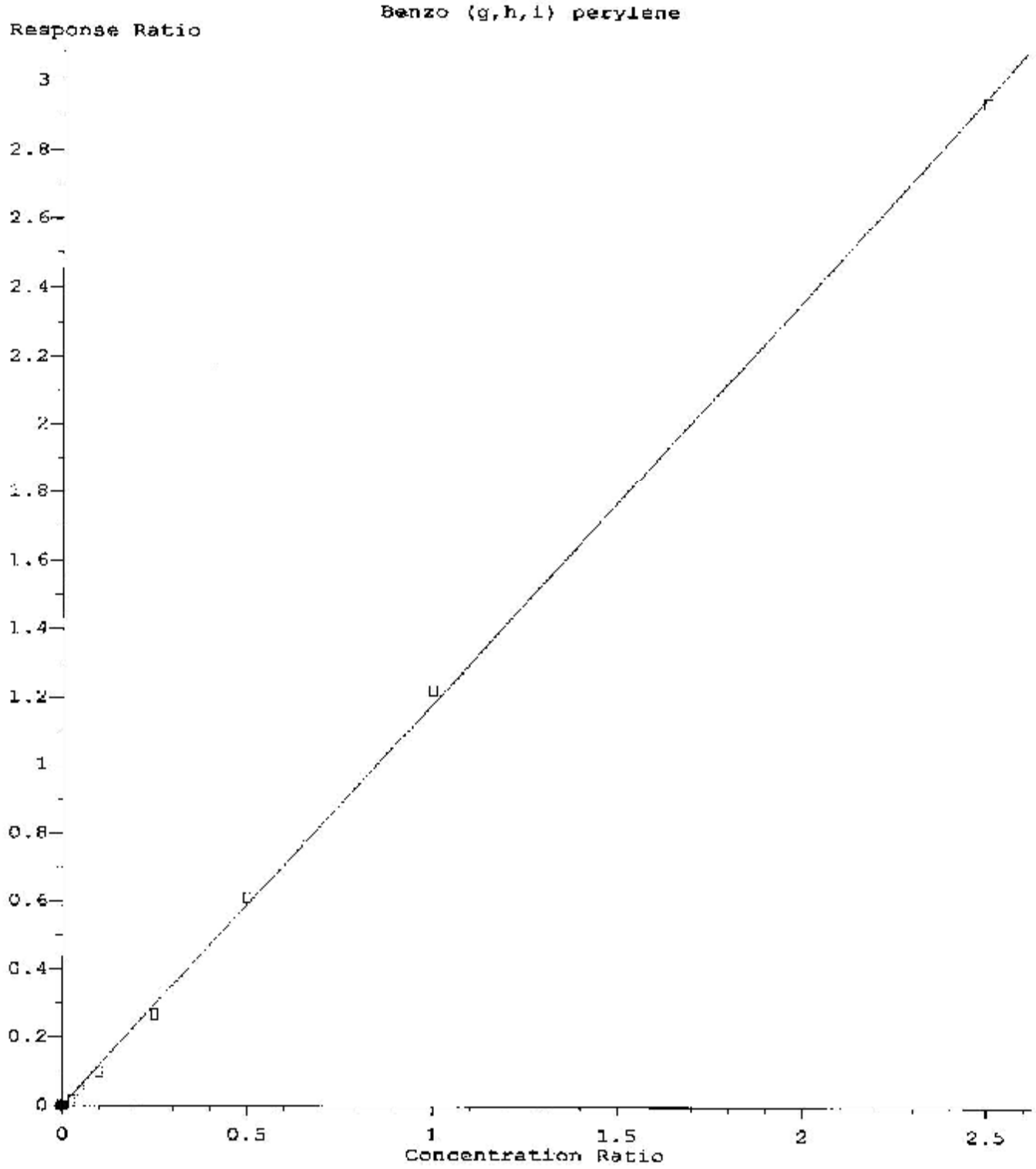
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

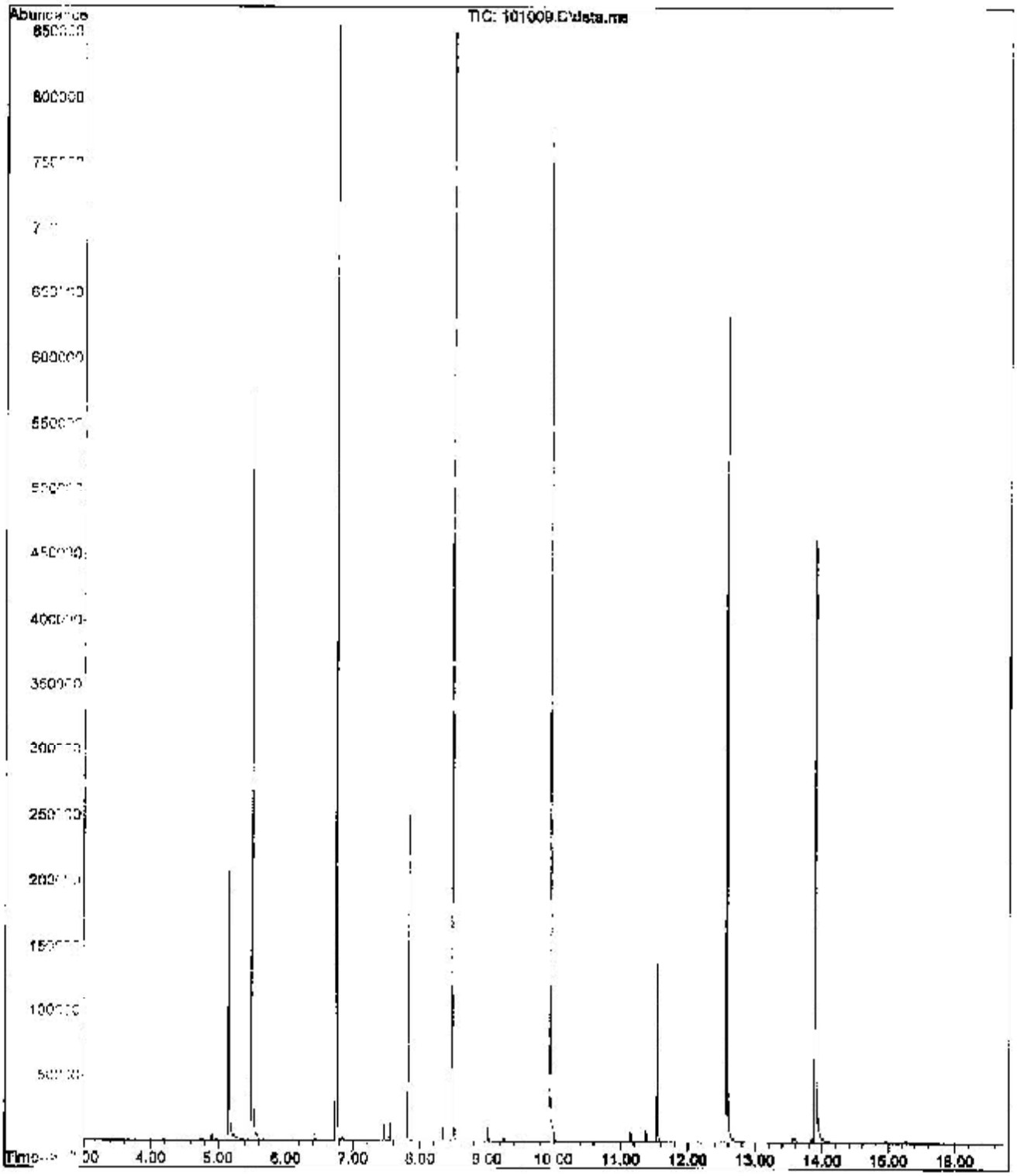
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	155780	971.54 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.430	107	1703m	13.70 ug/L		
5) Naphthalene	6.766	128	9729	22.54 ug/L		100
6) 2-Methylnaphthalene	7.455	142	5421	21.44 ug/L		100
7) 1-Methylnaphthalene	7.550	142	5172	21.59 ug/L		100
9) Acenaphthylene	8.338	152	7063	20.38 ug/L		100
11) Acenaphthene	8.508	152	2661	23.37 ug/L		99
12) Fluorene	9.021	166	5847	22.40 ug/L		97
14) Phenanthrene	9.967	178	8863	23.95 ug/L		100
15) Anthracene	10.020	178	6894	20.35 ug/L		97
17) Fluoranthene	11.145	202	6586	19.76 ug/L	#	94
18) Pyrene	11.368	202	6766	19.42 ug/L	#	85
19) Benzo (a) anthracene	12.559	228	6945	23.77 ug/L	#	100
21) Chrysene	12.592	228	8752m	25.21 ug/L		
22) benzo (b) fluoranthene	13.556	252	2936	11.32 ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	5957	16.17 ug/L		99
24) benzo (a) pyrene	13.835	252	2906	12.19 ug/L	#	52
26) Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51 ug/L		
27) Dibenz (a,h) anthracene	14.967	278	2052m	14.50 ug/L		
28) Benzo (g,h,i) perylene	15.256	276	3732m	18.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

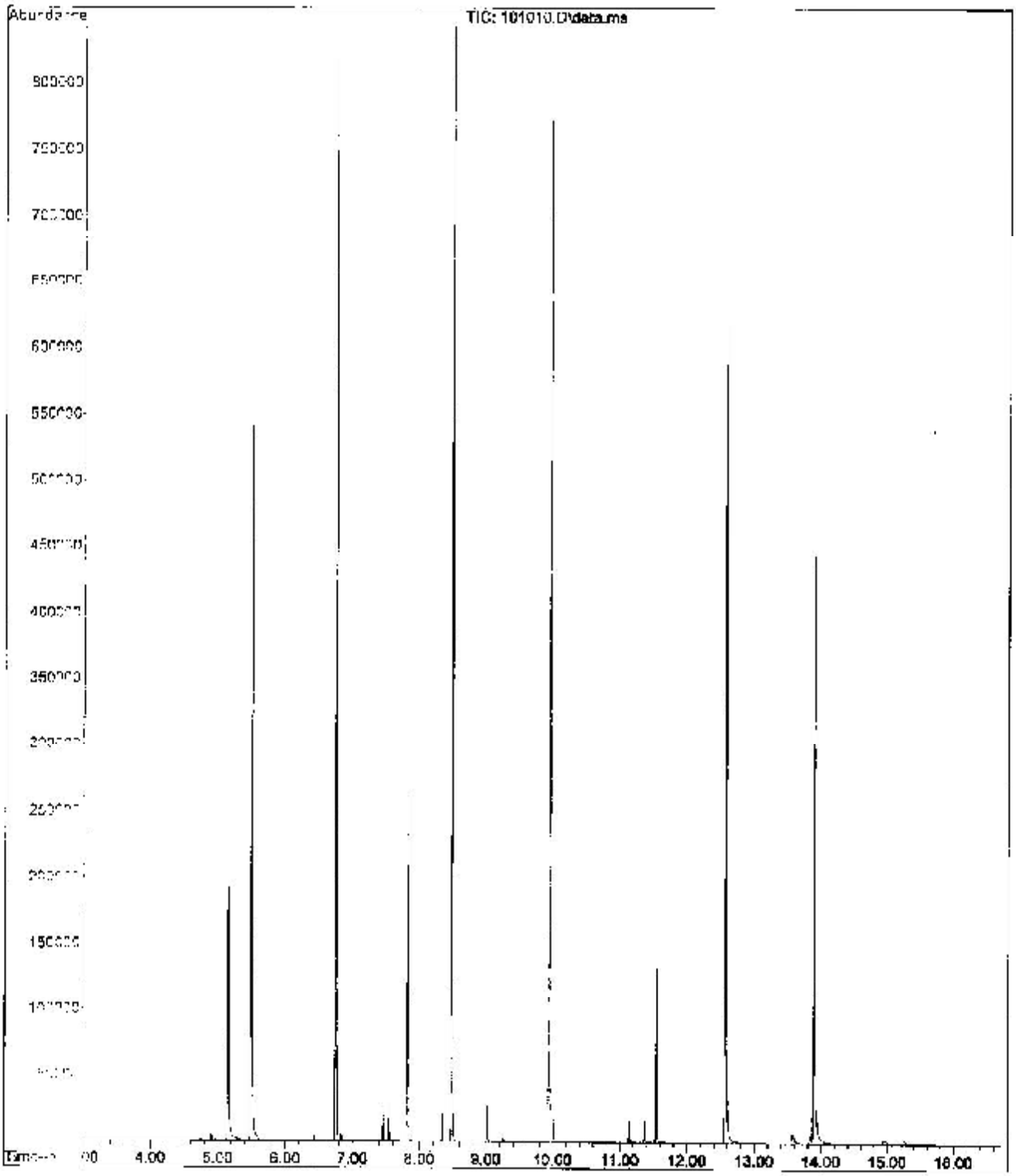
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mednchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo(a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo(b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo(k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo(a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz(a,h) anthracene	14.964	278	7702m	28.18 ug/L	
28) Benzo(g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 [illegible].M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

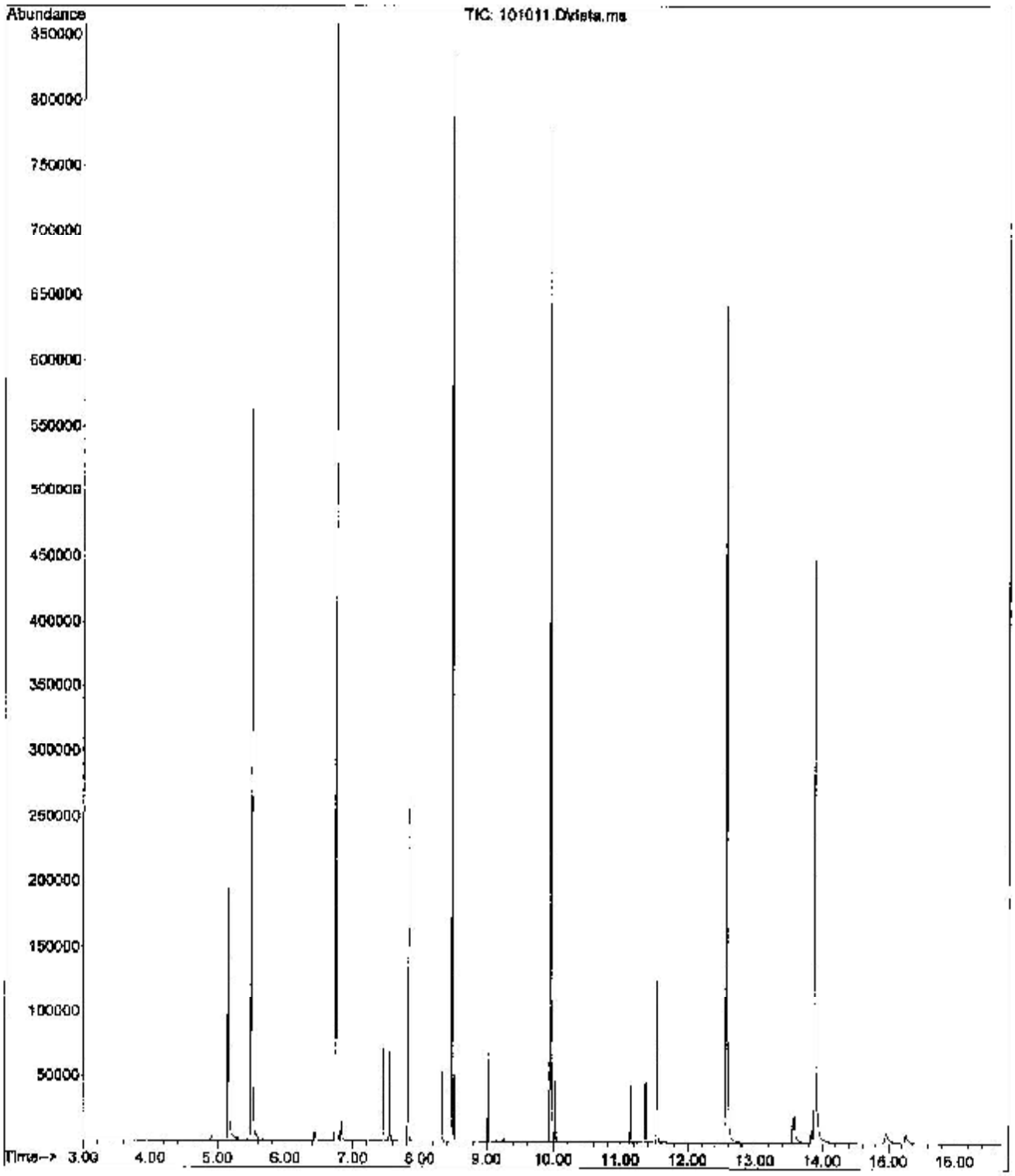
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

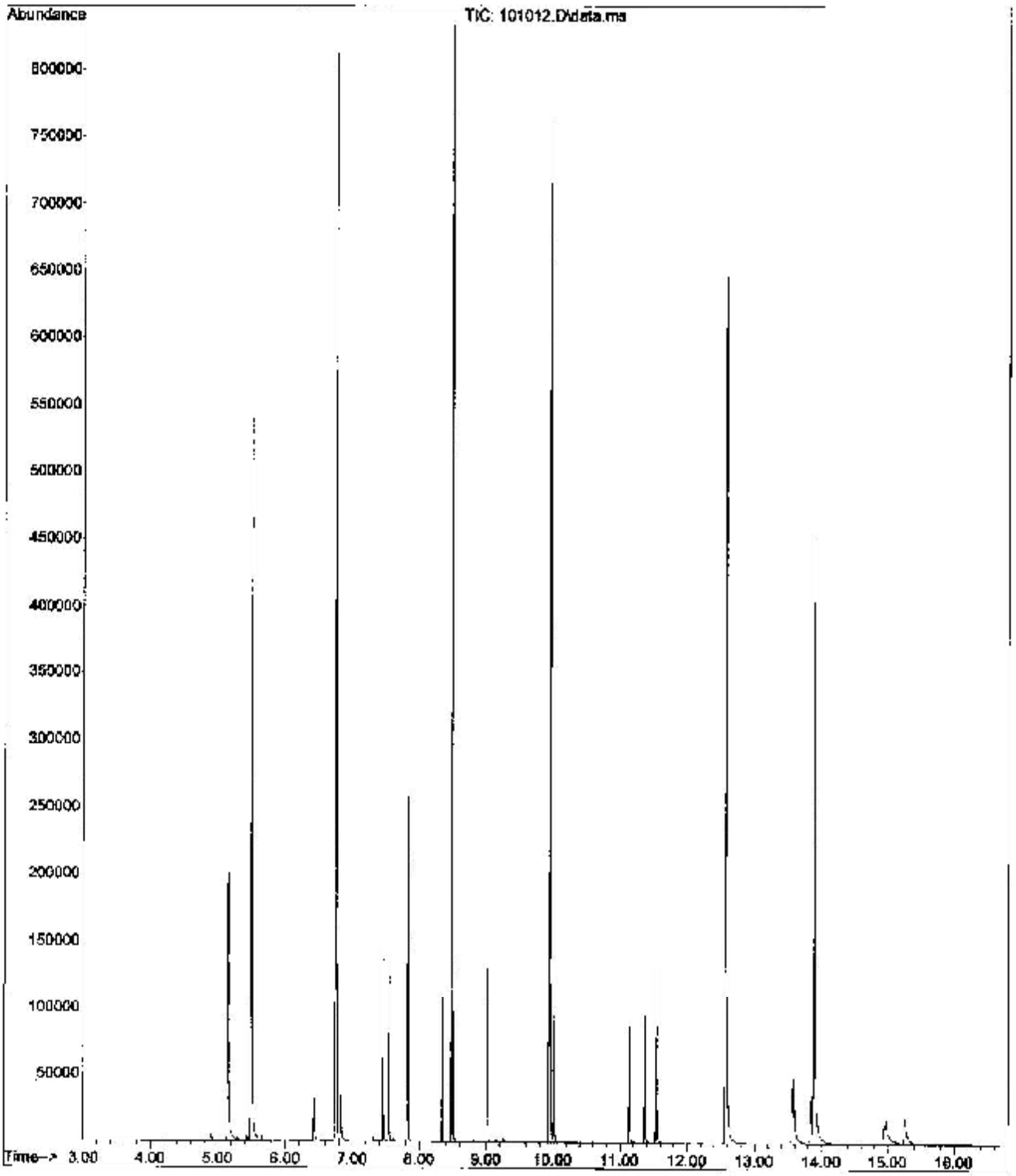
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PEB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

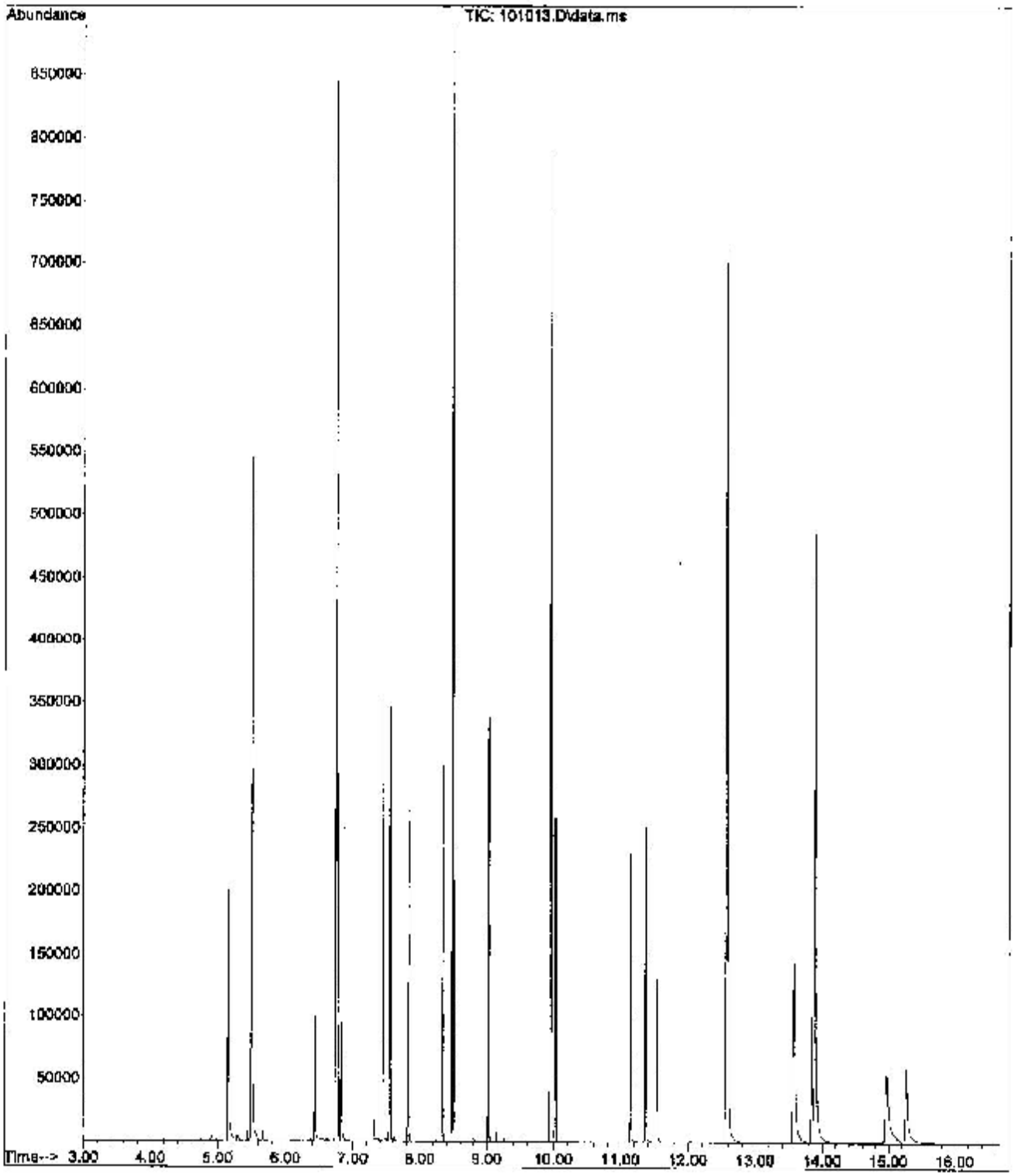
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.150	99	155773	999.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L		
5] Naphthalene	6.767	128	210515	496.23 ug/L		100
6] 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L		98
7] 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L		97
9] Acenaphthylene	8.338	152	176929	519.35 ug/L		100
11] Acenaphthene	8.509	152	56451	496.90 ug/L		99
12] Fluorene	9.022	166	132700	509.61 ug/L		97
14] Phenanthrene	9.969	178	184698	505.37 ug/L		100
15] Anthracene	10.019	178	169453	506.64 ug/L		98
17] Fluoranthene	11.146	202	171838	522.16 ug/L		95
18] Pyrene	11.360	202	181345	527.17 ug/L		94
19] Benzo (a) anthracene	12.559	228	140369	486.48 ug/L	#	100
21] Chrysene	12.593	228	176026	496.99 ug/L		95
22] benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L	#	100
23] benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L		99
24] benzo (a) pyrene	13.837	252	108063	433.23 ug/L	#	89
26] Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L		
27] Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L		
28] Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-L1BBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

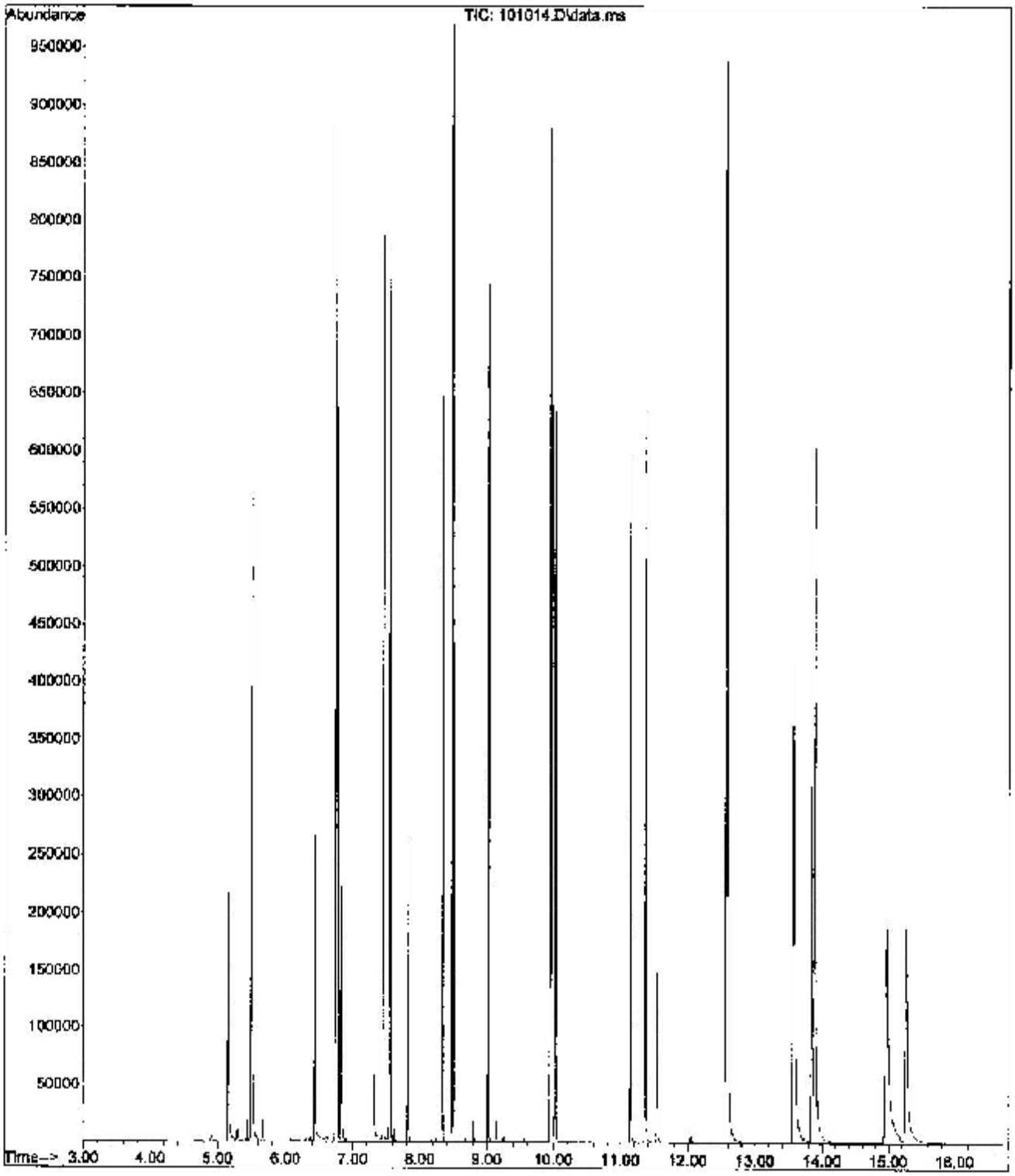
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	160048	999.62 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93 ug/L		99
5] Naphthalene	6.766	128	457822	1024.89 ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77 ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43 ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02 ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83 ug/L		99
12] Fluorene	9.021	166	299270	1047.68 ug/L		96
14] Phenanthrene	9.969	178	415711	999.13 ug/L		100
15] Anthracene	10.020	178	407576	1070.40 ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36 ug/L		95
18] Pyrene	11.369	202	458851	1171.65 ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82 ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64 ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23 ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58 ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12 ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91 ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50 ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

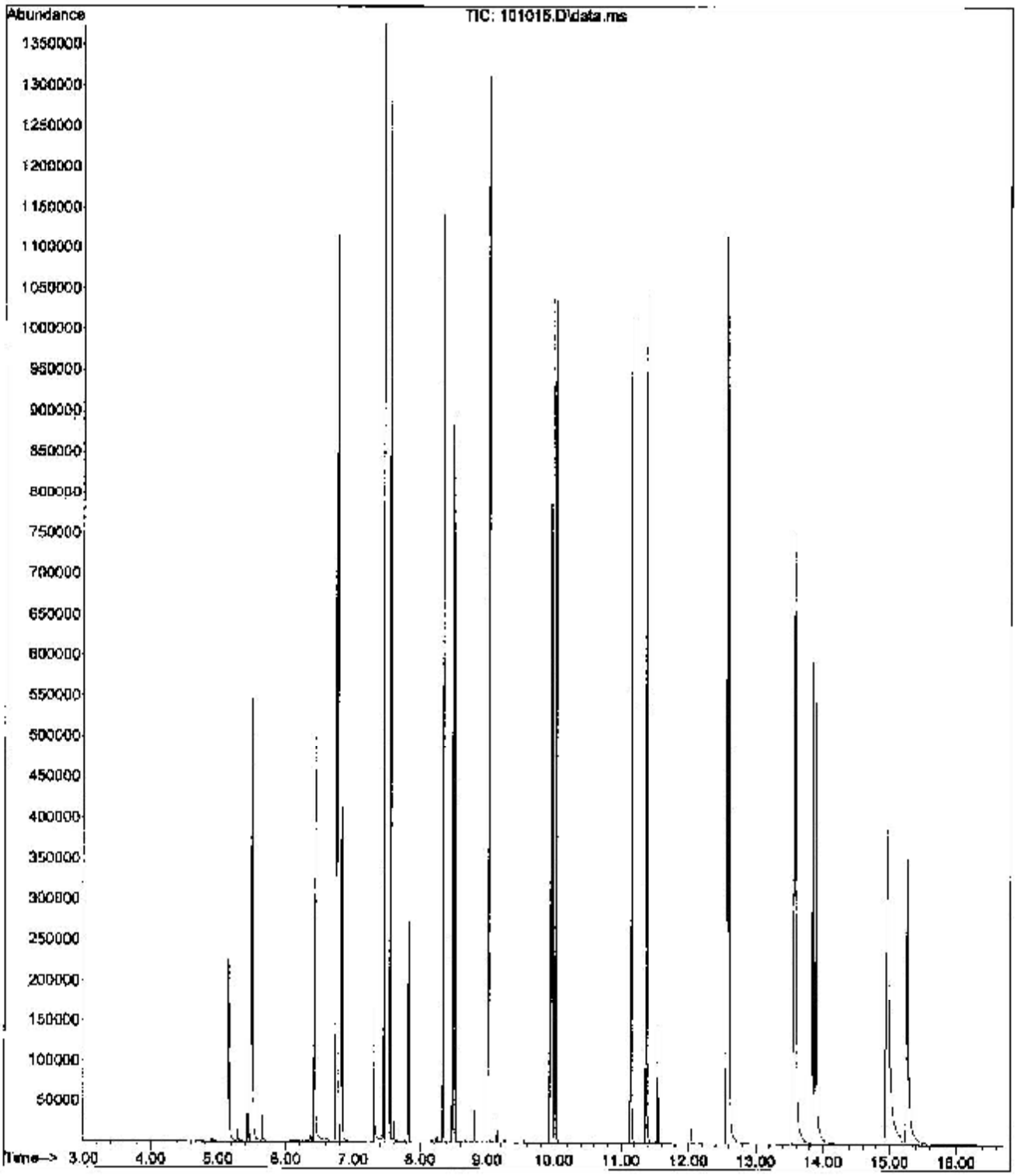
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

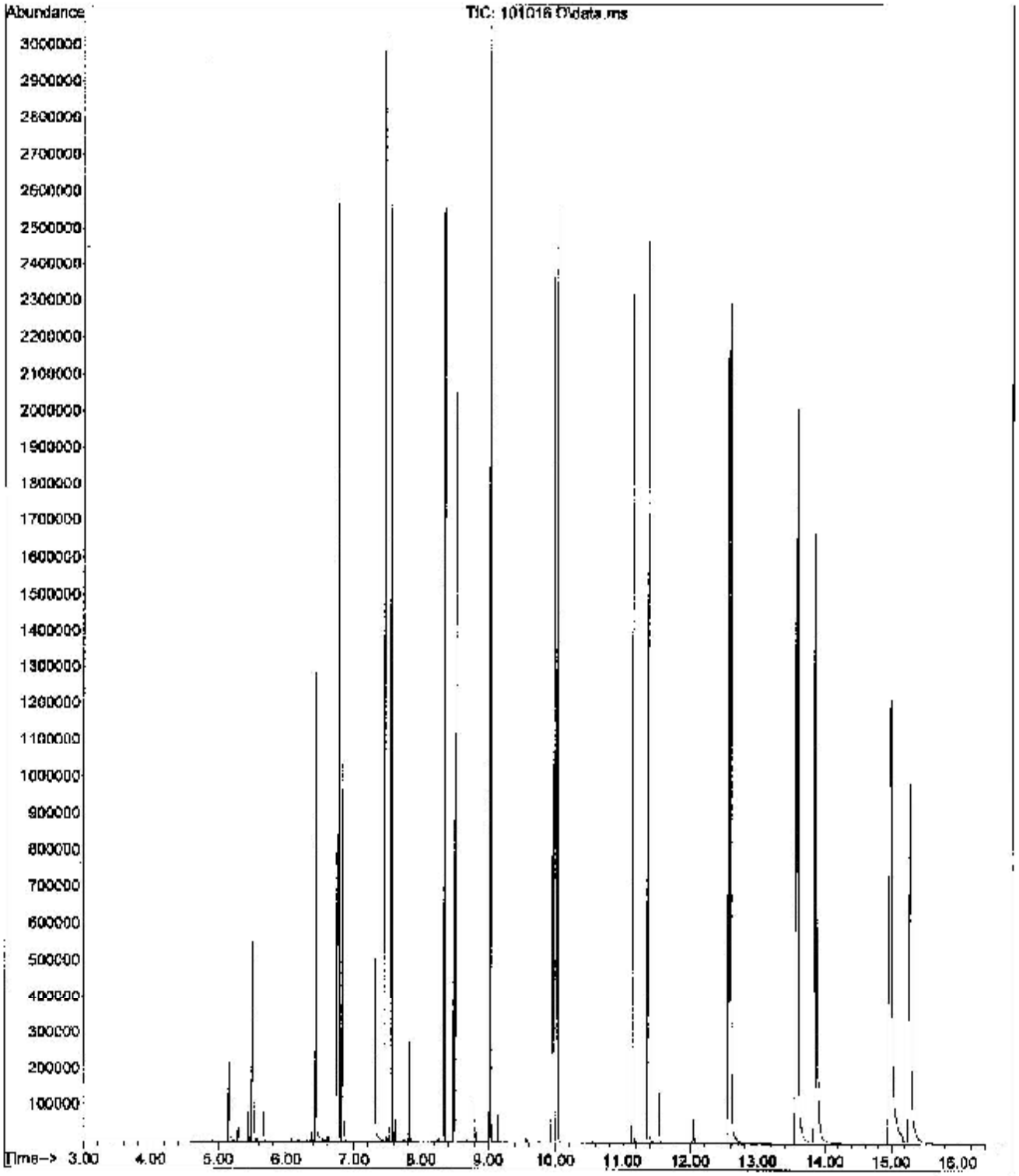
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 10 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

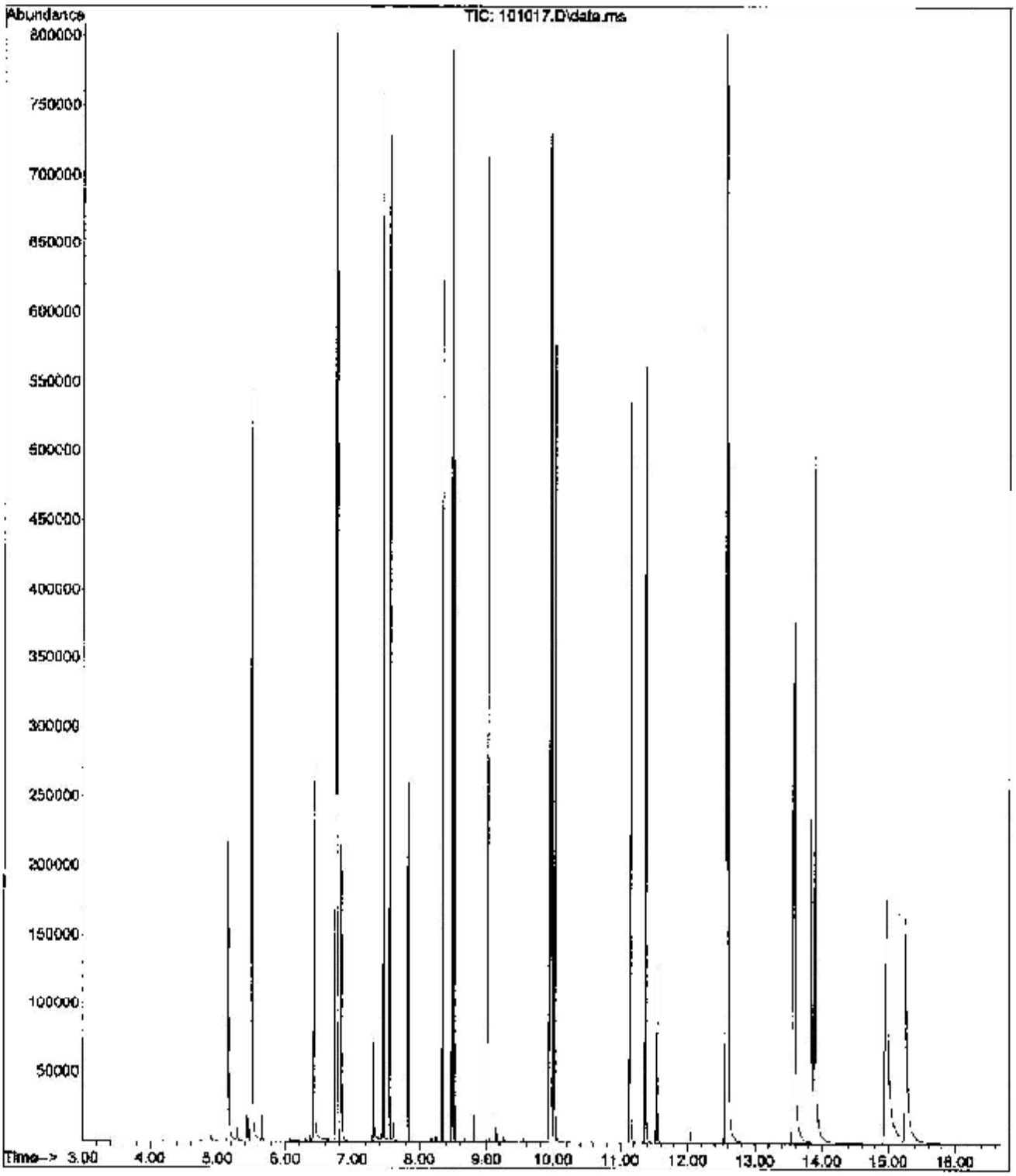
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5) Naphthalene	6.766	128	450667	1106.23 ug/L	100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12) Fluorene	9.021	166	284009	1130.26 ug/L	97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15) Anthracene	10.020	178	377676	1194.93 ug/L	98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18) Pyrene	11.368	202	408900	1228.38 ug/L	94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21) Chrysene	12.593	228	392651	1100.37 ug/L	95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

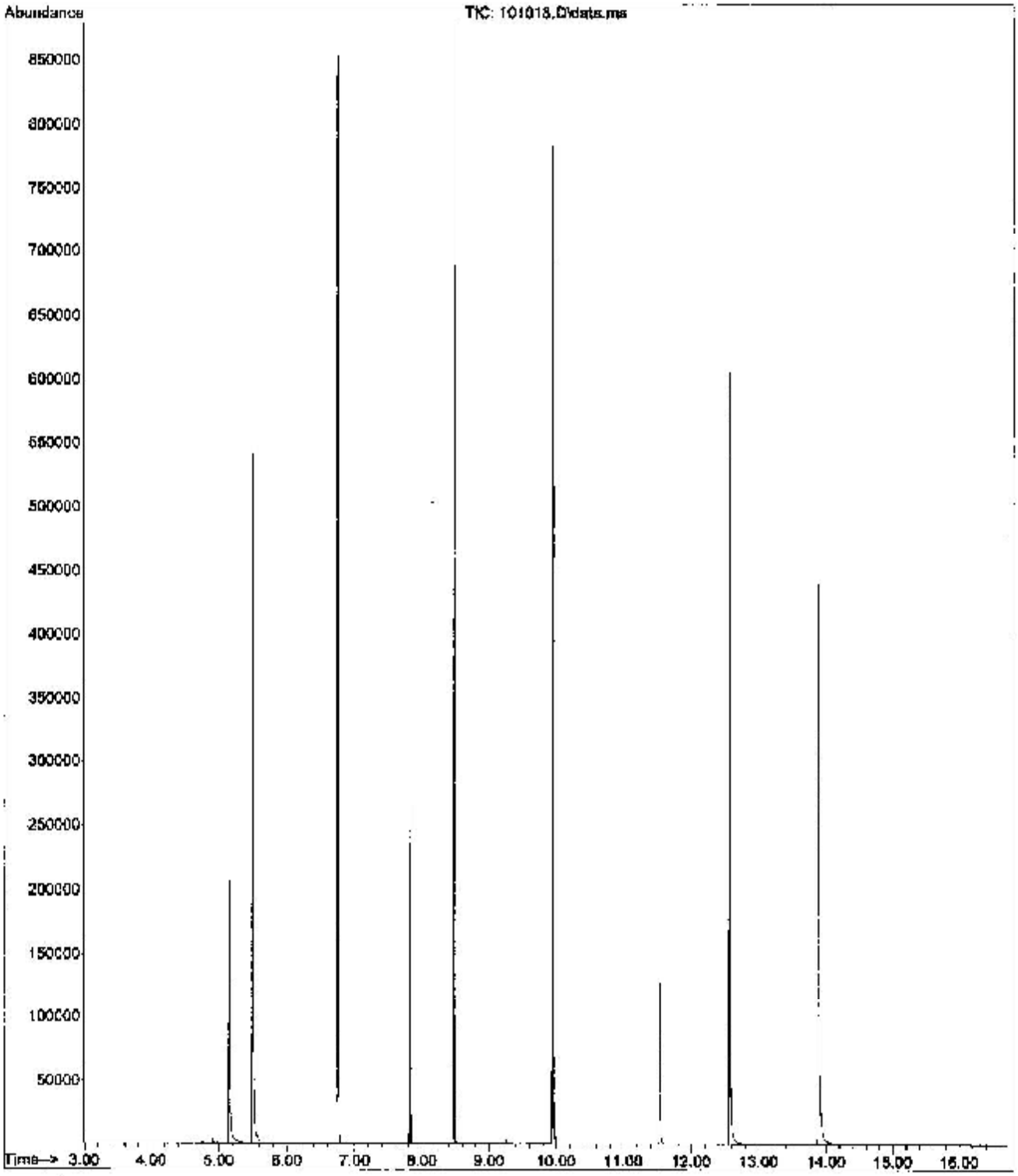
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 19 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

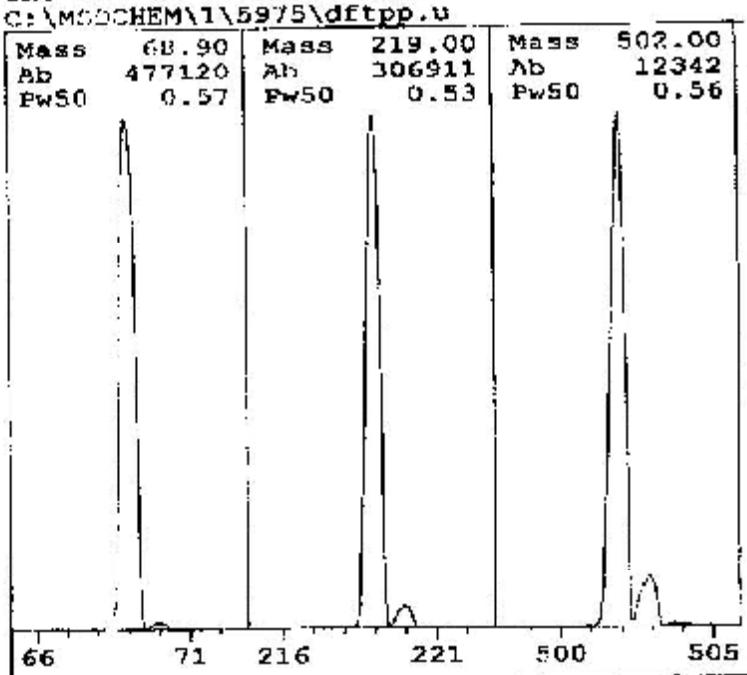


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

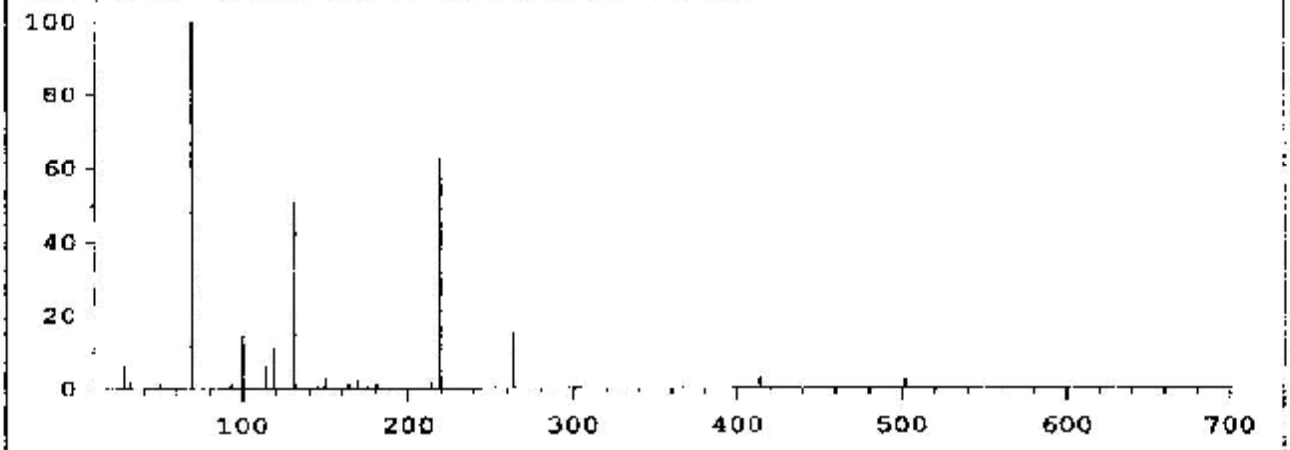


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O=0.56% N2=6.00% O2=1.93% CO2=0.18% N2/H2O=1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

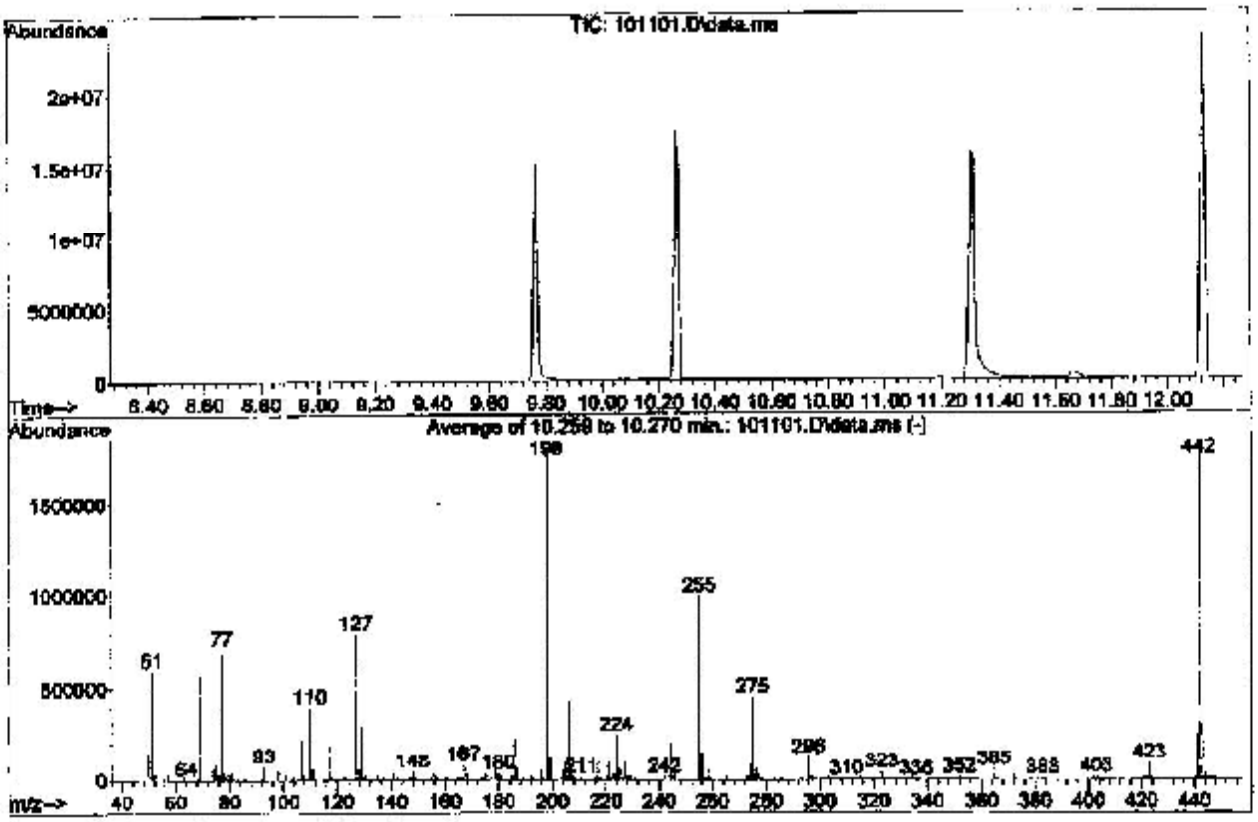
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

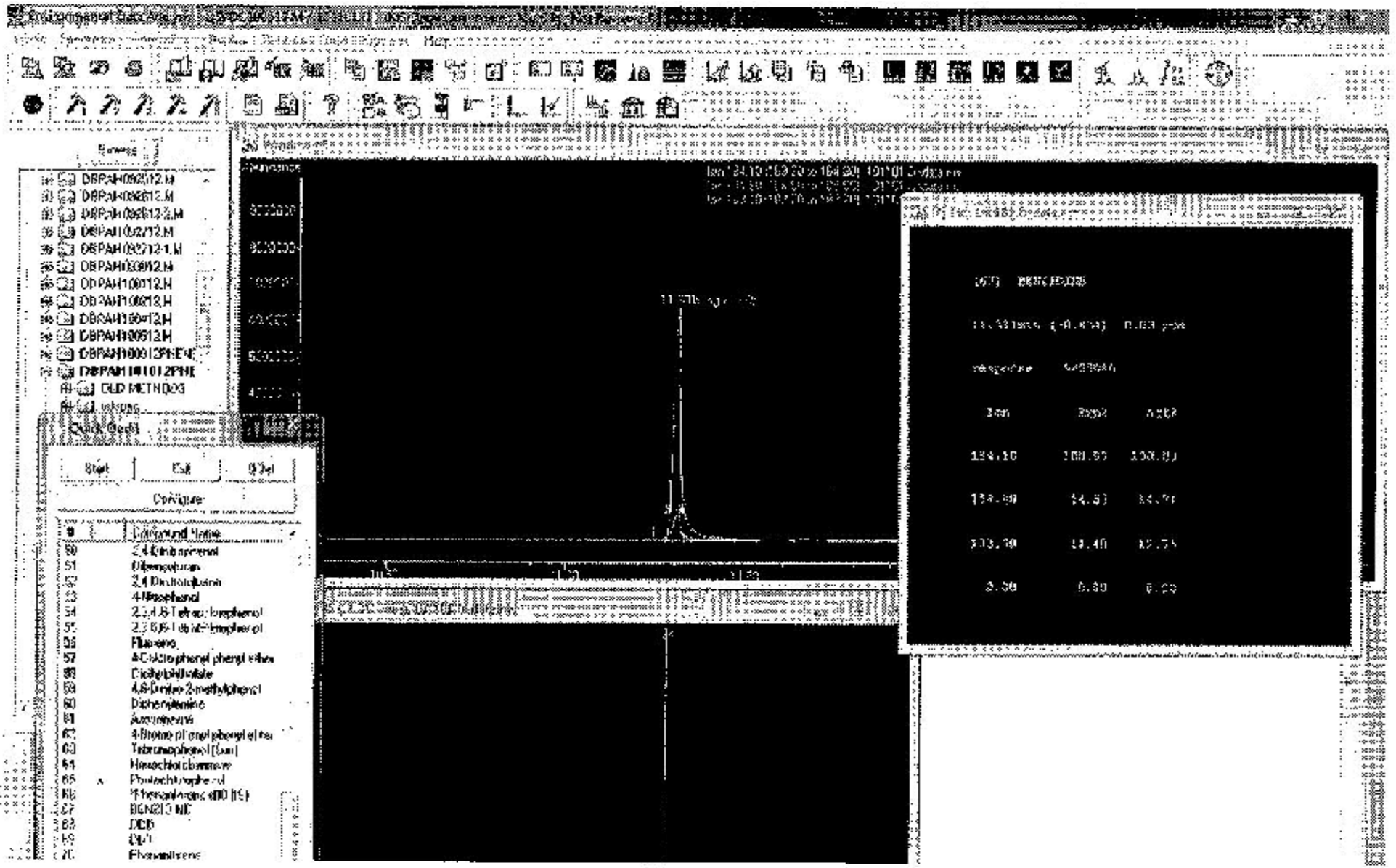
Integration File: RTEINTSG8270.P

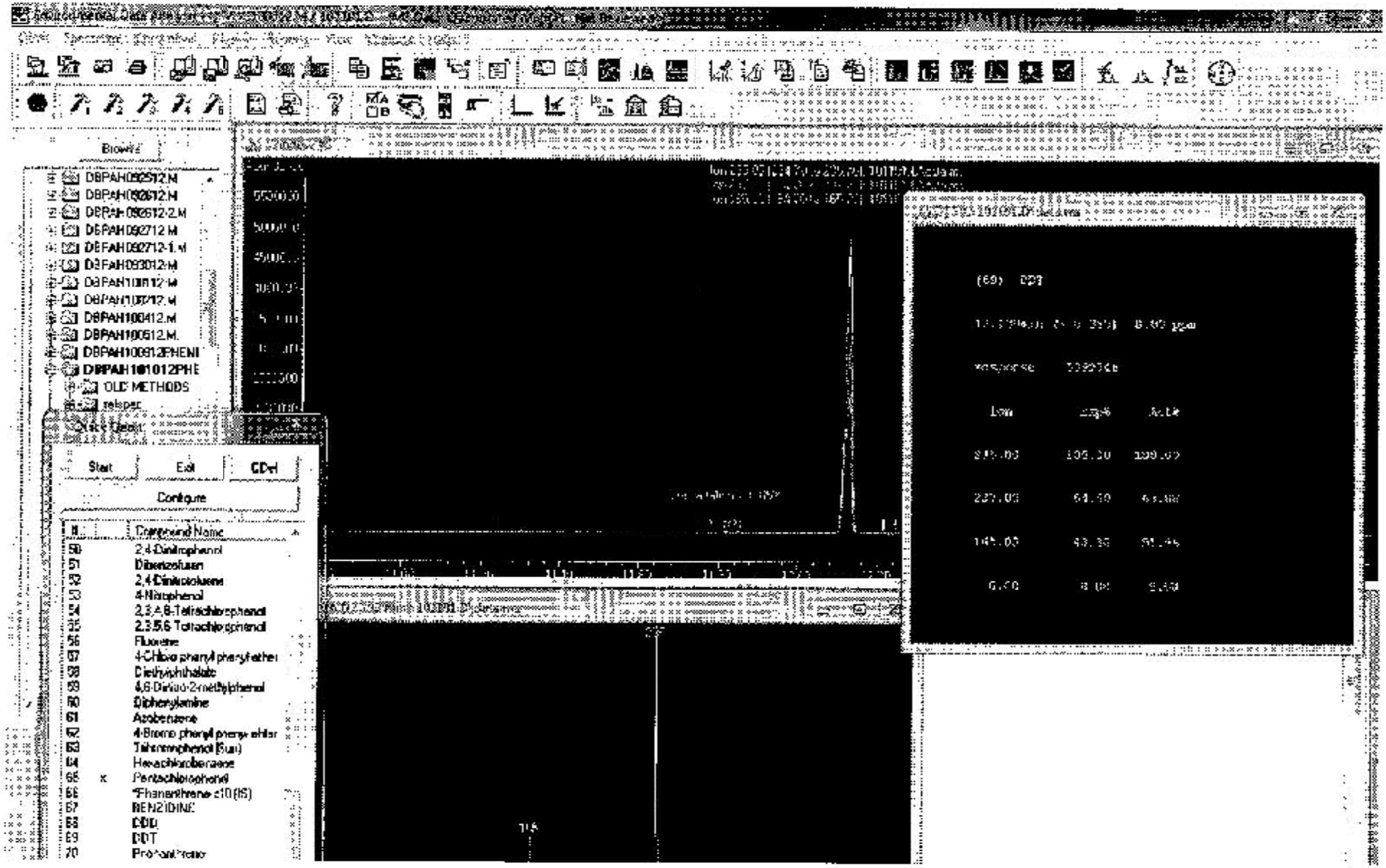
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012



AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
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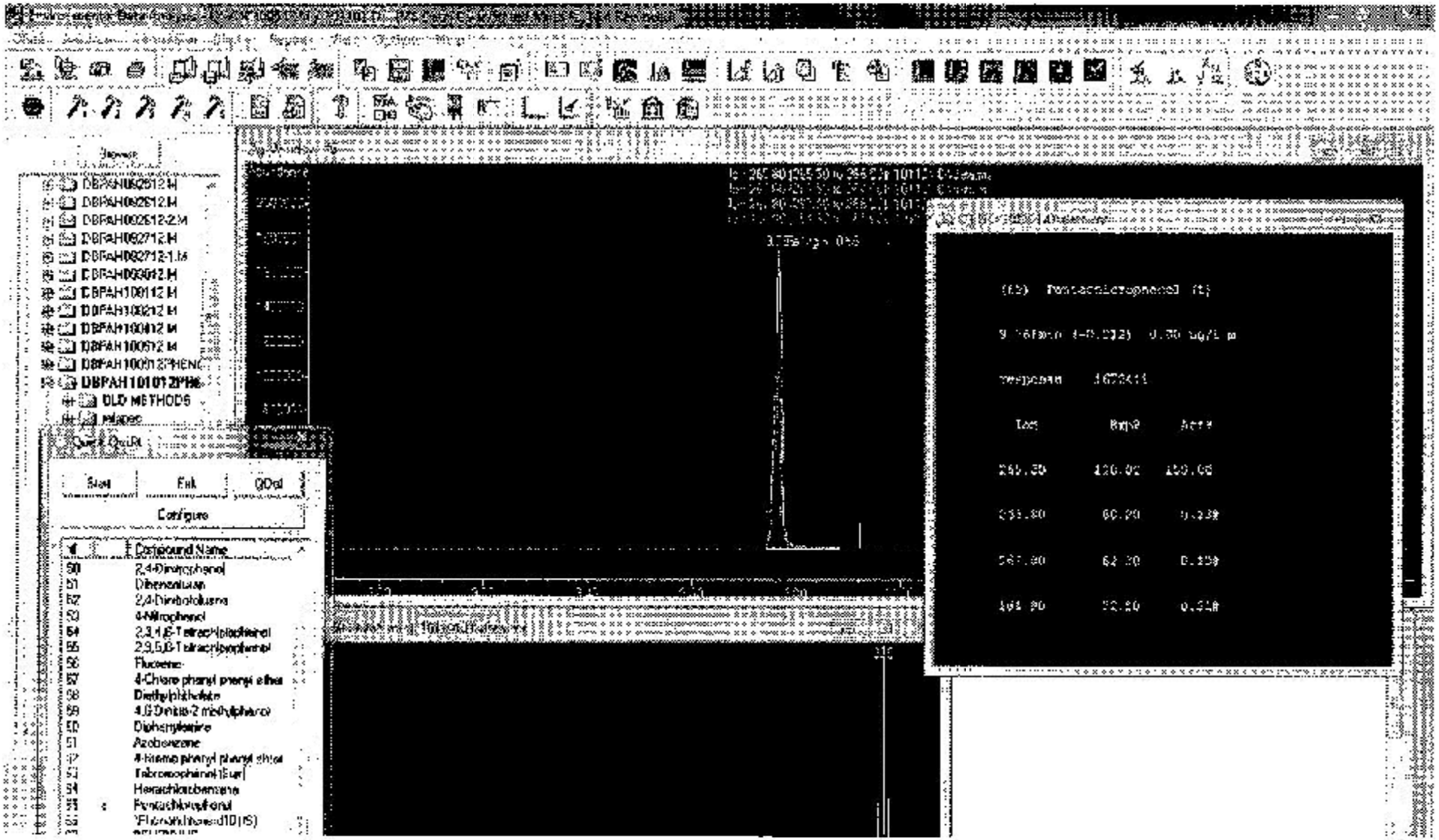
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 *Phenanthrene-d10 (IS)
67 BENZIDINE
68 DDD
69 DDT
70 Pronamitate
(69) DDT
Low
Actual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DBPAH100612.M
DBPAH100712.M
DBPAH100812.M
DBPAH100912.M
DBPAH101012PHE
OLD METHODS
Start
Edit
QQual
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Hexachlorobenzene
64 Pentachlorophenol
(63) Pentachlorophenol (T)
Response 1672411
Conc Resp
250.00 120.00
250.00 60.20
250.00 64.20
250.00 52.80

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

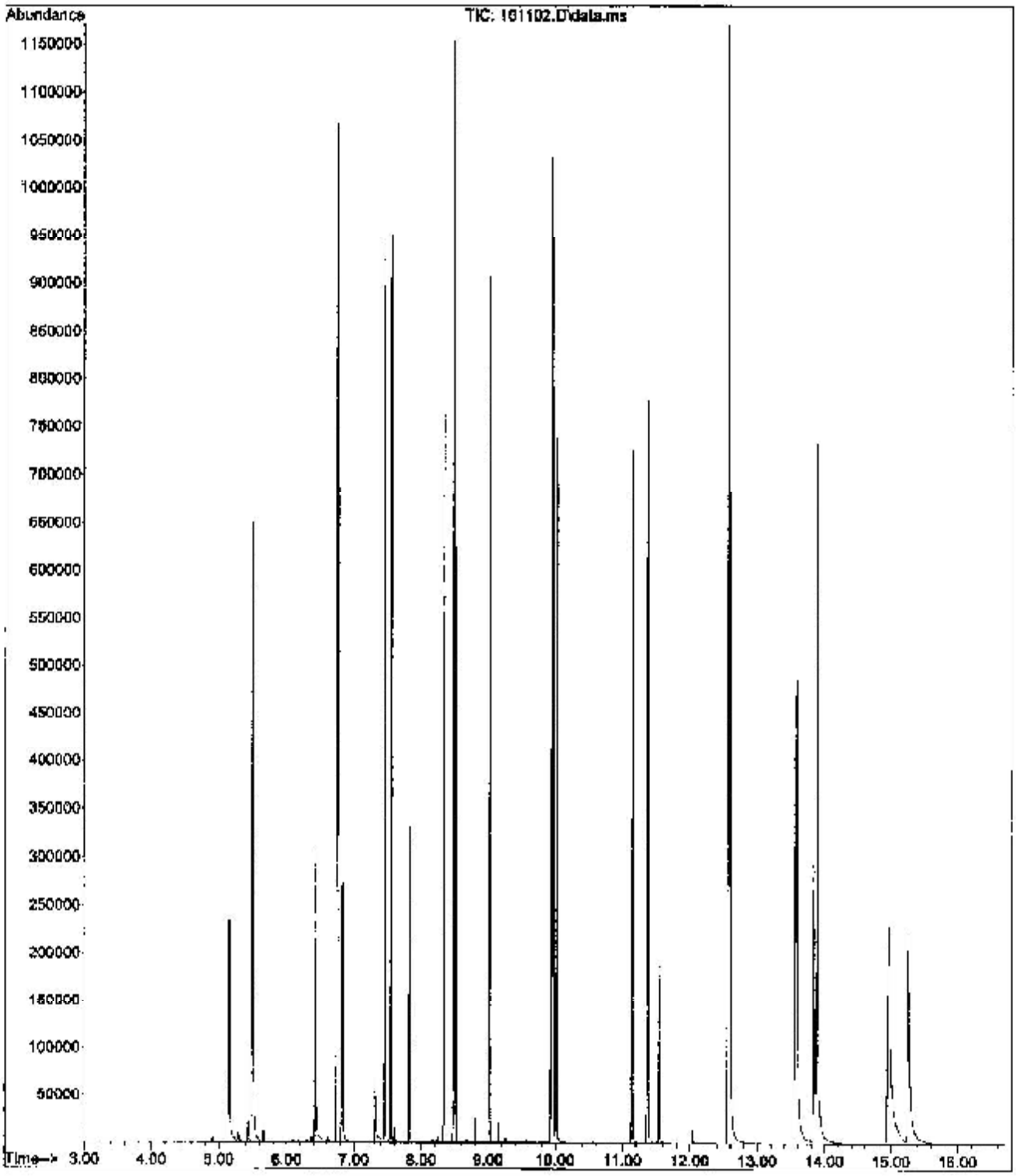
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00 ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	181169	959.28 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19 ug/L		99
5) Naphthalene	6.766	128	544594	1027.95 ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91 ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01 ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50 ug/L		100
11) Acenaphthene	8.508	152	149723	996.95 ug/L		99
12) Fluorene	9.020	166	358083	1040.24 ug/L		96
14) Phenanthrene	9.967	178	503861	993.14 ug/L		100
15) Anthracene	10.018	178	490231	1081.63 ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88 ug/L		95
18) Pyrene	11.368	202	554385	1161.39 ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09 ug/L	#	100
21) Chrysene	12.592	228	513400	973.60 ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42 ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28 ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45 ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26 ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86 ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

```
File         :D:\Data\SVOC\101112\1011C2.D
Operator     :
Acquired     : 11 Oct 2012    9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument :    HP-MSD
Sample Name: CCV-
Misc Info    : CCV  O-PAH-S-SIM
Vial Number: 106
```



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

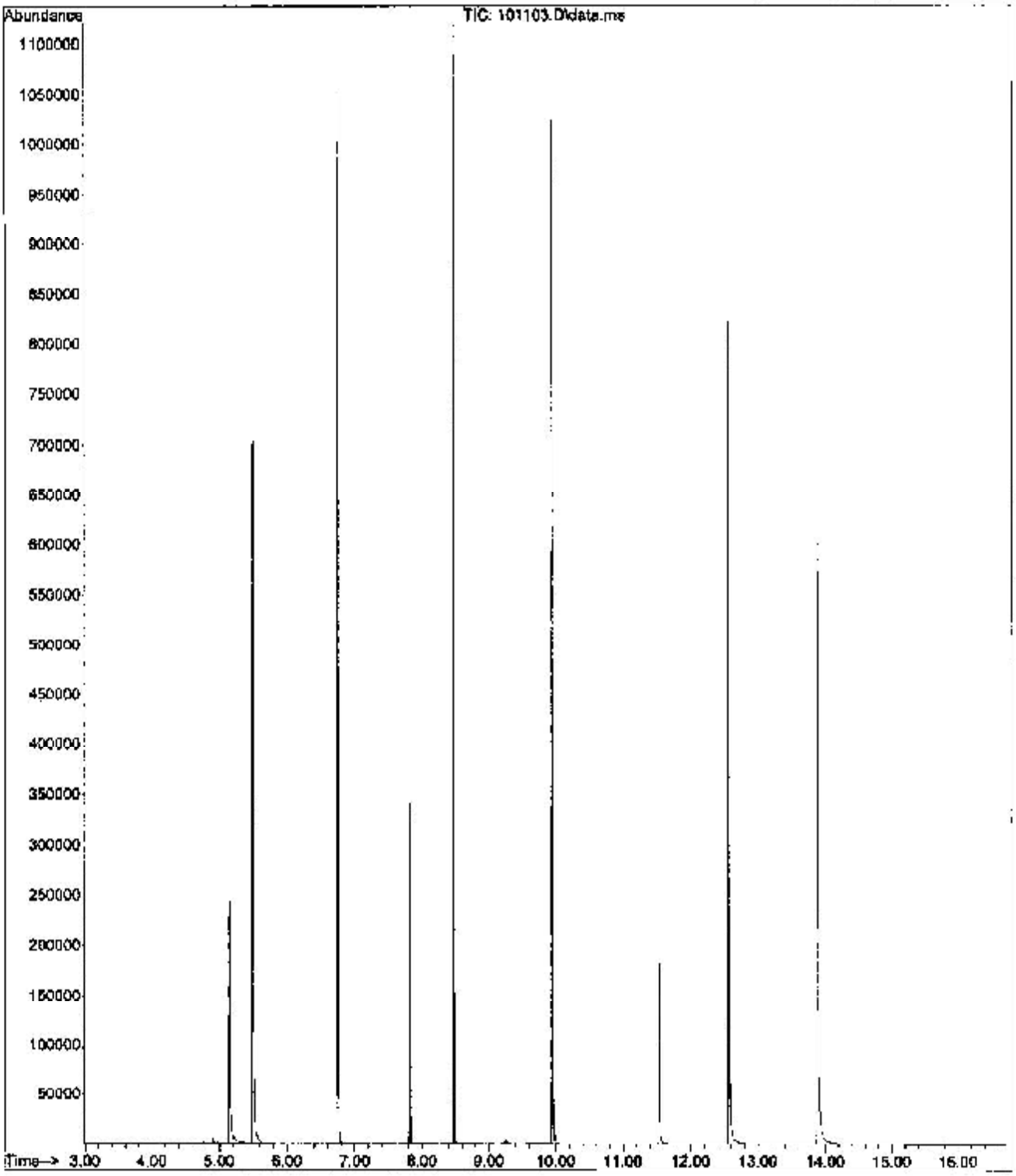
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/28/2012 4:26:38 P**
Prep End Date: **9/28/2012 4:26:38 P**

Prep Batch ID **3307** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
LCS-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
1209142-001A	SVRZ-WSW1-92112	Soil			11.65	0	0	10	0.858	9/28/2012	9/28/2012
1209142-001AMS		Soil			11.35	0	0	10	0.881	9/28/2012	9/28/2012
1209142-002A	SVRZ-SB1-092112	Soil			10.97	0	0	10	0.912	9/28/2012	9/28/2012
1209142-003A	SVRZ-SB2-092112	Soil			13.34	0	0	10	0.750	9/28/2012	9/28/2012
1209142-004A	SVRZ-SB3-092112	Soil			11.25	0	0	10	0.889	9/28/2012	9/28/2012
1209142-002ADUP		Soil			11.46	0	0	10	0.873	9/28/2012	9/28/2012
1209173-001A	IRZ-B1-92712	Soil			13.88	0	0	10	0.720	9/28/2012	9/28/2012
1209173-003ADUP		Soil			11.07	0	0	10	0.903	9/28/2012	9/28/2012
1209173-002A	IRZ-ESW2-92712	Soil			14.17	0	0	10	0.706	9/28/2012	9/28/2012
1209173-003A	IRZ-ESW1-92712	Soil			12.15	0	0	10	0.823	9/28/2012	9/28/2012
1209173-004A	IRZ-ESW3-92712	Soil			12.38	0	0	10	0.808	9/28/2012	9/28/2012
1209190-001A	IRZ-B2-92712	Soil			12.7	0	0	10	0.787	9/28/2012	9/28/2012
1209190-003ADUP		Soil			11.36	0	0	10	0.880	9/28/2012	9/28/2012
1209190-002A	IRZ-B3-92712	Soil			11.62	0	0	10	0.861	9/28/2012	9/28/2012
1209190-003A	IRZ-B4-92712	Soil			13.19	0	0	10	0.758	9/28/2012	9/28/2012
1209190-004A	IRZ-Dupe1-92712	Soil			13.3	0	0	10	0.752	9/28/2012	9/28/2012
1209190-005A	IRZ-NESW1-92812	Soil			14.08	0	0	10	0.710	9/28/2012	9/28/2012
1209190-006A	IRZ-B1-92812	Soil			12.14	0	0	10	0.824	9/28/2012	9/28/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101214.D
Acq On : 12 Oct 2012 5:24 am
Operator :
Sample : MB-3307
Misc : MBLK O-PAH-SIM-S-LIBBY
ALS Vial : 11 Sample Multiplier: 1

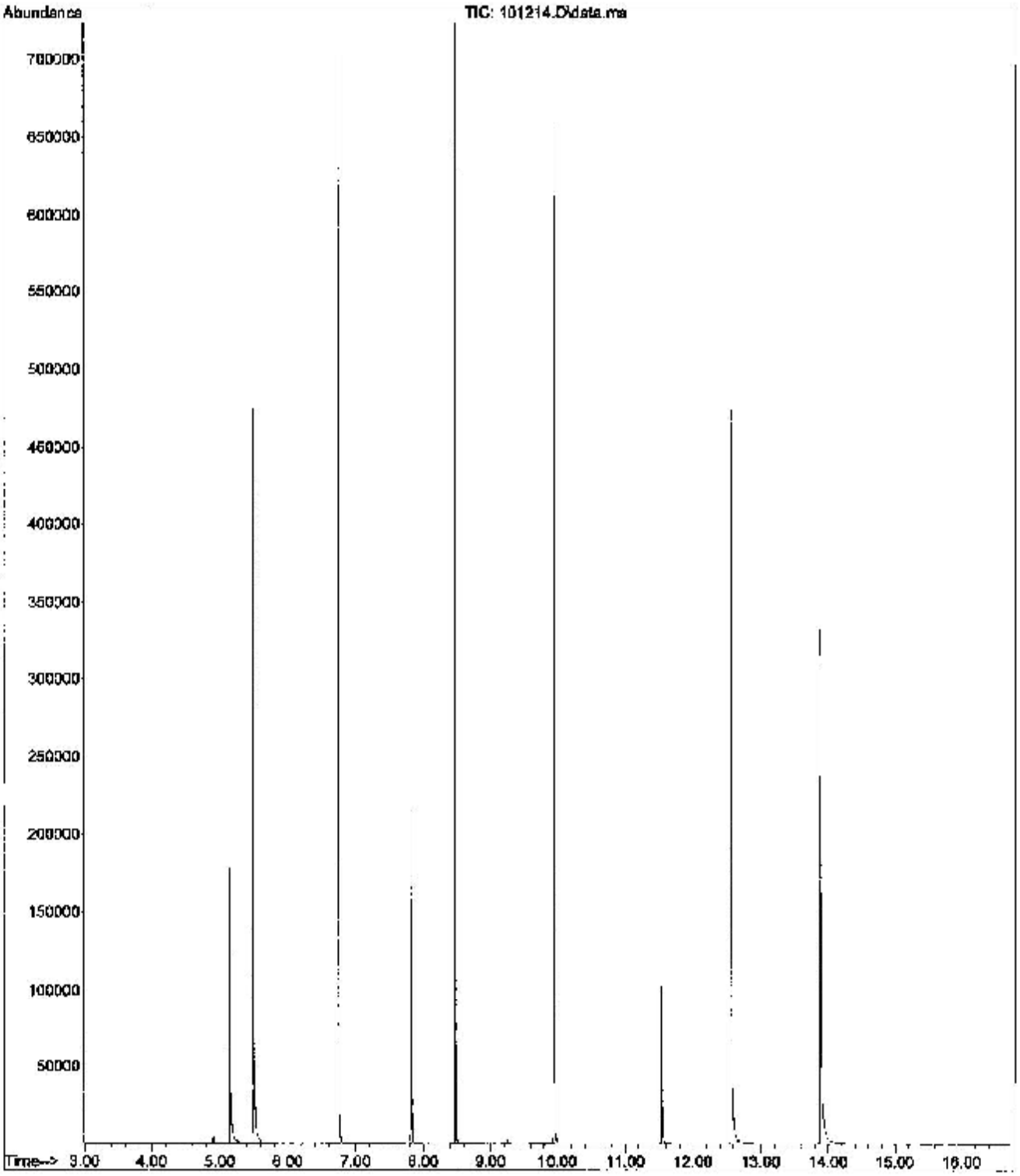
Quant Time: Oct 12 10:07:56 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	179751	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	568862	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	277961	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	450595	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	384299	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	352992	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139867	1024.35 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	126849	504.62 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	80011	481.72 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	12	N.D.	
5) Naphthalene	6.769	128	88	N.D.	
6) 2-Methylnaphthalene	7.461	142	41	N.D.	
7) 1-Methylnaphthalene	7.552	142	29	N.D.	
9) Acenaphthylene	8.341	152	1	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.024	166	10	N.D.	
14) Phenanthrene	9.966	178	63	N.D.	
15) Anthracene	10.022	178	1	N.D.	
17) Fluoranthene	11.152	202	2	N.D.	
18) Pyrene	11.374	202	4	N.D.	
19) Benzo (a) anthracene	12.566	228	980	N.D.	
21) Chrysene	12.566	228	857	N.D.	
22) benzo (b) fluoranthene	13.557	252	17	N.D.	
23) benzo (k) fluoranthene	13.581	252	98	N.D.	
24) benzo (a) pyrene	13.837	252	38	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.948	276	9	N.D.	
27) Dibenz (a,h) anthracene	14.964	278	1	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:34 2012 PAH

File : D:\Data\SVOC\101212\101214.D
Operator :
Acquired : 12 Oct 2012 5:24 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3307
Misc Info : MBLK 0-PAH-SIM-S-LISBY
Vial Number: 21



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101215.D
Acq On : 12 Oct 2012 5:49 am
Operator :
Sample : LCS-3307
Misc : LCS 0-PAH-SIM-S-LIBBY
ALS Vial : 12 Sample Multiplier: 1

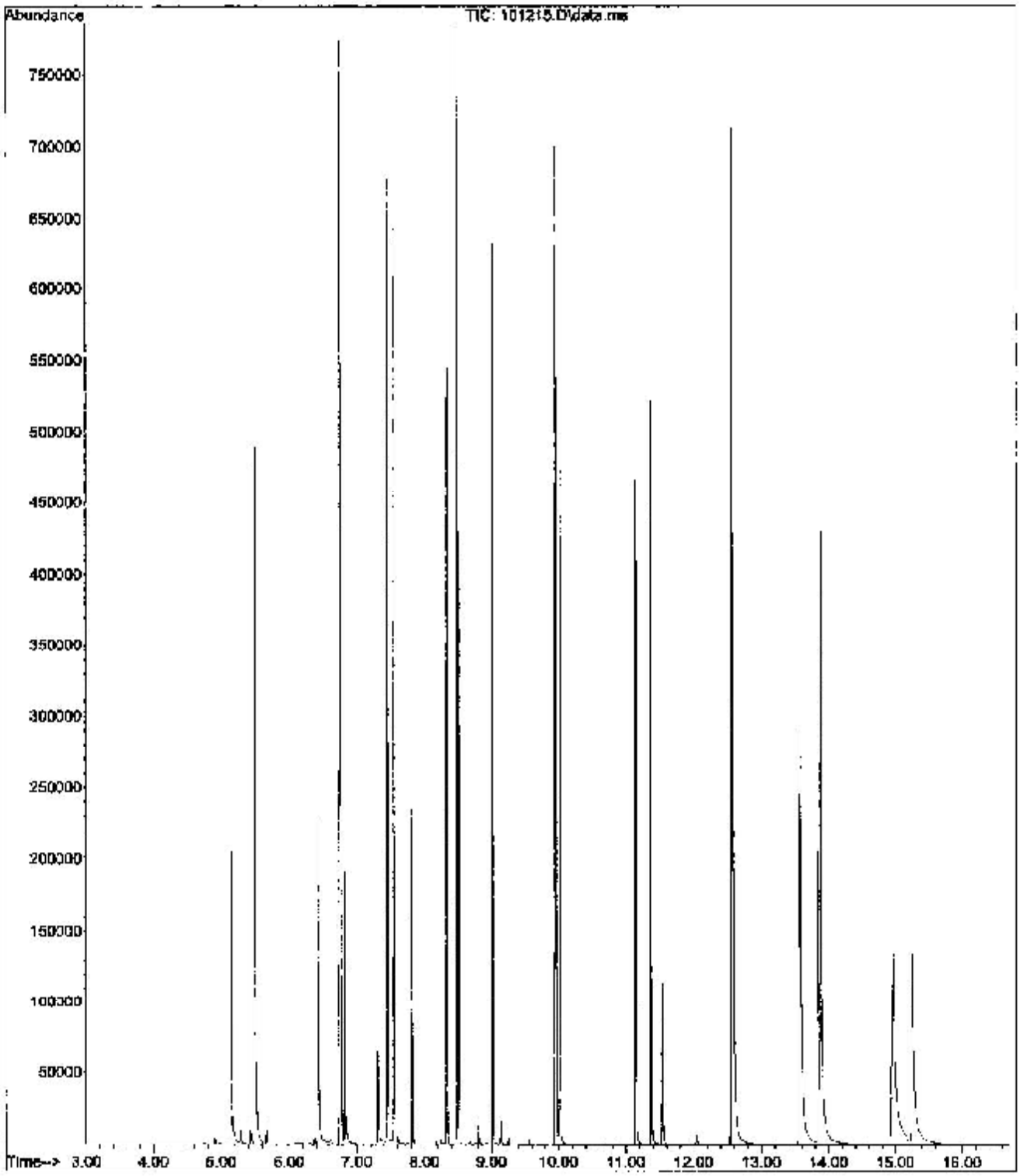
Quant Time: Oct 12 10:08:03 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187731	2000.00 ug/L		0.00
4) Naphthalene-d8 [IS)	6.747	136	599973	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	304778	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	406073	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	452574	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	431335	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	148948	1044.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131492	495.97 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	85270	475.91 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	109467	990.24 ug/L		99
5] Naphthalene	6.766	128	400471	1052.14 ug/L		100
6] 2-Methylnaphthalene	7.453	142	238968	1071.63 ug/L		99
7] 1-Methylnaphthalene	7.550	142	224647	1064.68 ug/L		100
9] Acenaphthylene	8.338	152	342966	1122.05 ug/L		100
11] Acenaphthene	8.508	152	107085	1044.83 ug/L		99
12] Fluorene	9.021	166	248965	1059.80 ug/L		99
14] Phenanthrene	9.368	178	349216	1052.81 ug/L		100
15] Anthracene	10.020	178	334513	1128.87 ug/L		100
17] Fluoranthene	11.146	202	346508	1160.50 ug/L		99
18] Pyrene	11.368	202	364375	1167.54 ug/L		99
19] Benzo (a] anthracene	12.559	228	276159	1055.18 ug/L	#	100
21] Chrysene	12.592	228	352855	1079.13 ug/L		99
22] benzo (b] fluoranthene	13.557	252	202925	853.94 ug/L	#	100
23] benzo (k] fluoranthene	13.580	252	386801	1145.90 ug/L		100
24] benzo (a] pyrene	13.837	252	226944	981.24 ug/L		97
26] Indeno(1,2,3-cd)pyrene	14.948	276	246110	1064.76 ug/L		98
27] Dibenz (a,h) anthracene	14.969	278	170581	929.17 ug/L		98
28] Benzo (g,h,i) perylene	15.258	276	252431	991.03 ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:51 2012 PAH

File : D:\Data\SVOC\101212\101215.D
Operator :
Acquired : 12 Oct 2012 5:49 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3307
Misc Info : LCS 8-PAH-SIM-S-LIBBY
Vial Number: 12



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101216.D
Acq On : 12 Oct 2012 6:14 am
Operator :
Sample : 1209142-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 13 Sample Multiplier: 1

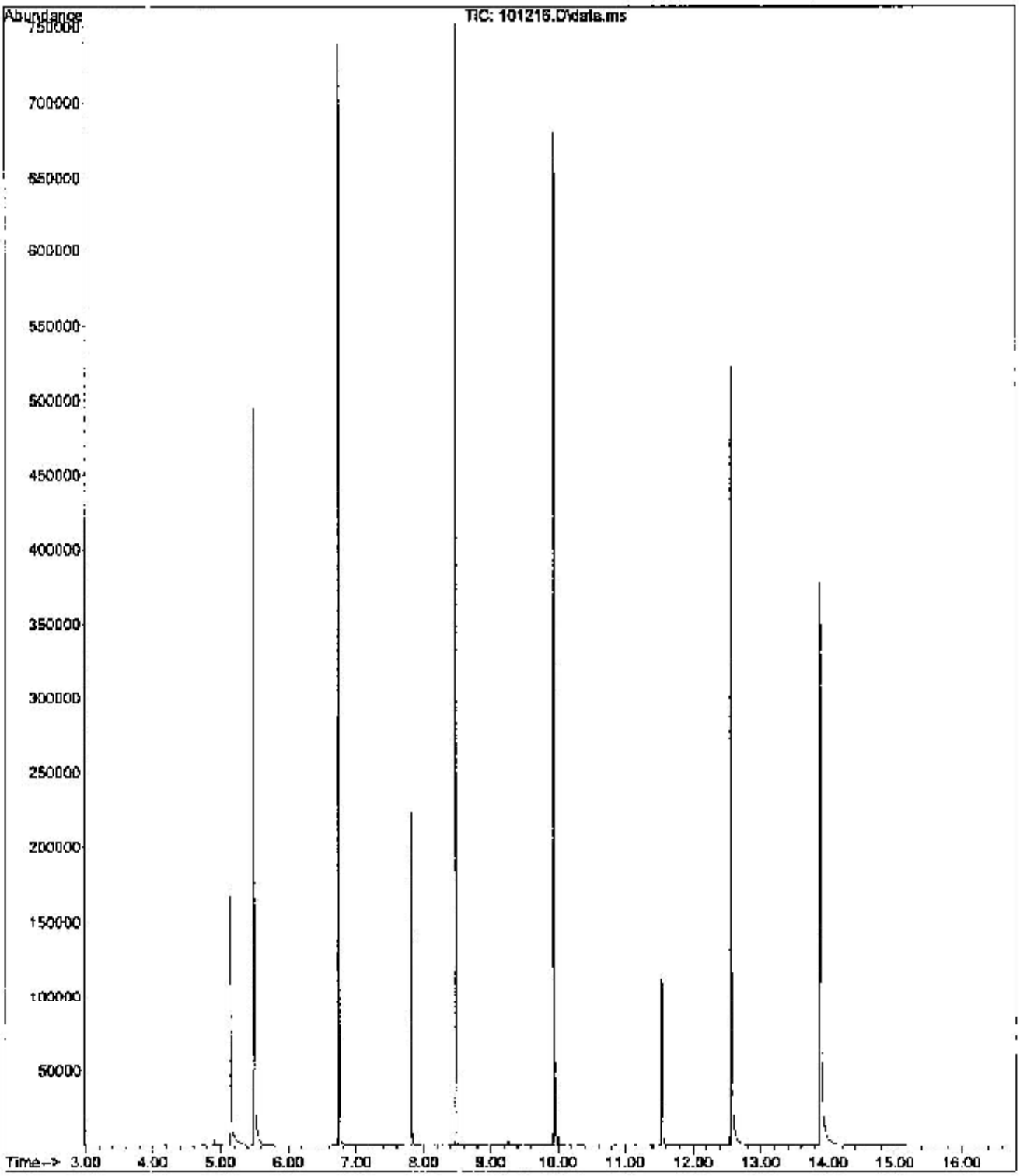
Quant Time: Oct 12 10:08:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187904	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	593470	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	293033	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	403359	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	431840	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	419688	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	129890	910.01	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	125455	478.38	ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	86884	487.64	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.405	107	55	N.D.		
5) Naphthalene	6.766	128	110	N.D.		
6) 2-Methylnaphthalene	7.461	142	46	N.D.		
7) 1-Methylnaphthalene	7.554	142	33	N.D.		
9) Acenaphthylene	8.341	152	3	N.D.		
11) Acenaphthene	8.511	152	14	N.D.		
12) Fluorene	9.025	166	26	N.D.		
14) Phenanthrene	9.969	178	294	N.D.		
15) Anthracene	10.022	178	42	N.D.		
17) Fluoranthene	11.150	202	71	N.D.		
18) Pyrene	11.371	202	205	N.D.		
19) Benzo (a) anthracene	12.566	228	1293	N.D.		
21) Chrysene	12.566	228	1061	N.D.		
22) benzo (b) fluoranthene	13.559	252	56	N.D.		
23) benzo (k) fluoranthene	13.581	252	228	N.D.		
24) benzo (a) pyrene	13.835	252	80	N.D.		
26) Indeno(1,2,3-cd)pyrene	14.945	276	7	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	10	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	45	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:06 2012 PAH

File : D:\Data\SVOC\101212\101216.D
Operator :
Acquired : 12 Oct 2012 6:14 am using AcqMethod DBPAHIC1012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 13



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101217.D
Acq On : 12 Oct 2012 6:39 am
Operator :
Sample : 1209142-001AMS
Misc : MS O-PAH-SIM-S-LIBBY
ALS Vial : 14 Sample Multiplier: 1

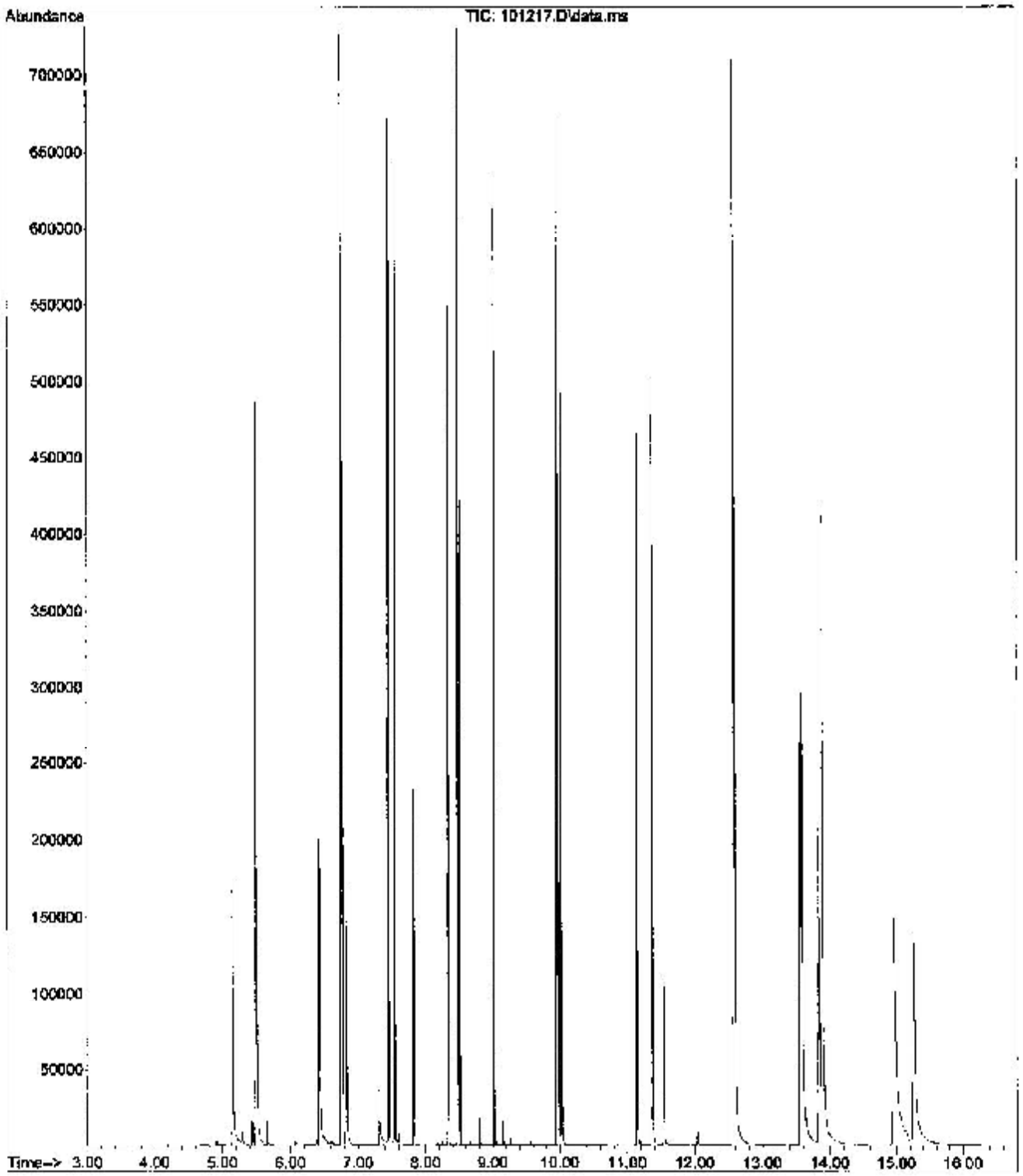
Quant Time: Oct 12 10:08:21 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	178484	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	571150	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	287688	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	459410	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	431641	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	424924	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	133847	987.22	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	129244	512.09	ug/L		0.00
16) Terphenyl-d14 (surr)	11.541	244	87331	515.70	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.427	107	107910	1026.73	ug/L		99
5) Naphthalene	6.766	128	390418	1077.49	ug/L		100
6) 2-Methylnaphthalene	7.463	142	233535	1100.12	ug/L		99
7) 1-Methylnaphthalene	7.550	142	219903	1094.79	ug/L		100
9) Acenaphthylene	8.338	152	335044	1151.45	ug/L		100
11) Acenaphthene	8.509	152	103959	1074.58	ug/L		100
12) Fluorene	9.020	166	242403	1093.16	ug/L		99
14) Phenanthrene	9.967	178	339017	1081.38	ug/L		100
15) Anthracene	10.020	178	325931	1163.75	ug/L		100
17) Fluoranthene	11.147	202	349255	1237.59	ug/L		99
18) Pyrene	11.367	202	364484	1235.67	ug/L		99
19) Benzo (a) anthracene	12.559	228	284698	1150.94	ug/L	#	100
21) Chrysene	12.592	228	338350	1084.96	ug/L		99
22) benzo (b) fluoranthene	13.556	252	206841	912.63	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	385639	1197.86	ug/L		100
24) benzo (a) pyrene	13.835	252	238195	1074.05	ug/L		98
26) Indeno(1,2,3-cd)pyrene	14.950	276	267932	1170.84	ug/L		98
27) Dibenz (a,h) anthracene	14.970	278	186919	1029.80	ug/L		98
28) Benzo (g,h,i) perylene	15.257	276	269776	1075.11	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:20:17 2012 PAH

File : D:\Data\SVOC\101212\101217.D
Operator :
Acquired : 12 Oct 2012 6:39 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001AMS
Misc Info : MS O-PAH-SIM-S-LIBBY
Vial Number: 14



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101218.D
Acq On : 12 Oct 2012 7:04 am
Operator :
Sample : 1209173-003A
Misc : SAMP O-PAH-STM-S-LIBBY
ALS Vial : 15 Sample Multiplier: 1

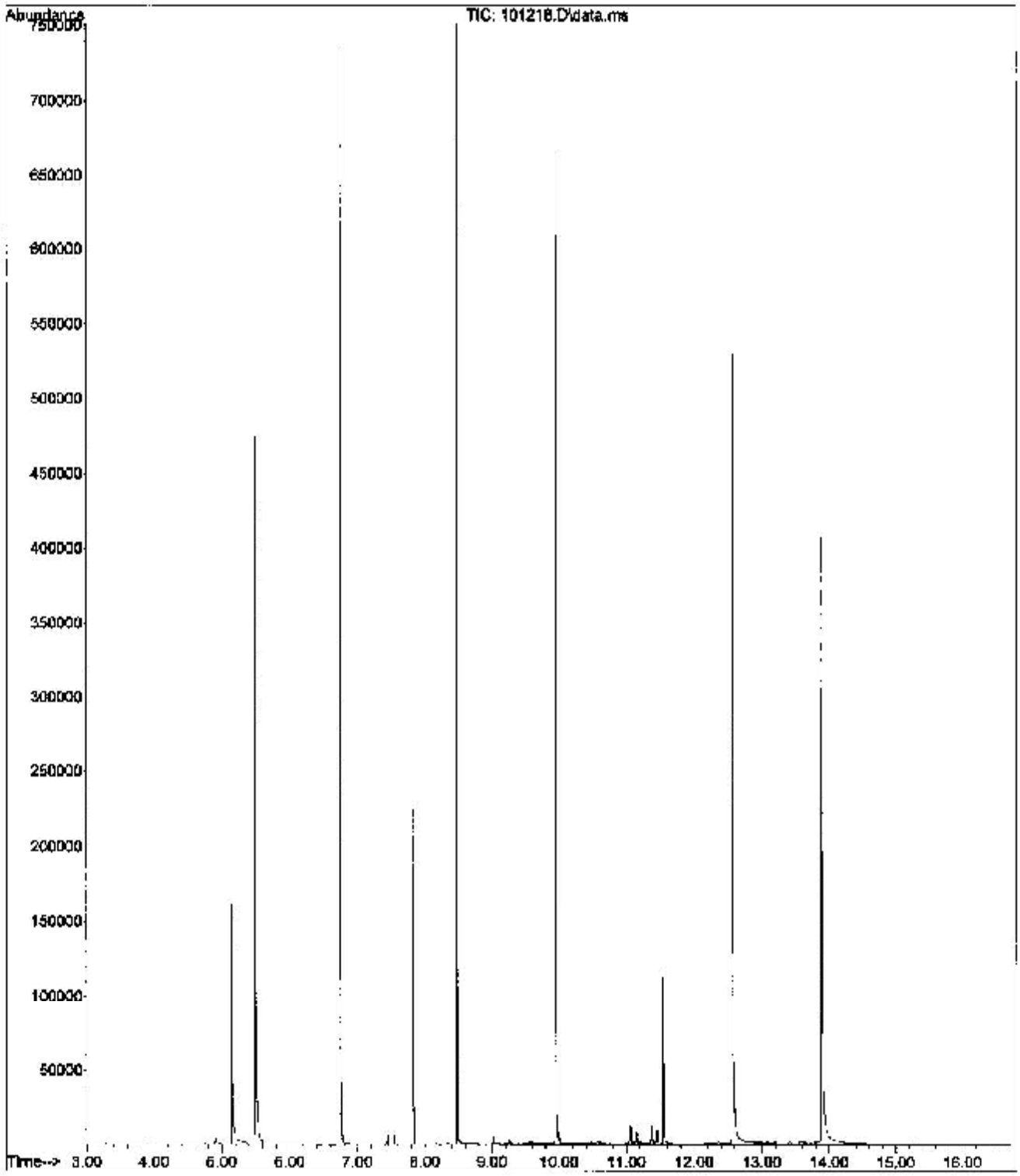
Quant Time: Oct 12 10:08:29 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	180324	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	574014	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	292212	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	476874	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	439299	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	444062	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	126529	923.72 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127274	501.77 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	93031	529.24 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.449	107	1204	11.34 ug/L		96
5) Naphthalene	6.766	128	4799	13.18 ug/L		97
6) 2-Methylnaphthalene	7.457	142	2613	12.25 ug/L	#	92
7) 1-Methylnaphthalene	7.550	142	2120	10.50 ug/L	#	83
9) Acenaphthylene	8.339	152	870	N.D.		
11) Acenaphthene	8.508	152	211	N.D.		
12) Fluorene	9.023	166	1661	7.37 ug/L		82
14) Phenanthrene	9.968	178	9721	29.87 ug/L		100
15) Anthracene	10.021	178	2451	8.43 ug/L		99
17) Fluoranthene	11.153	202	7440	25.40 ug/L	#	57
18) Pyrene	11.370	202	8739	28.54 ug/L	#	51
19) Benzo (a) anthracene	12.562	228	4045	15.75 ug/L	#	100
21) Chrysene	12.593	228	2472	7.79 ug/L	#	32
22) benzo (b) fluoranthene	13.560	252	1598	6.93 ug/L	#	100
23) benzo (k) fluoranthene	13.646	252	802	N.D.		
24) benzo (a) pyrene	13.885	252	1320	6.23 ug/L		92
26) Indeno(1,2,3-cd)pyrene	14.943	276	364	N.D.		
27) Dibenz (a,h) anthracene	14.969	278	42	N.D.		
28) Benzo (g,h,i) perylene	15.254	276	167	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:33 2012 PAH

File : D:\Data\SVOC\101212\101218.D
Operator :
Acquired : 12 Oct 2012 7:04 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209173-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 15



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101219.D
Acq On : 12 Oct 2012 7:29 am
Operator :
Sample : 1209173-003ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Oct 12 17:29:55 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	176494	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	564806	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	284577	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	467472	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	430392	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	432564	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	140164	1045.47 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	130356	522.30 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	95280	552.94 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.446	107	1252	12.05 ug/L	94
5) Naphthalene	6.766	128	4546	12.69 ug/L	96
6) 2-Methylnaphthalene	7.455	142	2422	11.54 ug/L #	90
7) 1-Methylnaphthalene	7.552	142	1824	9.18 ug/L #	78
9) Acenaphthylene	8.339	152	776	N.D.	
11) Acenaphthene	8.508	152	294	N.D.	
12) Fluorene	9.023	166	1949	8.89 ug/L #	76
14) Phenanthrene	9.968	178	7137	22.37 ug/L	99
15) Anthracene	10.021	178	2479	8.70 ug/L	99
17) Fluoranthene	11.152	202	6548	22.80 ug/L #	62
18) Pyrene	11.370	202	7430	24.75 ug/L #	51
19) Benzo (a) anthracene	12.561	228	3467	13.77 ug/L #	100
21) Chrysene	12.592	228	2816m	9.06 ug/L	
22) benzo (b) fluoranthene	13.561	252	1522	6.73 ug/L #	100
23) benzo (k) fluoranthene	13.645	252	688	N.D.	
24) benzo (a) pyrene	13.837	252	1213m	5.85 ug/L	
26) Indeno(1,2,3-cd)pyrene	14.945	276	433	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	83	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	188	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:17 2012 PAH

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File       : D:\Data\SVOC\101212\101219.D
Operator   :
Acquired   : 12 Oct 2012    7:29 am using AcqMethod DBPAH101012PHENOL.M
Instrument :
   HP-MSD
Sample Name: 1209173-003ADUP
Misc Info  : DUP  5-PAH-SIM-S-LIBBY
Vial Number: 16
```
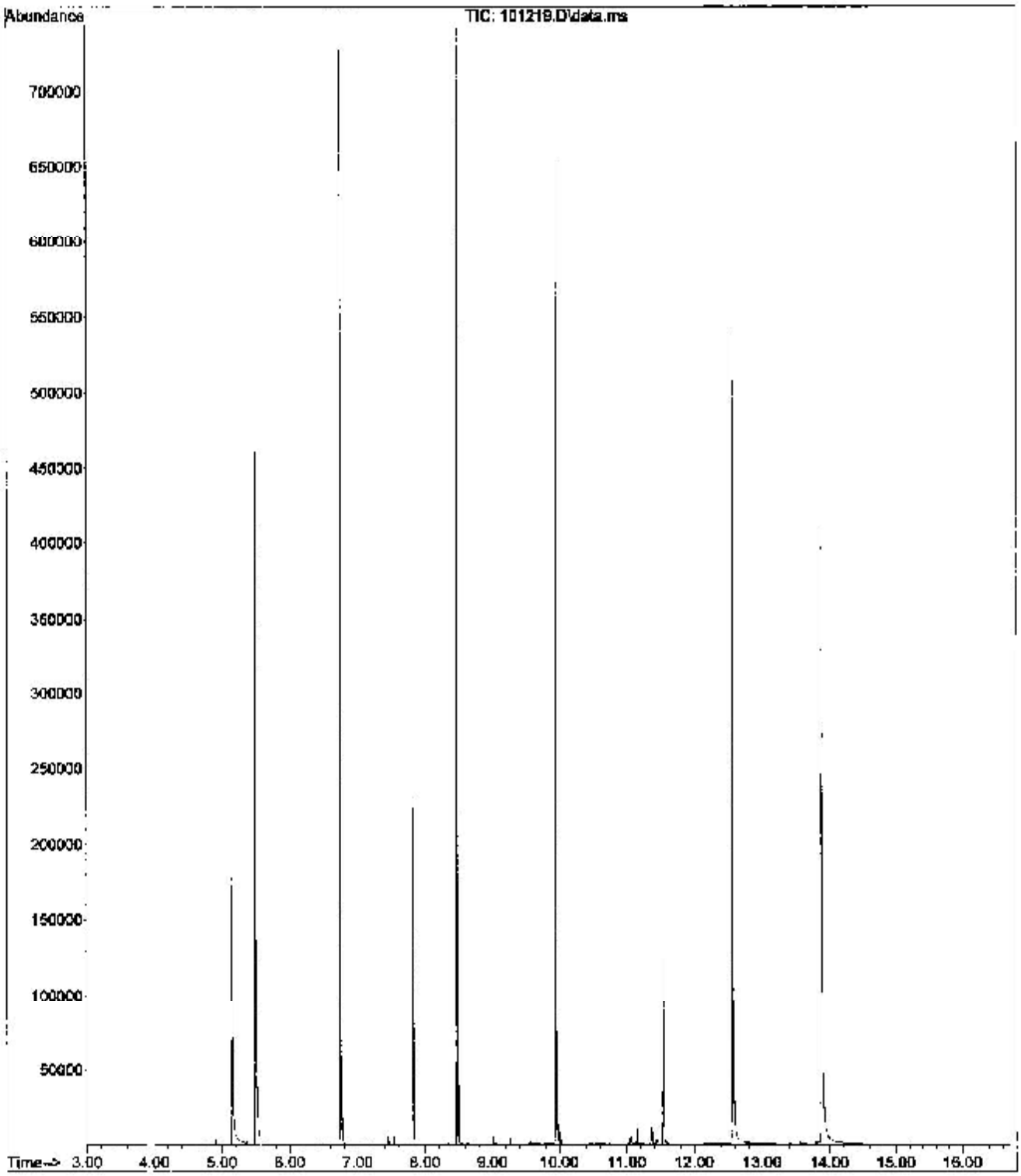



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101220.D
Acq On : 12 Oct 2012 7:54 am
Operator :
Sample : 1209190-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 17 Sample Multiplier: 1

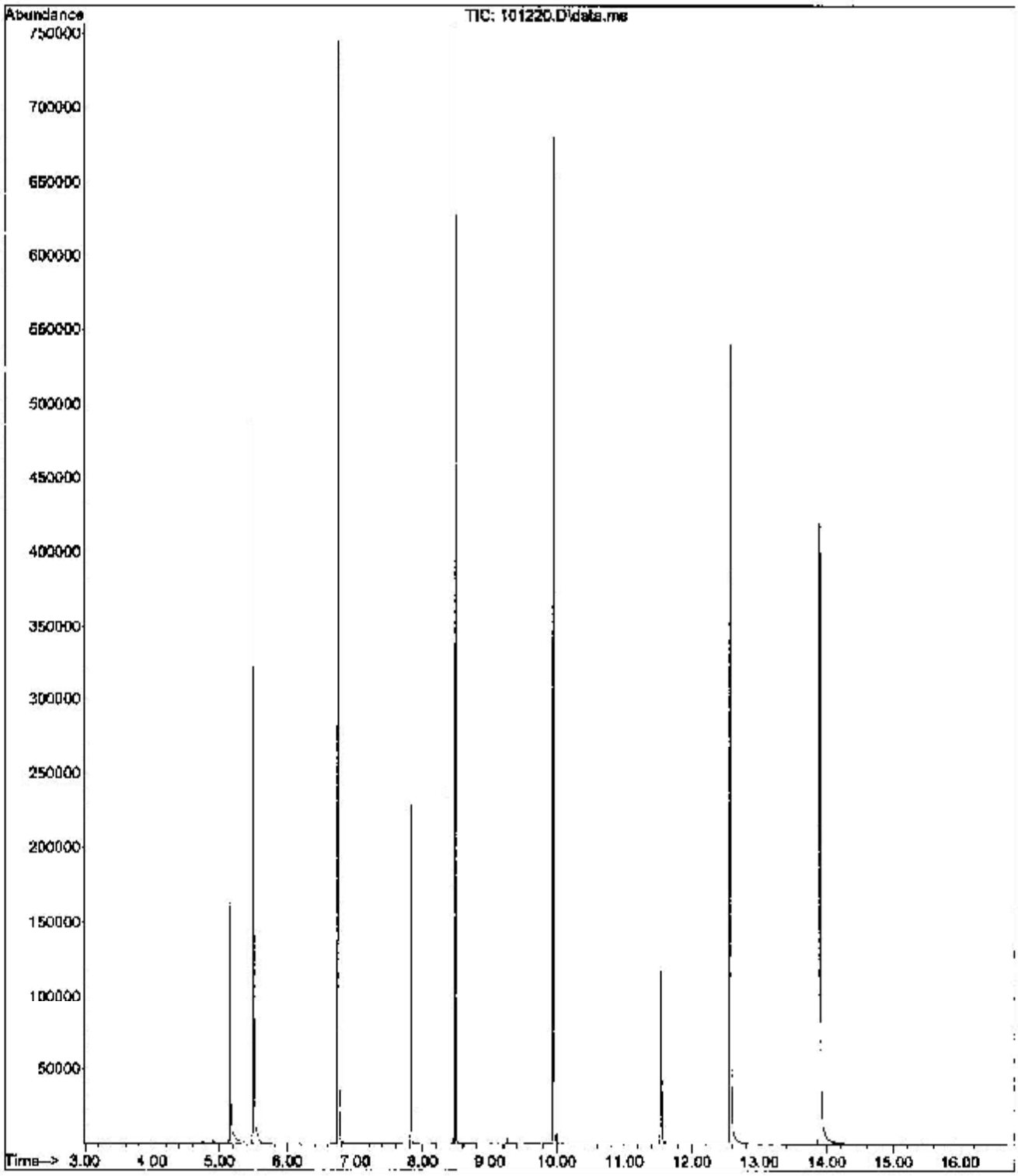
Quant Time: Oct 12 10:09:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	182347	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	581629	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	291278	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476354	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	437643	2000.00 ug/L	0.00
25) Perylene d12 (IS)	13.888	264	439523	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	128215	925.65 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	129463	503.71 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91801	522.81 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.449	107	144	N.D.	
5) Naphthalene	6.766	128	219	N.D.	
6) 2-Methylnaphthalene	7.457	142	223	N.D.	
7) 1-Methylnaphthalene	7.550	142	207	N.D.	
9) Acenaphthylene	8.340	152	2	N.D.	
11) Acenaphthene	8.511	152	32	N.D.	
12) Fluorene	9.023	166	61	N.D.	
14) Phenanthrene	9.969	178	558	N.D.	
15) Anthracene	10.019	178	7	N.D.	
17) Fluoranthene	11.148	202	133	N.D.	
18) Pyrene	11.370	202	253	N.D.	
19) Benzo (a) anthracene	12.566	228	1324	5.16 ug/L #	100
21) Chrysene	12.566	228	803	N.D.	
22) benzo (b) fluoranthene	13.559	252	166	N.D.	
23) benzo (k) fluoranthene	13.582	252	243	N.D.	
24) benzo (a) pyrene	13.840	252	177	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	37	N.D.	
27) Dibenz (a,h) anthracene	14.970	278	24	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	75	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:41 2012 PAH

File : C:\Data\SVOC\101212\101220.D
Operator :
Acquired : 12 Oct 2012 7:54 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-001A
Misc Info : SAMP 8-PAH-STM-S-LIBBY
Vial Number: 17



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101221.D
Acq On : 12 Oct 2012 8:19 am
Operator :
Sample : 1209190-002A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 18 Sample Multiplier: 1

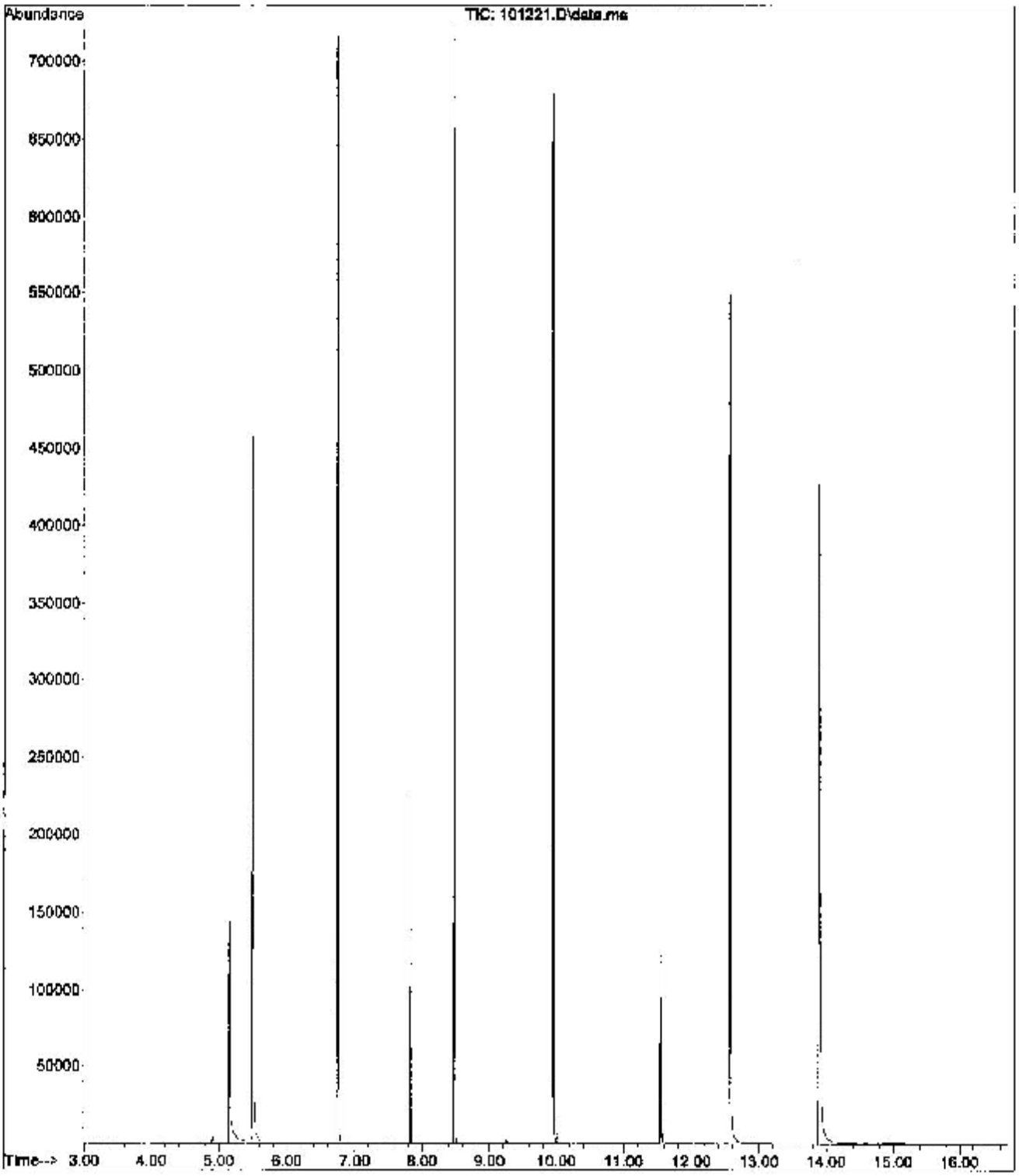
Quant Time: Oct 12 10:09:59 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:53:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	176791	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	563398	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	283405	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	466408	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.569	240	430439	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.890	264	440469	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	125791	936.69 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127252	511.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	92717	539.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.405	107	107	N.D.	
5) Naphthalene	6.769	128	313	N.D.	
6) 2-Methylnaphthalene	7.457	142	256	N.D.	
7) 1-Methylnaphthalene	7.552	142	262	N.D.	
9) Acenaphthylene	8.341	152	10	N.D.	
11) Acenaphthene	8.509	152	45	N.D.	
12) Fluorene	9.022	166	95	N.D.	
14) Phenanthrene	9.969	178	715	N.D.	
15) Anthracene	10.020	178	54	N.D.	
17) Fluoranthene	11.165	202	256	N.D.	
18) Pyrene	11.372	202	339	N.D.	
19) Benzo (a) anthracene	12.568	228	1308	5.21 ug/L #	100
21) Chrysene	12.568	228	917	N.D.	
22) benzo (b) fluoranthene	13.560	252	147	N.D.	
23) benzo (k) fluoranthene	13.583	252	221	N.D.	
24) benzo (a) pyrene	13.842	252	221	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.957	276	46	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	40	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:53 2012 PAH

File : D:\Data\SVOC\101212\101221.D
Operator :
Acquired : 12 Oct 2012 0:19 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 18



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101222.D
Acq On : 12 Oct 2012 8:44 am
Operator :
Sample : 1209190-005A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 19 Sample Multiplier: 1

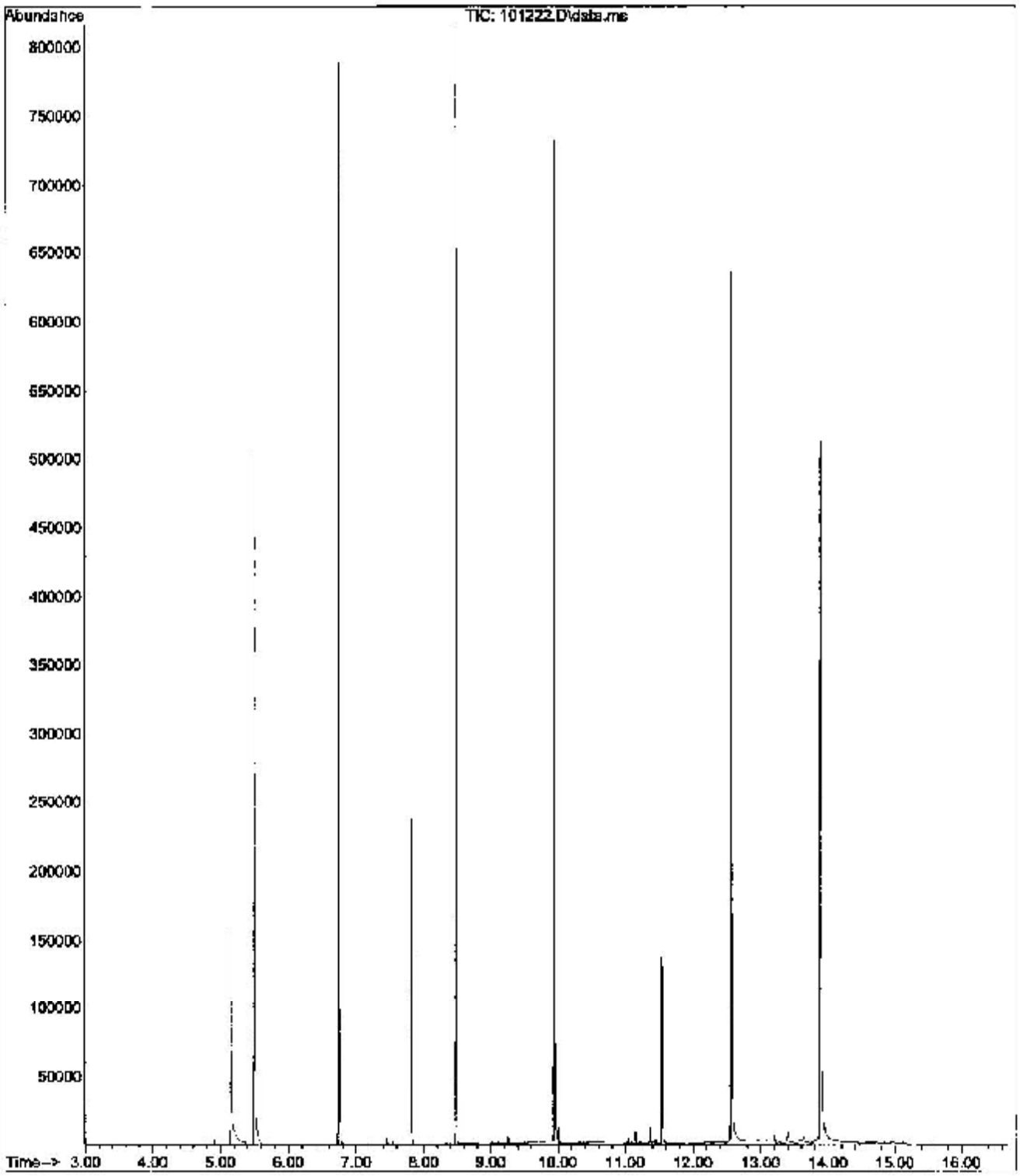
Quant Time: Oct 12 10:10:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	192995	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	618550	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	317234	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	516112	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.560	240	487636	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	504243	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	141098	962.45 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	132835	485.98 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99554	523.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.345	107	980	8.62 ug/L #	7
5) Naphthalene	6.767	128	2774	7.07 ug/L #	93
6) 2-Methylnaphthalene	7.455	142	1960	8.53 ug/L #	90
7) 1-Methylnaphthalene	7.550	142	1183	5.44 ug/L #	65
9) Acenaphthylene	8.340	152	727	N.D.	
11) Acenaphthene	8.475	152	93	N.D.	
12) Fluorene	9.022	166	748	N.D.	
14) Phenanthrene	9.968	178	4704	13.36 ug/L	99
15) Anthracene	10.021	178	1770	5.63 ug/L	94
17) Fluoranthene	11.149	202	7372	23.25 ug/L #	53
18) Pyrene	11.370	202	8516	25.70 ug/L #	27
19) Benzo [a] anthracene	12.561	228	4802	17.28 ug/L #	100
21) Chrysene	12.592	228	3016	8.56 ug/L #	32
22) benzo (b) fluoranthene	13.561	252	3106	12.13 ug/L #	100
23) benzo (k) fluoranthene	13.648	252	1782	N.D.	
24) benzo (a) pyrene	13.840	252	1867	7.94 ug/L #	1
26) Indeno(1,2,3-cd)pyrene	14.953	276	957	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	129	N.D.	
28) Benzo (g,h,i) perylene	15.262	276	1227	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:31:20 2012 PAH

File : D:\Data\SVOC\101212\101222.D
Operator :
Acquired : 12 Oct 2012 6:44 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-005A
Misc Info : SAMP C-PAH-SIM-S-LIBBY
Vial Number: 19



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012C

CCV Name: CAL MID POINT

Run No: 0128

CCV SeqNo: 121771

Lab File ID (Standard): 101014.D

Date Analyzed: 10/10/2012

Instrument ID: GCMS-3

Time Analyzed: 17:48

GC Column: ID (mm): Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3307	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3307	206728	5.495	335186	8.478	483323	12.567	672101	6.745
03	CCV-3307	225889	5.498	384635	8.481	629788	12.568	745071	6.747
04	CCB-3307	260588	5.498	411097	8.48	599141	12.566	829511	6.747
05	MB-3307	179751	5.498	277961	8.48	384299	12.567	568862	6.747
06	LCS-3307	187731	5.495	304778	8.48	452574	12.568	699973	6.747
07	1209142-001A	167904	5.498	293033	8.48	431840	12.568	593470	6.747
08	1209142-001AMS	178484	5.498	287688	8.48	431641	12.568	671150	6.747
09	1209173-003A	180324	5.495	292212	8.478	439299	12.568	574014	6.747
10	1209173-003ADUP	176494	5.495	284577	8.478	430392	12.566	564806	6.747
11	1209190-001A	182347	5.498	291278	8.478	437643	12.566	581629	6.747
12	1209190-002A	178791	5.498	283405	8.478	430439	12.568	563398	6.747
13	1209190-005A	192995	5.498	317234	8.478	487638	12.568	618550	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012C

Run No: 6129

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121771

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		S5 Perylene-d1		8 Phenanthrene-d			
		AREA #	RT #	AREA #	RT #		
	12 HOUR STD	559722	13.889	814915	9.946		
	UPPER LIMIT	1119444	14.389	1629830	10.445		
	LOWER LIMIT	279861	13.389	407458	9.446		
	SAMPLE NO.						
01	ICB-3307	445839	13.885	642903	9.944		
02	ICV-3307	472138	13.887	518454	9.945		
03	CCV-3307	611998	13.885	856042	9.946		
04	CCB-3307	555535	13.885	685528	9.947		
05	MB-3307	362992	13.887	450696	9.945		
06	LCS-3307	431336	13.885	486073	9.946		
07	1209142-001A	419388	13.885	483359	9.945		
08	1209142-001AMS	424824	13.885	459410	9.946		
09	1209173-003A	444062	13.887	476874	9.945		
10	1209173-003ADUP	432564	13.885	467472	9.946		
11	1209190-001A	439523	13.885	476354	9.945		
12	1209190-002A	440469	13.89	466408	9.945		
13	1209190-005A	504243	13.887	516112	9.947		

IS5 Perylene-d12 = Perylene-d12

IS8 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area

AREA LOWER LIMIT = -50% of internal standard area

RT UPPER LIMIT = +0.50 minutes of internal standard RT

RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.

* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

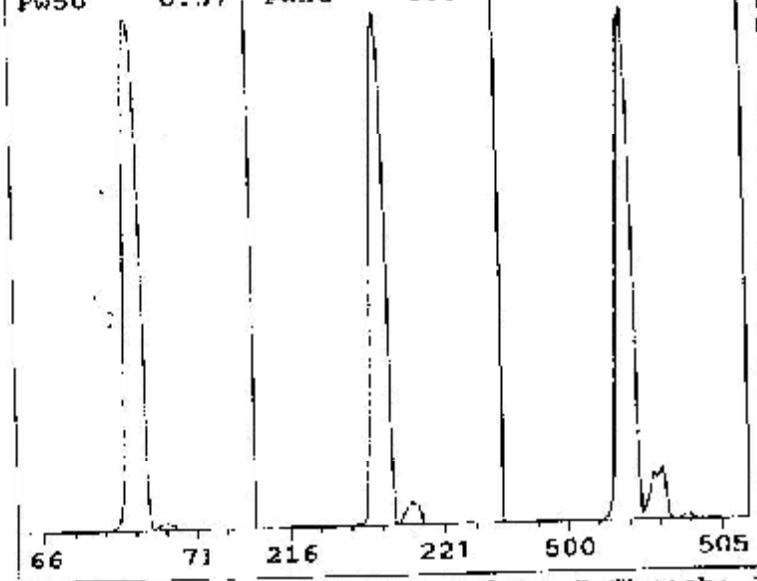
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00
Ab	496024	Ab	310727	Ab	13192
Pw50	0.57	Pw50	0.53	Pw50	0.55

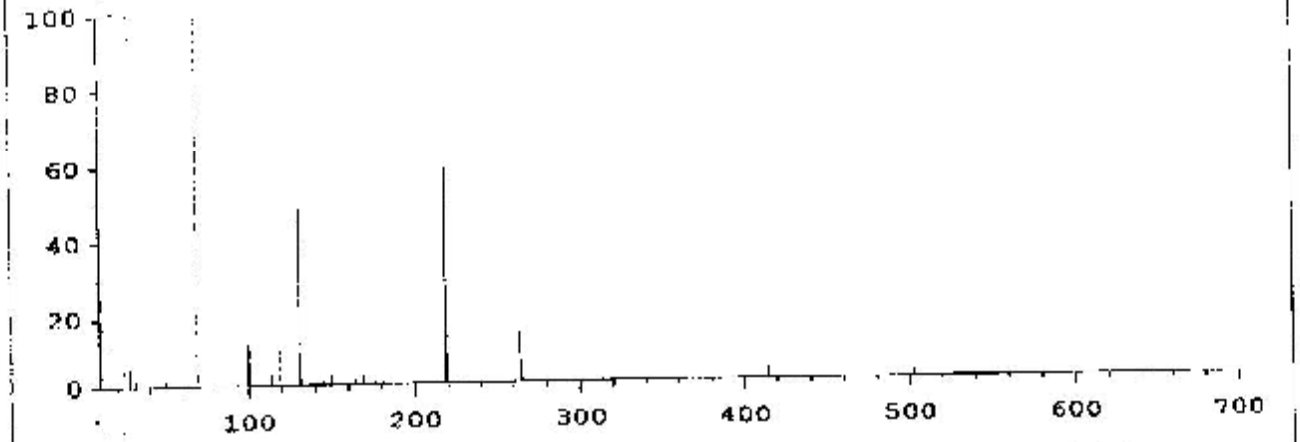
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

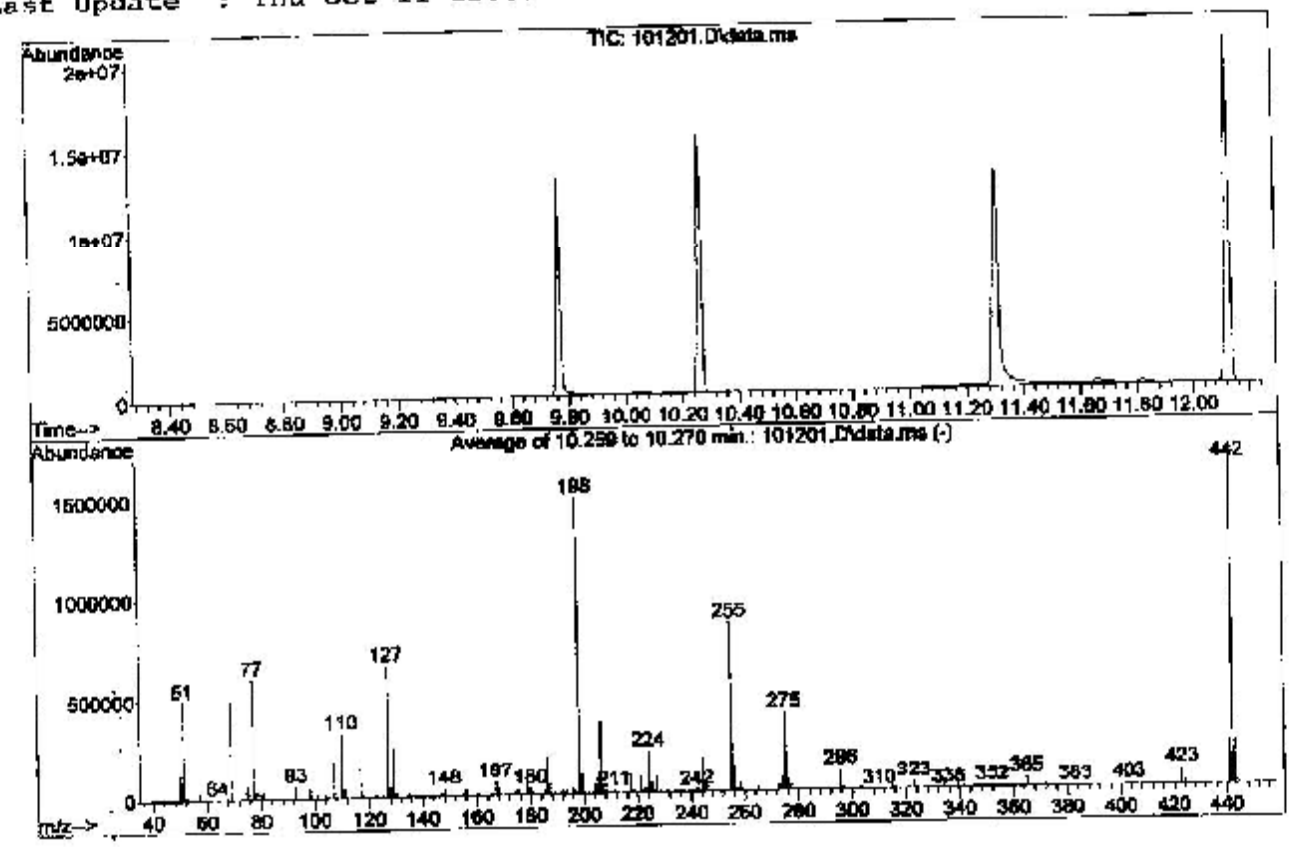
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	48.6	59.1	2.8	2.3	

DFTPP

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

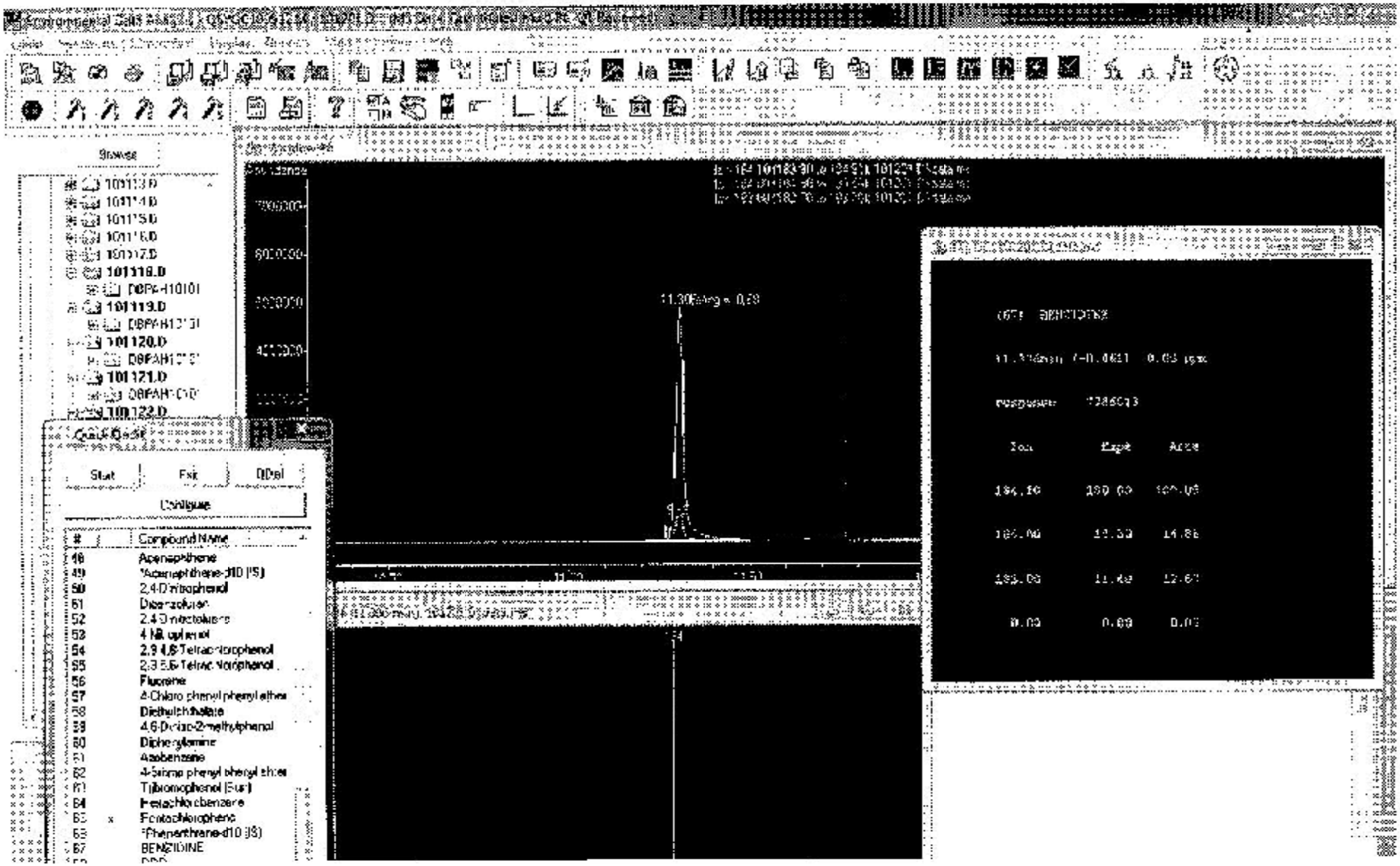
Integration File: RTEINTSG8270.P

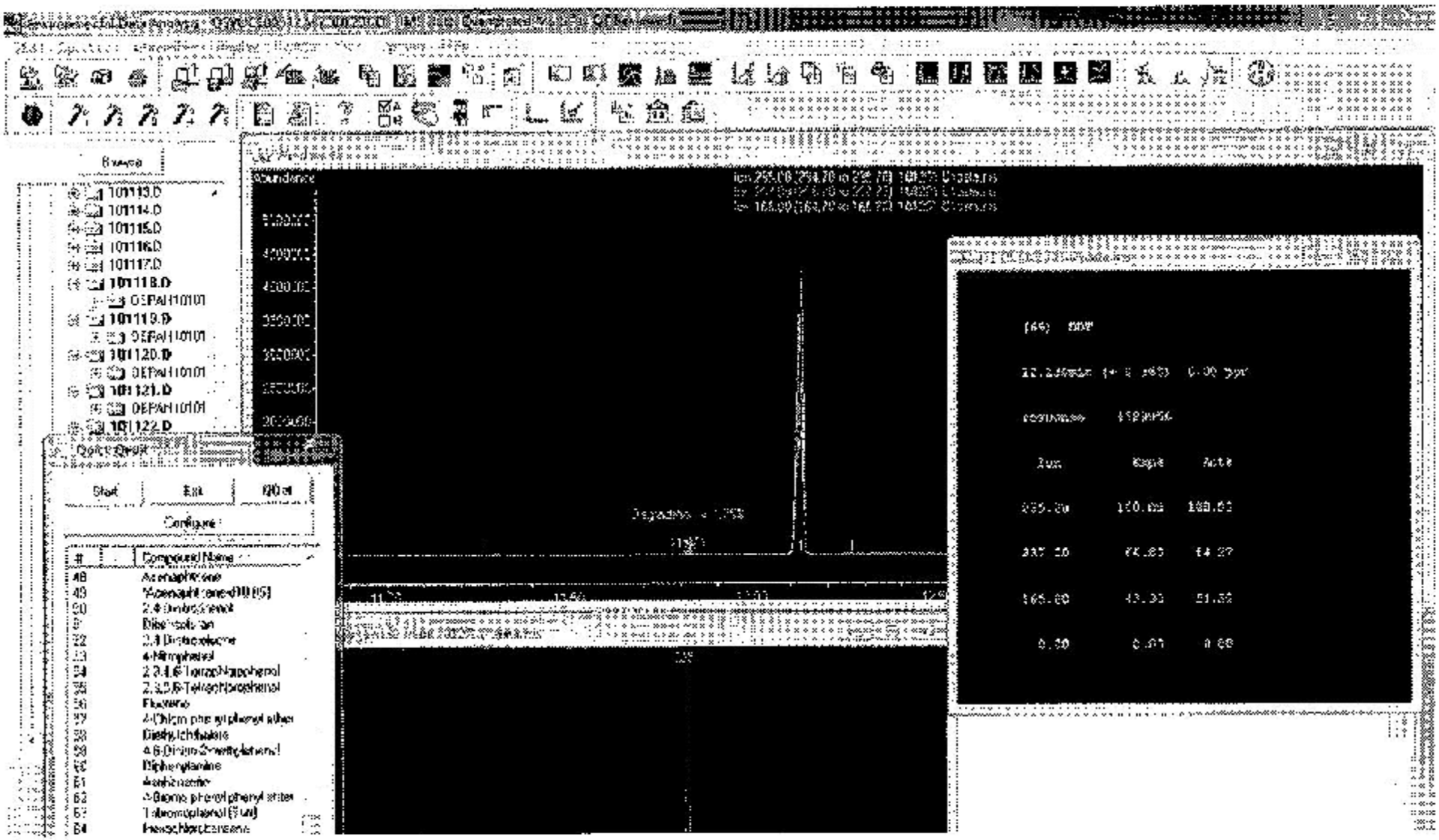
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

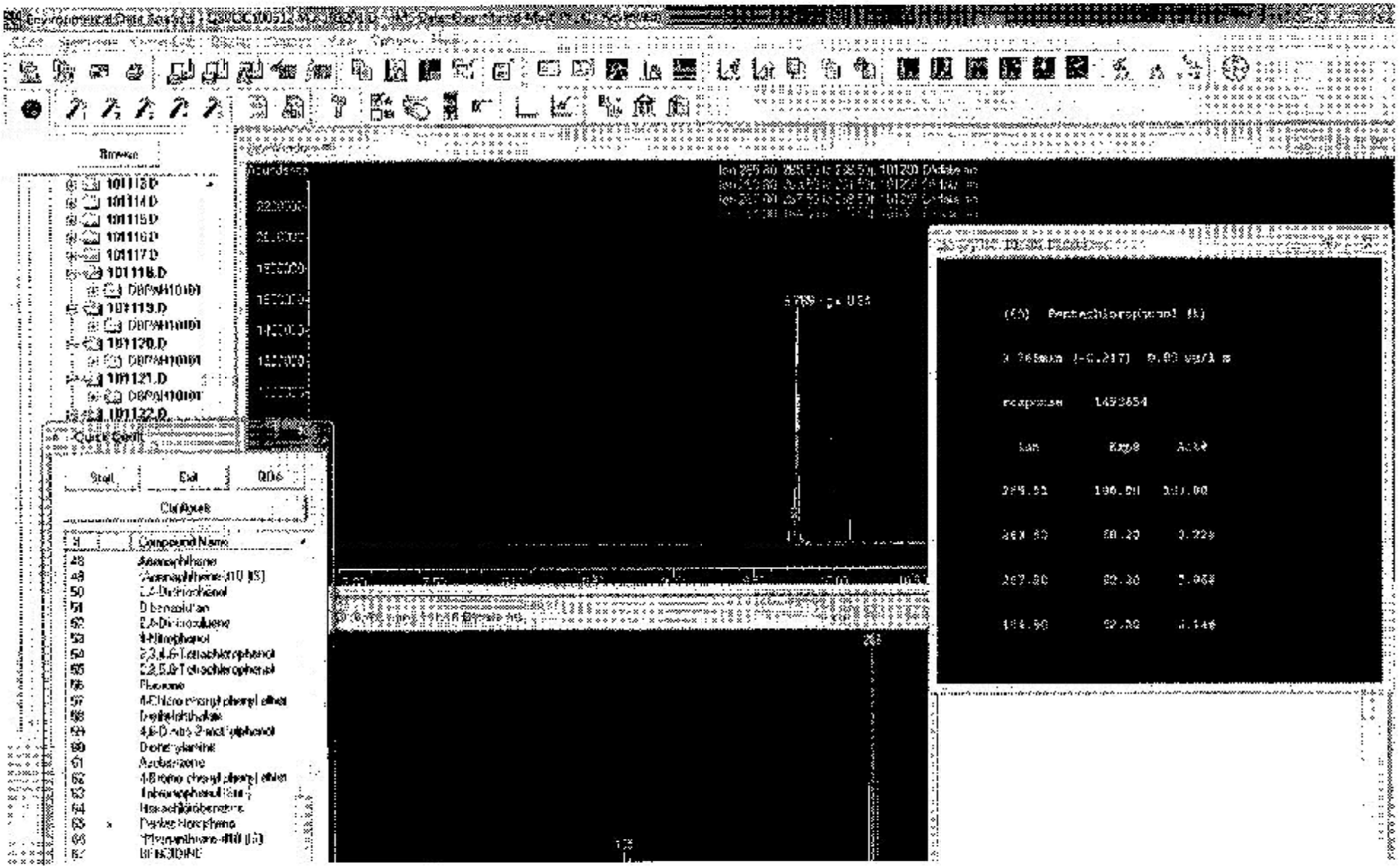


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Start
Exit
Delete
Configure
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expd Actd
184.10 100.00 100.00
185.00 15.53 14.86
186.00 11.42 12.67
0.00 0.00 0.00




Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confi
Stat
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
Phenanthrene
Anthracene
Fluoranthene
Pyrene
Chrysene
Benzo(a)anthracene
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Indeno(1,2,3-cd)pyrene
Dibenz(a,h)anthracene
Benzo(g,h,i)perylene
Perylene-d12 (IS)
Pentachlorophenol (S)
Pentachlorophenol (S)
Response 1493654
Ion Ratio Range Actual
295.92 196.00 200.00
297.90 80.20 5.96%
184.90 92.80 1.14%

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209190

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 6 sample(s) on 9/28/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209190

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209190-001	IRZ-B2-92712	09/27/2012 10:45 AM	09/28/2012 1:04 PM
1209190-002	IRZ-B3-92712	09/27/2012 11:05 AM	09/28/2012 1:04 PM
1209190-003	IRZ-B4-92712	09/27/2012 11:15 AM	09/28/2012 1:04 PM
1209190-004	IRZ-Dupe1-92712	09/27/2012 11:15 AM	09/28/2012 1:04 PM
1209190-005	IRZ-NESW1-92812	09/28/2012 8:45 AM	09/28/2012 1:04 PM
1209190-006	IRZ-B1-92812	09/28/2012 8:50 AM	09/28/2012 1:04 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209190**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/27/2012 10:45:00 AM

Project: Irondale

Lab ID: 1209190-001 **Matrix:** Soil

Client Sample ID: IRZ-B2-92712

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	49.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
Benzo(a)pyrene	ND	49.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
2,4-Dimethylphenol	ND	28.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
Surr: 2-Fluorobiphenyl	101	50.4-142		%REC	1	10/12/2012 7:54:00 AM
Surr: Phenol-d6	92.6	48.2-143		%REC	1	10/12/2012 7:54:00 AM
Surr: Terphenyl-d14 (surr)	105	48.8-157		%REC	1	10/12/2012 7:54:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	21.1			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/27/2012 11:05:00 AM

Project: Irondale

Lab ID: 1209190-002 **Matrix:** Soil

Client Sample ID: IRZ-B3-92712

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	54.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
Benzo(a)pyrene	ND	54.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
2,4-Dimethylphenol	ND	31.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
Surr: 2-Fluorobiphenyl	102	50.4-142		%REC	1	10/12/2012 8:19:00 AM
Surr: Phenol-d6	93.7	48.2-143		%REC	1	10/12/2012 8:19:00 AM
Surr: Terphenyl-d14 (surr)	108	48.8-157		%REC	1	10/12/2012 8:19:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (10.3 ug/kg) and the PQL.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	21.3			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/28/2012 8:45:00 AM

Project: Irondale

Lab ID: 1209190-005 **Matrix:** Soil

Client Sample ID: IRZ-NESW1-92812

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	43.9		µg/Kg-dry	1	10/12/2012 8:44:00 AM
Benzo(a)pyrene	ND	43.9		µg/Kg-dry	1	10/12/2012 8:44:00 AM
2,4-Dimethylphenol	ND	25.4		µg/Kg-dry	1	10/12/2012 8:44:00 AM
Surr: 2-Fluorobiphenyl	97.2	50.4-142		%REC	1	10/12/2012 8:44:00 AM
Surr: Phenol-d6	96.2	48.2-143		%REC	1	10/12/2012 8:44:00 AM
Surr: Terphenyl-d14 (surr)	105	48.8-157		%REC	1	10/12/2012 8:44:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	19.1			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3307**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICB**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121769**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3307**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICV**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121770**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,020	50.0	1,000	0	102	80	120				
Benzo(a)pyrene	995	50.0	1,000	0	99.5	80	120				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	80	120				
Surr: 2-Fluorobiphenyl	488		500.0		97.5	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	500		500.0		100	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCB-3307**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCB**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121773**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	498		500.0		99.5	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	497		500.0		99.4	48.8	157				

Sample ID: **MB-3307**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **MBLKS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121774**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	482		500.0		96.3	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-3307**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **LCSS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121775**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	76.1	123				
Benzo(a)pyrene	981	50.0	1,000	0	98.1	58.1	146				
2,4-Dimethylphenol	990	29.0	1,000	0	99.0	50	150				
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	1,040		1,000		104	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.2	48.8	157				

Sample ID: **1209142-001AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **BATCH**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,190	55.0	1,100	0	108	45.2	146				
Benzo(a)pyrene	1,180	55.0	1,100	0	107	34.4	179				
2,4-Dimethylphenol	1,130	31.9	1,100	0	103	50	150				
Surr: 2-Fluorobiphenyl	563		549.8		102	50.4	142				
Surr: Phenol-d6	1,090		1,100		98.7	48.2	143				
Surr: Terphenyl-d14 (surr)	567		549.8		103	48.8	157				

Sample ID: **1209173-003ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **BATCH**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	57.7						0	0	30	
Benzo(a)pyrene	ND	57.7						0	0	30	R
2,4-Dimethylphenol	ND	33.5						0	0	30	
Surr: 2-Fluorobiphenyl	603		577.0		104	50.4	142		0		
Surr: Phenol-d6	1,210		1,154		105	48.2	143		0		
Surr: Terphenyl-d14 (surr)	638		577.0		111	48.8	157		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/16/2012*

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209173-003ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **9/28/2012** RunNo: **6129**
Client ID: **BATCH** Batch ID: **3307** Analysis Date: **10/12/2012** SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There was a detection above the MDL (10.9 ug/kg) of 13.9 ug/kg.
R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209190**
Logged by: **Clare Griggs**	Date Received: **9/28/2012 1:04:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples not received in a cooler.						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Unknown prior to receipt						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☑	NA	☐
	Samples were chilled upon receipt by the lab						
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

Chain of Custody Record 120990

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: Libby Environmental
Address: see above
Phone: Fax:
Client Project #

Date: 9-28-12 Page: 1 of 1
Project Manager: Jamie Deyman
Project Name: Irondale
Location: City:
Collector: Date of Collection: 9-27;28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ-B2-92712		1045	SED	4oz Jar								X					Extract / hold
2 IRZ-B3-92712		1105	SED	4 oz Jar								X					" "
3 IRZ-B4-92712		1115	SED	4 oz Jar								X					" "
4 IRZ-Dupe1-92712		1115	SED	4 oz Jar								X					" "
5 IRZ-NESW1-92812		0845	SED	4 oz Jar								X					" "
6 IRZ-B1-92812		0850	SED	4 oz Jar								X					" "
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/28/12 13:04	[signature]	9/28/12 13:04
[signature]	Date / Time	[signature]	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Extract & hold for PAH analysis.

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record 120990A

Date: 9-28-12 Page: 1 of 1

Client: Libby Environmental
Address: See above
Phone: Fax:
Client Project #

Project Manager: Jamie Deyman
Project Name: Irondale
Location: City
Collector: Date of Collection: 9-27;28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	RCRA 8 Metals	Field Notes
1 IRZ-B2-92712		1045	SED	4oz Jar								X	X			Extract / hold
2 IRZ-B3-92712		1105	SED	4 oz Jar								X	X			" "
3 IRZ-B4-92712		1115	SED	4 oz Jar								X	X			" "
4 IRZ-DUP01-92712		1115	SED	4 oz Jar								X	X			" "
5 IRZ-NESW1-92812		0845	SED	4 oz Jar								X	X			" "
6 IRZ-B1-92712		0850	SED	4 oz Jar								X	X			" "
7																
8																run PAH per Emily A. 10/9/12 cg
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/28/12 13:04	[signature]	9/28/12 13:04
Relinquished by	Date / Time	Received by	Date / Time
Relinquished by	Date / Time	Received by	Date / Time

Sample Receipt
Good Condition?
Color
Seal's Intact?
Total Number of Containers

Remarks
Extract & hold for PAH analysis.

Distribution: White - Lab; Yellow - File; Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

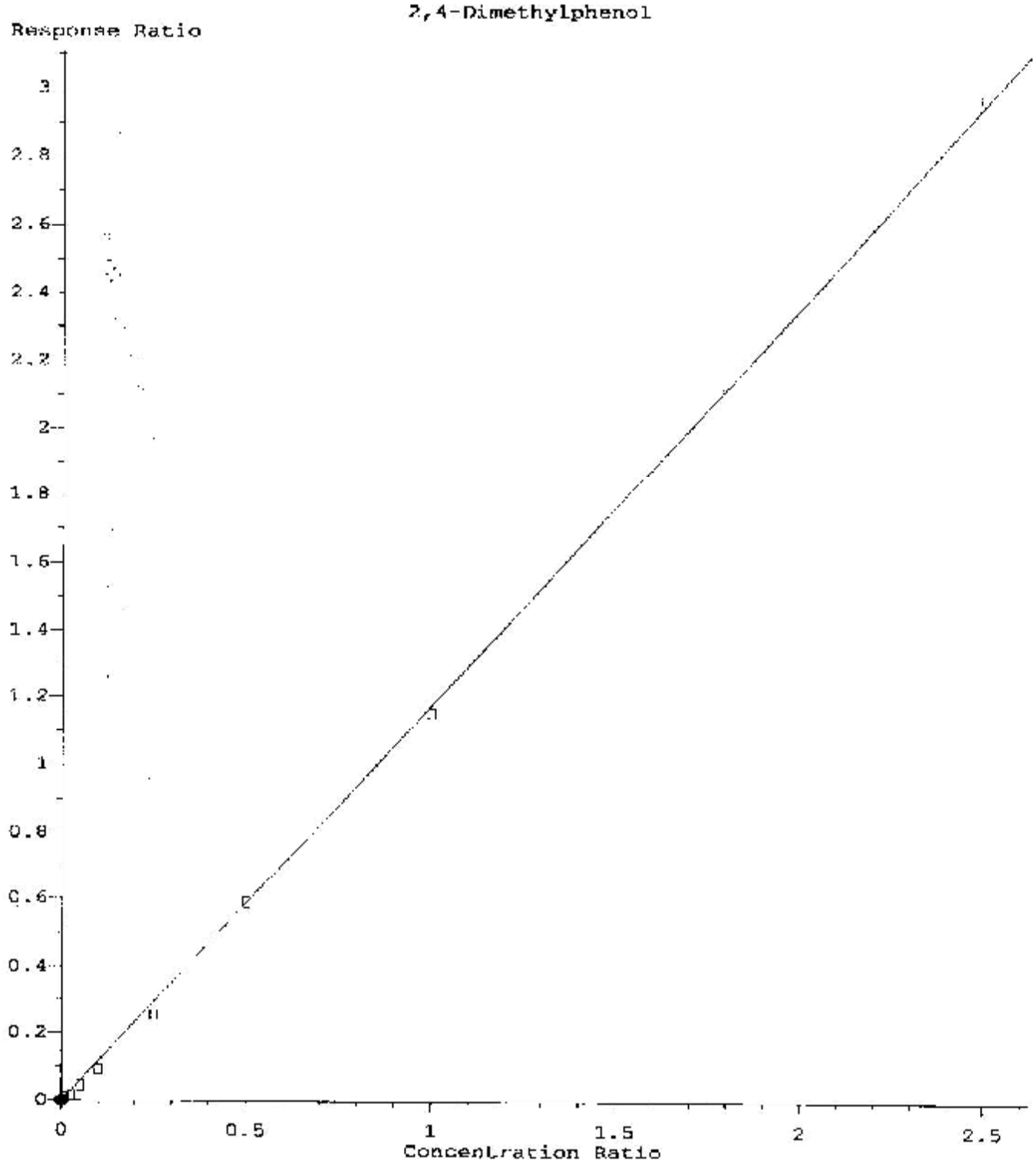
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

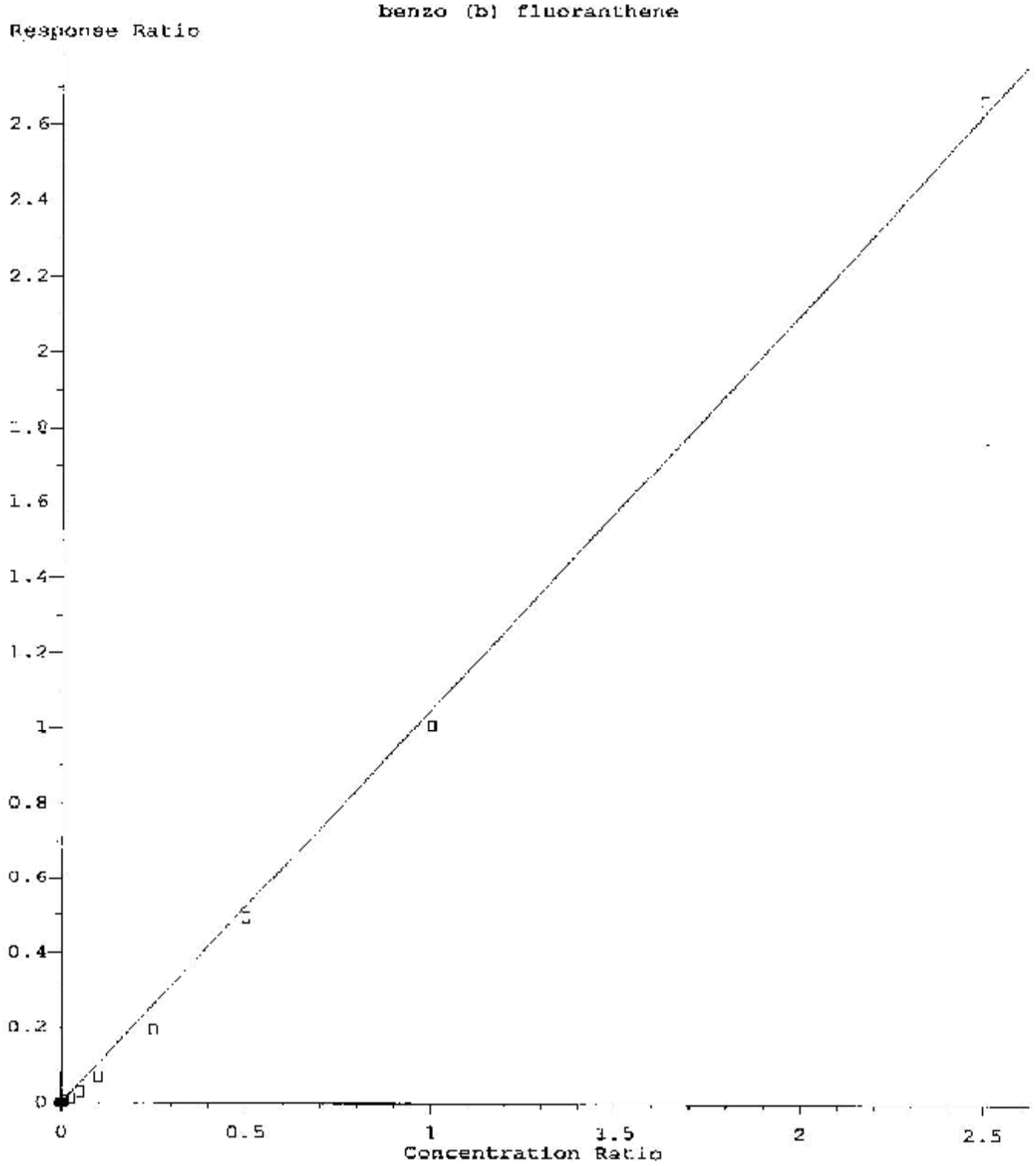
25)	I	Perylene-d12 (IS)	----------ISTD----------								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

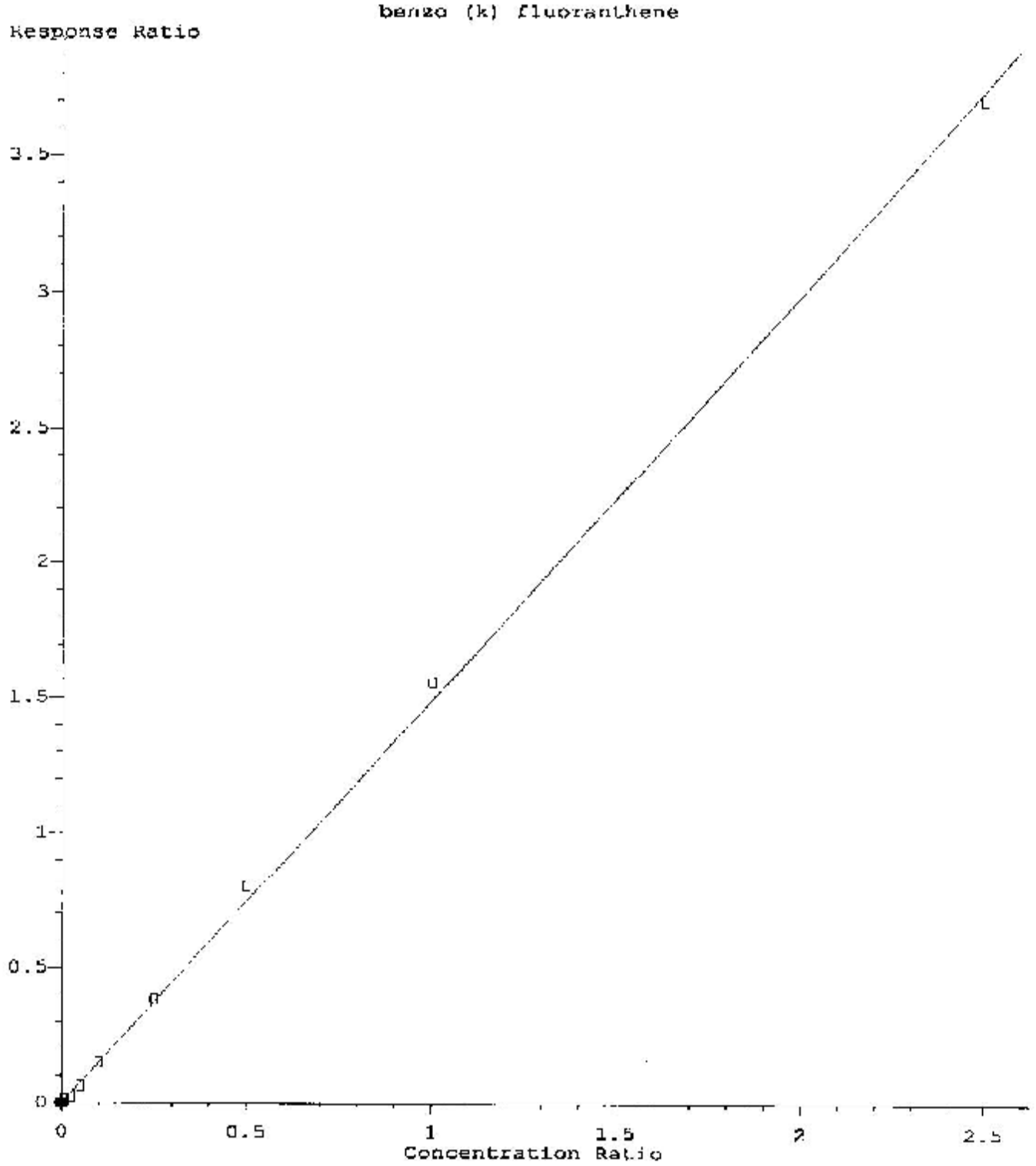
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



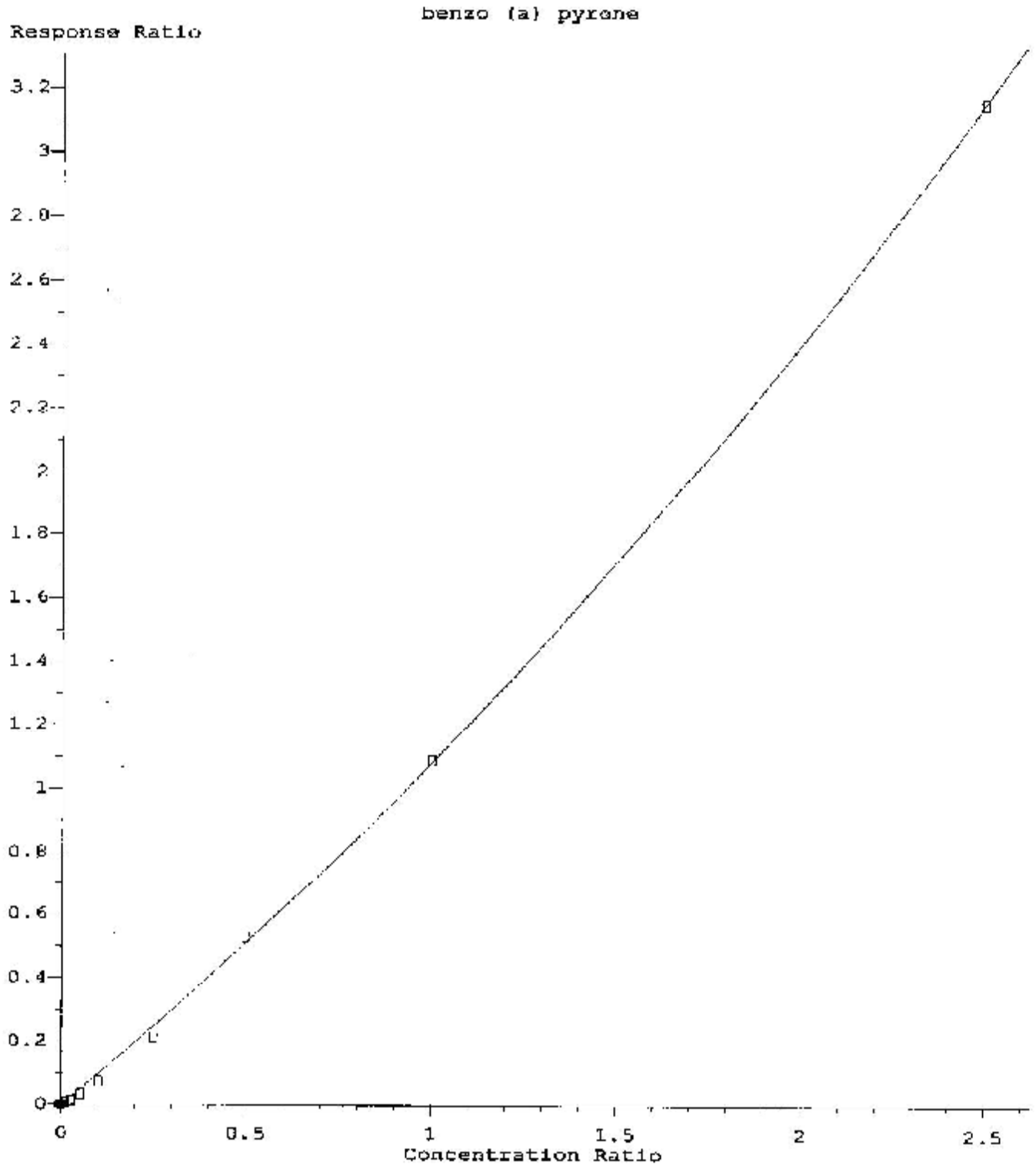
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



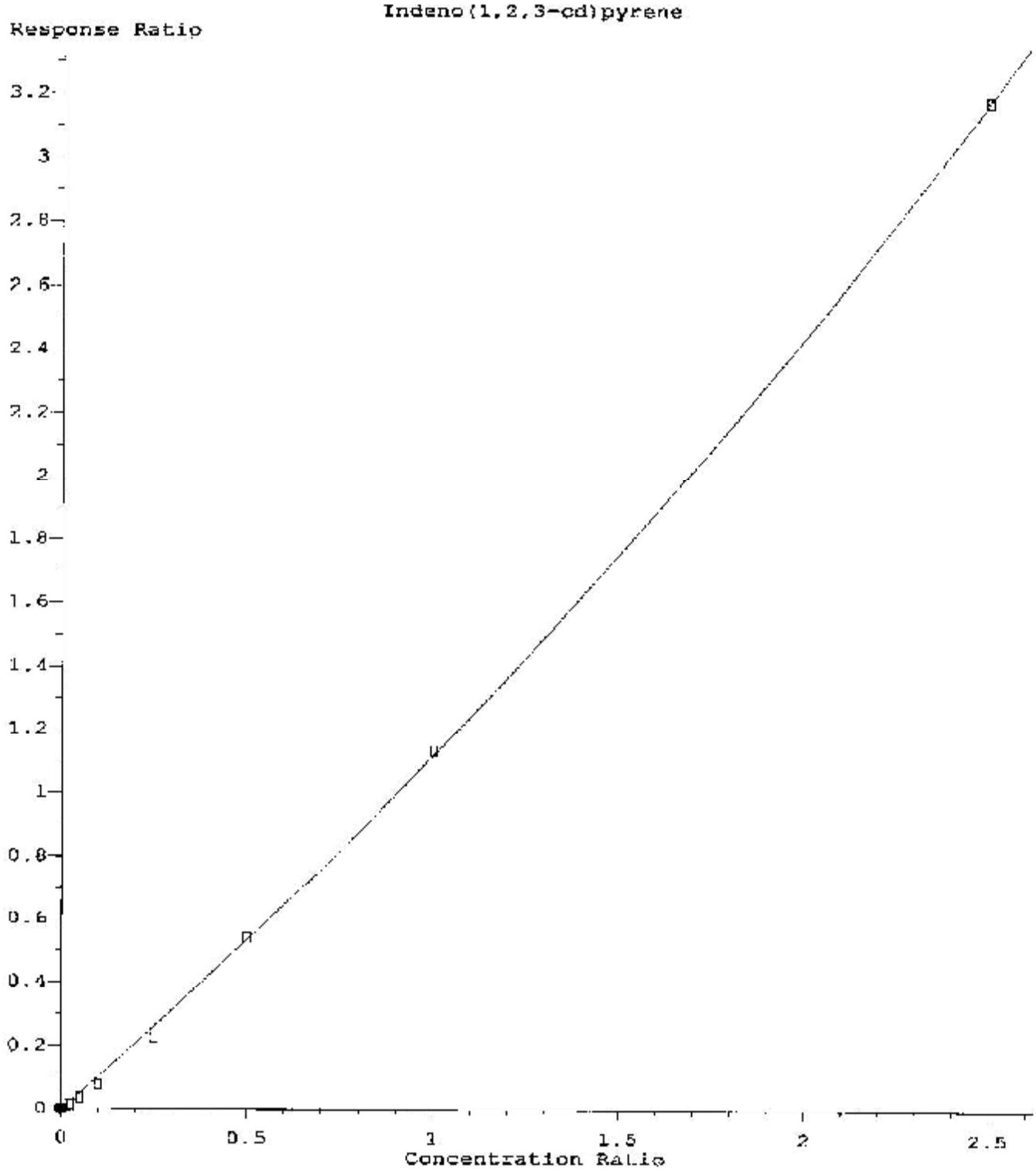
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



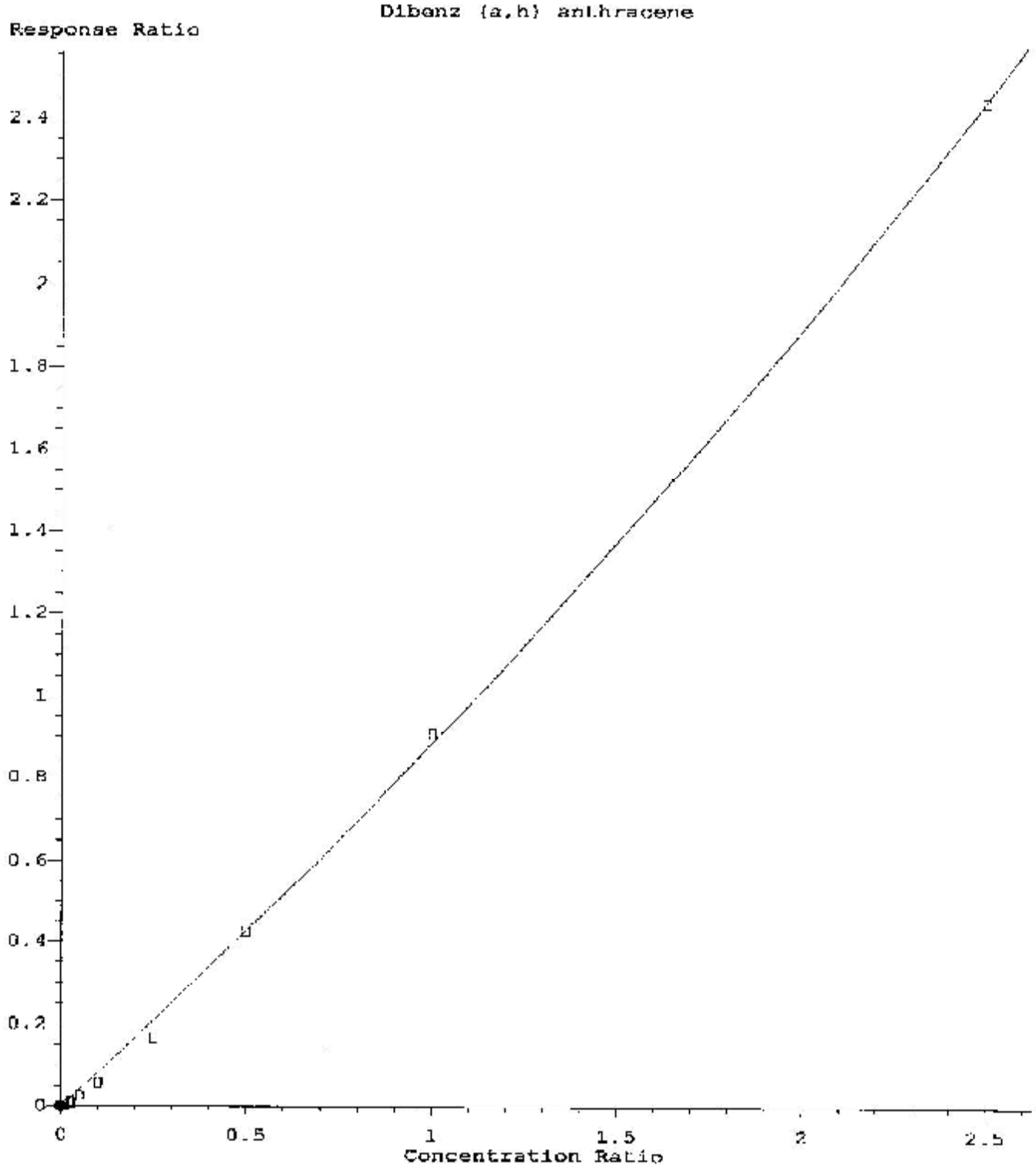
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



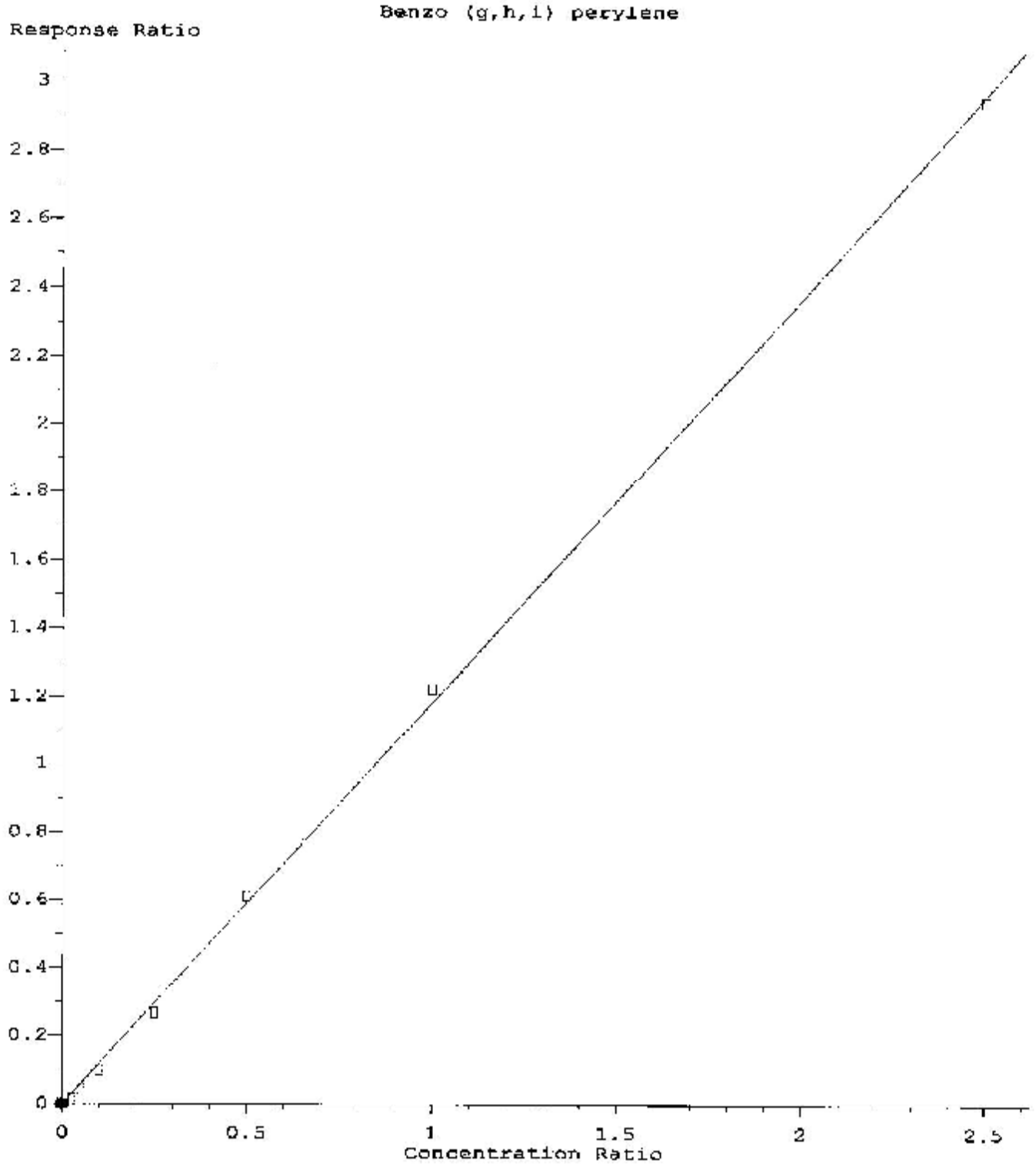
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

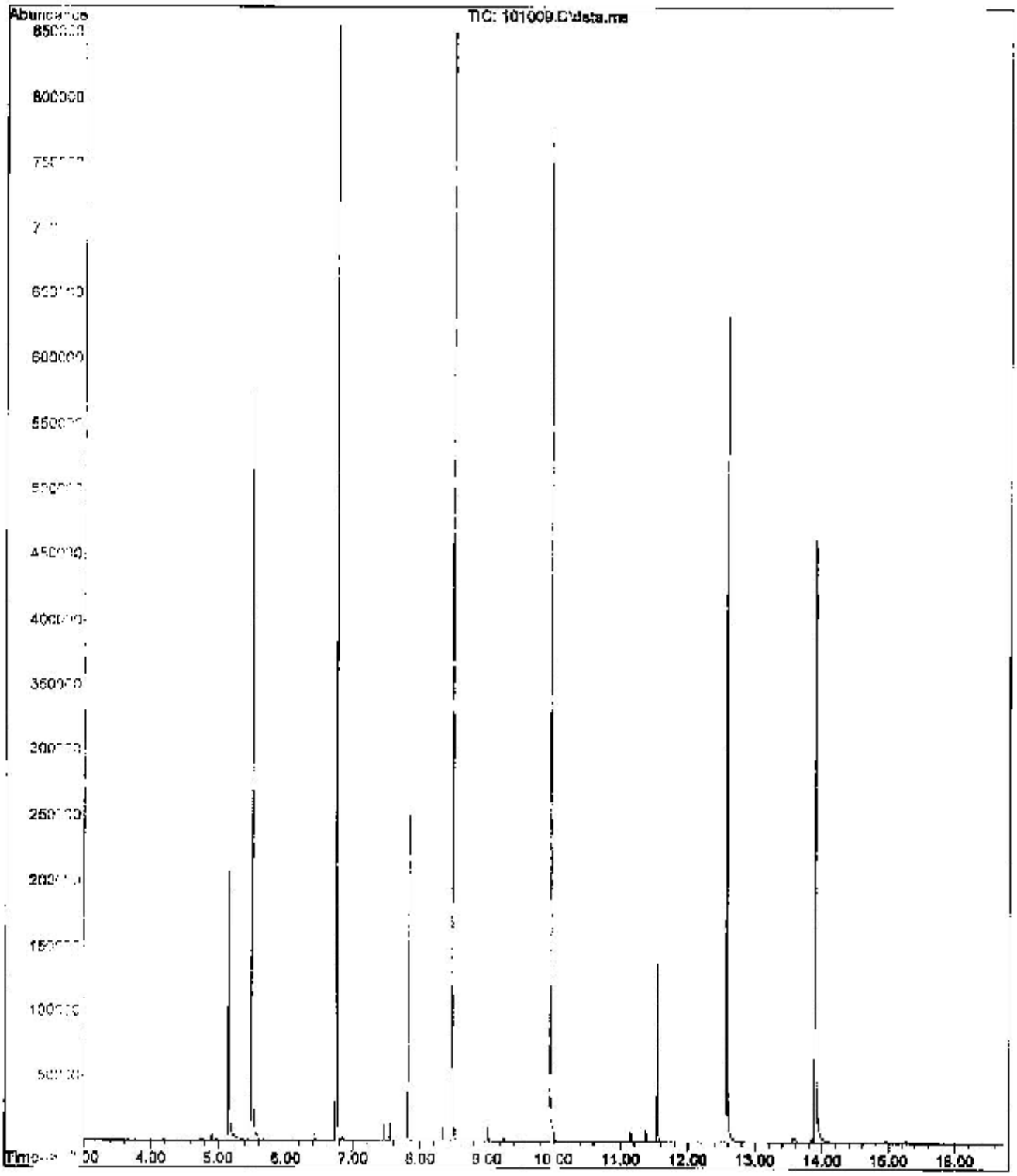
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	155780	971.54 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.430	107	1703m	13.70 ug/L		
5] Naphthalene	6.766	128	9729	22.54 ug/L		100
6] 2-Methylnaphthalene	7.455	142	5421	21.44 ug/L		100
7] 1-Methylnaphthalene	7.550	142	5172	21.59 ug/L		100
9] Acenaphthylene	8.338	152	7063	20.38 ug/L		100
11] Acenaphthene	8.508	152	2661	23.37 ug/L		99
12] Fluorene	9.021	166	5847	22.40 ug/L		97
14] Phenanthrene	9.967	178	8863	23.95 ug/L		100
15] Anthracene	10.020	178	6894	20.35 ug/L		97
17] Fluoranthene	11.145	202	6586	19.76 ug/L	#	94
18] Pyrene	11.368	202	6766	19.42 ug/L	#	85
19] Benzo (a) anthracene	12.559	228	6945	23.77 ug/L	#	100
21] Chrysene	12.592	228	8752m	25.21 ug/L		
22] benzo (b) fluoranthene	13.556	252	2936	11.32 ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	5957	16.17 ug/L		99
24] benzo (a) pyrene	13.835	252	2906	12.19 ug/L	#	52
26] Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	2052m	14.50 ug/L		
28] Benzo (g,h,i) perylene	15.256	276	3732m	18.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

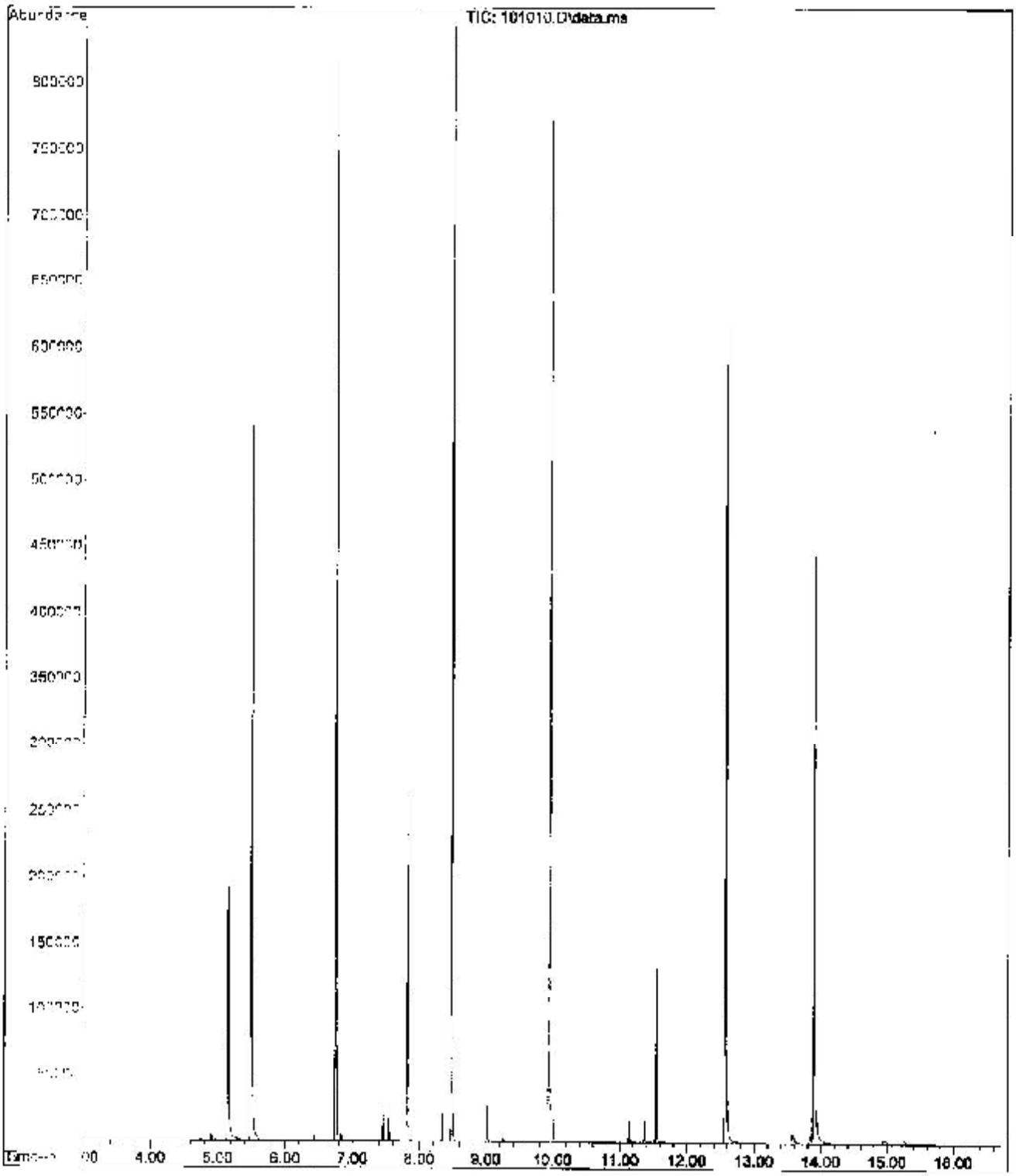
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mschem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo(a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo(b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo(k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo(a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz(a,h) anthracene	14.964	278	7702m	28.18 ug/L	
28) Benzo(g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 EL.M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

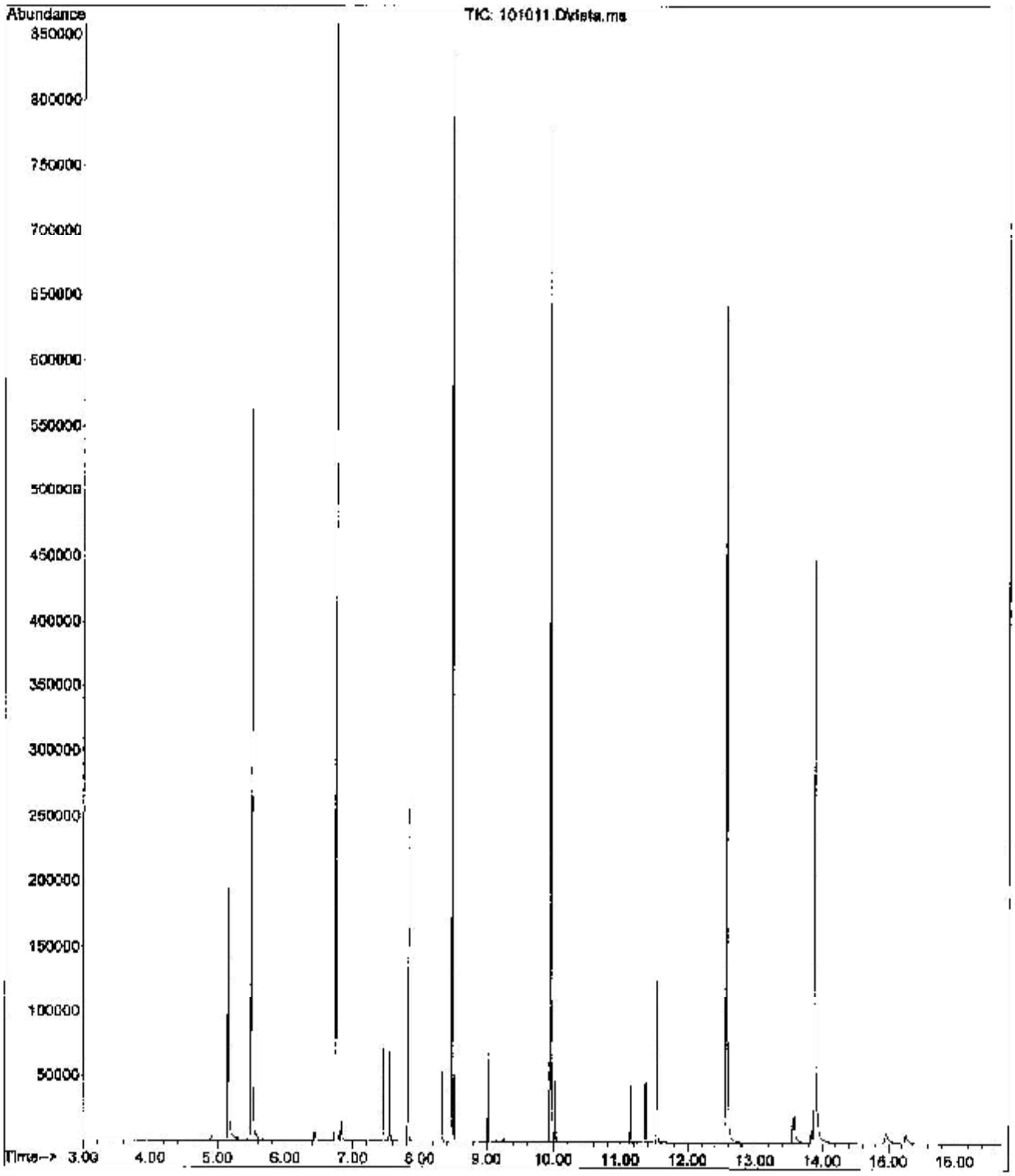
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

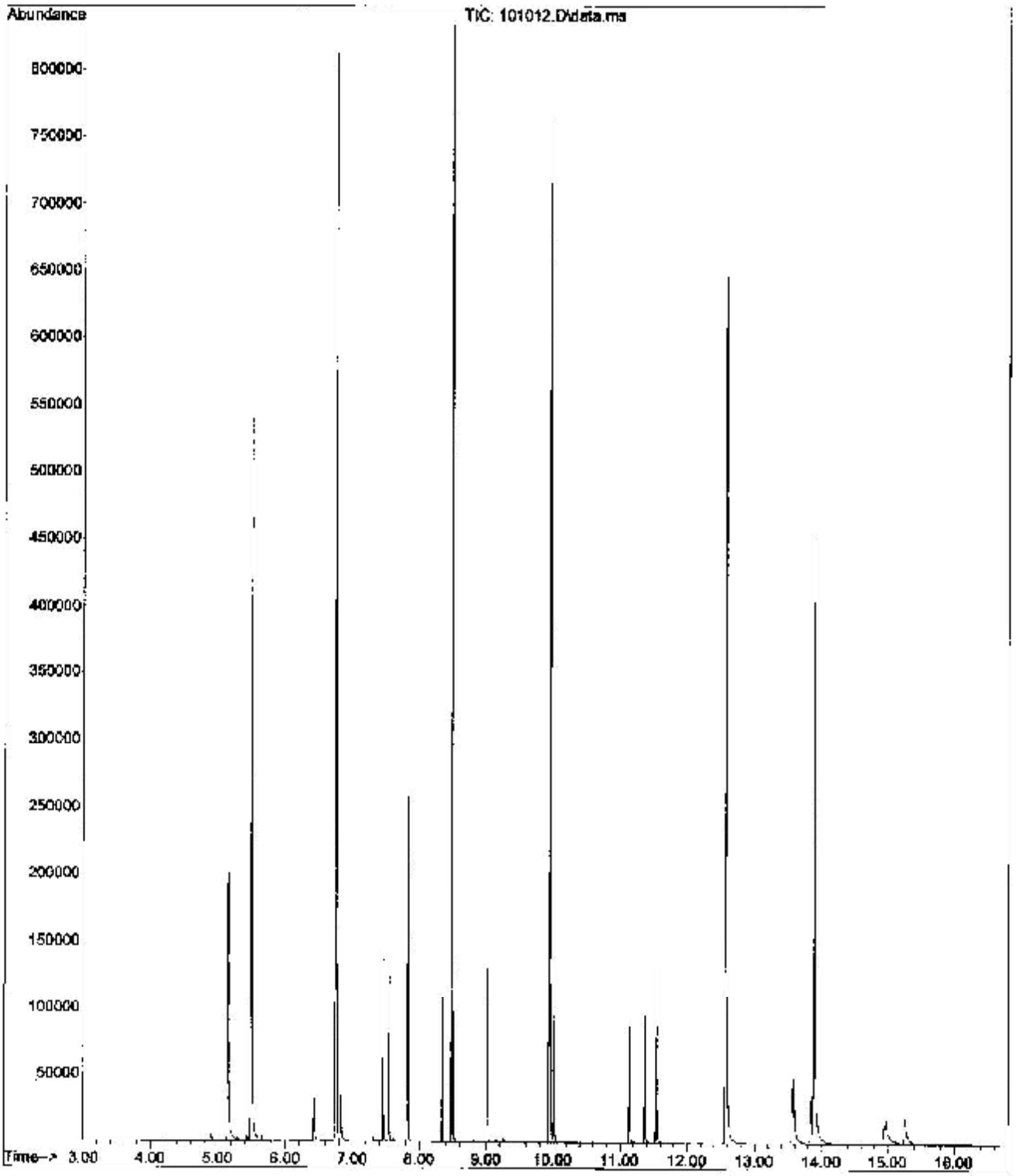
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PFB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

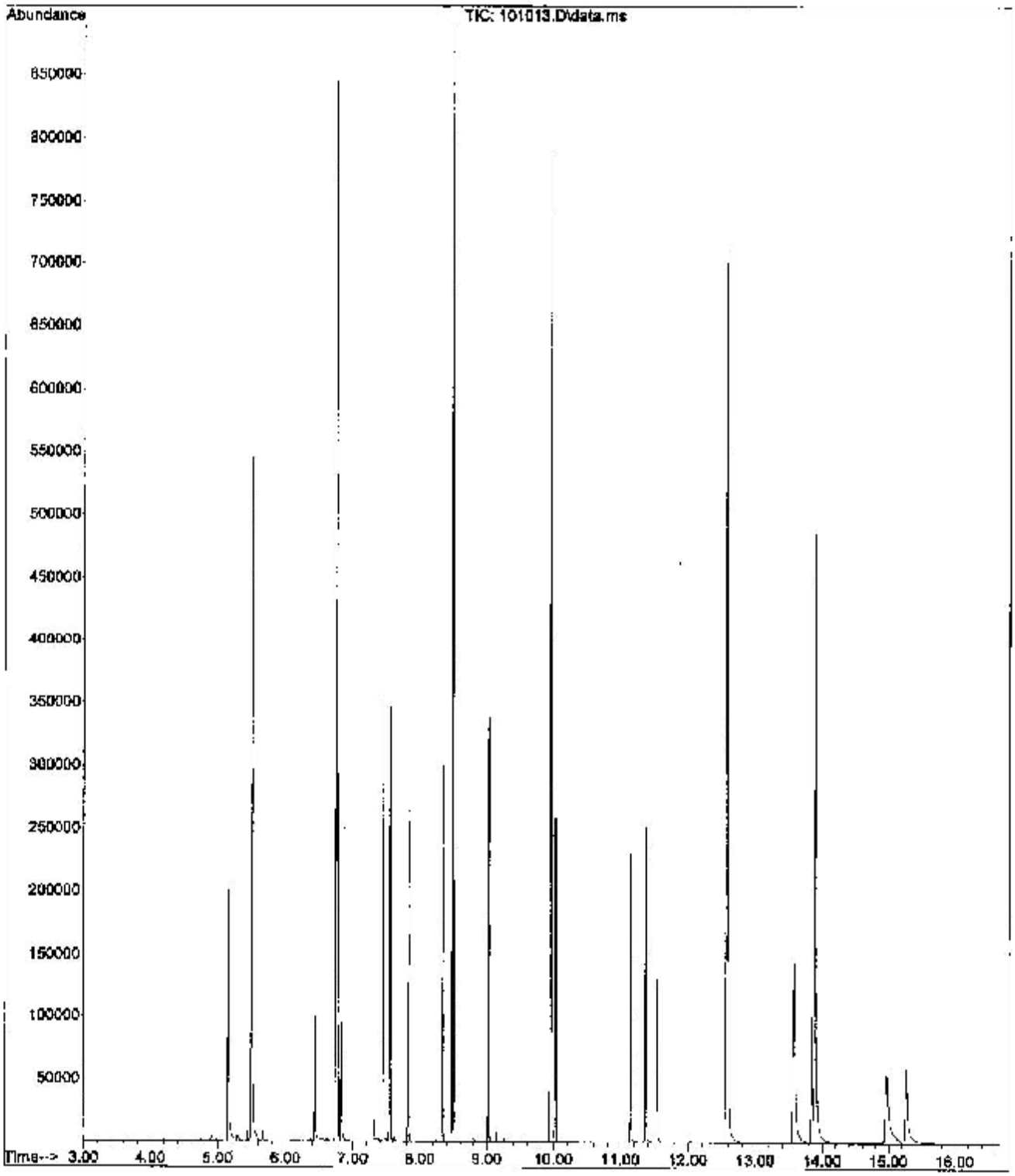
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.150	99	155773	999.49 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L	0.00
Target Compounds					Qvalue
3] 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L	
5] Naphthalene	6.767	128	210515	496.23 ug/L	100
6] 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L	98
7] 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L	97
9] Acenaphthylene	8.338	152	176929	519.35 ug/L	100
11] Acenaphthene	8.509	152	56451	496.90 ug/L	99
12] Fluorene	9.022	166	132700	509.61 ug/L	97
14] Phenanthrene	9.969	178	184698	505.37 ug/L	100
15] Anthracene	10.019	178	169453	506.64 ug/L	98
17] Fluoranthene	11.146	202	171838	522.16 ug/L	95
18] Pyrene	11.360	202	181345	527.17 ug/L	94
19] Benzo (a) anthracene	12.559	228	140369	486.48 ug/L #	100
21] Chrysene	12.593	228	176026	496.99 ug/L	95
22] benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L #	100
23] benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L	99
24] benzo (a) pyrene	13.837	252	108063	433.23 ug/L #	89
26] Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L	
27] Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L	
28] Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

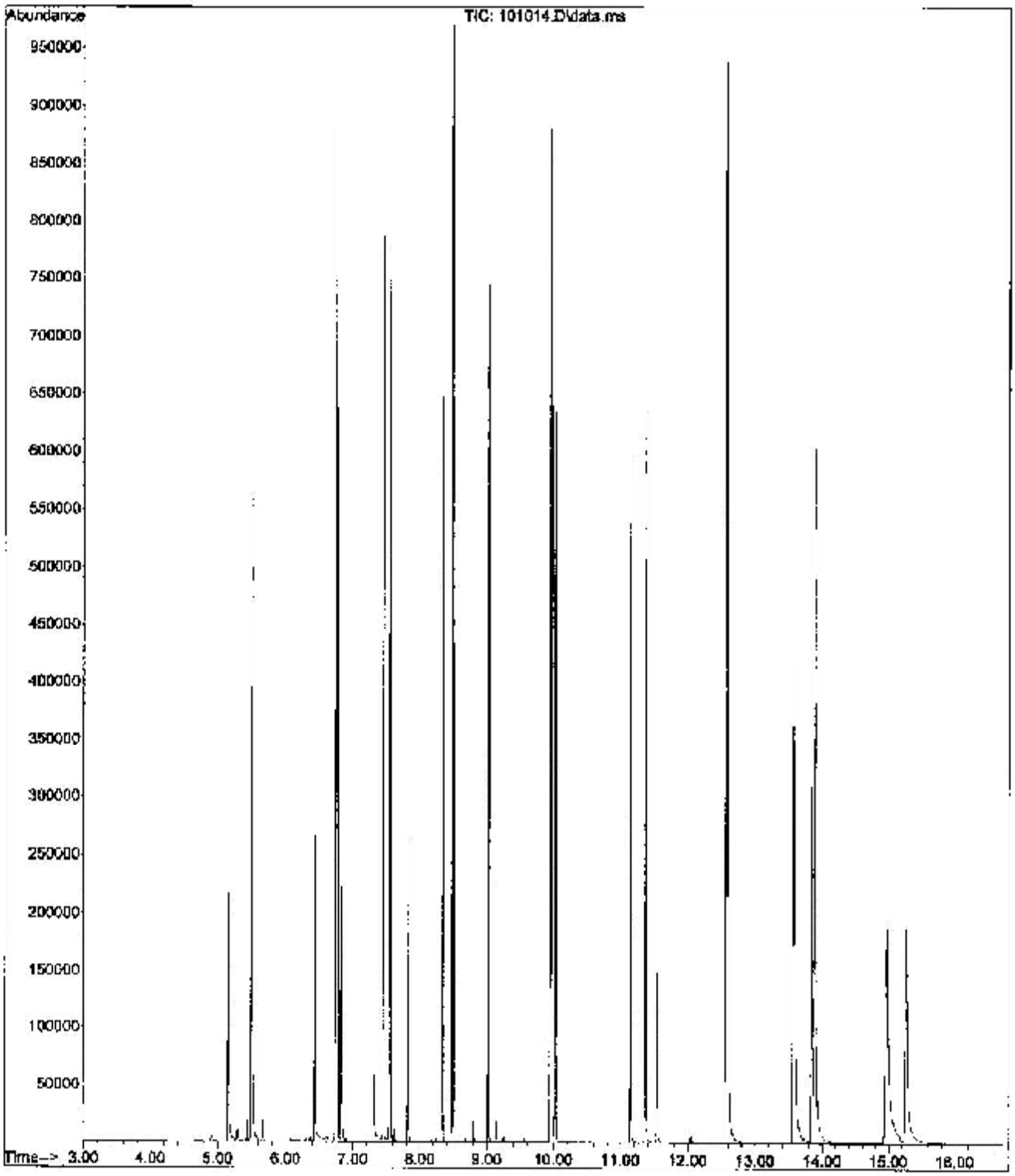
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

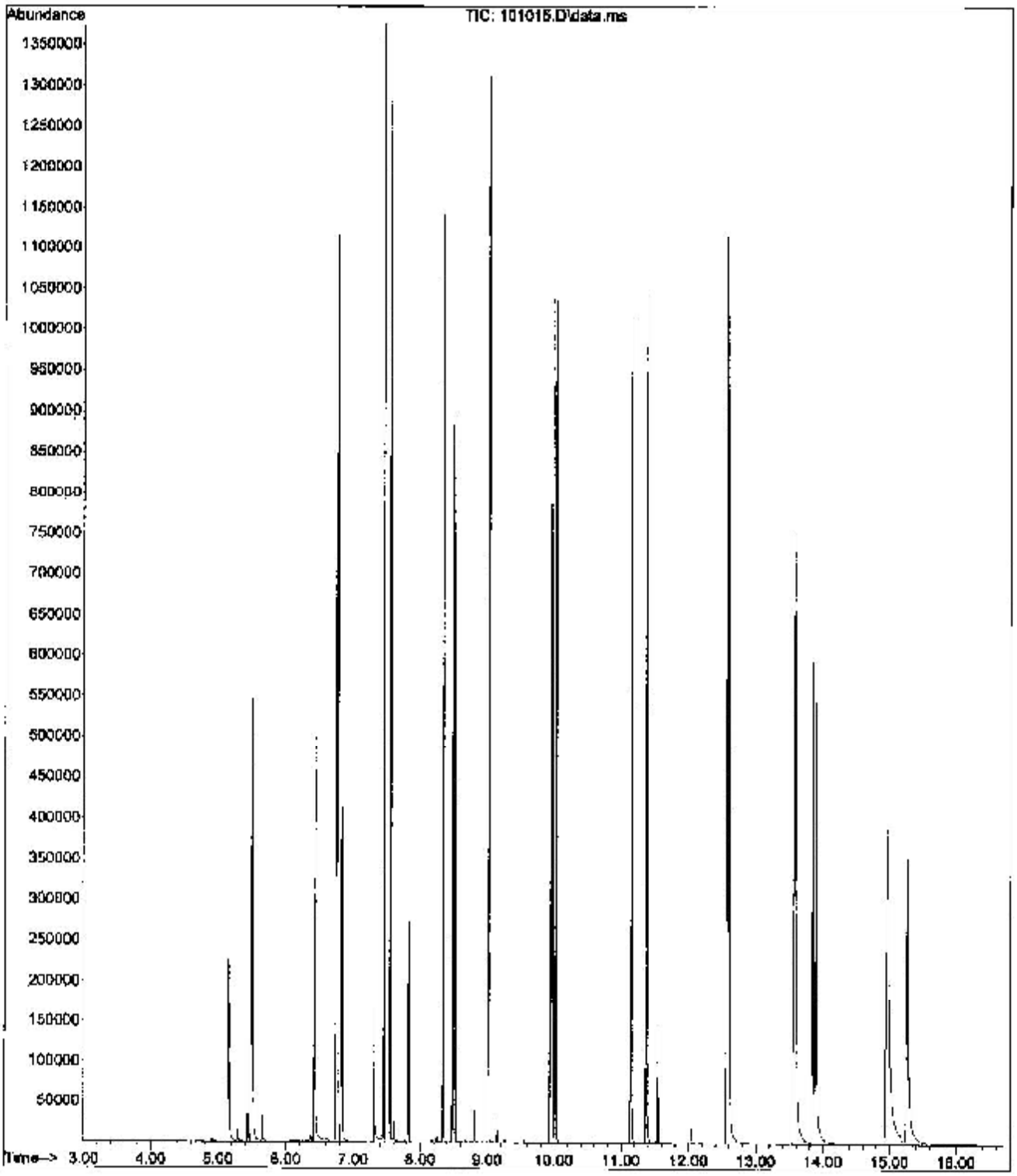
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	163666	1047.53 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L	99
5) Naphthalene	6.766	128	816382	1904.32 ug/L	100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L	98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L	97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L	100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L	99
12) Fluorene	9.021	166	512109	1923.55 ug/L	97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L	100
15) Anthracene	10.020	178	699103	2061.68 ug/L	98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L	95
18) Pyrene	11.370	202	759797	2178.54 ug/L	94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L #	100
21) Chrysene	12.593	228	718133	1956.30 ug/L	98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L #	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L	100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L	
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L	
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

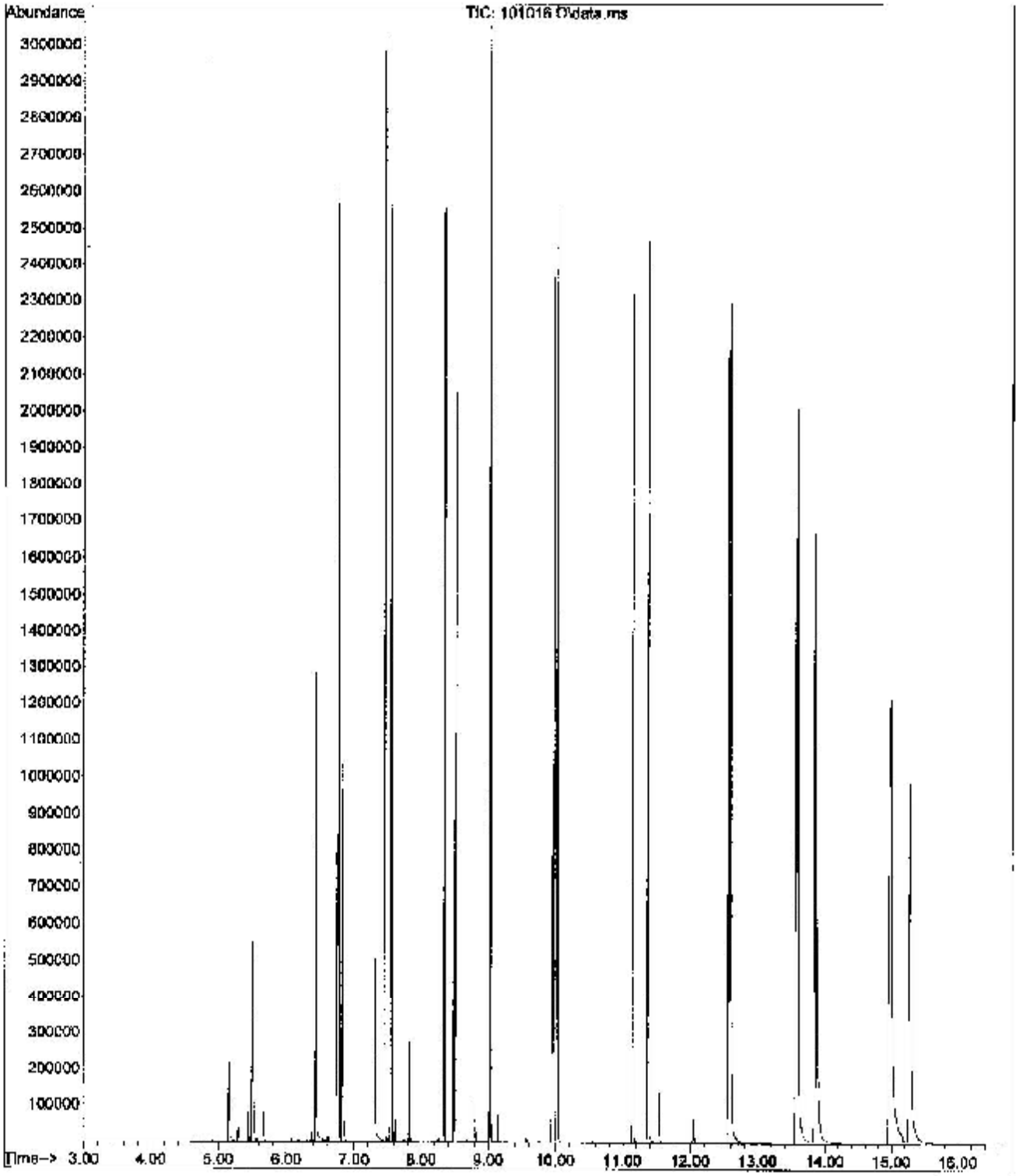
Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.590	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:55 2012 PAH

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 19 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

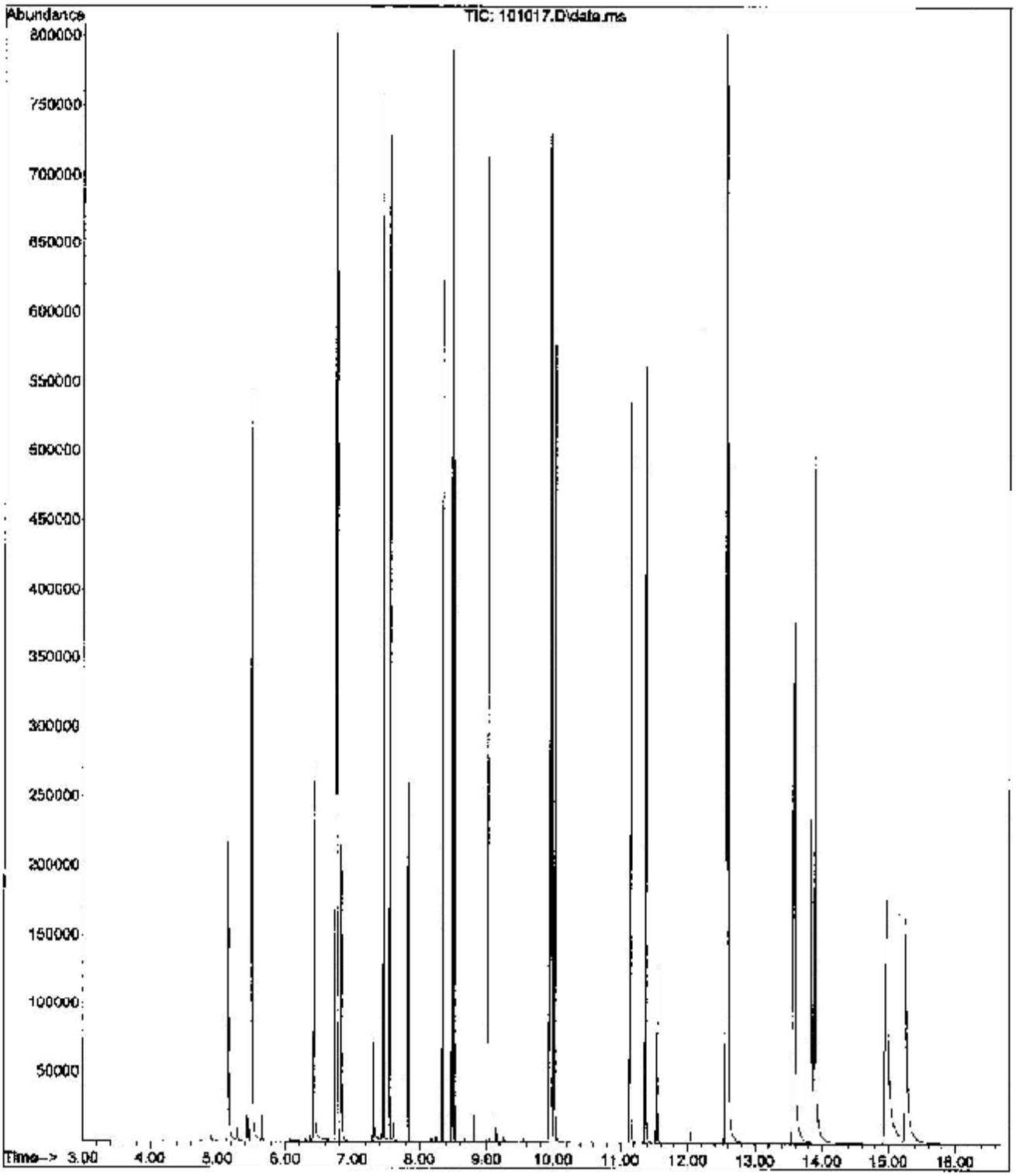
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	518454	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	158283	1053.76 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L		99
5) Naphthalene	6.766	128	450667	1106.23 ug/L		100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L		98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L		97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L		100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L		98
12) Fluorene	9.021	166	284009	1130.26 ug/L		97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L		100
15) Anthracene	10.020	178	377676	1194.93 ug/L		98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L		94
18) Pyrene	11.368	202	408900	1228.38 ug/L		94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L	#	100
21) Chrysene	12.593	228	392651	1100.37 ug/L		95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L		100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L		95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L		95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L		96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

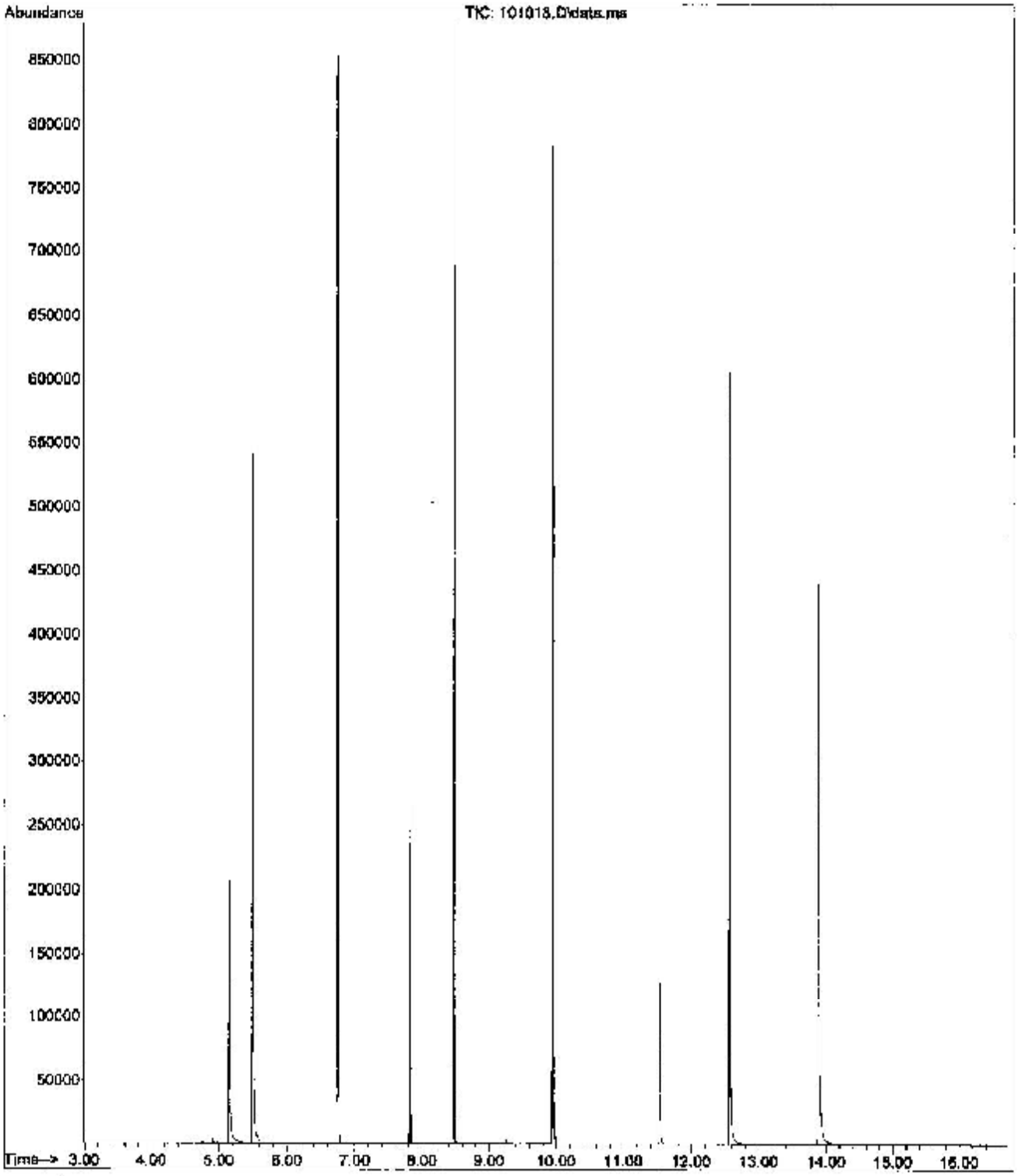
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

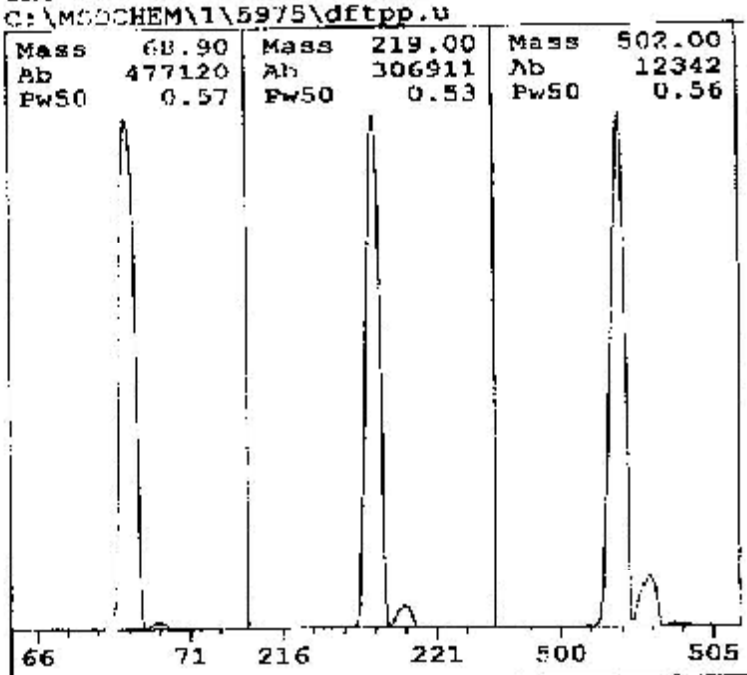


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

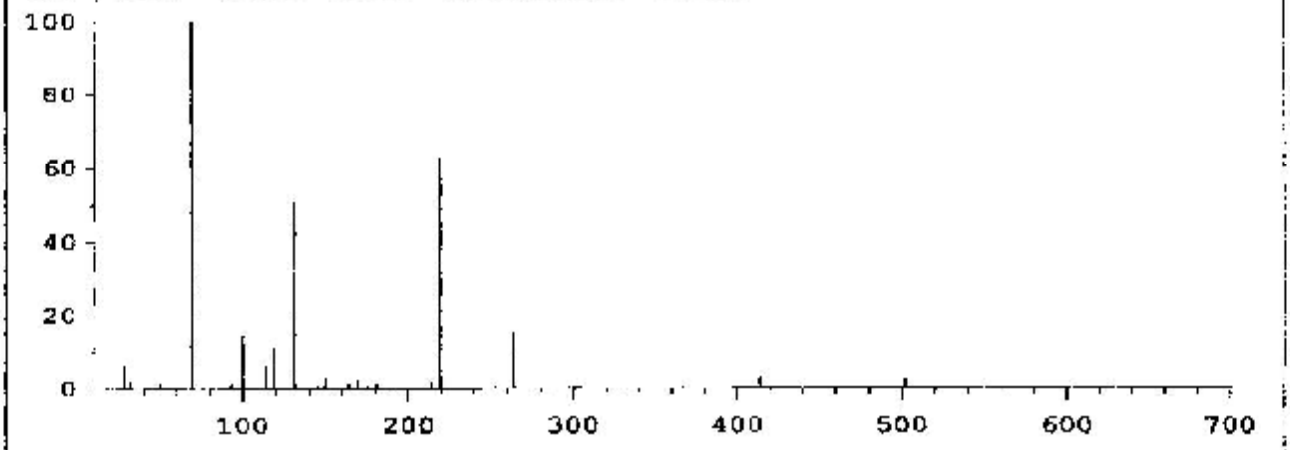


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O=0.56% N2=6.00% O2=1.93% CO2=0.18% N2/H2O=1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

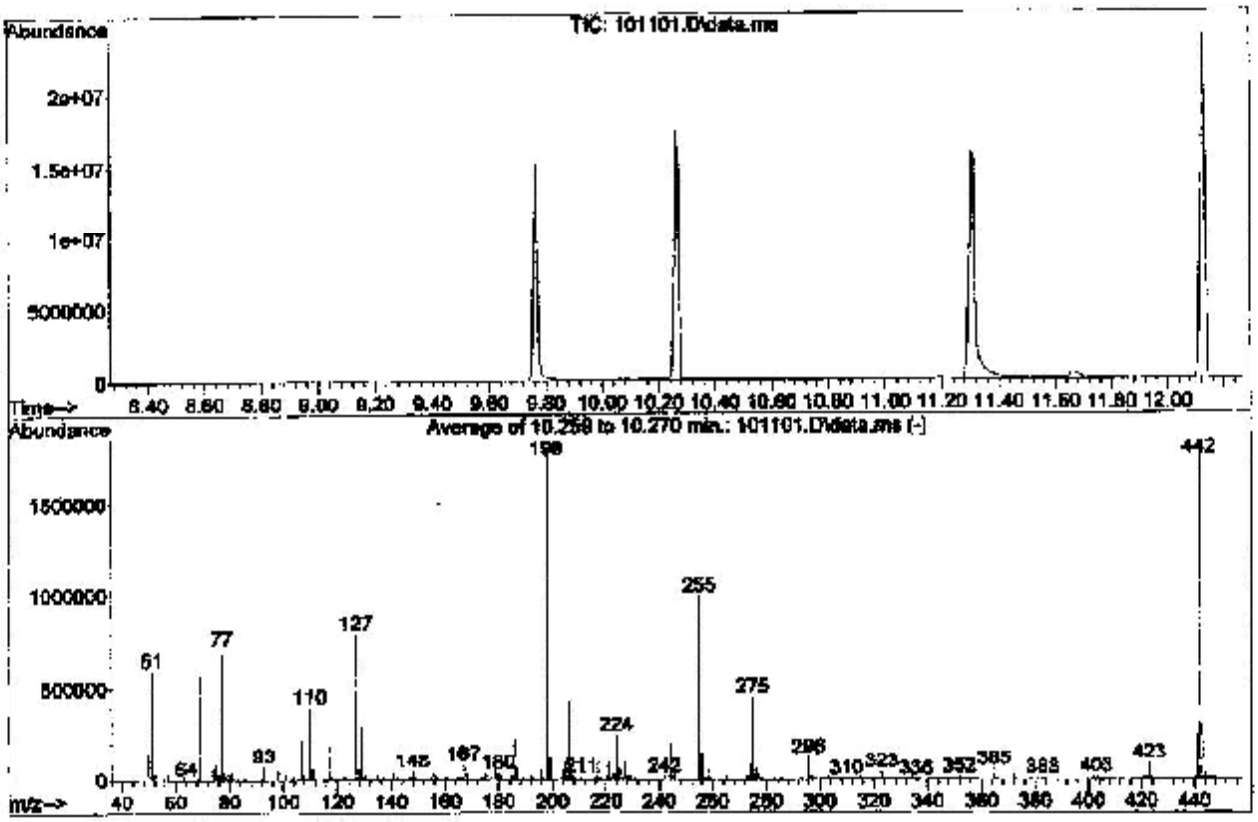
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

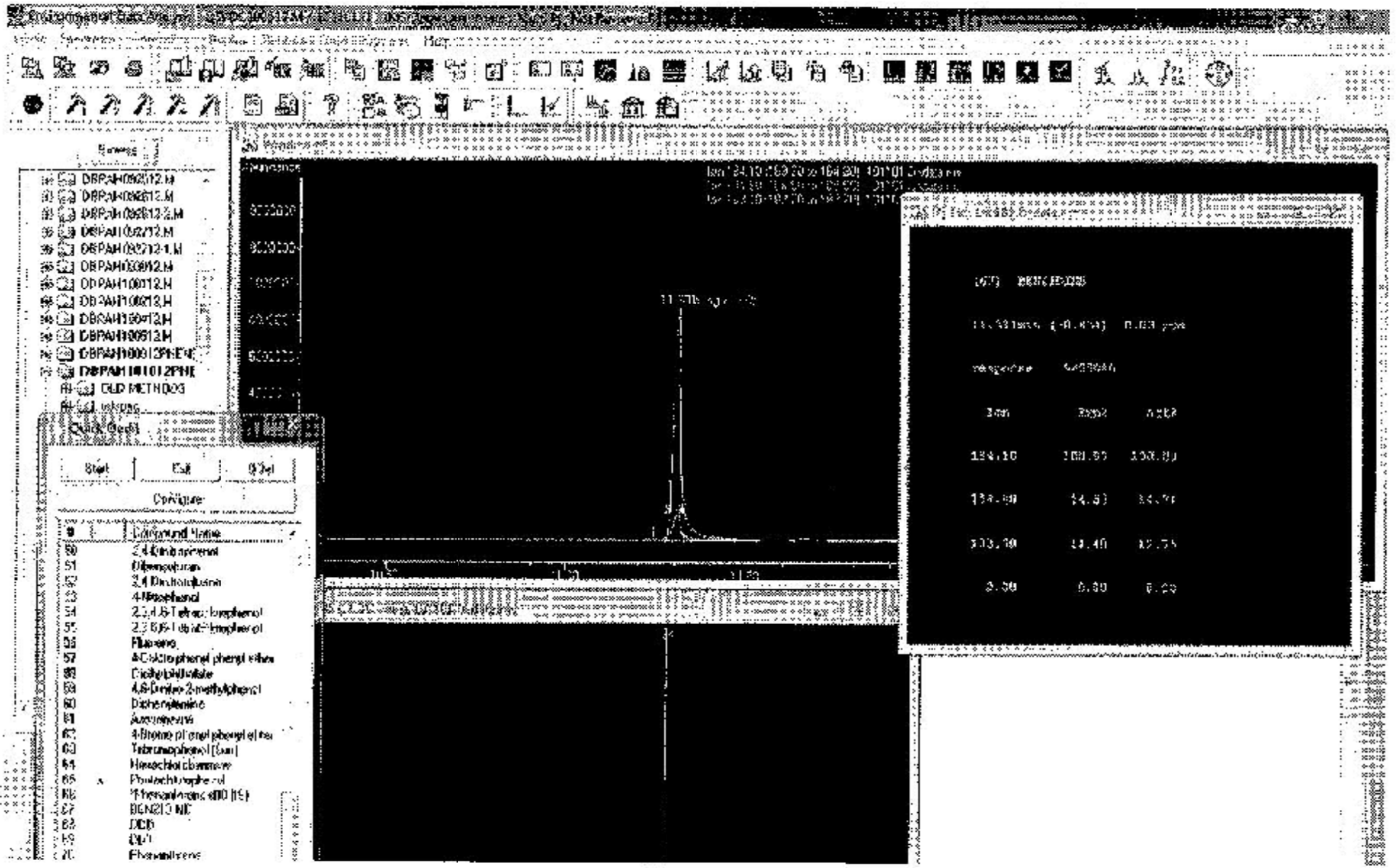
Integration File: RTEINTSG8270.P

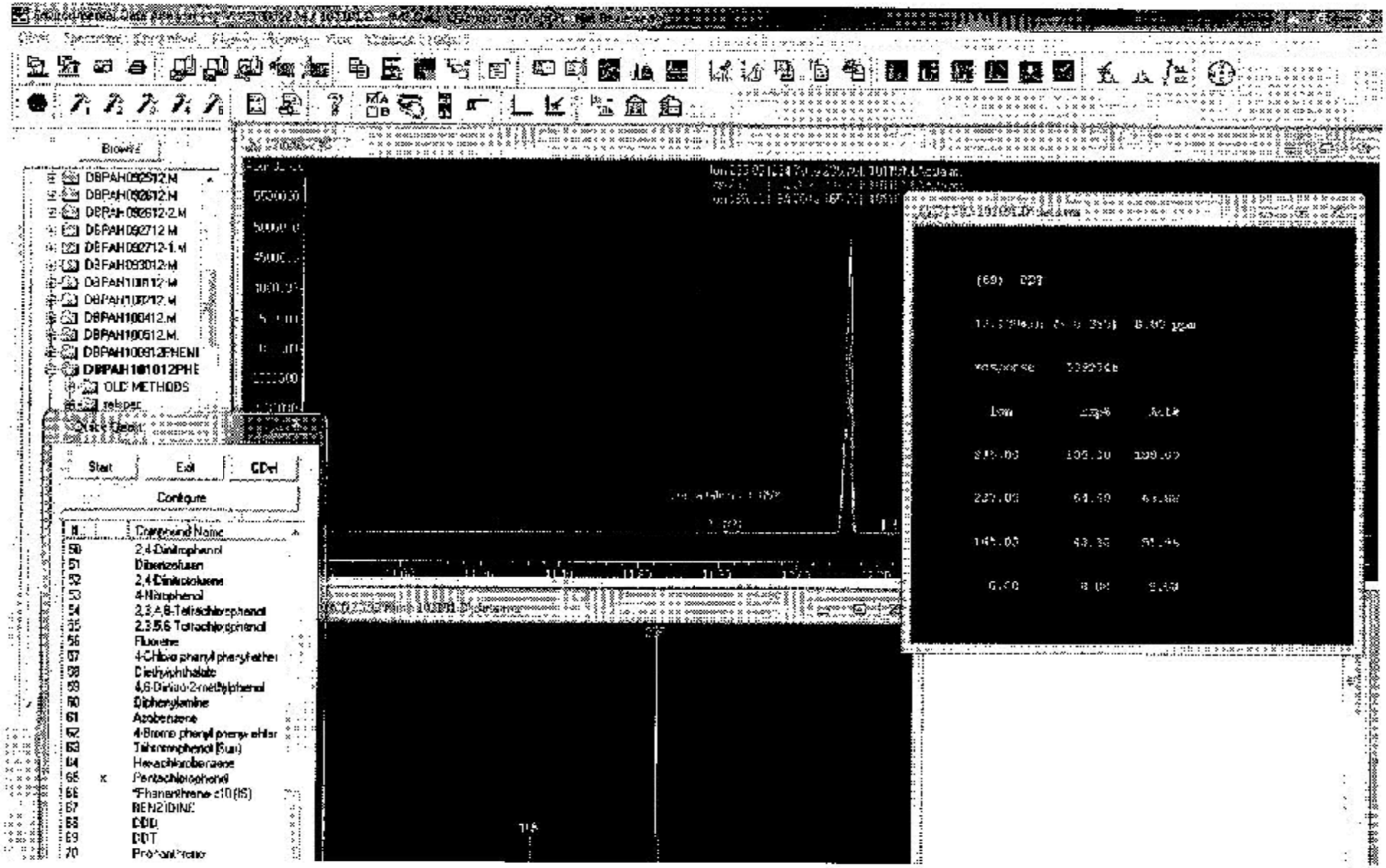
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

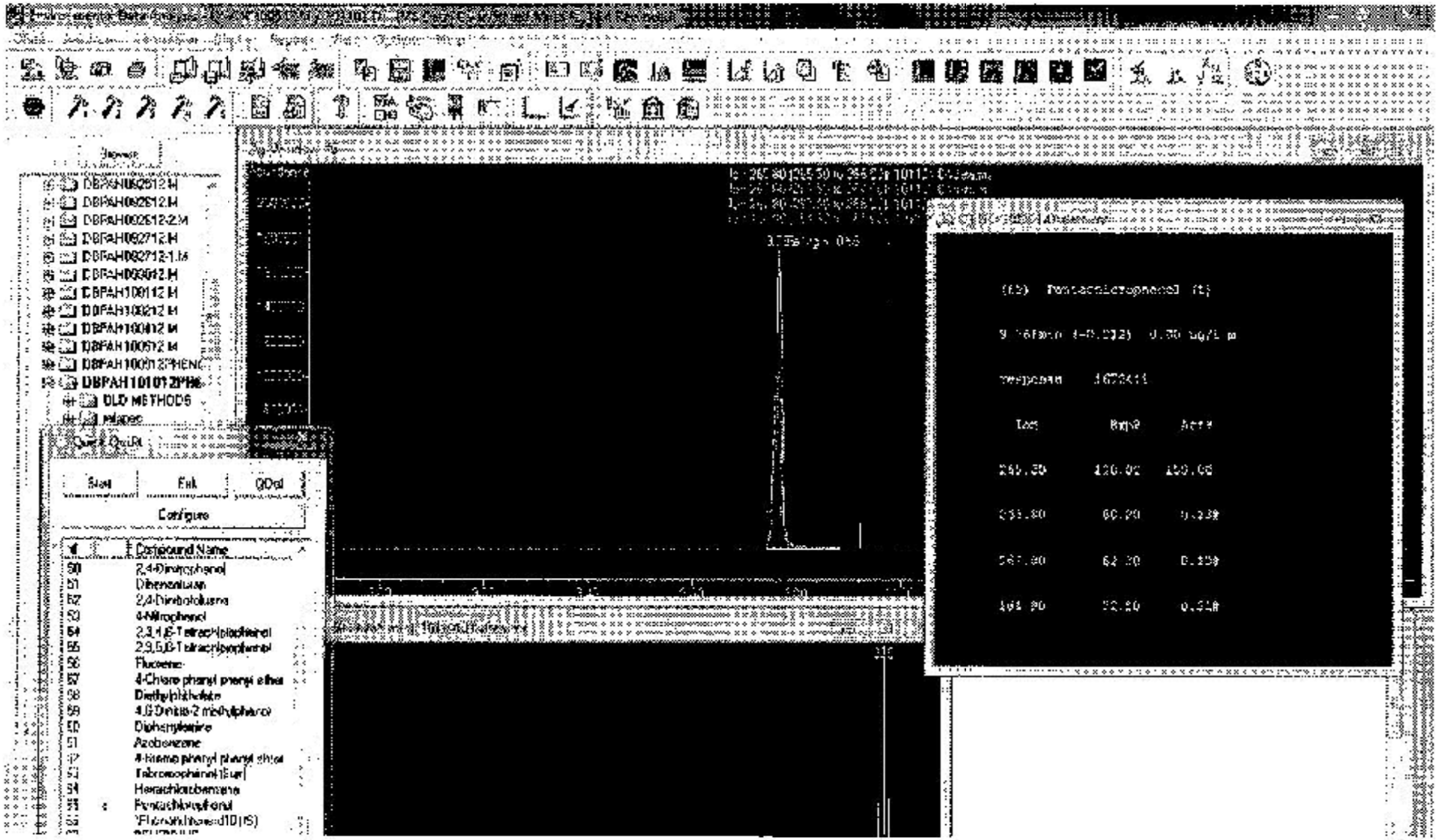


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl phenyl ether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


Start
Edit
QQcal
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Lost
Rqn2
Acc#

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

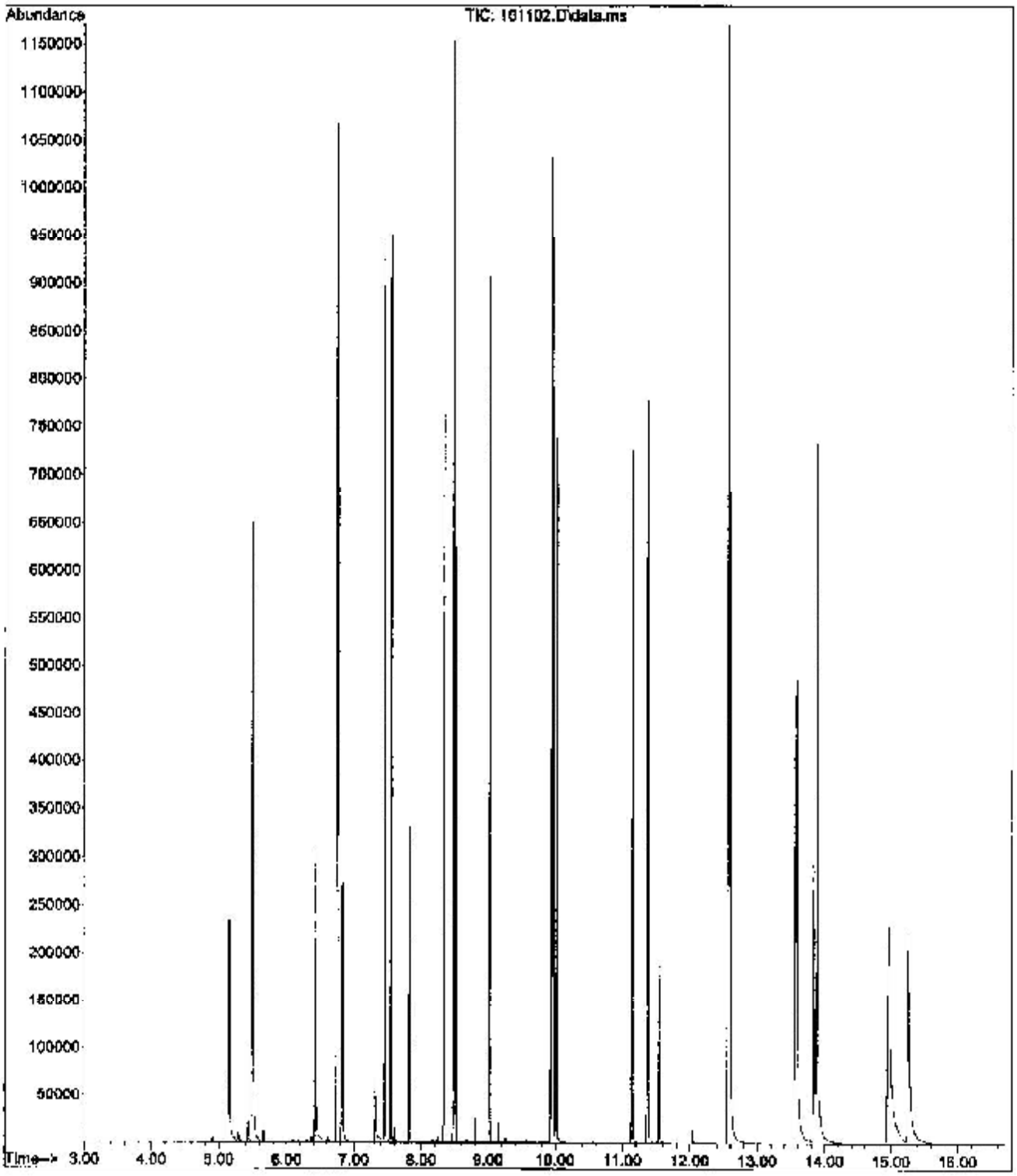
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

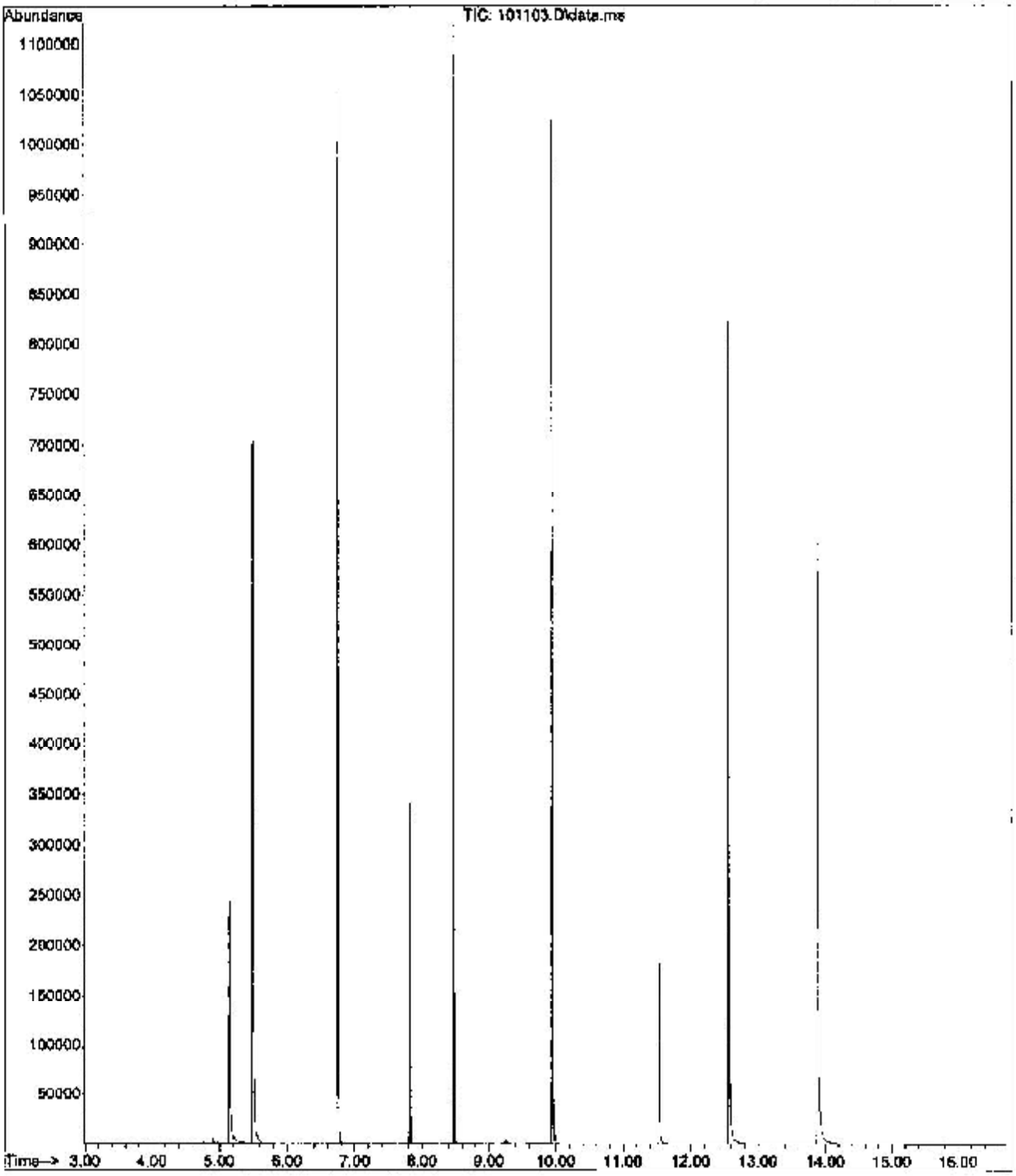
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/28/2012 4:26:38 P**
Prep End Date: **9/28/2012 4:26:38 P**

Prep Batch ID **3307** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
LCS-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
1209142-001A	SVRZ-WSW1-92112	Soil			11.65	0	0	10	0.858	9/28/2012	9/28/2012
1209142-001AMS		Soil			11.35	0	0	10	0.881	9/28/2012	9/28/2012
1209142-002A	SVRZ-SB1-092112	Soil			10.97	0	0	10	0.912	9/28/2012	9/28/2012
1209142-003A	SVRZ-SB2-092112	Soil			13.34	0	0	10	0.750	9/28/2012	9/28/2012
1209142-004A	SVRZ-SB3-092112	Soil			11.25	0	0	10	0.889	9/28/2012	9/28/2012
1209142-002ADUP		Soil			11.46	0	0	10	0.873	9/28/2012	9/28/2012
1209173-001A	IRZ-B1-92712	Soil			13.88	0	0	10	0.720	9/28/2012	9/28/2012
1209173-003ADUP		Soil			11.07	0	0	10	0.903	9/28/2012	9/28/2012
1209173-002A	IRZ-ESW2-92712	Soil			14.17	0	0	10	0.706	9/28/2012	9/28/2012
1209173-003A	IRZ-ESW1-92712	Soil			12.15	0	0	10	0.823	9/28/2012	9/28/2012
1209173-004A	IRZ-ESW3-92712	Soil			12.38	0	0	10	0.808	9/28/2012	9/28/2012
1209190-001A	IRZ-B2-92712	Soil			12.7	0	0	10	0.787	9/28/2012	9/28/2012
1209190-003ADUP		Soil			11.36	0	0	10	0.880	9/28/2012	9/28/2012
1209190-002A	IRZ-B3-92712	Soil			11.62	0	0	10	0.861	9/28/2012	9/28/2012
1209190-003A	IRZ-B4-92712	Soil			13.19	0	0	10	0.758	9/28/2012	9/28/2012
1209190-004A	IRZ-Dupe1-92712	Soil			13.3	0	0	10	0.752	9/28/2012	9/28/2012
1209190-005A	IRZ-NESW1-92812	Soil			14.08	0	0	10	0.710	9/28/2012	9/28/2012
1209190-006A	IRZ-B1-92812	Soil			12.14	0	0	10	0.824	9/28/2012	9/28/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101214.D
Acq On : 12 Oct 2012 5:24 am
Operator :
Sample : MB-3307
Misc : MBLK O-PAH-SIM-S-LIBBY
ALS Vial : 11 Sample Multiplier: 1

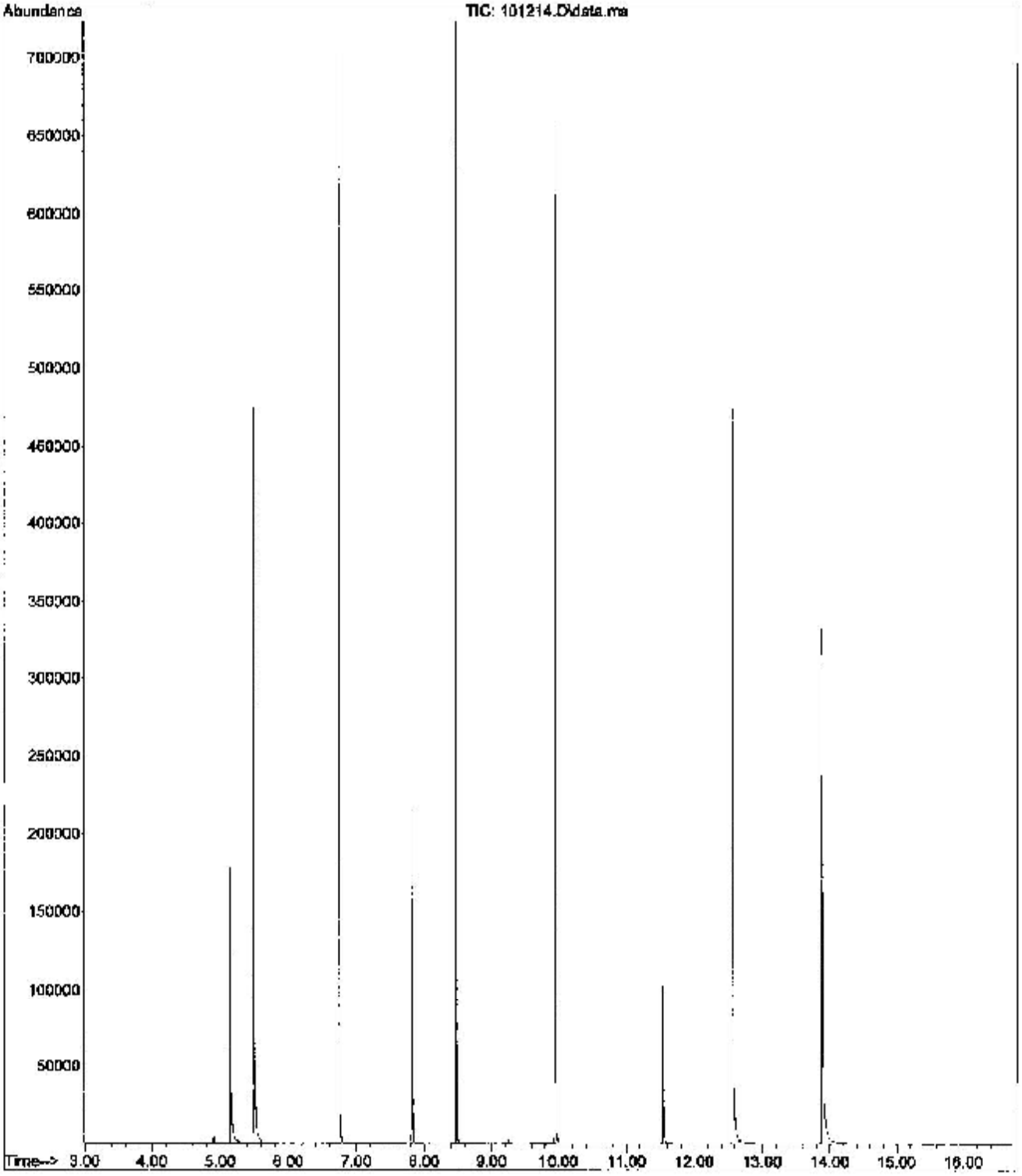
Quant Time: Oct 12 10:07:56 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	179751	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	568862	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	277961	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	450595	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	384299	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	352992	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139867	1024.35 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	126849	504.62 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	80011	481.72 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	12	N.D.	
5) Naphthalene	6.769	128	88	N.D.	
6) 2-Methylnaphthalene	7.461	142	41	N.D.	
7) 1-Methylnaphthalene	7.552	142	29	N.D.	
9) Acenaphthylene	8.341	152	1	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.024	166	10	N.D.	
14) Phenanthrene	9.966	178	63	N.D.	
15) Anthracene	10.022	178	1	N.D.	
17) Fluoranthene	11.152	202	2	N.D.	
18) Pyrene	11.374	202	4	N.D.	
19) Benzo (a) anthracene	12.566	228	980	N.D.	
21) Chrysene	12.566	228	857	N.D.	
22) benzo (b) fluoranthene	13.557	252	17	N.D.	
23) benzo (k) fluoranthene	13.581	252	98	N.D.	
24) benzo (a) pyrene	13.837	252	38	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.948	276	9	N.D.	
27) Dibenz (a,h) anthracene	14.964	278	1	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:34 2012 PAH

File : D:\Data\SVOC\101212\101214.D
Operator :
Acquired : 12 Oct 2012 5:24 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3307
Misc Info : MBLK 0-PAH-SIM-S-LISBY
Vial Number: 21



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101215.D
Acq On : 12 Oct 2012 5:49 am
Operator :
Sample : LCS-3307
Misc : LCS 0-PAH-SIM-S-LIBBY
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 12 10:08:03 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187731	2000.00 ug/L		0.00
4) Naphthalene-d8 [IS)	6.747	136	599973	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	304778	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	406073	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	452574	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	431335	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	148948	1044.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131492	495.97 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	85270	475.91 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	109467	990.24 ug/L		99
5] Naphthalene	6.766	128	400471	1052.14 ug/L		100
6] 2-Methylnaphthalene	7.453	142	238968	1071.63 ug/L		99
7] 1-Methylnaphthalene	7.550	142	224647	1064.68 ug/L		100
9] Acenaphthylene	8.338	152	342966	1122.05 ug/L		100
11] Acenaphthene	8.508	152	107085	1044.83 ug/L		99
12] Fluorene	9.021	166	248965	1059.80 ug/L		99
14] Phenanthrene	9.368	178	349216	1052.81 ug/L		100
15] Anthracene	10.020	178	334513	1128.87 ug/L		100
17] Fluoranthene	11.146	202	346508	1160.50 ug/L		99
18] Pyrene	11.368	202	364375	1167.54 ug/L		99
19] Benzo (a] anthracene	12.559	228	276159	1055.18 ug/L	#	100
21] Chrysene	12.592	228	352855	1079.13 ug/L		99
22] benzo (b] fluoranthene	13.557	252	202925	853.94 ug/L	#	100
23] benzo (k] fluoranthene	13.580	252	386801	1145.90 ug/L		100
24] benzo (a] pyrene	13.837	252	226944	981.24 ug/L		97
26] Indeno(1,2,3-cd)pyrene	14.948	276	246110	1064.76 ug/L		98
27] Dibenz (a,h) anthracene	14.969	278	170581	929.17 ug/L		98
28] Benzo (g,h,i) perylene	15.258	276	252431	991.03 ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:51 2012 PAH

```
File        :D:\Data\SVOC\101212\101215.D
Operator    :
Acquired    : 12 Oct 2012    5:49 am using AcqMethod DBPAH101012PHENOL.M
Instrument  :    HP-MSD
Sample Name: LCS-3307
Misc Info   : LCS  D-PAH-SIM-S-LIBBY
Vial Number: 12
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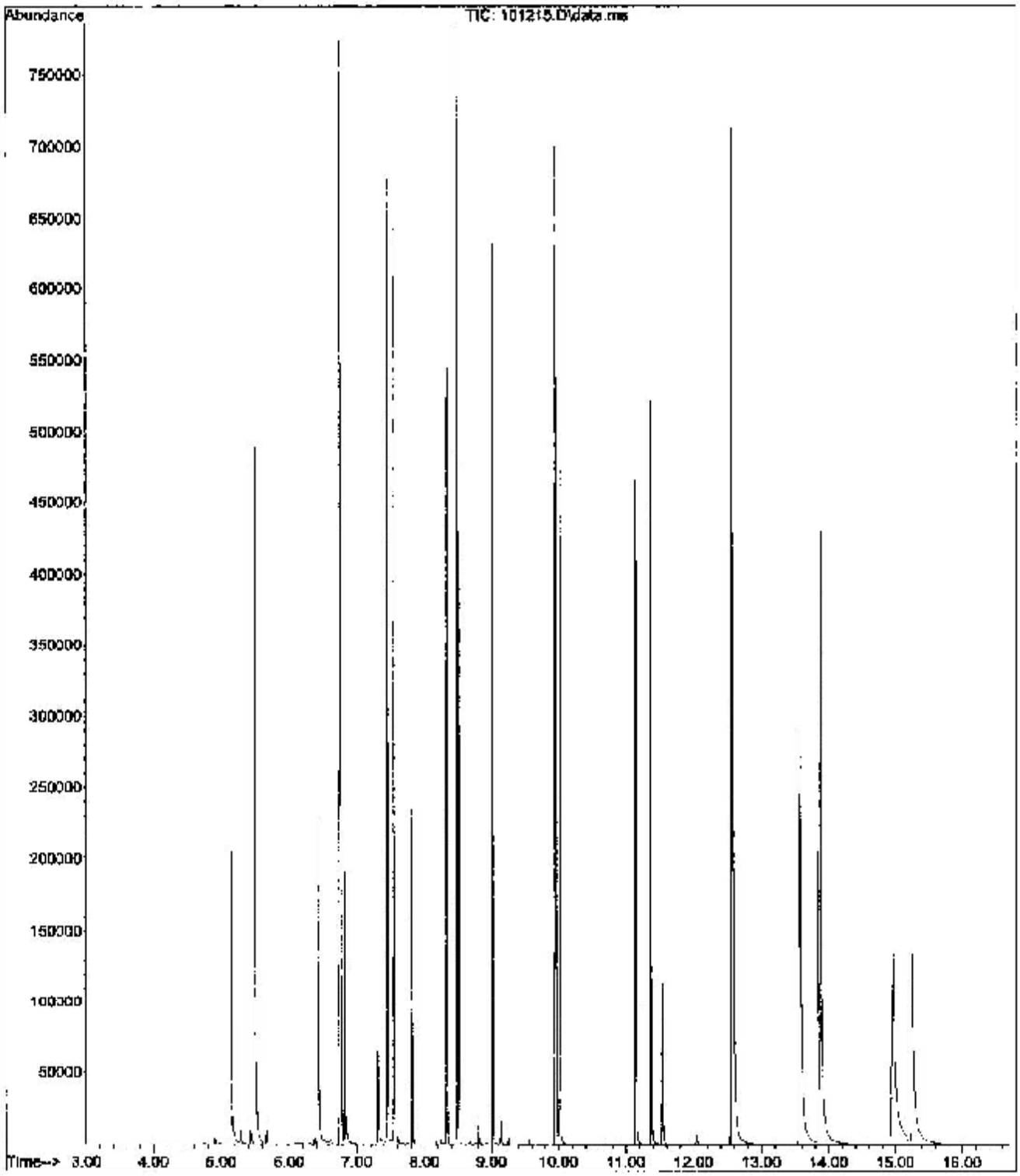


Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101216.D
Acq On : 12 Oct 2012 6:14 am
Operator :
Sample : 1209142-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 13 Sample Multiplier: 1

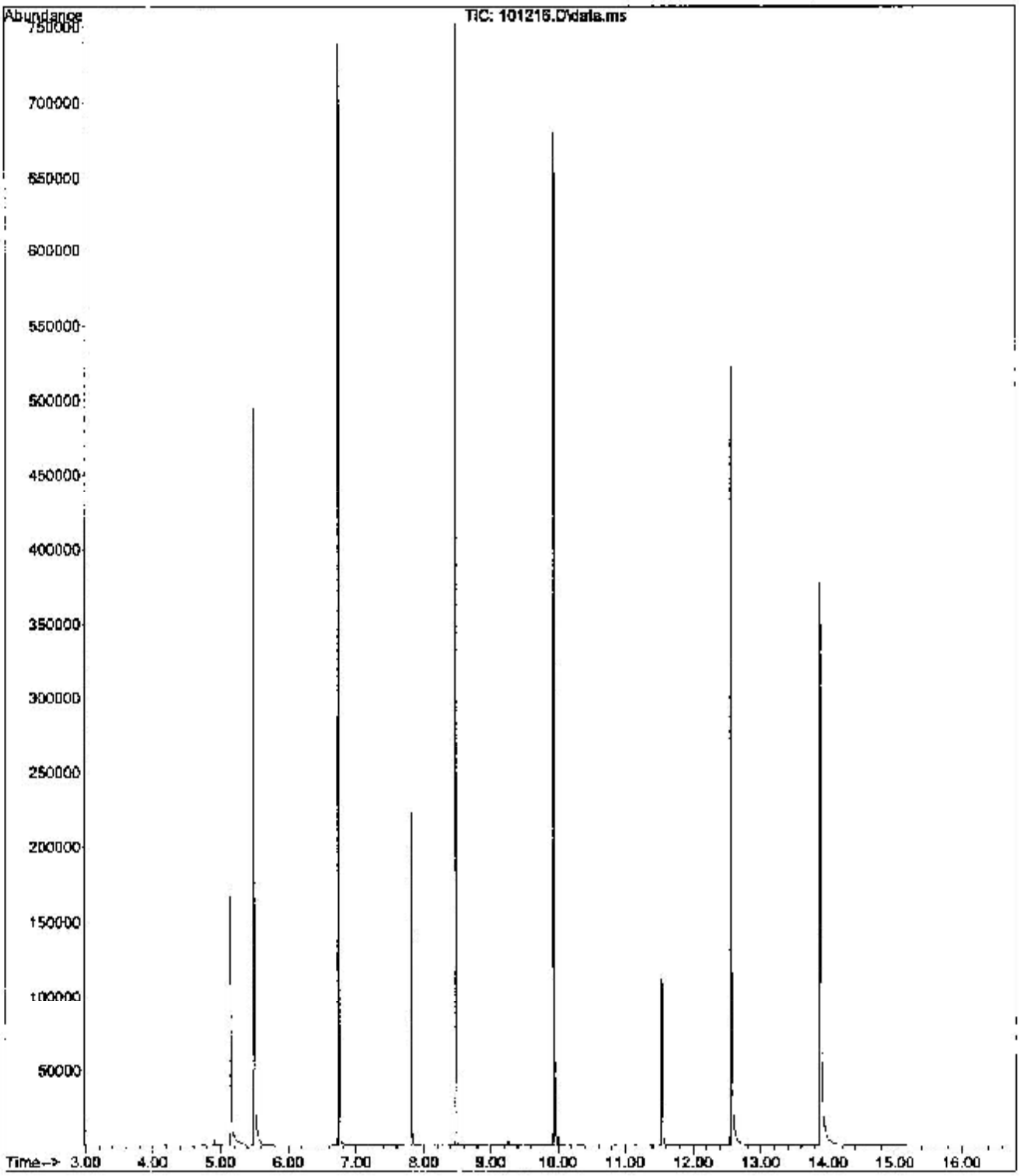
Quant Time: Oct 12 10:08:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187904	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	593470	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	293033	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	403359	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	431840	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	419688	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	129890	910.01	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	125455	478.38	ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	86884	487.64	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.405	107	55	N.D.		
5) Naphthalene	6.766	128	110	N.D.		
6) 2-Methylnaphthalene	7.461	142	46	N.D.		
7) 1-Methylnaphthalene	7.554	142	33	N.D.		
9) Acenaphthylene	8.341	152	3	N.D.		
11) Acenaphthene	8.511	152	14	N.D.		
12) Fluorene	9.025	166	26	N.D.		
14) Phenanthrene	9.969	178	294	N.D.		
15) Anthracene	10.022	178	42	N.D.		
17) Fluoranthene	11.150	202	71	N.D.		
18) Pyrene	11.371	202	205	N.D.		
19) Benzo (a) anthracene	12.566	228	1293	N.D.		
21) Chrysene	12.566	228	1061	N.D.		
22) benzo (b) fluoranthene	13.559	252	56	N.D.		
23) benzo (k) fluoranthene	13.581	252	228	N.D.		
24) benzo (a) pyrene	13.835	252	80	N.D.		
26) Indeno(1,2,3-cd)pyrene	14.945	276	7	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	10	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	45	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:06 2012 PAH

File : D:\Data\SVOC\101212\101216.D
Operator :
Acquired : 12 Oct 2012 6:14 am using AcqMethod DRPAHIC1012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 13



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101217.D
Acq On : 12 Oct 2012 6:39 am
Operator :
Sample : 1209142-001AMS
Misc : MS O-PAH-SIM-S-LIBBY
ALS Vial : 14 Sample Multiplier: 1

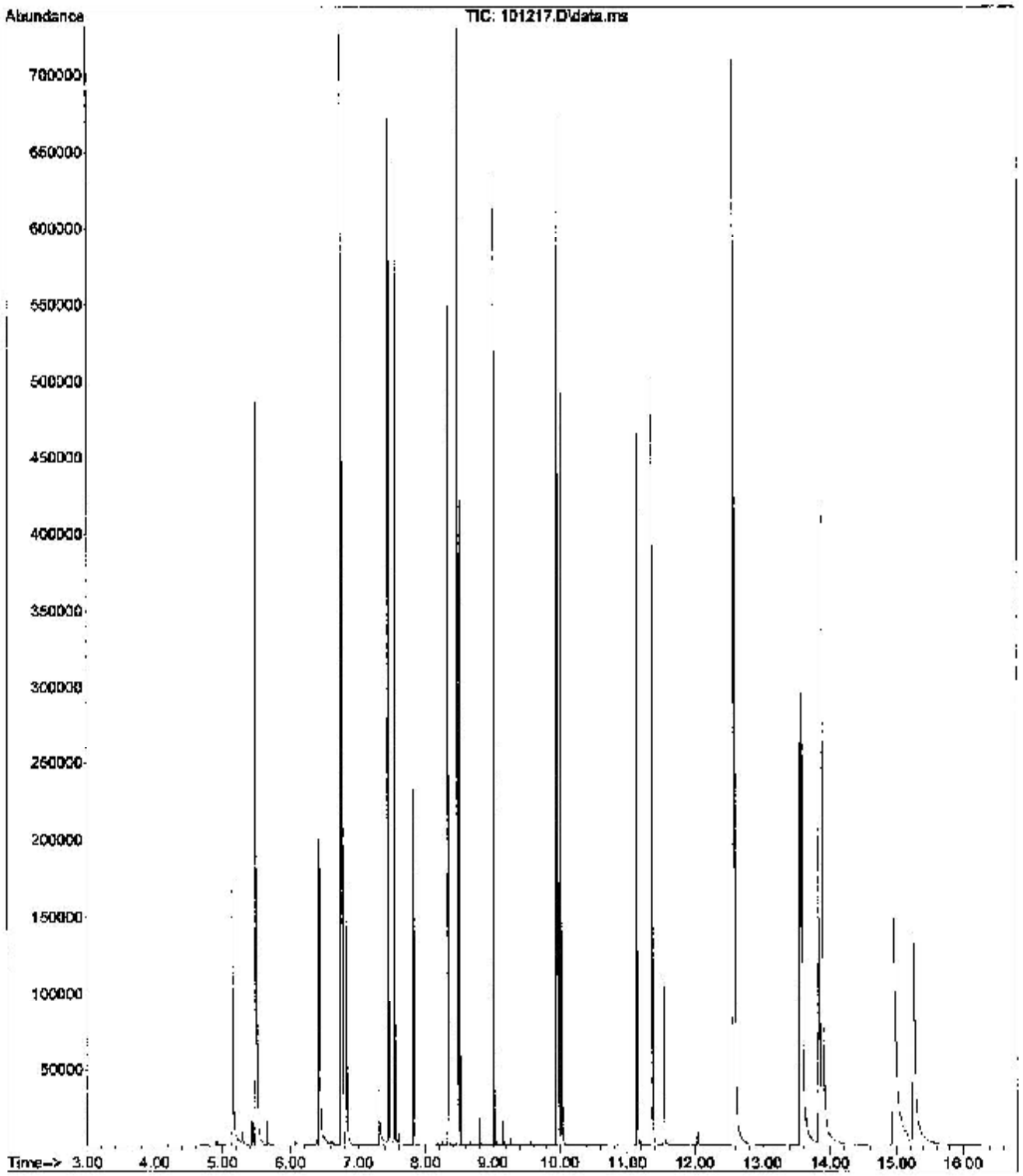
Quant Time: Oct 12 10:08:21 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	178484	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	571150	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	287688	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	459410	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	431641	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	424924	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	133847	987.22	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	129244	512.09	ug/L		0.00
16) Terphenyl-d14 (surr)	11.541	244	87331	515.70	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.427	107	107910	1026.73	ug/L		99
5) Naphthalene	6.766	128	390418	1077.49	ug/L		100
6) 2-Methylnaphthalene	7.463	142	233535	1100.12	ug/L		99
7) 1-Methylnaphthalene	7.550	142	219903	1094.79	ug/L		100
9) Acenaphthylene	8.338	152	335044	1151.45	ug/L		100
11) Acenaphthene	8.509	152	103959	1074.58	ug/L		100
12) Fluorene	9.020	166	242403	1093.16	ug/L		99
14) Phenanthrene	9.967	178	339017	1081.38	ug/L		100
15) Anthracene	10.020	178	325931	1163.75	ug/L		100
17) Fluoranthene	11.147	202	349255	1237.59	ug/L		99
18) Pyrene	11.367	202	364484	1235.67	ug/L		99
19) Benzo (a) anthracene	12.559	228	284698	1150.94	ug/L	#	100
21) Chrysene	12.592	228	338350	1084.96	ug/L		99
22) benzo (b) fluoranthene	13.556	252	206841	912.63	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	385639	1197.86	ug/L		100
24) benzo (a) pyrene	13.835	252	238195	1074.05	ug/L		98
26) Indeno(1,2,3-cd)pyrene	14.950	276	267932	1170.84	ug/L		98
27) Dibenz (a,h) anthracene	14.970	278	186919	1029.80	ug/L		98
28) Benzo (g,h,i) perylene	15.257	276	269776	1075.11	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:20:17 2012 PAH

File : D:\Data\SVOC\101212\101217.D
Operator :
Acquired : 12 Oct 2012 6:39 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001AMS
Misc Info : MS O-PAH-SIM-S-LIBBY
Vial Number: 14



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101218.D
Acq On : 12 Oct 2012 7:04 am
Operator :
Sample : 1209173-003A
Misc : SAMP O-PAH-STM-S-LIBBY
ALS Vial : 15 Sample Multiplier: 1

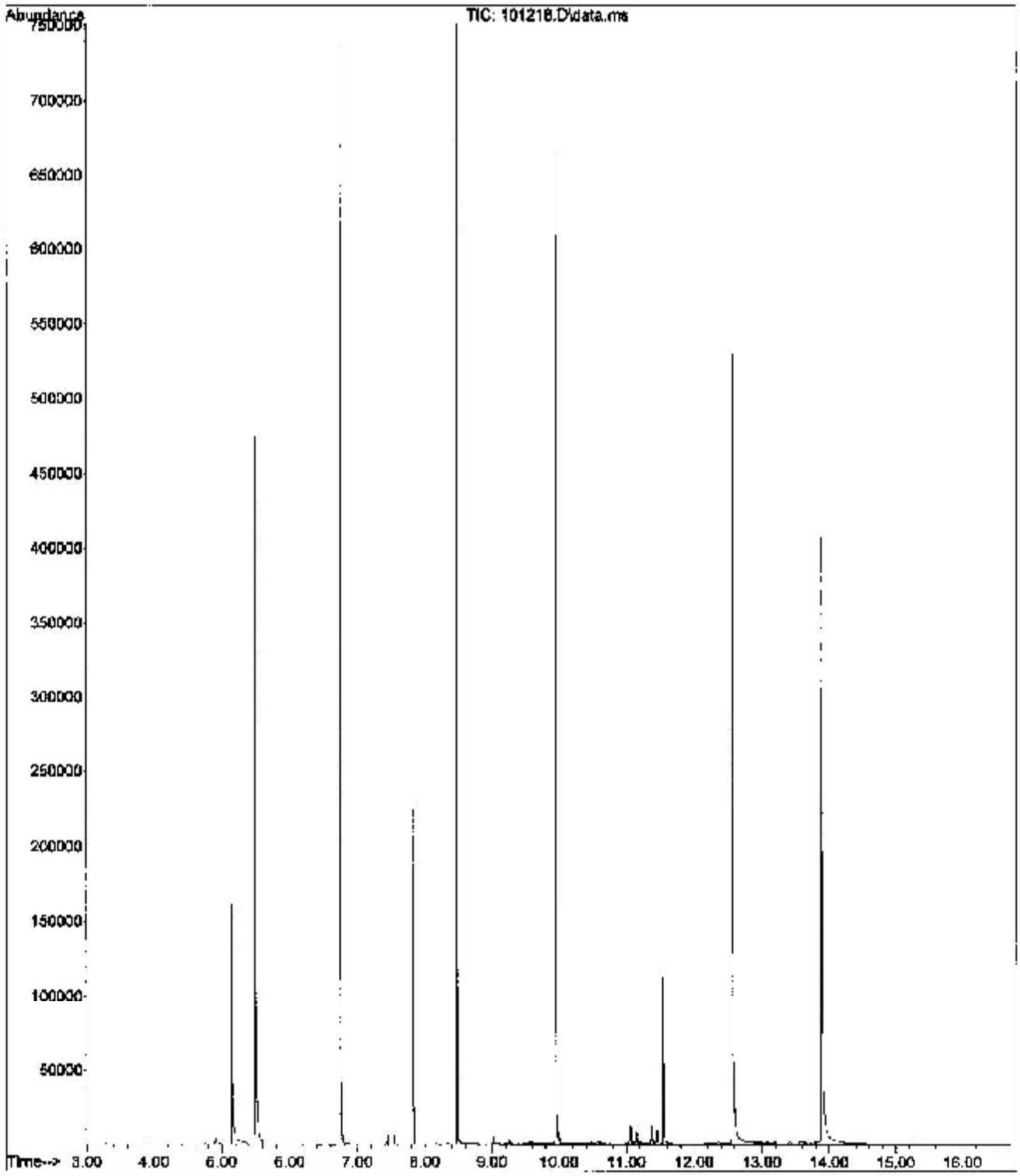
Quant Time: Oct 12 10:08:29 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	180324	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	574014	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	292212	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	476874	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	439299	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	444062	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	126529	923.72 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127274	501.77 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	93031	529.24 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.449	107	1204	11.34 ug/L		96
5) Naphthalene	6.766	128	4799	13.18 ug/L		97
6) 2-Methylnaphthalene	7.457	142	2613	12.25 ug/L	#	92
7) 1-Methylnaphthalene	7.550	142	2120	10.50 ug/L	#	83
9) Acenaphthylene	8.339	152	870	N.D.		
11) Acenaphthene	8.508	152	211	N.D.		
12) Fluorene	9.023	166	1661	7.37 ug/L		82
14) Phenanthrene	9.968	178	9721	29.87 ug/L		100
15) Anthracene	10.021	178	2451	8.43 ug/L		99
17) Fluoranthene	11.153	202	7440	25.40 ug/L	#	57
18) Pyrene	11.370	202	8739	28.54 ug/L	#	51
19) Benzo (a) anthracene	12.562	228	4045	15.75 ug/L	#	100
21) Chrysene	12.593	228	2472	7.79 ug/L	#	32
22) benzo (b) fluoranthene	13.560	252	1598	6.93 ug/L	#	100
23) benzo (k) fluoranthene	13.646	252	802	N.D.		
24) benzo (a) pyrene	13.885	252	1320	6.23 ug/L		92
26) Indeno(1,2,3-cd)pyrene	14.943	276	364	N.D.		
27) Dibenz (a,h) anthracene	14.969	278	42	N.D.		
28) Benzo (g,h,i) perylene	15.254	276	167	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:33 2012 PAH

File : D:\Data\SVOC\101212\101218.D
Operator :
Acquired : 12 Oct 2012 7:04 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209173-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 15



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101219.D
Acq On : 12 Oct 2012 7:29 am
Operator :
Sample : 1209173-003ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 16 Sample Multiplier: 1

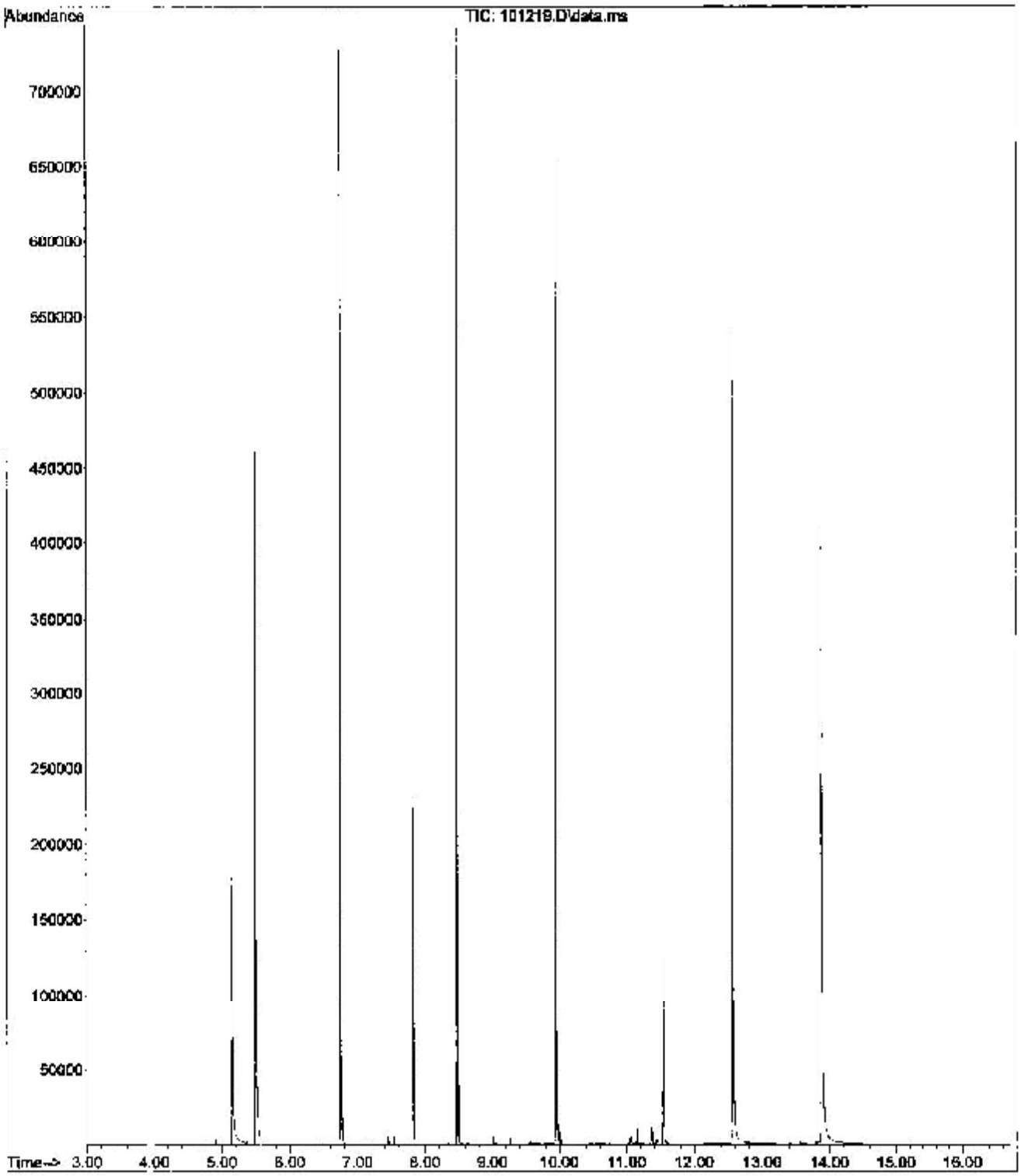
Quant Time: Oct 12 17:29:55 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	176494	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	564806	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	284577	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	467472	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	430392	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	432564	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	140164	1045.47 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	130356	522.30 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	95280	552.94 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.446	107	1252	12.05 ug/L	94
5) Naphthalene	6.766	128	4546	12.69 ug/L	96
6) 2-Methylnaphthalene	7.455	142	2422	11.54 ug/L #	90
7) 1-Methylnaphthalene	7.552	142	1824	9.18 ug/L #	78
9) Acenaphthylene	8.339	152	776	N.D.	
11) Acenaphthene	8.508	152	294	N.D.	
12) Fluorene	9.023	166	1949	8.89 ug/L #	76
14) Phenanthrene	9.968	178	7137	22.37 ug/L	99
15) Anthracene	10.021	178	2479	8.70 ug/L	99
17) Fluoranthene	11.152	202	6548	22.80 ug/L #	62
18) Pyrene	11.370	202	7430	24.75 ug/L #	51
19) Benzo (a) anthracene	12.561	228	3467	13.77 ug/L #	100
21) Chrysene	12.592	228	2816m	9.06 ug/L	
22) benzo (b) fluoranthene	13.561	252	1522	6.73 ug/L #	100
23) benzo (k) fluoranthene	13.645	252	688	N.D.	
24) benzo (a) pyrene	13.837	252	1213m	5.85 ug/L	
26) Indeno(1,2,3-cd)pyrene	14.945	276	433	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	83	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	188	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:17 2012 PAH

File : D:\Data\SVOC\101212\101219.D
Operator :
Acquired : 12 Oct 2012 7:29 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209173-003ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 16



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101220.D
Acq On : 12 Oct 2012 7:54 am
Operator :
Sample : 1209190-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 17 Sample Multiplier: 1

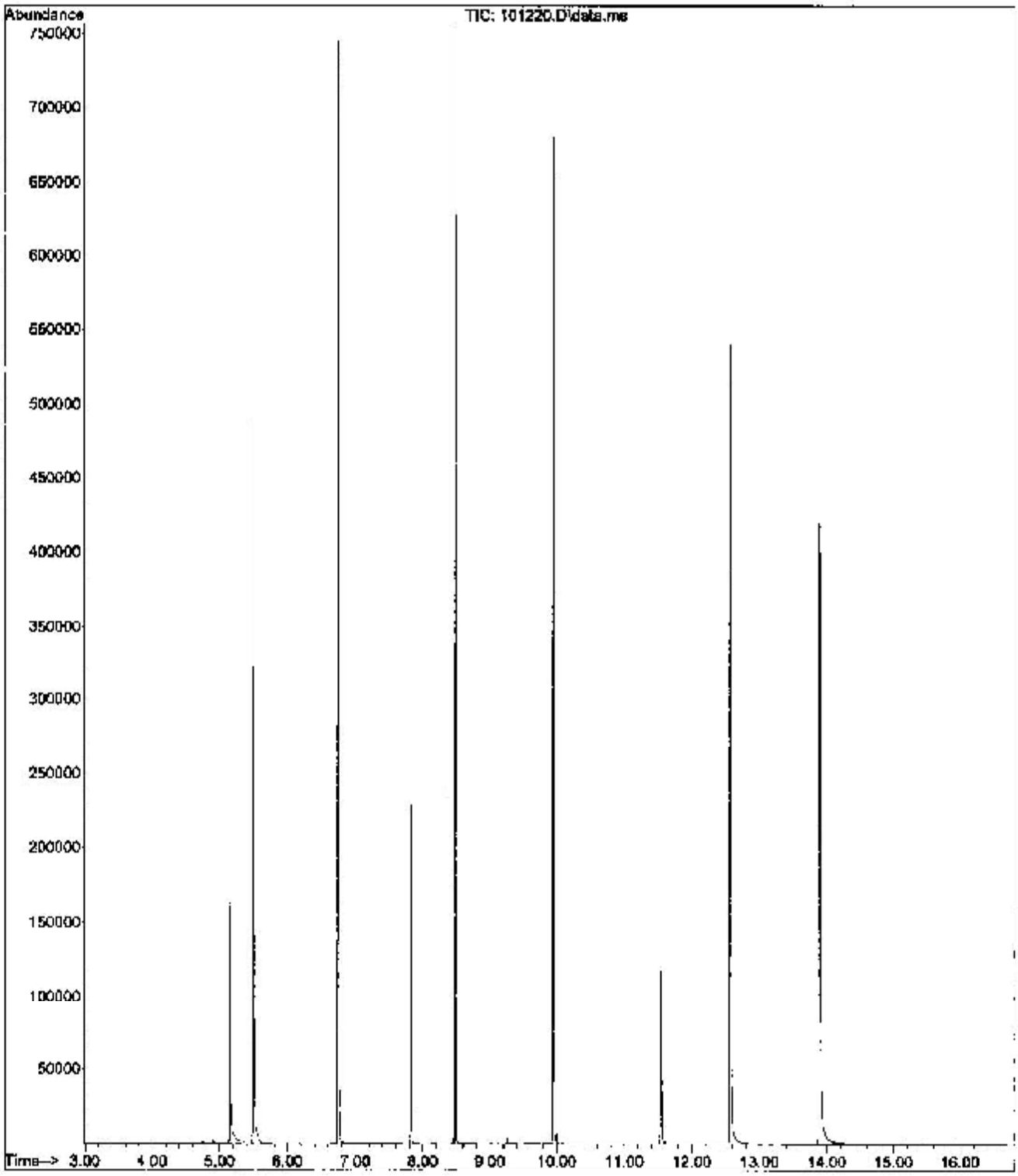
Quant Time: Oct 12 10:09:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	182347	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	581629	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	291278	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476354	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	437643	2000.00 ug/L	0.00
25) Perylene d12 (IS)	13.888	264	439523	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	128215	925.65 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	129463	503.71 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91801	522.81 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.449	107	144	N.D.	
5) Naphthalene	6.766	128	219	N.D.	
6) 2-Methylnaphthalene	7.457	142	223	N.D.	
7) 1-Methylnaphthalene	7.550	142	207	N.D.	
9) Acenaphthylene	8.340	152	2	N.D.	
11) Acenaphthene	8.511	152	32	N.D.	
12) Fluorene	9.023	166	61	N.D.	
14) Phenanthrene	9.969	178	558	N.D.	
15) Anthracene	10.019	178	7	N.D.	
17) Fluoranthene	11.148	202	133	N.D.	
18) Pyrene	11.370	202	253	N.D.	
19) Benzo (a) anthracene	12.566	228	1324	5.16 ug/L #	100
21) Chrysene	12.566	228	803	N.D.	
22) benzo (b) fluoranthene	13.559	252	166	N.D.	
23) benzo (k) fluoranthene	13.582	252	243	N.D.	
24) benzo (a) pyrene	13.840	252	177	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	37	N.D.	
27) Dibenz (a,h) anthracene	14.970	278	24	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	75	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:41 2012 PAH

File : C:\Data\SVOC\101212\101220.D
Operator :
Acquired : 12 Oct 2012 7:54 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-001A
Misc Info : SAMP 8-PAH-STM-S-LIBBY
Vial Number: 17



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101221.D
Acq On : 12 Oct 2012 8:19 am
Operator :
Sample : 1209190-002A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 18 Sample Multiplier: 1

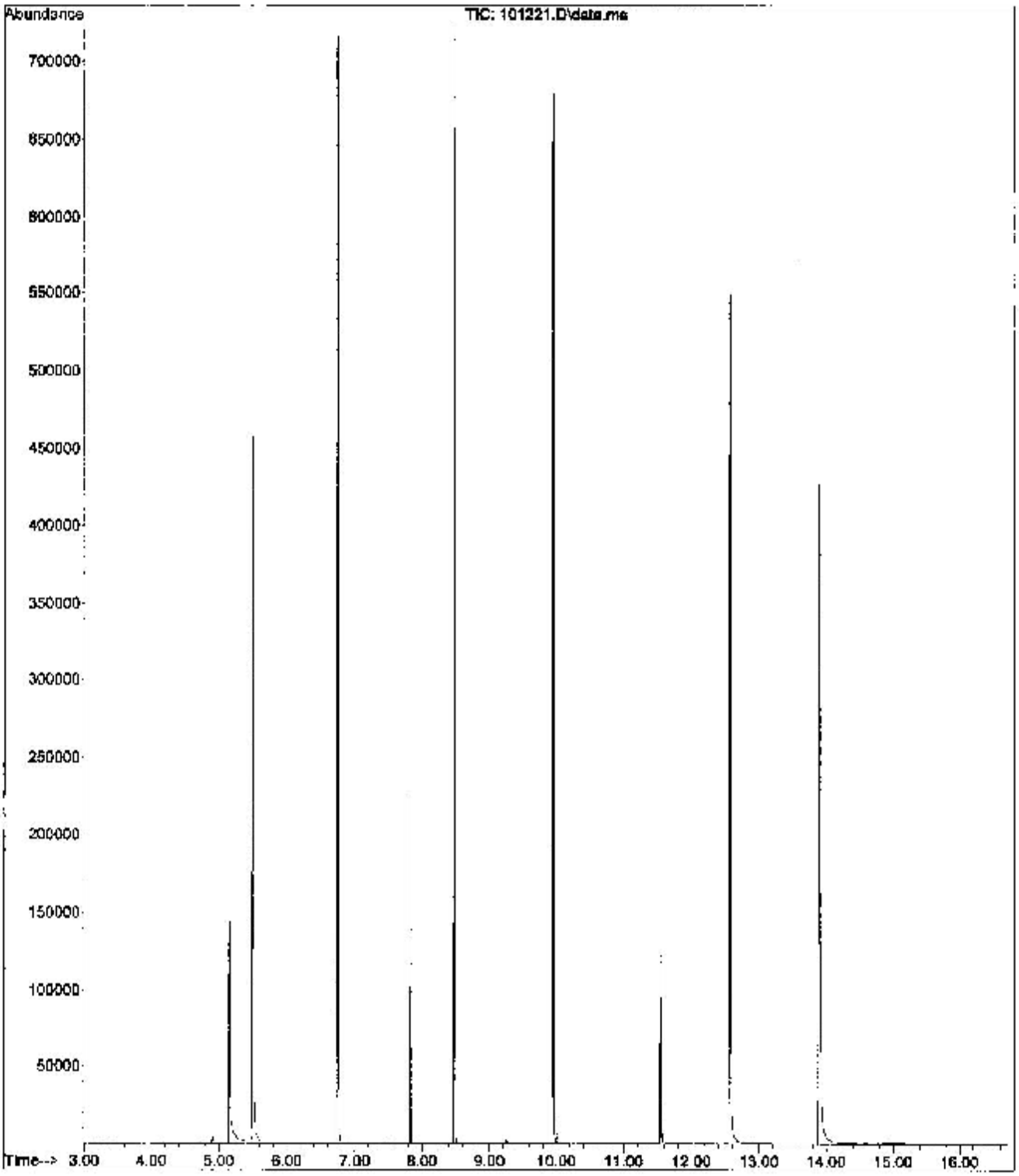
Quant Time: Oct 12 10:09:59 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:53:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	176791	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	563398	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	283405	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	466408	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.569	240	430439	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.890	264	440469	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	125791	936.69 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127252	511.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	92717	539.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.405	107	107	N.D.	
5) Naphthalene	6.769	128	313	N.D.	
6) 2-Methylnaphthalene	7.457	142	256	N.D.	
7) 1-Methylnaphthalene	7.552	142	262	N.D.	
9) Acenaphthylene	8.341	152	10	N.D.	
11) Acenaphthene	8.509	152	45	N.D.	
12) Fluorene	9.022	166	95	N.D.	
14) Phenanthrene	9.969	178	715	N.D.	
15) Anthracene	10.020	178	54	N.D.	
17) Fluoranthene	11.165	202	256	N.D.	
18) Pyrene	11.372	202	339	N.D.	
19) Benzo (a) anthracene	12.568	228	1308	5.21 ug/L #	100
21) Chrysene	12.568	228	917	N.D.	
22) benzo (b) fluoranthene	13.560	252	147	N.D.	
23) benzo (k) fluoranthene	13.583	252	221	N.D.	
24) benzo (a) pyrene	13.842	252	221	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.957	276	46	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	40	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:53 2012 PAH

File : D:\Data\SVOC\101212\101221.D
Operator :
Acquired : 12 Oct 2012 0:19 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 18



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101222.D
Acq On : 12 Oct 2012 8:44 am
Operator :
Sample : 1209190-005A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 19 Sample Multiplier: 1

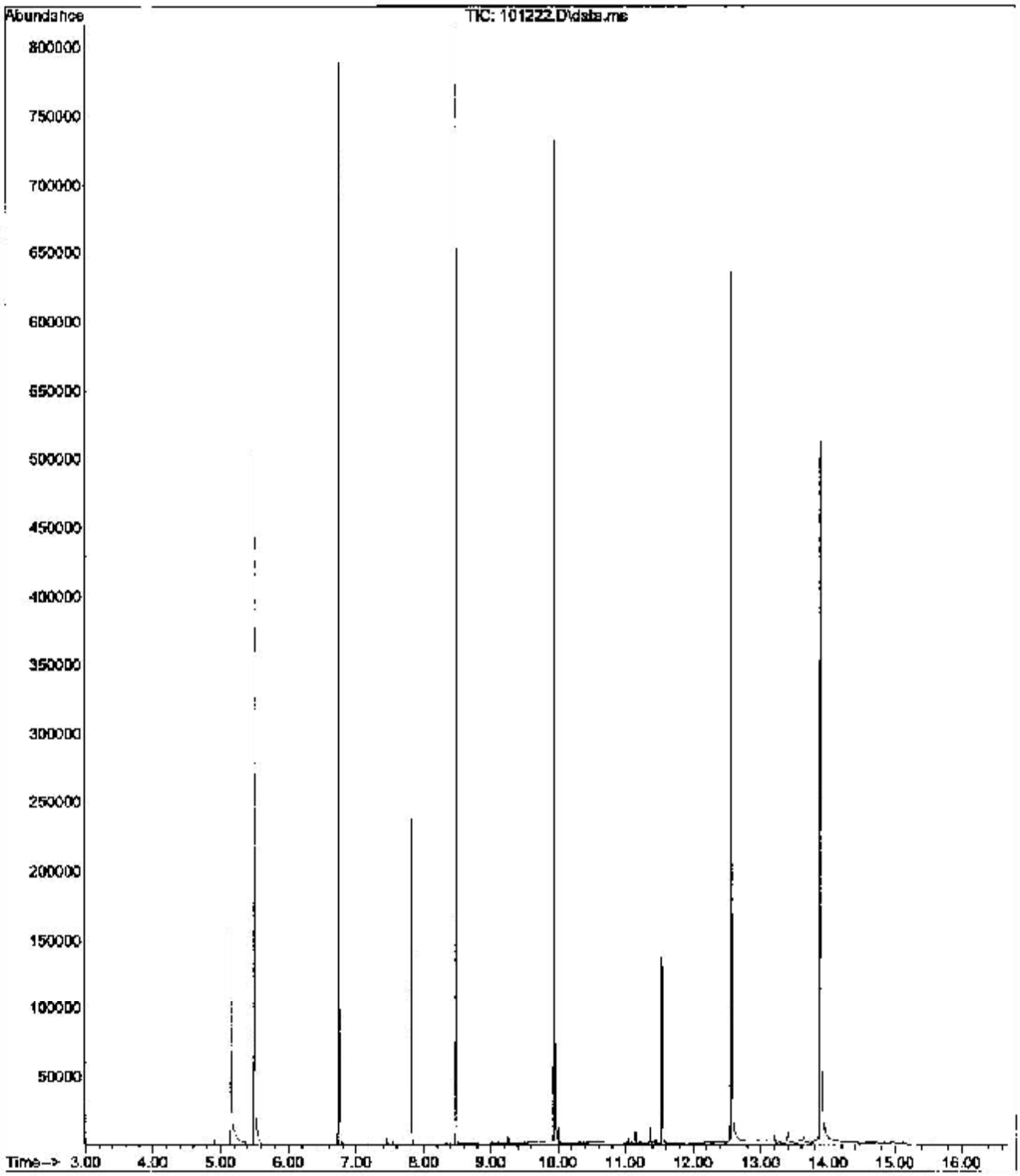
Quant Time: Oct 12 10:10:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	192995	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	618550	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	317234	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	516112	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.560	240	487636	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	504243	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	141098	962.45 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	132835	485.98 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99554	523.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.345	107	980	8.62 ug/L #	7
5) Naphthalene	6.767	128	2774	7.07 ug/L #	93
6) 2-Methylnaphthalene	7.455	142	1960	8.53 ug/L #	90
7) 1-Methylnaphthalene	7.550	142	1183	5.44 ug/L #	65
9) Acenaphthylene	8.340	152	727	N.D.	
11) Acenaphthene	8.475	152	93	N.D.	
12) Fluorene	9.022	166	748	N.D.	
14) Phenanthrene	9.968	178	4704	13.36 ug/L	99
15) Anthracene	10.021	178	1770	5.63 ug/L	94
17) Fluoranthene	11.149	202	7372	23.25 ug/L #	53
18) Pyrene	11.370	202	8516	25.70 ug/L #	27
19) Benzo [a] anthracene	12.561	228	4802	17.28 ug/L #	100
21) Chrysene	12.592	228	3016	8.56 ug/L #	32
22) benzo (b) fluoranthene	13.561	252	3106	12.13 ug/L #	100
23) benzo (k) fluoranthene	13.648	252	1782	N.D.	
24) benzo (a) pyrene	13.840	252	1867	7.94 ug/L #	1
26) Indeno(1,2,3-cd)pyrene	14.953	276	957	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	129	N.D.	
28) Benzo (g,h,i) perylene	15.262	276	1227	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:31:20 2012 PAH

File : D:\Data\SVOC\101212\101222.D
Operator :
Acquired : 12 Oct 2012 6:44 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-005A
Misc Info : SAMP C-PAH-SIM-S-LIBBY
Vial Number: 19



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012C

CCV Name: CAL MID POINT

Run No: 0128

CCV SeqNo: 121771

Lab File ID (Standard): 101014.D

Date Analyzed: 10/10/2012

Instrument ID: GCMS-3

Time Analyzed: 17:48

GC Column: ID (mm): Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3307	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3307	206728	5.495	335186	8.478	483323	12.567	672101	6.745
03	CCV-3307	225889	5.498	384635	8.481	629788	12.568	745071	6.747
04	CCB-3307	260588	5.498	411097	8.48	599141	12.566	829511	6.747
05	MB-3307	179751	5.498	277961	8.48	384299	12.567	568862	6.747
06	LCS-3307	187731	5.495	304778	8.48	452574	12.568	699973	6.747
07	1209142-001A	167904	5.498	293033	8.48	431840	12.568	593470	6.747
08	1209142-001AMS	178484	5.498	287688	8.48	431641	12.568	671150	6.747
09	1209173-003A	180324	5.495	292212	8.478	439299	12.568	574014	6.747
10	1209173-003ADUP	176494	5.495	284577	8.478	430392	12.566	564806	6.747
11	1209190-001A	182347	5.498	291278	8.478	437643	12.566	581629	6.747
12	1209190-002A	178791	5.498	283405	8.478	430439	12.568	563398	6.747
13	1209190-005A	192995	5.498	317234	8.478	487638	12.568	618550	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID:	GCMS-3_121012C	CCV Name:	CAL MID POINT
Run No:	6129	CCV SeqNo:	121771
Lab File ID (Standard):	101014.D	Date Analyzed:	10/10/2012
Instrument ID:	GCMS-3	Time Analyzed:	17:48
GC Column:	ID (mm):	Length (M):	

		IS5 Perylene-d12		IS6 Phenanthrene-d10			
		AREA #	RT #	AREA #	RT #		
	12 HOUR STD	559722	13.889	814915	9.946		
	UPPER LIMIT	1119444	14.389	1629830	10.445		
	LOWER LIMIT	279861	13.389	407458	9.446		
	SAMPLE NO.						
01	ICB-3307	445839	13.885	642903	9.944		
02	ICV-3307	472138	13.887	518454	9.945		
03	CCV-3307	611998	13.885	856042	9.946		
04	CCB-3307	555535	13.885	685528	9.947		
05	MB-3307	362992	13.887	450696	9.945		
06	LCS-3307	431336	13.885	486073	9.946		
07	1209142-001A	419388	13.885	483359	9.945		
08	1209142-001AMS	424824	13.885	459410	9.946		
09	1209173-003A	444062	13.887	476874	9.945		
10	1209173-003ADUP	432564	13.885	467472	9.946		
11	1209190-001A	439523	13.885	476354	9.945		
12	1209190-002A	440469	13.89	466408	9.945		
13	1209190-005A	504243	13.887	516112	9.947		

IS5 Perylene-d12 = Perylene-d12
IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

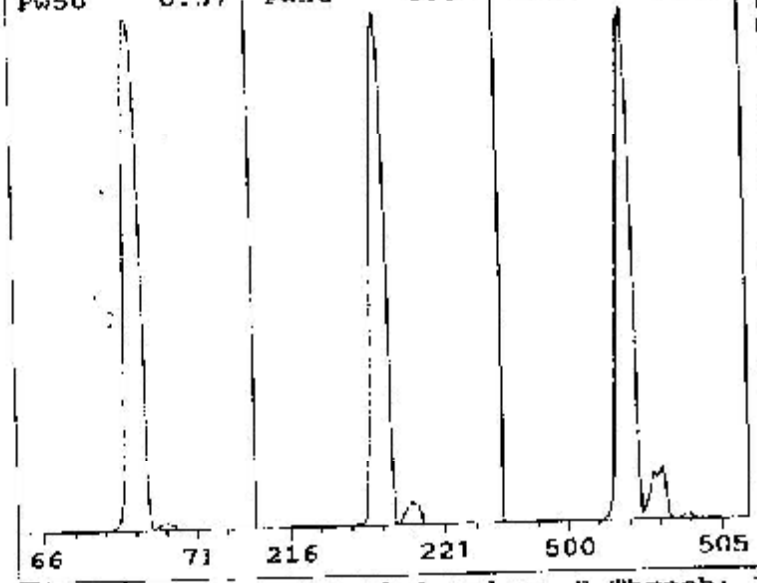
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00	Ion Pol	Pos
Ab	496024	Ab	310727	Ab	13192		
Pw50	0.57	Pw50	0.53	Pw50	0.55		

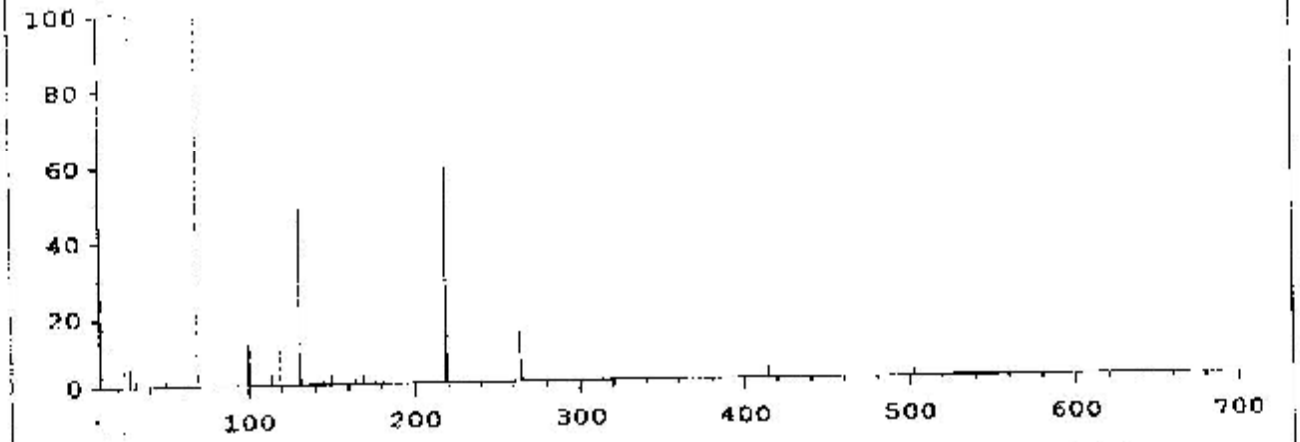
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

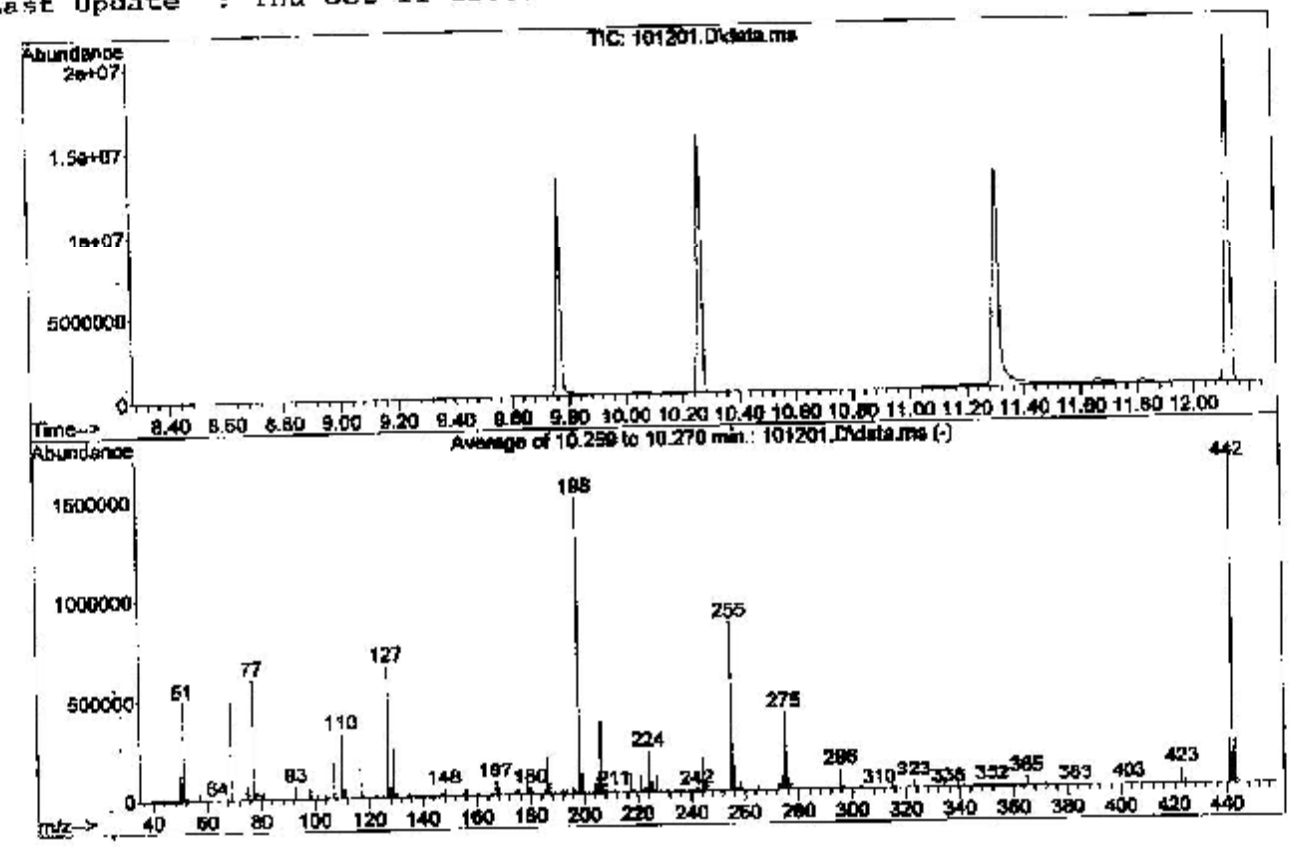
MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	48.6	59.1	2.8	2.3	

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

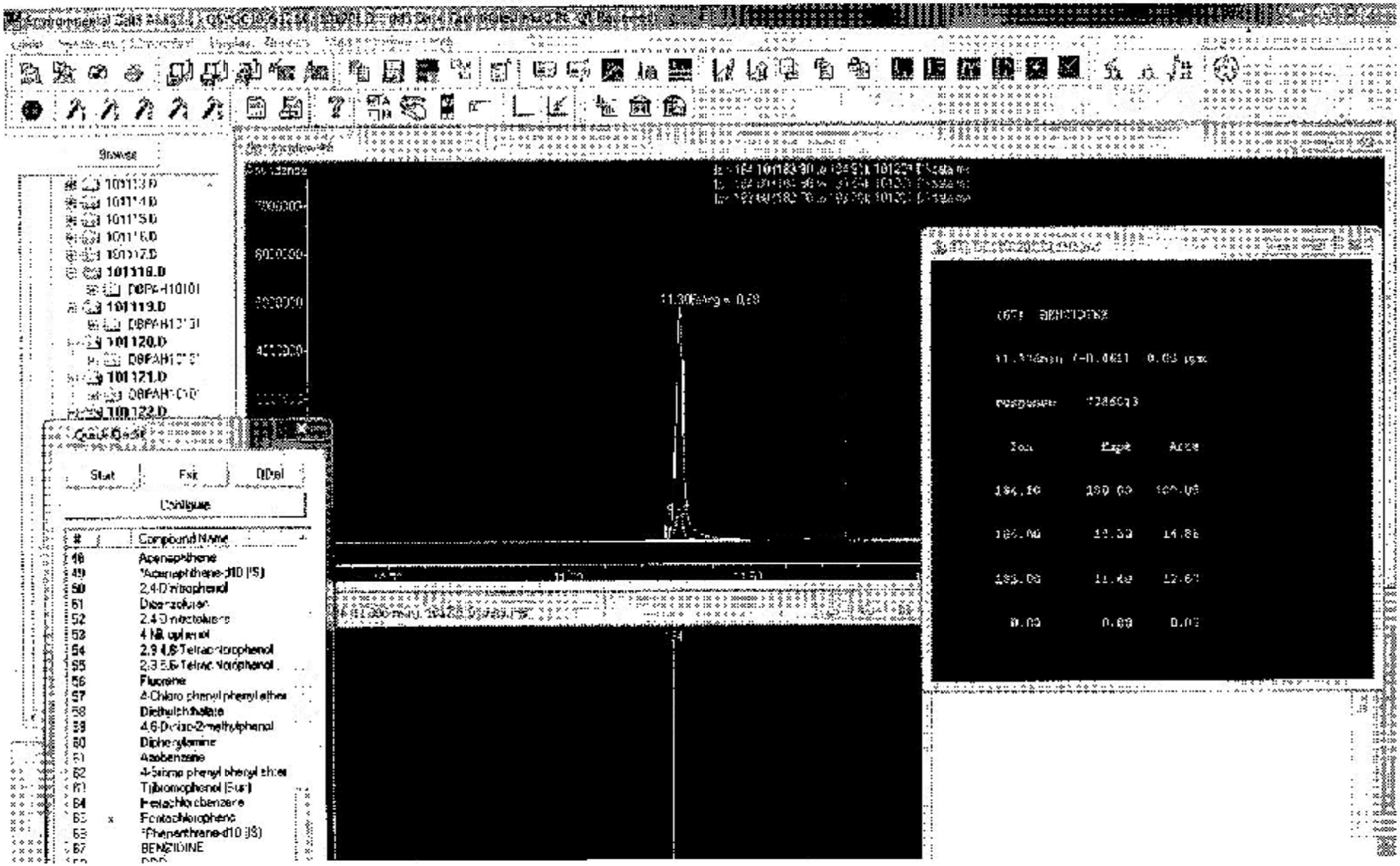
Integration File: RTEINTSG8270.P

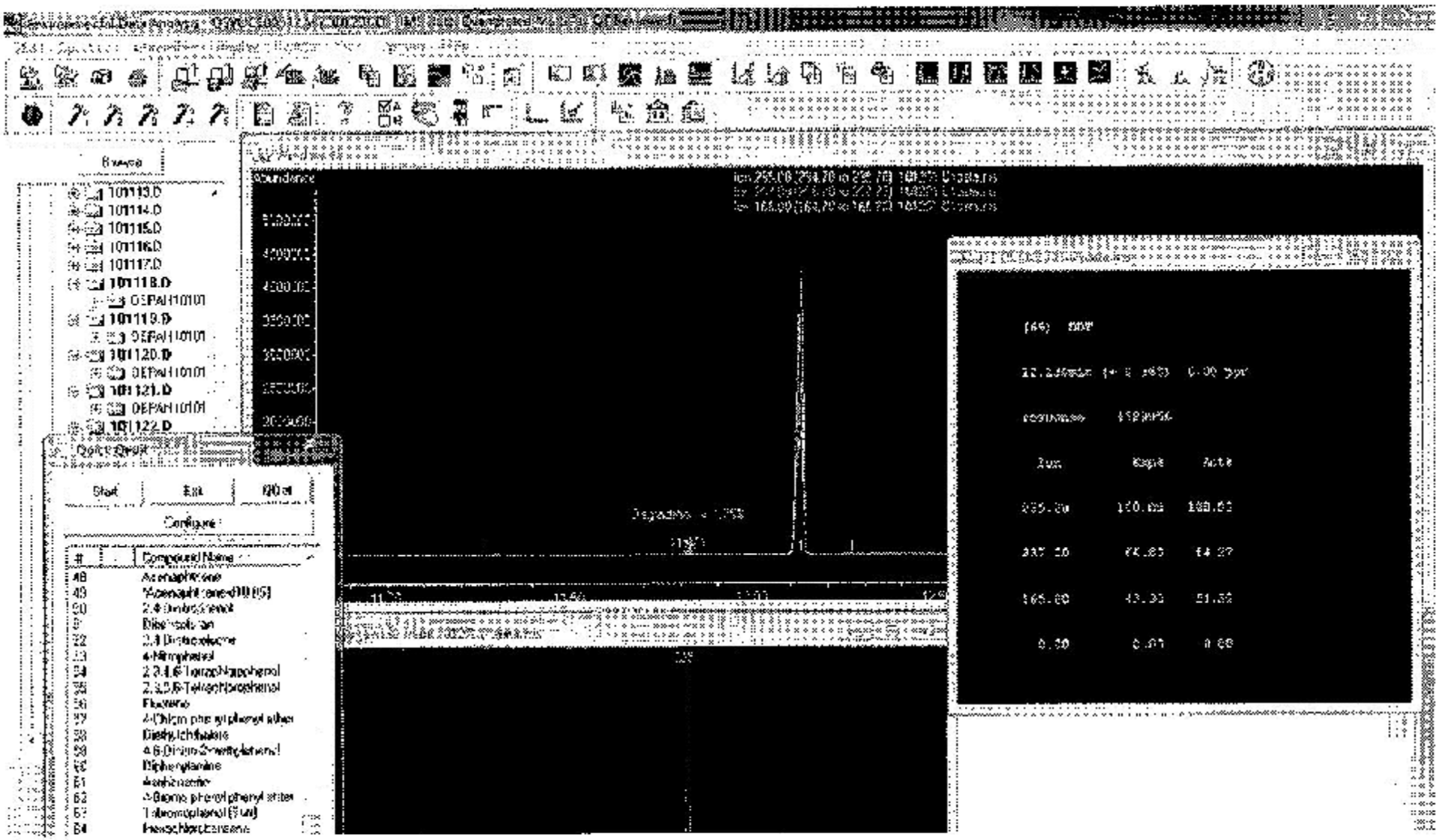
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

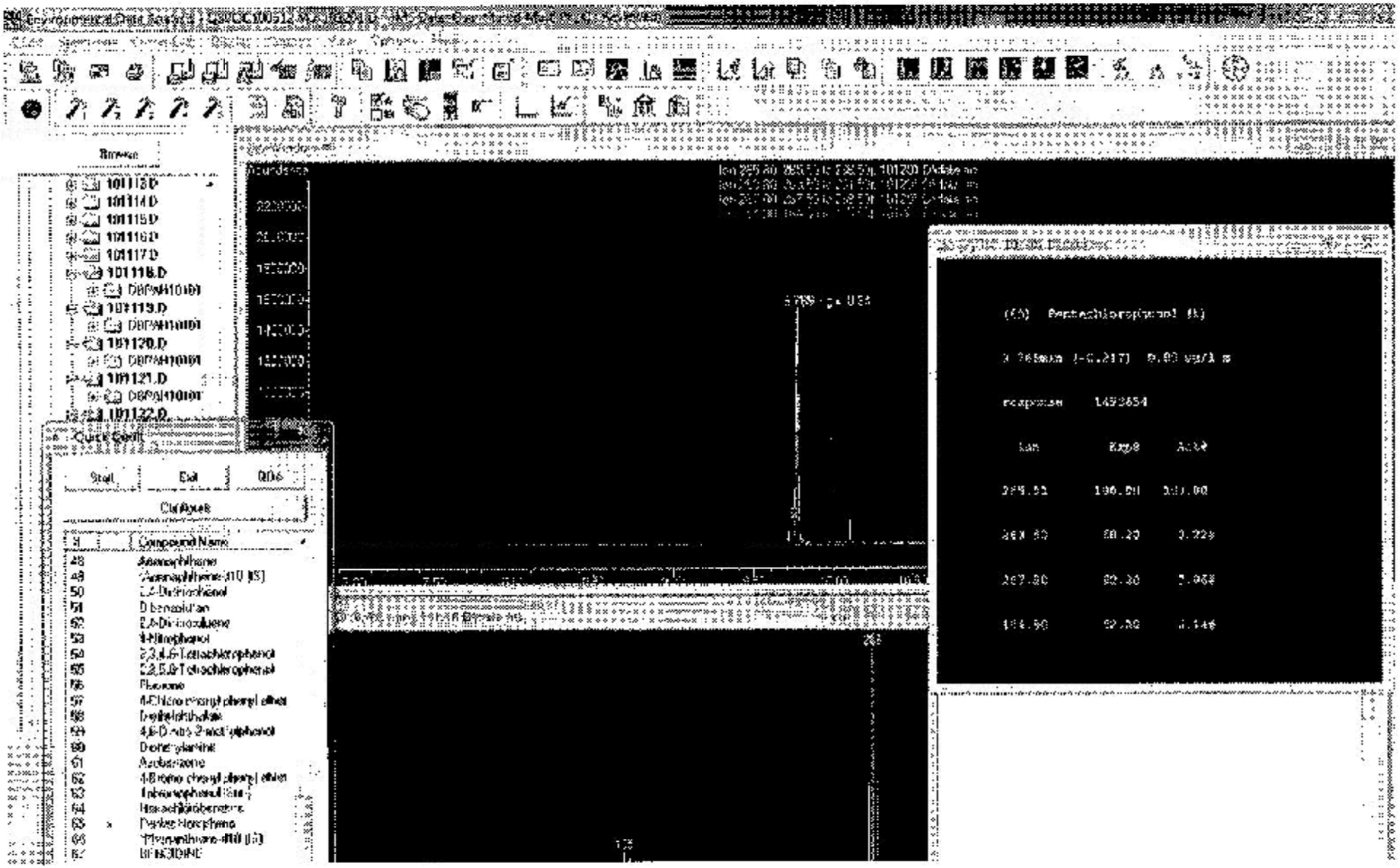


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Start
Exit
Delete
Configure
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Hexachlorobenzene
64 Pentachlorophenol
65 Phenanthrene-d10 (IS)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expd Actd
184.10 100.00 100.00
185.00 15.53 14.86
186.00 11.42 12.67
0.00 0.00 0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
DEPAH10101
101119.D
DEPAH10101
101120.D
DEPAH10101
101121.D
DEPAH10101
101122.D
Start
Exit
Configure
Compound Name
Acenaphthene
Diphenylamine


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confirm
Stop
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl-phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl-phenyl ether
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
Phenanthrene
(65) Pentachlorophenol (A)
Response 1493654
Ion Ratio Lower Upper
295.82 100.00 100.00
263.82 80.20 0.22%
237.80 82.30 5.96%
166.90 62.80 1.14%

Libby Environmental, Inc.
4139 Libby Road NE • Olympia, WA 98506-2518

November 8, 2012

Neil Morton
GeoEngineers Inc.
600 Stewart Street, Suite 1700
Seattle, WA 98101

Dear Mr. Morton:

Please find enclosed the analytical data report for the Irondale Project located in Irondale, Washington. Soil samples were analyzed for Diesel & Oil by NWTPH-Dx/Dx Extended with Silica Gel Clean Up and Polyaromatic Hydrocarbons (PAH) by EPA Method 8270 SIM on September 28, 2012 and October 12, 2012. A water sample was analyzed Diesel & Oil by NWTPH-Dx/Dx Extended on September 28, 2012. A separate soil sample was analyzed for Metals Arsenic, Copper, Iron, Lead, Nickel and Zinc by EPA Method 6020 on October 2, 2012.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. All soil samples are reported on a dry weight basis. An invoice for this analytical work is enclosed.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Jamie L Deyman

Jamie L. Deyman
President
Libby Environmental, Inc.

Phone (360) 352-2110 • Fax (360) 352-4154 • libbyenv@aol.com
www.LibbyEnvironmental.com

Libby Environmental, Inc.

Case Narrative

Libby Project #: L120928-30
Date: 11-8-2012

CLIENT: **GeoEngineers, Inc.**
PROJECT: **Irondale**

I. SAMPLE RECEIPT:

All samples were received intact and in good condition. See the attached Sample Receipt Check List for more information.

II. GENERAL REPORTING COMMENTS:

Final results are reported on a dry weight basis. The soil samples in the field are estimated to have a moisture content of 15%. This estimate is useful in producing data that is close to the actual value. After the sample is analyzed for soil moisture at our fixed base facility, the final data is reported based on measured soil moisture. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS), the Laboratory Control Sample Duplicate (LCSD) and the Method Blank (MB). The LCS, LCSD and the MB are processed with the samples to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:

Exceptions associated with this report will be footnoted in the analytical results page(s) and/or noted below.

Notes:

For the water matrix, a Method Blank and sample duplicate were analyzed. Neither an LCS nor an LCSD were prepared or analyzed due to practical time constraints. The NWTPH-Dx method does not recommend LCS or LCSD.

The cPAH report includes data results from Libby project L120927-30.

1 of 2

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-28-12 Page: 1 of 1

Client: GeoEngineers
Project Manager: Neil Morton
Address: 11015 Fawcett Ave, Ste 200, Tacoma, WA 98402
Project Name: Irondale
Phone: 253-383-4940 Fax:
Location: Irondale City: Irondale, WA
Client Project # 0504-042-02
Collector: ~~Aaron~~ OK / ~~Paul~~ OK / Dale Date of Collection: 9-28-12

	Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1	DW3-92812	0	0730	Water	500mL amber							X						No PAH
2	IRZ-NESW1-92812	2'	0845	sed								X	X*					
3	IRZ-B1-92812	4'	0850	Sed	2-4oz jars							X	X					
4	IRZ-B2-92812	6'	1000	Sed	2-4oz							X	X*					
5	IRZ-NWSW1-92812	8'	1035	Sed	2-4oz							X						"NO PAH sample"
6	IRZ-NESW2-92812	4'	1100	SED	2-4oz							X	X					
7	IRZ-NSW1-92812	4	1105	SED	2-4oz							X	X					
8	IRZ-NSW2-92812	5'	1120	SED	2-4oz							X	X					
9	IRZ-B3-92812	10'	1240	Sed	2-4oz							X	X					
10																		
11																		10-8-12 run cPAH per Neil via email Standard TAT
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/28/12 1420	[signature]	9/28/12 1426
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Extract/Hold PAHs

Distribution: White - Lab, Yellow - File, Pink - Originator

1013

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 9-28-12 Page: 1 of 1

Client: GeO Engineers
Project Manager: Neil Morton
Address: 11015 Fawcett Ave, Ste 200 Tacoma, WA 98402
Project Name: Irondale
Phone: 253-383-4940 Fax:
Location: Irondale City: Irondale WA
Client Project # 0504-042-02
Collector: Aaron Date of Collection: ~~Aaron~~ 9-28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	METALS - See Below			Field Notes
1 Sand Import Profile	—	0800	SED	2-4 oz											X				See Below
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/28/12 1420	[signature]	9/28/12 1420
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Analyze for: As, Cu, Iron, Pb, Ni, Zn
Rush

Distribution: White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.
Login Sample Receipt Check List

Client: GeoEngineers, Inc. **Libby Project Number:** L120928-30

Question	T / F / NA	Comment
The cooler's custody seal, if present, is intact.	**N/A**	
The cooler or samples do not appear to have been compromised or tampered with.	**True**	
Samples were received on ice.	**True**	
Cooler temperature is acceptable.	**True**	
COC is present.	**True**	
COC is filled out in ink and is legible.	**True**	
COC is filled out with all pertinent information.	**True**	
There are no discrepancies between the sample IDs on the containers and the COC.	**True**	
Samples are received within the Hold Time.	**True**	
Sample containers have legible labels.	**True**	
Containers are not broken or leaking.	**True**	
Sample collection date/times are provided.	**True**	
Appropriate sample containers are used.	**True**	
Sample bottles are completely filled.	**True**	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs.	**True**	
VOA sample vials do not have headspace or bubble is less than 6mm (1/4 in.) in diameter.	**True**	
If necessary, staff has been informed of any short hold time or quick TAT needs.	**True**	
Multiphasic samples are not present.	**N/A**	
Samples do not require splitting or compositing.	**N/A**	

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
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Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120928-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended)
in Soil w/ Silica Gel Cleanup

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (mg/kg)	Bunker C (mg/kg)
Method Blank	9/28/12	87	nd	nd
LCS	9/28/12	int	98%	
LCSD	9/28/12	int	110%	
IRZ-NESW1-92812	9/28/12	106	nd	nd
IRZ-B1-92812	9/28/12	116	nd	nd
IRZ-B1-92812 Dup	9/28/12	106	nd	nd
IRZ-B2-92812	9/28/12	111	nd	nd
IRZ-NWSW1-92812	9/28/12	133	nd	1860
IRZ-NESW2-92812	9/28/12	103	nd	nd
IRZ-NSW1-92812	9/28/12	89	nd	nd
IRZ-NSW2-92812	9/28/12	91	nd	nd
IRZ-B3-92812	9/28/12	104	nd	nd
Practical Quantitation Limi			25	40

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Phone: (360) 352-2110
FAX: (360) 352-4154
Email: libbyenv@aol.com

IRONDALE PROJECT
GeoEngineers, Inc.
Irondale, Washington
Libby Project # L120928-30
Client Project # 0504-042-02

Analyses of Diesel & Oil Range (NWTPH-Dx/Dx Extended) in Water

Sample Number	Date Analyzed	Surrogate Recovery (%)	Diesel (µg/l)	Bunker C (µg/l)
Method Blank	9/28/12	119	nd	nd
DW3-92812	9/28/12	107	nd	nd
DW3-92812 Dup	9/28/12	94	nd	nd
Practical Quantitation Limi			200	400

"nd" Indicates not detected at the listed detection limits.
"int" Indicates that interference prevents determination

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Paul Burke

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/28/2012

Libby Job #: L120928-30		Instrument: Shimadsu GC14A			Analyst/s: Paul Burke		
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
No Sample	7:15:20	C212	3 µl				
500 ppm Diesel 791	7:15:20	D210	3 µl		488		
500 ppm Diesel 791	7:52:45	C213	3 µl		543		
1000 ppm LCS 343	7:52:45	D211	3 µl	int	984		
1000 ppm LCSD 343	8:25:09	C214	3 µl	int	1104		
Method Blank	8:25:09	D212	3 µl	17.5	nd	nd	nd
Method Blank	9:05:59	C215	3 µl	23.8	nd	nd	nd
DW3-92812	9:05:59	D213	3 µl	21.3 SLC ~~16.6~~	nd	nd	nd
IRZ-B1-92812	9:54:22	C216	3 µl	23.1	nd	nd	nd
DW3-92812 Dup	9:54:22	D214	3 µl	18.8	nd	nd	nd
IRZ-B1-92812 Dup	10:28:14	C217	3 µl	21.2	nd	nd	nd
No Sample	10:28:14	D215	3 µl				
IRZ-NESW1-92812	11:04:26	C218	3 µl	21.2	nd	nd	nd
No Sample	11:04:26	D216	3 µl				
IRZ-B2-92812	11:40:13	C219	3 µl	22.1	nd	nd	nd
IRZ-NSW1-92812	11:40:13	D217	3 µl	17.8	nd	nd	nd
IRZ-NESW2-92812	12:15:58	C220	3 µl	20.6	nd	nd	nd
IRZ-NSW2-92812	12:15:58	D218	3 µl	18.2	nd	nd	nd
No Sample	12:52:07	C221	3 µl				
IRZ-NWSW1-92812 1:4 (not used)	12:52:07	D219	3 µl				
IRZ-B3-92812	13:25:24	C222	3 µl	20.9	nd	nd	nd
IRZ-NWSW1-92812 1:2	13:25:24	D220	3 µl	26.6	nd	nd	1800

LIBBY ENVIRONMENTAL Diesel Oil Analyis Log

Client: Geo Engineers | Client Project: Irondale | Date: 9/28/2012

Libby Job #: L120928-30		Instrument: Shimadsu GC14A				Analyst/s: Paul Burke	
Sample #	Time	Run	Vol	Surrogate 2FBP conc.	Diesel Conc.	Oil Conc	Bunker C Conc
500 ppm Diesel 791	14:14:51	C223	3 µl		502		
500 ppm Diesel 791	14:14:51	D221	3 µl		539		

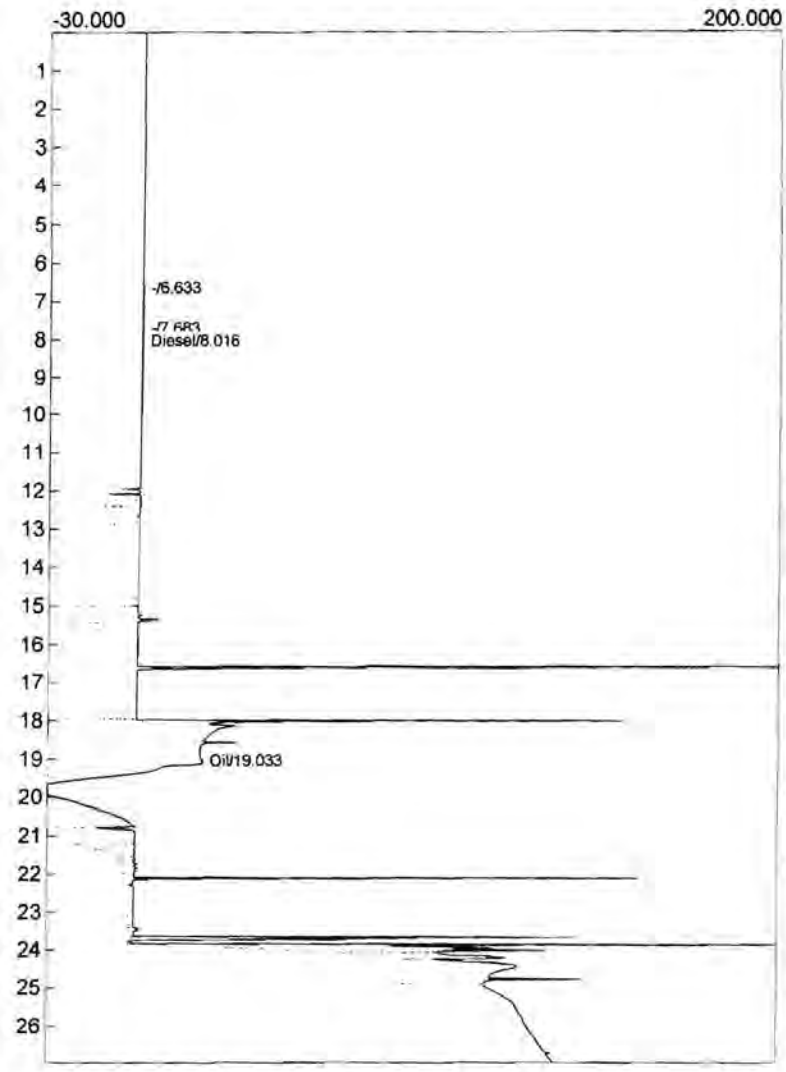
Lab name: Libby Environmental
Analysis date: 09/28/2012 07:15:20
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C212.CHR ()
Sample: No Sample
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.016	11174.9035	0.412	550.7902	ppm
Oil	19.033	7005.3395	51.368	344.8105	ppm
		18180.2430		895.6007	

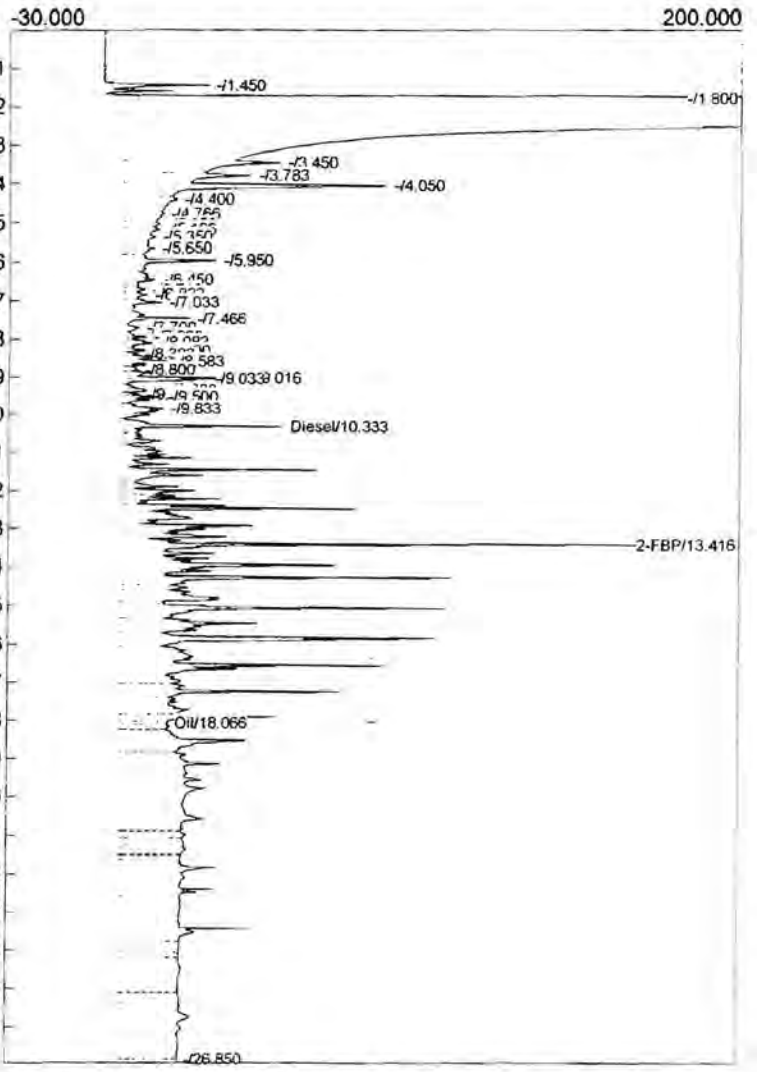
Analysis date: 09/28/2012 07:15:20
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D210.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.333	9189.7850	50.308	487.8234	ppm
2-FBP	13.416	615.8530	171.604	20.5284	ppm
Oil	18.066	10091.3695	14.099	536.0834	ppm
		19897.0075		1044.4353	

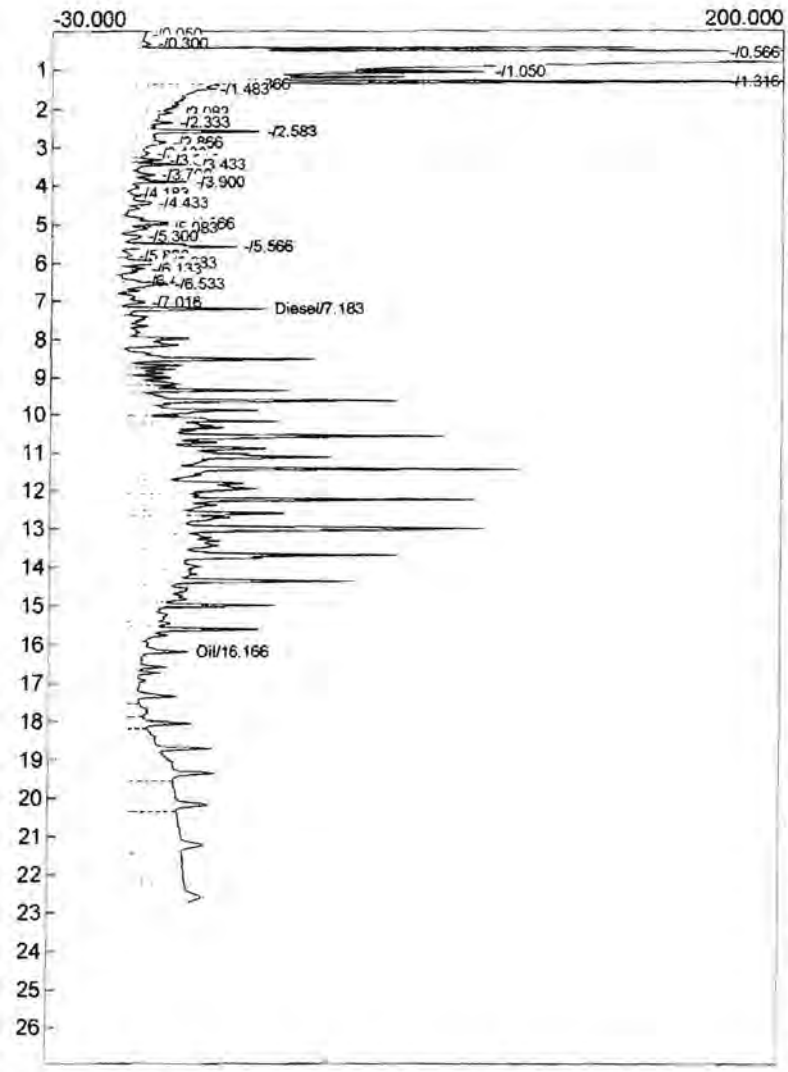
Lab name: Libby Environmental
Analysis date: 09/28/2012 07:52:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C213.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.183	11016.5065	45.917	542.9594	ppm
Oil	16.166	4630.2330	18.020	227.7168	ppm
		15646.7395		770.6763	

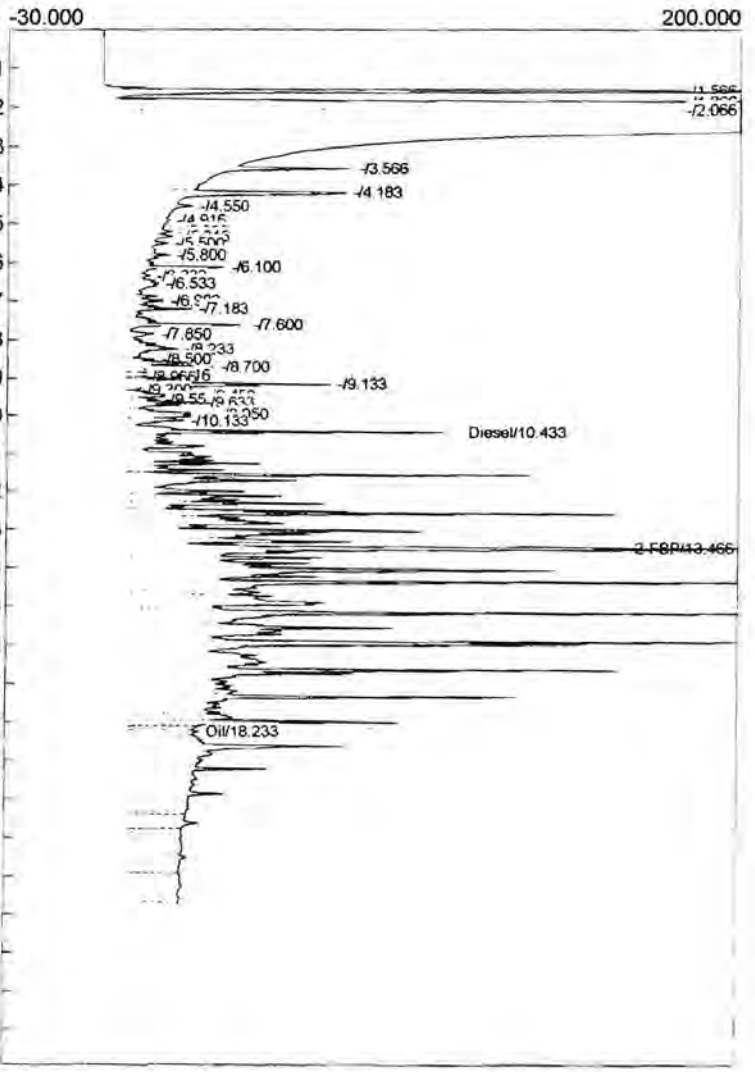
Analysis date: 09/28/2012 07:52:45
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D211.CHR ()
Sample: 1000 ppm LCS 343
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.433	18381.9130	104.200	983.7253	ppm
2-FBP	13.466	1389.0515	219.359	46.3017	ppm
Oil	18.233	4929.8830	20.757	260.7480	ppm
		24700.8475		1290.7750	

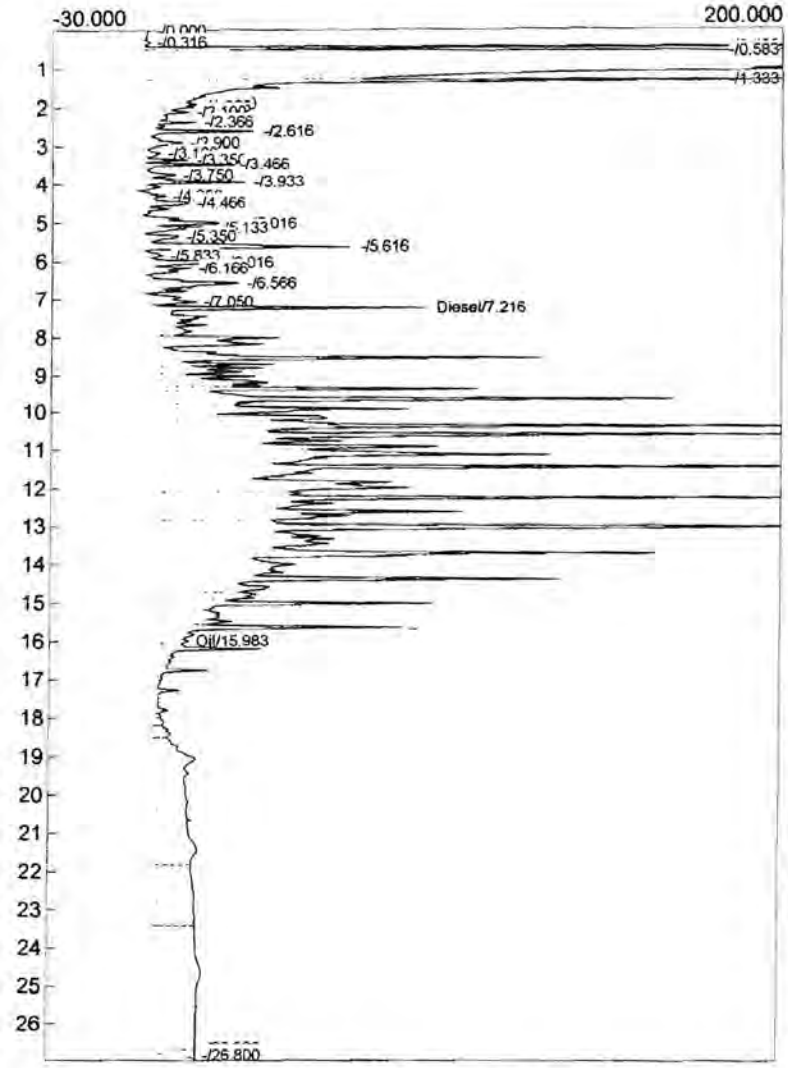
Lab name: Libby Environmental
nalysis date: 09/28/2012 08:25:09
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C214.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

emperature program:

t temp Hold Ramp Final temp

ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.216	22312.6365	85.008	1103.9526	ppm
Oil	15.983	5614.0370	8.660	276.2187	ppm
		27926.6735		1380.1713	

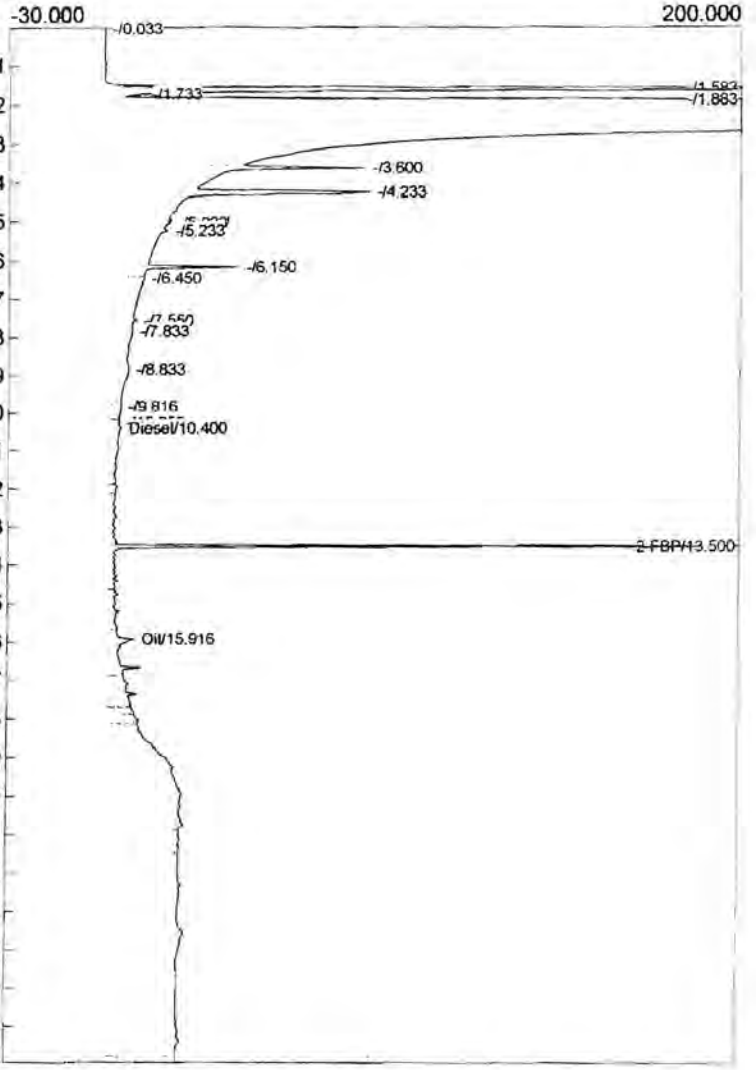
Analysis date: 09/28/2012 08:25:09
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D212.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.400	776.3705	2.535	40.9990	ppm
2-FBP	13.500	523.5855	234.449	17.4529	ppm
Oil	15.916	11315.5145	7.076	601.6205	ppm
		12615.4705		660.0723	

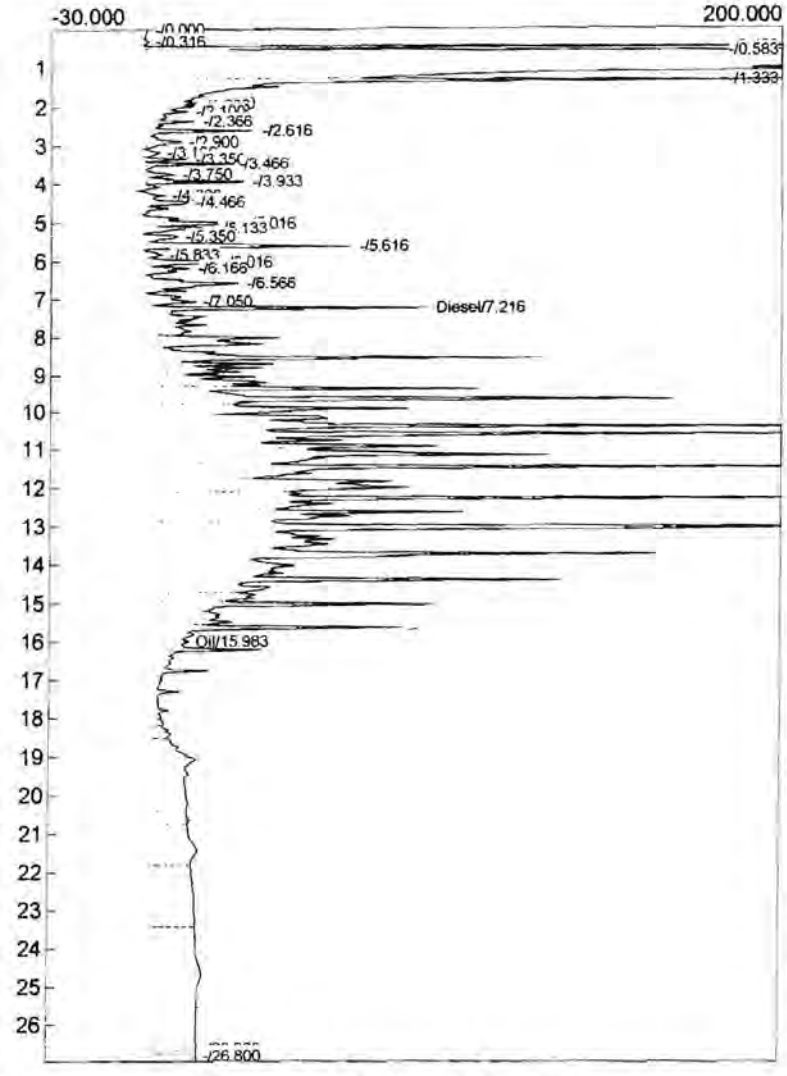
87%

Lab name: Libby Environmental
Analysis date: 09/28/2012 08:25:09
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C214.CHR ()
Sample: 1000 ppm LCSD 343
Operator: PB

emperature program:

t temp	Hold	Ramp	Final temp
ents:		*	

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.216	22312.6365	85.008	1103.9526	ppm
Oil	15.983	5614.0370	8.660	276.2187	ppm
		27926.6735		1380.1713	

110%

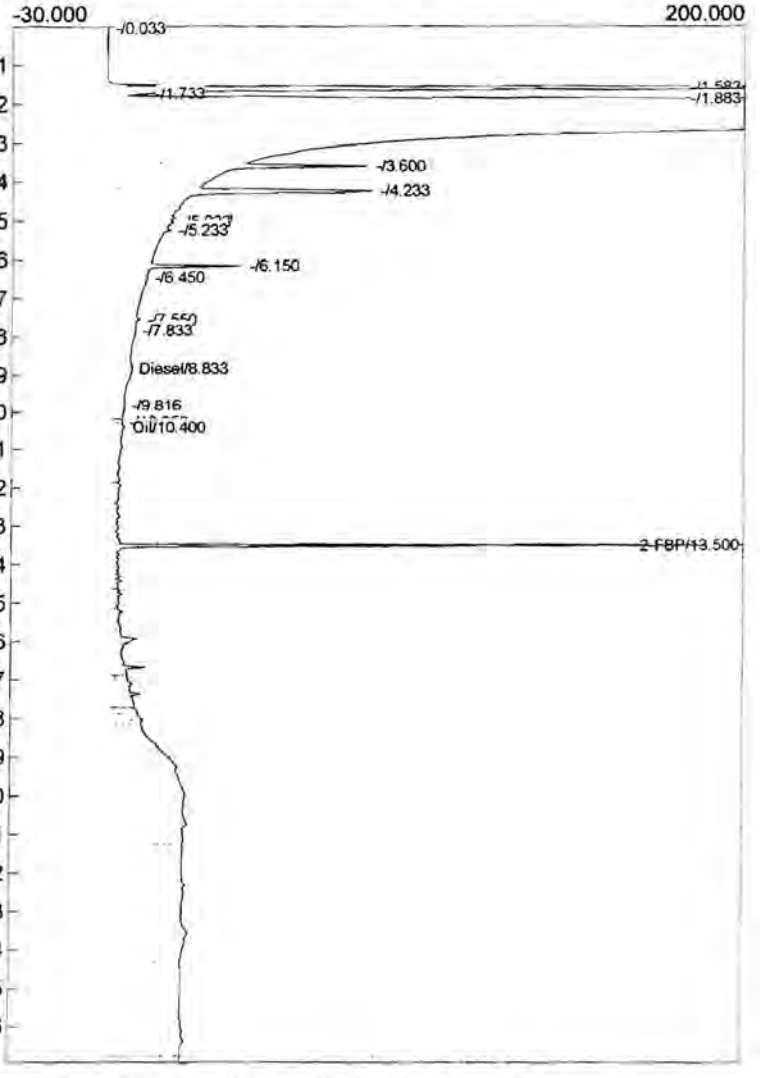
Lab name: Libby Environmental
Analysis date: 09/28/2012 08:25:09
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D212.CHR ()
Sample: Method Blank
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp
Events:		*	

Time	Event
0.000	ZERO

* used for Bunker C air blank only



Component	Retention	Area	Height	External	Units
Diesel	8.833	238.7200	4.524	12.6064	ppm
Oil	10.400	12091.8850	2.535	643.4631	ppm
2-FBP	13.500	523.5855	234.449	17.4529	ppm
		12854.1905		673.5224	

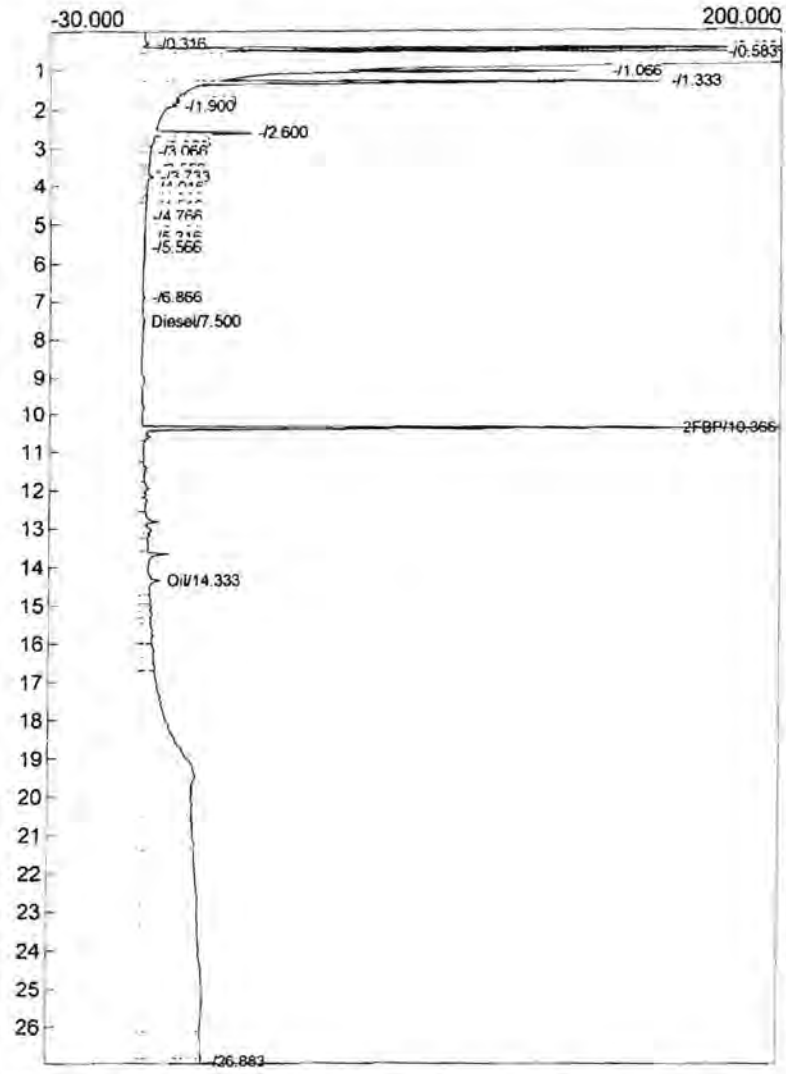
Lab name: Libby Environmental
nalysis date: 09/28/2012 09:05:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C215.CHR ()
Sample: Method Blank
Operator: PB

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.500	981.5850	0.561	48.2585	ppm
2FBP	10.366	594.6030	211.197	23.7841	ppm
Oil	14.333	10054.5625	5.847	495.4032	ppm
		11630.7505		567.4458	

119%

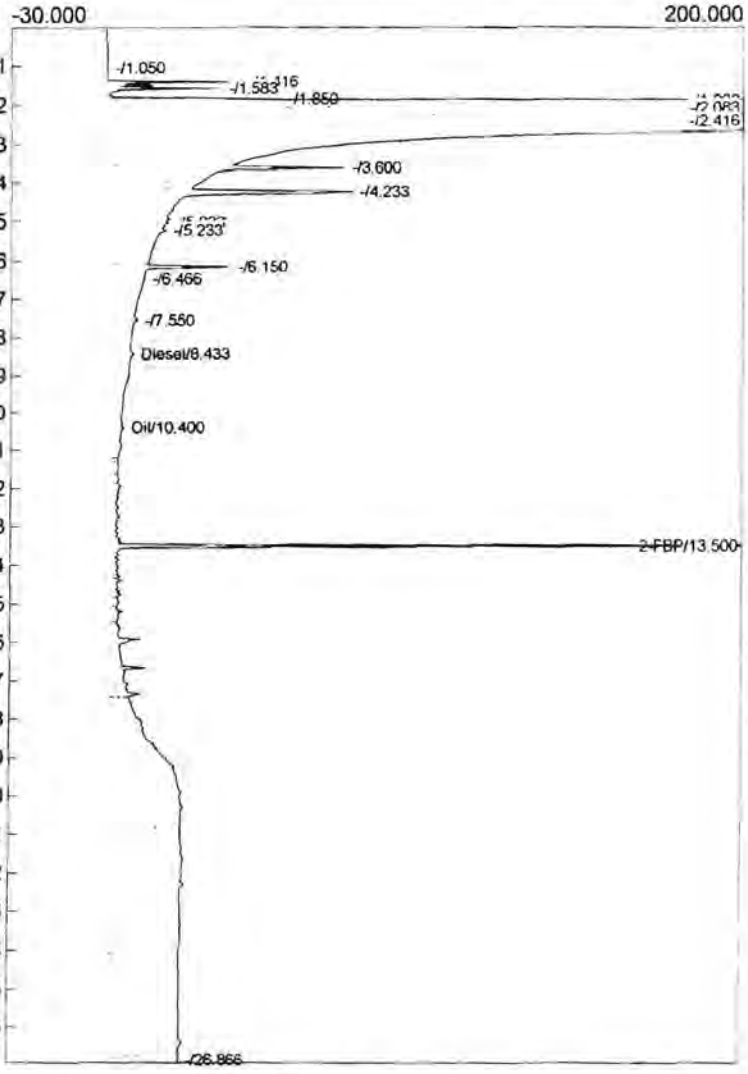
Analysis date: 09/28/2012 09:05:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D213.CHR ()
Sample: DW3-92812
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.433	403.4350	5.711	21.3048	ppm
Oil	10.400	11936.4270	2.808	635.0847	ppm
2-FBP	13.500	496.6795	221.303	16.5560	ppm
		12836.5415		672.9455	

nd

107%

Lab name: Libby Environmental
nalysis date: 09/28/2012 09:05:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C215.CHR ()
Sample: Method Blank
Operator: PB

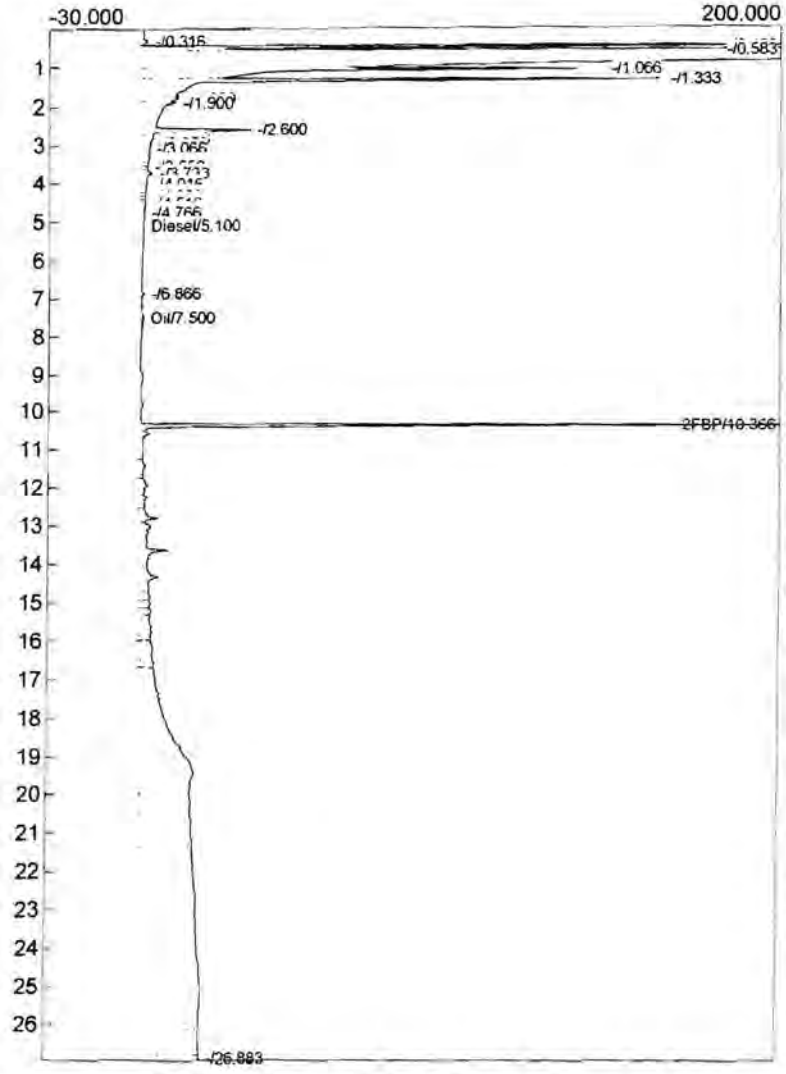
* for Bunker C air blank only.

emperature program:

t temp Hold Ramp Final temp

ents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.100	24.1015	0.533	1.1849	ppm
Oil	7.500	11036.1475	0.561	543.9304	ppm
2FBP	10.366	594.6030	211.197	23.7841	ppm
		11654.8520		568.8995	

Analysis date: 09/28/2012 09:05:59
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D213.CHR ()
Sample: DW3-92812
Operator: PB

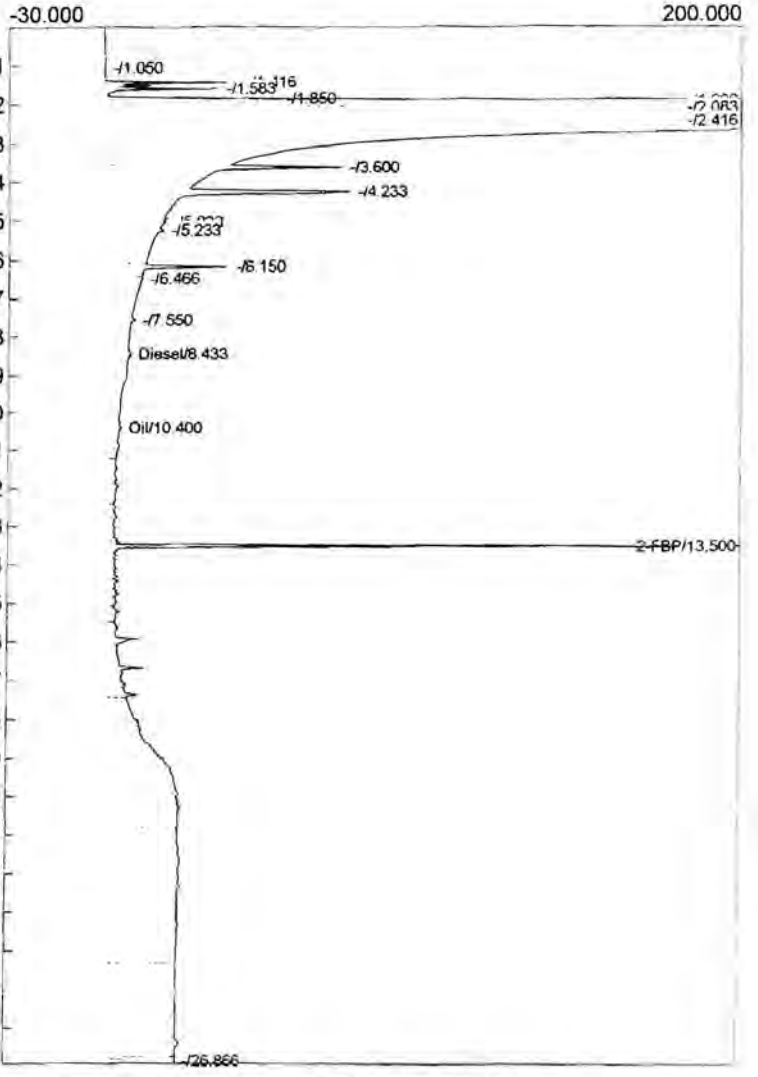
*

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.433	403.4350	5.711	21.3048	ppm
Oil	10.400	11936.4270	2.808	635.0847	ppm
2-FBP	13.500	496.6795	221.303	16.5560	ppm
		12836.5415		672.9455	

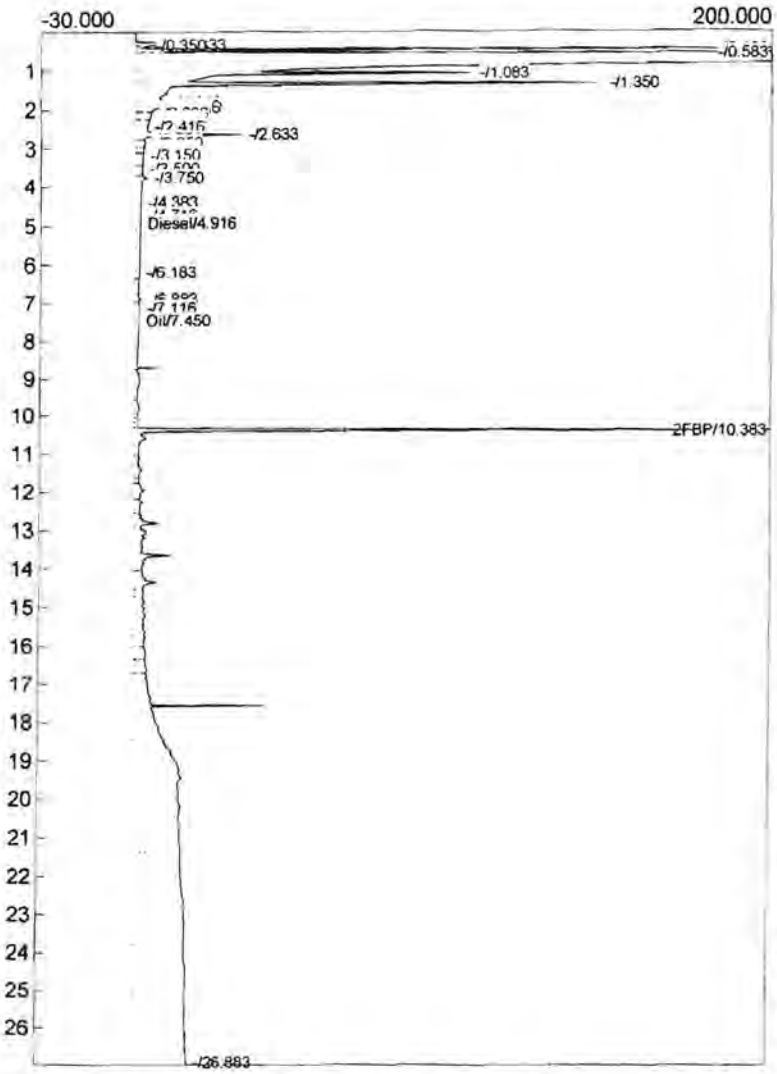
Lab name: Libby Environmental
nalysis date: 09/28/2012 09:54:22
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C216.CHR ()
Sample: IRZ-B1-92812
Operator: PB

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.916	8.8630	0.239	0.4357	ppm
Oil	7.450	9195.2010	0.259	452.9184	ppm
2FBP	10.383	578.4480	216.329	23.1379	ppm
		9782.5120		476.4920	

nd 116%

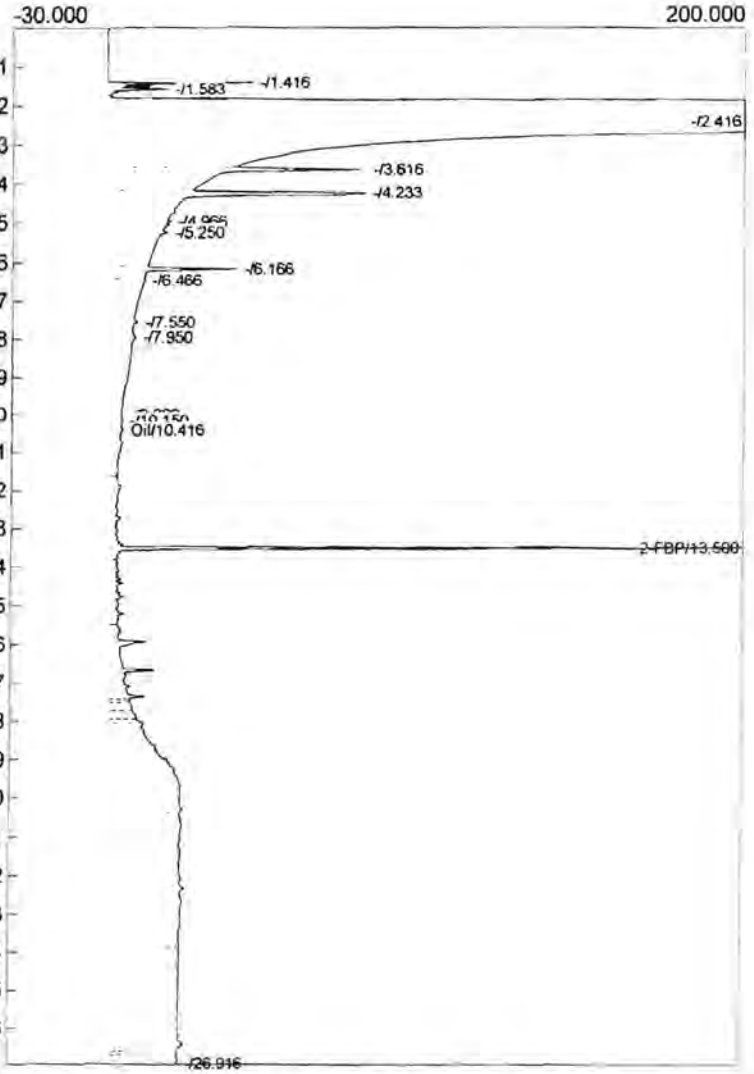
Analysis date: 09/28/2012 09:54:22
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D214.CHR ()
Sample: DW3-92812 Dup
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.416	11707.2780	2.462	622.7347	ppm
2-FBP	13.500	562.9840	252.240	18.7661	ppm
		12270.2620		641.5008	

nd 94%

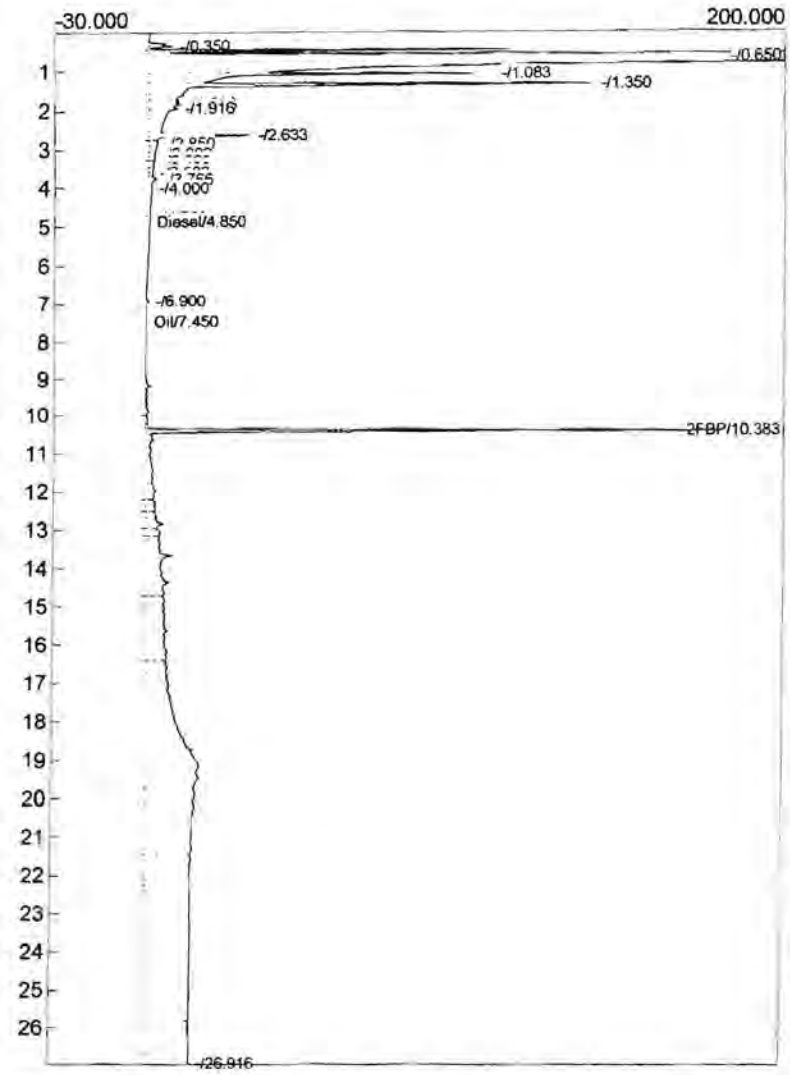
Lab name: Libby Environmental
nalysis date: 09/28/2012 10:28:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C217.CHR ()
Sample: IRZ-B1-92812 Dup
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

/ents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.850	8.0835	0.220	0.3974	ppm
Oil	7.450	10430.0985	0.147	513.9688	ppm
2FBP	10.383	531.0400	183.885	21.2416	ppm
		10969.2220		535.6078	

nd 106%

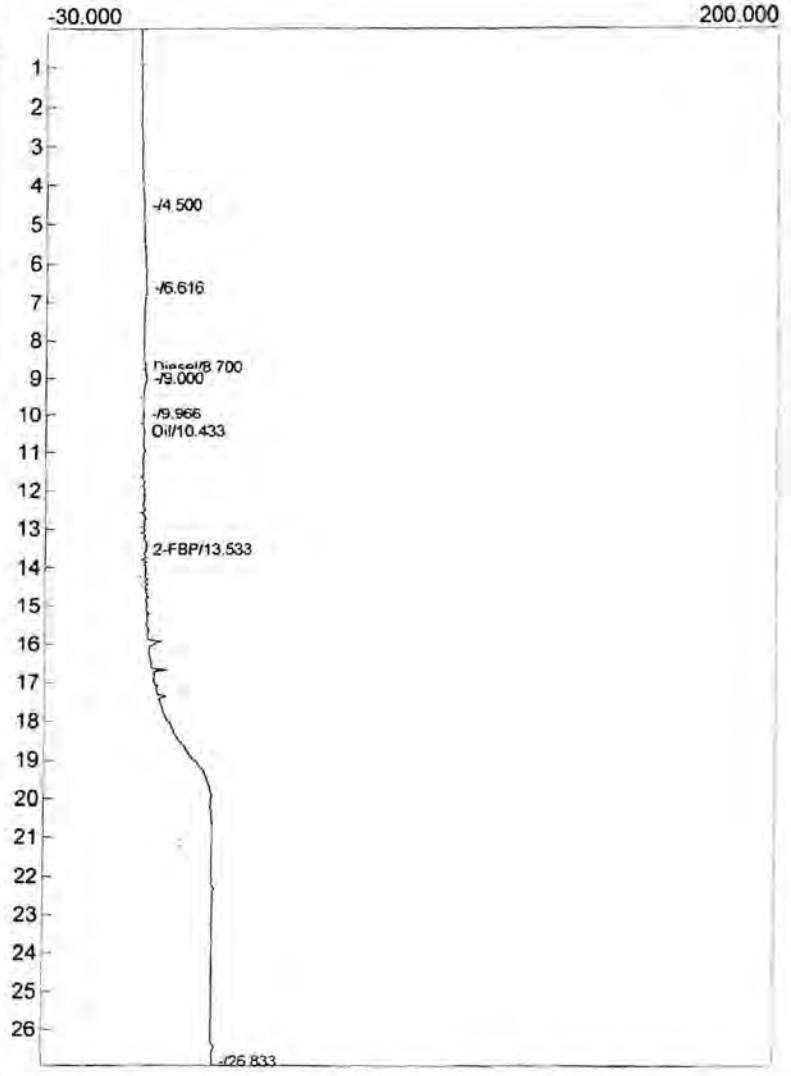
Analysis date: 09/28/2012 10:28:14
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D215.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.700	1.1160	0.242	0.0589	ppm
Oil	10.433	3609.9720	0.233	190.6372	ppm
2-FBP	13.533	3.1840	0.351	0.1061	ppm
		3614.2720		190.8023	

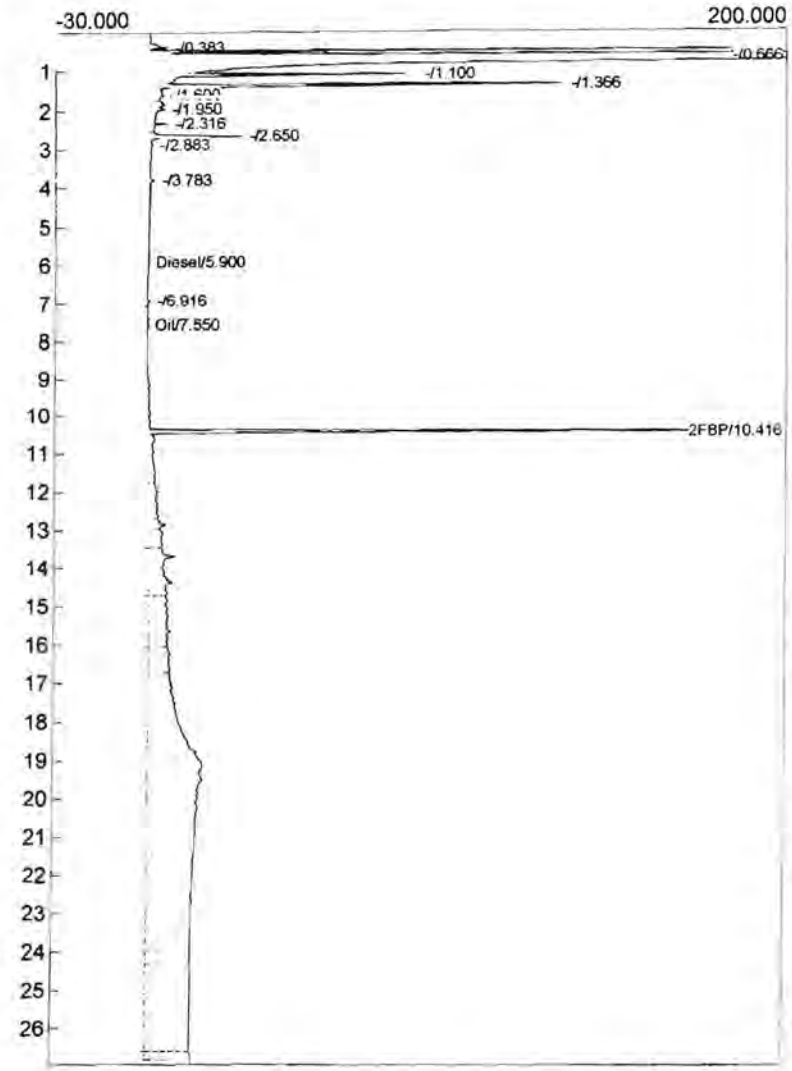
Lab name: Libby Environmental
nalysis date: 09/28/2012 11:04:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C218.CHR ()
Sample: IRZ-NESW1-92812
Operator: PB

emperature program:

it temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.900	1.0880	0.056	0.0535	ppm
Oil	7.550	10201.5980	0.083	502.6723	ppm
2FBP	10.416	529.1905	194.988	21.1676	ppm
		10731.8765		523.8934	

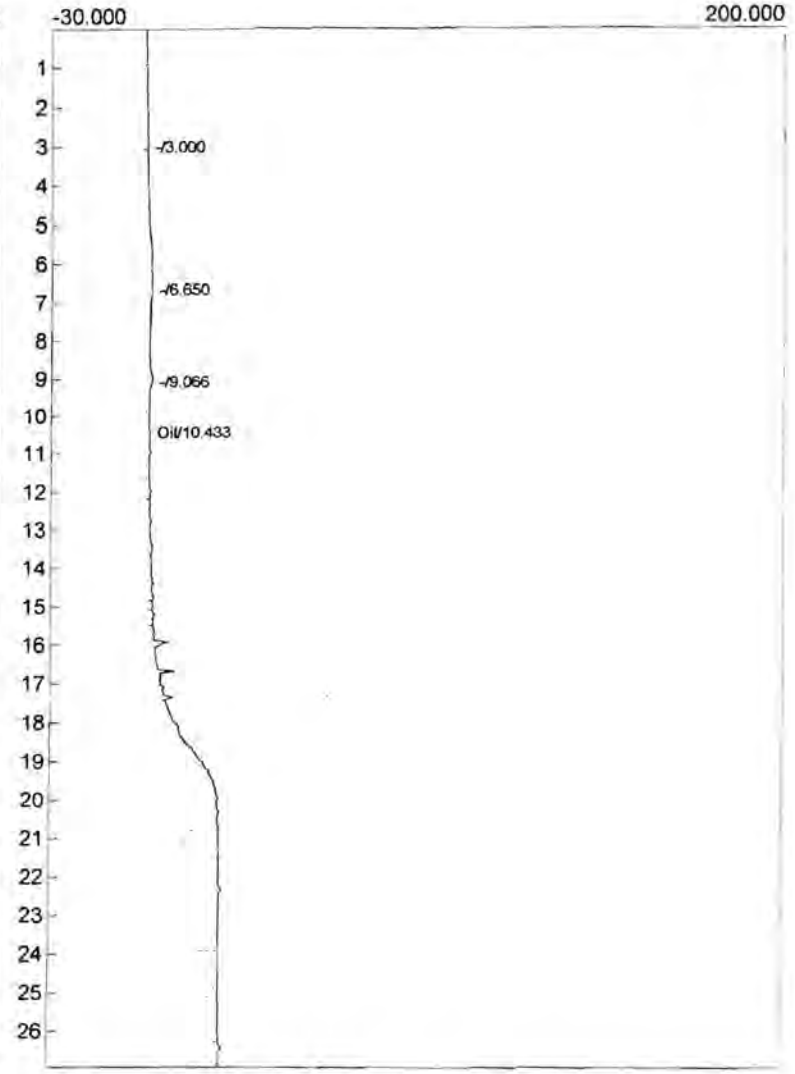
Analysis date: 09/28/2012 11:04:26
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D216.CHR ()
Sample: No Sample
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Oil	10.433	3646.3685	0.298	192.5593	ppm
		3646.3685		192.5593	

nd 106%

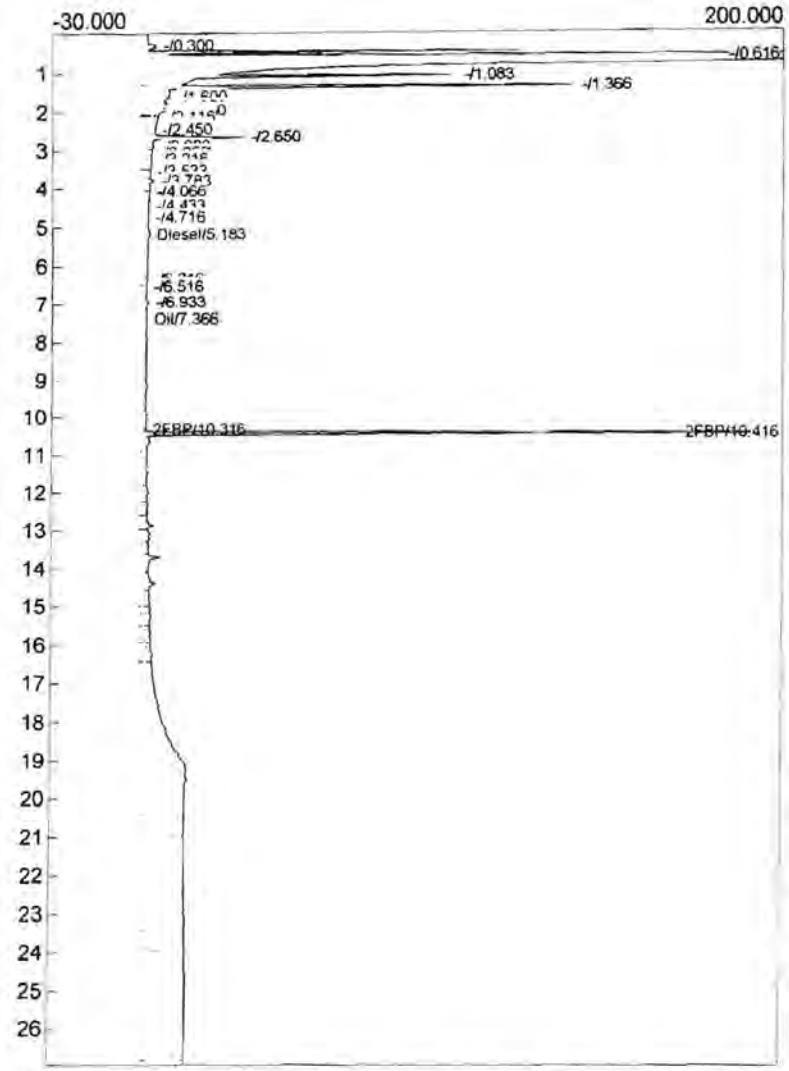
Lab name: Libby Environmental
nalysis date: 09/28/2012 11:40:13
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C219.CHR ()
Sample: IRZ-B2-92812
Operator: PB

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	5.183	96.4770	1.579	4.7432	ppm
Oil	7.366	8921.3765	0.917	439.3811	ppm
2FBP	10.316	1.4730	0.738	0.0589	ppm
2FBP	10.416	553.5510	192.425	22.1420	ppm
		9572.8775		466.3253	

nd 111%

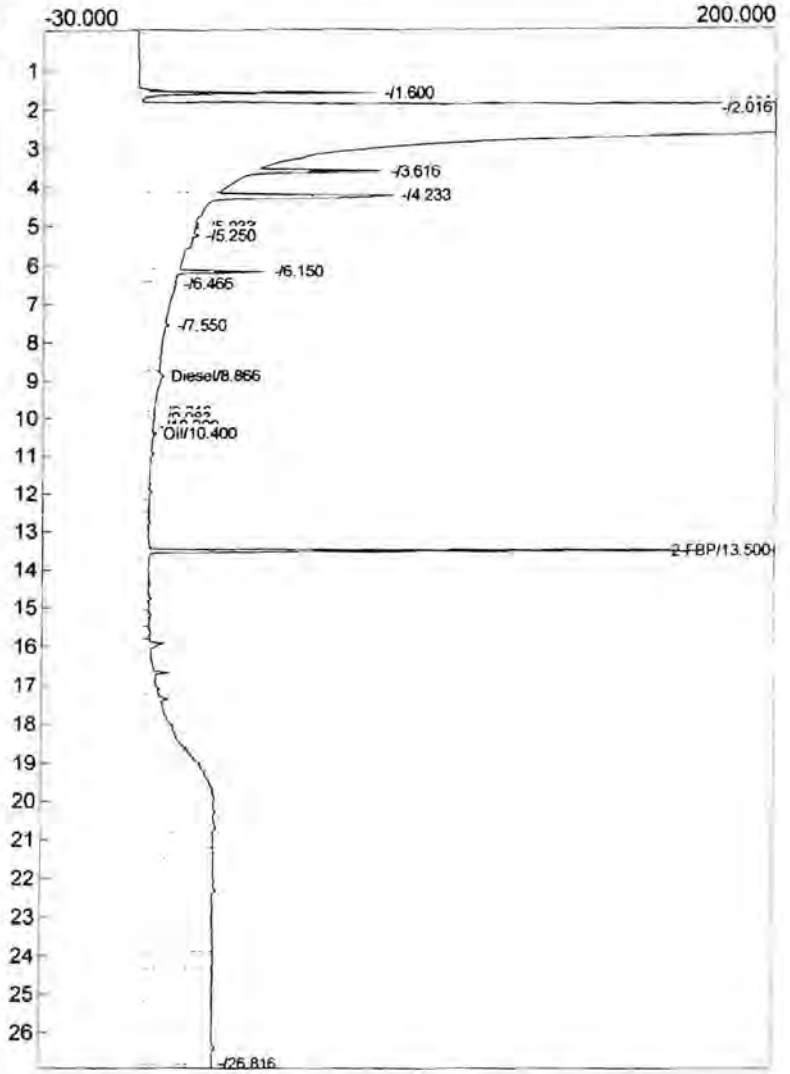
Analysis date: 09/28/2012 11:40:13
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D217.CHR ()
Sample: IRZ-NSW1-92812
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.866	176.1040	4.734	9.2998	ppm
Oil	10.400	11574.9500	2.412	615.6028	ppm
2-FBP	13.500	532.5720	225.160	17.7524	ppm
		12283.6260		642.6550	

nd 89%

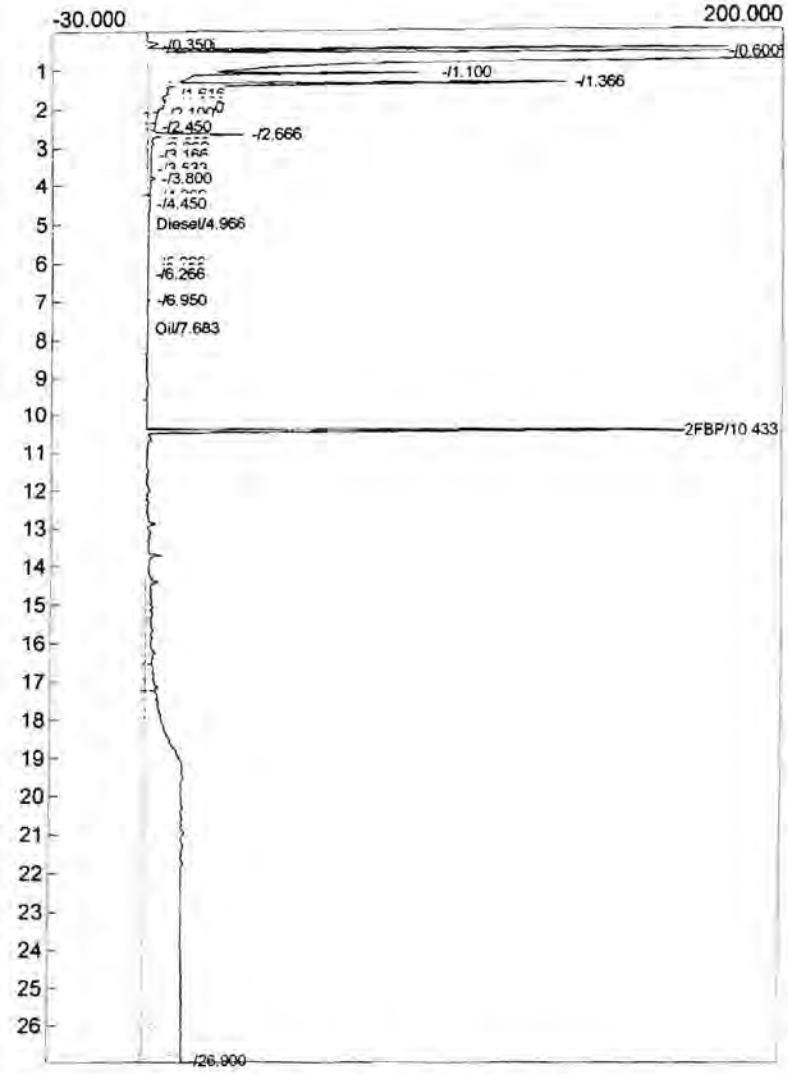
Lab name: Libby Environmental
nalysis date: 09/28/2012 12:15:58
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C220.CHR ()
Sample: IRZ-NESW2-92812
Operator: PB

emperature program:

t temp Hold Ramp Final temp

vents:

me Event
000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.966	27.6610	0.509	1.3599	ppm
Oil	7.683	7398.3010	0.171	364.1836	ppm
2FBP	10.433	515.5970	195.717	20.6239	ppm
		7941.5590		386.1674	

nd 103%

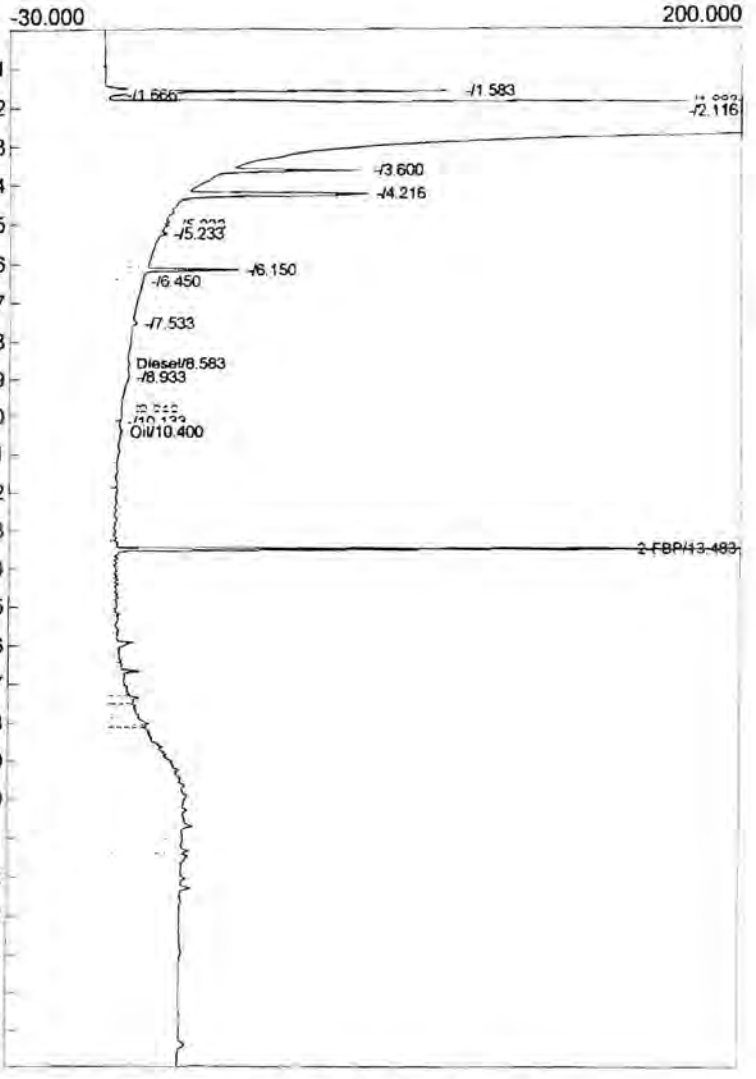
Analysis date: 09/28/2012 12:15:58
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D218.CHR ()
Sample: IRZ-NSW2-92812
Operator: PB

Temperature program:

Init temp Hold Ramp Final temp

Events:

Time Event
0.000 ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.583	52.7410	4.197	2.7852	ppm
Oil	10.400	12319.3710	2.412	655.7235	ppm
2-FBP	13.483	547.4210	244.727	18.2474	ppm
		12919.5330		676.7560	

nd 91%

Lab name: Libby Environmental

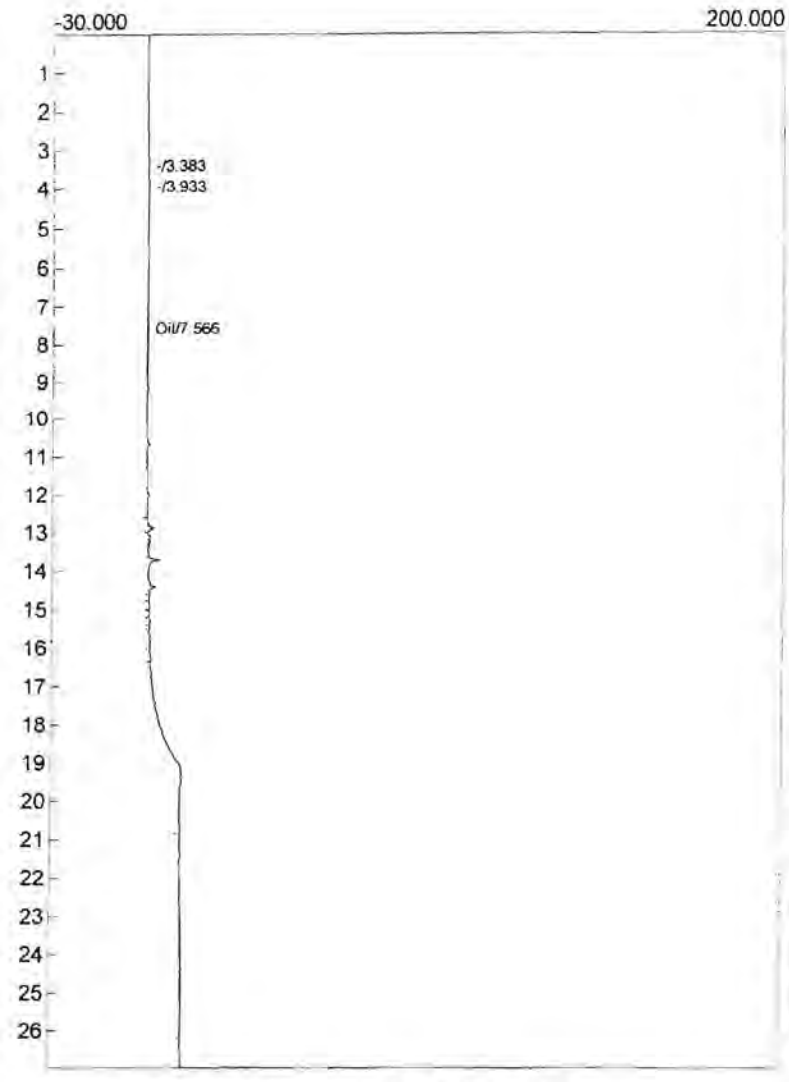
Analysis date: 09/28/2012 12:52:07
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C221.CHR ()
Sample: No Sample
Operator: PB

emperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Oil	7.566	2003.1045	0.083	98.4803	ppm
		2003.1045		98.4803	

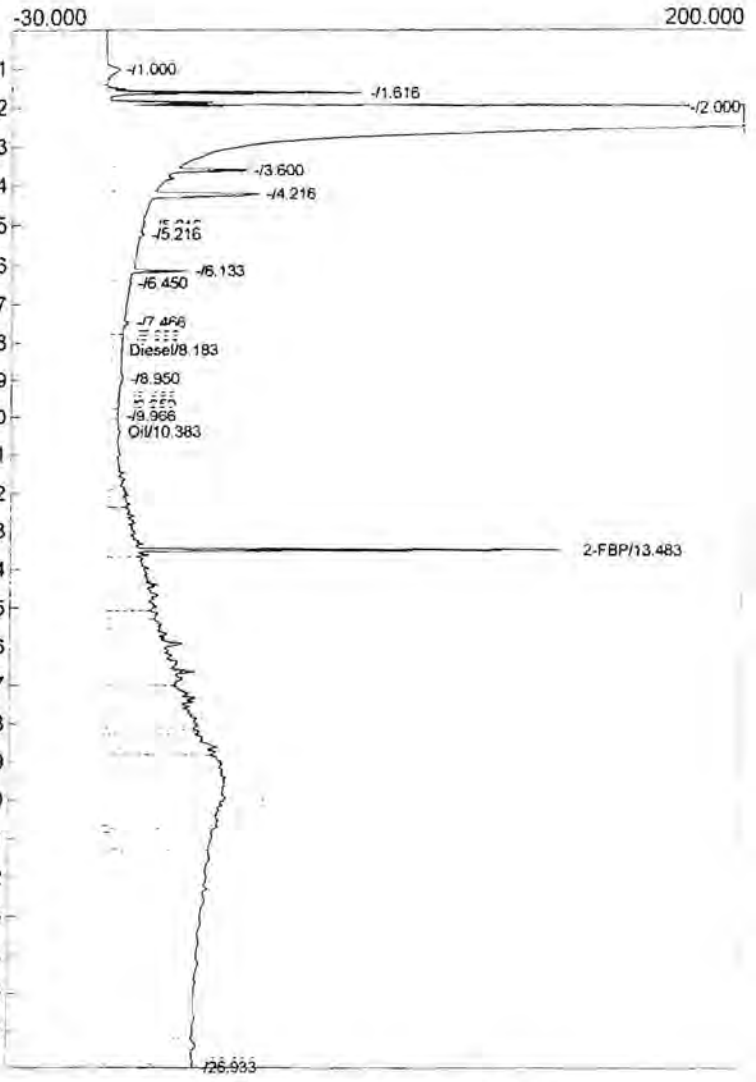
Analysis date: 09/28/2012 12:52:07
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D219.CHR ()
Sample: IRZ-NWSW1-92812 1:4
Operator: PB

Temperature program: NOT used

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.183	95.8155	2.860	5.0599	ppm
Oil	10.383	21692.3280	2.651	1164.5090	ppm
2-FBP	13.483	464.3290	146.316	15.4776	ppm
		22252.4725		1185.0465	

78%

1165 - 643 = 522

× 4

2088

= 2090 ppm

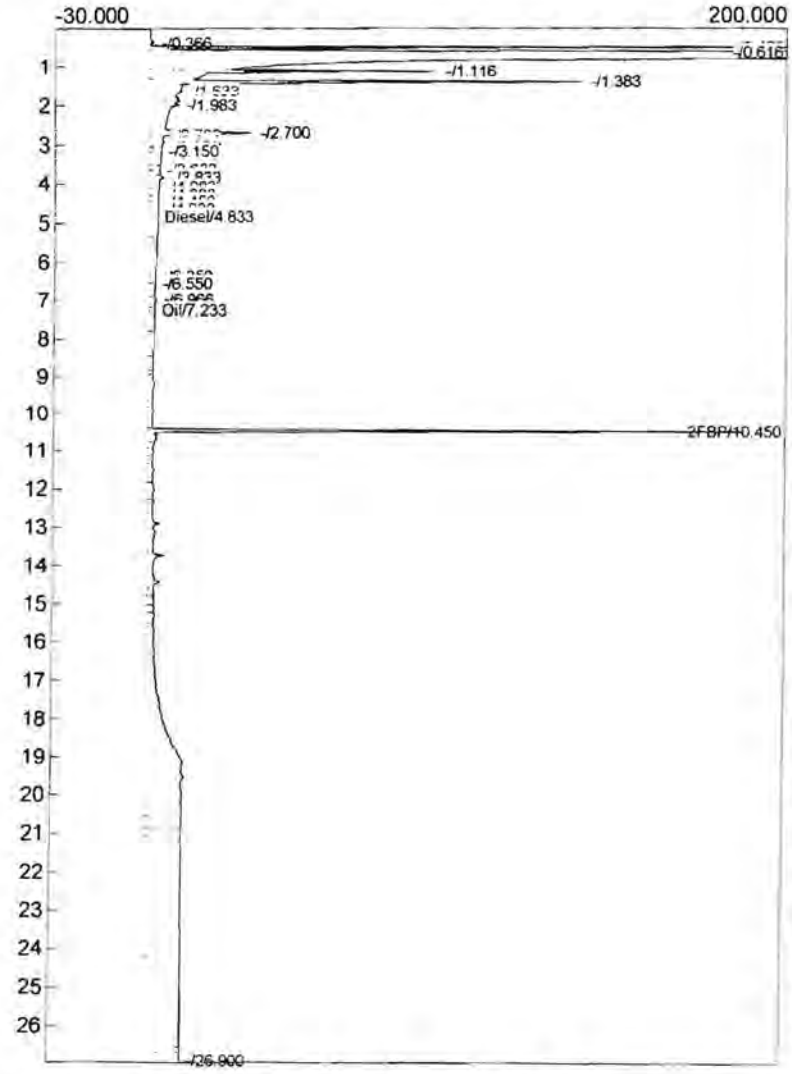
Analysis date: 09/28/2012 13:25:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C222.CHR ()
Sample: IRZ-B3-92812
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

me	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	4.833	137.4660	1.655	6.7584	ppm
Oil	7.233	6734.9540	0.865	331.4804	ppm
2FBP	10.450	522.3280	201.239	20.8931	ppm
		7394.7480		359.1318	

nd 104%

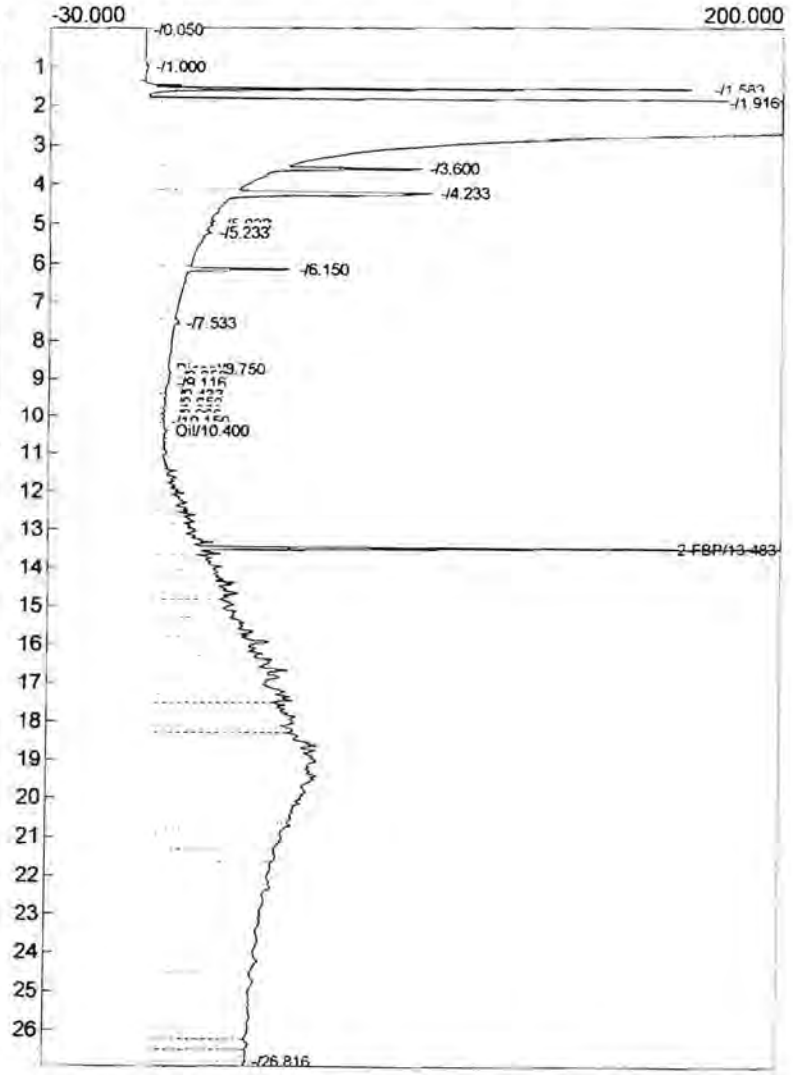
Analysis date: 09/28/2012 15:25:24
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D220.CHR ()
Sample: IRZ-NWSW1-92812 1:2
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	8.750	34.6120	2.477	1.8278	ppm
Oil	10.400	28544.7820	2.560	1542.3303	ppm
2-FBP	13.483	798.7560	263.517	26.6252	ppm
PB 4-28-12		29378.1500		1570.7833	

~~mf~~
133%

1542 - 643 = 899
× 2
1798
= 1800 ppm moisture corrected
* 1.0303 = 1855

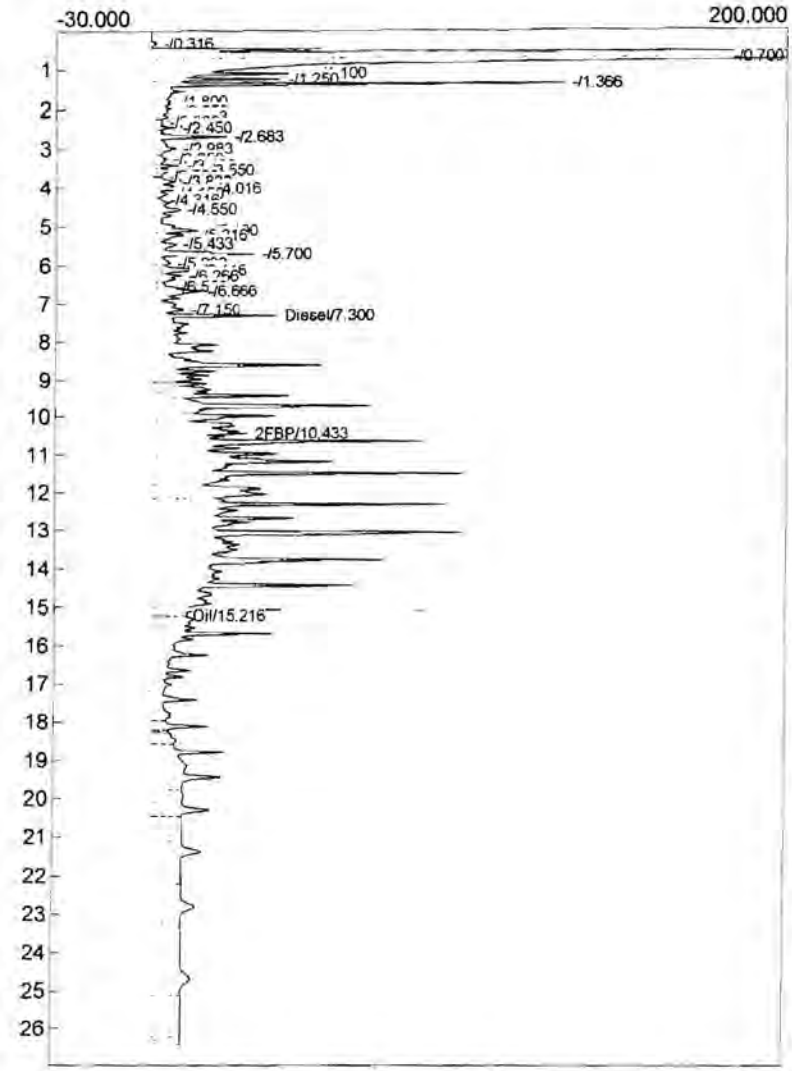
Lab name: Libby Environmental
Analysis date: 09/28/2012 14:14:51
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: C223.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

emperature program:

it temp	Hold	Ramp	Final temp

vents:

ime	Event
000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	7.300	10179.9095	38.014	501.6001	ppm
2FBP	10.433	247.5670	28.798	9.9067	ppm
Oil	15.216	5538.5565	9.238	272.4975	ppm
		15966.1330		784.0043	

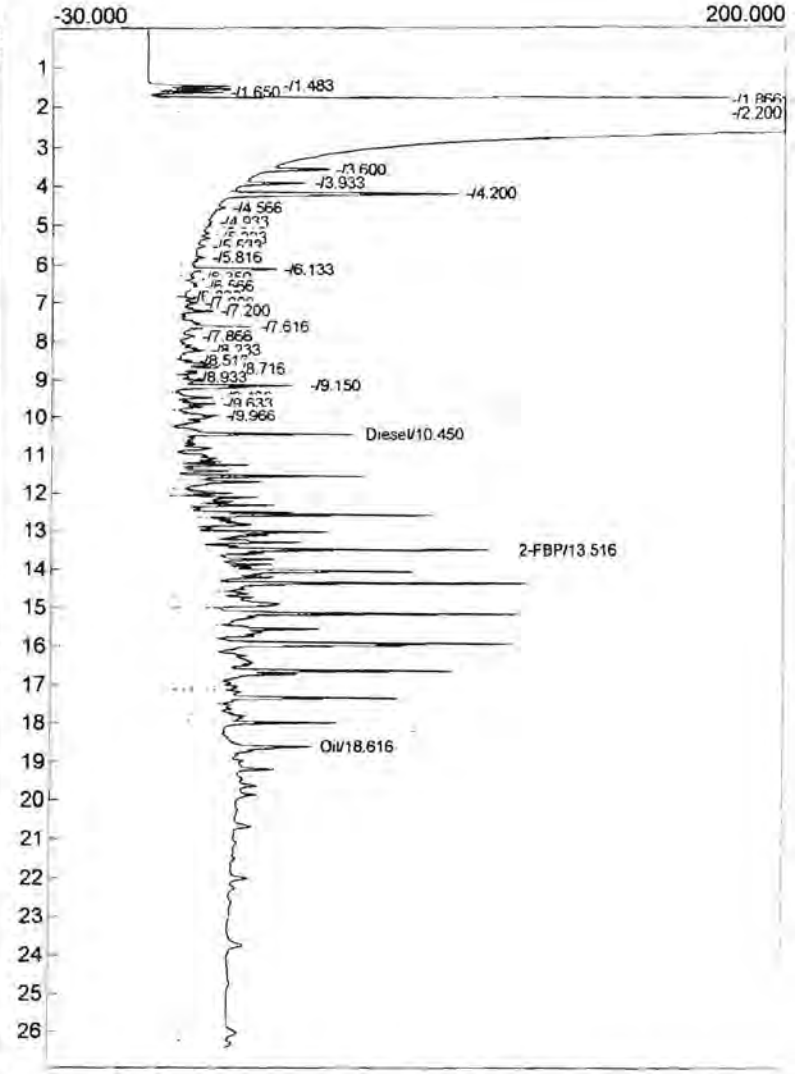
Lab name: Libby Environmental
Analysis date: 09/28/2012 14:14:51
Method:
Description: JAMACIA
Column: Restek Rtx-5 30x0.53x1.5
Carrier: He
Data file: D221.CHR ()
Sample: 500 ppm Diesel 791
Operator: PB

Temperature program:

Init temp	Hold	Ramp	Final temp

Events:

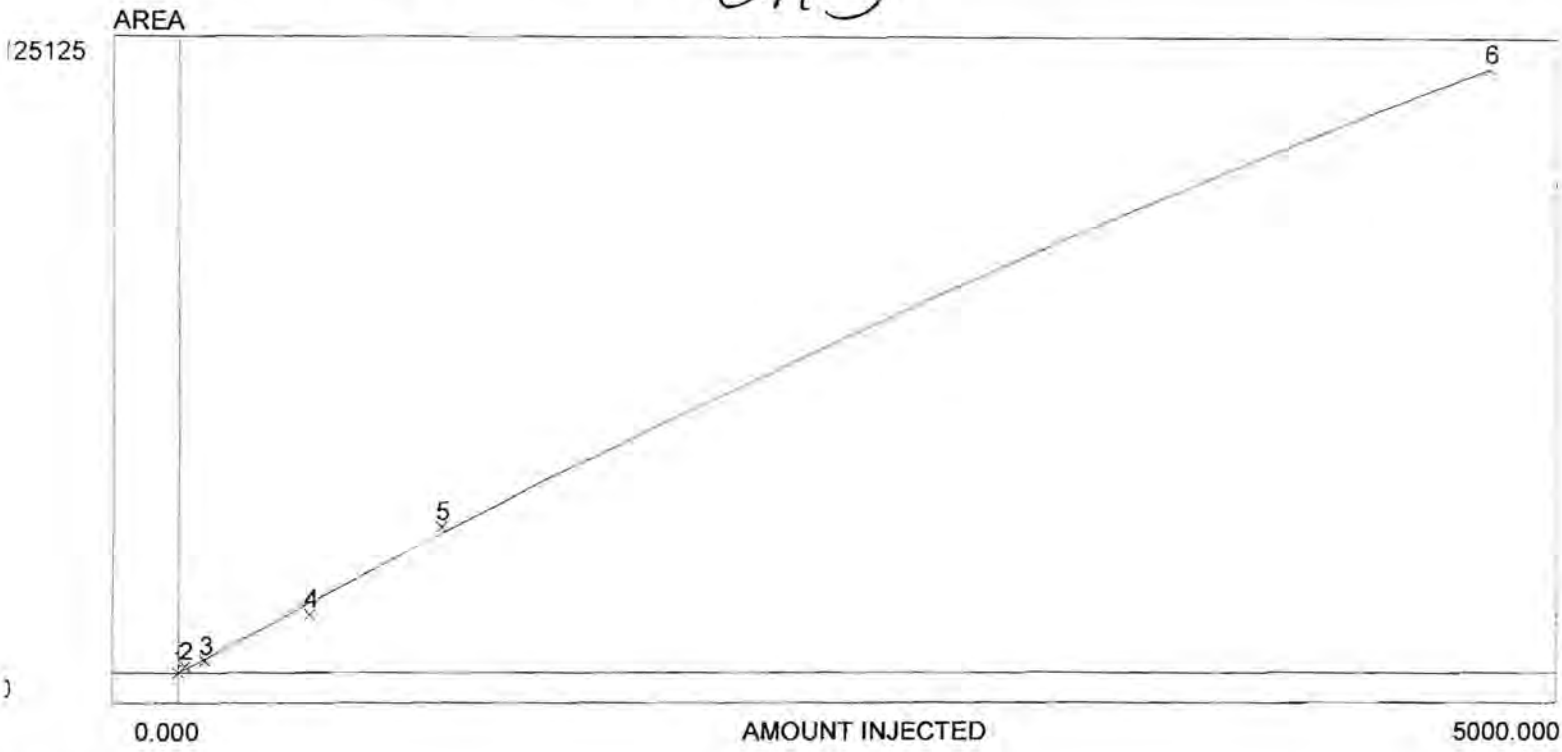
Time	Event
0.000	ZERO



Component	Retention	Area	Height	External	Units
Diesel	10.450	10140.1670	58.326	538.6955	ppm
2-FBP	13.516	504.9310	106.004	16.8310	ppm
Oil	18.616	8746.3780	43.372	464.0887	ppm
		19391.4760		1019.6152	

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

Ch 3

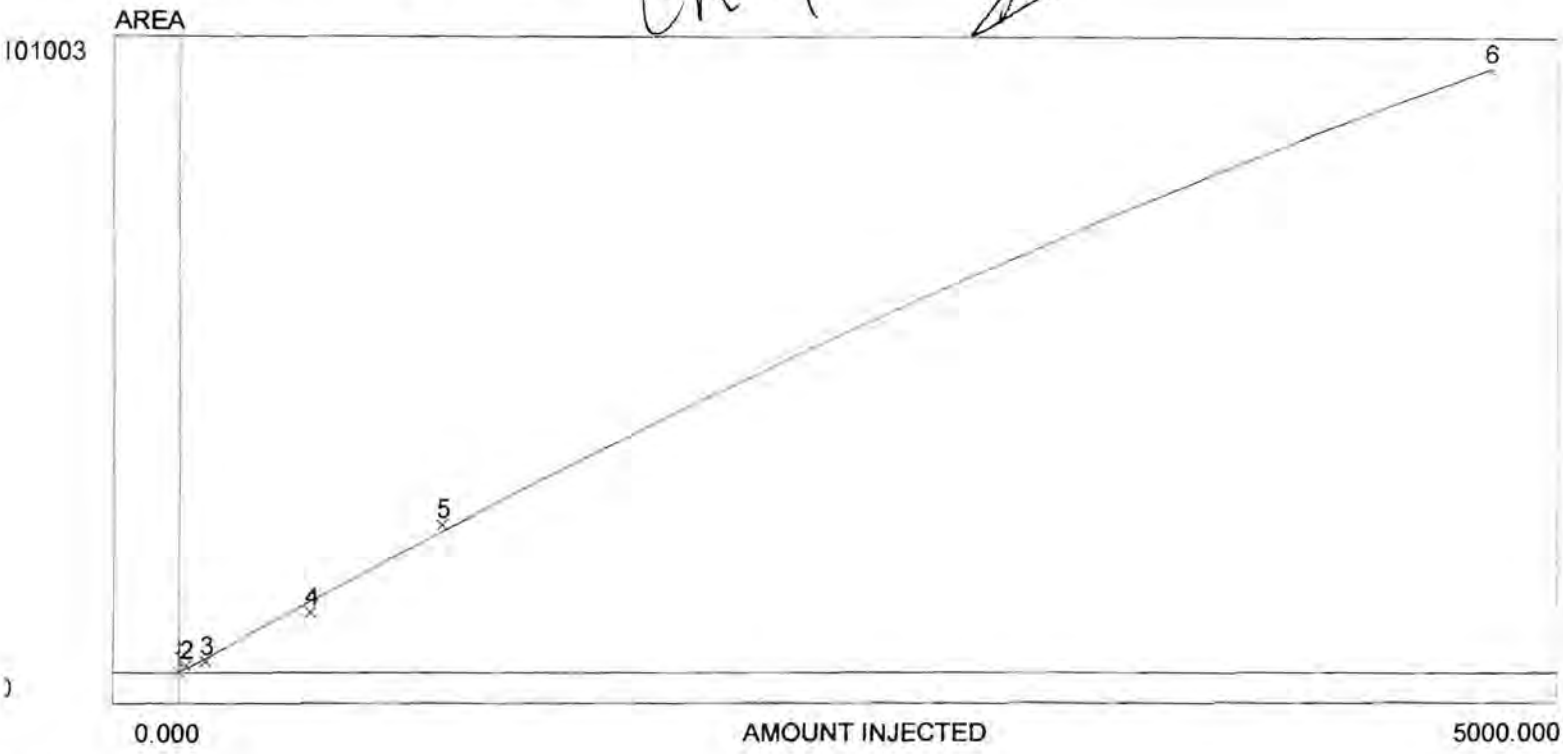


Avg slope of curve: 25.03
Y-axis intercept: 0.00
Linearity: 0.86
Number of levels: 6
SD/rel SD of CF's: 18.0/66.9
Y=-0.0009X^a+29.3544X
R2: 0.9993
Last calibrated: Wed Mar 14 13:52:31 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1410.471	25.000	56.419	1410.471	N/A	N/A
3	2574.179	100.000	25.742	2574.179	N/A	N/A
4	12043.265	500.000	24.087	12043.265	N/A	N/A
5	29871.863	1000.000	29.872	29871.863	N/A	N/A
6	125124.670	5000.000	25.025	125124.670	N/A	N/A

Calibration file: C:\POLLUX-JAMAICA\DIESEL-5.cal

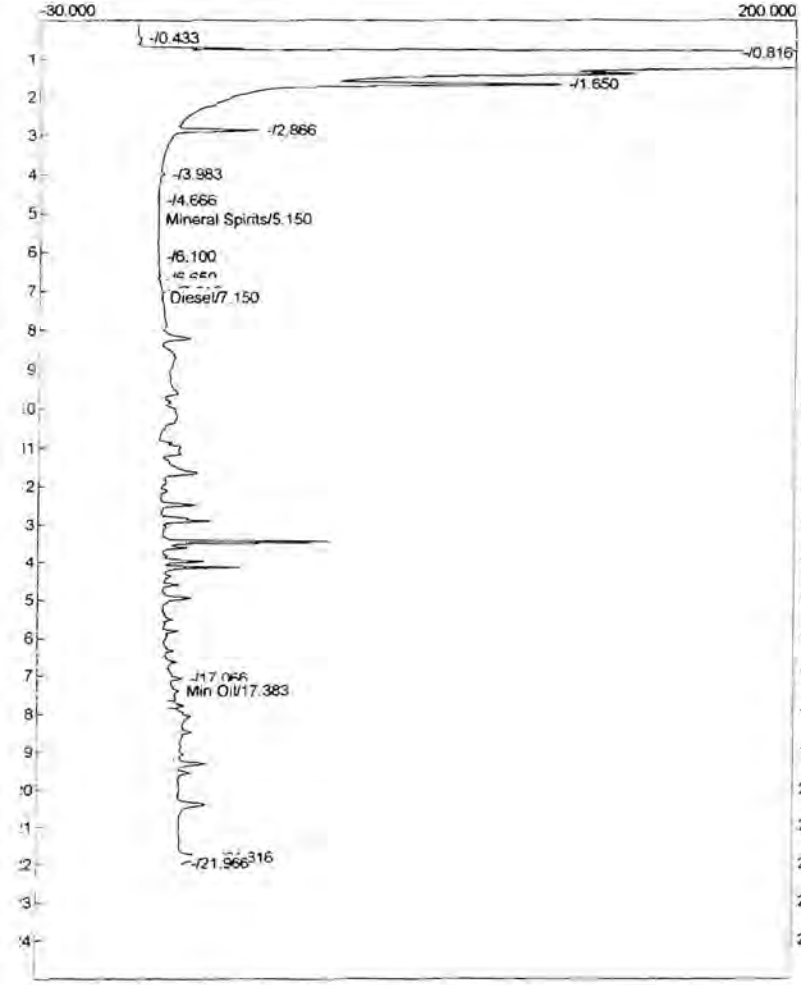
Ch 4 Z



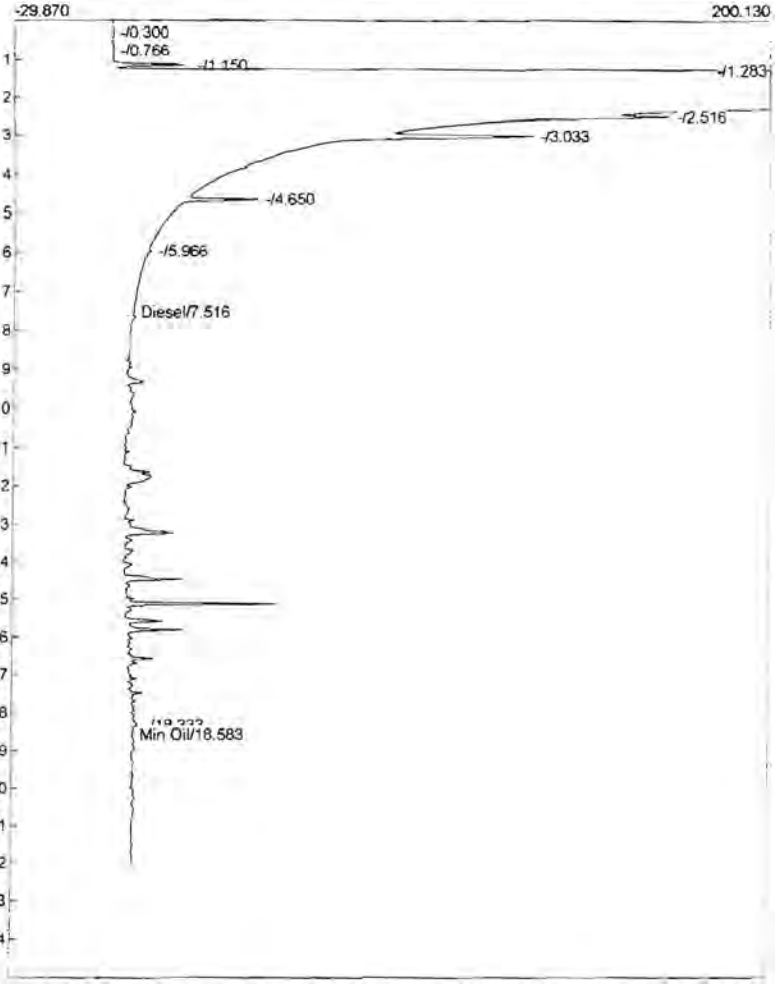
Avg slope of curve: 20.21
Y-axis intercept: 0.00
Linearity: 0.84
Number of levels: 6
SD/rel SD of CF's: 16.3/72.6
Y=-0.0008X²+24.2883X
R2: 0.9993
Last calibrated: Wed Mar 14 13:57:45 2012

Lvl.	Area/ht.	Amount	CF	Current	Previous #1	Previous #2
1	0.000	0.000	0.000	0.000	N/A	N/A
2	1271.716	25.000	50.869	1271.716	N/A	N/A
3	1927.394	100.000	19.274	1927.394	N/A	N/A
4	10086.605	500.000	20.173	10086.605	N/A	N/A
5	24554.042	1000.000	24.554	24554.042	N/A	N/A
6	101002.720	5000.000	20.201	101002.720	N/A	N/A

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C620.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



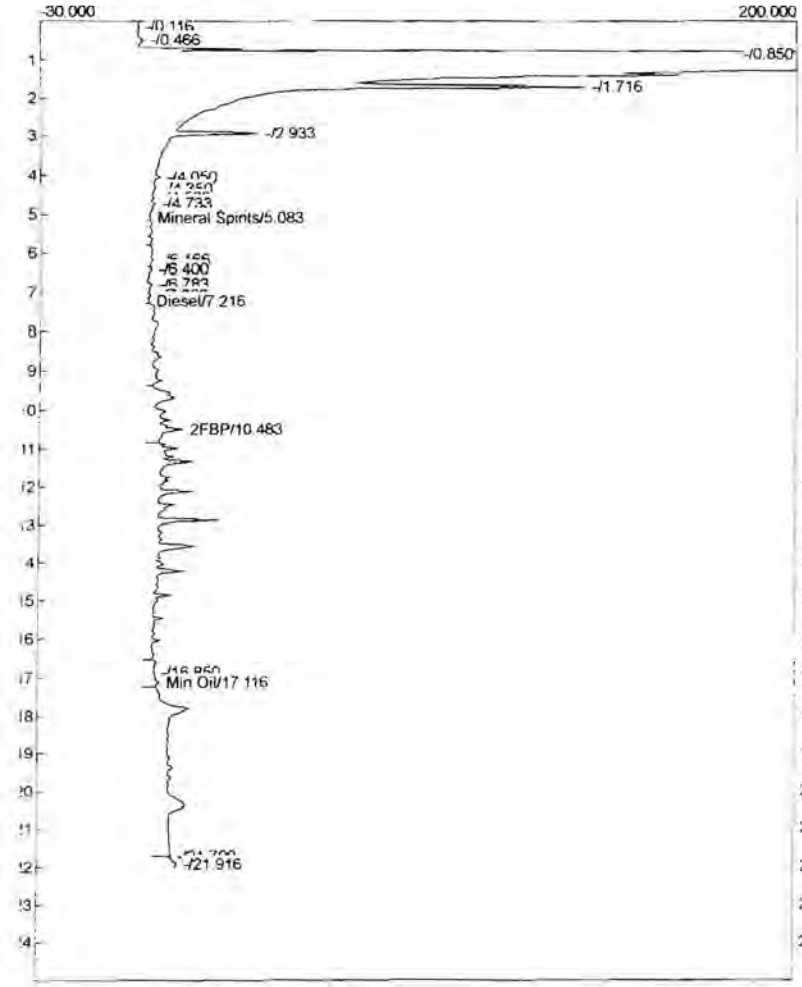
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 10:39:04
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D626.CHR ()
Sample: 25 PPM Dx 706
Operator: KW



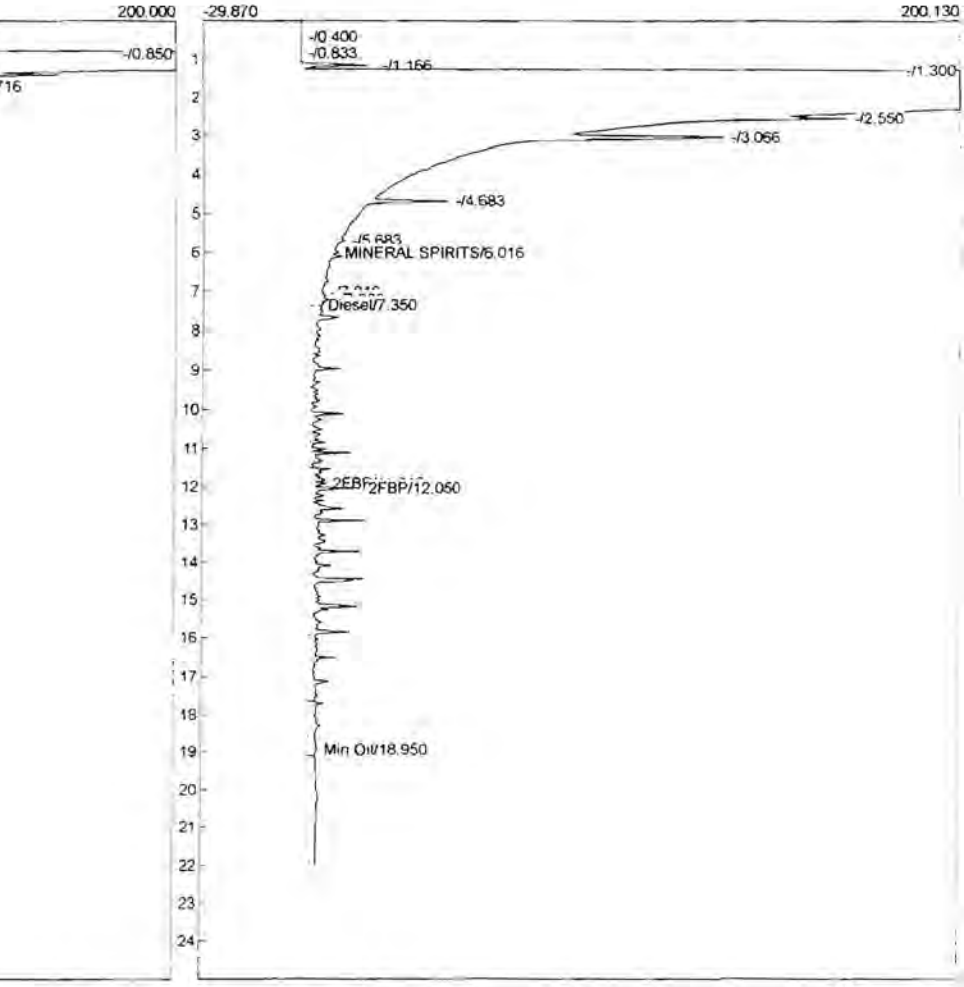
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.150	7.8080	0.195	0.3863	PPM
Diesel	7.150	1410.4710	0.518	13.6936	ppm
Min Oil	17.383	577.2305	3.576	0.0000	
		1995.5095		14.0798	

Component	Retention	Area	Height	External	U
Diesel	7.516	1271.7155	1.965	89.4973	ppm
Min Oil	18.583	209.2665	1.582	14.7689	ppm
		1480.9820		104.2662	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C621.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



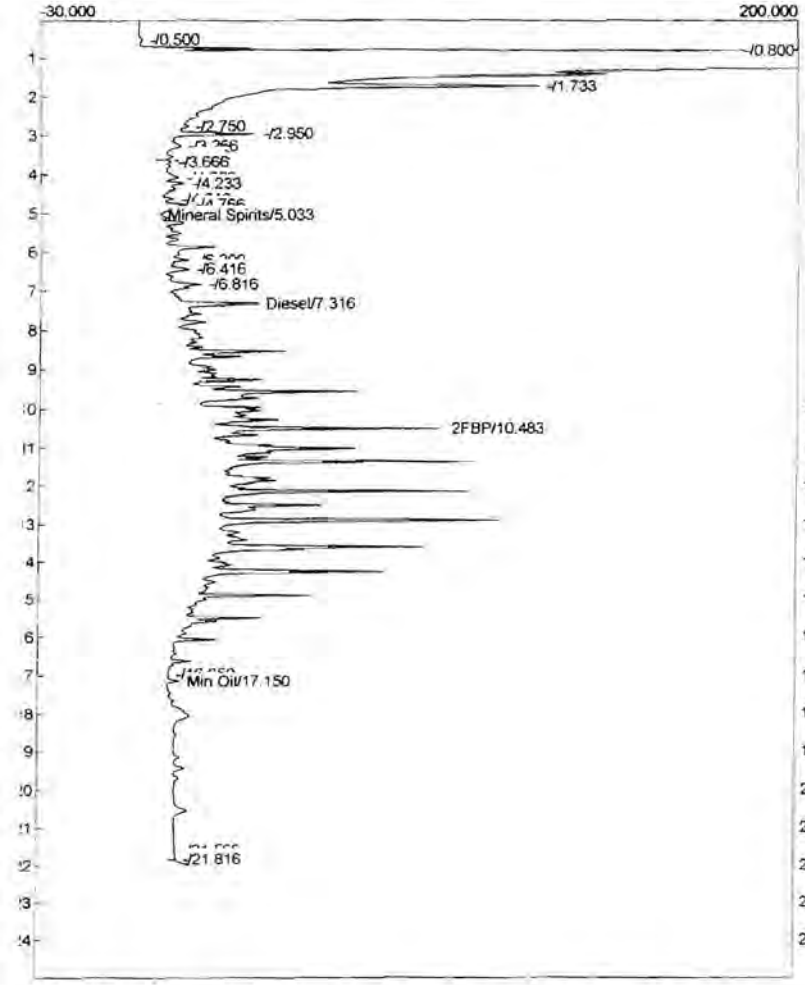
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:07:43
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D627.CHR ()
Sample: 100 PPM Dx 705
Operator: KW



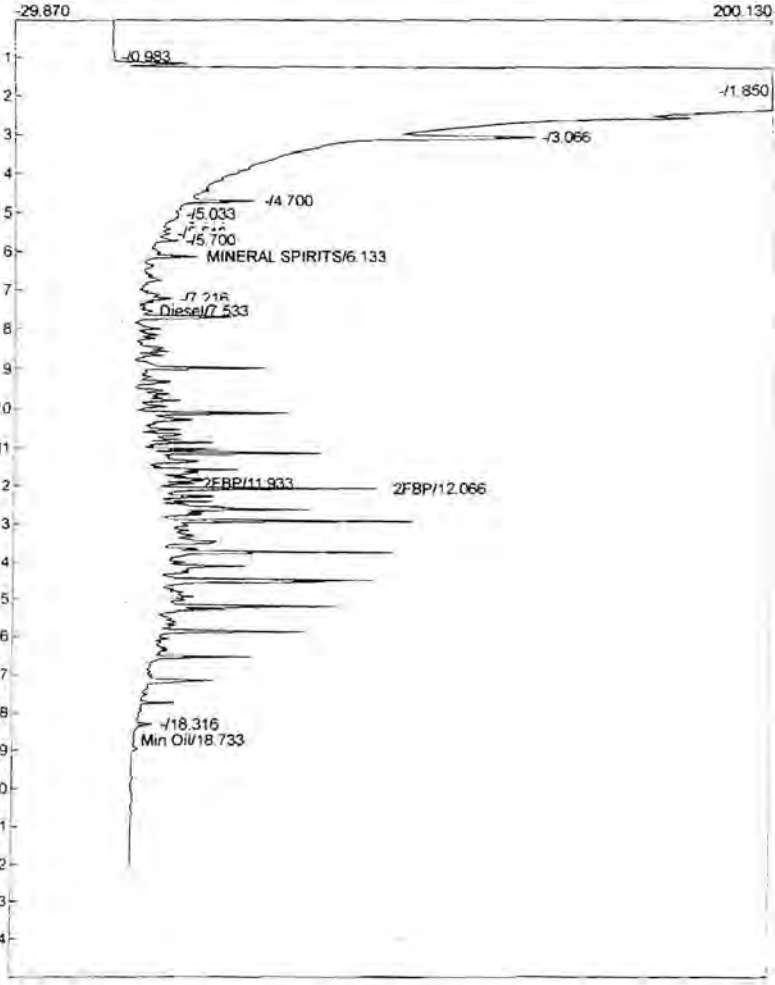
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.083	84.6325	1.090	4.1869	PPM
Diesel	7.216	2410.4095	0.627	119.2471	ppm
2FBP	10.483	163.7695	10.998	6.5508	ppm
Min Oil	17.116	1953.3665	4.269	0.0000	
		4612.1780		129.9847	

Component	Retention	Area	Height	External	U
MINERAL SPIRITS	6.016	285.6170	7.733	20.1004	PPM
Diesel	7.350	1849.7390	2.625	130.1759	ppm
2FBP	11.916	20.8250	4.775	1.0413	ppm
2FBP	12.050	56.8300	15.516	2.8415	ppm
Min Oil	18.950	514.9365	2.757	36.3413	ppm
		2727.9475		190.5003	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C622.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



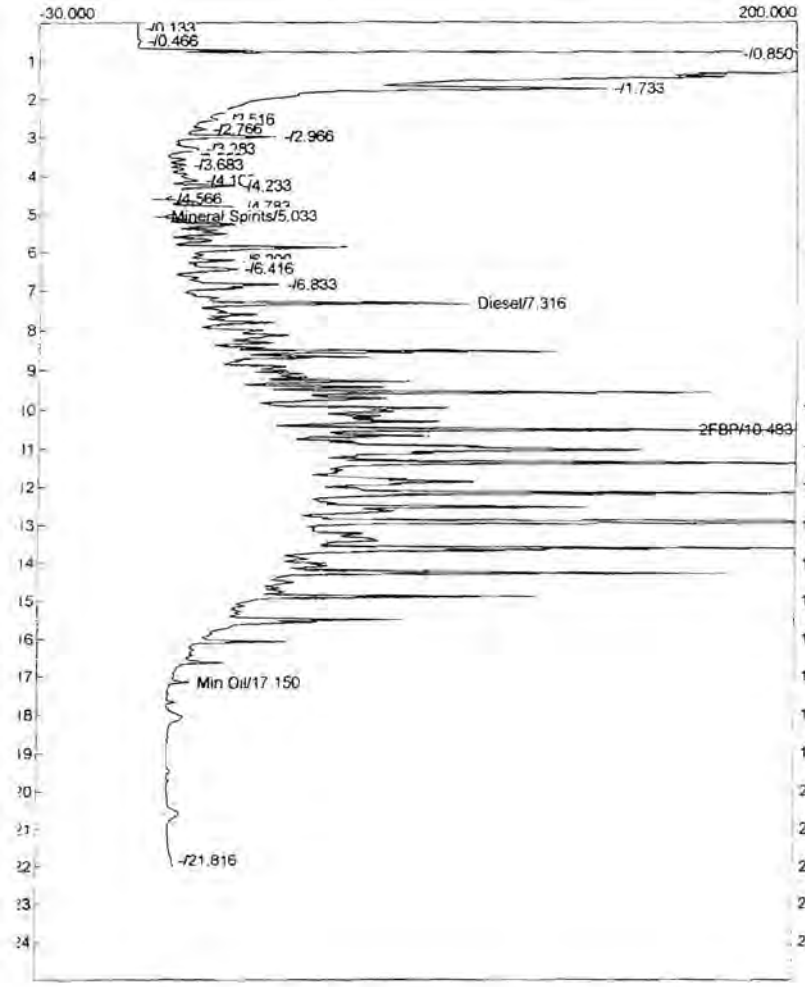
Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 11:45:18
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D628.CHR ()
Sample: 500 PPM Dx 704
Operator: KW



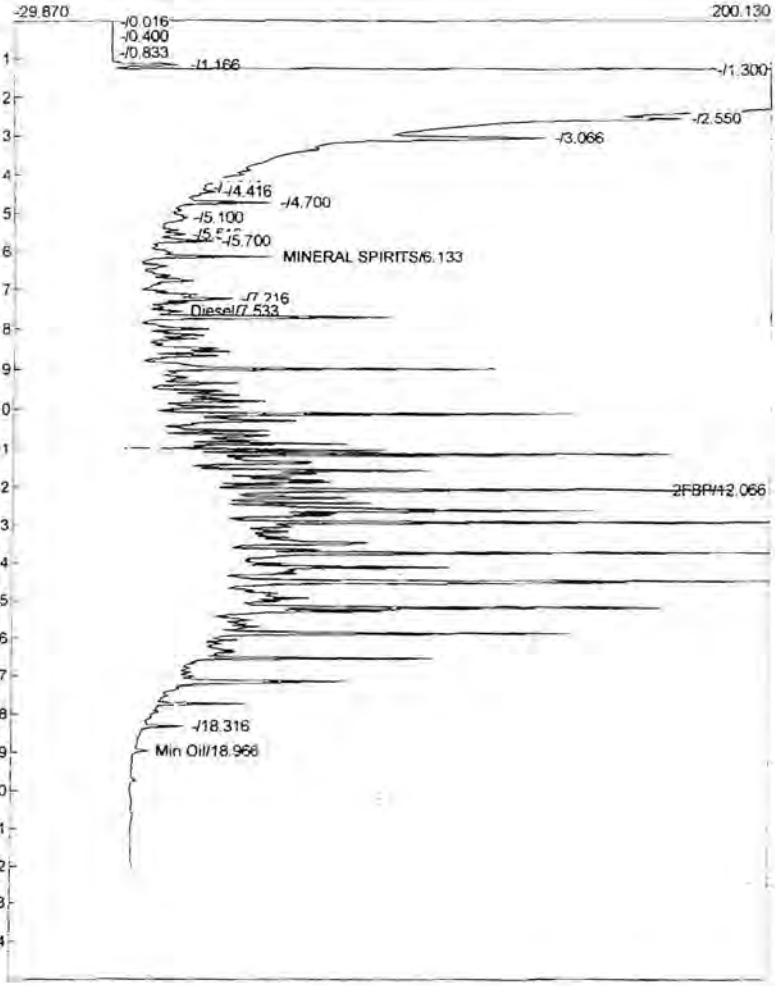
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	323.3415	0.632	15.9963	PPM
Diesel	7.316	11375.2115	30.144	562.7511	ppm
2FBP	10.483	668.0530	86.276	26.7221	ppm
Min Oil	17.150	960.9820	5.210	0.0000	
		13327.5880		605.4694	

Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	636.8190	24.452	44.8163	PPM
Diesel	7.533	9651.3385	9.725	679.2156	ppm
2FBP	11.933	110.1285	21.943	5.5064	ppm
2FBP	12.066	325.1375	79.999	16.2569	ppm
Min Oil	18.733	138.4670	1.874	9.7722	ppm
		10861.8905		755.5674	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C623.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW



Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:13:07
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D629.CHR ()
Sample: 1000 PPM Dx 703
Operator: KW

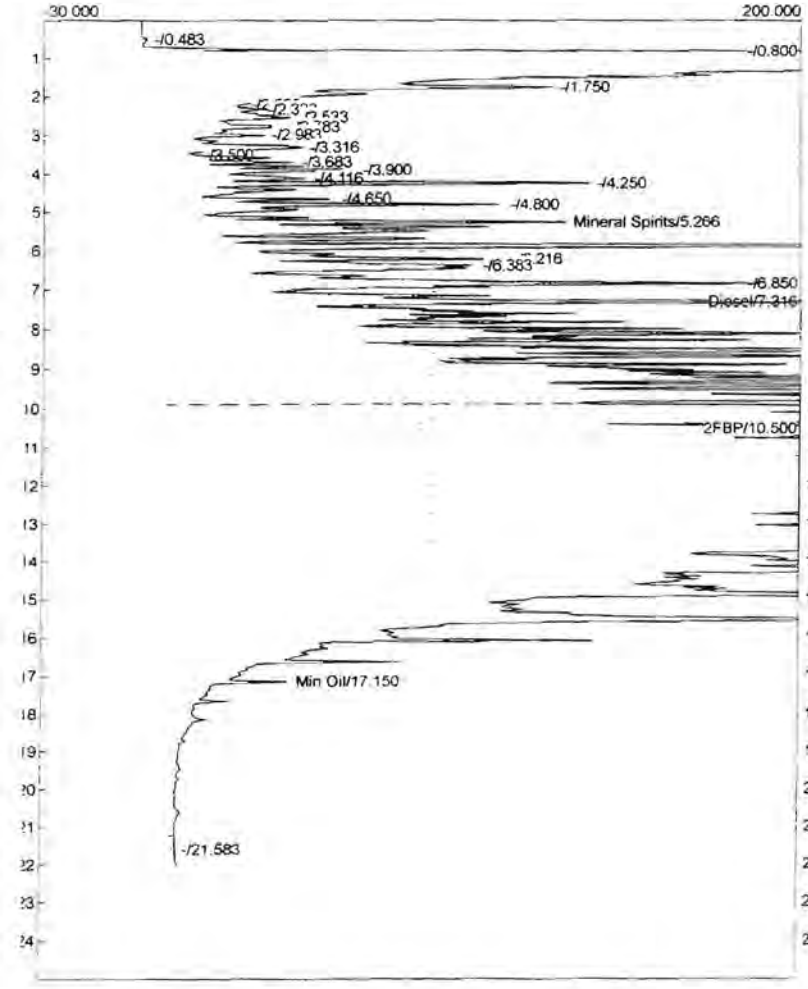


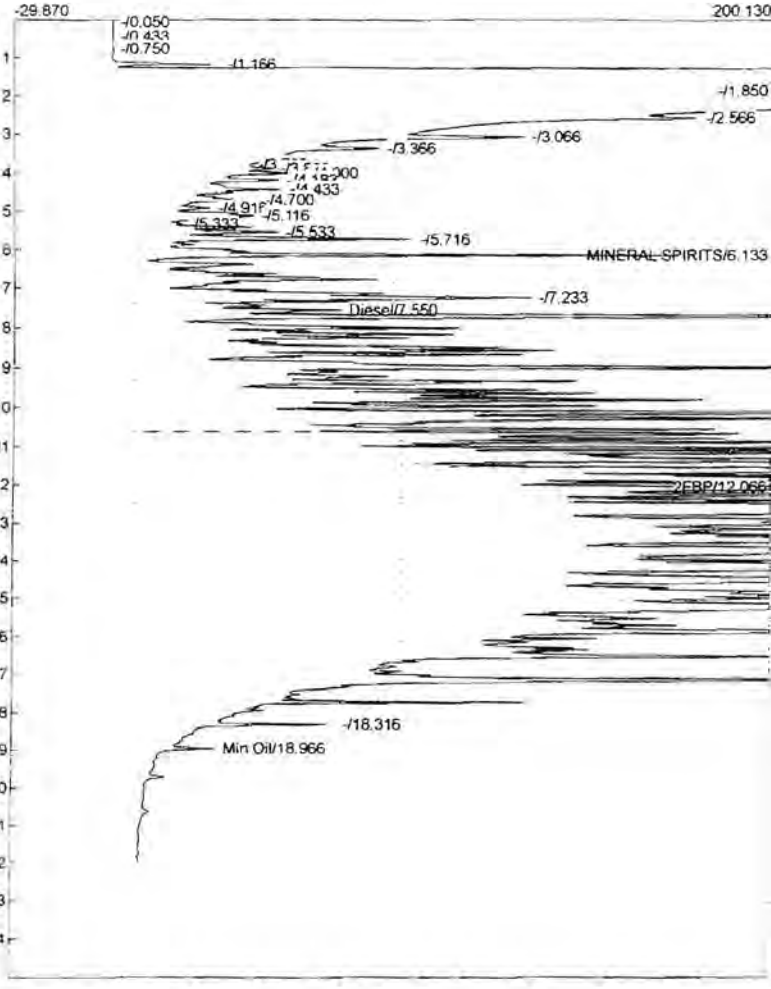
Component	Retention	Area	Height	External	Units
Mineral Spirits	5.033	995.3365	2.641	49.2410	PP
Diesel	7.316	28291.8845	95.034	1399.6476	pp
2FBP	10.483	1579.9780	244.836	63.1991	pp
Min Oil	17.150	221.1300	7.549	0.0000	
		31088.3290		1512.0877	

Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.133	723.8390	45.571	50.9404	PP
Diesel	7.533	23510.5725	17.032	1654.5630	pp
2FBP	12.066	1043.4695	193.880	52.1735	pp
Min Oil	18.966	300.3670	6.980	21.1982	pp
		25578.2480		1778.8751	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C624.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 12:41:16
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D630.CHR ()
Sample: 5000 PPM Dx 702
Operator: KW

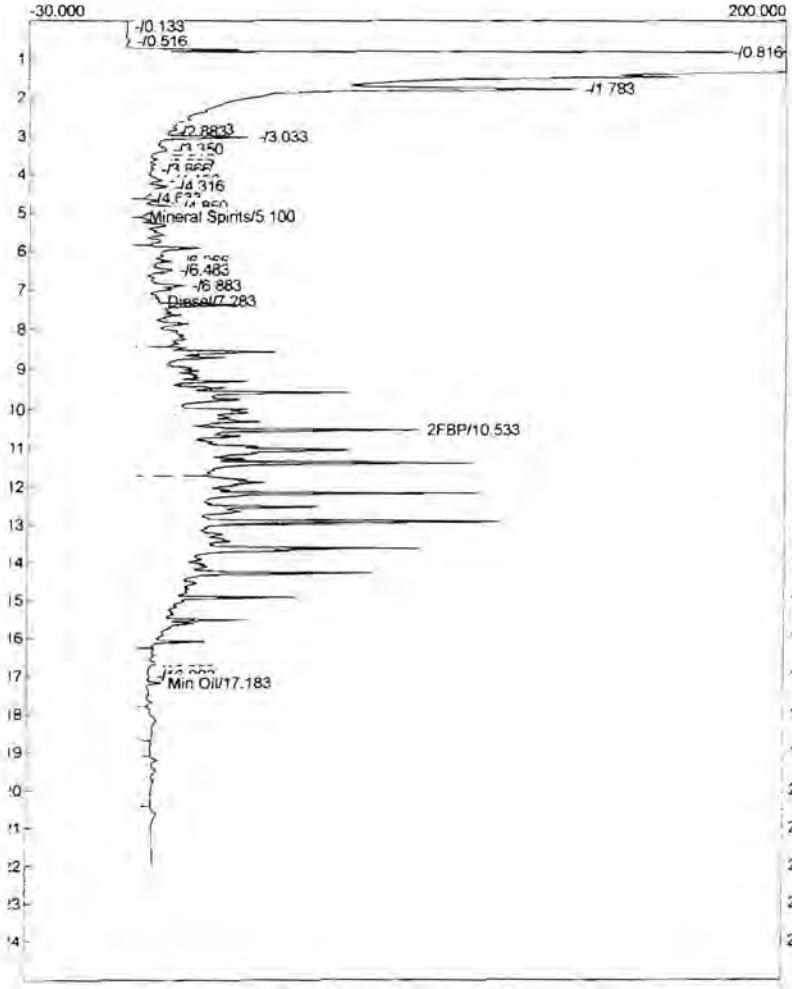




Component	Retention	Area	Height	External
Mineral Spirits	5.266	4030.7350	121.832	199.4073
Diesel	7.316	118321.9850	479.109	5853.5897
2FBP	10.500	6802.6800	1015.018	272.1072
Min Oil	17.150	1309.9915	36.600	0.0000
		130465.3915		6325.1043

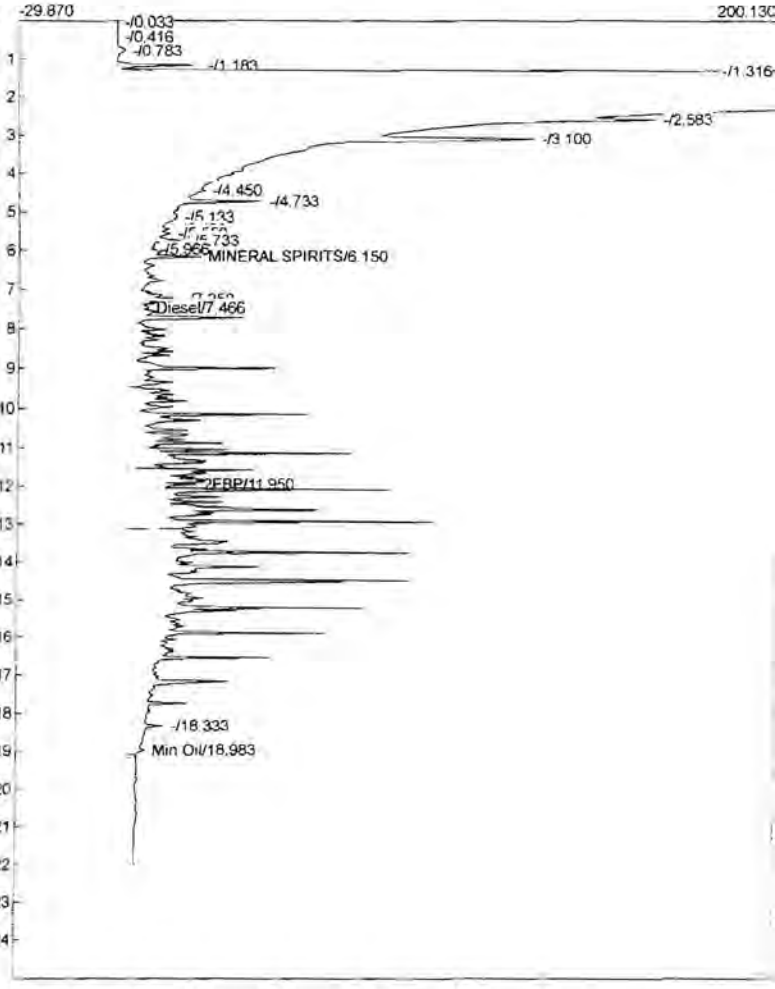
UnComponent	Retention	Area	Height	External	
MINERAL SPIRITS	6.133	2118.1620	172.994	149.0662	PF
Diesel	7.550	97612.4720	63.265	6869.5047	pp
2FBP	12.066	3390.2460	772.659	169.5123	pp
Min Oil	18.966	734.9465	24.851	51.8684	pp
		103855.8265		7239.9516	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: C625.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
Mineral Spirits	5.100	454.2775	2.261	22.4739	PPI
Diesel	7.283	12055.9145	7.302	415.8831	ppn
2FBP	10.533	706.7050	85.875	28.2682	ppn
Min Oil	17.183	642.7165	6.075	0.0000	
		13859.6135		466.6252	

Lab name: Libby Environmental, Inc.
Analysis date: 03/14/2012 13:09:09
Method: Syringe Injection
Description: JAMACIA FID
Column: RESTEK 15METER MXT-1
Carrier: HELIUM AT 5 PSI
Data file: D631.CHR ()
Sample: 500 PPM Dx ICAL 707
Operator: KW



Component	Retention	Area	Height	External	Units
MINERAL SPIRITS	6.150	431.9470	21.664	30.3984	PPI
Diesel	7.466	9633.4975	5.799	402.0800	ppn
2FBP	11.950	98.4805	20.159	4.9240	ppn
Min Oil	18.983	249.4535	4.581	17.6050	ppn
		10413.3785		455.0074	

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Seattle, WA 98103
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F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1210030

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 5 sample(s) on 10/3/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1210030

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1210030-001	IRZ-B2-92812	09/28/2012 10:00 AM	10/03/2012 3:50 PM
1210030-002	IRZ-NESW2-92812	09/28/2012 11:00 AM	10/03/2012 3:50 PM
1210030-003	IRZ-NSW1-92812	09/28/2012 11:05 AM	10/03/2012 3:50 PM
1210030-004	IRZ-NSW2-92812	09/28/2012 11:20 AM	10/03/2012 3:50 PM
1210030-005	IRZ-B3-92812	09/28/2012 12:40 PM	10/03/2012 3:50 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1210030**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1210030**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/28/2012 10:00:00 AM

Project: Irondale

Lab ID: 1210030-001 **Matrix:** Soil

Client Sample ID: IRZ-B2-92812

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3406		Analyst: PH
Chrysene	ND	48.0		µg/Kg-dry	1	10/12/2012 4:27:00 PM
Benzo(a)pyrene	ND	48.0		µg/Kg-dry	1	10/12/2012 4:27:00 PM
2,4-Dimethylphenol	ND	27.9		µg/Kg-dry	1	10/12/2012 4:27:00 PM
Surr: Phenol-d6	88.9	48.2-143		%REC	1	10/12/2012 4:27:00 PM
Surr: 2-Fluorobiphenyl	100	50.4-142		%REC	1	10/12/2012 4:27:00 PM
Surr: Terphenyl-d14 (surr)	89.0	48.8-157		%REC	1	10/12/2012 4:27:00 PM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	16.7			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210030
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3406**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICB**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121805**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3406**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **ICV**	Batch ID: **3406**		Analysis Date: **10/10/2012**	SeqNo: **121806**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	514		500.0		103	50.4	142				
Surr: Phenol-d6	979		1,000		97.9	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.1	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210030
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCB-3406B**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121808**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCV-3406B**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/12/2012**	SeqNo: **121813**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	80	120				
Benzo(a)pyrene	1,030	50.0	1,000	0	103	80	120				
2,4-Dimethylphenol	1,020	29.0	1,000	0	102	80	120				
Surr: 2-Fluorobiphenyl	498		500.0		99.6	50.4	142				
Surr: Phenol-d6	1,000		1,000		100	48.2	143				
Surr: Terphenyl-d14 (surr)	455		500.0		91.1	48.8	157				

Sample ID: **CCV-3406A**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCV**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121814**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	974	50.0	1,000	0	97.4	80	120				
Benzo(a)pyrene	996	50.0	1,000	0	99.6	80	120				
2,4-Dimethylphenol	1,010	29.0	1,000	0	101	80	120				
Surr: 2-Fluorobiphenyl	485		500.0		97.1	50.4	142				
Surr: Phenol-d6	959		1,000		95.9	48.2	143				
Surr: Terphenyl-d14 (surr)	522		500.0		104	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210030
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCB-3406A**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/11/2012**	RunNo: **6131**
Client ID: **CCB**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121815**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	494		500.0		98.9	50.4	142				
Surr: Phenol-d6	923		1,000		92.3	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Sample ID: **MB-3406**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **MBLKS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121816**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	470		500.0		93.9	50.4	142				
Surr: Phenol-d6	868		1,000		86.8	48.2	143				
Surr: Terphenyl-d14 (surr)	485		500.0		97.0	48.8	157				

Sample ID: **LCS-3406**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **LCSS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121817**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	879	50.0	1,000	0	87.9	76.1	123				
Benzo(a)pyrene	823	50.0	1,000	0	82.3	58.1	146				
2,4-Dimethylphenol	849	29.0	1,000	0	84.9	50	150				
Surr: 2-Fluorobiphenyl	491		500.0		98.2	50.4	142				
Surr: Phenol-d6	935		1,000		93.5	48.2	143				
Surr: Terphenyl-d14 (surr)	510		500.0		102	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1210030
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-3406**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **LCSS**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **121817**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1210089-004ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **BATCH**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **122225**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	45.1						0	0	30	
Benzo(a)pyrene	ND	45.1						0	0	30	
2,4-Dimethylphenol	ND	26.1						0	0	30	
Surr: 2-Fluorobiphenyl	424		450.8		93.9	50.4	142		0		
Surr: Phenol-d6	724		901.7		80.3	48.2	143		0		
Surr: Terphenyl-d14 (surr)	462		450.8		102	48.8	157		0		

Sample ID: **1210089-004AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **10/10/2012**	RunNo: **6131**
Client ID: **BATCH**	Batch ID: **3406**		Analysis Date: **10/11/2012**	SeqNo: **122226**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	715	43.5	869.4	0	82.3	45.2	146				
Benzo(a)pyrene	682	43.5	869.4	6.077	77.7	34.4	179				
2,4-Dimethylphenol	696	25.2	869.4	0	80.0	50	150				
Surr: 2-Fluorobiphenyl	428		434.7		98.4	50.4	142				
Surr: Phenol-d6	767		869.4		88.2	48.2	143				
Surr: Terphenyl-d14 (surr)	464		434.7		107	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1210030**
Logged by: **Troy Zehr**	Date Received: **10/3/2012 3:50:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☑	No	☐	NA	☐
5.	Was an attempt made to cool the samples?	Yes	☑	No	☐	NA	☐
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☑	No	☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Item #	Temp ºC	Condition
Cooler	9.8	Good

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

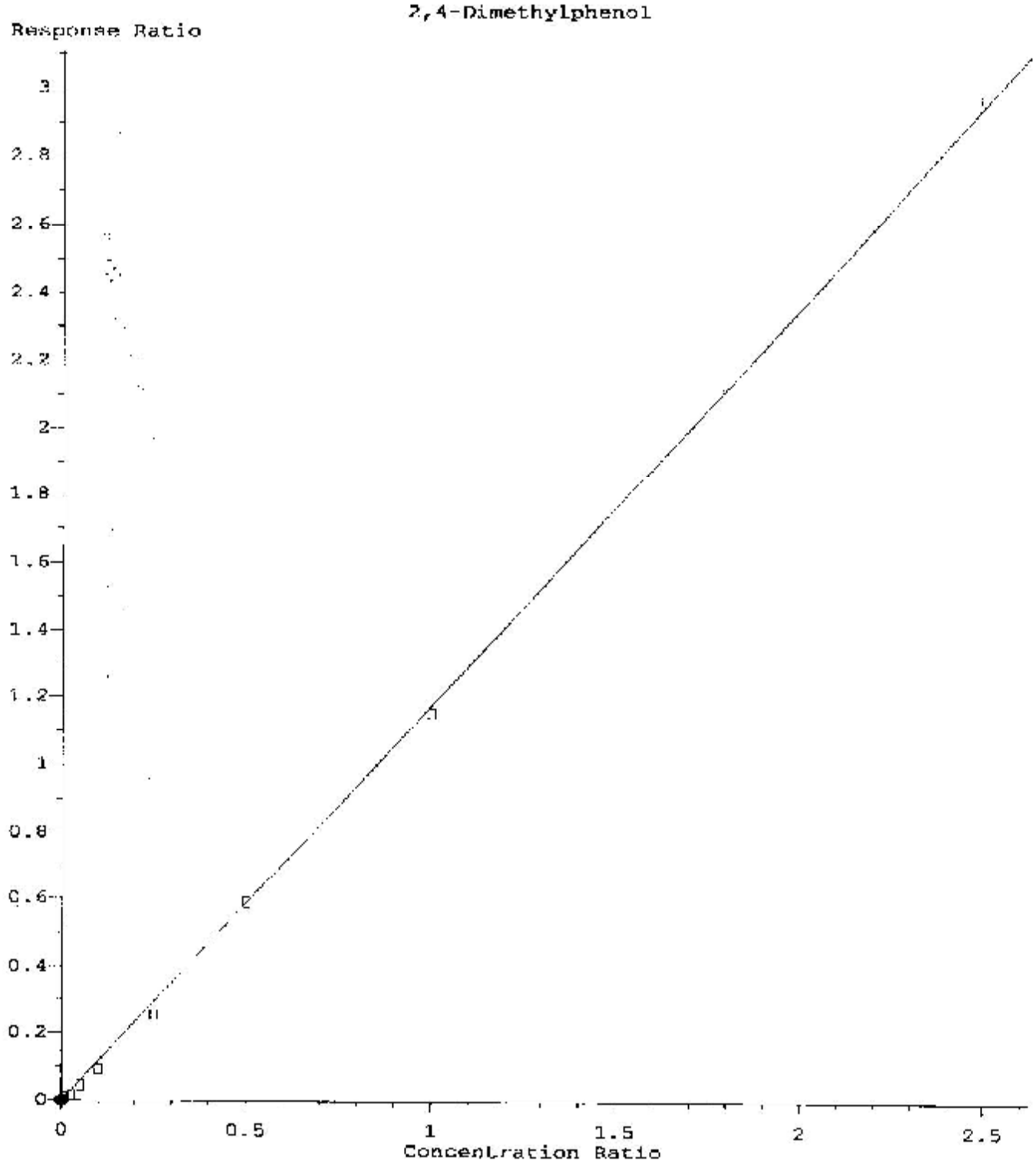
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

25)	I	Perylene-d12 (IS)	ISTD								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

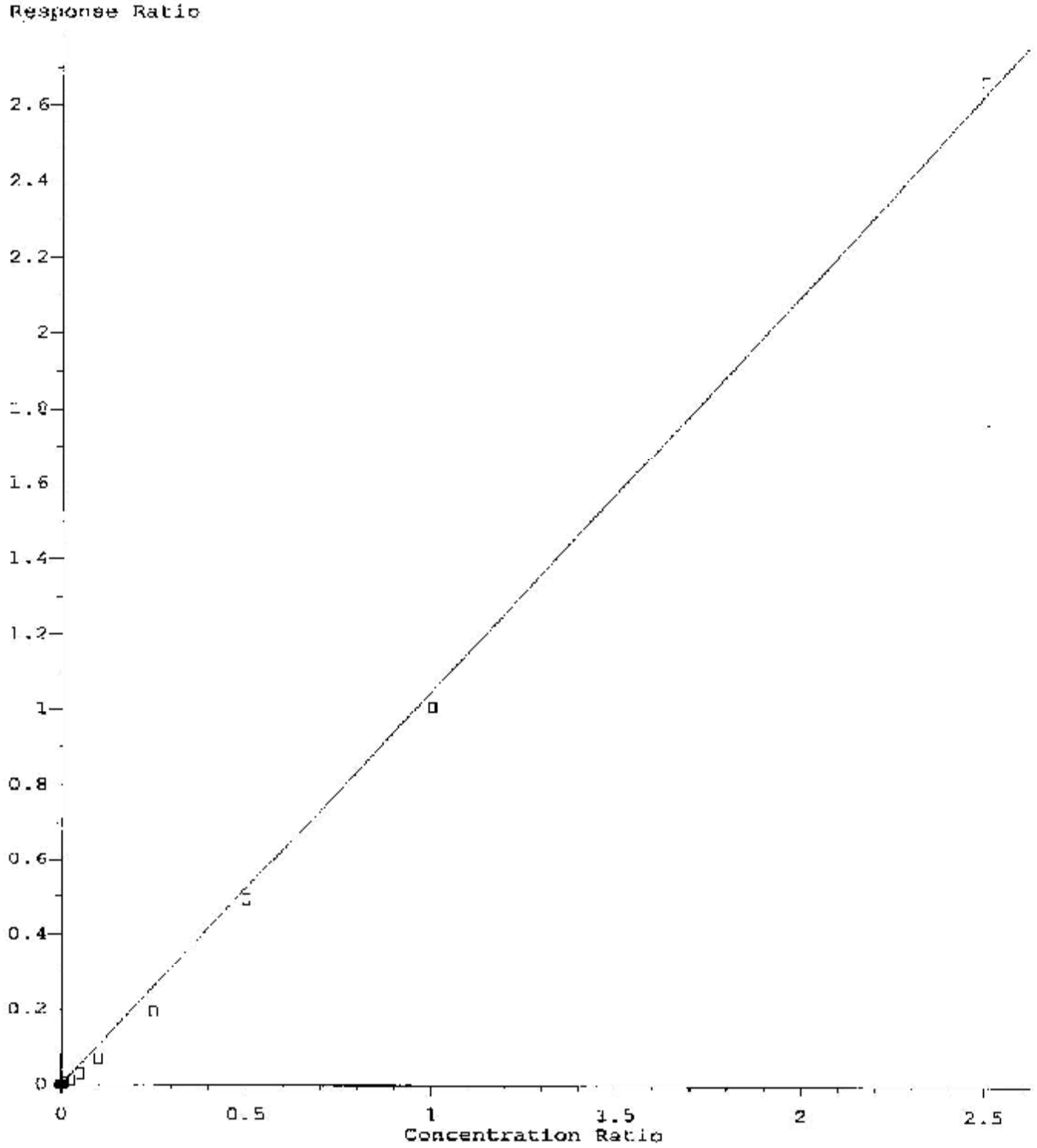
(#) = Out of Range

DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH

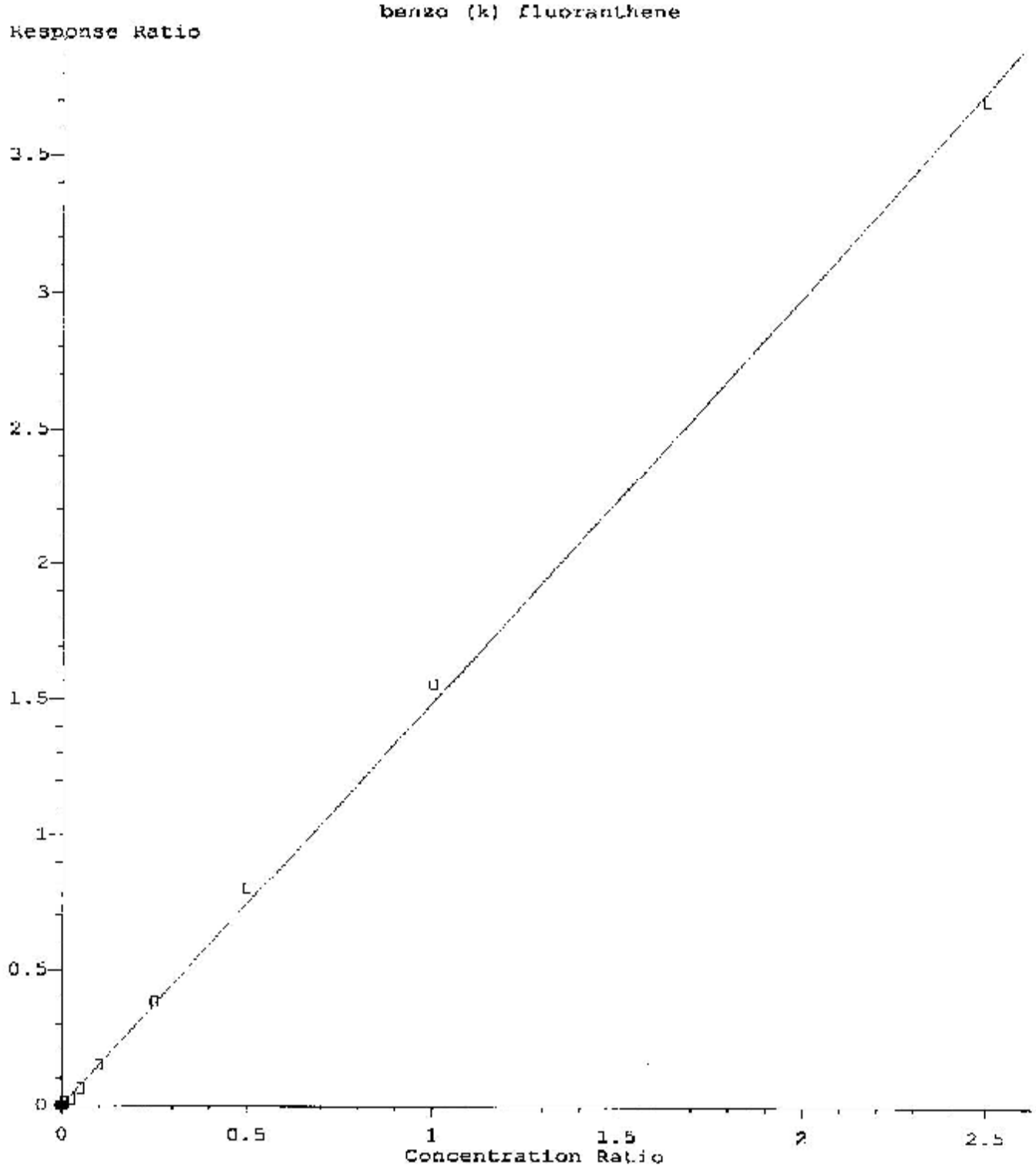


Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012

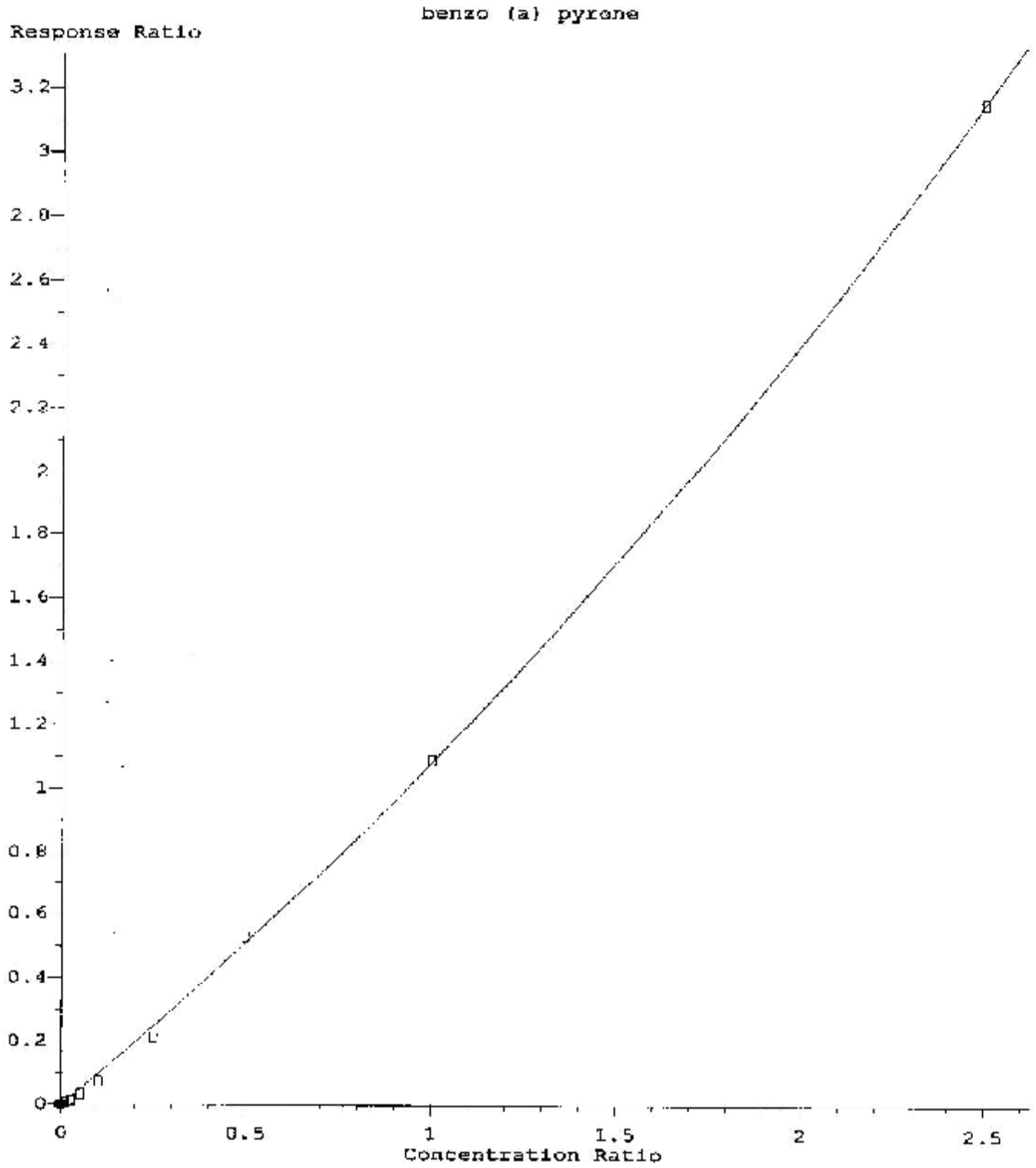
benzo (b) fluoranthene



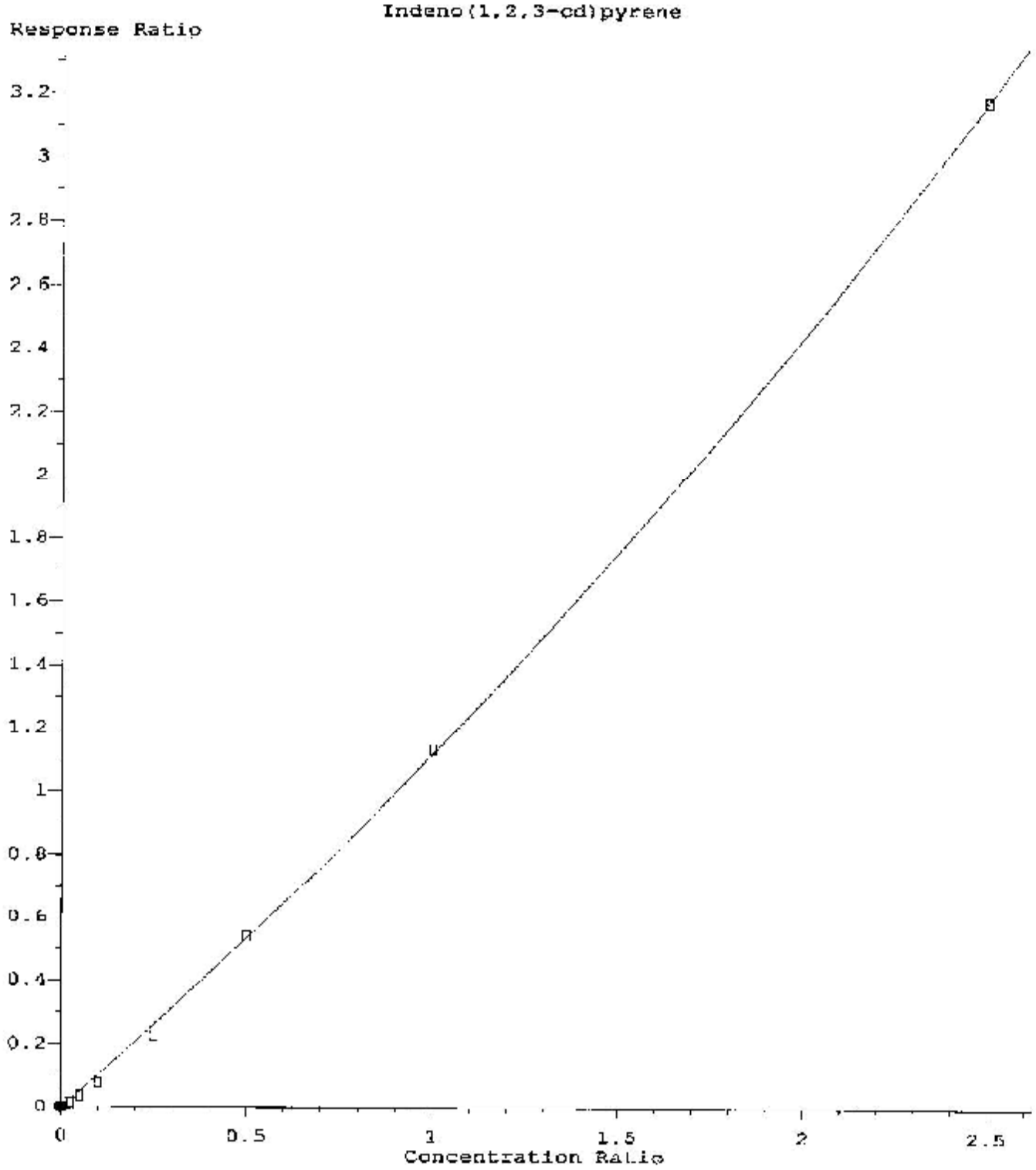
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



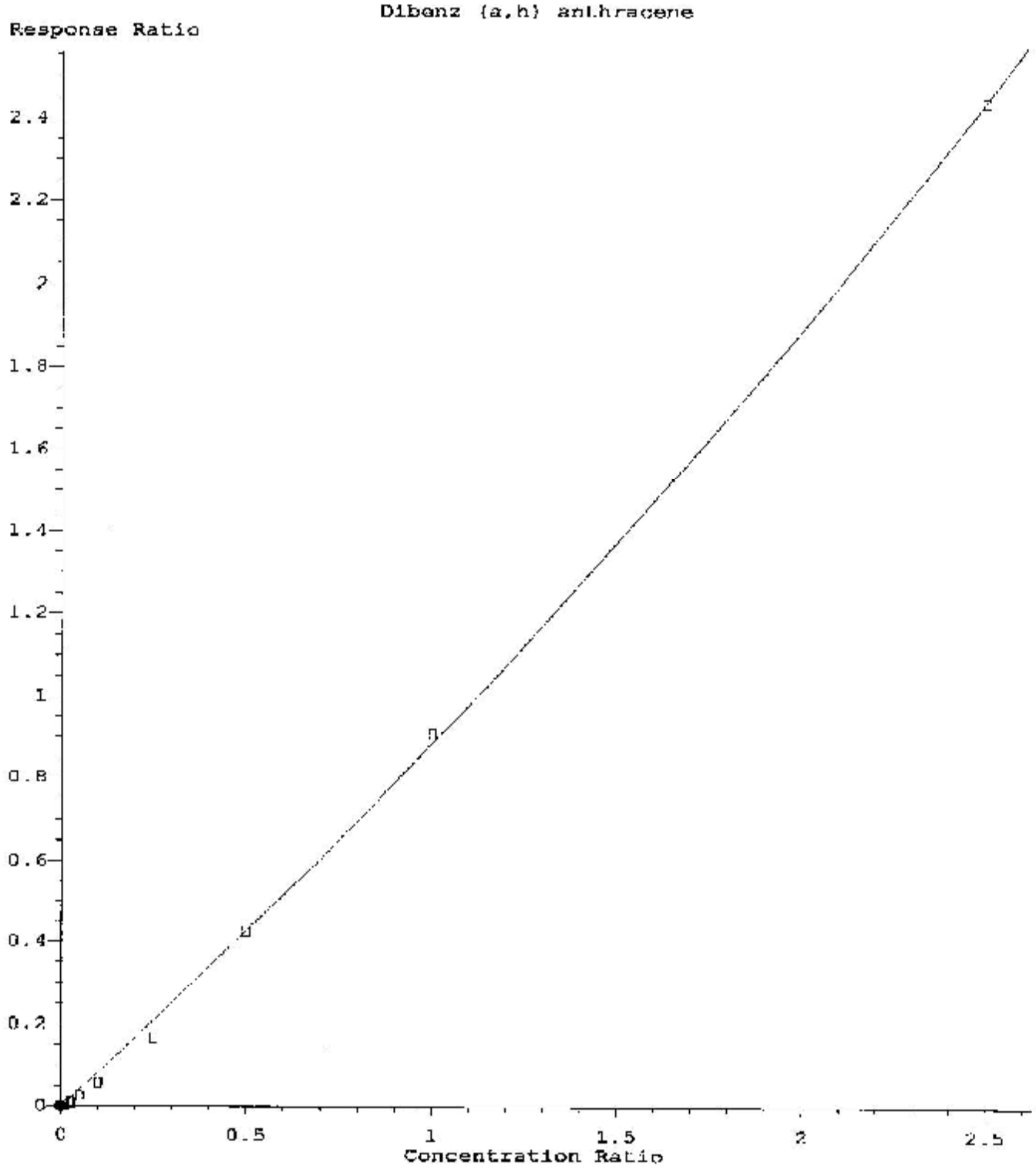
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



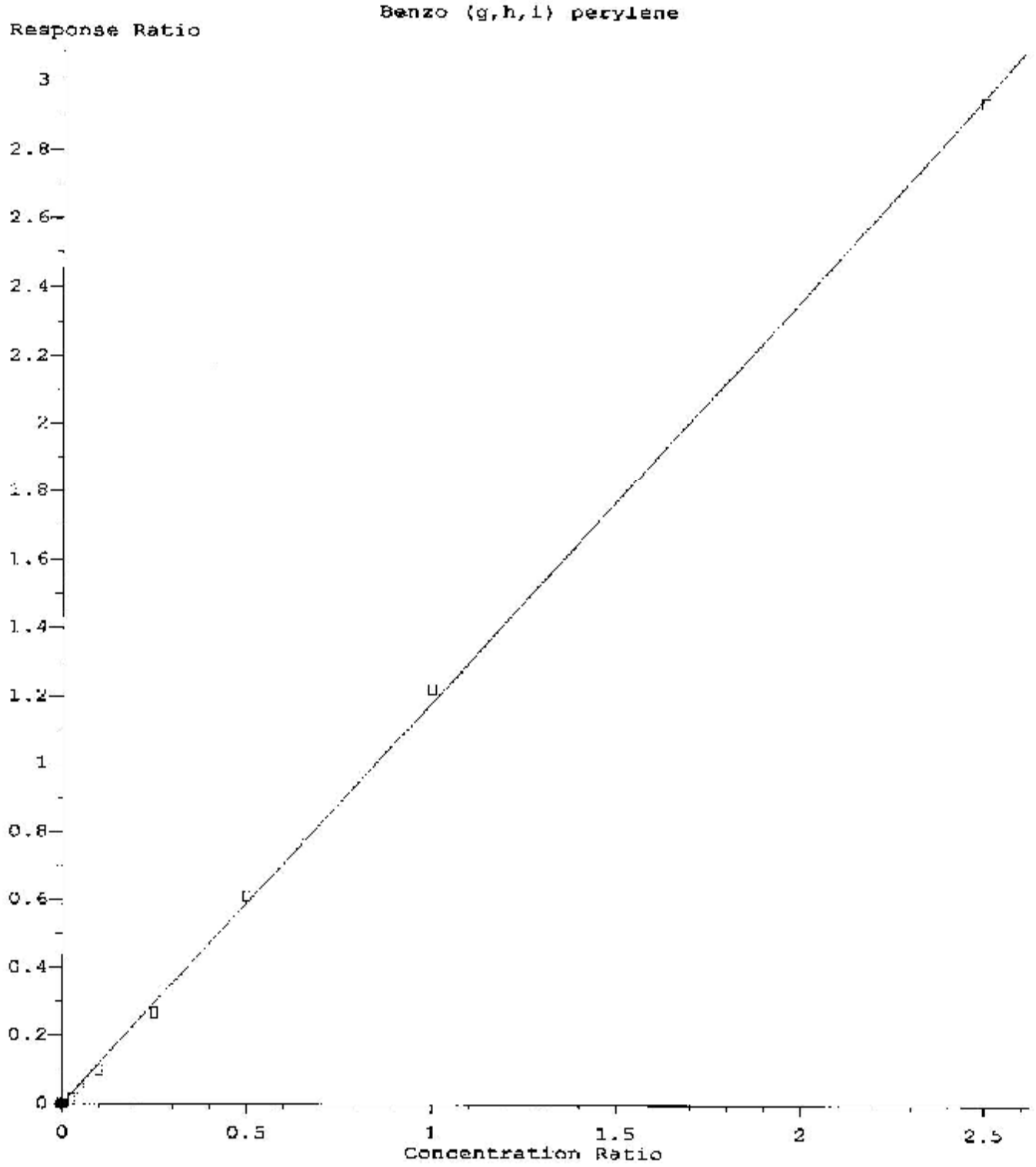
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

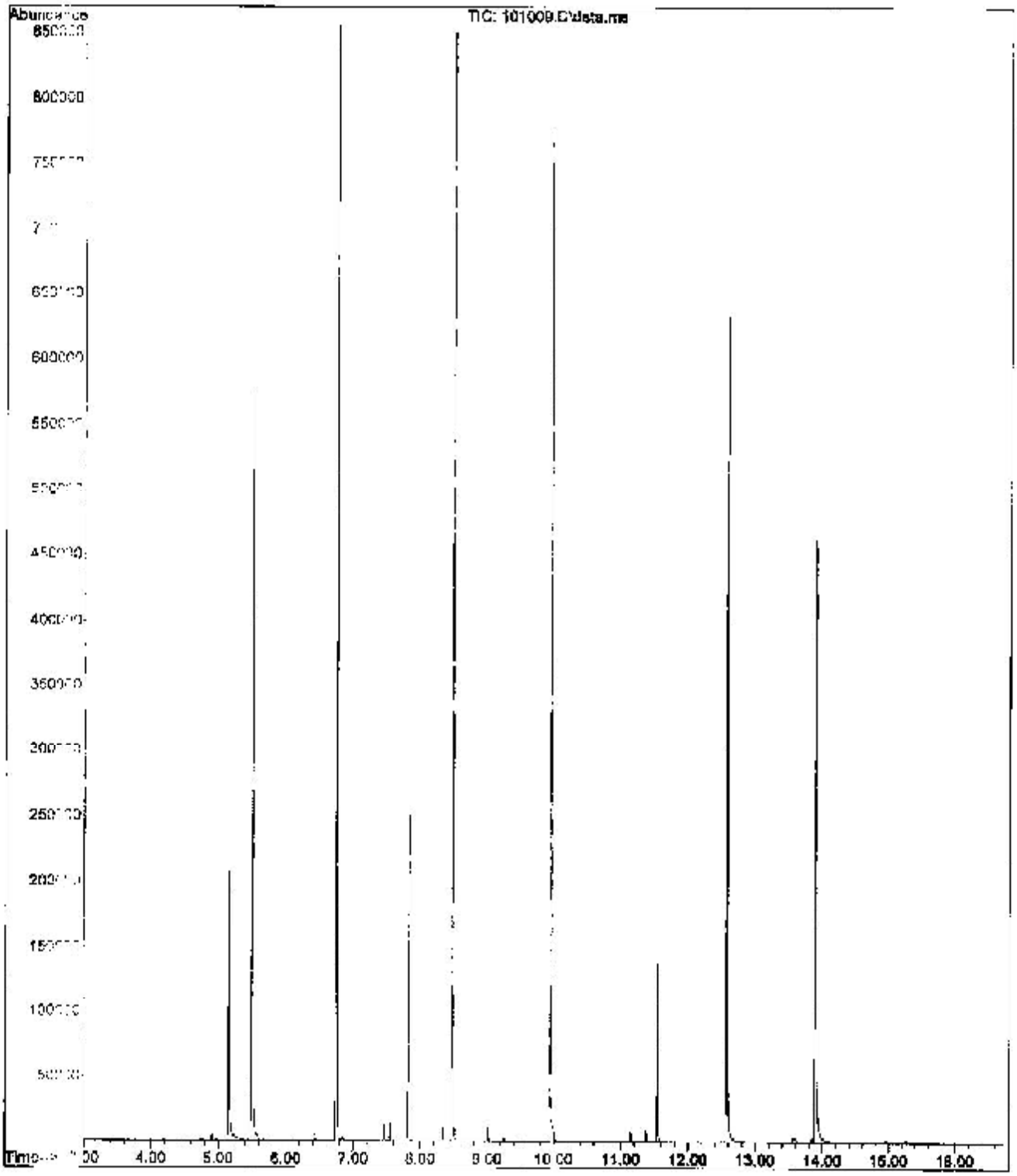
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	155780	971.54 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.430	107	1703m	13.70 ug/L		
5) Naphthalene	6.766	128	9729	22.54 ug/L		100
6) 2-Methylnaphthalene	7.455	142	5421	21.44 ug/L		100
7) 1-Methylnaphthalene	7.550	142	5172	21.59 ug/L		100
9) Acenaphthylene	8.338	152	7063	20.38 ug/L		100
11) Acenaphthene	8.508	152	2661	23.37 ug/L		99
12) Fluorene	9.021	166	5847	22.40 ug/L		97
14) Phenanthrene	9.967	178	8863	23.95 ug/L		100
15) Anthracene	10.020	178	6894	20.35 ug/L		97
17) Fluoranthene	11.145	202	6586	19.76 ug/L	#	94
18) Pyrene	11.368	202	6766	19.42 ug/L	#	85
19) Benzo (a) anthracene	12.559	228	6945	23.77 ug/L	#	100
21) Chrysene	12.592	228	8752m	25.21 ug/L		
22) benzo (b) fluoranthene	13.556	252	2936	11.32 ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	5957	16.17 ug/L		99
24) benzo (a) pyrene	13.835	252	2906	12.19 ug/L	#	52
26) Indeno (1,2,3-cd)pyrene	14.943	276	3867m	14.51 ug/L		
27) Dibenz (a,h) anthracene	14.967	278	2052m	14.50 ug/L		
28) Benzo (g,h,i) perylene	15.256	276	3732m	18.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

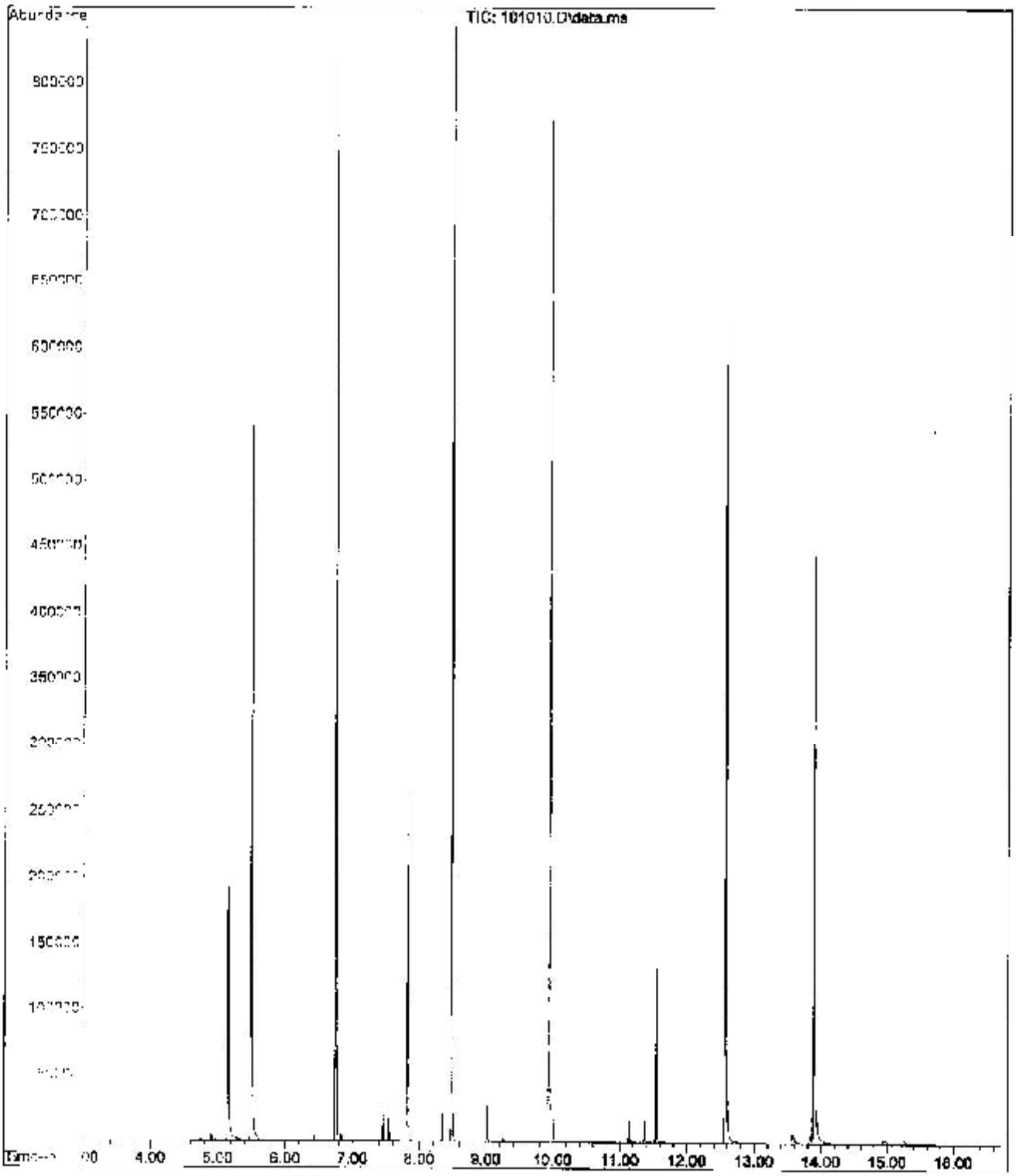
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mednchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo (a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo (b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo (k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo (a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz (a,h) anthracene	14.964	278	7702m	28.18 ug/L	
28) Benzo (g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 [illegible].M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

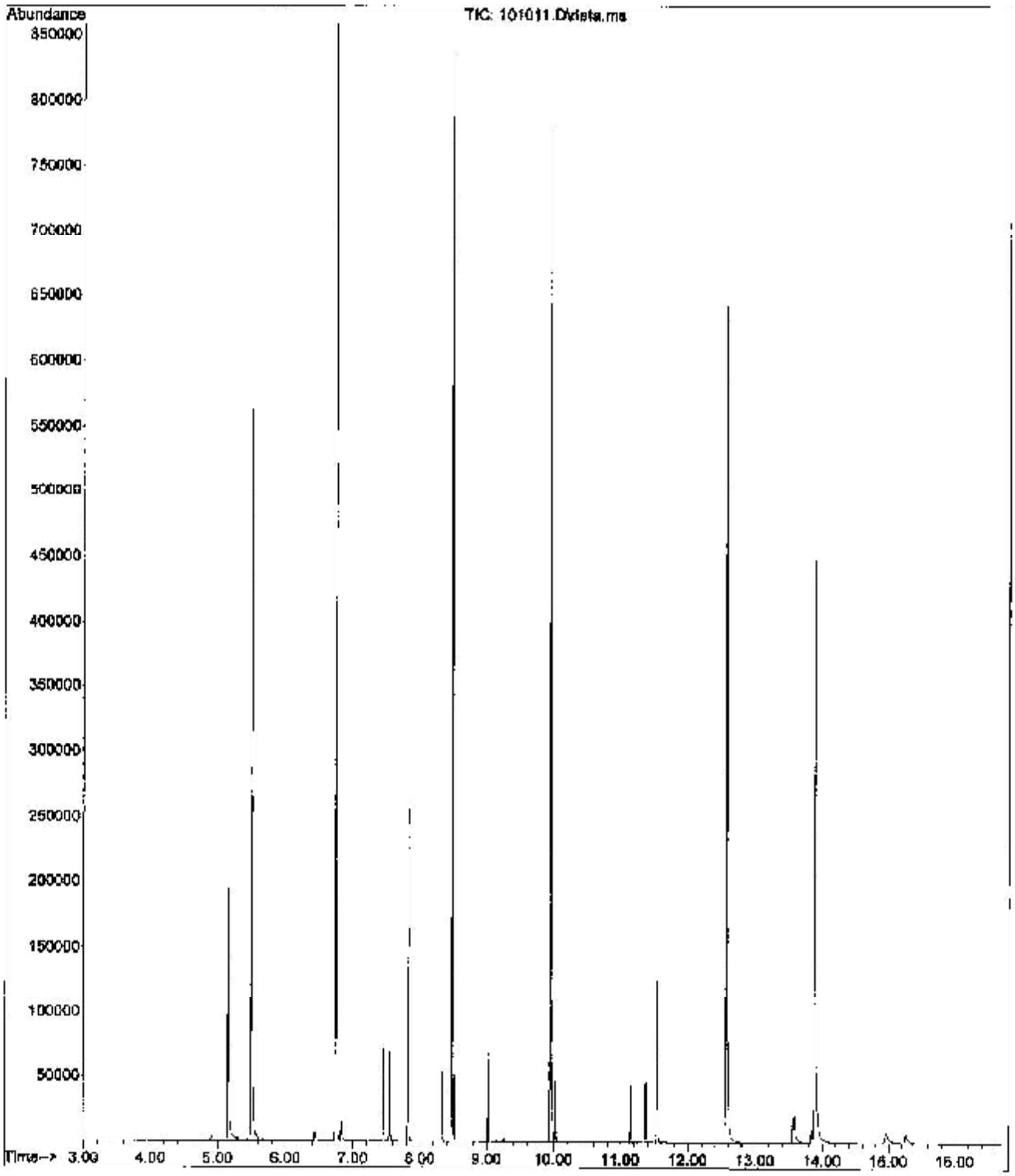
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

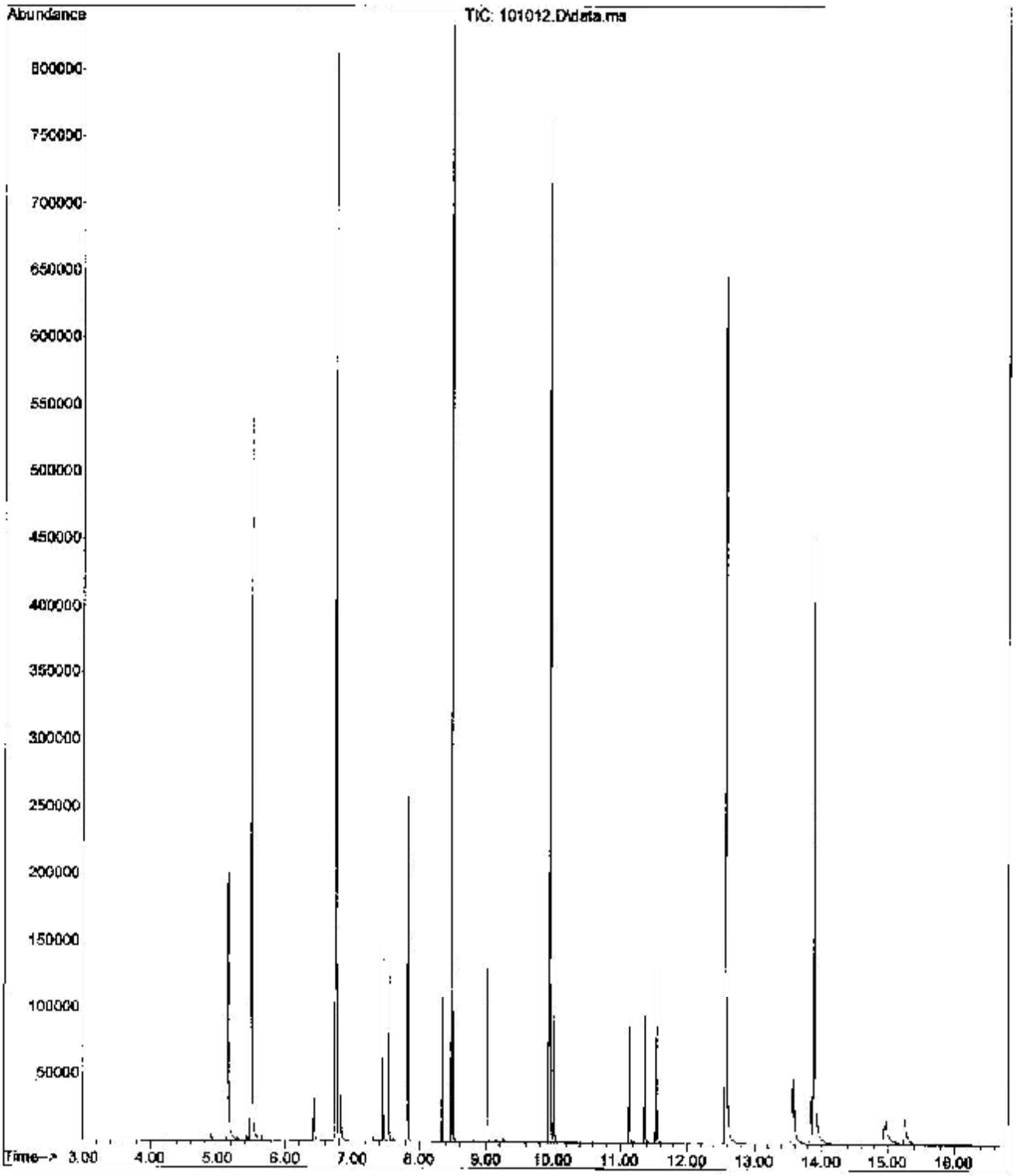
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PEB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

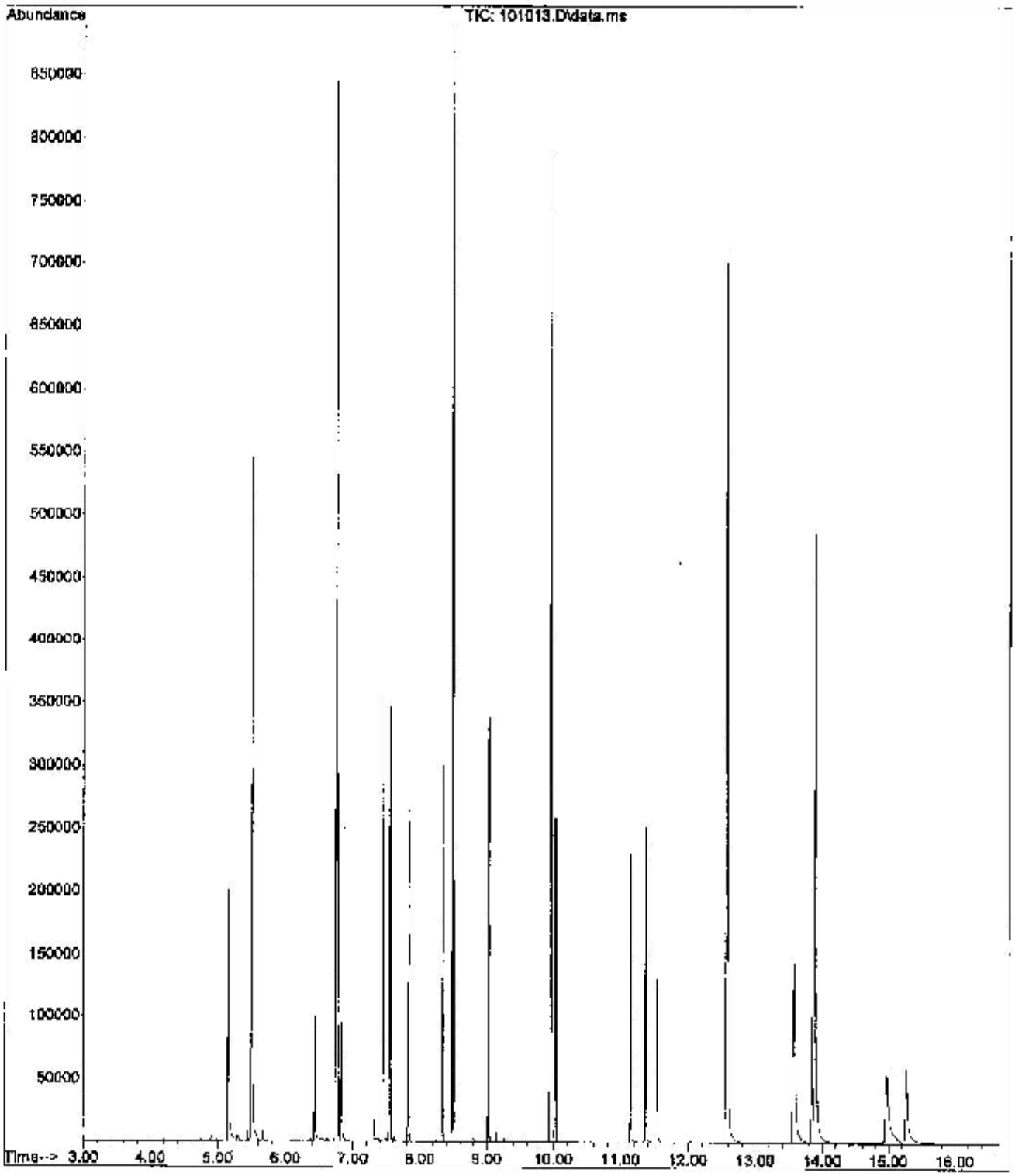
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.150	99	155773	999.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L		
5) Naphthalene	6.767	128	210515	496.23 ug/L		100
6) 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L		98
7) 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L		97
9) Acenaphthylene	8.338	152	176929	519.35 ug/L		100
11) Acenaphthene	8.509	152	56451	496.90 ug/L		99
12) Fluorene	9.022	166	132700	509.61 ug/L		97
14) Phenanthrene	9.969	178	184698	505.37 ug/L		100
15) Anthracene	10.019	178	169453	506.64 ug/L		98
17) Fluoranthene	11.146	202	171838	522.16 ug/L		95
18) Pyrene	11.360	202	181345	527.17 ug/L		94
19) Benzo (a) anthracene	12.559	228	140369	486.48 ug/L	#	100
21) Chrysene	12.593	228	176026	496.99 ug/L		95
22) benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L	#	100
23) benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L		99
24) benzo (a) pyrene	13.837	252	108063	433.23 ug/L	#	89
26) Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L		
28) Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-L1BBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

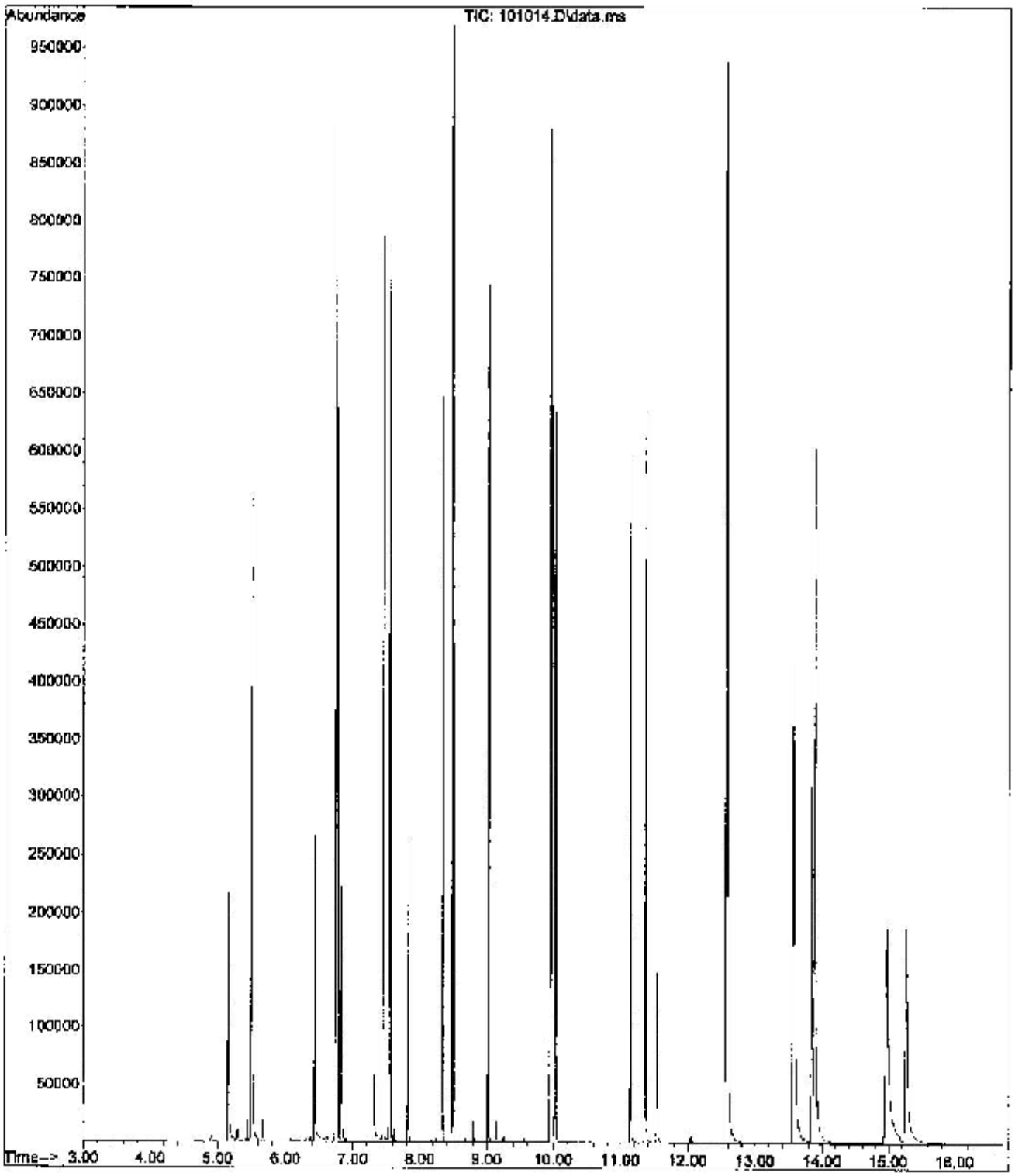
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

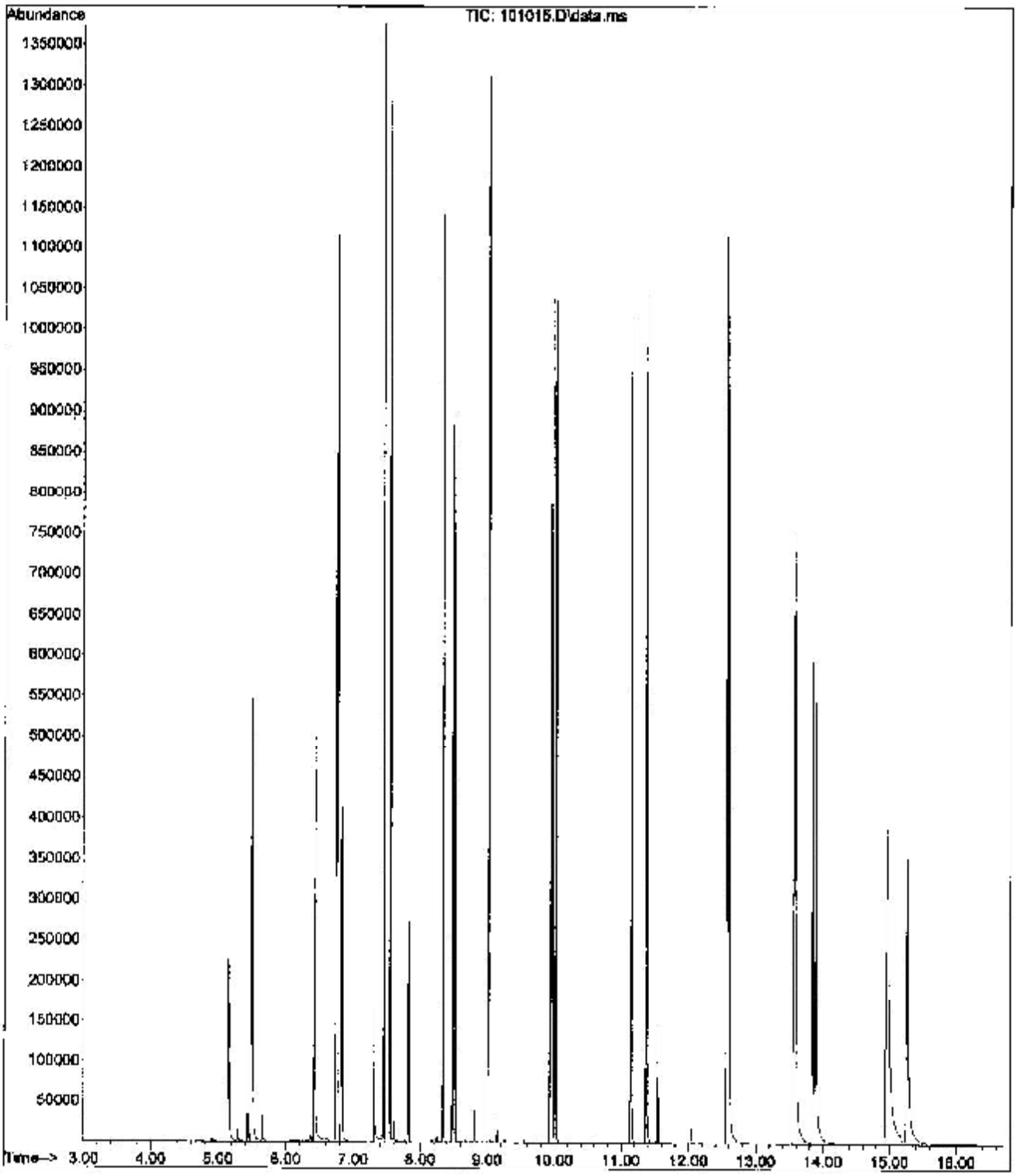
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	163666	1047.53 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L		99
5) Naphthalene	6.766	128	816382	1904.32 ug/L		100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L		98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L		97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L		100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L		99
12) Fluorene	9.021	166	512109	1923.55 ug/L		97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L		100
15) Anthracene	10.020	178	699103	2061.68 ug/L		98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L		95
18) Pyrene	11.370	202	759797	2178.54 ug/L		94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L	#	100
21) Chrysene	12.593	228	718133	1956.30 ug/L		98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L	#	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L		100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L		
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L		
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

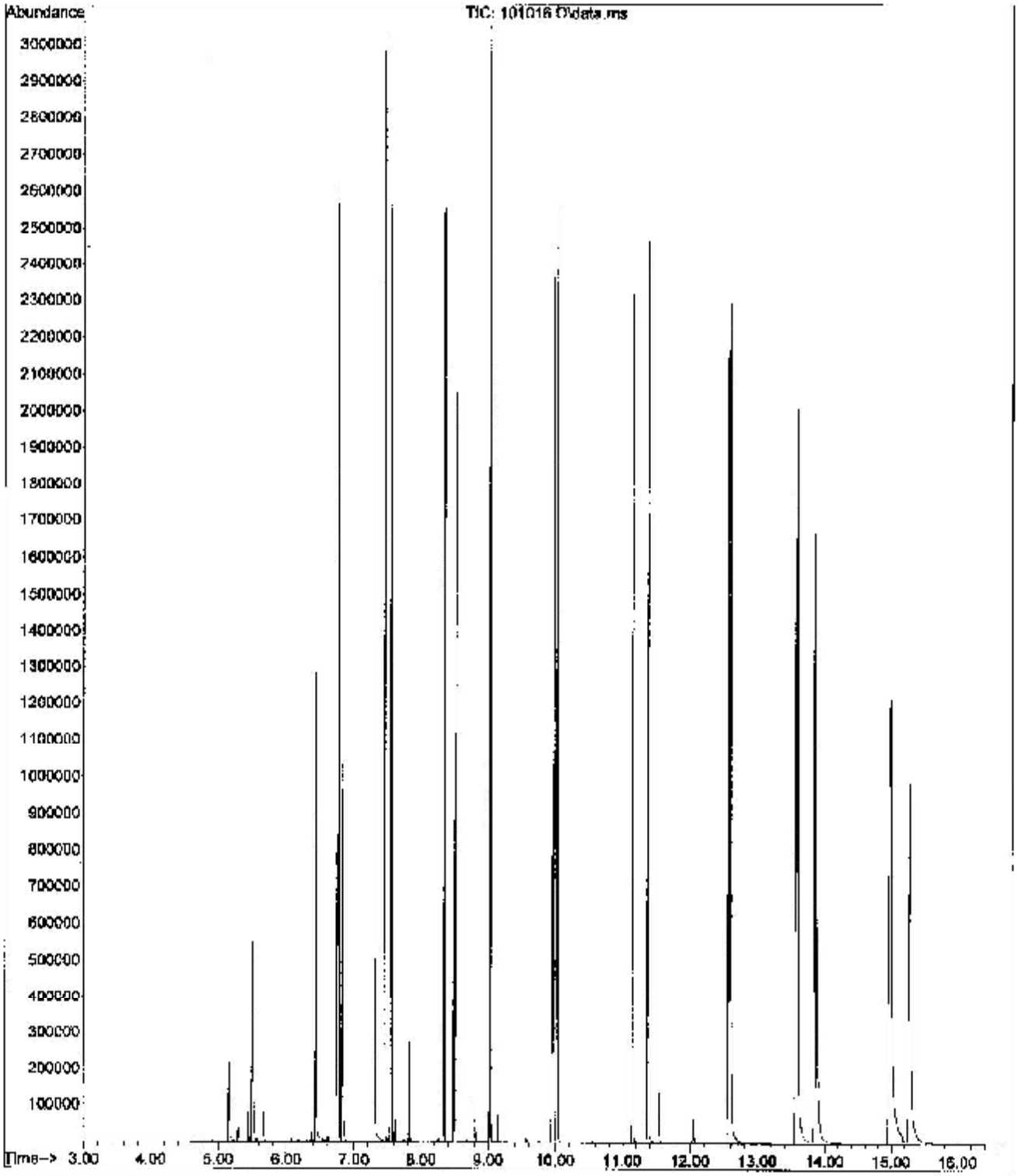
Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.598	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

```
File         :D:\Data\SVOC\101012-1\101016.D
Operator     :
Acquired     : 10 Oct 2012    6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument   :    HP-MSD
Sample Name: 5000 PPB STD
Misc Info    : CCV  G-PAH-S-SIM-LIBBY
Vial Number: 108
```



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 10 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

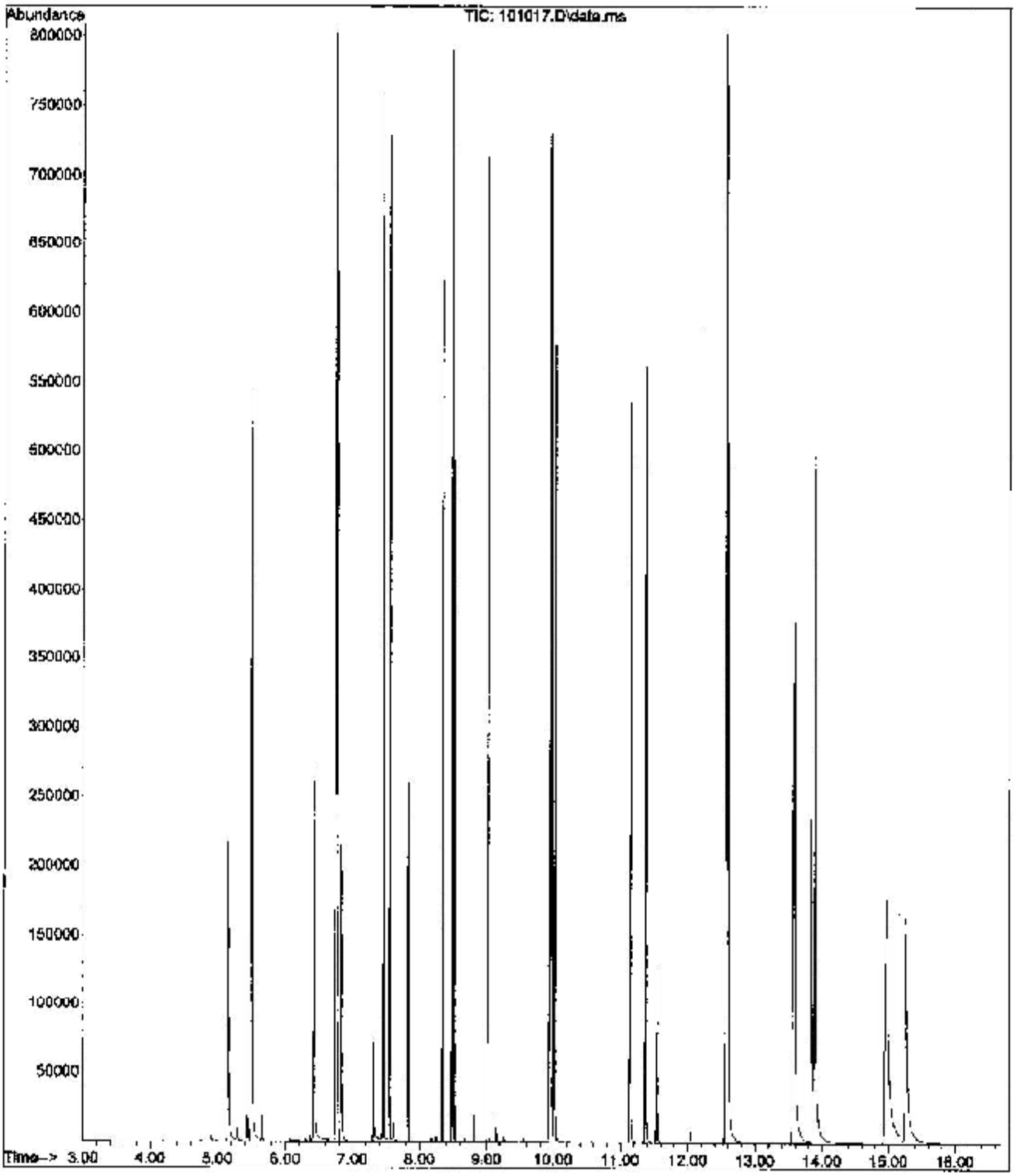
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	518454	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	158283	1053.76 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L	0.00
Target Compounds					Qvalue
3] 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L	99
5] Naphthalene	6.766	128	450667	1106.23 ug/L	100
6] 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L	98
7] 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L	97
9] Acenaphthylene	8.338	152	389615	1191.03 ug/L	100
11] Acenaphthene	8.508	152	120464	1098.84 ug/L	98
12] Fluorene	9.021	166	284009	1130.26 ug/L	97
14] Phenanthrene	9.969	178	392404	1109.13 ug/L	100
15] Anthracene	10.020	178	377676	1194.93 ug/L	98
17] Fluoranthene	11.146	202	387257	1215.97 ug/L	94
18] Pyrene	11.368	202	408900	1228.38 ug/L	94
19] Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L #	100
21] Chrysene	12.593	228	392651	1100.37 ug/L	95
22] benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L #	100
23] benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L	100
24] benzo (a) pyrene	13.837	252	286716	1126.46 ug/L	95
26] Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L	95
27] Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L	96
28] Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L	95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

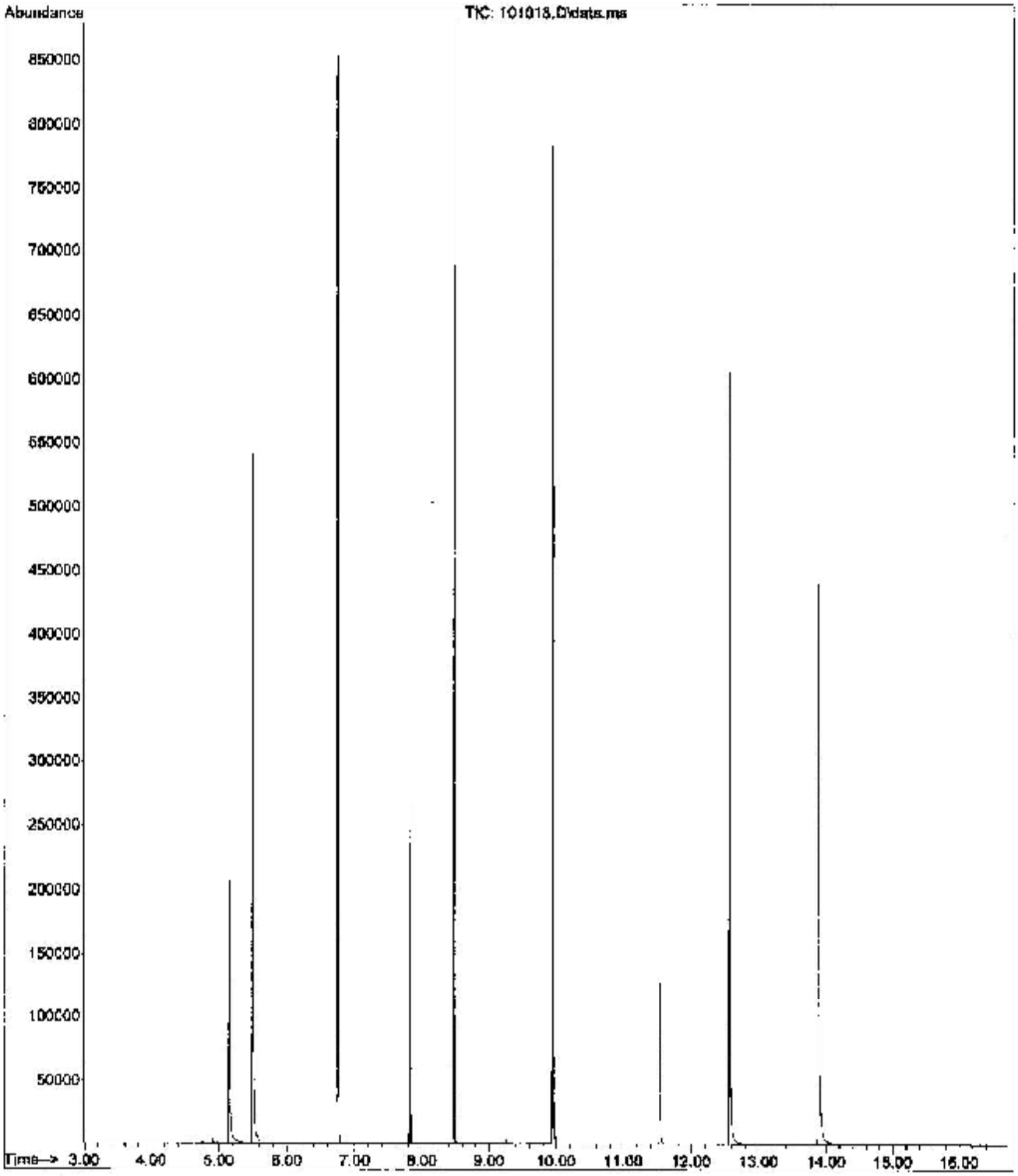
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

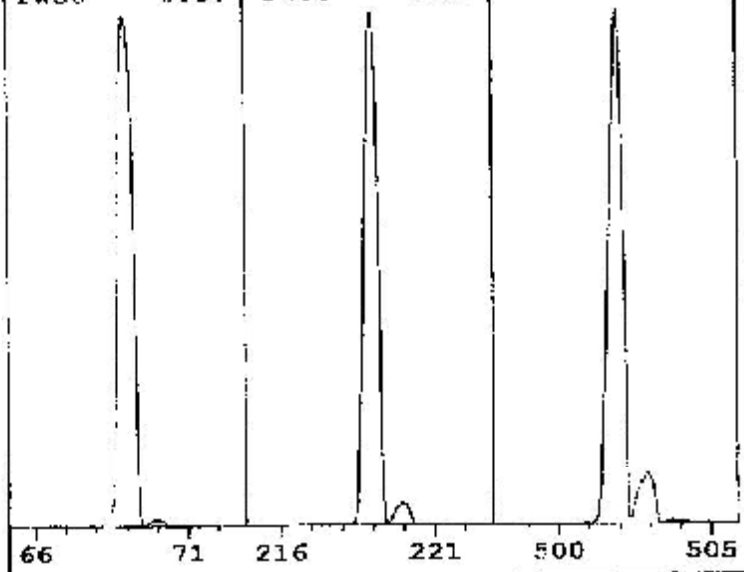


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

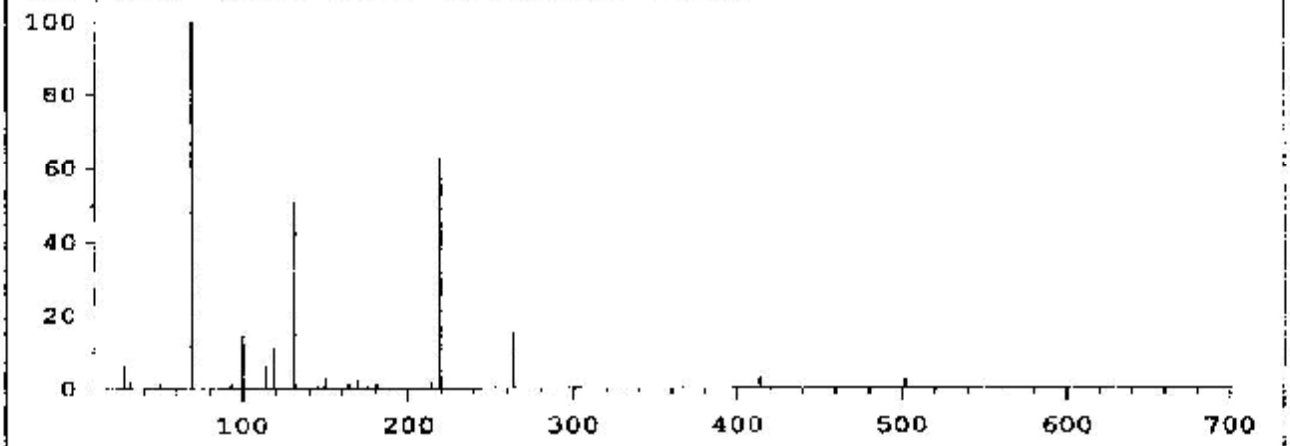


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O~0.56% N2~6.00% O2~1.93% CO2~0.18% N2/H2O~1063.45%

Column(1) Flow: 1.50 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

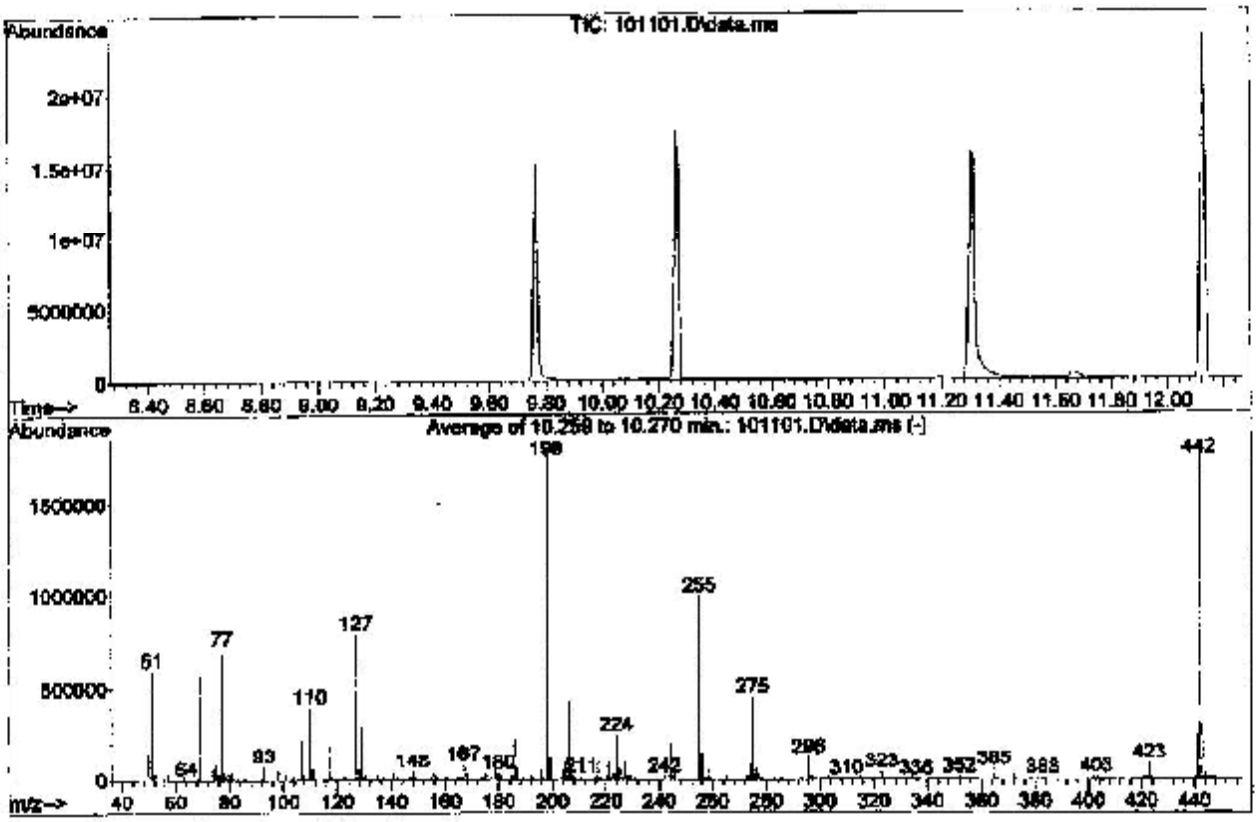
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

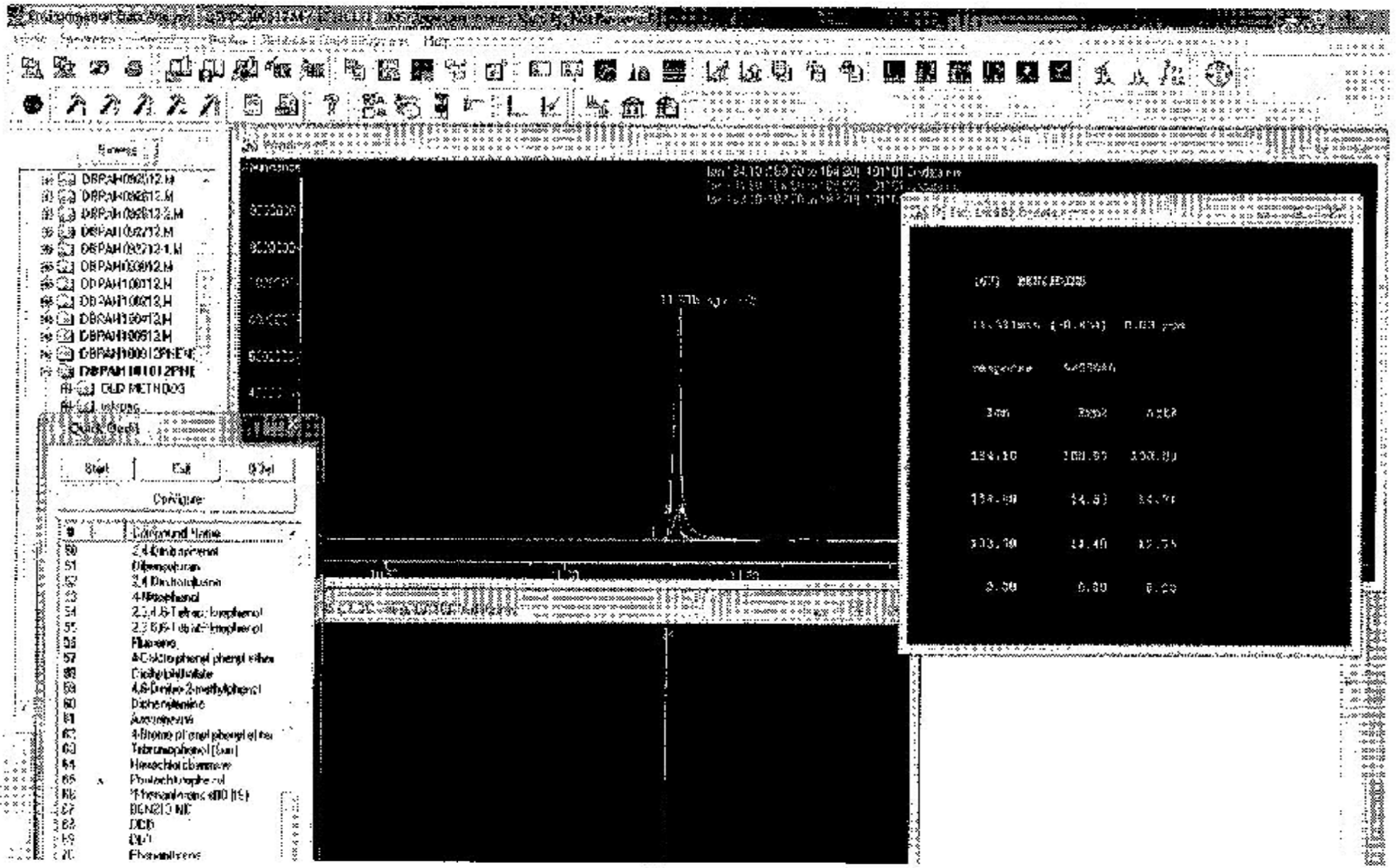
Integration File: RTEINTSG8270.P

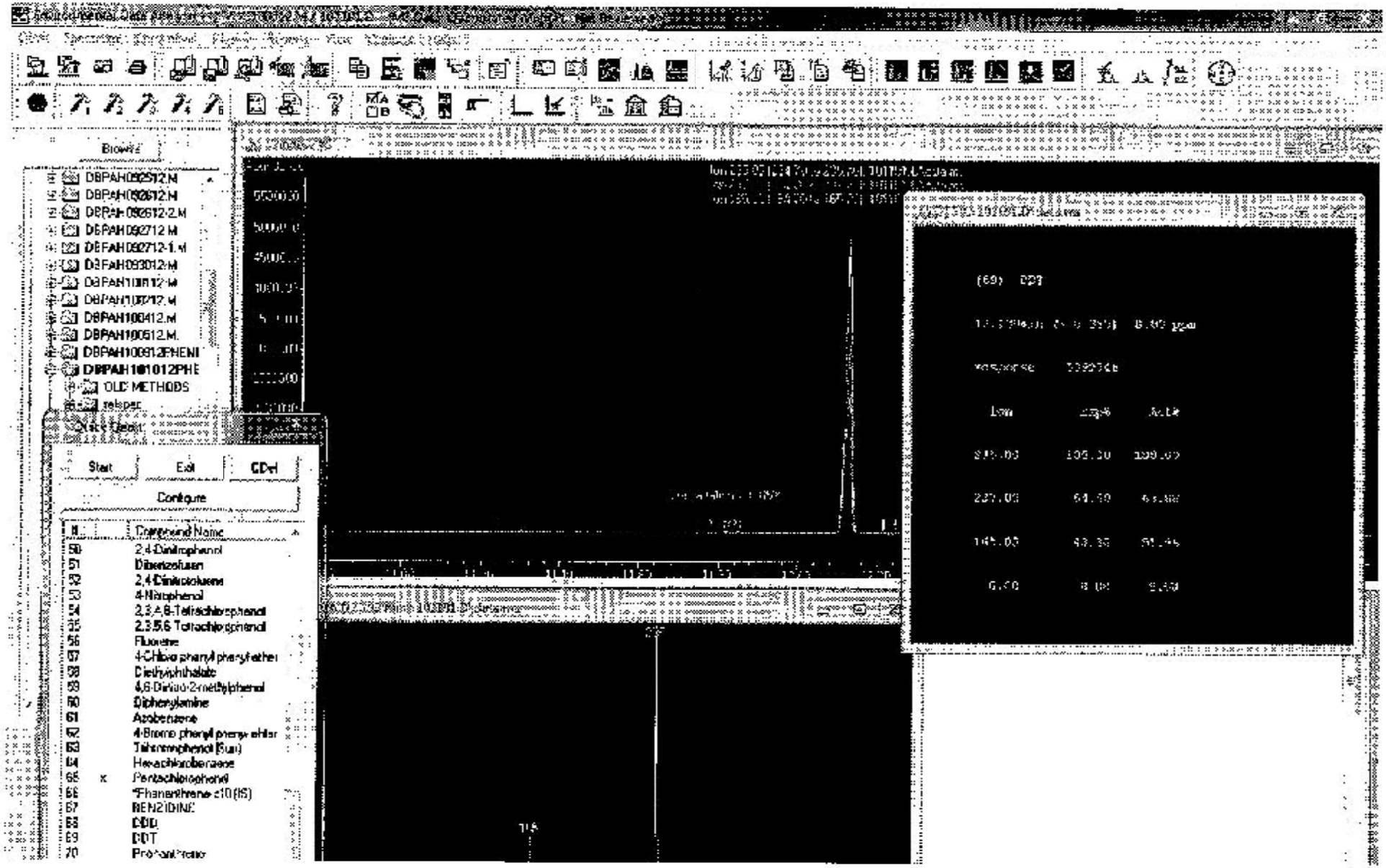
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

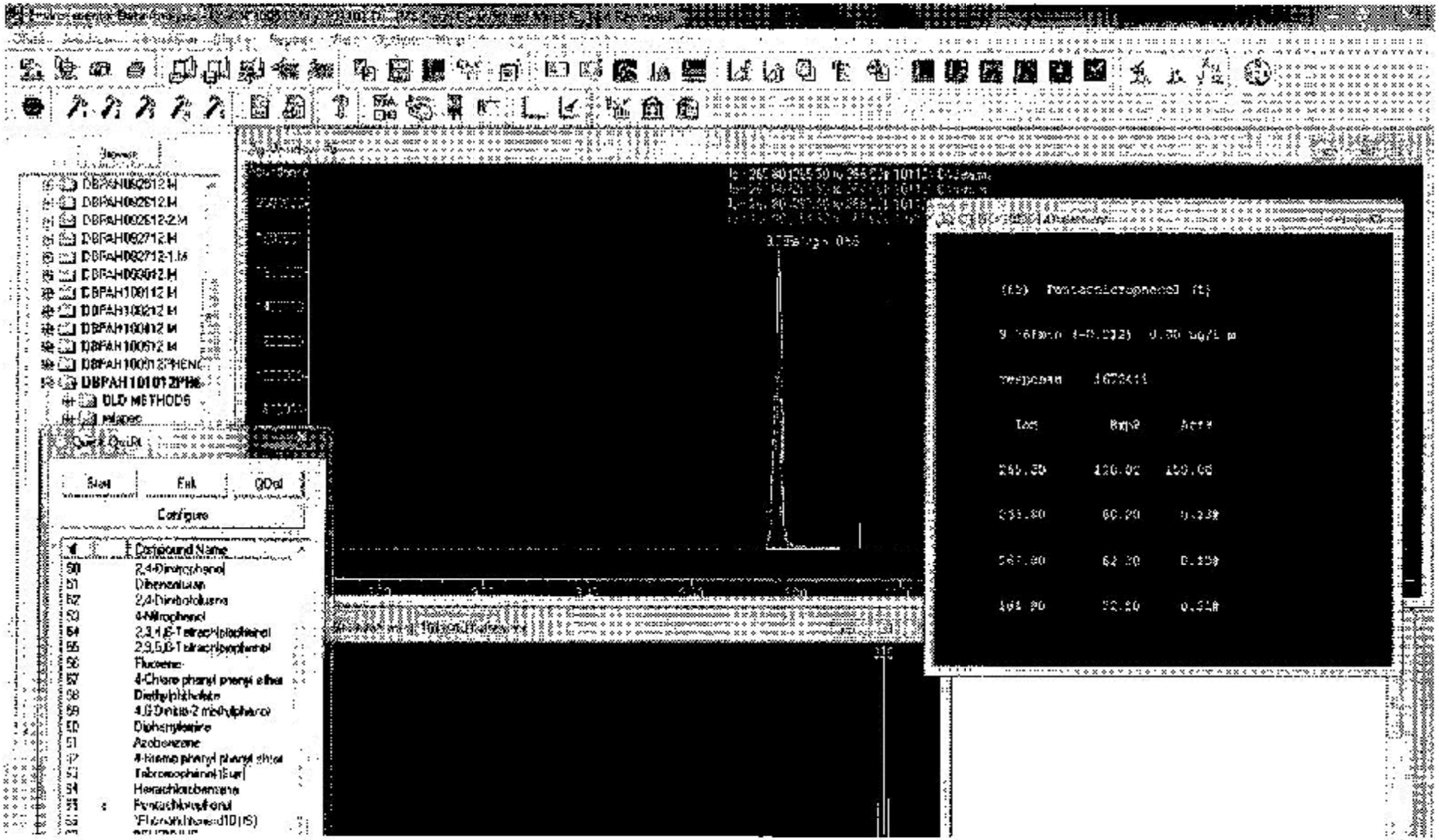


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Tribromophenol (Surr)
64 Hexachlorobenzene
65 x Pentachlorophenol
66 *Phenanthrene-d10 (IS)
67 BENZIDINE
68 DDD
69 DDT
70 Pronamide
(69) DDT
Low
Acble


Start
Edit
QQual
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromo phenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Lost Rqn0 Act#
250.50 100.00 100.00
251.00 60.20 0.23#
251.00 64.20 0.25#
251.00 52.80 0.21#

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

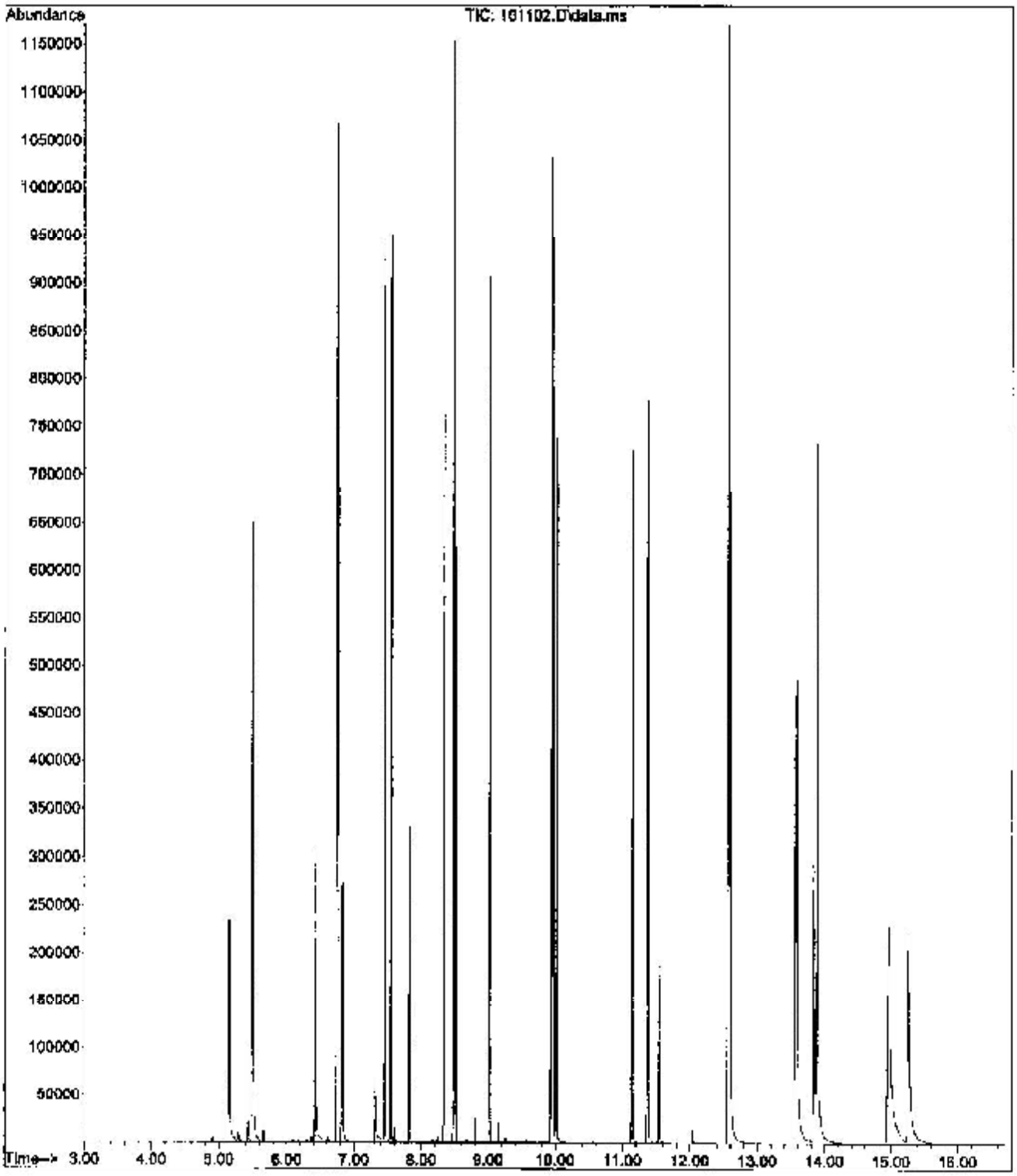
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File : D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

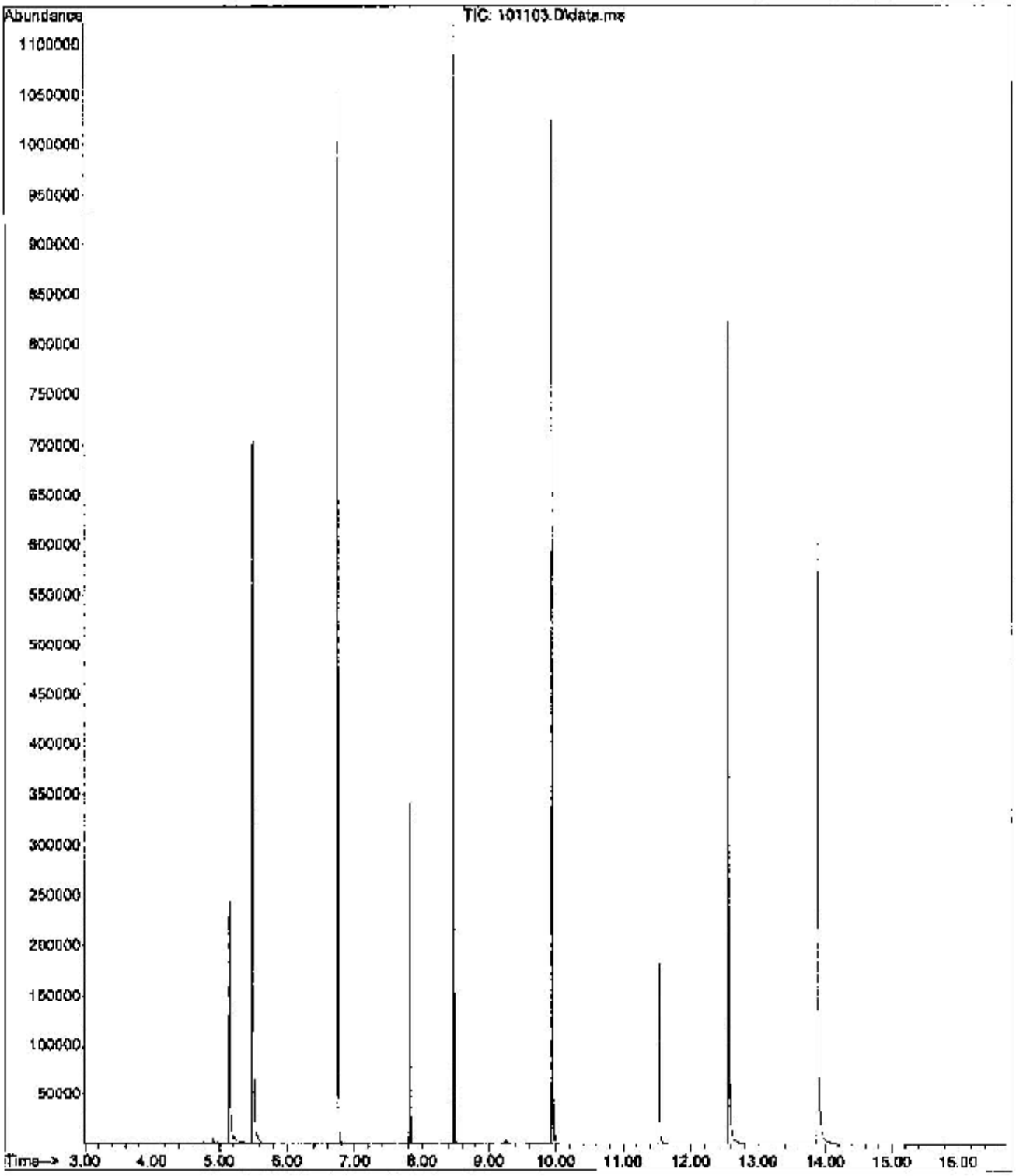
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: 10/10/2012 3:59:36
Prep End Date: 10/10/2012 3:59:36

Prep Batch ID 3406 Prep Code: PREP-PAH-S Technician: Paul Ho

Prep Factor Units: mL / g

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAm1	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
LCS-3406		Soil			10	0	0	10	1.000	10/10/2012	10/10/2012
1210030-001A	IRZ-B2-92812	Soil			12.49	0	0	10	0.801	10/10/2012	10/10/2012
1210030-002A	IRZ-NESW2-92812	Soil			12.57	0	0	10	0.796	10/10/2012	10/10/2012
1210030-003A	IRZ-NSW1-92812	Soil			13.81	0	0	10	0.724	10/10/2012	10/10/2012
1210030-004A	IRZ-NSW2-92812	Soil			13.53	0	0	10	0.739	10/10/2012	10/10/2012
1210030-005A	IRZ-B3-92812	Soil			12.23	0	0	10	0.818	10/10/2012	10/10/2012
1210030-005ADUP		Soil			12.76	0	0	10	0.784	10/10/2012	10/10/2012
1210079-001A	SURZ-SSW1-10412	Soil			13.29	0	0	10	0.752	10/10/2012	10/10/2012
1210079-002A	SURZ-NSW1-10412	Soil			12.84	0	0	10	0.779	10/10/2012	10/10/2012
1210079-002ADUP		Soil			12.59	0	0	10	0.794	10/10/2012	10/10/2012
1210079-002AMS		Soil			13.48	0	0	10	0.742	10/10/2012	10/10/2012
1210080-001A	SRZ-WSW01-91212	Soil			12.02	0	0	10	0.832	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-001ADUP		Soil			11.53	0	0	10	0.867	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-002A	SRZ-ESW01-91212	Soil			13.32	0	0	10	0.751	10/10/2012	10/10/2012
Prep hold time was exceeded by 15 day(s)											
1210080-003A	SRZ-EBZ-91012	Soil			12.99	0	0	10	0.770	10/10/2012	10/10/2012
Prep hold time was exceeded by 17 day(s)											
1210089-001A	SURZ-WB1-10812	Soil			13.75	0	0	10	0.727	10/10/2012	10/10/2012
1210089-002A	K18-B1-10812	Soil			13.31	0	0	10	0.751	10/10/2012	10/10/2012
1210089-003A	SURZ-B1-10812	Soil			13.17	0	0	10	0.759	10/10/2012	10/10/2012
1210089-004A	K08-B1-10912	Soil			11.41	0	0	10	0.876	10/10/2012	10/10/2012
1210089-004ADUP		Soil			12.11	0	0	10	0.826	10/10/2012	10/10/2012
1210089-004AMS		Soil			12.56	0	0	10	0.796	10/10/2012	10/10/2012
1210089-005A	K06-B2-10912	Soil			13.34	0	0	10	0.750	10/10/2012	10/10/2012

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

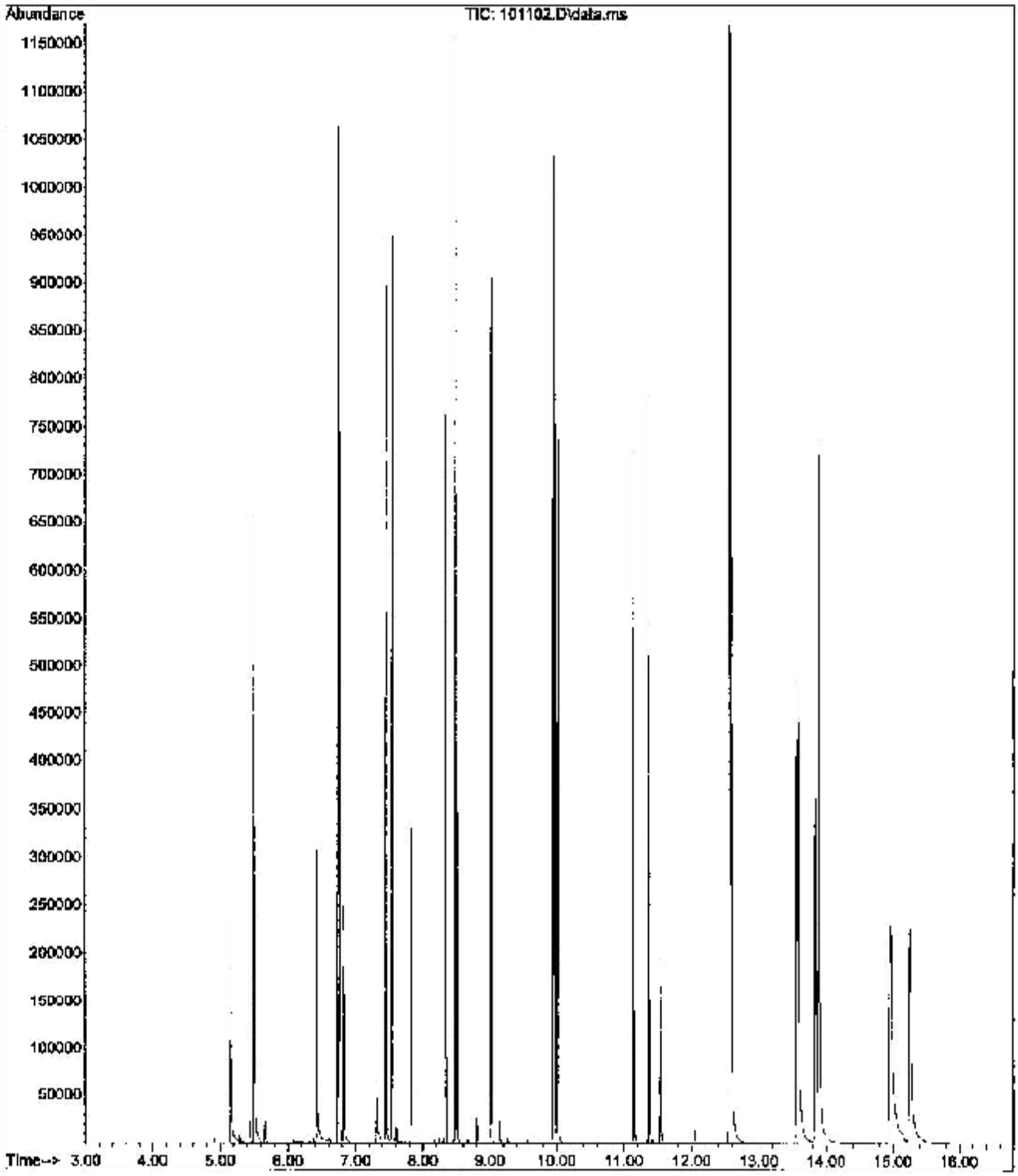
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		96
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.369	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403938	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:20 2012 PAH

File : D:\Data\SVOC\101112\101102.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

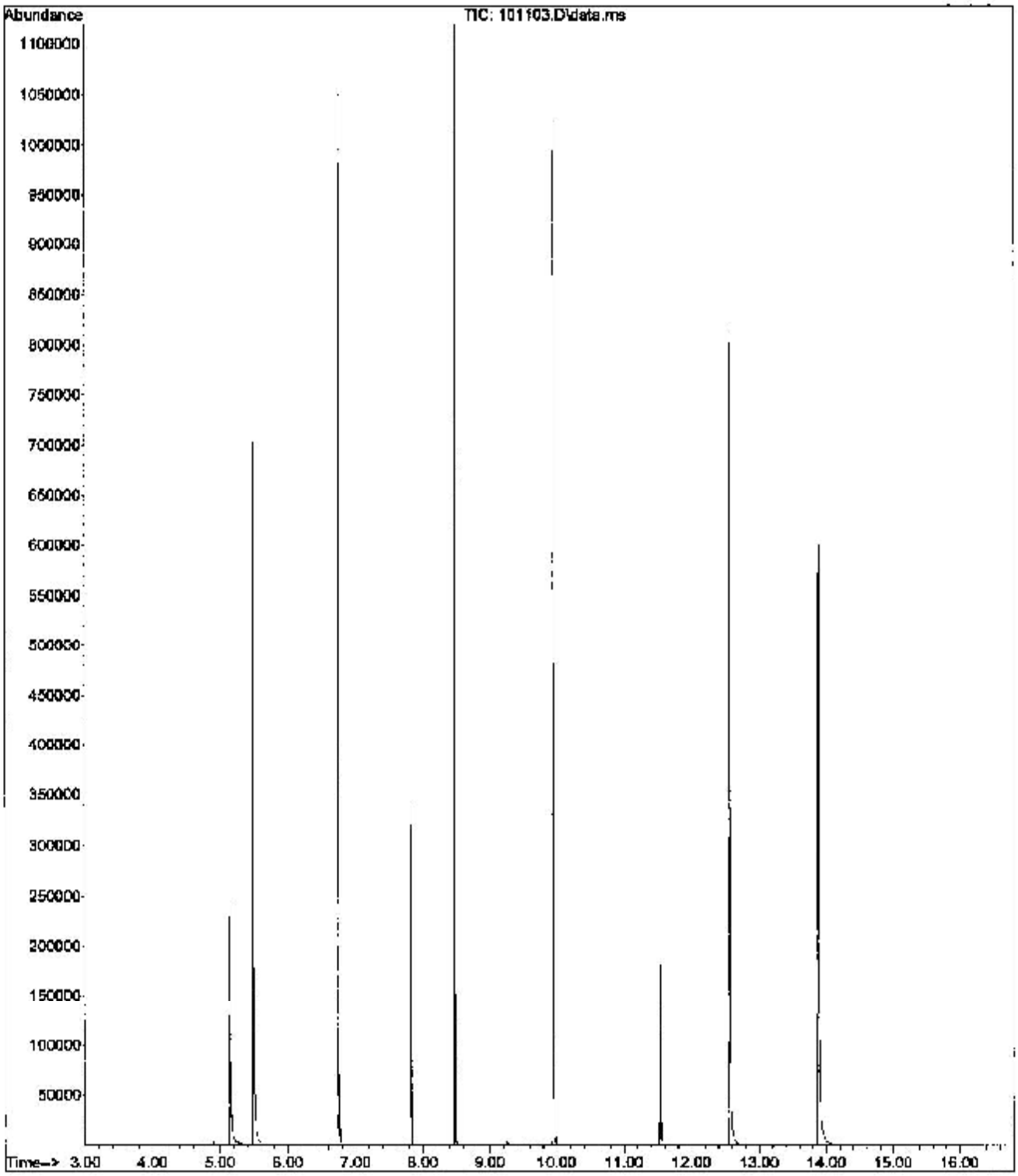
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	718040	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.566	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:02:34 2012 PAH

File :D:\Data\SVOC\101112\102103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101112.D
Acq On : 11 Oct 2012 2:07 pm
Operator :
Sample : MB-3406
Misc : MBLK 0-PAH-S-SIM
ALS Vial : 121 Sample Multiplier: 1

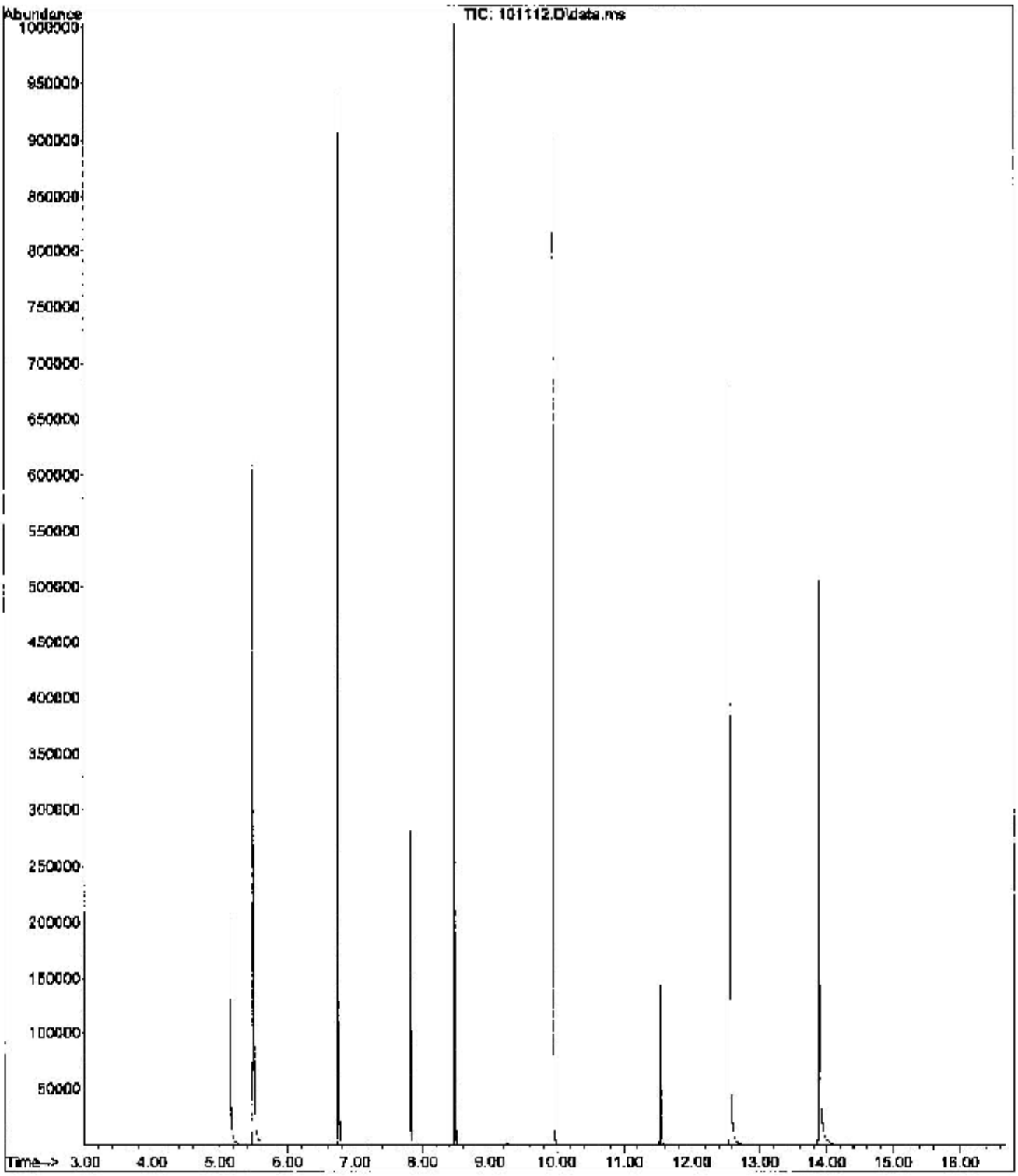
Quant Time: Oct 11 14:28:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	236069	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	760891	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	382016	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	626677	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.566	240	569492	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	535333	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	155611	867.77 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	157914	469.66 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	112073	485.16 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.401	107	12	N.D.	
5) Naphthalene	6.766	128	78	N.D.	
6) 2-Methylnaphthalene	7.459	142	38	N.D.	
7) 1-Methylnaphthalene	7.550	142	26	N.D.	
9) Acenaphthylene	8.337	152	1	N.D.	
11) Acenaphthene	8.511	152	12	N.D.	
12) Fluorene	9.022	166	16	N.D.	
14) Phenanthrene	9.968	178	160	N.D.	
15) Anthracene	10.020	178	9	N.D.	
17) Fluoranthene	11.148	202	9	N.D.	
18) Pyrene	11.370	202	13	N.D.	
19) Benzo (a) anthracene	12.566	228	1480	N.D.	
21) Chrysene	12.566	228	1300	N.D.	
22) benzo (b) fluoranthene	13.560	252	34	N.D.	
23) benzo (k) fluoranthene	13.579	252	98	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	19	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	13	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:32 2012 PAH

File : D:\Data\SVOC\101112\101112.D
Operator :
Acquired : 11 Oct 2012 2:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3406
Misc Info : MBLK 0-PAH-S-SIM
Vial Number: 121



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101113.D
Acq On : 11 Oct 2012 2:32 pm
Operator :
Sample : LCS-3406
Misc : LCS O-PAH-S-SIM
ALS Vial : 122 Sample Multiplier: 1

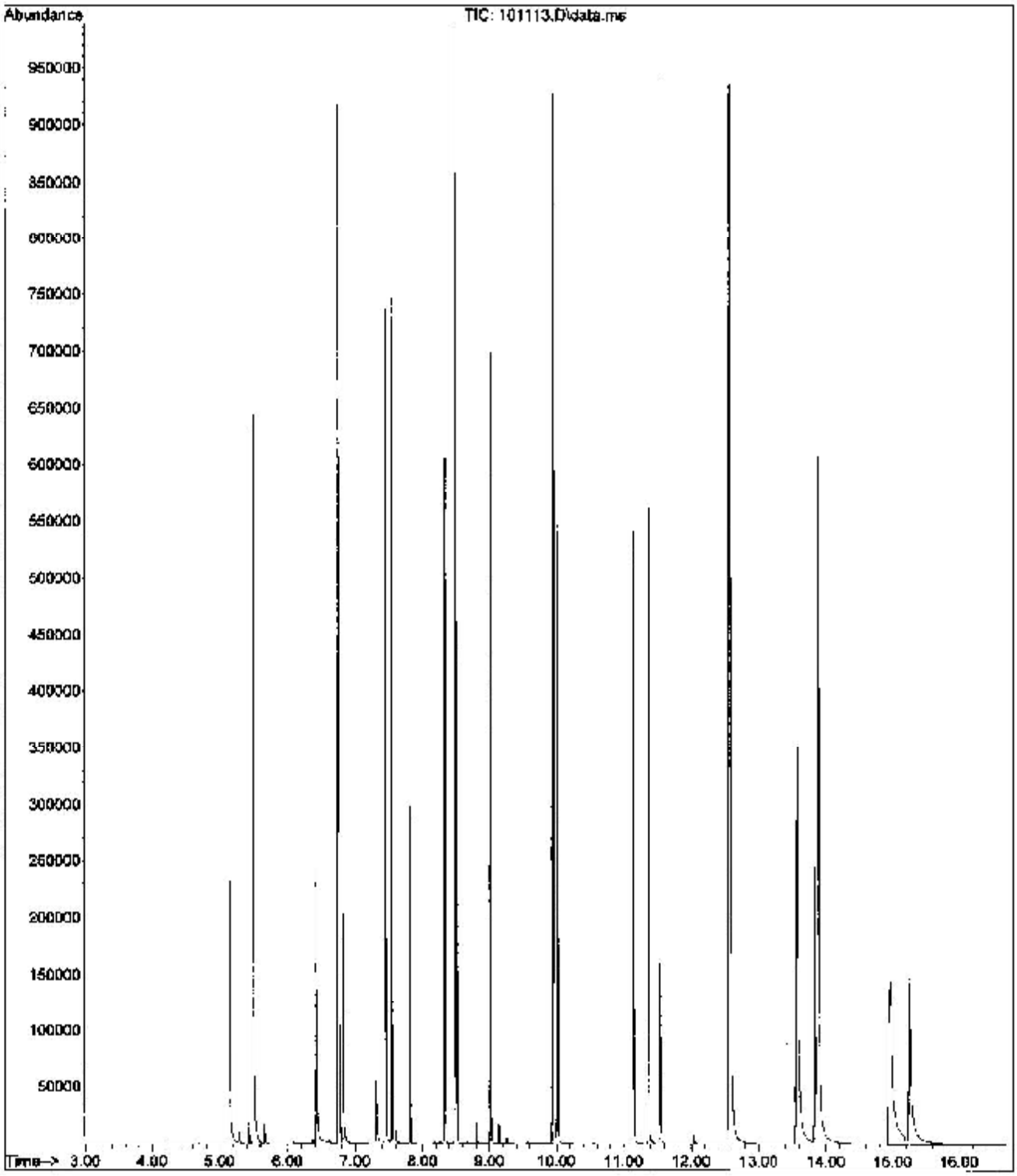
Quant Time: Oct 11 14:52:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	233245	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	760779	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	395162	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	635812	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.566	240	615718	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	591424	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.149	99	165613	934.73	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	165027	490.89	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	119639	510.47	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	116674	849.48	ug/L		99
5) Naphthalene	6.766	128	439410	910.43	ug/L		100
6) 2-Methylnaphthalene	7.453	142	262805	929.42	ug/L		100
7) 1-Methylnaphthalene	7.548	142	246187	920.14	ug/L		100
9) Acenaphthylene	8.338	152	374755	966.90	ug/L		100
11) Acenaphthene	8.509	152	117270	882.49	ug/L		100
12) Fluorene	9.022	166	274064	899.80	ug/L		100
14) Phenanthrene	9.967	178	385884	889.38	ug/L		100
15) Anthracene	10.019	178	367321	947.66	ug/L		100
17) Fluoranthene	11.146	202	381235	976.11	ug/L		99
18) Pyrene	11.367	202	401153	982.67	ug/L		100
19) Benzo (a) anthracene	12.557	228	315122	920.49	ug/L	#	100
21) Chrysene	12.590	228	391174	879.34	ug/L	#	98
22) benzo (b) fluoranthene	13.555	252	235344	727.95	ug/L	#	100
23) benzo (k) fluoranthene	13.579	252	420747	916.19	ug/L		100
24) benzo (a) pyrene	13.835	252	256637	823.15	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.948	276	264235	842.49	ug/L		98
27) Dibenz (a,h) anthracene	14.967	278	188469	753.47	ug/L		99
28) Benzo (g,h,i) perylene	15.257	276	285737	818.14	ug/L		99

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:37 2012 PAH

File :D:\Data\SVOC\101112\101113.D
Operator :
Acquired : 11 Oct 2012 2:32 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: LCS-3406
Misc Info : LCS O-PAH-S-SIM
Vial Number: 122



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101115.D
Acq On : 11 Oct 2012 3:23 pm
Operator :
Sample : 1210089-004A
Misc : SAMP O-PAH-S-SIM
ALS Vial : 124 Sample Multiplier: 1

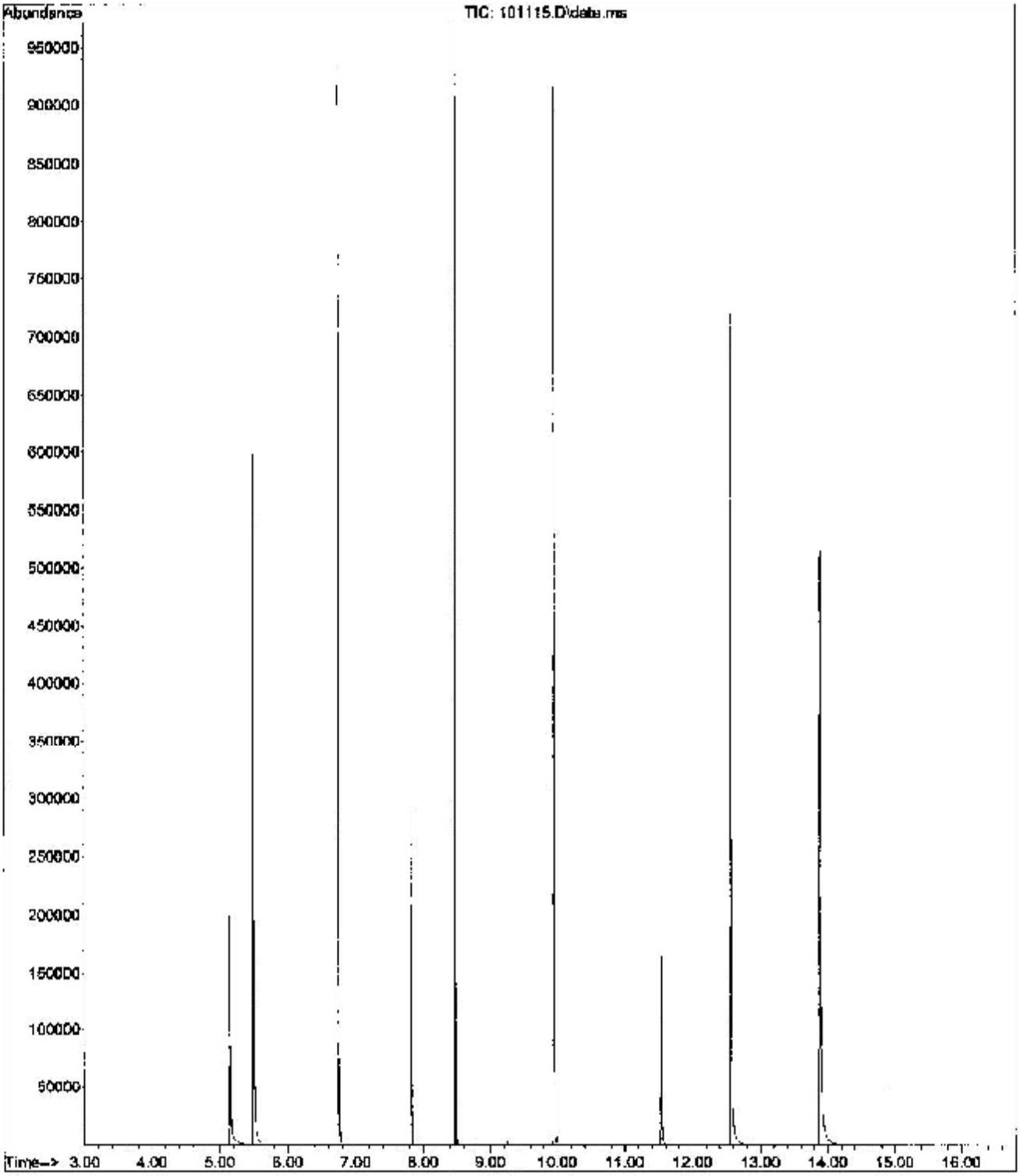
Quant Time: Oct 11 16:21:40 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	232562	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	757244	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.479	164	384502	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	636719	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	591122	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	560404	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol d6	5.151	99	150342	851.03	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	165331	494.09	ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	126967	540.97	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.453	107	37	N.D.		
5) Naphthalene	6.766	128	144	N.D.		
6) 2-Methylnaphthalene	7.457	142	69	N.D.		
7) 1-Methylnaphthalene	7.552	142	61	N.D.		
9) Acenaphthylene	8.341	152	5	N.D.		
11) Acenaphthene	8.512	152	16	N.D.		
12) Fluorene	9.023	166	11	N.D.		
14) Phenanthrene	9.969	178	212	N.D.		
15) Anthracene	10.021	178	4	N.D.		
17) Fluoranthene	11.149	202	54	N.D.		
18) Pyrene	11.371	202	87	N.D.		
19) Benzo (a) anthracene	12.567	228	1630	N.D.		
21) Chrysene	12.567	228	1458	N.D.		
22) benzo (b) fluoranthene	13.559	252	37	N.D.		
23) benzo (k) fluoranthene	13.579	252	156	N.D.		
24) benzo (a) pyrene	13.885	252	2011	6.35	ug/L	91
26) Indeno(1,2,3-cd)pyrene	14.883	276	2	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	14	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	7	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:45 2012 PAH

File :D:\Data\SVOC\101112\101115.D
Operator :
Acquired : 11 Oct 2012 3:22 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004A
Misc Info : SAMP O-PAH-S-SIM
Vial Number: 124



Quantitation Report (QT Reviewed)

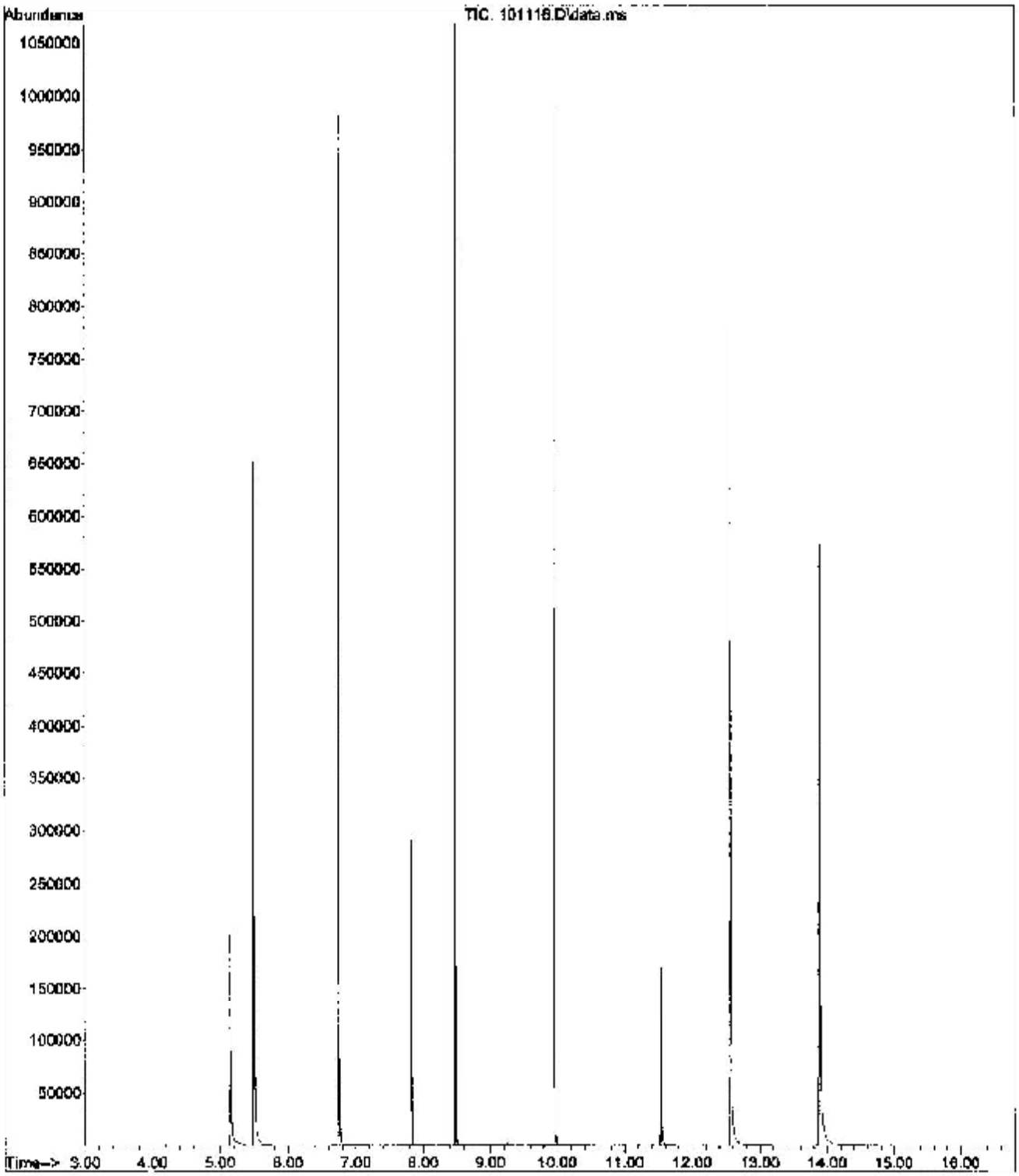
Data Path : D:\Data\SVOC\101112\
Data File : 101116.D
Acq On : 11 Oct 2012 3:47 pm
Operator :
Sample : 1210089-004ADUP
Misc : DUP O-PAH-S-SIM
ALS Vial : 125 Sample Multiplier: 1

Quant Time: Oct 11 16:25:15 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	248460	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	5.747	136	806989	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	9.480	164	410617	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	680155	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	628463	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	598140	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	151627	803.39 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	167504	469.72 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	128398	512.13 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.511	107	2	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.459	142	60	N.D.	
7) 1-Methylnaphthalene	7.552	142	45	N.D.	
9) Acenaphthylene	8.340	152	1	N.D.	
11) Acenaphthene	8.509	152	13	N.D.	
12) Fluorene	9.023	166	4	N.D.	
14) Phenanthrene	9.967	178	157	N.D.	
15) Anthracene	10.020	178	6	N.D.	
17) Fluoranthene	11.148	202	27	N.D.	
18) Pyrene	11.371	202	83	N.D.	
19) Benzo (a) anthracene	12.566	228	1725	N.D.	
21) Chrysene	12.566	228	1611	N.D.	
22) benzo (b) fluoranthene	13.559	252	39	N.D.	
23) benzo (k) fluoranthene	13.583	252	169	N.D.	
24) benzo (a) pyrene	13.835	252	61	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	27	N.D.	
27) Dibenz (a,h) anthracene	14.969	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	18	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101112\101116.D
Operator :
Acquired : 11 Oct 2012 3:47 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210089-004ADUP
Misc Info : DUP O-PAH-S-SIM
Vial Number: 125



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101117.D
Acq On : 11 Oct 2012 4:12 pm
Operator :
Sample : 1210089-004AMS
Misc : MS O-PAH-S-SIM
ALS Vial : 126 Sample Multiplier: 1

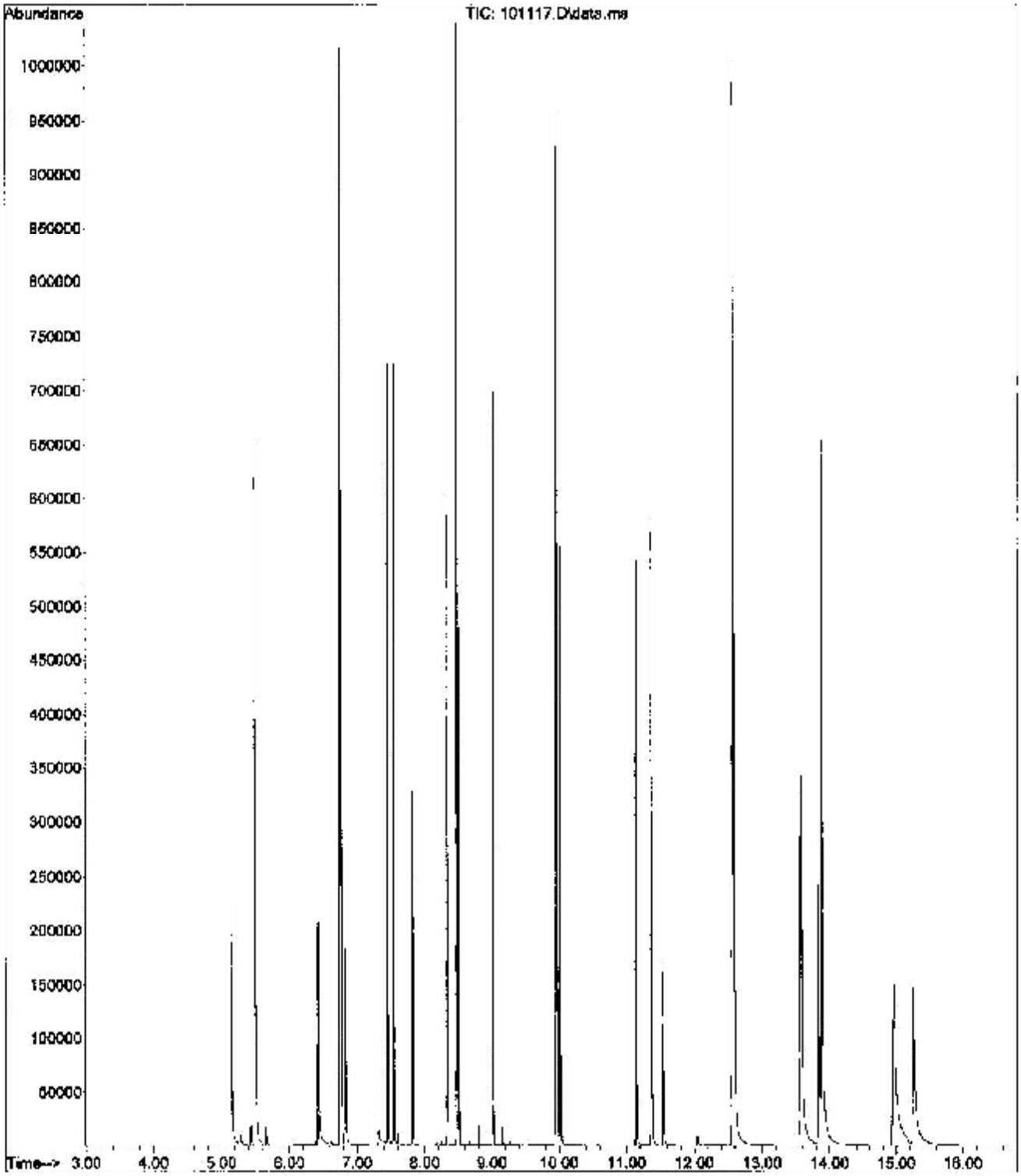
Quant Time: Oct 11 16:40:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	243558	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	803565	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	418741	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	678279	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	659172	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	639673	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	163193	882.07	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	174768	492.18	ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	133471	533.83	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.428	107	114798	800.43	ug/L		99
5) Naphthalene	6.766	128	439108	861.36	ug/L		100
6) 2-Methylnaphthalene	7.453	142	264847	886.77	ug/L		100
7) 1-Methylnaphthalene	7.550	142	247665	876.38	ug/L		100
9) Acenaphthylene	8.338	152	375979	918.41	ug/L		100
11) Acenaphthene	8.509	152	117774	836.38	ug/L		100
12) Fluorene	9.022	166	275869	854.72	ug/L		100
14) Phenanthrene	9.969	178	387287	836.73	ug/L		100
15) Anthracene	10.020	178	372643	901.19	ug/L		100
17) Fluoranthene	11.146	202	392244	941.41	ug/L		100
18) Pyrene	11.368	202	409992	941.44	ug/L		100
19) Benzo (a) anthracene	12.559	228	322082	881.92	ug/L	#	100
21) Chrysene	12.593	228	391907	822.91	ug/L		98
22) benzo (b) fluoranthene	13.557	252	233099	673.48	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	445287	905.71	ug/L		99
24) benzo (a) pyrene	13.837	252	261251	784.49	ug/L		97
26) Indeno(1,2,3-cd)pyrene	14.950	276	268996m	794.77	ug/L		
27) Dibenz (a,h) anthracene	14.969	278	194160m	718.58	ug/L		
28) Benzo (g,h,i) perylene	15.260	276	305371m	808.41	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Tue Oct 16 10:01:53 2012 PAH

File :D:\Data\SVOC\101112\101117.D
Operator :
Acquired : 11 Oct 2012 4:12 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP MSD
Sample Name: 1210089-004AMS
Misc Info : MS G-PAH-S-SIM
Vial Number: 126



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101237.D
Acq On : 12 Oct 2012 3:36 pm
Operator :
Sample : CCV-
Misc : CCC O-PAH-SIM-S-LIBBY
ALS Vial : 106 Sample Multiplier: 1

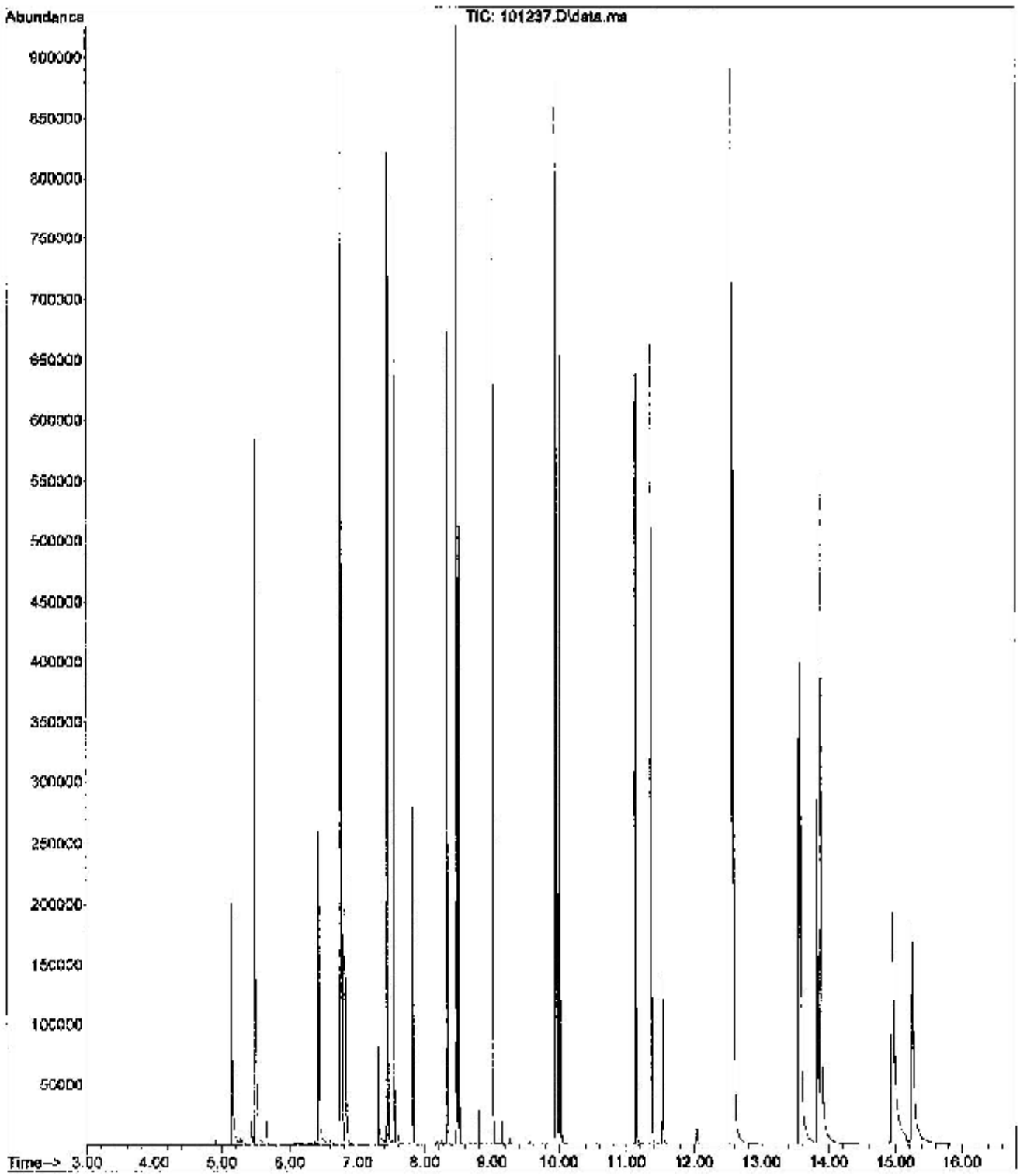
Quant Time: Oct 12 15:59:42 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.495	152	220676	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	707256	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	369974	2000.00 ug/L		0.00
15) Phenanthrene-d10 (IS)	9.945	188	617544	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.567	240	554983	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	535559	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	167916	1001.71 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	155593	497.85 ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	103665	455.40 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.426	107	132767	1021.71 ug/L		99
5] Naphthalene	6.766	128	473190	1054.61 ug/L		100
6] 2-Methylnaphthalene	7.451	142	287949	1095.41 ug/L		99
7] 1-Methylnaphthalene	7.548	142	269386	1083.05 ug/L		100
9] Acenaphthylene	8.338	152	421185	1168.93 ug/L		100
11] Acenaphthene	8.508	152	131483	1056.81 ug/L		99
12] Fluorene	9.021	166	310536	1088.95 ug/L		100
14] Phenanthrene	9.966	178	433411	1028.47 ug/L		100
15] Anthracene	10.018	178	419980	1115.56 ug/L		99
17] Fluoranthene	11.143	202	454805	1198.92 ug/L		97
18] Pyrene	11.368	202	472507	1191.70 ug/L		96
19] Benzo (a) anthracene	12.557	228	360600	1084.49 ug/L	#	100
21] Chrysene	12.591	228	431305	1075.66 ug/L		100
22] benzo (b) fluoranthene	13.554	252	268784	922.37 ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	449808	1086.67 ug/L		100
24] benzo (a) pyrene	13.835	252	292996	1030.14 ug/L		99
26] Indeno(1,2,3-cd)pyrene	14.945	276	321375	1117.07 ug/L		96
27] Dibenz (a,h) anthracene	14.967	278	232935	1018.62 ug/L		96
28] Benzo (g,h,i) perylene	15.255	276	327670	1036.07 ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:26 2012 PAH

File : D:\Data\SVOC\101212\101237.D
Operator :
Acquired : 12 Oct 2012 3:36 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCC O-PAH-SIM-S-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101238.D
Acq On : 12 Oct 2012 4:02 pm
Operator :
Sample : CCB-
Misc : CCB O-PAH-SIM-S-LIBBY
ALS Vial : 110 Sample Multiplier: 1

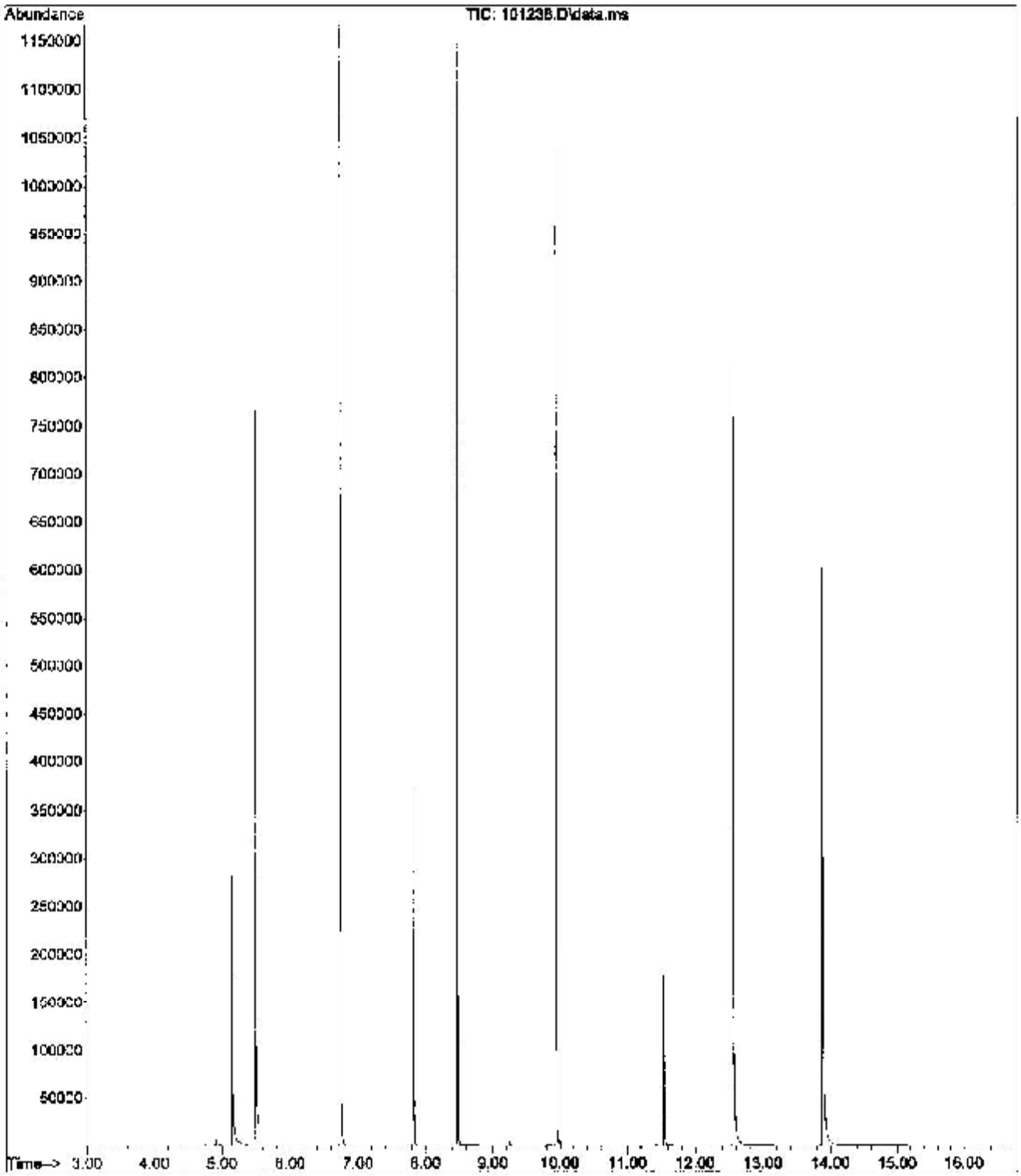
Quant Time: Oct 12 17:34:54 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	298417	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	921023	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	453759	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	742255	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	640793	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	604114	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	221846	978.66 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	209248	514.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	130127	475.60 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.434	107	24	N.D.	
5) Naphthalene	6.747	128	30	N.D.	
6) 2-Methylnaphthalene	7.453	142	27	N.D.	
7) 1-Methylnaphthalene	7.550	142	33	N.D.	
9) Acenaphthylene	8.339	152	32	N.D.	
11) Acenaphthene	8.508	152	21	N.D.	
12) Fluorene	9.022	166	68	N.D.	
14) Phenanthrene	9.968	178	195	N.D.	
15) Anthracene	10.020	178	93	N.D.	
17) Fluoranthene	11.146	202	104	N.D.	
18) Pyrene	11.370	202	113	N.D.	
19) Benzo (a) anthracene	12.566	228	1851	N.D.	
21) Chrysene	12.566	228	1285	N.D.	
22) benzo (b) fluoranthene	13.552	252	49	N.D.	
23) benzo (k) fluoranthene	13.576	252	207	N.D.	
24) benzo (a) pyrene	13.833	252	94	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	8	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	22	N.D.	
28) Benzo (g,h,i) perylene	15.244	276	21	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:34:58 2012 PAH

File : D:\Data\SVOC\101212\101238.D
Operator :
Acquired : 12 Oct 2012 4:02 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-SIM-S-LIBBY
Vial Number: 110



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101239.D
Acq On : 12 Oct 2012 4:27 pm
Operator :
Sample : 1210C30-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 25 Sample Multiplier: 1

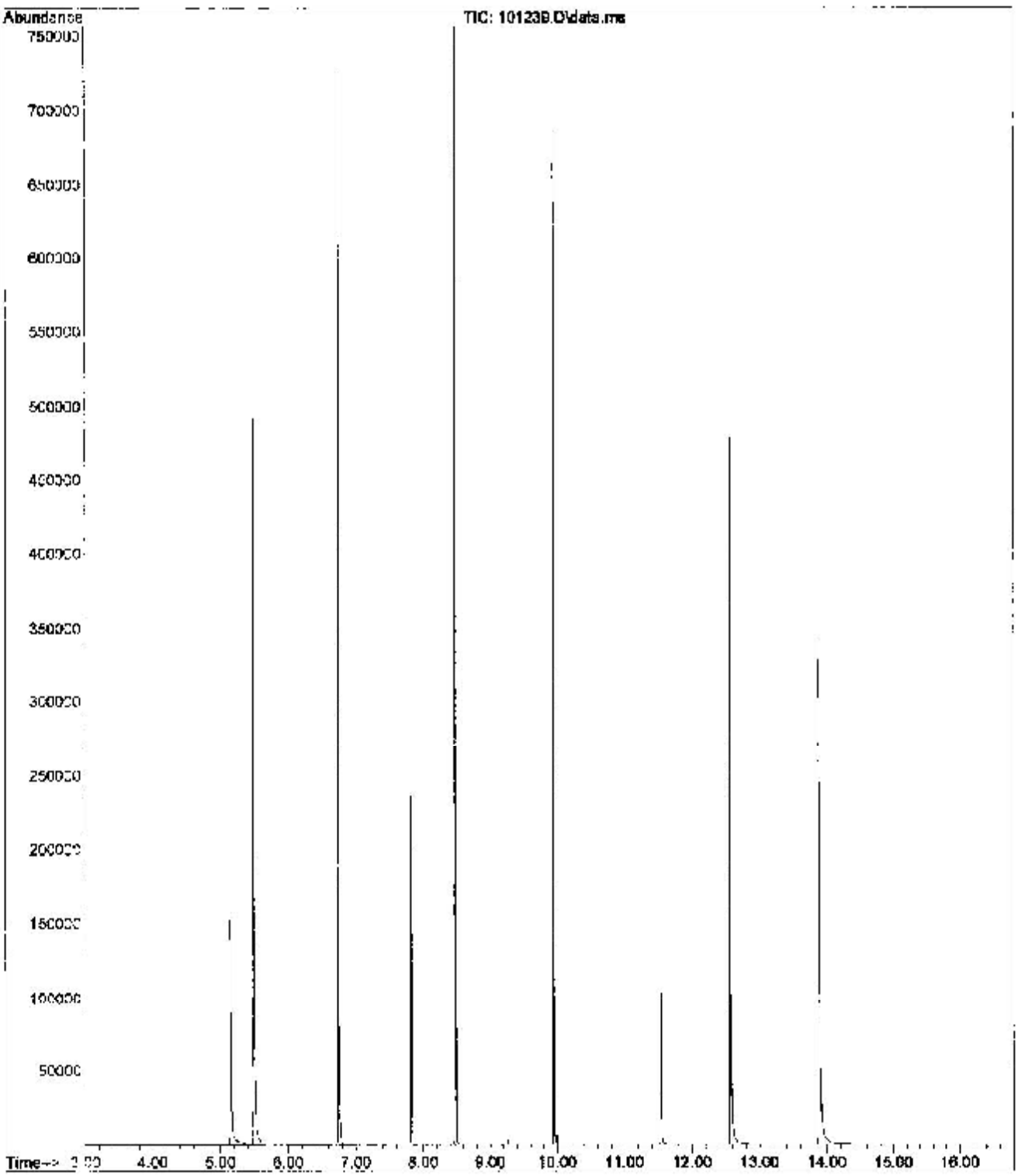
Quant Time: Oct 12 17:35:33 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	187471	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	580894	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	287679	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476230	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	394495	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.883	264	365033	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	126552	888.67 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	128942	502.32 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	78125	445.04 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.447	107	24	N.D.	
5) Naphthalene	6.766	128	105	N.D.	
6) 2-Methylnaphthalene	7.457	142	59	N.D.	
7) 1-Methylnaphthalene	7.548	142	42	N.D.	
9) Acenaphthylene	8.340	152	3	N.D.	
11) Acenaphthene	8.511	152	16	N.D.	
12) Fluorene	9.020	166	51	N.D.	
14) Phenanthrene	9.967	178	140	N.D.	
15) Anthracene	10.021	178	12	N.D.	
17) Fluoranthene	11.148	202	34	N.D.	
18) Pyrene	11.368	202	42	N.D.	
19) Benzo (a) anthracene	12.566	228	1116	N.D.	
21) Chrysene	12.566	228	928	N.D.	
22) benzo (b) fluoranthene	13.551	252	17	N.D.	
23) benzo (k) fluoranthene	13.575	252	77	N.D.	
24) benzo (a) pyrene	13.833	252	65	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.941	276	18	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	11	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	2	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:35:37 2012 PAH

File : D:\Data\SVOC\101212\101239.D
Operator :
Acquired : 12 Oct 2012 4:27 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210030-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 25



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 10124C.D
Acq On : 12 Oct 2012 4:52 pm
Operator :
Sample : 1210C80-001A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 26 Sample Multiplier: 1

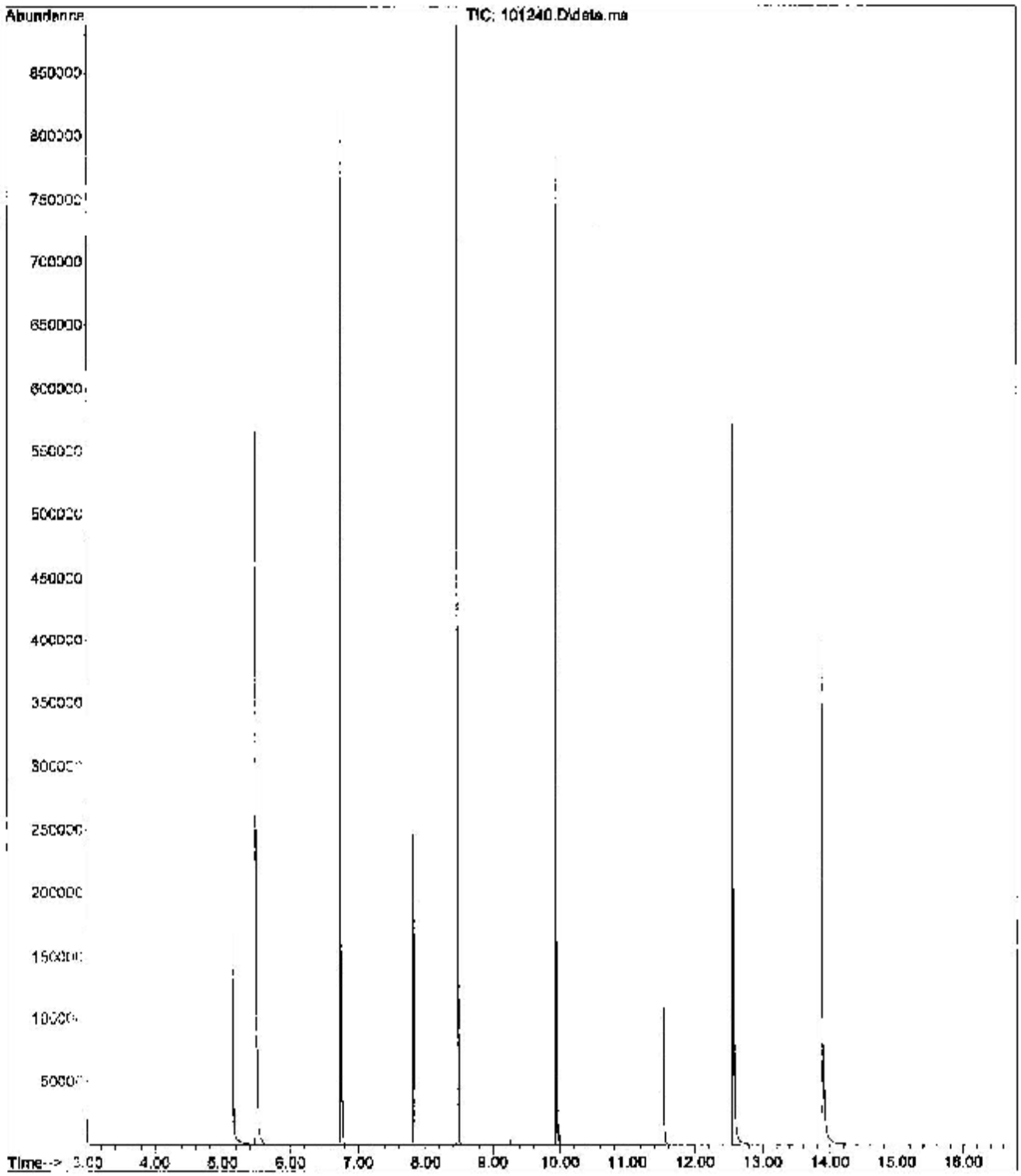
Quant Time: Oct 12 17:36:04 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	214048	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	665958	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	328090	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	543304	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	453720	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	425136	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	124848	767.85 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	136281	463.10 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	83435	416.55 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.462	107	43	N.D.	
5) Naphthalene	6.766	128	128	N.D.	
6) 2-Methylnaphthalene	7.457	142	60	N.D.	
7) 1-Methylnaphthalene	7.550	142	39	N.D.	
9) Acenaphthylene	8.338	152	7	N.D.	
11) Acenaphthene	8.511	152	11	N.D.	
12) Fluorene	9.022	166	44	N.D.	
14) Phenanthrene	9.967	178	184	N.D.	
15) Anthracene	10.021	178	17	N.D.	
17) Fluoranthene	11.148	202	38	N.D.	
18) Pyrene	11.368	202	52	N.D.	
19) Benzo (a) anthracene	12.566	228	1304	N.D.	
21) Chrysene	12.566	228	1235	N.D.	
22) benzo (b) fluoranthene	13.555	252	21	N.D.	
23) benzo (k) fluoranthene	13.579	252	133	N.D.	
24) benzo (a) pyrene	13.835	252	66	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	20	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	28	N.D.	
28) Benzo (g,h,i) perylene	15.252	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:36:09 2012 PAH

File : D:\Data\SVOC\101212\101240.D
Operator :
Acquired : 12 Oct 2012 4:52 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 26



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101241.D
Acq On : 12 Oct 2012 5:17 pm
Operator :
Sample : 1310080-001ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 27 Sample Multiplier: 1

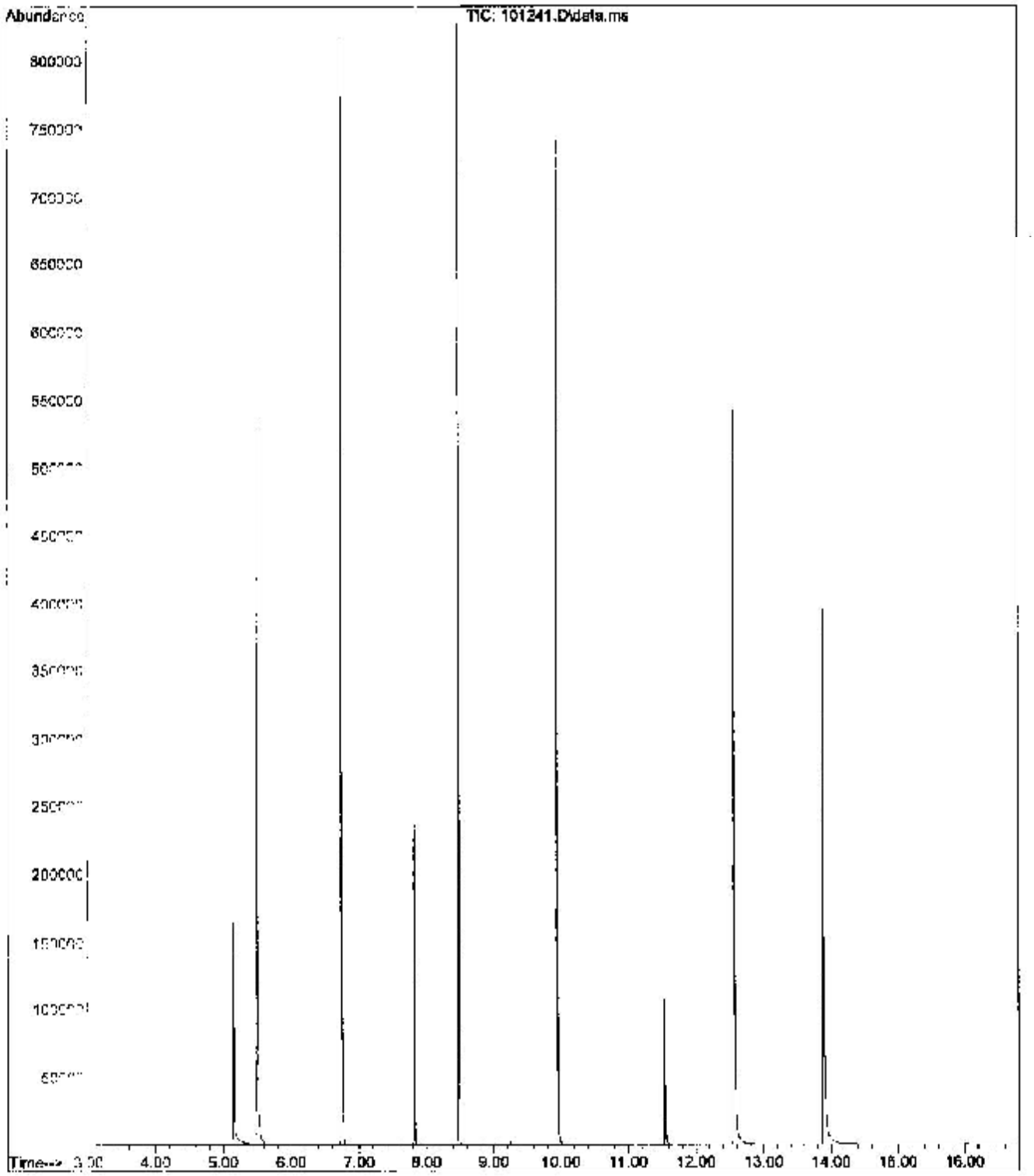
Quant Time: Oct 12 17:34:28 2012
Quant Method : C:\MSDCHEM\1\METHODS\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270 PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205134	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	634778	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	313444	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	517822	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	441980	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	413833	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	124121	796.55 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	135784	484.07 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	85522	448.05 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.436	107	57	N.D.	
5) Naphthalene	6.747	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	49	N.D.	
7) 1-Methylnaphthalene	7.550	142	29	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.513	152	13	N.D.	
12) Fluorene	9.023	166	23	N.D.	
14) Phenanthrene	9.968	178	258	N.D.	
15) Anthracene	10.019	178	26	N.D.	
17) Fluoranthene	11.148	202	94	N.D.	
18) Pyrene	11.370	202	106	N.D.	
19) Benzo (a) anthracene	12.564	228	1189	N.D.	
21) Chrysene	12.564	228	833	N.D.	
22) benzo (b) fluoranthene	13.556	252	30	N.D.	
23) benzo (k) fluoranthene	13.574	252	117	N.D.	
24) benzo (a) pyrene	13.833	252	55	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.946	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	11	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH1016 ...NOL.M Fri Oct 12 17:36:39 2012 PAH

File : D:\Data\SVOC\101212\101241.D
Operator :
Acquired : 12 Oct 2012 5:17 pm using AcqMethod DRPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: L210080-001ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 27



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101242.D
Acq On : 12 Oct 2012 5:42 pm
Operator :
Sample : 1210080-002A
Misc : SAMP 0-PAH-SIM-S-LIBBY
ALS Vial : 28 Sample Multiplier: 1

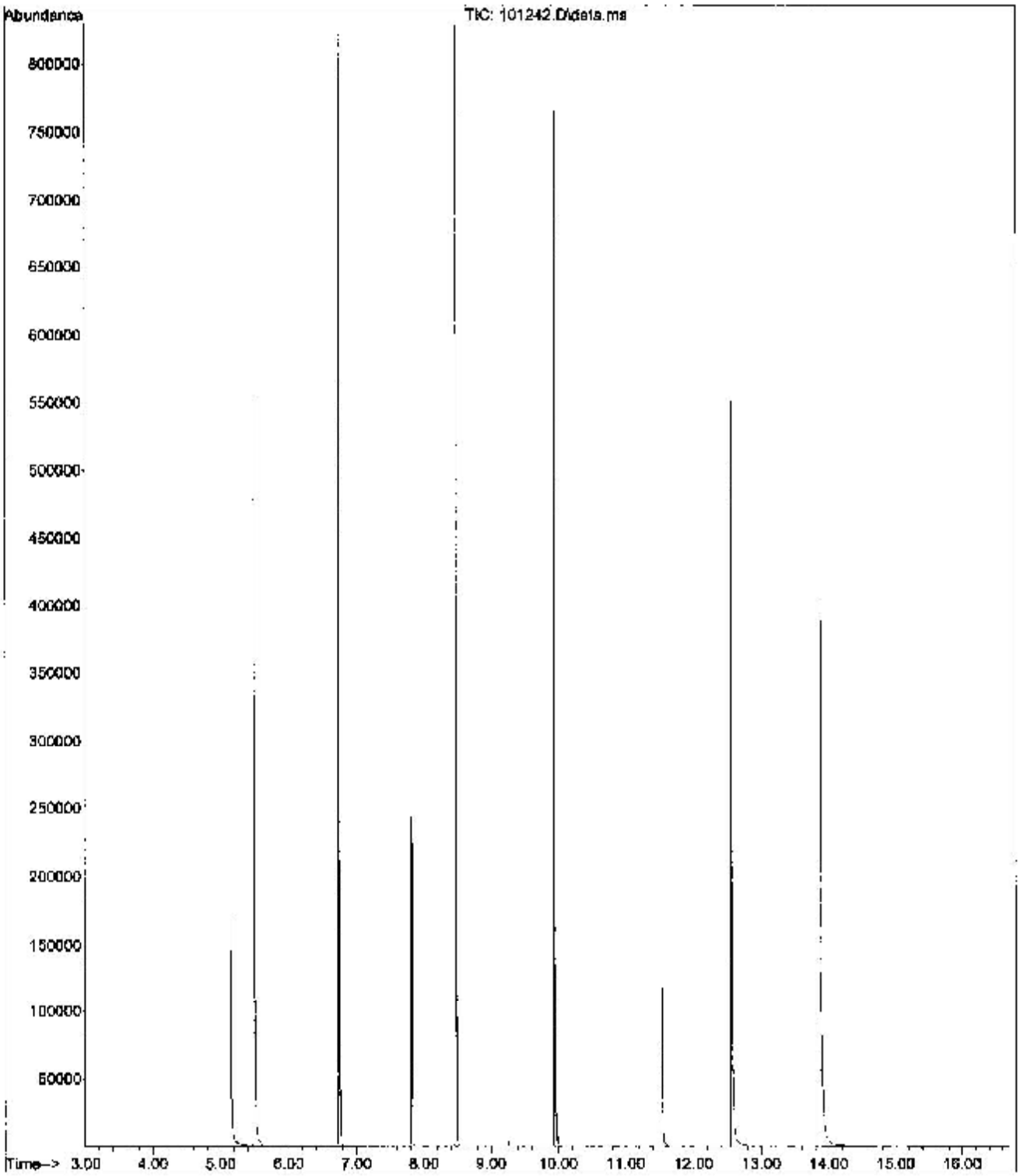
Quant Time: Oct 12 17:59:52 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : BPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.495	152	206672	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	642522	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	319496	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	529843	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	455867	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	436438	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.148	99	135642	864.01 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139619	491.75 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91847	470.27 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	224	N.D.	
5) Naphthalene	6.745	128	29	N.D.	
6) 2-Methylnaphthalene	7.455	142	95	N.D.	
7) 1-Methylnaphthalene	7.550	142	85	N.D.	
9) Acenaphthylene	8.340	152	31	N.D.	
11) Acenaphthene	8.509	152	50	N.D.	
12) Fluorene	9.020	166	148	N.D.	
14) Phenanthrene	9.960	178	490	N.D.	
15) Anthracene	10.020	178	95	N.D.	
17) Fluoranthene	11.147	202	256	N.D.	
18) Pyrene	11.370	202	300	N.D.	
19) Benzo (a) anthracene	12.566	228	1302	N.D.	
21) Chrysene	12.566	228	852	N.D.	
22) benzo (b) fluoranthene	13.555	252	54	N.D.	
23) benzo (k) fluoranthene	13.578	252	184	N.D.	
24) benzo (a) pyrene	13.835	252	70	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	3	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	12	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	23	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:59:52 2012 PAH

File :D:\Data\SVOC\101212\101242.D
Operator :
Acquired : 12 Oct 2012 5:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 28



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101243.D
Acq On : 12 Oct 2012 6:08 pm
Operator :
Sample : 1210080-003A
Misc : SAMP O PAH SIM-S LIBBY
ALS Vial : 29 Sample Multiplier: 1

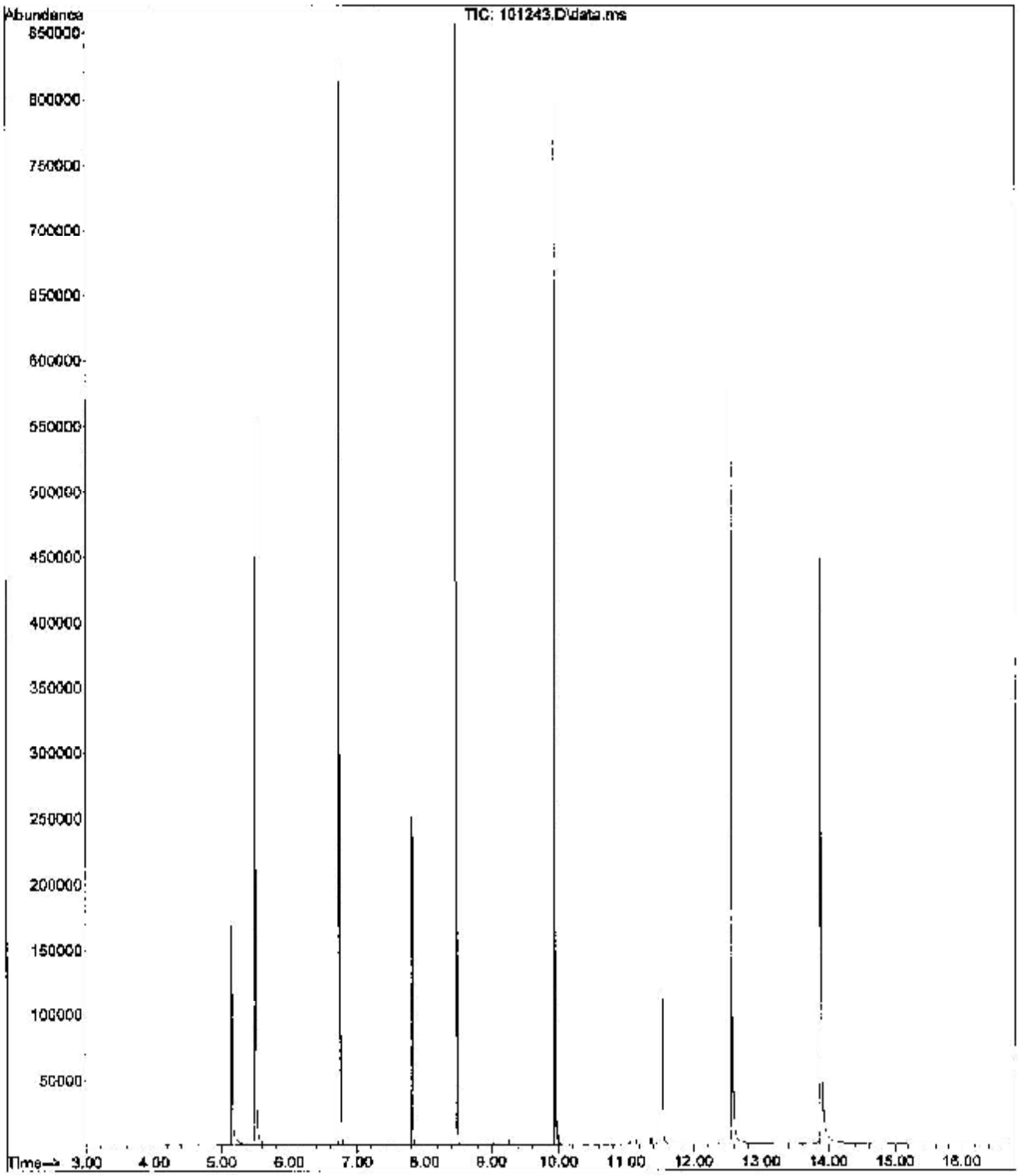
Quant Time: Oct 15 09:29:22 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	210345	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	656318	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	327926	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	547565	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	481088	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	480766	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	133231	833.83 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	139035	479.40 ug/L	0.00
16) Terphenyl d14 (surr)	11.540	244	93848	464.96 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.445	107	606	N.D.	
5) Naphthalene	6.766	128	1182	N.D.	
6) 2-Methylnaphthalene	7.455	142	299	N.D.	
7) 1-Methylnaphthalene	7.550	142	218	N.D.	
9) Acenaphthylene	8.339	152	257	N.D.	
11) Acenaphthene	8.478	152	41	N.D.	
12) Fluorene	9.021	166	469	N.D.	
14) Phenanthrene	9.967	178	3201	8.57 ug/L	99
15) Anthracene	10.020	178	666	N.D.	
17) Fluoranthene	11.148	202	3529	10.49 ug/L #	92
18) Pyrene	11.370	202	4012	11.41 ug/L #	76
19) Benzo (a) anthracene	12.562	228	3223	10.93 ug/L #	100
21) Chrysene	12.592	228	2168	6.24 ug/L #	32
22) Benzo (b) fluoranthene	13.559	252	567	N.D.	
23) Benzo (k) fluoranthene	13.792	252	451	N.D.	
24) Benzo (a) pyrene	13.836	252	699	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	296	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	45	N.D.	
28) Benzo (g,h,i) perylene	15.251	276	184	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Mon Oct 15 09:29:57 2012 PAH

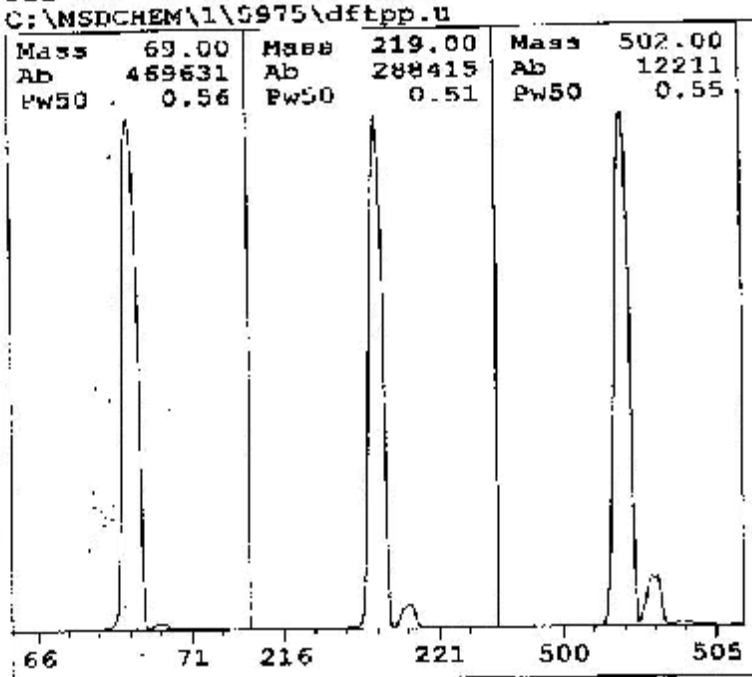
File :D:\Data\SVOC\101212\101243.D
Operator :
Acquired : 12 Oct 2012 6:08 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1210080-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 29



5975 DFTPP Dynamic Target Tune

Fri Oct 12 14:32:20 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

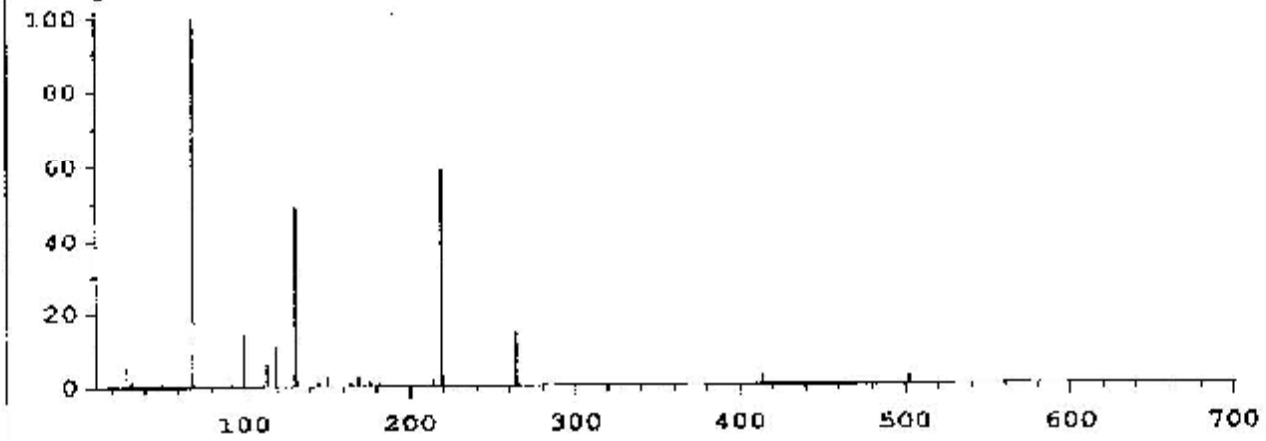


Ion Pol	Pos	MassGain	-612
		MassOffs	-39
Emission	34.6	AmuGain	2048
ElEnrgy	69.9	AmuOffs	125.13
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.57		
IonFocus	69.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.46e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
115 peaks Base: 69.00 Abundance: 443648



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	443648	100.00	70.00	4652	1.05
219.00	260352	58.68	220.00	11327	4.35
502.10	10238	2.31	503.00	930	9.08

Air/Water Check: H2O~0.34% N2~4.78% O2~1.41% CO2~0.12% N2/H2O~1385.62%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp:

Ramp Criteria:

Ion Focus Maximum	90	volts using ion	502;	EM Gain	99329
Repeller Maximum	35	volts using ion	502;	Gain Factor	0.99

MassGain Values(Samples): -601(3) -594(2) -573(1) -527(0) -439(FS)

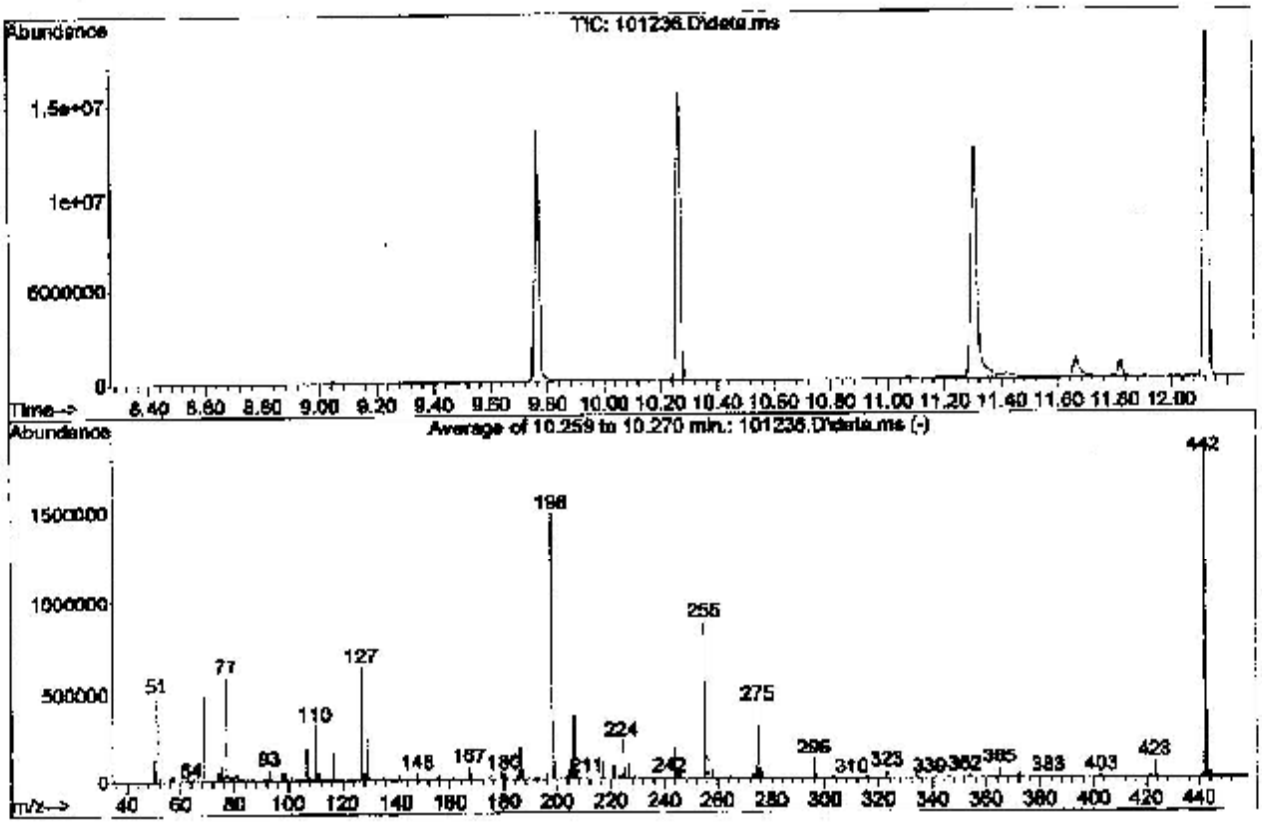
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	125.1	125.1	125.1	125.1	125.1	125.1	125.1
Entrance Lens Offset:	16.1	12.8	12.3	13.1	13.3	14.1	14.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.0	100.0	48.7	58.7	2.7	2.3	

DFTPP

Data Path : D:\Data\SVOC\101212\
Data File : 101236.D
Acq On : 12 Oct 2012 3:12 pm
Operator :
Sample : TUNE CHECK
Misc : CCV 0-PAH-SIM-S-LIBBY
ALS Vial : 51 Sample Multiplier: 1

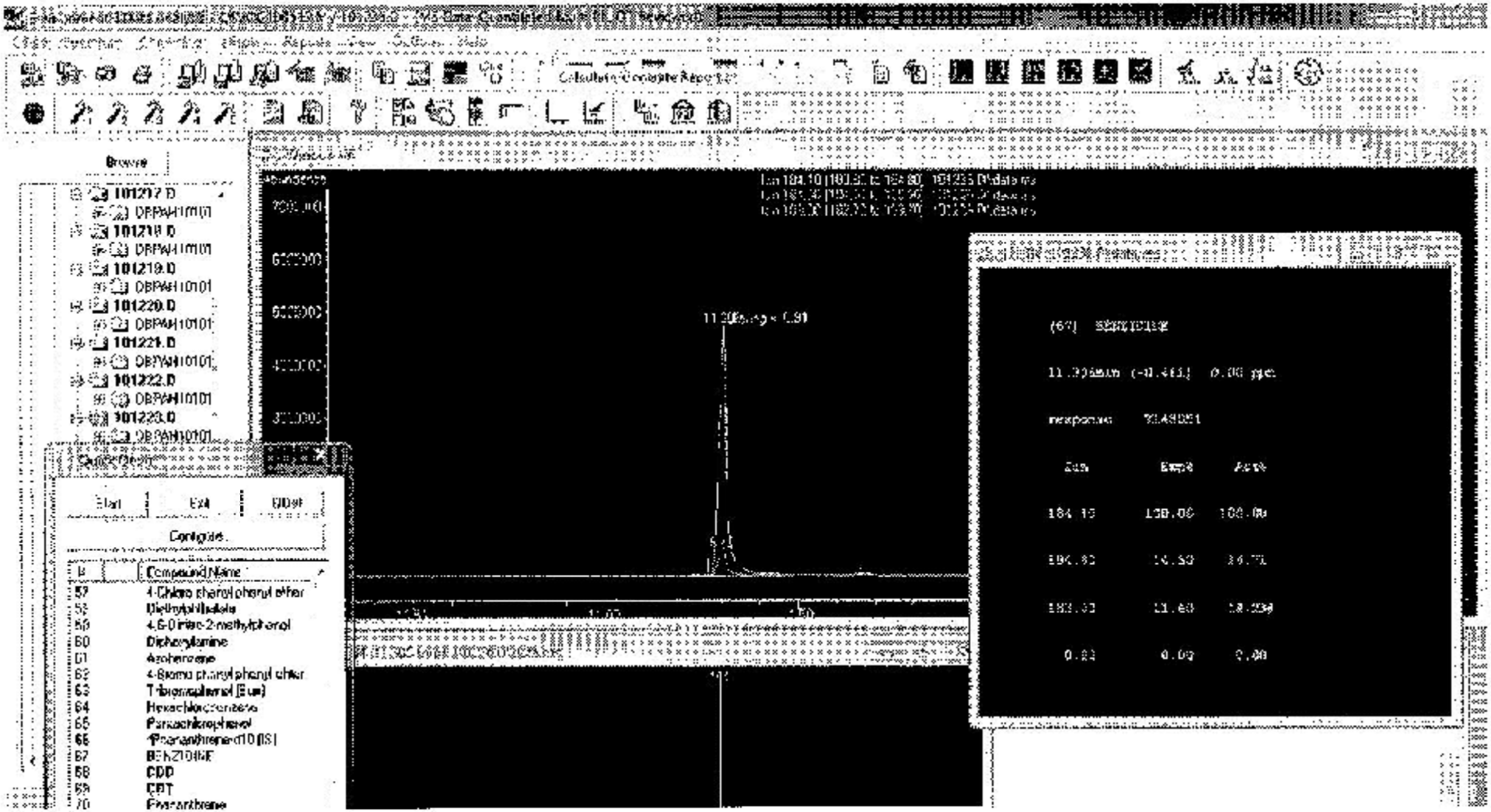
Integration File: RTEINTSG8270.P

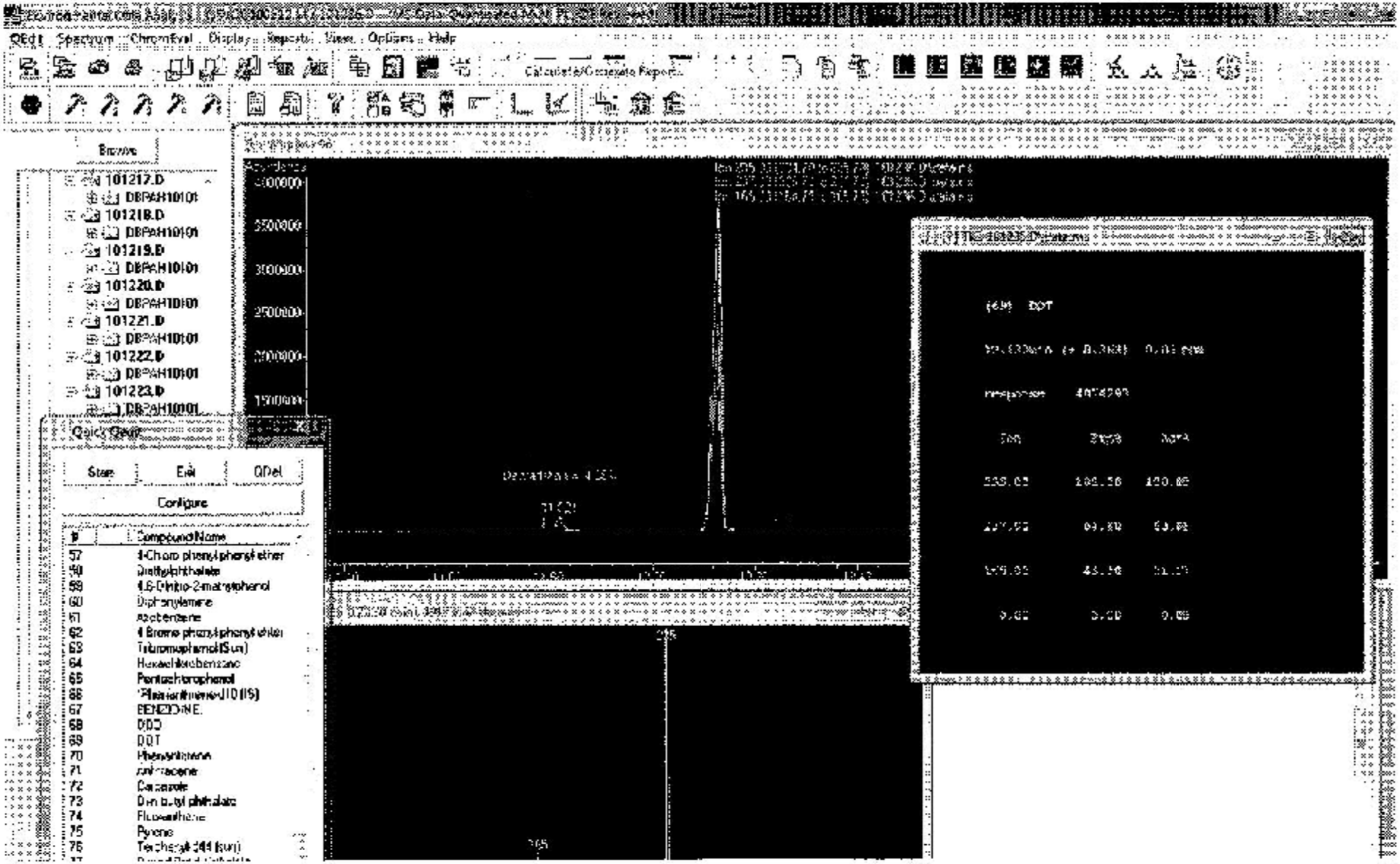
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012



AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1332

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	32.8	485553	PASS
68	69	0.00	2	1.5	7228	PASS
69	198	0.00	100	32.6	482453	PASS
70	69	0.00	2	0.5	2453	PASS
127	198	10	80	43.4	643157	PASS
197	198	0.00	2	0.5	7703	PASS
198	198	100	100	100.0	1481899	PASS
199	198	5	9	6.7	99501	PASS
275	198	10	60	28.1	417088	PASS
365	198	1	100	3.7	54277	PASS
441	442	0.01	24	14.0	254635	PASS
442	198	50	999	122.3	1812821	PASS
443	442	15	24	20.5	371989	PASS


Browse
101217.D
101218.D
101219.D
101220.D
101221.D
101222.D
101223.D
Start
End
OK
Cancel
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromo phenyl phenyl ether
63 Trifluralin (Surr)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10 (IS)
67 BENZIDINE
68 CDP
69 CBT
70 Fluoranthene
(67) BENZIDINE
11.39min (-0.41) 0.00 ppb
response 78.49251
Ions Ratio Lower Upper
184.10 100.00 100.00
185.10 14.50 14.71
183.10 11.60 10.00
0.00 0.00 0.00


QEdit Spectrum Chromeval Display Reports Views Options Help
Browse
101217.D
DBPAH1010I
101218.D
DBPAH1010I
101219.D
DBPAH1010I
101220.D
DBPAH1010I
101221.D
DBPAH1010I
101222.D
DBPAH1010I
101223.D
DBPAH1010I
Quick Quan
Start
Exit
QDel
Configure
Compound Name
57 4-Chloro phenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4 Bromo phenyl phenyl ether
63 Tribromophenol(Surr)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
67 BENZIDINE
68 DDD
69 DDT
70 Phenanthrene
71 Anthracene
72 Carbazole
73 Di-n-butyl phthalate
74 Fluoranthene
75 Pyrene
76 Terphenyl-d14 (surr)
(69) DDT
response 4074293
Conc Resp Ret
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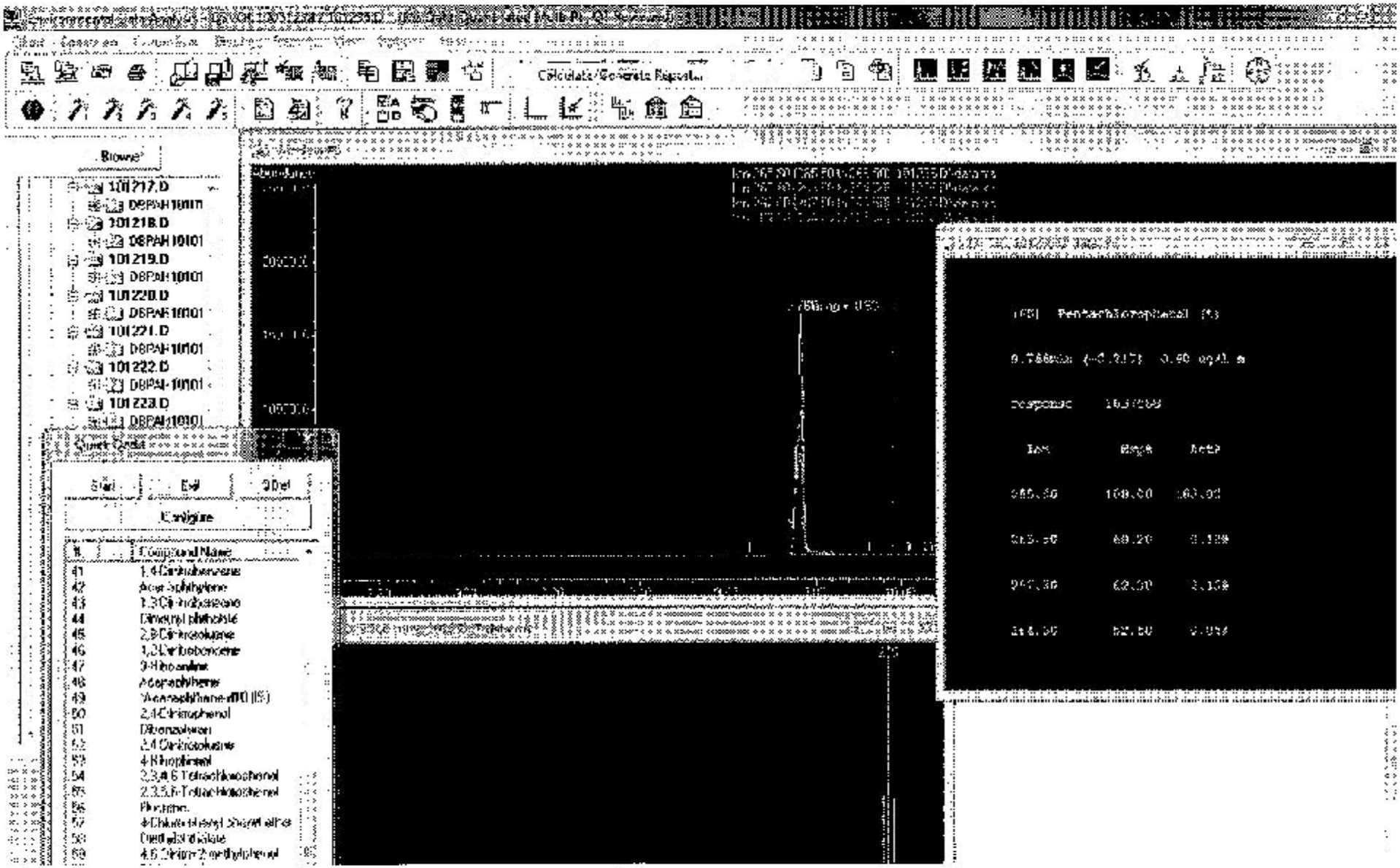
227.03 99.89 63.91
126.03 43.56 31.07
0.00 0.00 0.00



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 6131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column: ID (mm):

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3406	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3406	208723	5.496	335186	8.478	489323	12.567	672101	6.746
03	CCV-3406A	248623	5.496	446598	8.478	729868	12.568	835095	6.747
04	CCB-3406A	266886	5.496	437548	8.478	648472	12.566	875931	6.747
05	MB-3406	236069	5.498	382016	8.478	569492	12.565	760891	6.745
06	LCS-3406	233245	5.496	395162	8.478	615718	12.566	760779	6.747
07	1210089-004A	232562	5.498	384502	8.479	591122	12.567	767244	6.747
08	1210089-004ADUP	248460	5.498	410617	8.48	628483	12.568	806989	6.747
09	1210089-004AMS	243558	5.498	418741	8.48	659172	12.568	803566	6.747
10	CCV-3406B	220676	5.495	369974	8.48	554983	12.567	707256	6.745
11	CCB-3406B	296417	5.495	453759	8.478	640793	12.566	921023	6.745
12	1210080-001A	187471	5.496	287679	8.478	394485	12.565	580894	6.745
13	1210080-001A	214048	5.496	328090	8.478	463720	12.565	666958	6.745
14	1210080-001ADUP	205134	5.498	313444	8.478	441980	12.568	634778	6.745
15	1210080-002A	208672	5.495	319496	8.478	455887	12.566	642522	6.745
16	1210080-003A	210345	5.496	327926	8.478	481088	12.568	656316	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012E

Run No: 5131

Lab File ID (Standard): 101014.D

Instrument ID: GCMS-3

GC Column. ID (mm).

CCV Name: CAL MID POINT

CCV SeqNo: 121804

Date Analyzed: 10/10/2012

Time Analyzed: 17:48

Length (M):

		IS5 Perylene-d12 AREA #	RT #	IS6 Phenanthrene-d AREA #	RT #
	12 HOUR STD	569722	13.889	614915	9.945
	UPPER LIMIT	1139444	14.389	1229830	10.445
	LOWER LIMIT	284861	13.389	307458	9.445
	SAMPLE NO.				
01	ICB-3406	445838	13.885	542803	9.944
02	ICV-3406	472138	13.887	518454	9.945
03	CCB-3406B	604114	13.885	742255	9.946
04	1210030-001A	365033	13.883	476230	9.945
05	1210080-001A	425136	13.885	543384	9.945
06	1210080-001ADUP	413833	13.885	517822	9.944
07	1210080-002A	436438	13.885	529843	9.944
08	CCV-3406B	535559	13.885	617544	9.945
09	CCV-3406A	702387	13.886	743459	9.945
10	CCB-3406A	599480	13.886	710640	9.945
11	MB-3406	535333	13.887	626677	9.944
12	LCS-3406	591424	13.885	635612	9.945
13	1210089-004A	560404	13.887	636719	9.945
14	1210089-004ADUP	598140	13.887	680155	9.946
15	1210089-004AMS	639673	13.887	678279	9.945
16	1210080-003A	480788	13.885	547565	9.945

IS5 Perylene-d12 = Perylene-d12
IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 10/3/12 Page 1 of 1

Client: Libby Environmental
Project Manager: Jamie Deyman
Address: SEE ABOVE
Project Name: IRON DALE
City: State: Zip:
Location: City, State
Phone: Fax:
Collector: Date of Collection: 9/28/12
Client Project #
Email:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ82-92812		1000	Soil	4oz JAR									X				Extract /HOLD
2 IRZ-NESW2-92812		1100											X				PAH's
3 IRZ-N2W1-92812		1105											X				
4 IRZ-N2W2-92812		1120											X				
5 IRZ-B3-92812		1248											X				
6																	
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	

Relinquished by	Date / Time	Received by	Date / Time
[signature]	10/3/12	[signature]	10/3/12 15:50
Relinquished by	Date / Time	Received by	Date / Time
Relinquished by	Date / Time	Received by	Date / Time

Sample Receipt

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:
Extract /Hold PAH's

TAT: 24HR 48HR 5-DAY

1210030a

Libby Environmental, Inc.

Chain of Custody Record

www.LibbyEnvironmental.com

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 10/3/12 Page: 1 of 1

Client: Libby Environmental
Project Manager: JAMIE DEYMAN
Address: SEE ABOVE
Project Name: IRON DALE
City: State: Zip:
Location: City, State:
Phone: Fax:
Collector: Date of Collection: 9/28/12
Client Project #
Email:

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	Field Notes
1 ER2B2-092812		1000	Soil	4oz JAR								X				Extract / HOLD PAH's
2 IRZ-NESW2-92812		1100										X				
3 ER2-NSW1-92812		1105										X				
4 ER2-NSW2-92812		1120										X				run PAH per Emily A. 10/9/12 cg
5 ER2-B3-092812		1240										X				
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	10/3/12	[signature]	10/3/12 15:50
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals intact?	
Total Number of Containers	

Remarks:
Extract / HOLD PAH's

TAT: 24HR 48HR 5-DAY

Distribution: White- Lab, Yellow - File Pink - Originator

Michael C. Ridgeway

From: Libby Environmental [libbyenv@aol.com]
Sent: Tuesday, October 09, 2012 11:05 AM
To: mridgeway@fremontanalytical.com
Subject: Rondale Requested PAH Analyses

Mike,

We would like to have the following sediment samples analyzed for PAHs (only benzo[a]pyrene, chrysene, and 2,4-dimethylphenol):

1. SRZ-EB2-91012 (COC #1001)
2. SRZ-WSW01-91212 (COC #1003)
3. SRZ-ESW01-91212 (COC #1003)
4. IRZ-B1-92412 (COC #1008)
5. IRZ-ESW1-92412 (COC #1008)
6. IRZ-WSW1-92512 (COC #1009)
7. IRZ-B4-92512 (COC #1009)
8. IRZ-B5-92512 (COC #1009)
9. IRZ-ESW1-92512 (COC #1009)
10. IRZ-WSW1-92612 (COC #1010)
11. IRZ-WSW2-92612 (COC #1010)
12. IRZ-ESW1-92712 (COC #1011)
13. IRZ-B3-92712 (COC #1011)
14. IRZ-B2-92712 (COC #1011)
15. IRZ-B2-92812 (COC #1012)
16. IRZ-NESWS1-92812 (COC #1012)

Applicable cleanup levels for each PAH is as follows for the samples listed above:

- benzo[a]pyrene = 1.6 mg/kg
- chrysene = 1.4 mg/kg, and
- 2,4-dimethylphenol = 0.029 mg/kg

Thank you,

Emily Ackerman
Office Manager
Libby Environmental, Inc.
360-352-2110 Office
360-352-4154 Fax
www.LibbyEnvironmental.com

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209190

October 16, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 6 sample(s) on 9/28/2012 for the analyses presented in the following report.

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)
Sample Moisture (Percent Moisture)

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michael Dee
Sr. Chemist / Principal

Date: *10/19/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209190

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209190-001	IRZ-B2-92712	09/27/2012 10:45 AM	09/28/2012 1:04 PM
1209190-002	IRZ-B3-92712	09/27/2012 11:05 AM	09/28/2012 1:04 PM
1209190-003	IRZ-B4-92712	09/27/2012 11:15 AM	09/28/2012 1:04 PM
1209190-004	IRZ-Dupe1-92712	09/27/2012 11:15 AM	09/28/2012 1:04 PM
1209190-005	IRZ-NESW1-92812	09/28/2012 8:45 AM	09/28/2012 1:04 PM
1209190-006	IRZ-B1-92812	09/28/2012 8:50 AM	09/28/2012 1:04 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209190**
Date: **10/16/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/27/2012 10:45:00 AM

Project: Irondale

Lab ID: 1209190-001 **Matrix:** Soil

Client Sample ID: IRZ-B2-92712

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	49.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
Benzo(a)pyrene	ND	49.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
2,4-Dimethylphenol	ND	28.9		µg/Kg-dry	1	10/12/2012 7:54:00 AM
Surr: 2-Fluorobiphenyl	101	50.4-142		%REC	1	10/12/2012 7:54:00 AM
Surr: Phenol-d6	92.6	48.2-143		%REC	1	10/12/2012 7:54:00 AM
Surr: Terphenyl-d14 (surr)	105	48.8-157		%REC	1	10/12/2012 7:54:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	21.1			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/27/2012 11:05:00 AM

Project: Irondale

Lab ID: 1209190-002 **Matrix:** Soil

Client Sample ID: IRZ-B3-92712

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	54.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
Benzo(a)pyrene	ND	54.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
2,4-Dimethylphenol	ND	31.7		µg/Kg-dry	1	10/12/2012 8:19:00 AM
Surr: 2-Fluorobiphenyl	102	50.4-142		%REC	1	10/12/2012 8:19:00 AM
Surr: Phenol-d6	93.7	48.2-143		%REC	1	10/12/2012 8:19:00 AM
Surr: Terphenyl-d14 (surr)	108	48.8-157		%REC	1	10/12/2012 8:19:00 AM

NOTES:

2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There were no detection between the MDL (10.3 ug/kg) and the PQL.

Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	21.3			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Analytical Report

WO#: **1209190**

Date Reported: **10/16/2012**

Client: Libby Environmental **Collection Date:** 9/28/2012 8:45:00 AM

Project: Irondale

Lab ID: 1209190-005 **Matrix:** Soil

Client Sample ID: IRZ-NESW1-92812

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)				Batch ID: 3307		Analyst: PH
Chrysene	ND	43.9		µg/Kg-dry	1	10/12/2012 8:44:00 AM
Benzo(a)pyrene	ND	43.9		µg/Kg-dry	1	10/12/2012 8:44:00 AM
2,4-Dimethylphenol	ND	25.4		µg/Kg-dry	1	10/12/2012 8:44:00 AM
Surr: 2-Fluorobiphenyl	97.2	50.4-142		%REC	1	10/12/2012 8:44:00 AM
Surr: Phenol-d6	96.2	48.2-143		%REC	1	10/12/2012 8:44:00 AM
Surr: Terphenyl-d14 (surr)	105	48.8-157		%REC	1	10/12/2012 8:44:00 AM
Sample Moisture (Percent Moisture)				Batch ID: R6063		Analyst: CM
Percent Moisture	19.1			wt%	1	10/10/2012 10:29:40 AM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **ICB-3307**	SampType: **ICB**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICB**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121769**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	484		500.0		96.9	48.8	157				

Sample ID: **ICV-3307**	SampType: **ICV**	Units: **µg/Kg**	Prep Date: **10/10/2012**	RunNo: **6129**
Client ID: **ICV**	Batch ID: **3307**		Analysis Date: **10/10/2012**	SeqNo: **121770**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,100	50.0	1,000	0	110	70	130				
Benzo(a)pyrene	1,130	50.0	1,000	0	113	70	130				
2,4-Dimethylphenol	1,080	29.0	1,000	0	108	70	130				
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,050		1,000		105	48.2	143				
Surr: Terphenyl-d14 (surr)	507		500.0		101	48.8	157				

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,020	50.0	1,000	0	102	80	120				
Benzo(a)pyrene	995	50.0	1,000	0	99.5	80	120				
2,4-Dimethylphenol	1,030	29.0	1,000	0	103	80	120				
Surr: 2-Fluorobiphenyl	488		500.0		97.5	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	500		500.0		100	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **CCV-3307**	SampType: **CCV**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCV**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121772**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **CCB-3307**	SampType: **CCB**	Units: **µg/Kg**	Prep Date: **10/12/2012**	RunNo: **6129**
Client ID: **CCB**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121773**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	498		500.0		99.5	50.4	142				
Surr: Phenol-d6	996		1,000		99.6	48.2	143				
Surr: Terphenyl-d14 (surr)	497		500.0		99.4	48.8	157				

Sample ID: **MB-3307**	SampType: **MBLK**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **MBLKS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121774**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	50.0									
Benzo(a)pyrene	ND	50.0									
2,4-Dimethylphenol	ND	29.0									
Surr: 2-Fluorobiphenyl	505		500.0		101	50.4	142				
Surr: Phenol-d6	1,020		1,000		102	48.2	143				
Surr: Terphenyl-d14 (surr)	482		500.0		96.3	48.8	157				

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **LCS-3307**	SampType: **LCS**	Units: **µg/Kg**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **LCSS**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121775**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,080	50.0	1,000	0	108	76.1	123				
Benzo(a)pyrene	981	50.0	1,000	0	98.1	58.1	146				
2,4-Dimethylphenol	990	29.0	1,000	0	99.0	50	150				
Surr: 2-Fluorobiphenyl	496		500.0		99.2	50.4	142				
Surr: Phenol-d6	1,040		1,000		104	48.2	143				
Surr: Terphenyl-d14 (surr)	476		500.0		95.2	48.8	157				

Sample ID: **1209142-001AMS**	SampType: **MS**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **BATCH**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121777**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	1,190	55.0	1,100	0	108	45.2	146				
Benzo(a)pyrene	1,180	55.0	1,100	0	107	34.4	179				
2,4-Dimethylphenol	1,130	31.9	1,100	0	103	50	150				
Surr: 2-Fluorobiphenyl	563		549.8		102	50.4	142				
Surr: Phenol-d6	1,090		1,100		98.7	48.2	143				
Surr: Terphenyl-d14 (surr)	567		549.8		103	48.8	157				

Sample ID: **1209173-003ADUP**	SampType: **DUP**	Units: **µg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **6129**
Client ID: **BATCH**	Batch ID: **3307**		Analysis Date: **10/12/2012**	SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chrysene	ND	57.7						0	0	30	
Benzo(a)pyrene	ND	57.7						0	0	30	R
2,4-Dimethylphenol	ND	33.5						0	0	30	
Surr: 2-Fluorobiphenyl	603		577.0		104	50.4	142		0		
Surr: Phenol-d6	1,210		1,154		105	48.2	143		0		
Surr: Terphenyl-d14 (surr)	638		577.0		111	48.8	157		0		

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/16/2012*

Work Order: 1209190
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Polyaromatic Hydrocarbons by EPA Method 8270 (SIM)

Sample ID: **1209173-003ADUP** SampType: **DUP** Units: **µg/Kg-dry** Prep Date: **9/28/2012** RunNo: **6129**
Client ID: **BATCH** Batch ID: **3307** Analysis Date: **10/12/2012** SeqNo: **121779**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

NOTES:
2,4-Dimethylphenol PQL exceeded requested limit due to extraction weight and sample moisture. There was a detection above the MDL (10.9 ug/kg) of 13.9 ug/kg.
R - High RPD due to low analyte concentration. In this range, high RPD's may be expected.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209190**
Logged by: **Clare Griggs**	Date Received: **9/28/2012 1:04:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples not received in a cooler.						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Unknown prior to receipt						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☑	NA	☐
	Samples were chilled upon receipt by the lab						
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

Chain of Custody Record 120990

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: Libby Environmental
Address: see above
Phone: Fax:
Client Project #

Date: 9-28-12 Page: 1 of 1
Project Manager: Jamie Deyman
Project Name: Irondale
Location: City:
Collector: Date of Collection: 9-27;28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals		Field Notes
1 IRZ-B2-92712		1045	SED	4oz Jar								X					Extract / hold
2 IRZ-B3-92712		1105	SED	4 oz Jar								X					" "
3 IRZ-B4-92712		1115	SED	4 oz Jar								X					" "
4 IRZ-Dupe1-92712		1115	SED	4 oz Jar								X					" "
5 IRZ-NESW1-92812		0845	SED	4 oz Jar								X					" "
6 IRZ-B1-92812		0850	SED	4 oz Jar								X					" "
7																	
8																	
9																	
10																	
11																	
12																	
13																	
14																	
15																	
16																	
17																	
18																	

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/28/12 13:04	[signature]	9/28/12 13:04
[signature]	Date / Time	[signature]	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Extract & hold for PAH analysis.

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record 120990A

Date: 9-28-12 Page: 1 of 1

Client: Libby Environmental
Address: See above
Phone: Fax:
Client Project #

Project Manager: Jamie Deyman
Project Name: Irondale
Location: City
Collector: Date of Collection: 9-27;28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	RCRA 8 Metals	Field Notes
1 IRZ-B2-92712		1045	SED	4oz Jar								X	X			Extract / hold
2 IRZ-B3-92712		1105	SED	4 oz Jar								X	X			" "
3 IRZ-B4-92712		1115	SED	4 oz Jar								X	X			" "
4 IRZ-DUP01-92712		1115	SED	4 oz Jar								X	X			" "
5 IRZ-NESW1-92812		0845	SED	4 oz Jar								X	X			" "
6 IRZ-B1-92712		0850	SED	4 oz Jar								X	X			" "
7																
8																run PAH per Emily A. 10/9/12 cg
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																

Relinquished by	Date / Time	Received by	Date / Time
[signature]	9/28/12 13:04	[signature]	9/28/12 13:04
Relinquished by	Date / Time	Received by	Date / Time
Relinquished by	Date / Time	Received by	Date / Time

Sample Receipt
Good Condition?
Color
Seal's Intact?
Total Number of Containers

Remarks
Extract & hold for PAH analysis.

Distribution: White - Lab; Yellow - File; Pink - Originator

calrpt.txt
Response Factor Report HP-MSD

Method Path : C:\msdchem\1\methods\
Method File : DBPAH101012PHENOL.M
Title : EPA Method 8270-PAH
Last Update : Thu Oct 11 09:37:24 2012
Response Via : Initial Calibration

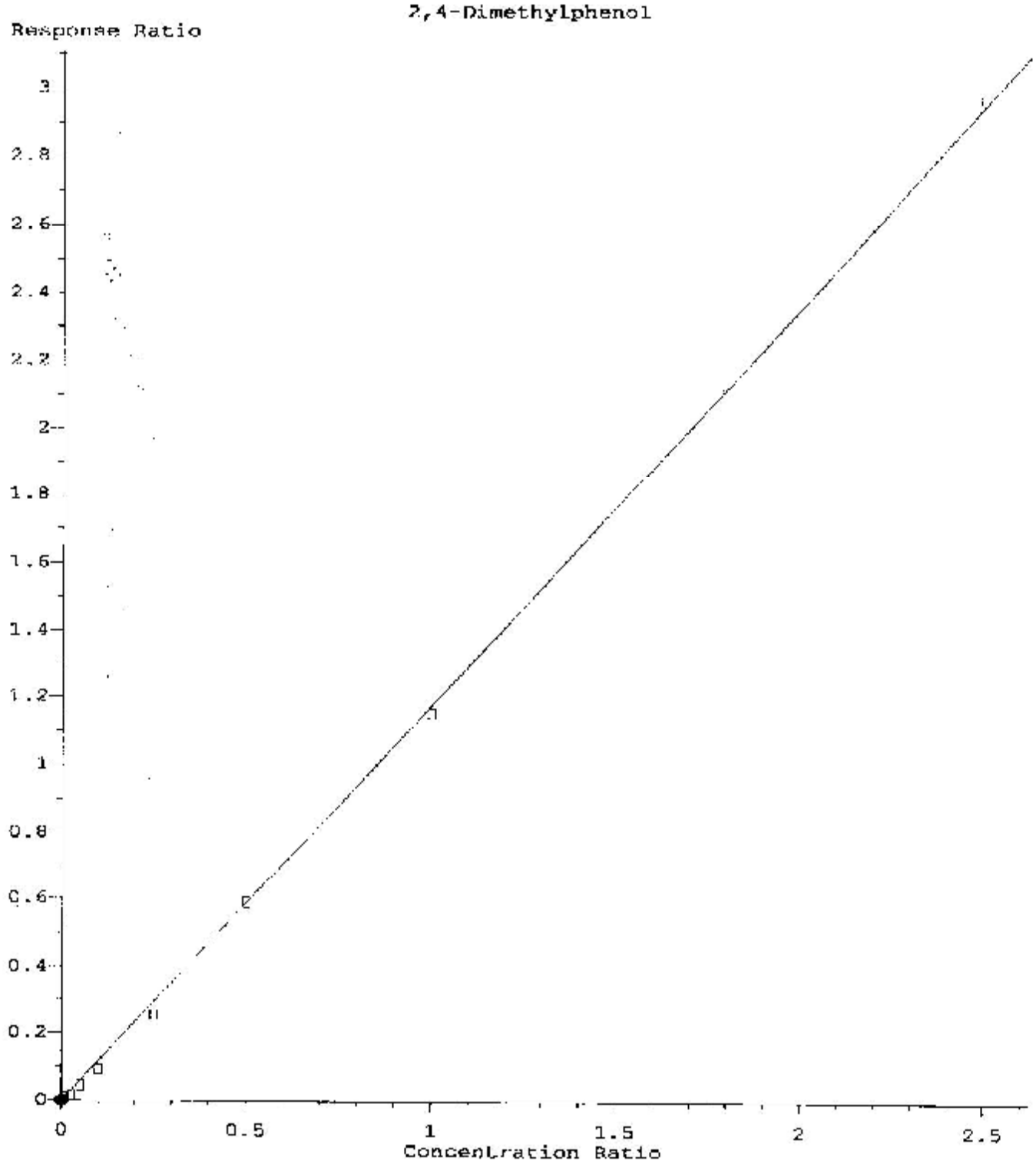
Calibration Files
1 =101009.D 2 =101010.D 3 =101011.D 4 =101012.D 5 =101013.D 6 =101014.D 7 =101015.D
8 =101016.D

		Compound	1	2	3	4	5	6	7	8	Avg	%RSD
1)		1,4-Dichlorobenz-d...	ISTD									
2)	s	Phenol-d6	1.474	1.469	1.478	1.491	1.516	1.516	1.589	1.621	1.519	3.73
3)	t	2,4-Dimethylph...	0.806	0.628	0.880	0.927	1.023	1.177	1.152	1.184	0.972	20.53
4)	I	Naphthalene-d8 (IS)	ISTD									
5)	t	Naphthalene	1.430	1.130	1.366	1.326	1.259	1.301	1.208	1.130	1.269	8.53
6)	t	2-Methylnaphth...	0.797	0.629	0.776	0.769	0.750	0.799	0.735	0.691	0.743	7.81
7)	t	1-Methylnaphth...	0.760	0.603	0.742	0.729	0.708	0.747	0.686	0.652	0.703	7.67
8)	s	2-Fluorobiphen...	0.877	0.877	0.883	0.888	0.898	0.853	0.895	0.899	0.884	1.72
9)	t	Acenaphthylene	1.038	0.802	1.023	1.044	1.059	1.149	1.052	0.985	1.019	9.73
10)	I	Acenaphthene-d10 (IS)	ISTD									
11)	m	Acenaphthene	0.786	0.603	0.725	0.702	0.668	0.678	0.630	0.588	0.673	9.77
12)	t	Fluorene	1.727	1.325	1.630	1.618	1.571	1.615	1.482	1.364	1.542	9.04
13)	I	Phenanthrene-d10 (IS)	ISTD									
14)	t	Phenanthrene	1.620	1.212	1.455	1.433	1.368	1.352	1.287	1.192	1.365	10.27
15)	t	Anthracene	1.260	0.962	1.216	1.239	1.255	1.326	1.277	1.220	1.219	9.00
16)	s	Terphenyl-d14 ...	0.733	0.728	0.723	0.728	0.737	0.732	0.756	0.761	0.737	1.88
17)	t	Fluoranthene	1.204	0.923	1.185	1.223	1.273	1.435	1.323	1.263	1.229	11.93
18)	t	Pyrene	1.237	0.961	1.242	1.291	1.343	1.492	1.387	1.320	1.284	12.05
19)	t	Benzo (a) anth...	1.270	0.866	0.992	1.012	1.040	1.181	1.140	1.114	1.077	11.68
20)	I	Chrysene-d12 (IS)	ISTD									
21)	t	Chrysene	1.773	1.261	1.543	1.451	1.398	1.456	1.375	1.303	1.445	11.05
22)	t	benzo (b) fluo...	0.595	0.444	0.577	0.689	0.778	0.986	1.006	1.063	0.767	29.94
23)	t	benzo (k) fluo...	1.206	0.915	1.311	1.516	1.536	1.604	1.559	1.476	1.390	16.85
24)	t	benzo (a) pyrene	0.589	0.449	0.634	0.733	0.858	1.057	1.090	1.260	0.833	33.81

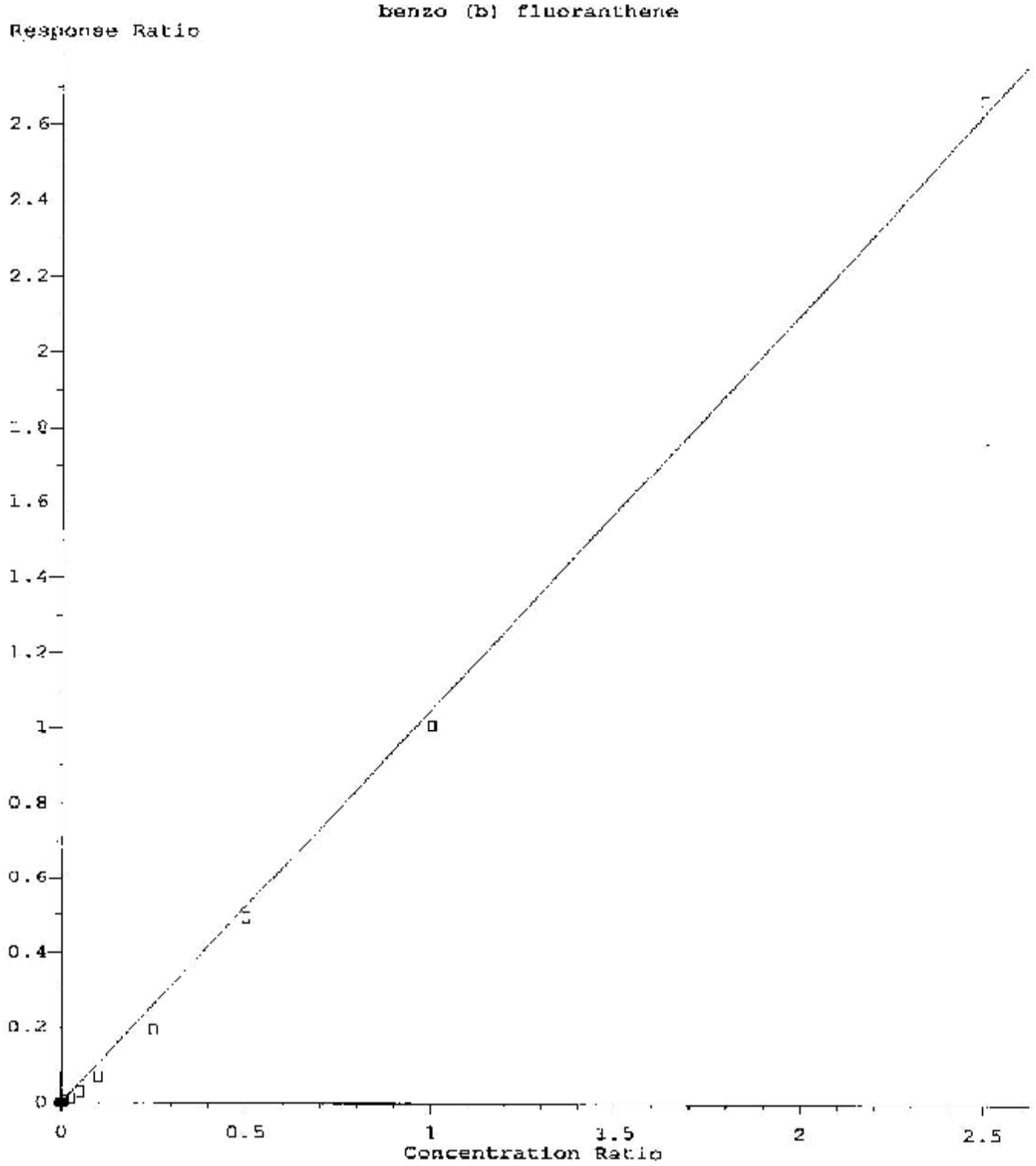
25)	I	Perylene-d12 (IS)	----------ISTD----------								
26)	t	Indeno(1,2,3-c...	0.626	0.502	0.688	0.789	0.903	1.082	1.133	1.268	0.874	30.83
27)	t	Dibenz (a,h) a...	0.448	0.348	0.496	0.566	0.672	0.852	0.906	0.974	0.658	35.14
28)	t	Benzo (g,h,i) ...	0.813	0.644	0.883	0.990	1.066	1.221	1.222	1.175	1.002	20.95

(#) = Out of Range

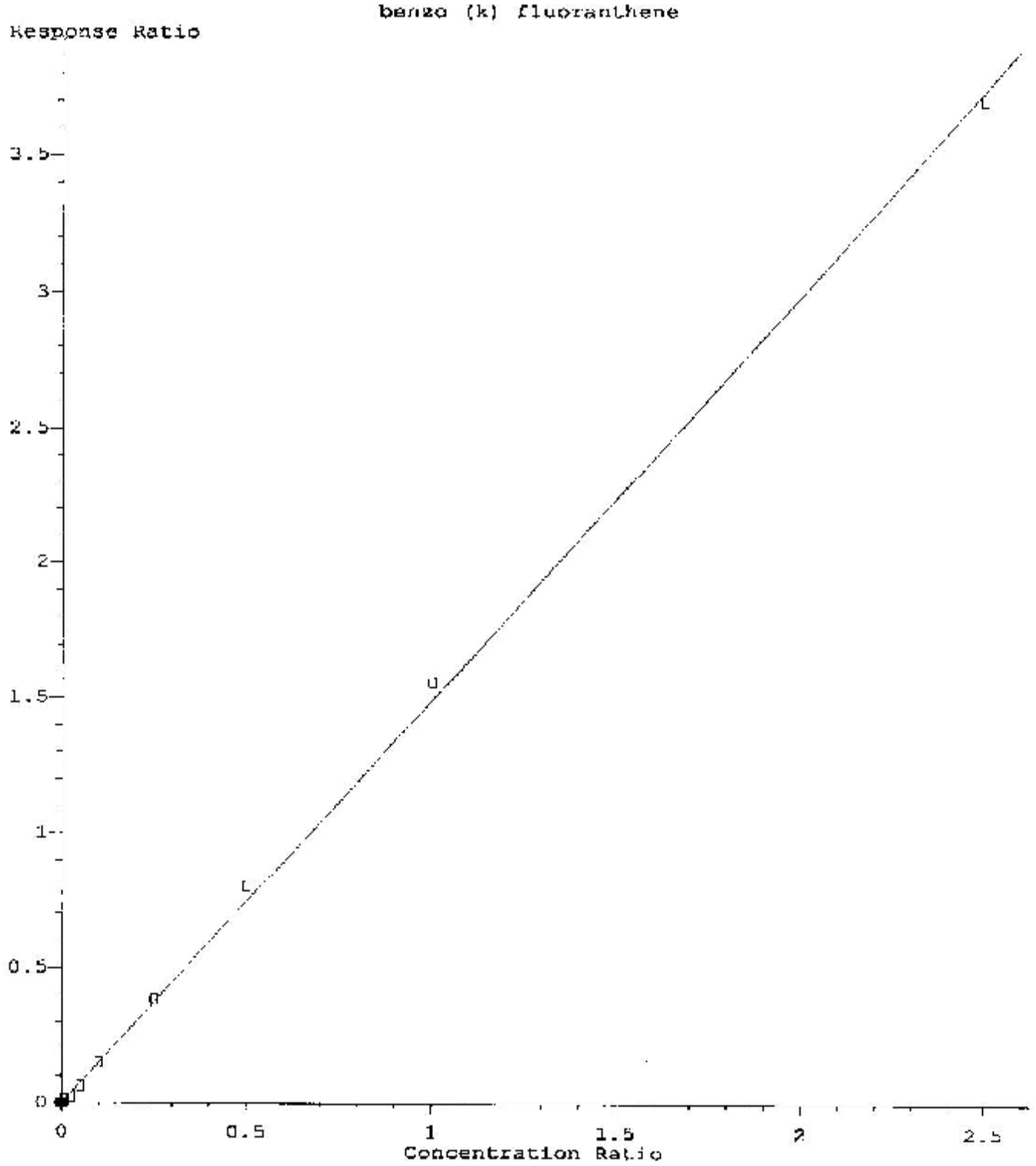
DBPAH101012PHENOL.M Thu Oct 11 09:38:07 2012 PAH



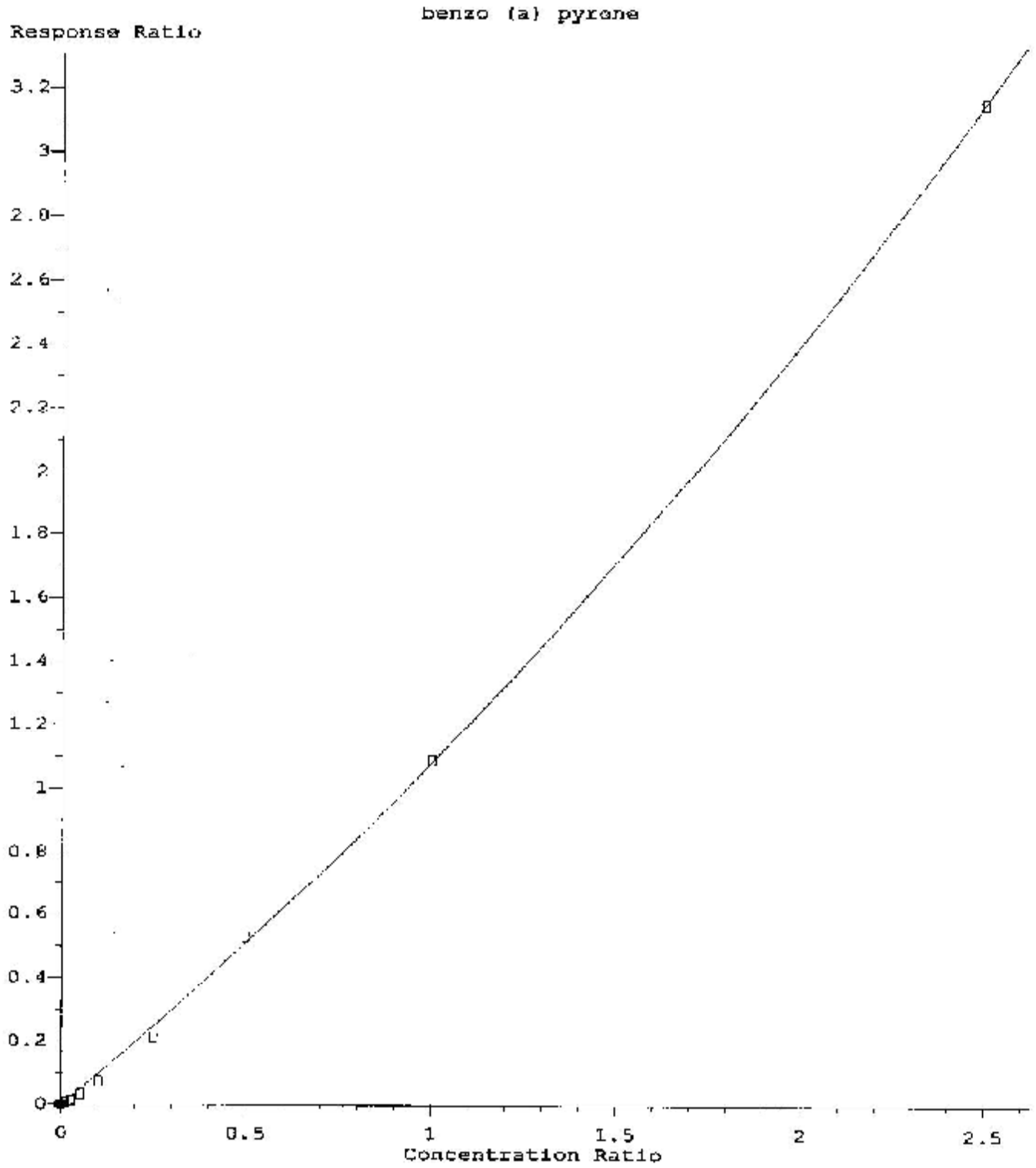
Response = 1.18e+000 * Amt
Coef of Det (r^2) = 1.000 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 14:52:26 2012



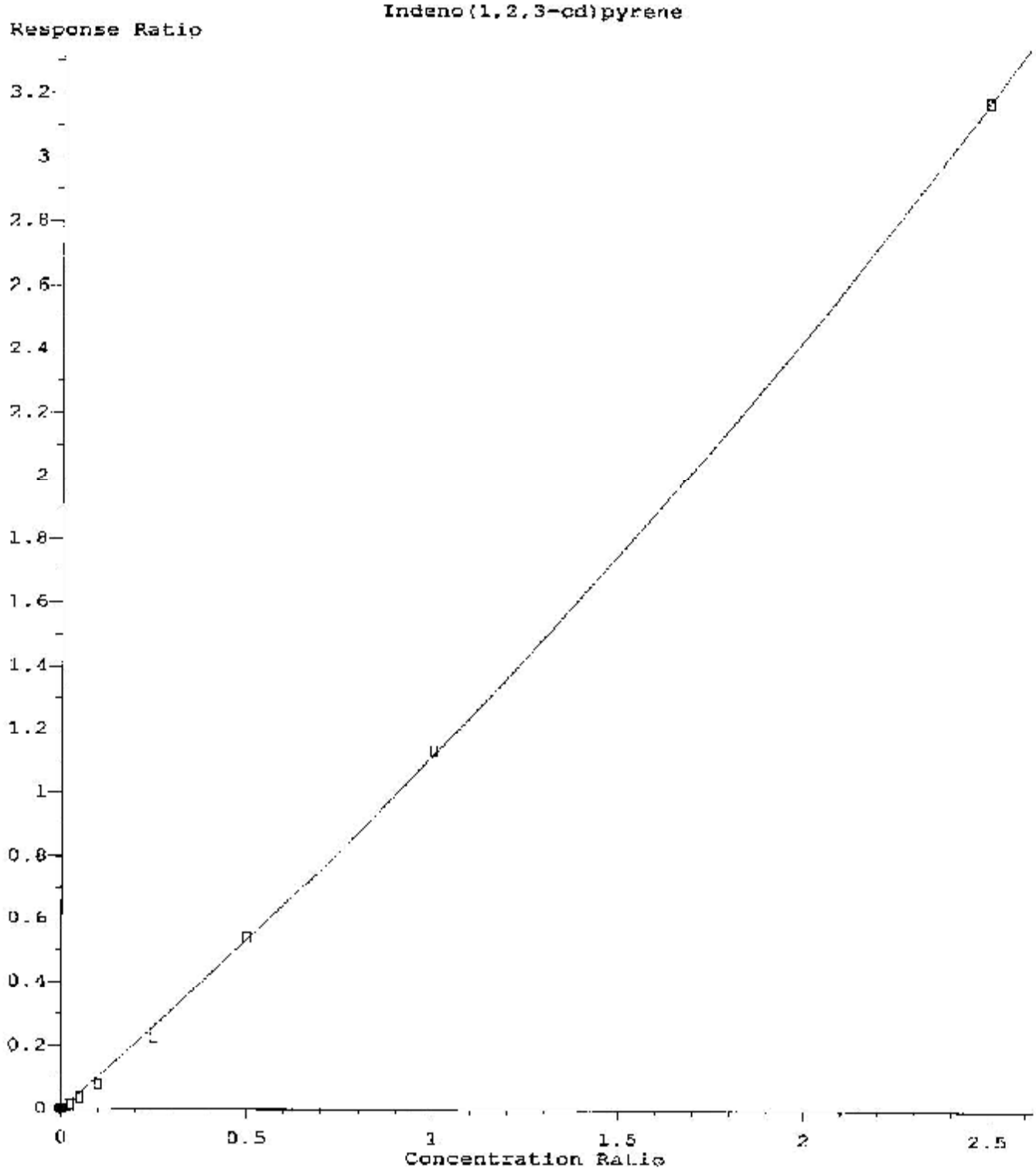
Response = 1.05e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



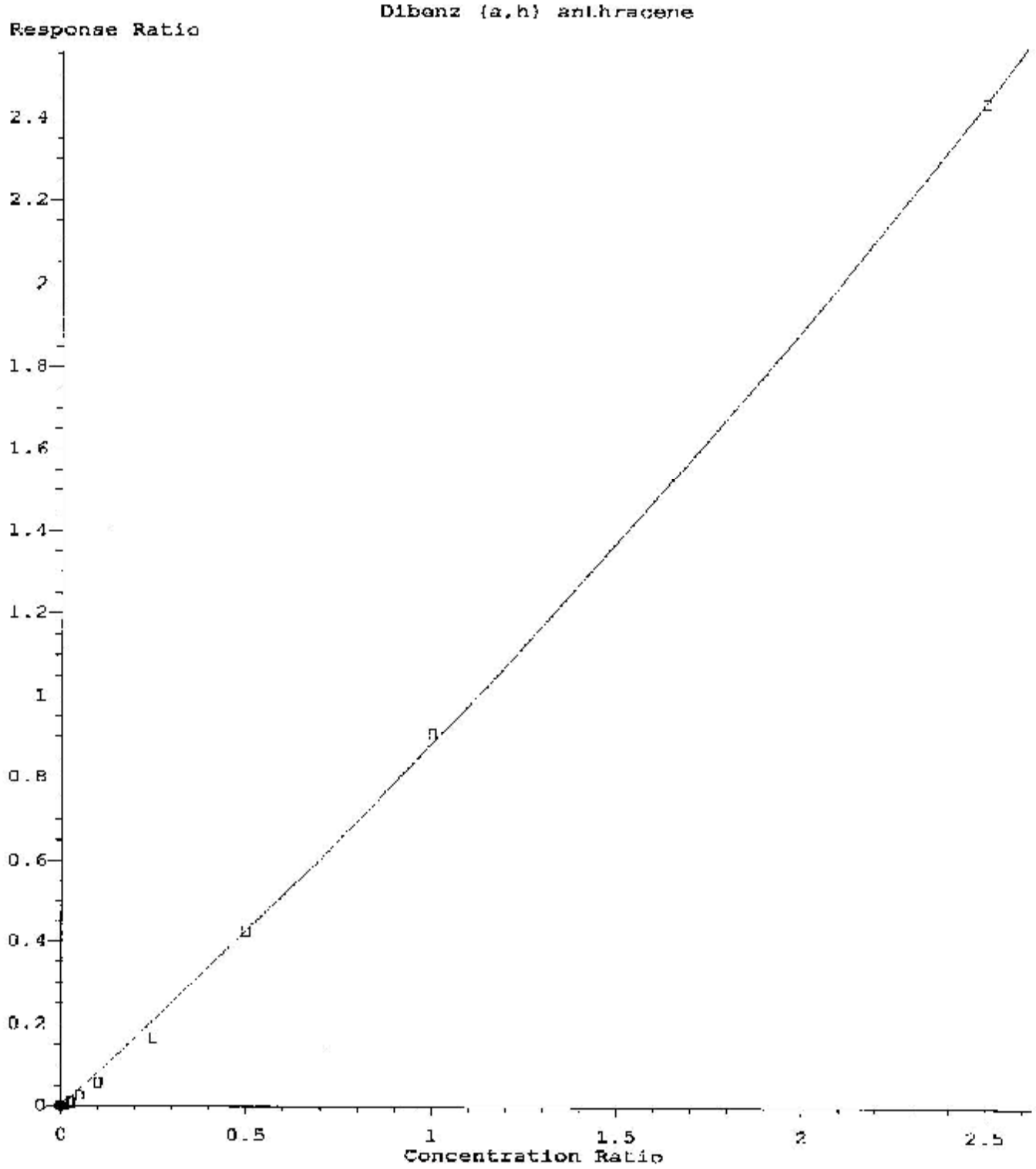
Response = 1.49e+000 * Amt
Coef of Det. (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



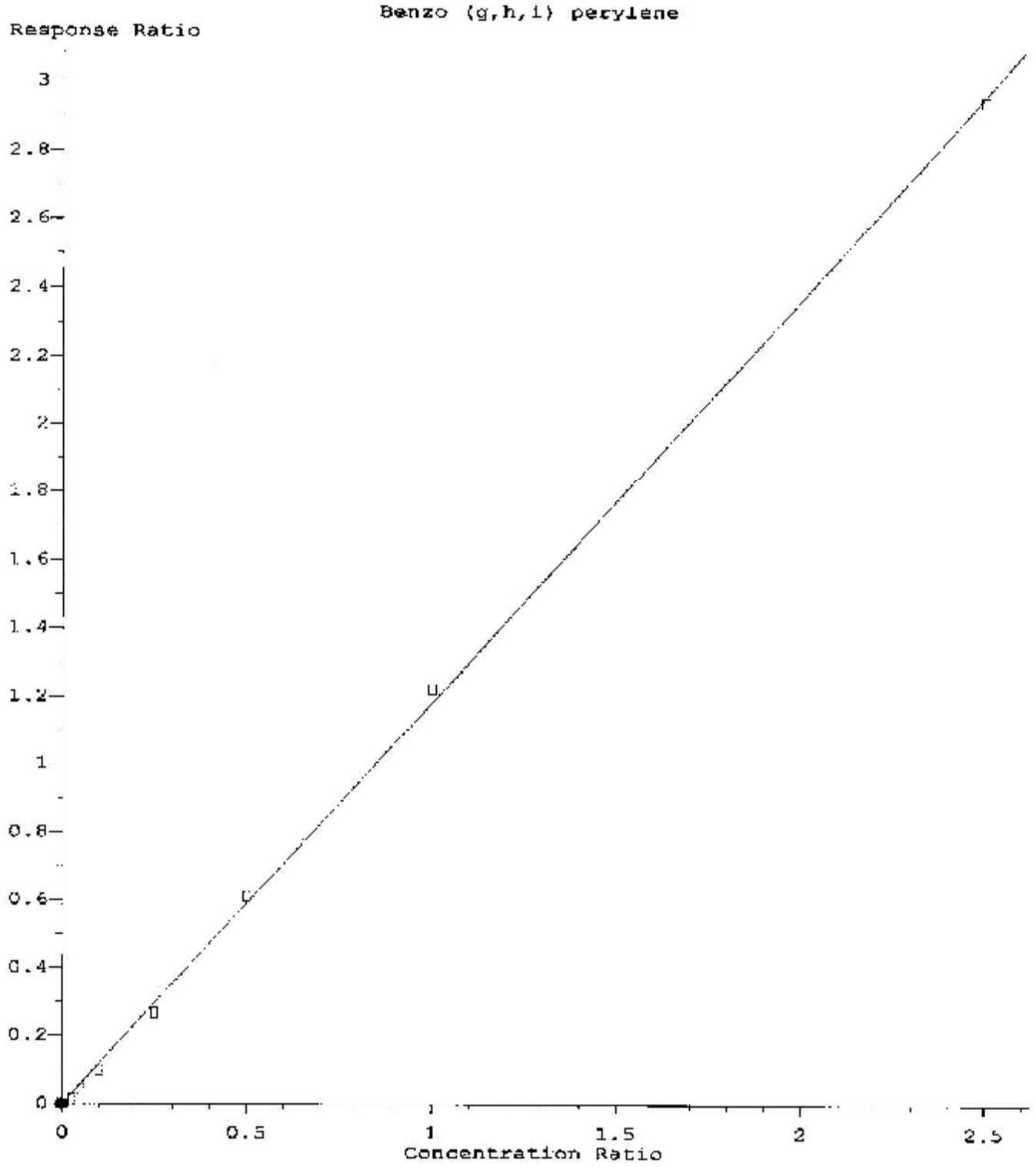
R = 1.19e-001 A^A + 9.64e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/{0,0}
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 1.00e-001 A*A + 1.02e+000 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



R = 6.11e-002 A*A + 8.23e-001 A + 0.00e+000
Coef of Det (r^2) = 1.000 Curve Fit: Quad/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012



Response = 1.18e+000 * Amt
Coef of Det (r^2) = 0.999 Curve Fit: Linear/(0,0)
Method Name: C:\msdchem\1\methods\DBPAH101012PHENOL.M
Calibration Table Last Updated: Thu Oct 11 09:35:38 2012

Quantitation Report (QT Reviewed)

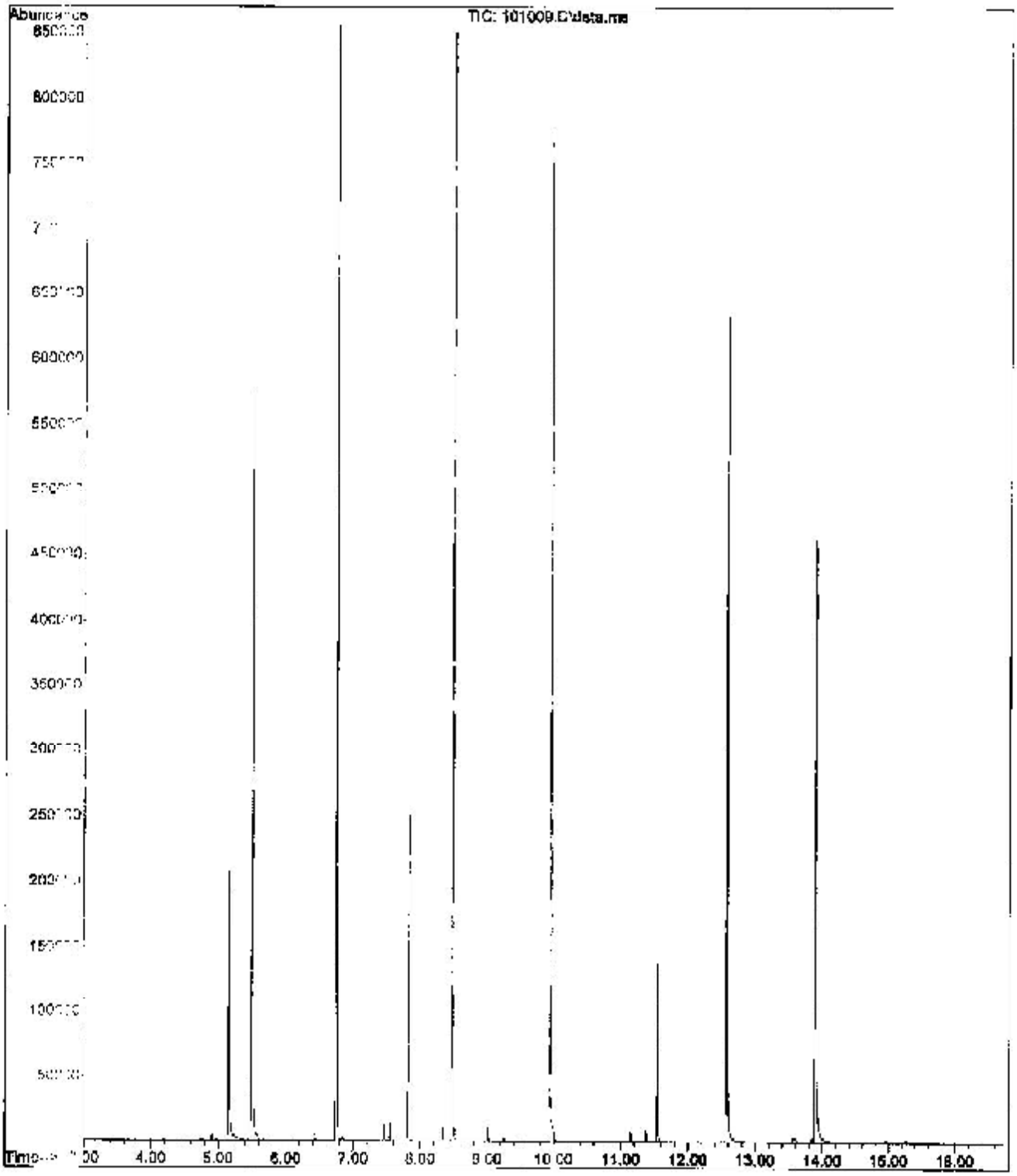
Data Path : D:\Data\SVOC\101012-1\
Data File : 101009.D
Acq On : 10 Oct 2012 3:42 pm
Operator :
Sample : 20 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 101 Sample Multiplier: 1

Quant Time: Oct 11 09:18:01 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211401	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	680290	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	338682	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	547010	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.566	240	493748	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	457899	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	155780	971.54 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	149151	496.06 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	100270	501.63 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.430	107	1703m	13.70 ug/L		
5] Naphthalene	6.766	128	9729	22.54 ug/L		100
6] 2-Methylnaphthalene	7.455	142	5421	21.44 ug/L		100
7] 1-Methylnaphthalene	7.550	142	5172	21.59 ug/L		100
9] Acenaphthylene	8.338	152	7063	20.38 ug/L		100
11] Acenaphthene	8.508	152	2661	23.37 ug/L		99
12] Fluorene	9.021	166	5847	22.40 ug/L		97
14] Phenanthrene	9.967	178	8863	23.95 ug/L		100
15] Anthracene	10.020	178	6894	20.35 ug/L		97
17] Fluoranthene	11.145	202	6586	19.76 ug/L	#	94
18] Pyrene	11.368	202	6766	19.42 ug/L	#	85
19] Benzo (a) anthracene	12.559	228	6945	23.77 ug/L	#	100
21] Chrysene	12.592	228	8752m	25.21 ug/L		
22] benzo (b) fluoranthene	13.556	252	2936	11.32 ug/L	#	100
23] benzo (k) fluoranthene	13.579	252	5957	16.17 ug/L		99
24] benzo (a) pyrene	13.835	252	2906	12.19 ug/L	#	52
26] Indeno (1,2,3-cd)pyrene	14.943	276	2867m	14.51 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	2052m	14.50 ug/L		
28] Benzo (g,h,i) perylene	15.256	276	3732m	18.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

File : D:\Data\SVOC\101012-1\101009.D
Operator :
Acquired : 10 Oct 2012 3:42 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 20 PPB STD
Misc Info : CCV O-PAH-S-SIM-LTB3Y
Vial Number: 1C1



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101010.D
Acq On : 10 Oct 2012 4:07 pm
Operator :
Sample : 50 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 2C2 Sample Multiplier: 1

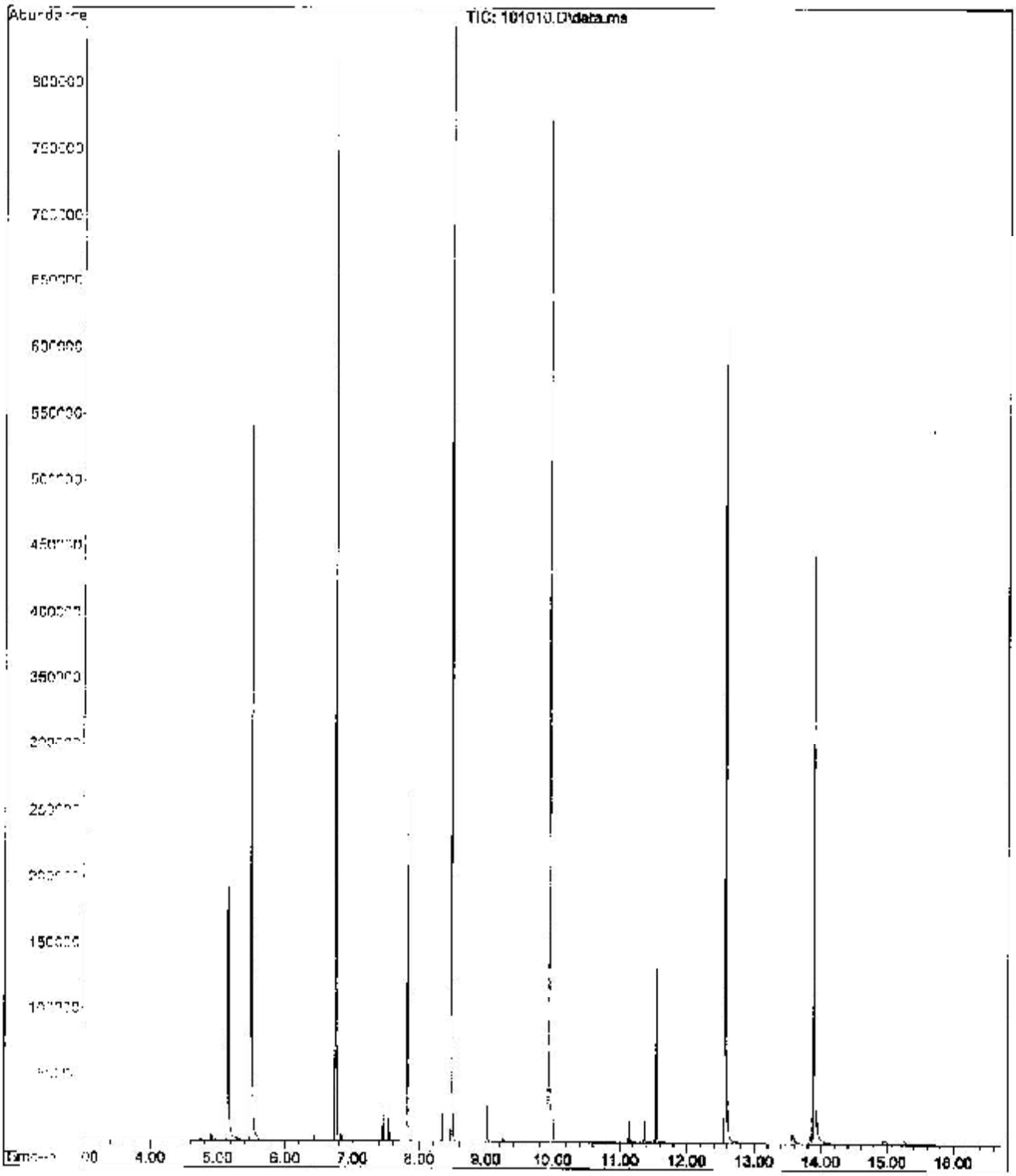
Quant Time: Oct 11 09:27:38 2012
Quant Method : C:\mschem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	207698	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	671694	2000.00 ug/L	0.00
10) Acenaphthene-d10 [IS]	8.477	164	334353	2000.00 ug/L	0.00
13) Phenanthrene-d10 [IS]	9.945	188	539399	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	485545	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	448084	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d5	5.151	99	152536	968.26 ug/L	0.00
8) 2-Fluorobiphenyl [surr]	7.822	172	147260	496.04 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	98107	497.73 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.429	107	2259m	26.69 ug/L	
5) Naphthalene	6.756	128	18980	44.53 ug/L	100
6) 2-Methylnaphthalene	7.453	142	18566	42.31 ug/L	99
7) 1-Methylnaphthalene	7.550	142	18124	42.81 ug/L	100
9) Acenaphthylene	8.338	152	13465	39.34 ug/L	100
11) Acenaphthene	8.508	152	15037	44.80 ug/L	100
12) Fluorene	9.021	166	12078	42.99 ug/L	96
14) Phenanthrene	9.966	178	16342	44.78 ug/L	99
15) Anthracene	10.019	178	12970	38.83 ug/L	97
17) Fluoranthene	11.146	202	17648	37.88 ug/L	95
18) Pyrene	11.369	202	17954	37.71 ug/L #	91
19) Benzo(a) anthracene	12.559	228	11679	40.53 ug/L #	100
21) Chrysene	12.591	228	15304m	44.83 ug/L	
22) Benzo(b) fluoranthene	13.554	252	8388	21.12 ug/L #	100
23) Benzo(k) fluoranthene	13.580	252	11106	30.65 ug/L	100
24) Benzo(a) pyrene	13.835	252	5148	23.23 ug/L #	55
26) Indeno(1,2,3-cd)pyrene	14.943	276	9525m	29.10 ug/L	
27) Dibenz(a,h) anthracene	14.964	278	7702m	28.18 ug/L	
28) Benzo(g,h,i) perylene	15.258	276	9216m	36.21 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101 EL.M Thu Oct 11 09:27:43 2012 PAH

File : D:\Data\SVOC\101012-1\101010.D
Operator :
Acquired : 10 Oct, 2012 4:07 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 50 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 102



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101011.D
Acq On : 10 Oct 2012 4:33 pm
Operator :
Sample : 100 PPB STD
Misc : CCV O-PAH-S-SIM LIBBY
ALS Vial : 103 Sample Multiplier: 1

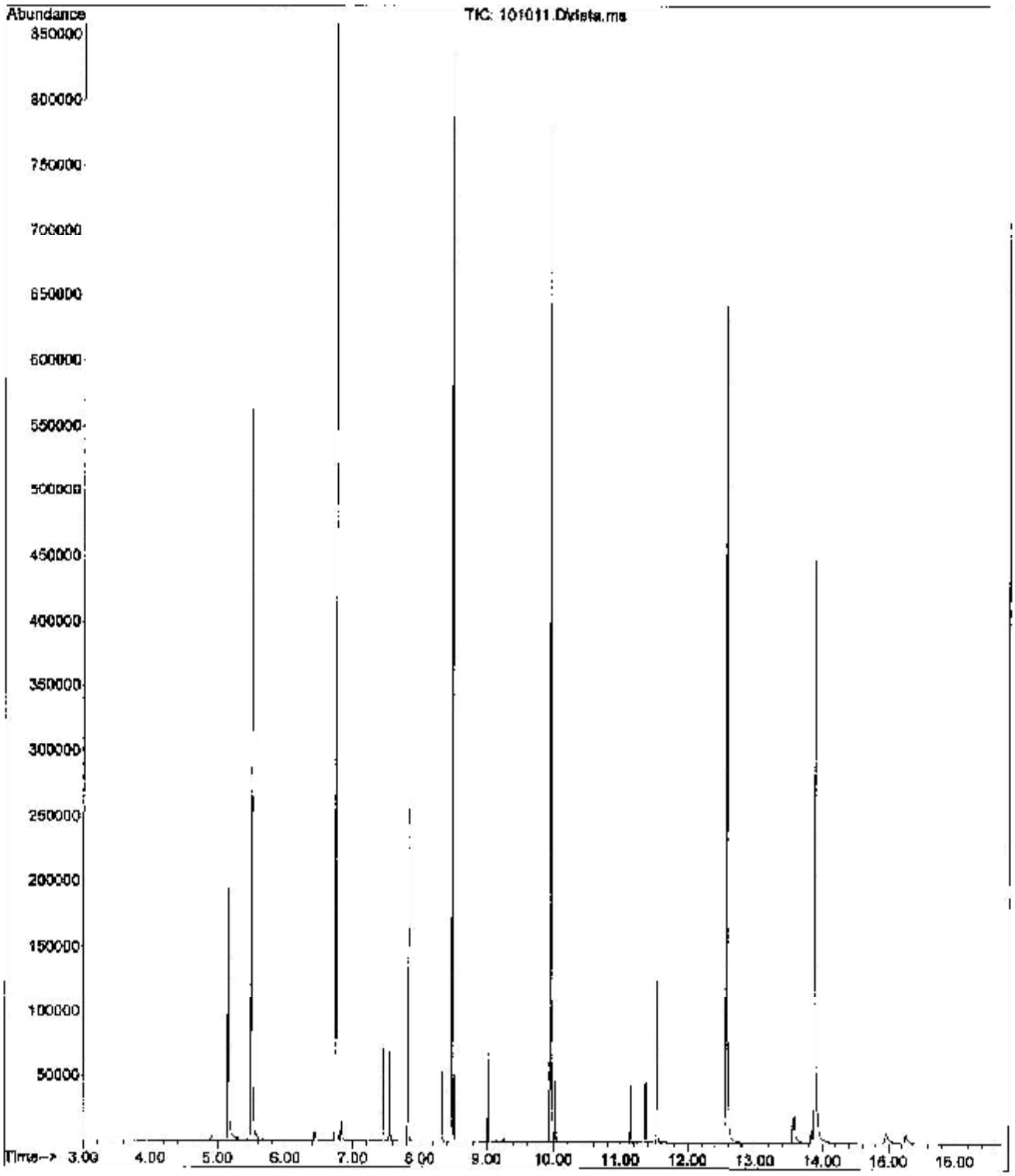
Quant Time: Oct 11 09:33:31 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	207528	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	669585	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.470	164	334923	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	535335	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	483570	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	453972	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153322	974.05 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147736	499.21 ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	96744	494.54 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.420	107	9134m	74.86 ug/L		
5] Naphthalene	6.766	128	45722	107.61 ug/L		100
6] 2-Methylnaphthalene	7.453	142	25990	104.41 ug/L		98
7] 1-Methylnaphthalene	7.548	142	24845	105.38 ug/L		99
9] Acenaphthylene	8.338	152	34254	100.40 ug/L		100
11] Acenaphthene	8.508	152	12144	107.84 ug/L		100
12] Fluorene	9.021	166	27298	105.76 ug/L		96
14] Phenanthrene	9.969	178	38933	107.48 ug/L		99
15] Anthracene	10.020	178	32553	98.20 ug/L		97
17] Fluoranthene	11.148	202	31709	97.22 ug/L		95
18] Pyrene	11.370	202	33247	97.51 ug/L	#	93
19] Benzo (a) anthracene	12.561	228	26561	92.88 ug/L	#	100
21] Chrysene	12.593	228	37318m	109.77 ug/L		
22] benzo (b) fluoranthene	13.557	252	13955	54.93 ug/L	#	100
23] benzo (k) fluoranthene	13.580	252	31708	87.86 ug/L		100
24] benzo (a) pyrene	13.837	252	15319	65.42 ug/L	#	72
26] Indeno(1,2,3-cd)pyrene	14.945	276	15625m	79.78 ug/L		
27] Dibenz (a,h) anthracene	14.967	278	11260m	80.26 ug/L		
28] Benzo (g,h,i) perylene	15.257	276	20045m	99.27 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:33:36 2012 PAH

File :D:\Data\SVOC\101012-1\101011.D
Operator :
Acquired : 10 Oct 2012 4:33 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 100 PPB STD
Misc Info : CCV 0-PAH-8-SIM-LIBBY
Vial Number: 103



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101012.D
Acq On : 10 Oct 2012 4:58 pm
Operator :
Sample : 200 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 104 Sample Multiplier: 1

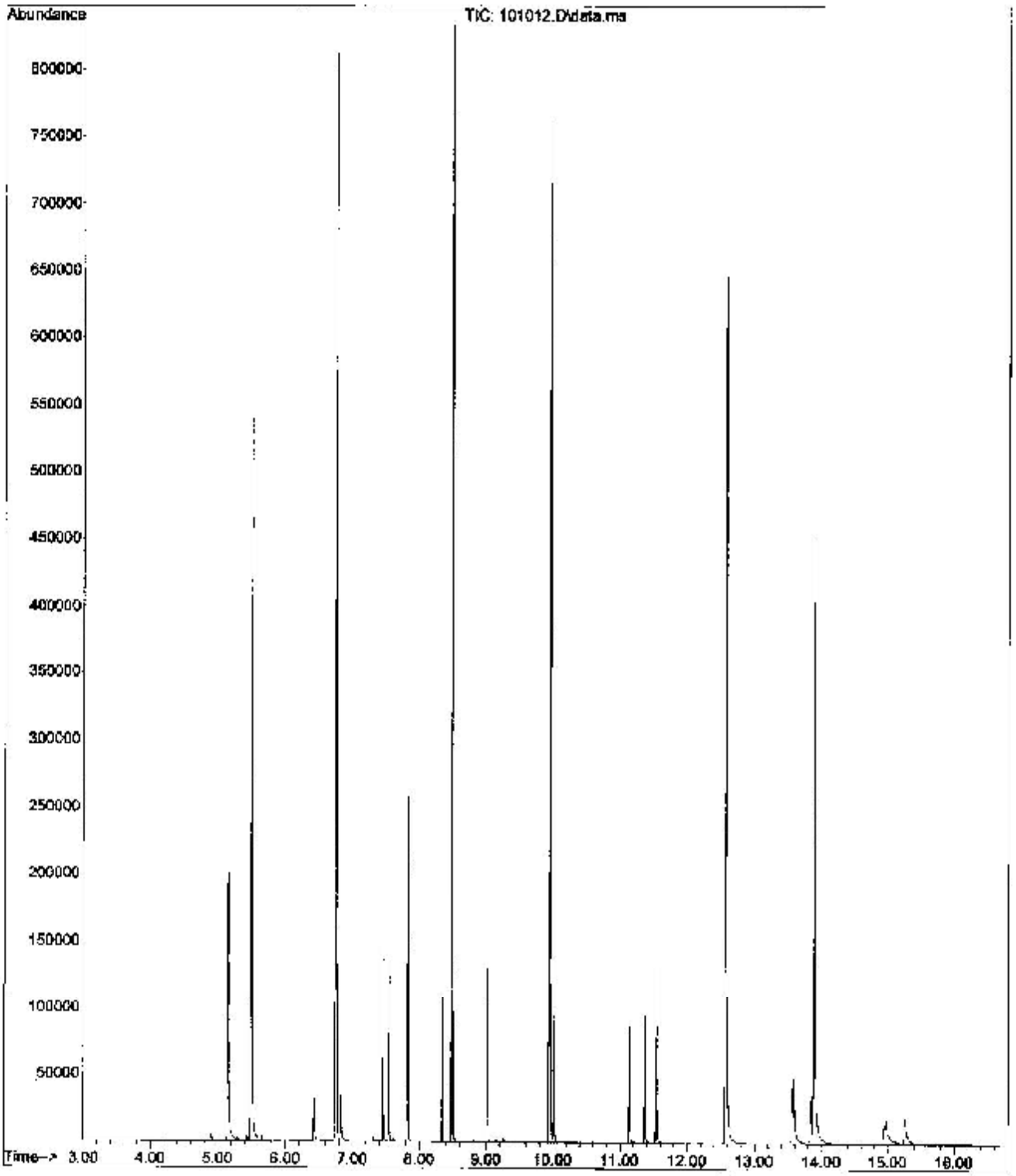
Quant Time: Oct 11 09:23:34 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	206282	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.745	136	666962	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	333890	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.944	188	535442	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.568	240	489283	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	461276	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.149	99	153734	982.57 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	148032	502.17 ug/L		0.00
15) Terphenyl-d14 (surr)	11.540	244	97477	498.19 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.427	107	19118m	157.63 ug/L		
5) Naphthalene	6.766	128	88440	208.97 ug/L		100
6) 2-Methylnaphthalene	7.453	142	51282	206.83 ug/L		98
7) 1-Methylnaphthalene	7.550	142	48610	207.00 ug/L		97
9) Acenaphthylene	8.337	152	69663	204.98 ug/L		100
11) Acenaphthene	8.508	152	23423	208.64 ug/L		99
12) Fluorene	9.021	166	54022	209.94 ug/L		97
14) Phenanthrene	9.968	178	76739	211.81 ug/L		100
15) Anthracene	10.019	178	66316	200.01 ug/L		98
17) Fluoranthene	11.147	202	65506	200.80 ug/L		95
18) Pyrene	11.369	202	69105	202.65 ug/L		93
19) Benzo (a) anthracene	12.559	228	54179	189.41 ug/L	#	100
21) Chrysene	12.593	228	71006	206.42 ug/L		93
22) benzo (b) fluoranthene	13.557	252	33689	131.05 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	74195m	203.20 ug/L		
24) benzo (a) pyrene	13.837	252	35842	150.50 ug/L	#	81
26) Indeno(1,2,3-cd)pyrene	14.946	276	36383m	182.83 ug/L		
27) Dibenz (a,h) anthracene	14.970	278	26113m	183.19 ug/L		
28) Benzo (g,h,i) perylene	15.258	276	45665m	222.56 ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:11 2012 PAH

File :D:\Data\SVOC\101012-1\101012.D
Operator :
Acquired : 10 Oct 2012 4:58 pm using AcqMethod DBPAR101012PHENOL.M
Instrument : HP-MSD
Sample Name: 200 PFB STD
Misc Info : CCV O-PAR-S-SIM-LIBBY
Vial Number: 104



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101013.D
Acq On : 10 Oct 2012 5:23 pm
Operator :
Sample : 500 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 105 Sample Multiplier: 1

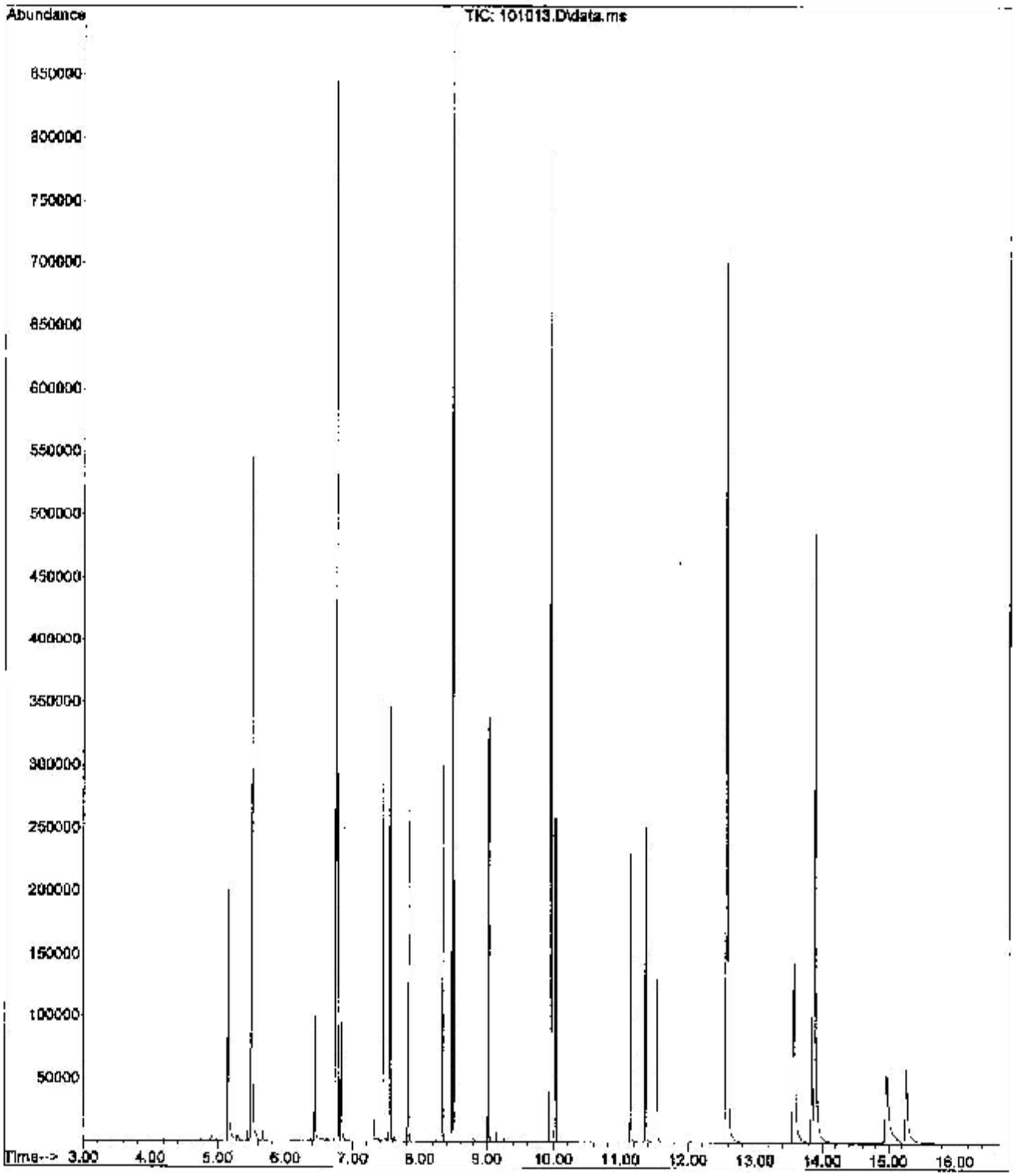
Quant Time: Oct 11 09:24:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.497	152	205479	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	668568	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	337875	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	540131	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.568	240	503799	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	476708	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.150	99	155773	999.49 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	150159	508.17 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99538	504.31 ug/L	0.00
Target Compounds					Qvalue
3] 2,4-Dimethylphenol	6.427	107	52531m	434.81 ug/L	
5] Naphthalene	6.767	128	210515	496.23 ug/L	100
6] 2-Methylnaphthalene	7.453	142	125413	504.60 ug/L	98
7] 1-Methylnaphthalene	7.548	142	118399	502.97 ug/L	97
9] Acenaphthylene	8.338	152	176929	519.35 ug/L	100
11] Acenaphthene	8.509	152	56451	496.90 ug/L	99
12] Fluorene	9.022	166	132700	509.61 ug/L	97
14] Phenanthrene	9.969	178	184698	505.37 ug/L	100
15] Anthracene	10.019	178	169453	506.64 ug/L	98
17] Fluoranthene	11.146	202	171838	522.16 ug/L	95
18] Pyrene	11.360	202	181345	527.17 ug/L	94
19] Benzo (a) anthracene	12.559	228	140369	486.48 ug/L #	100
21] Chrysene	12.593	228	176026	496.99 ug/L	95
22] benzo (b) fluoranthene	13.557	252	97963	370.10 ug/L #	100
23] benzo (k) fluoranthene	13.582	252	193472	514.59 ug/L	99
24] benzo (a) pyrene	13.837	252	108063	433.23 ug/L #	89
26] Indeno(1,2,3-cd)pyrene	14.950	276	107596m	523.18 ug/L	
27] Dibenz (a,h) anthracene	14.972	278	80111m	543.82 ug/L	
28] Benzo (g,h,i) perylene	15.259	276	127001m	598.94 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:21 2012 PAH

File :D:\Data\SVOC\101012-1\101013.D
Operator :
Acquired : 10 Oct 2012 5:23 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 500 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 105



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101014.D
Acq On : 10 Oct 2012 5:48 pm
Operator :
Sample : 1000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 106 Sample Multiplier: 1

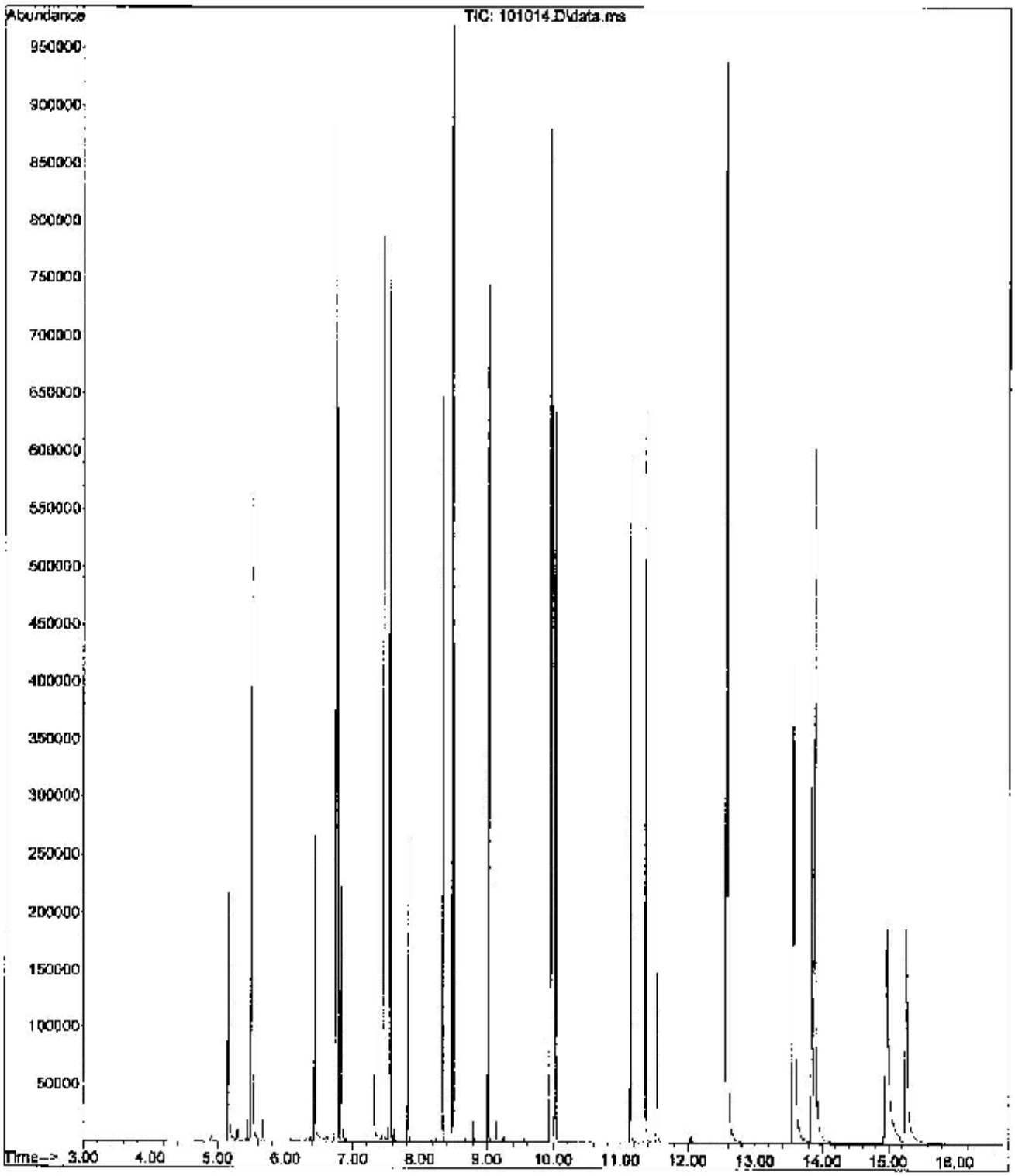
Quant Time: Oct 11 09:24:49 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4 (IS)	5.496	152	211091	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	703989	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.400	164	370642	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	614915	2000.00	ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	586943	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.889	264	569732	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	160048	999.62	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	150191	482.70	ug/L		0.00
16) Terphenyl-d14 (surr)	11.542	244	112537	500.83	ug/L		0.00
Target Compounds							Qvalue
3] 2,4-Dimethylphenol	6.427	107	124230	1000.93	ug/L		99
5] Naphthalene	6.766	128	457822	1024.89	ug/L		100
6] 2-Methylnaphthalene	7.453	142	281274	1074.77	ug/L		98
7] 1-Methylnaphthalene	7.548	142	262852	1060.43	ug/L		97
9] Acenaphthylene	8.339	152	404284	1127.02	ug/L		100
11] Acenaphthene	8.508	152	125725	1008.83	ug/L		99
12] Fluorene	9.021	166	299270	1047.68	ug/L		96
14] Phenanthrene	9.969	178	415711	999.13	ug/L		100
15] Anthracene	10.020	178	407576	1070.40	ug/L		98
17] Fluoranthene	11.146	202	441099	1177.36	ug/L		95
18] Pyrene	11.369	202	458851	1171.65	ug/L		94
19] Benzo (a) anthracene	12.560	228	363248	1105.82	ug/L	#	100
21] Chrysene	12.595	228	427345	1035.64	ug/L		97
22] benzo (b) fluoranthene	13.558	252	289328	938.23	ug/L	#	100
23] benzo (k) fluoranthene	13.583	252	470685	1074.58	ug/L		100
24] benzo (a) pyrene	13.839	252	310058	1030.12	ug/L		95
26] Indeno(1,2,3-cd)pyrene	14.950	276	308189m	1253.91	ug/L		
27] Dibenz (a,h) anthracene	14.972	278	242693m	1378.50	ug/L		
28] Benzo (g,h,i) perylene	15.261	276	347803m	1372.47	ug/L		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:34 2012 PAH

File : D:\Data\SVOC\101012-1\101014.D
Operator :
Acquired : 10 Oct 2012 5:48 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1000 PPB STD
Misc Info : CCV C-PAH-S-SIM-LIBBY
Vial Number: 106



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101015.D
Acq On : 10 Oct 2012 6:13 pm
Operator :
Sample : 2000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 107 Sample Multiplier: 1

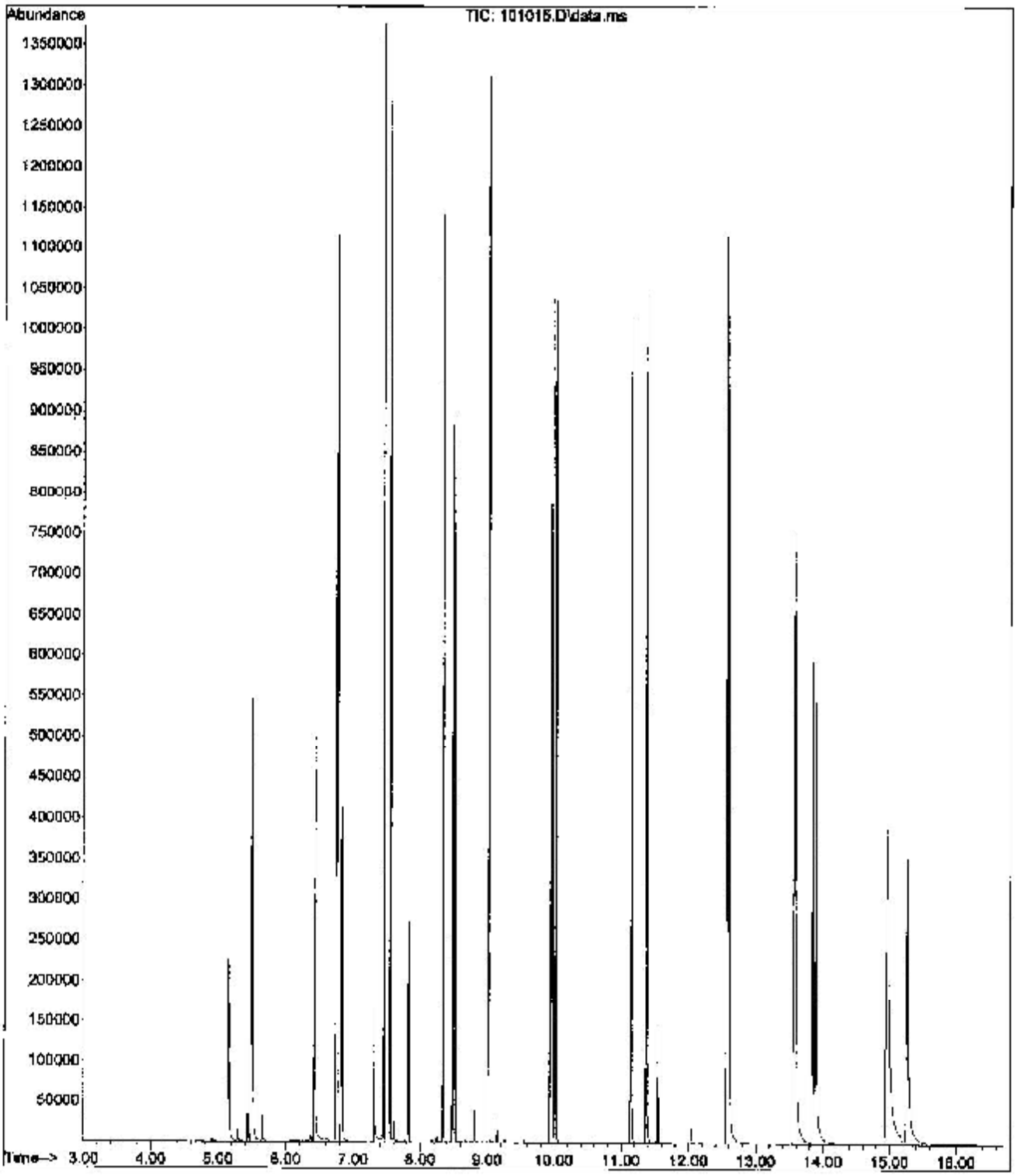
Quant Time: Oct 11 09:25:23 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	205990	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	675617	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	345445	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	547612	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.569	240	522147	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	509423	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	163666	1047.53 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151229	506.45 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	103436	516.90 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.427	107	237390	1960.03 ug/L	99
5) Naphthalene	6.766	128	816382	1904.32 ug/L	100
6) 2-Methylnaphthalene	7.453	142	496539	1976.98 ug/L	98
7) 1-Methylnaphthalene	7.550	142	463482	1948.35 ug/L	97
9) Acenaphthylene	8.339	152	710594	2064.10 ug/L	100
11) Acenaphthene	8.511	152	217752	1874.71 ug/L	99
12) Fluorene	9.021	166	512109	1923.55 ug/L	97
14) Phenanthrene	9.970	178	704600	1901.59 ug/L	100
15) Anthracene	10.020	178	699103	2061.68 ug/L	98
17) Fluoranthene	11.148	202	724462	2171.35 ug/L	95
18) Pyrene	11.370	202	759797	2178.54 ug/L	94
19) Benzo (a) anthracene	12.561	228	624212	2133.80 ug/L #	100
21) Chrysene	12.593	228	718133	1956.30 ug/L	98
22) benzo (b) fluoranthene	13.559	252	525321	1914.89 ug/L #	100
23) benzo (k) fluoranthene	13.583	252	813771	2088.40 ug/L	100
24) benzo (a) pyrene	13.840	252	569097	2011.28 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.950	276	577262m	2626.67 ug/L	
27) Dibenz (a,h) anthracene	14.972	278	461582m	2932.13 ug/L	
28) Benzo (g,h,i) perylene	15.262	276	622319m	2746.42 ug/L	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:45 2012 PAH

File : D:\Data\SVOC\121012-1\121015.D
Operator :
Acquired : 16 Oct 2012 6:13 pm using AcqMethod DBPAH121012PHENOL.M
Instrument : HP-MSD
Sample Name: 2000 PPB STD
Misc Info : CCV O-PAH-S-SIM-LIBBY
Vial Number: 107



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101016.D
Acq On : 10 Oct 2012 6:44 pm
Operator :
Sample : 5000 PPB STD
Misc : CCV O-PAH-S-SIM-LIBBY
ALS Vial : 108 Sample Multiplier: 1

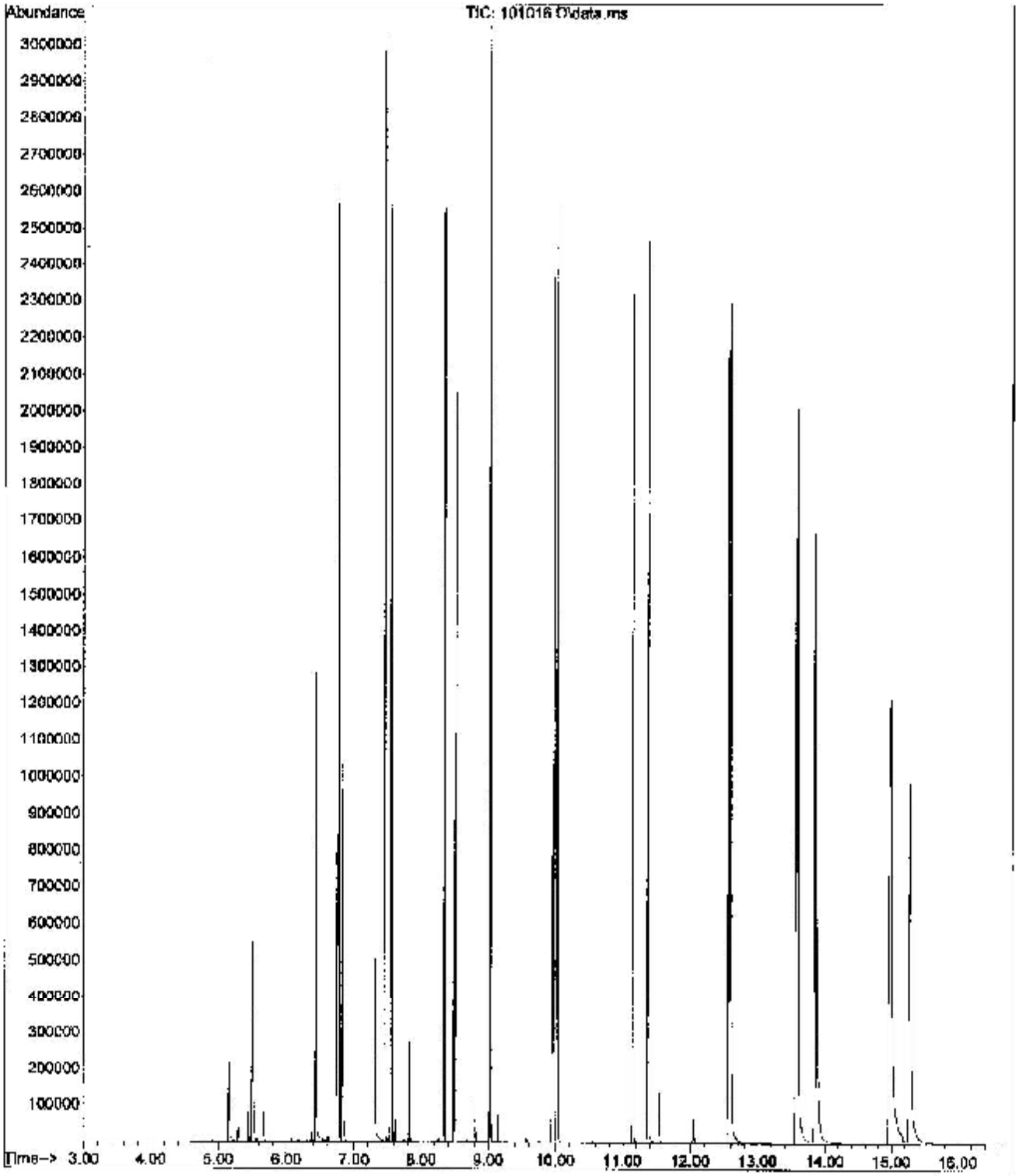
Quant Time: Oct 11 09:25:45 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:15:52 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	202347	2000.00 ug/L	# 0.00
4) Naphthalene-d8 (IS)	6.747	136	672107	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.482	164	348377	2000.00 ug/L	0.00
13) Phenanthrene d10 (IS)	9.946	188	550390	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.574	240	523717	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.892	264	532571	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.152	99	164052	1068.90 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	151033	509.43 ug/L	0.00
16) Terphenyl-d14 (surr)	11.543	244	104750	520.82 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.428	107	598900	5033.89 ug/L	100
5) Naphthalene	6.769	128	1898470	4451.56 ug/L	100
6) 2-Methylnaphthalene	7.455	142	1161315	4647.95 ug/L	98
7) 1-Methylnaphthalene	7.550	142	1095037	4627.28 ug/L	98
9) Acenaphthylene	8.342	152	1654597	4831.31 ug/L	99
11) Acenaphthene	8.513	152	512401	4374.34 ug/L	98
12) Fluorene	9.024	166	1188198	4425.46 ug/L	97
14) Phenanthrene	9.972	178	1640221	4404.33 ug/L	99
15) Anthracene	10.024	178	1678810	4925.87 ug/L	97
17) Fluoranthene	11.152	202	1738089	5183.08 ug/L	94
18) Pyrene	11.374	202	1816076	5180.90 ug/L #	93
19) Benzo (a) anthracene	12.564	228	1533115	5214.34 ug/L #	100
21) Chrysene	12.598	228	1705635	4632.48 ug/L	95
22) benzo (b) fluoranthene	13.564	252	1392203	5059.63 ug/L #	100
23) benzo (k) fluoranthene	13.590	252	1932745	4945.17 ug/L	99
24) benzo (a) pyrene	13.844	252	1649238	4995.52 ug/L	97
26) Indeno(1,2,3-cd)pyrene	14.960	276	1688497	7349.09 ug/L	94
27) Dibenz (a,h) anthracene	14.981	278	1297291	7882.65 ug/L	96
28) Benzo (g,h,i) perylene	15.276	276	1563907	6601.85 ug/L	96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:34:55 2012 PAH

File : D:\Data\SVOC\101012-1\101016.D
Operator :
Acquired : 10 Oct 2012 6:44 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 5000 PPB STD
Misc Info : CCV G-PAH-S-SIM-LIBBY
Vial Number: 108



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101017.D
Acq On : 19 Oct 2012 7:10 pm
Operator :
Sample : ICV-
Misc : ICV O-PAH-6-SIM-LIBBY
ALS Vial : 109 Sample Multiplier: 1

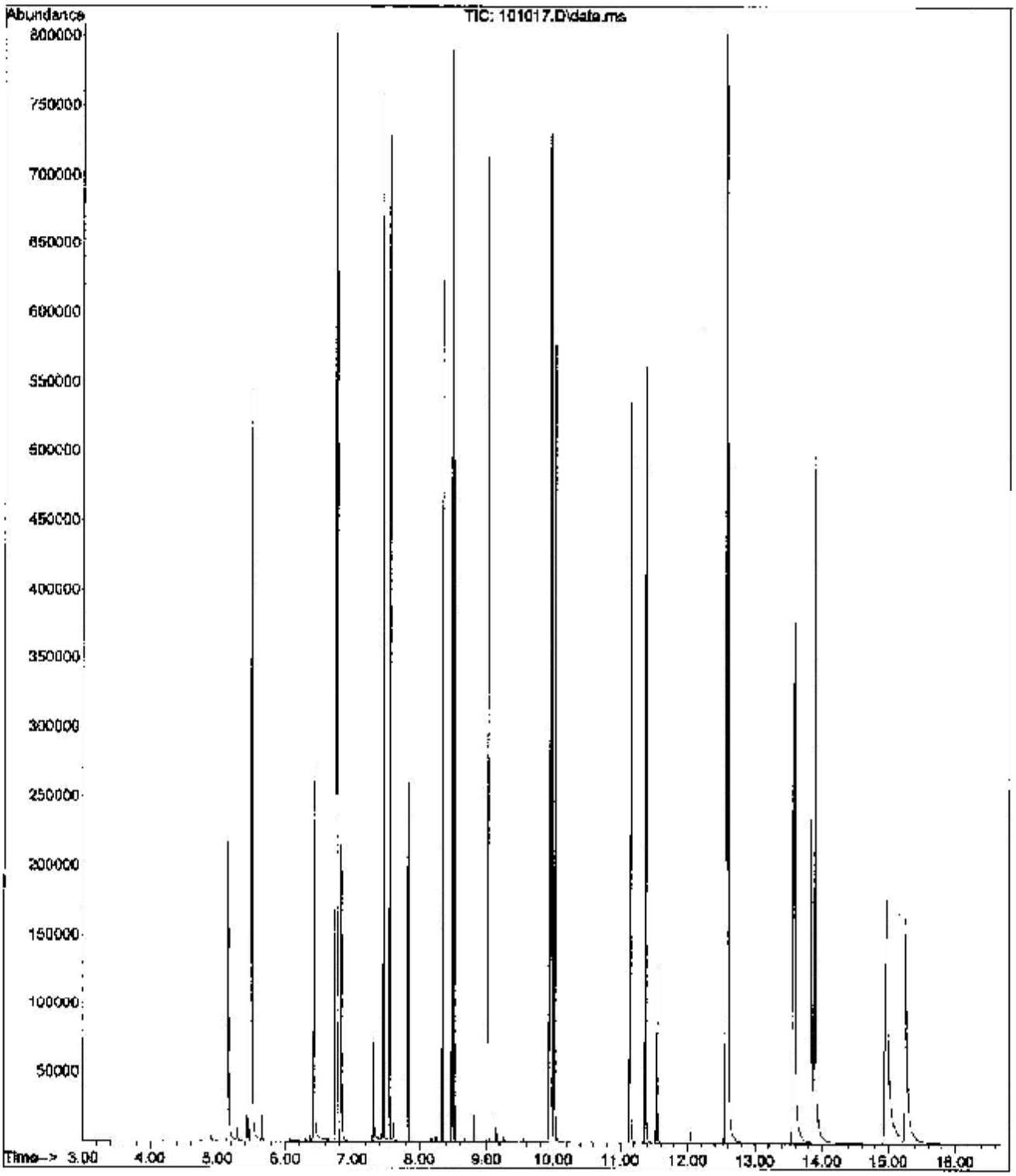
Quant Time: Oct 11 09:37:35 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	197741	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	642102	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	326003	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.945	188	518454	2000.00 ug/L	#	0.00
20) Chrysene-d12 (IS)	12.569	240	493899	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	472138	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	158283	1053.76 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	143292	505.01 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	96843	506.74 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.426	107	126388	1084.75 ug/L		99
5) Naphthalene	6.766	128	450667	1106.23 ug/L		100
6) 2-Methylnaphthalene	7.453	142	273185	1144.70 ug/L		98
7) 1-Methylnaphthalene	7.550	142	256104	1134.13 ug/L		97
9) Acenaphthylene	8.338	152	389615	1191.03 ug/L		100
11) Acenaphthene	8.508	152	120464	1098.84 ug/L		98
12) Fluorene	9.021	166	284009	1130.26 ug/L		97
14) Phenanthrene	9.969	178	392404	1109.13 ug/L		100
15) Anthracene	10.020	178	377676	1194.93 ug/L		98
17) Fluoranthene	11.146	202	387257	1215.97 ug/L		94
18) Pyrene	11.368	202	408900	1228.38 ug/L		94
19) Benzo (a) anthracene	12.559	228	328403	1176.43 ug/L	#	100
21) Chrysene	12.593	228	392651	1100.37 ug/L		95
22) benzo (b) fluoranthene	13.557	252	258780	997.87 ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	432230	1173.34 ug/L		100
24) benzo (a) pyrene	13.837	252	286716	1126.46 ug/L		95
26) Indeno(1,2,3-cd)pyrene	14.950	276	300569	1181.53 ug/L		95
27) Dibenz (a,h) anthracene	14.969	278	218594	1081.87 ug/L		96
28) Benzo (g,h,i) perylene	15.258	276	298015	1068.88 ug/L		95

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:35 2012 PAH

File : D:\Data\SVOC\101012-1\101017.D
Operator :
Acquired : 10 Oct 2012 7:10 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICV-
Misc Info : ICV O-PAH-S-SIM-LIBBY
Vial Number: 109



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101012-1\
Data File : 101018.D
Acq On : 10 Oct 2012 7:35 pm
Operator :
Sample : ICB-
Misc : ICB O-PAH-S-SIM-LIBBY
ALS Vial : 110 Sample Multiplier: 1

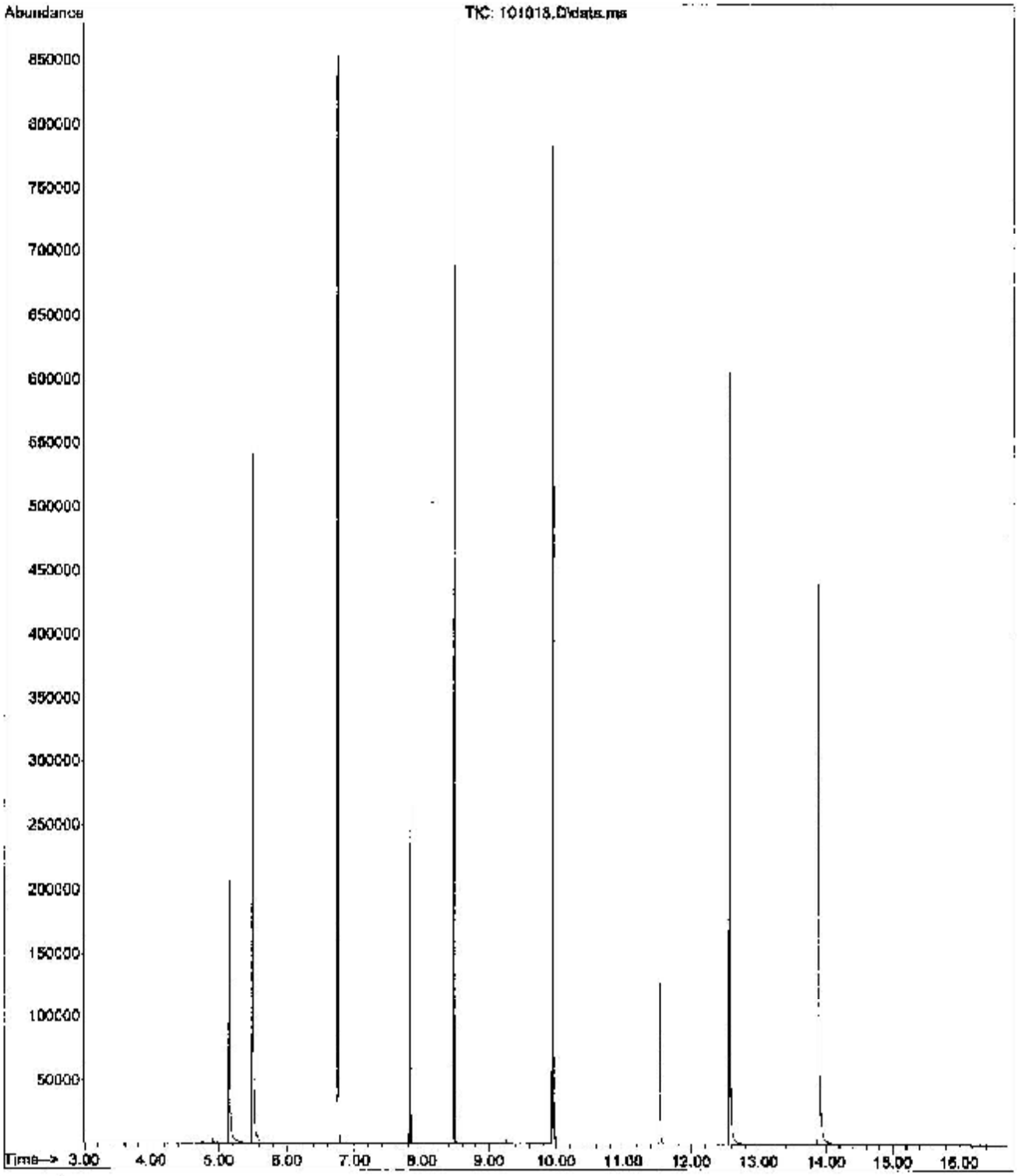
Quant Time: Oct 11 09:37:28 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	208723	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	672101	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	335186	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.944	188	542903	2000.00 ug/L	# 0.00
20) Chrysene-d12 (IS)	12.567	240	483323	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	445839	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	157991	996.48 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	147351	496.14 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	96921	484.31 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	89	N.D.	
5) Naphthalene	6.769	128	32	N.D.	
6) 2-Methylnaphthalene	7.458	142	5	N.D.	
7) 1-Methylnaphthalene	7.550	142	3	N.D.	
9) Acenaphthylene	8.338	152	8	N.D.	
11) Acenaphthene	8.511	152	13	N.D.	
12) Fluorene	9.023	166	33	N.D.	
14) Phenanthrene	9.968	178	94	N.D.	
15) Anthracene	10.020	178	59	N.D.	
17) Fluoranthene	11.150	202	54	N.D.	
18) Pyrene	11.372	202	65	N.D.	
19) Benzo (a) anthracene	12.566	228	1235	N.D.	
21) Chrysene	12.566	228	888	N.D.	
22) benzo (b) fluoranthene	13.556	252	35	N.D.	
23) benzo (k) fluoranthene	13.584	252	122	N.D.	
24) benzo (a) pyrene	13.835	252	68	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	34	N.D.	
27) Dibenz (a,h) anthracene	14.960	278	7	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	3	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 09:37:56 2012 PAH

File : D:\Data\SVOC\101012-1\101018.D
Operator :
Acquired : 18 Oct 2012 7:35 pm using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: ICS-
Misc Info : ICB O-PAH-S-STM-LIBBY
Vial Number: 110

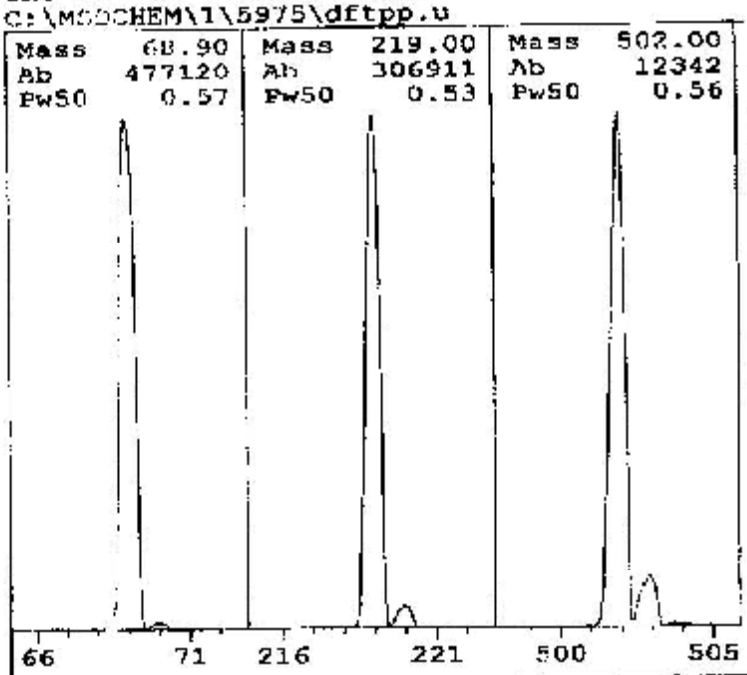


5975 DFTPP Dynamic Target Tune

Thu Oct 11 09:26:24 2012
C:\MSDCHEM\1\5975\dftpp.u

Instrument: HP-MSD
US11173714

Mass	68.90	Mass	219.00	Mass	502.00
Ab	477120	Ab	306911	Ab	12342
Pw50	0.57	Pw50	0.53	Pw50	0.56

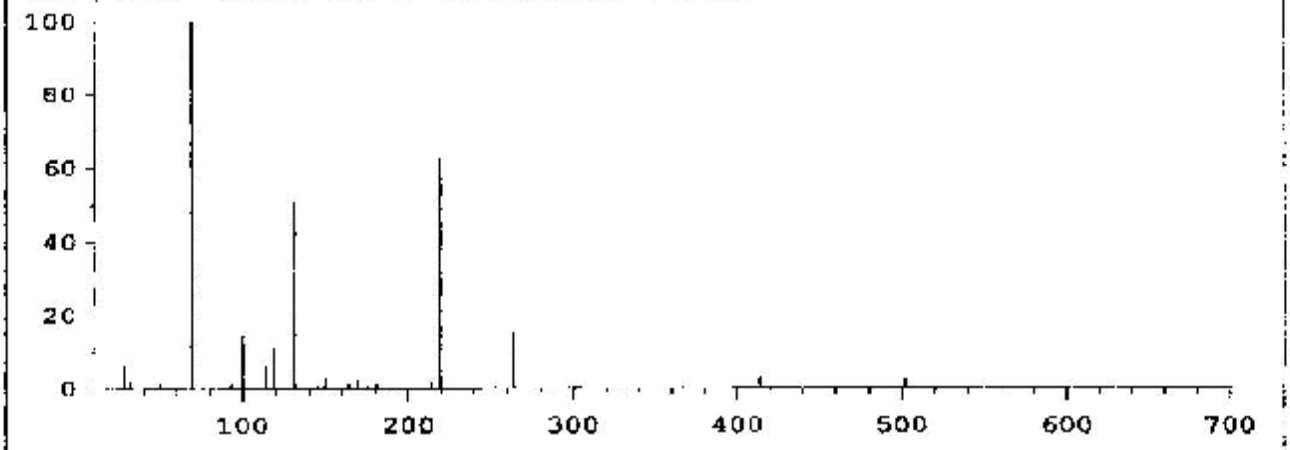


Ion Pol	Pos	MassGain	-620
		MassOffs	-40
Emission	34.6	AmuGain	2043
EIEnrgy	69.9	AmuOffs	124.50
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	66.4	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.44e05

Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
114 peaks Base: 69.00 Abundance: 455488



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	455488	100.00	70.00	5054	1.11
219.00	283264	62.19	220.00	12252	4.33
502.00	11050	2.43	503.00	1163	10.52

Air/Water Check: H2O=0.56% N2=6.00% O2=1.93% CO2=0.18% N2/H2O=1063.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502; EM Gain 123531
Repeller Maximum 35 volts using ion 502; Gain Factor 1.24

MassGain Values(Samples): -604(3) -599(2) -577(1) -529(0) -442(FS)

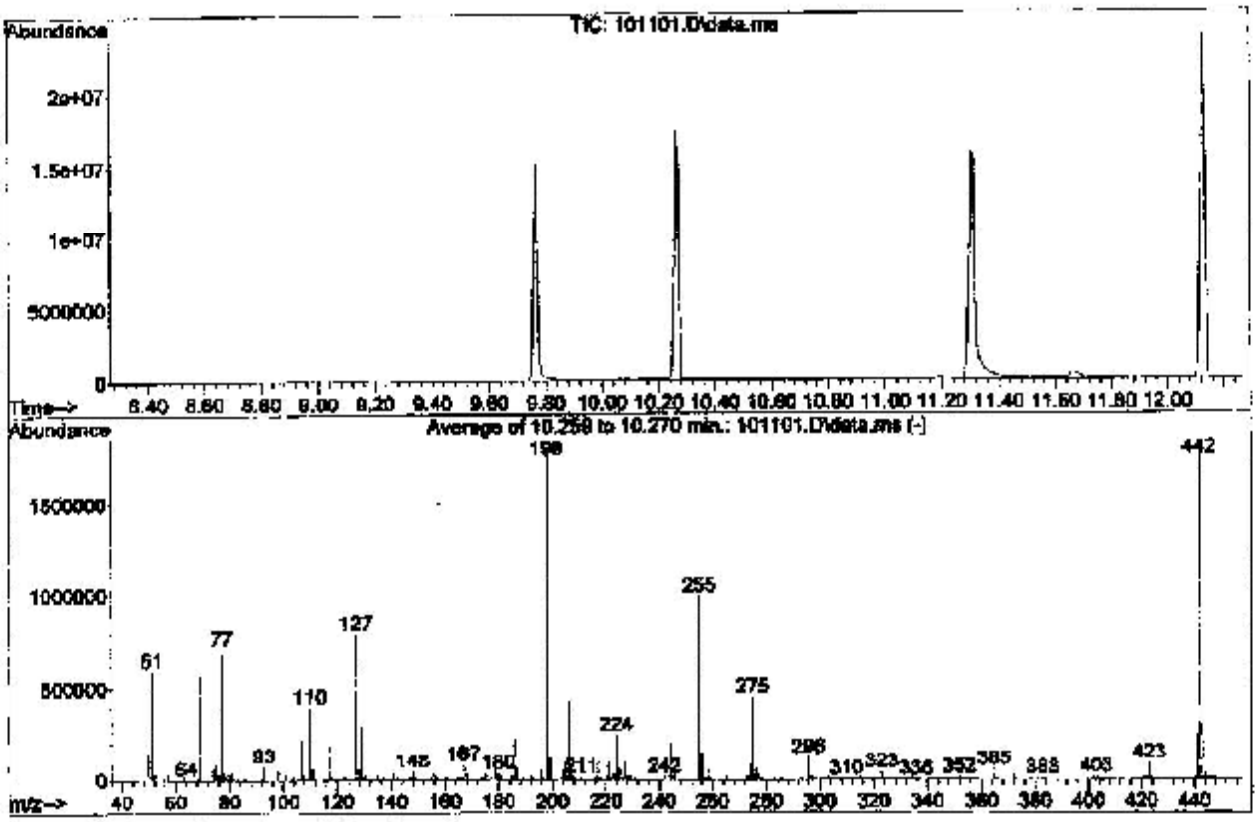
TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.5	124.5	124.5	124.5	124.5	124.5	124.5
Entrance Lens Offset:	13.8	11.8	11.5	12.3	12.5	13.1	13.1
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	50.8	62.2	2.9	2.4	

DFTPP

Data Path : D:\Data\SVOC\101112\
Data file : 101101.D
Acq On : 11 Oct 2012 9:32 am
Operator :
Sample : TONE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

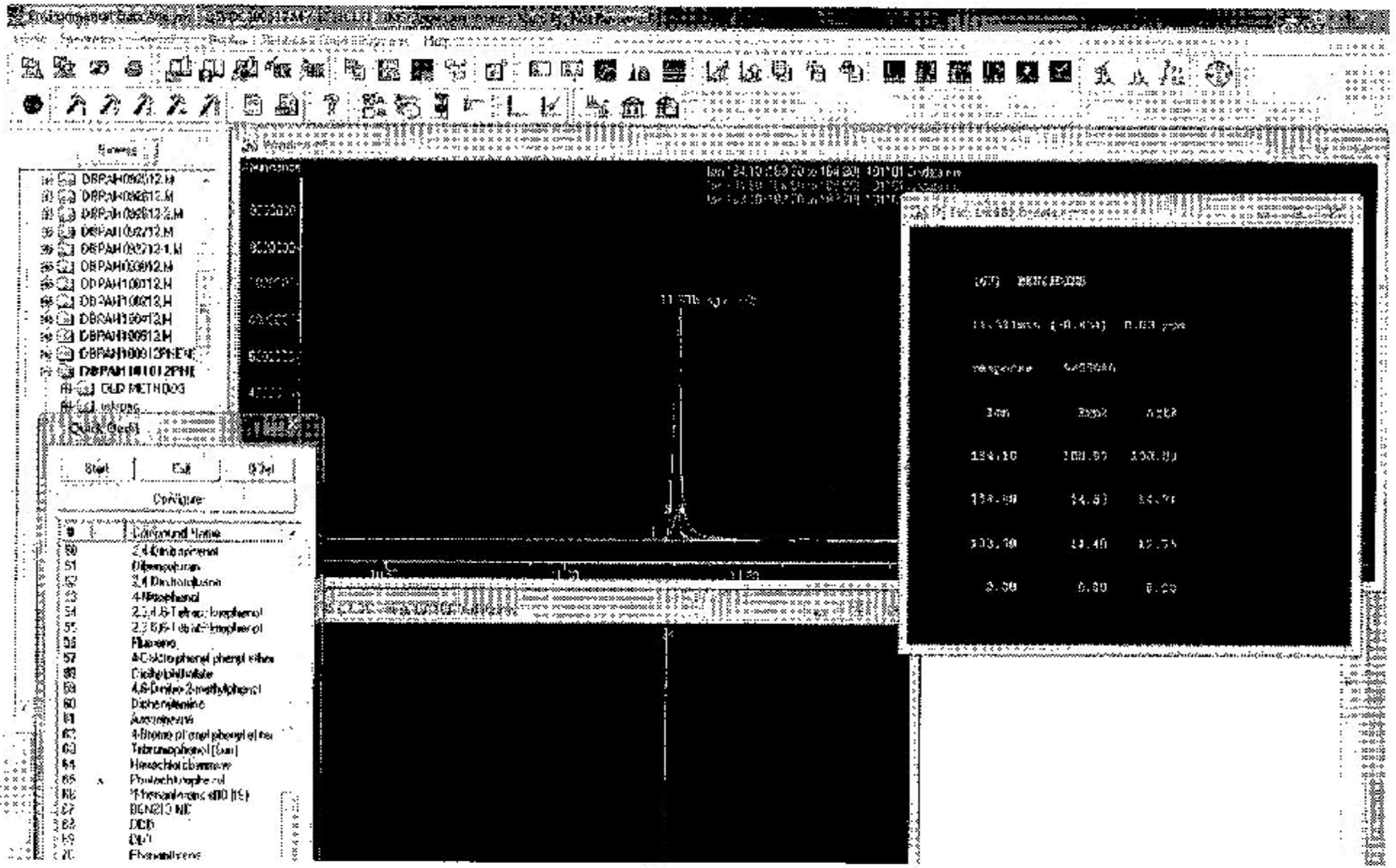
Integration File: RTEINTSG8270.P

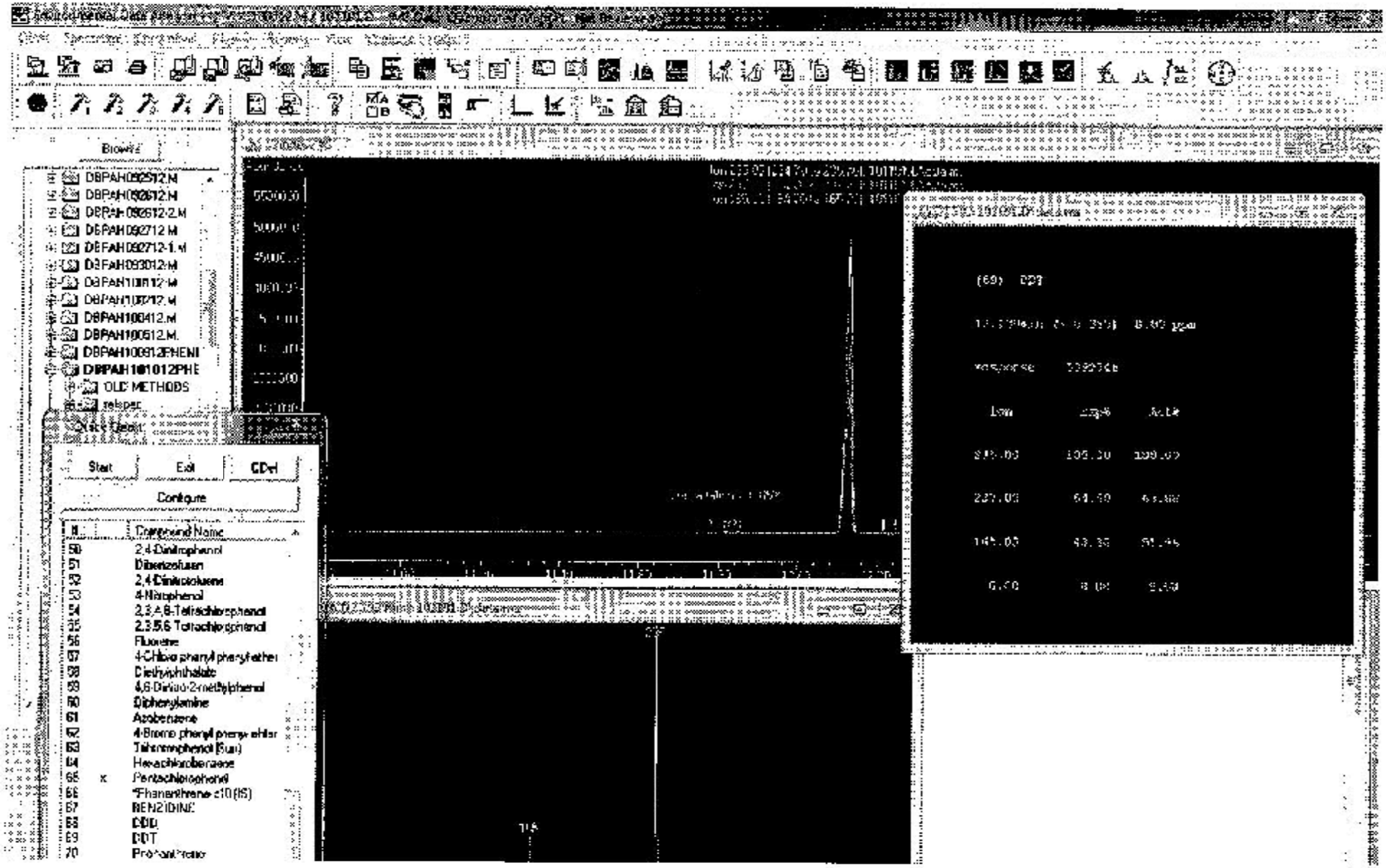
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 04 15:27:51 2012

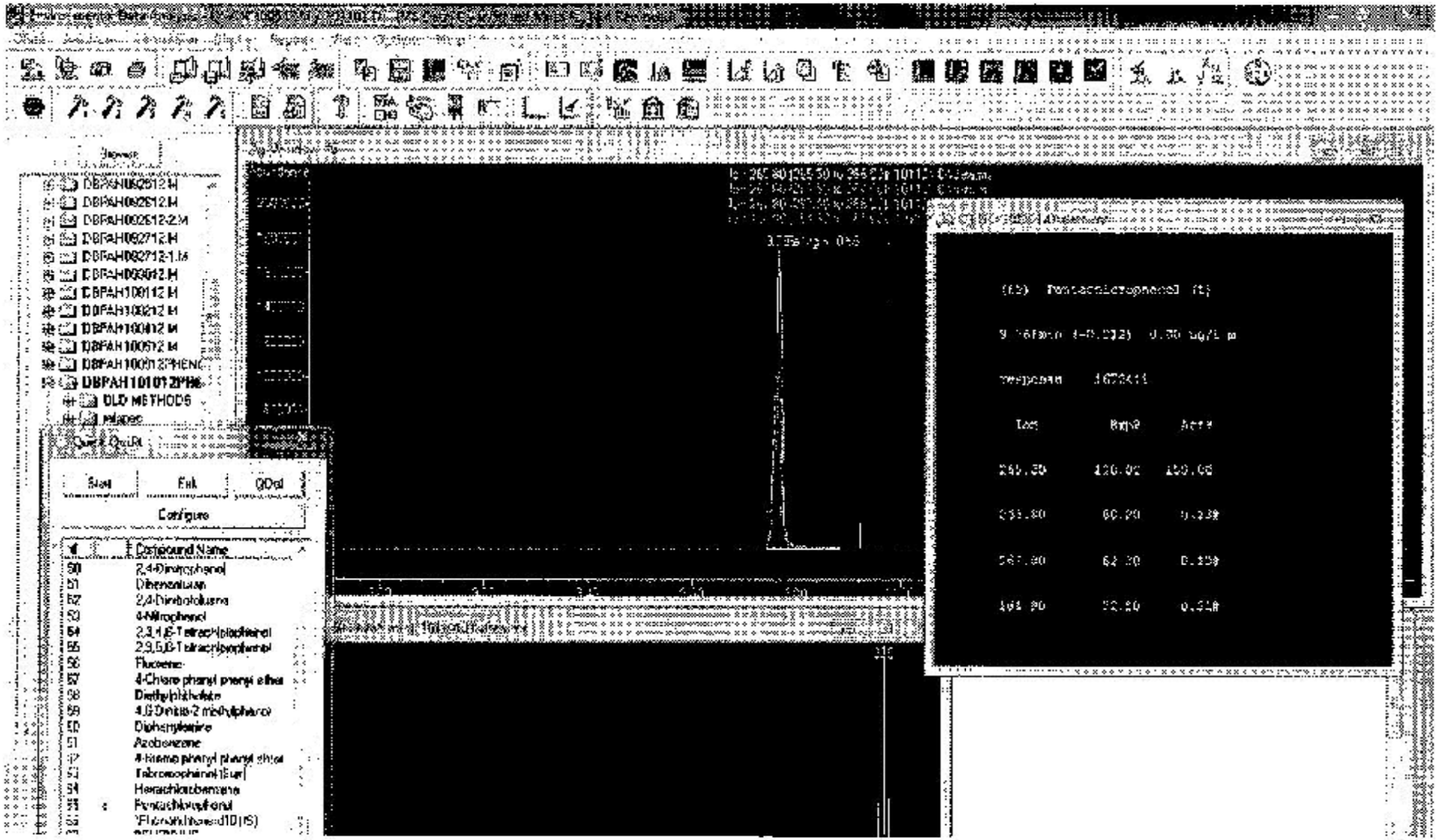


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.9	594923	PASS
68	69	0.00	2	1.5	8916	PASS
69	198	0.00	100	32.9	577088	PASS
70	69	0.00	2	0.5	3049	PASS
127	198	10	80	44.9	788437	PASS
197	198	0.00	2	0.3	5802	PASS
198	198	100	100	100.0	1754795	PASS
199	198	5	9	6.7	117035	PASS
275	198	10	60	25.4	446165	PASS
365	198	1	100	3.2	55821	PASS
441	442	0.01	24	14.0	247979	PASS
442	198	50	999	100.6	1765013	PASS
443	442	15	24	19.0	335381	PASS




Browse
DBPAH092512.M
DBPAH092612.M
DBPAH092612-2.M
DBPAH092712.M
DBPAH092712-1.M
DBPAH093012.M
DBPAH100112.M
DBPAH100712.M
DBPAH100412.M
DBPAH100512.M
DBPAH100812PHENI
DBPAH101012PHE
OLD METHODS
Start
Exit
CDrl
Configure
Compound Name
2,4-Dinitrophenol
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl phenyl ether
Tribromophenol (Surr)
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
BENZIDINE
DDD
DDT
Pronamide
(69) DDT


Start
Edit
QQcal
Configure
Compound Name
50 2,4-Dinitrophenol
51 Dibenzofuran
52 2,4-Dinitrotoluene
53 4-Nitrophenol
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl phenyl ether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl phenyl ether
63 Tribromophenol(IS)
64 Hexachlorobenzene
65 Pentachlorophenol
66 Phenanthrene-d10(IS)
(65) Pentachlorophenol (C)
Lost
Rqn2
Acc#

Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101102.D
Acq On : 11 Oct 2012 9:57 am
Operator :
Sample : CCV-
Misc : CCV O-PAH-S-SIM
ALS Vial : 106 Sample Multiplier: 1

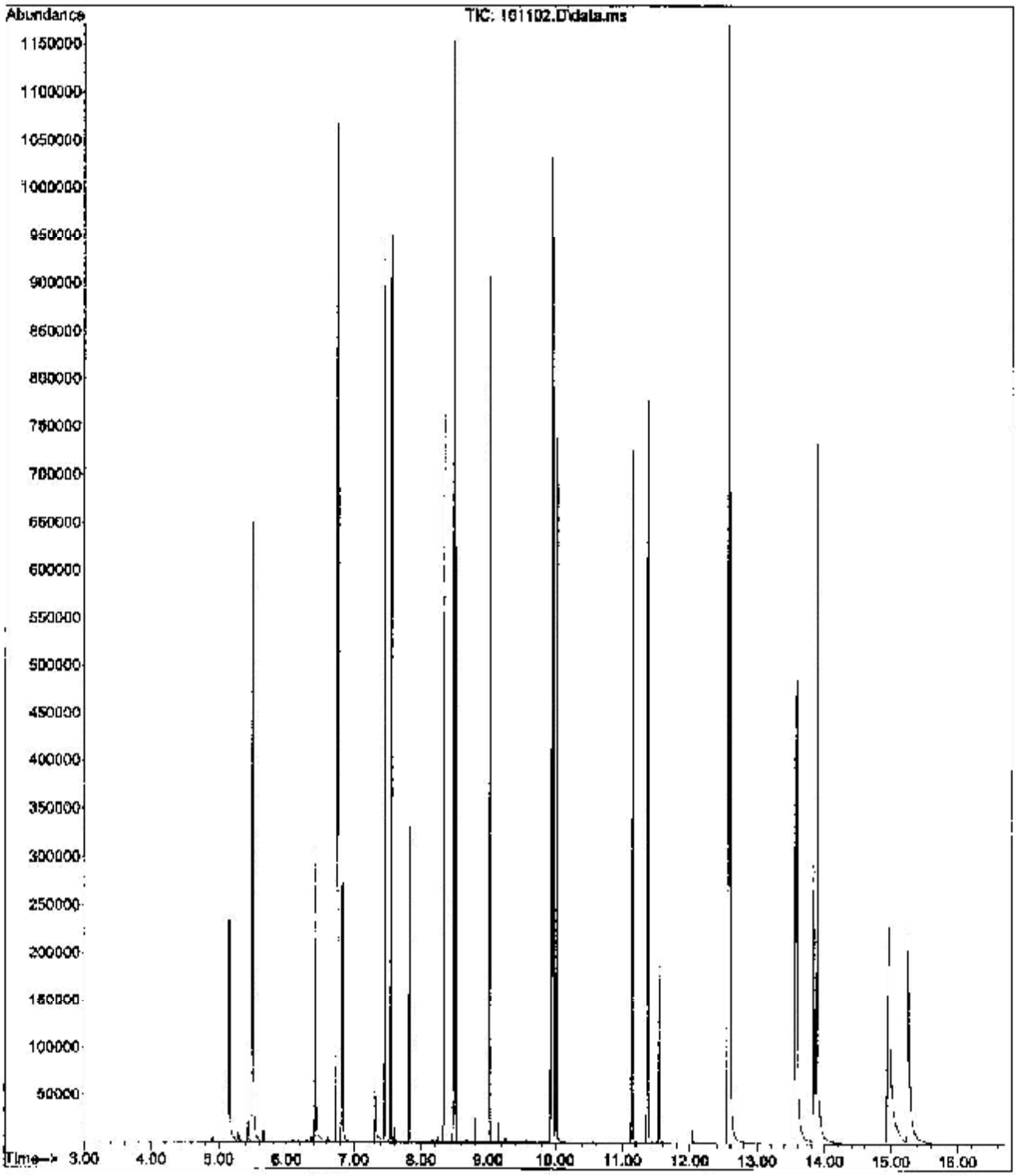
Quant Time: Oct 11 10:18:47 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	248623	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	835095	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	446598	2000.00	ug/L		0.00
13) Phenanthrene d10 (IS)	9.945	188	743459	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	729868	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	702387	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	181169	959.28	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	179090	485.31	ug/L		0.00
16) Terphenyl-d14 (surr)	11.539	244	142994	521.78	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.426	107	148187	1012.19	ug/L		99
5) Naphthalene	6.766	128	544594	1027.95	ug/L		100
6) 2-Methylnaphthalene	7.453	142	333013	1072.91	ug/L		98
7) 1-Methylnaphthalene	7.548	142	310432	1057.01	ug/L		98
9) Acenaphthylene	8.338	152	480542	1129.50	ug/L		100
11) Acenaphthene	8.508	152	149723	996.95	ug/L		99
12) Fluorene	9.020	166	358083	1040.24	ug/L		96
14) Phenanthrene	9.967	178	503861	993.14	ug/L		100
15) Anthracene	10.018	178	490231	1081.63	ug/L		98
17) Fluoranthene	11.145	202	533364	1167.88	ug/L		95
18) Pyrene	11.368	202	554385	1161.39	ug/L		94
19) Benzo (a) anthracene	12.557	228	443172	1107.09	ug/L	#	100
21) Chrysene	12.592	228	513400	973.60	ug/L		93
22) benzo (b) fluoranthene	13.556	252	333763	870.91	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	571274	1049.42	ug/L		100
24) benzo (a) pyrene	13.835	252	371929	996.28	ug/L		94
26) Indeno(1,2,3-cd)pyrene	14.948	276	392749	1044.45	ug/L		96
27) Dibenz (a,h) anthracene	14.969	278	283366	947.26	ug/L		97
28) Benzo (g,h,i) perylene	15.258	276	403930	973.86	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:00:28 2012 PAH

File :D:\Data\SVOC\101112\1011C2.D
Operator :
Acquired : 11 Oct 2012 9:57 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCV-
Misc Info : CCV O-PAH-S-SIM
Vial Number: 106



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101112\
Data File : 101103.D
Acq On : 11 Oct 2012 10:22 am
Operator :
Sample : CCB-
Misc : CCB 0-PAH-S-SIM
ALS Vial : 110 Sample Multiplier: 1

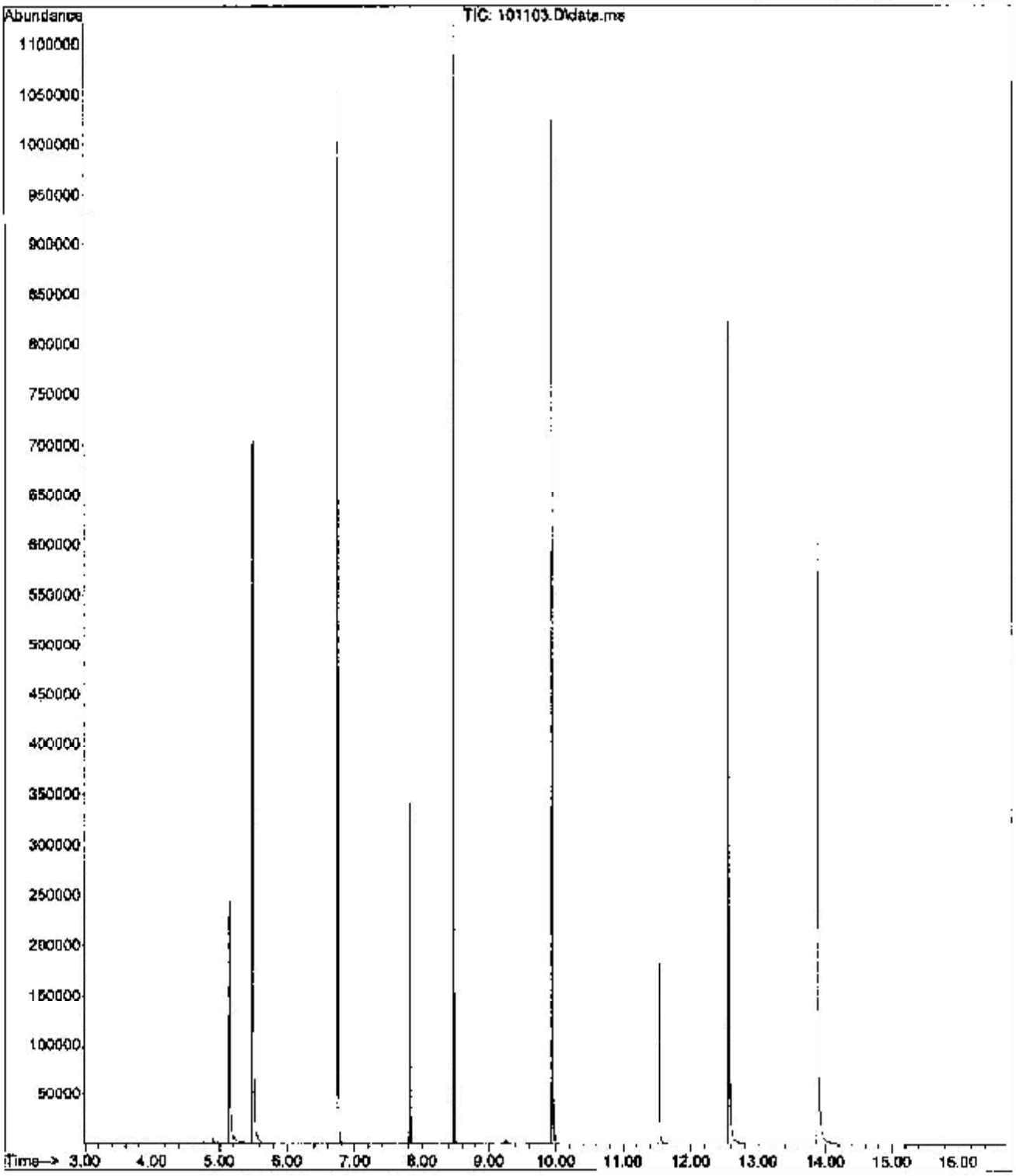
Quant Time: Oct 11 10:51:19 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 09:37:24 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	268896	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	875931	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	437548	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	710840	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	649472	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	599480	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	188579	923.24 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.820	172	191340	494.33 ug/L	0.00
16) Terphenyl-d14 (surr)	11.539	244	133750	510.45 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.432	107	54	N.D.	
5) Naphthalene	6.766	128	52	N.D.	
6) 2-Methylnaphthalene	7.457	142	31	N.D.	
7) 1-Methylnaphthalene	7.550	142	25	N.D.	
9) Acenaphthylene	8.337	152	8	N.D.	
11) Acenaphthene	8.508	152	11	N.D.	
12) Fluorene	9.021	166	53	N.D.	
14) Phenanthrene	9.966	178	143	N.D.	
15) Anthracene	10.020	178	82	N.D.	
17) Fluoranthene	11.146	202	75	N.D.	
18) Pyrene	11.369	202	96	N.D.	
19) Benzo (a) anthracene	12.565	228	1684	N.D.	
21) Chrysene	12.566	228	1176	N.D.	
22) benzo (b) fluoranthene	13.554	252	83	N.D.	
23) benzo (k) fluoranthene	13.579	252	163	N.D.	
24) benzo (a) pyrene	13.832	252	81	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.945	276	49	N.D.	
27) Dibenz (a,h) anthracene	14.957	278	20	N.D.	
28) Benzo (g,h,i) perylene	15.250	276	24	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Thu Oct 11 14:03:19 2012 PAH

File : D:\Data\SVOC\101112\101103.D
Operator :
Acquired : 11 Oct 2012 10:22 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: CCB-
Misc Info : CCB O-PAH-S-SIM
Vial Number: 110



Fremont Analytical, Inc.

PREP BATCH REPORT

Prep Start Date: **9/28/2012 4:26:38 P**
Prep End Date: **9/28/2012 4:26:38 P**

Prep Batch ID **3307** Prep Code: **PREP-PAH-S** Technician: **Paul Ho**

Prep Factor Units: **mL / g**

Initial Temp: °C Final Temp °C

Sample ID	ClientSampleID	Matrix	pH1	pH2	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
LCS-3307		Soil			10	0	0	10	1.000	9/28/2012	9/28/2012
1209142-001A	SVRZ-WSW1-92112	Soil			11.65	0	0	10	0.858	9/28/2012	9/28/2012
1209142-001AMS		Soil			11.35	0	0	10	0.881	9/28/2012	9/28/2012
1209142-002A	SVRZ-SB1-092112	Soil			10.97	0	0	10	0.912	9/28/2012	9/28/2012
1209142-003A	SVRZ-SB2-092112	Soil			13.34	0	0	10	0.750	9/28/2012	9/28/2012
1209142-004A	SVRZ-SB3-092112	Soil			11.25	0	0	10	0.889	9/28/2012	9/28/2012
1209142-002ADUP		Soil			11.46	0	0	10	0.873	9/28/2012	9/28/2012
1209173-001A	IRZ-B1-92712	Soil			13.88	0	0	10	0.720	9/28/2012	9/28/2012
1209173-003ADUP		Soil			11.07	0	0	10	0.903	9/28/2012	9/28/2012
1209173-002A	IRZ-ESW2-92712	Soil			14.17	0	0	10	0.706	9/28/2012	9/28/2012
1209173-003A	IRZ-ESW1-92712	Soil			12.15	0	0	10	0.823	9/28/2012	9/28/2012
1209173-004A	IRZ-ESW3-92712	Soil			12.38	0	0	10	0.808	9/28/2012	9/28/2012
1209190-001A	IRZ-B2-92712	Soil			12.7	0	0	10	0.787	9/28/2012	9/28/2012
1209190-003ADUP		Soil			11.36	0	0	10	0.880	9/28/2012	9/28/2012
1209190-002A	IRZ-B3-92712	Soil			11.62	0	0	10	0.861	9/28/2012	9/28/2012
1209190-003A	IRZ-B4-92712	Soil			13.19	0	0	10	0.758	9/28/2012	9/28/2012
1209190-004A	IRZ-Dupe1-92712	Soil			13.3	0	0	10	0.752	9/28/2012	9/28/2012
1209190-005A	IRZ-NESW1-92812	Soil			14.08	0	0	10	0.710	9/28/2012	9/28/2012
1209190-006A	IRZ-B1-92812	Soil			12.14	0	0	10	0.824	9/28/2012	9/28/2012

Type	Chemical / Reagent ID	Chemical / Reagent Name	Container#	Container ID	Amount Added	Amount Unit

Spike ID	Spike Name	Samp Type	Container#	Container ID	Amount Added	Amount Unit

Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101214.D
Acq On : 12 Oct 2012 5:24 am
Operator :
Sample : MB-3307
Misc : MBLK O-PAH-SIM-S-LIBBY
ALS Vial : 11 Sample Multiplier: 1

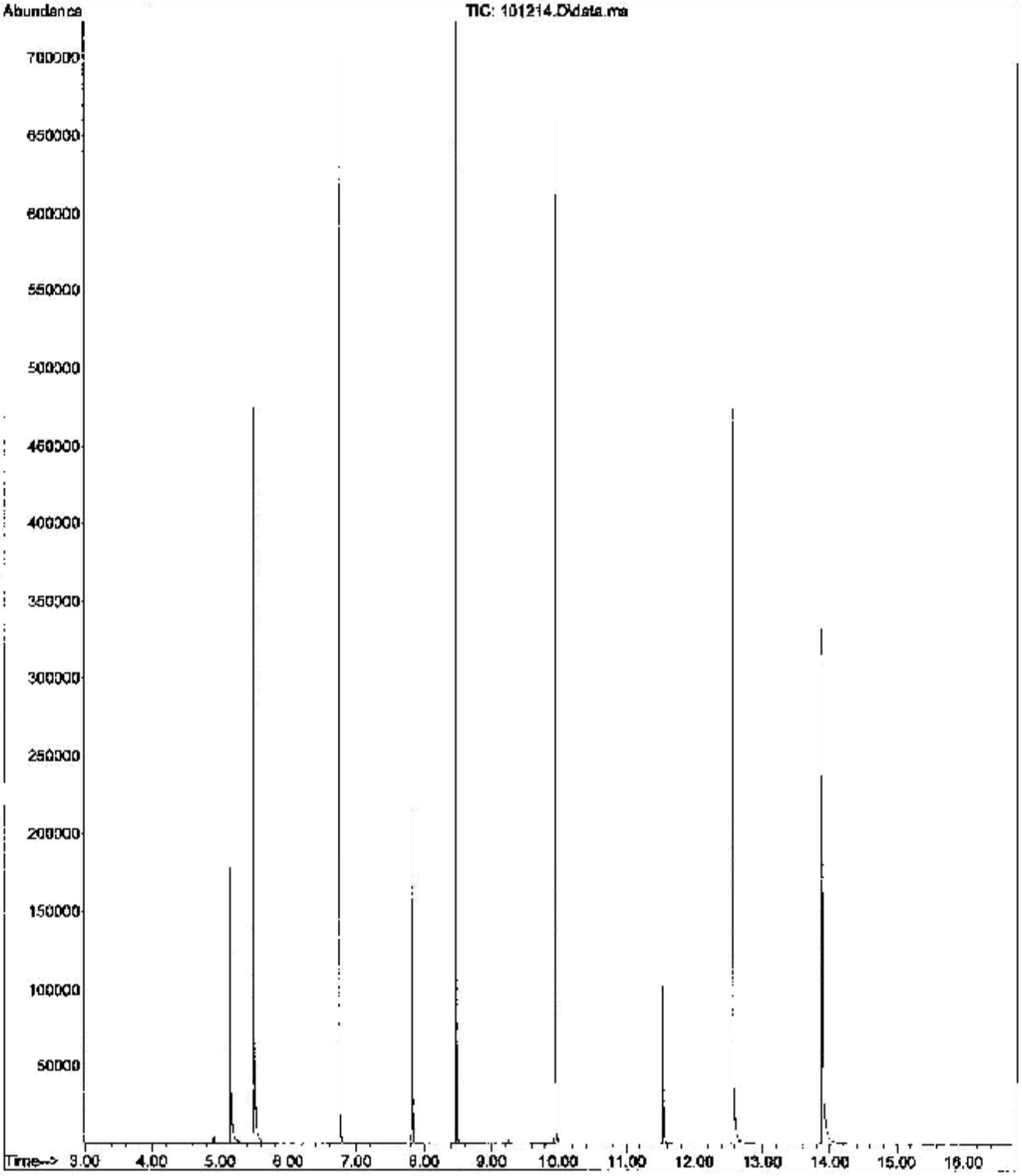
Quant Time: Oct 12 10:07:56 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	179751	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	568862	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	277961	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	450595	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.567	240	384299	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	352992	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	139867	1024.35 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	126849	504.62 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	80011	481.72 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.441	107	12	N.D.	
5) Naphthalene	6.769	128	88	N.D.	
6) 2-Methylnaphthalene	7.461	142	41	N.D.	
7) 1-Methylnaphthalene	7.552	142	29	N.D.	
9) Acenaphthylene	8.341	152	1	N.D.	
11) Acenaphthene	8.506	152	3	N.D.	
12) Fluorene	9.024	166	10	N.D.	
14) Phenanthrene	9.966	178	63	N.D.	
15) Anthracene	10.022	178	1	N.D.	
17) Fluoranthene	11.152	202	2	N.D.	
18) Pyrene	11.374	202	4	N.D.	
19) Benzo (a) anthracene	12.566	228	980	N.D.	
21) Chrysene	12.566	228	857	N.D.	
22) benzo (b) fluoranthene	13.557	252	17	N.D.	
23) benzo (k) fluoranthene	13.581	252	98	N.D.	
24) benzo (a) pyrene	13.837	252	38	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.948	276	9	N.D.	
27) Dibenz (a,h) anthracene	14.964	278	1	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	1	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:34 2012 PAH

File : D:\Data\SVOC\101212\101214.D
Operator :
Acquired : 12 Oct 2012 5:24 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: MB-3307
Misc Info : MBLK 0-PAH-SIM-S-LISBY
Vial Number: 21



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101215.D
Acq On : 12 Oct 2012 5:49 am
Operator :
Sample : LCS-3307
Misc : LCS 0-PAH-SIM-S-LIBBY
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Oct 12 10:08:03 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187731	2000.00 ug/L		0.00
4) Naphthalene-d8 [IS)	6.747	136	599973	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	304778	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	406073	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	452574	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	431335	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	148948	1044.49 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	131492	495.97 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	85270	475.91 ug/L		0.00
Target Compounds						Qvalue
3] 2,4-Dimethylphenol	6.427	107	109467	990.24 ug/L		99
5] Naphthalene	6.766	128	400471	1052.14 ug/L		100
6] 2-Methylnaphthalene	7.453	142	238968	1071.63 ug/L		99
7] 1-Methylnaphthalene	7.550	142	224647	1064.68 ug/L		100
9] Acenaphthylene	8.338	152	342966	1122.05 ug/L		100
11] Acenaphthene	8.508	152	107085	1044.83 ug/L		99
12] Fluorene	9.021	166	248965	1059.80 ug/L		99
14] Phenanthrene	9.368	178	349216	1052.81 ug/L		100
15] Anthracene	10.020	178	334513	1128.87 ug/L		100
17] Fluoranthene	11.146	202	346508	1160.50 ug/L		99
18] Pyrene	11.368	202	364375	1167.54 ug/L		99
19] Benzo (a] anthracene	12.559	228	276159	1055.18 ug/L	#	100
21] Chrysene	12.592	228	352855	1079.13 ug/L		99
22] benzo (b] fluoranthene	13.557	252	202925	853.94 ug/L	#	100
23] benzo (k] fluoranthene	13.580	252	386801	1145.90 ug/L		100
24] benzo (a] pyrene	13.837	252	226944	981.24 ug/L		97
26] Indeno(1,2,3-cd)pyrene	14.948	276	246110	1064.76 ug/L		98
27] Dibenz (a,h) anthracene	14.969	278	170581	929.17 ug/L		98
28] Benzo (g,h,i) perylene	15.258	276	252431	991.03 ug/L		96

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:27:51 2012 PAH

```
File        :D:\Data\SVOC\101212\101215.D
Operator    :
Acquired    : 12 Oct 2012    5:49 am using AcqMethod DBPAH101012PHENOL.M
Instrument  :    HP-MSD
Sample Name: LCS-3307
Misc Info   : LCS  D-PAH-SIM-S-LIBBY
Vial Number: 12
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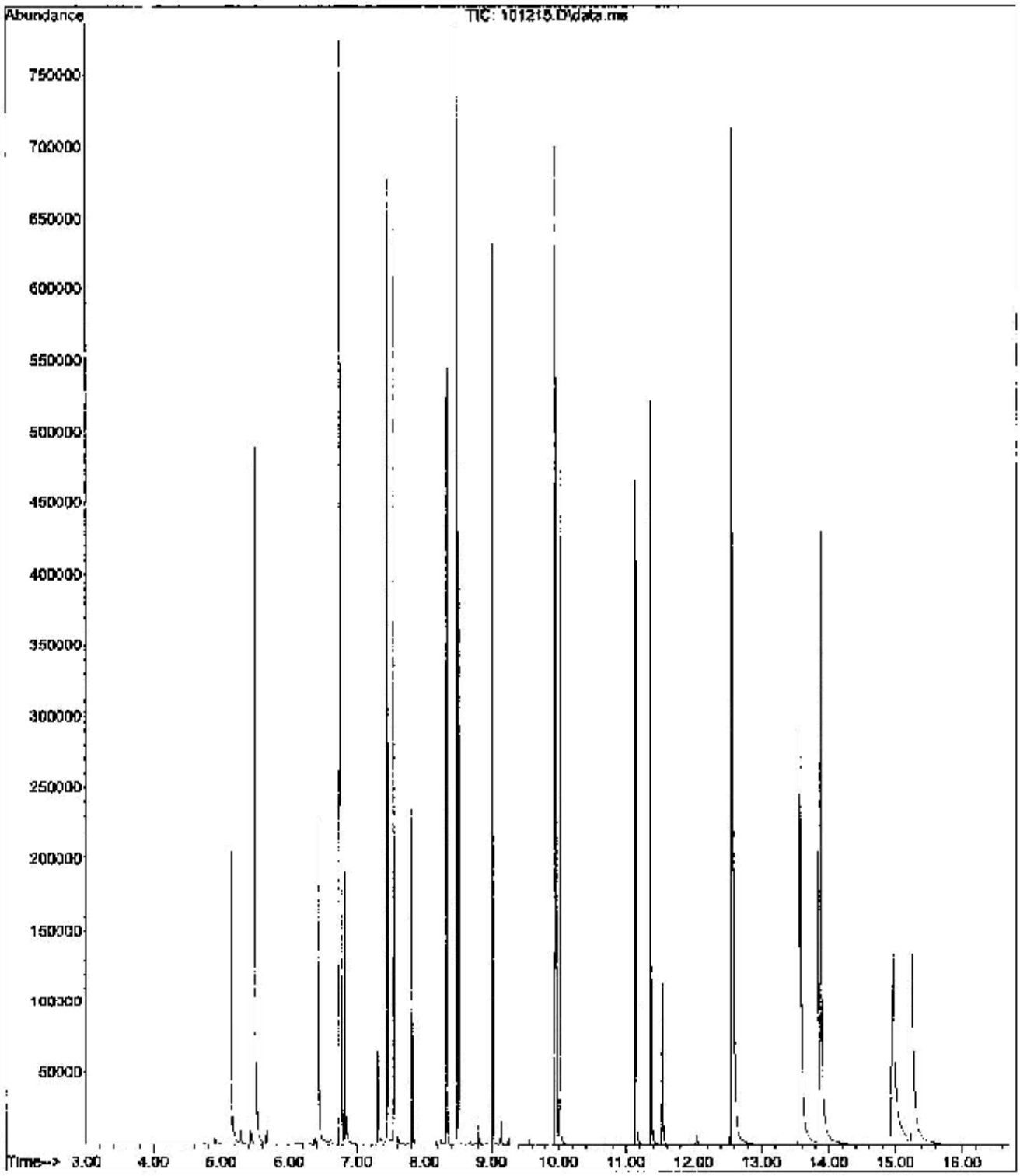


Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101216.D
Acq On : 12 Oct 2012 6:14 am
Operator :
Sample : 1209142-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 13 Sample Multiplier: 1

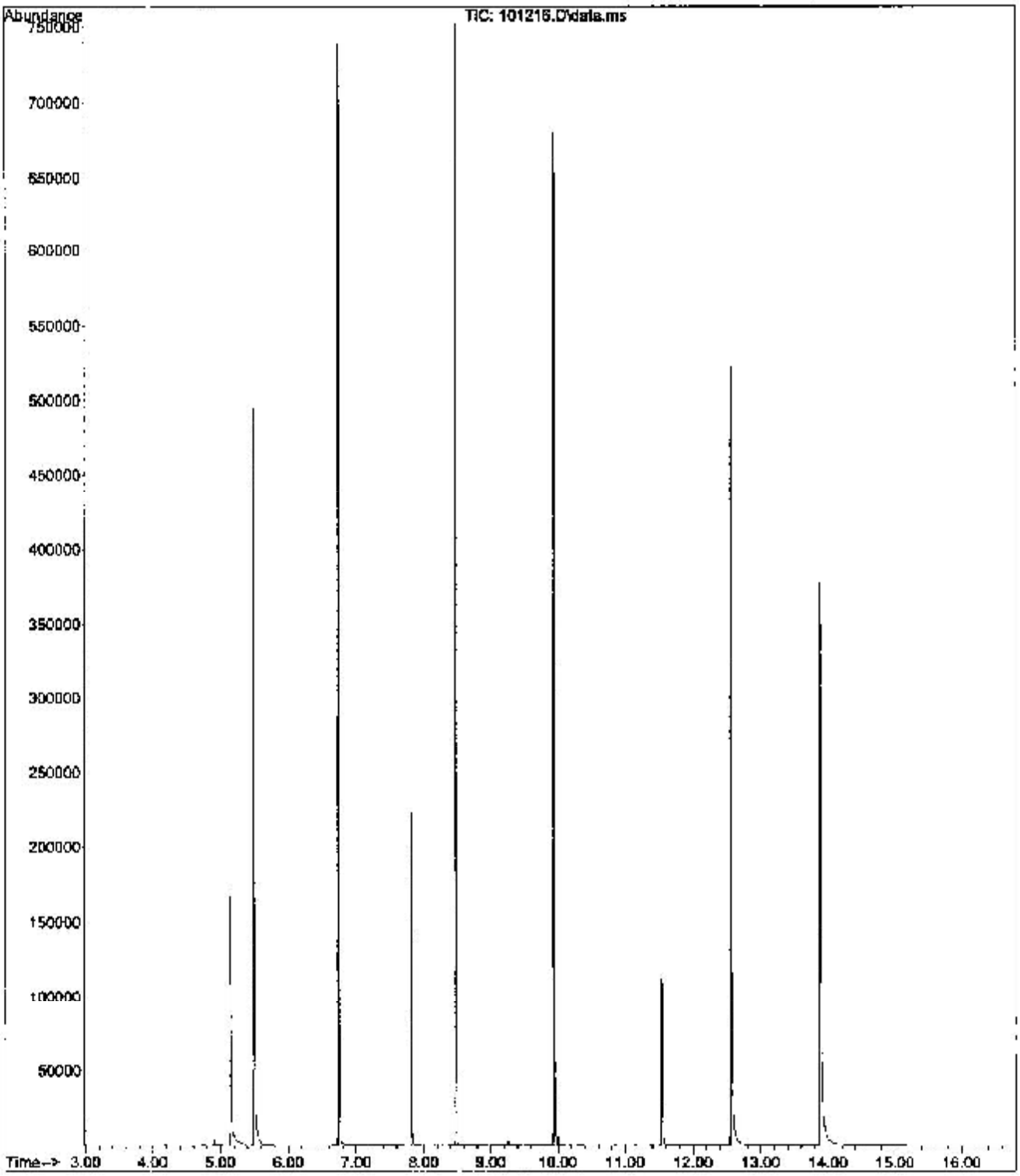
Quant Time: Oct 12 10:08:12 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	187904	2000.00	ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	593470	2000.00	ug/L	0.00
10) Acenaphthene-d10 (IS)	8.480	164	293033	2000.00	ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	403359	2000.00	ug/L	0.00
20) Chrysene-d12 (IS)	12.568	240	431840	2000.00	ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	419688	2000.00	ug/L	0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	129890	910.01	ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	125455	478.38	ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	86884	487.64	ug/L	0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.405	107	55	N.D.		
5) Naphthalene	6.766	128	110	N.D.		
6) 2-Methylnaphthalene	7.461	142	46	N.D.		
7) 1-Methylnaphthalene	7.554	142	33	N.D.		
9) Acenaphthylene	8.341	152	3	N.D.		
11) Acenaphthene	8.511	152	14	N.D.		
12) Fluorene	9.025	166	26	N.D.		
14) Phenanthrene	9.969	178	294	N.D.		
15) Anthracene	10.022	178	42	N.D.		
17) Fluoranthene	11.150	202	71	N.D.		
18) Pyrene	11.371	202	205	N.D.		
19) Benzo (a) anthracene	12.566	228	1293	N.D.		
21) Chrysene	12.566	228	1061	N.D.		
22) benzo (b) fluoranthene	13.559	252	56	N.D.		
23) benzo (k) fluoranthene	13.581	252	228	N.D.		
24) benzo (a) pyrene	13.835	252	80	N.D.		
26) Indeno(1,2,3-cd)pyrene	14.945	276	7	N.D.		
27) Dibenz (a,h) anthracene	14.965	278	10	N.D.		
28) Benzo (g,h,i) perylene	15.258	276	45	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:06 2012 PAH

File : D:\Data\SVOC\101212\101216.D
Operator :
Acquired : 12 Oct 2012 6:14 am using AcqMethod DRPAHIC1012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 13



Quantitation Report (Not Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101217.D
Acq On : 12 Oct 2012 6:39 am
Operator :
Sample : 1209142-001AMS
Misc : MS O-PAH-SIM-S-LIBBY
ALS Vial : 14 Sample Multiplier: 1

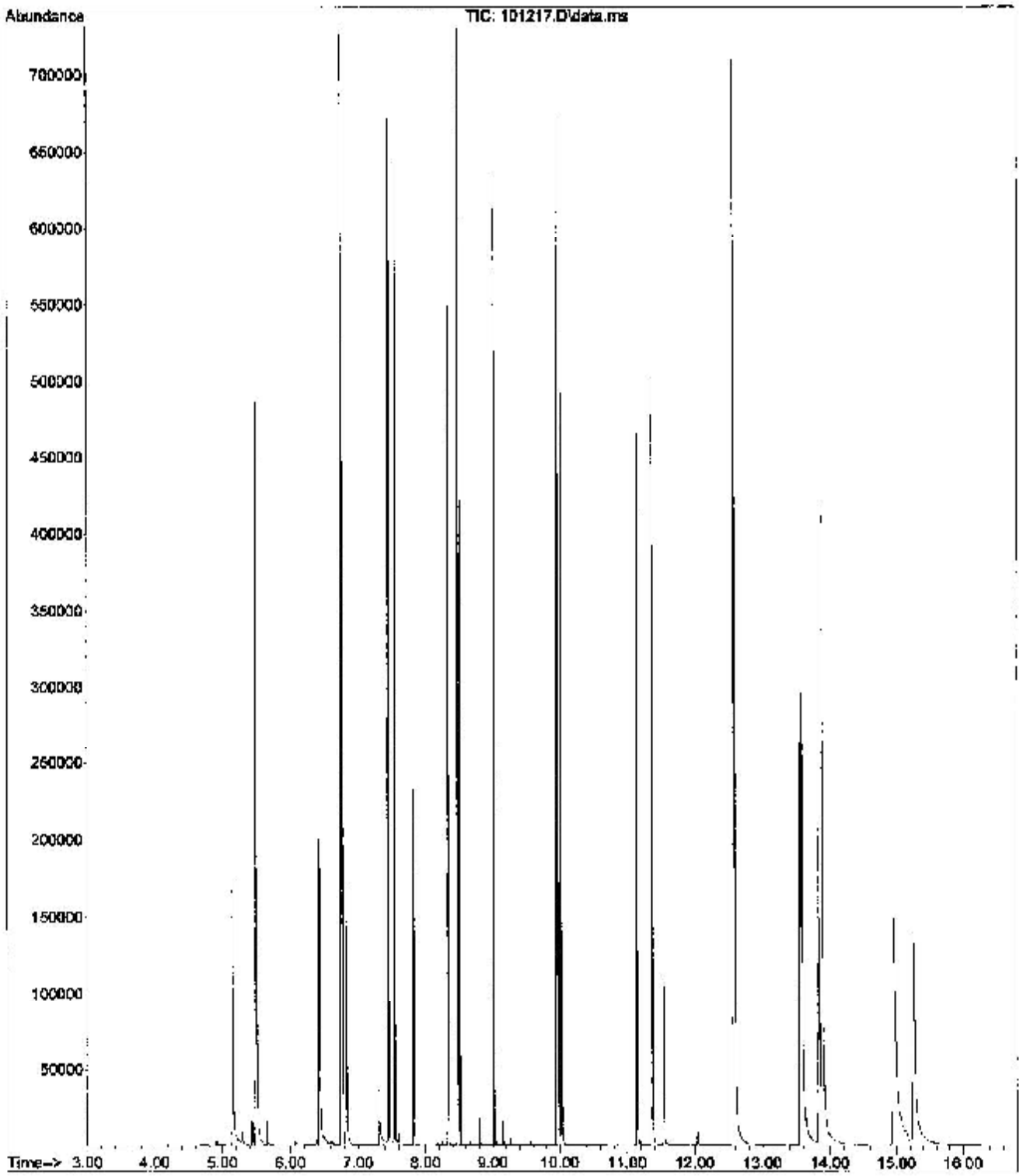
Quant Time: Oct 12 10:08:21 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
Internal Standards							
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	178484	2000.00	ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	571150	2000.00	ug/L		0.00
10) Acenaphthene-d10 (IS)	8.480	164	287688	2000.00	ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	459410	2000.00	ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	431641	2000.00	ug/L		0.00
25) Perylene-d12 (IS)	13.885	264	424924	2000.00	ug/L		0.00
System Monitoring Compounds							
2) Phenol-d6	5.151	99	133847	987.22	ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	129244	512.09	ug/L		0.00
16) Terphenyl-d14 (surr)	11.541	244	87331	515.70	ug/L		0.00
Target Compounds							Qvalue
3) 2,4-Dimethylphenol	6.427	107	107910	1026.73	ug/L		99
5) Naphthalene	6.766	128	390418	1077.49	ug/L		100
6) 2-Methylnaphthalene	7.463	142	233535	1100.12	ug/L		99
7) 1-Methylnaphthalene	7.550	142	219903	1094.79	ug/L		100
9) Acenaphthylene	8.338	152	335044	1151.45	ug/L		100
11) Acenaphthene	8.509	152	103959	1074.58	ug/L		100
12) Fluorene	9.020	166	242403	1093.16	ug/L		99
14) Phenanthrene	9.967	178	339017	1081.38	ug/L		100
15) Anthracene	10.020	178	325931	1163.75	ug/L		100
17) Fluoranthene	11.147	202	349255	1237.59	ug/L		99
18) Pyrene	11.367	202	364484	1235.67	ug/L		99
19) Benzo (a) anthracene	12.559	228	284698	1150.94	ug/L	#	100
21) Chrysene	12.592	228	338350	1084.96	ug/L		99
22) benzo (b) fluoranthene	13.556	252	206841	912.63	ug/L	#	100
23) benzo (k) fluoranthene	13.580	252	385639	1197.86	ug/L		100
24) benzo (a) pyrene	13.835	252	238195	1074.05	ug/L		98
26) Indeno(1,2,3-cd)pyrene	14.950	276	267932	1170.84	ug/L		98
27) Dibenz (a,h) anthracene	14.970	278	186919	1029.80	ug/L		98
28) Benzo (g,h,i) perylene	15.257	276	269776	1075.11	ug/L		97

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:20:17 2012 PAH

File : D:\Data\SVOC\101212\101217.D
Operator :
Acquired : 12 Oct 2012 6:39 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209142-001AMS
Misc Info : MS O-PAH-SIM-S-LIBBY
Vial Number: 14



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101218.D
Acq On : 12 Oct 2012 7:04 am
Operator :
Sample : 1209173-003A
Misc : SAMP O-PAH-STM-S-LIBBY
ALS Vial : 15 Sample Multiplier: 1

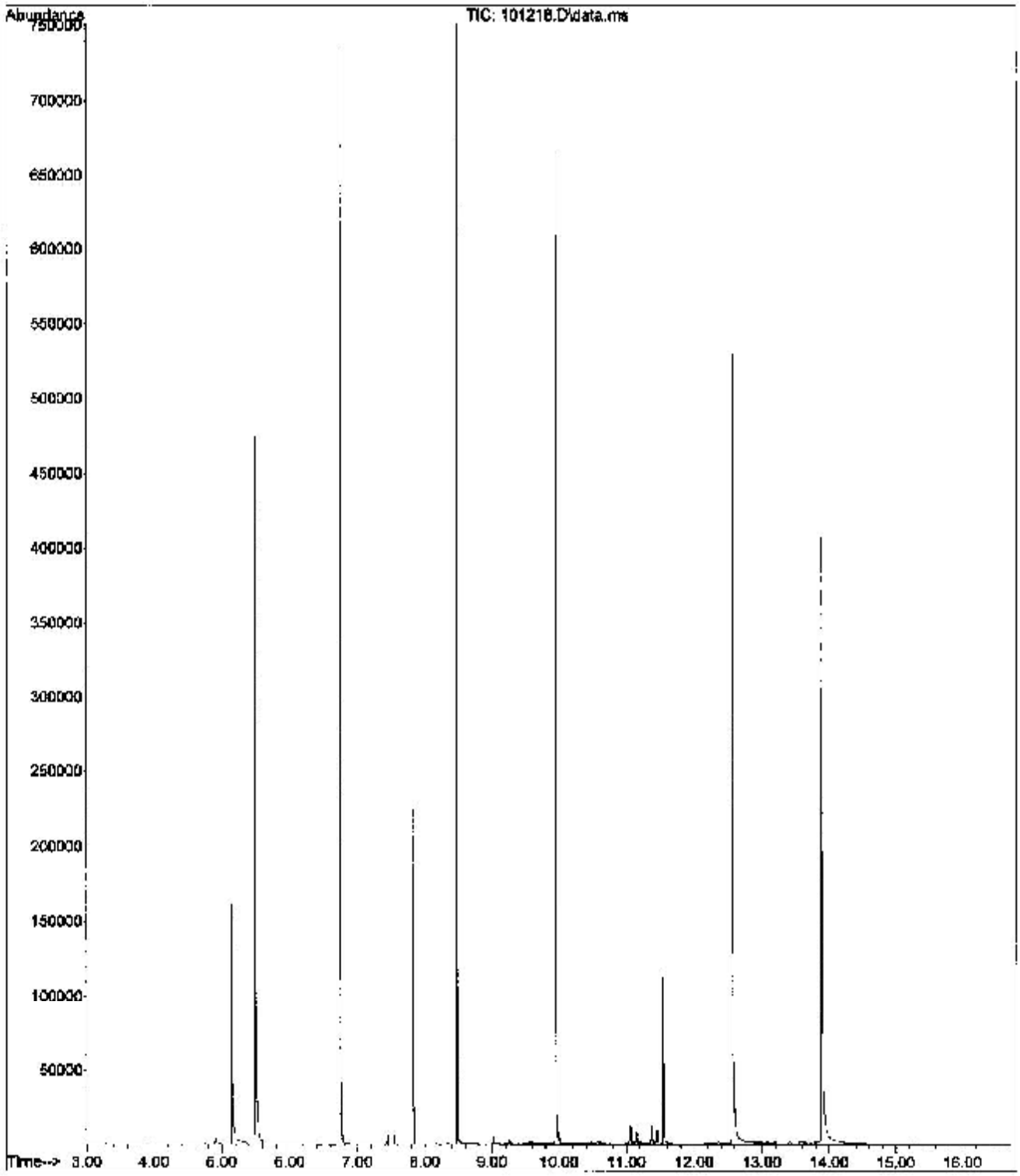
Quant Time: Oct 12 10:08:29 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units		Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	180324	2000.00 ug/L		0.00
4) Naphthalene-d8 (IS)	6.747	136	574014	2000.00 ug/L		0.00
10) Acenaphthene-d10 (IS)	8.478	164	292212	2000.00 ug/L		0.00
13) Phenanthrene-d10 (IS)	9.946	188	476874	2000.00 ug/L		0.00
20) Chrysene-d12 (IS)	12.568	240	439299	2000.00 ug/L		0.00
25) Perylene-d12 (IS)	13.887	264	444062	2000.00 ug/L		0.00
System Monitoring Compounds						
2) Phenol-d6	5.151	99	126529	923.72 ug/L		0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127274	501.77 ug/L		0.00
16) Terphenyl-d14 (surr)	11.540	244	93031	529.24 ug/L		0.00
Target Compounds						Qvalue
3) 2,4-Dimethylphenol	6.449	107	1204	11.34 ug/L		96
5) Naphthalene	6.766	128	4799	13.18 ug/L		97
6) 2-Methylnaphthalene	7.457	142	2613	12.25 ug/L	#	92
7) 1-Methylnaphthalene	7.550	142	2120	10.50 ug/L	#	83
9) Acenaphthylene	8.339	152	870	N.D.		
11) Acenaphthene	8.508	152	211	N.D.		
12) Fluorene	9.023	166	1661	7.37 ug/L		82
14) Phenanthrene	9.968	178	9721	29.87 ug/L		100
15) Anthracene	10.021	178	2451	8.43 ug/L		99
17) Fluoranthene	11.153	202	7440	25.40 ug/L	#	57
18) Pyrene	11.370	202	8739	28.54 ug/L	#	51
19) Benzo (a) anthracene	12.562	228	4045	15.75 ug/L	#	100
21) Chrysene	12.593	228	2472	7.79 ug/L	#	32
22) benzo (b) fluoranthene	13.560	252	1598	6.93 ug/L	#	100
23) benzo (k) fluoranthene	13.646	252	802	N.D.		
24) benzo (a) pyrene	13.885	252	1320	6.23 ug/L		92
26) Indeno(1,2,3-cd)pyrene	14.943	276	364	N.D.		
27) Dibenz (a,h) anthracene	14.969	278	42	N.D.		
28) Benzo (g,h,i) perylene	15.254	276	167	N.D.		

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:28:33 2012 PAH

File : D:\Data\SVOC\101212\101218.D
Operator :
Acquired : 12 Oct 2012 7:04 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209173-003A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 15



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101219.D
Acq On : 12 Oct 2012 7:29 am
Operator :
Sample : 1209173-003ADUP
Misc : DUP O-PAH-SIM-S-LIBBY
ALS Vial : 16 Sample Multiplier: 1

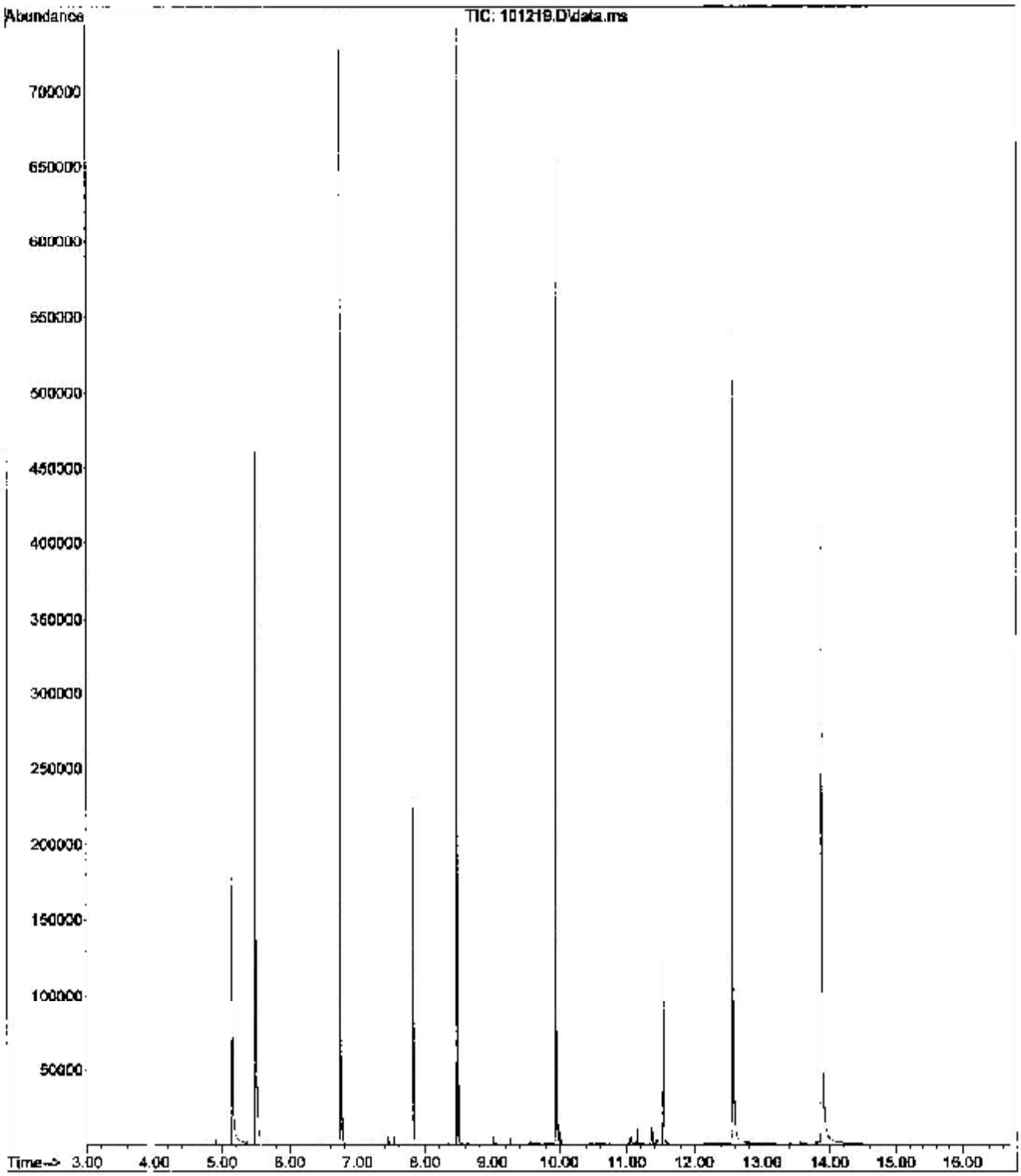
Quant Time: Oct 12 17:29:55 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	176494	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	564806	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	284577	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.946	188	467472	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	430392	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.885	264	432564	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	140164	1045.47 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	130356	522.30 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	95280	552.94 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.446	107	1252	12.05 ug/L	94
5) Naphthalene	6.766	128	4546	12.69 ug/L	96
6) 2-Methylnaphthalene	7.455	142	2422	11.54 ug/L #	90
7) 1-Methylnaphthalene	7.552	142	1824	9.18 ug/L #	78
9) Acenaphthylene	8.339	152	776	N.D.	
11) Acenaphthene	8.508	152	294	N.D.	
12) Fluorene	9.023	166	1949	8.89 ug/L #	76
14) Phenanthrene	9.968	178	7137	22.37 ug/L	99
15) Anthracene	10.021	178	2479	8.70 ug/L	99
17) Fluoranthene	11.152	202	6548	22.80 ug/L #	62
18) Pyrene	11.370	202	7430	24.75 ug/L #	51
19) Benzo (a) anthracene	12.561	228	3467	13.77 ug/L #	100
21) Chrysene	12.592	228	2816m	9.06 ug/L	
22) benzo (b) fluoranthene	13.561	252	1522	6.73 ug/L #	100
23) benzo (k) fluoranthene	13.645	252	688	N.D.	
24) benzo (a) pyrene	13.837	252	1213m	5.85 ug/L	
26) Indeno(1,2,3-cd)pyrene	14.945	276	433	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	83	N.D.	
28) Benzo (g,h,i) perylene	15.253	276	188	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:17 2012 PAH

File : D:\Data\SVOC\101212\101219.D
Operator :
Acquired : 12 Oct 2012 7:29 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209173-003ADUP
Misc Info : DUP O-PAH-SIM-S-LIBBY
Vial Number: 16



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101220.D
Acq On : 12 Oct 2012 7:54 am
Operator :
Sample : 1209190-001A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 17 Sample Multiplier: 1

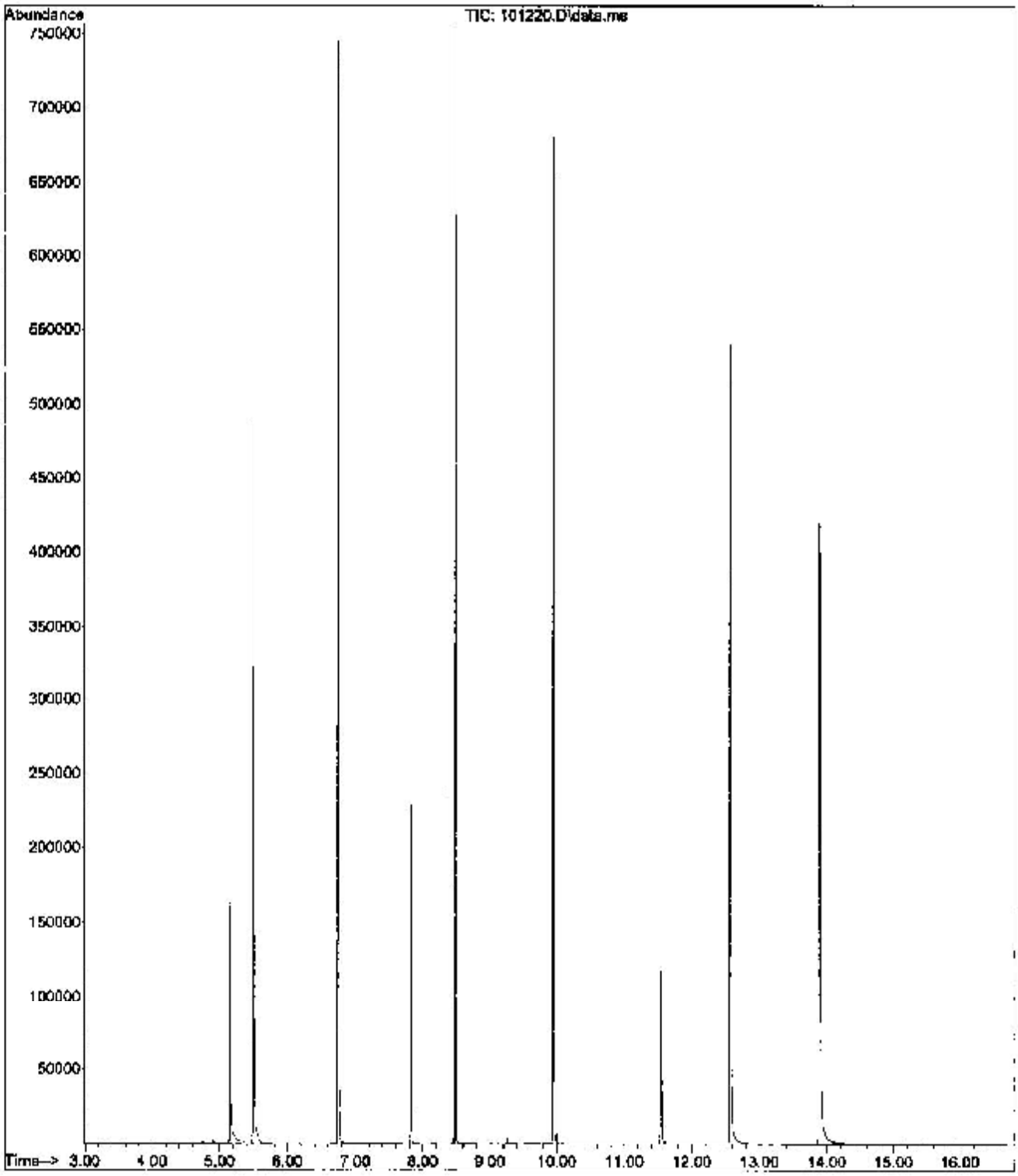
Quant Time: Oct 12 10:09:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.498	152	182347	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	581629	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	291278	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	476354	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.566	240	437643	2000.00 ug/L	0.00
25) Perylene d12 (IS)	13.888	264	439523	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	128215	925.65 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	129463	503.71 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	91801	522.81 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.449	107	144	N.D.	
5) Naphthalene	6.766	128	219	N.D.	
6) 2-Methylnaphthalene	7.457	142	223	N.D.	
7) 1-Methylnaphthalene	7.550	142	207	N.D.	
9) Acenaphthylene	8.340	152	2	N.D.	
11) Acenaphthene	8.511	152	32	N.D.	
12) Fluorene	9.023	166	61	N.D.	
14) Phenanthrene	9.969	178	558	N.D.	
15) Anthracene	10.019	178	7	N.D.	
17) Fluoranthene	11.148	202	133	N.D.	
18) Pyrene	11.370	202	253	N.D.	
19) Benzo (a) anthracene	12.566	228	1324	5.16 ug/L #	100
21) Chrysene	12.566	228	803	N.D.	
22) benzo (b) fluoranthene	13.559	252	166	N.D.	
23) benzo (k) fluoranthene	13.582	252	243	N.D.	
24) benzo (a) pyrene	13.840	252	177	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.943	276	37	N.D.	
27) Dibenz (a,h) anthracene	14.970	278	24	N.D.	
28) Benzo (g,h,i) perylene	15.254	276	75	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:41 2012 PAH

File : C:\Data\SVOC\101212\101220.D
Operator :
Acquired : 12 Oct 2012 7:54 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-001A
Misc Info : SAMP 8-PAH-STM-S-LIBBY
Vial Number: 17



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101221.D
Acq On : 12 Oct 2012 8:19 am
Operator :
Sample : 1209190-002A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 18 Sample Multiplier: 1

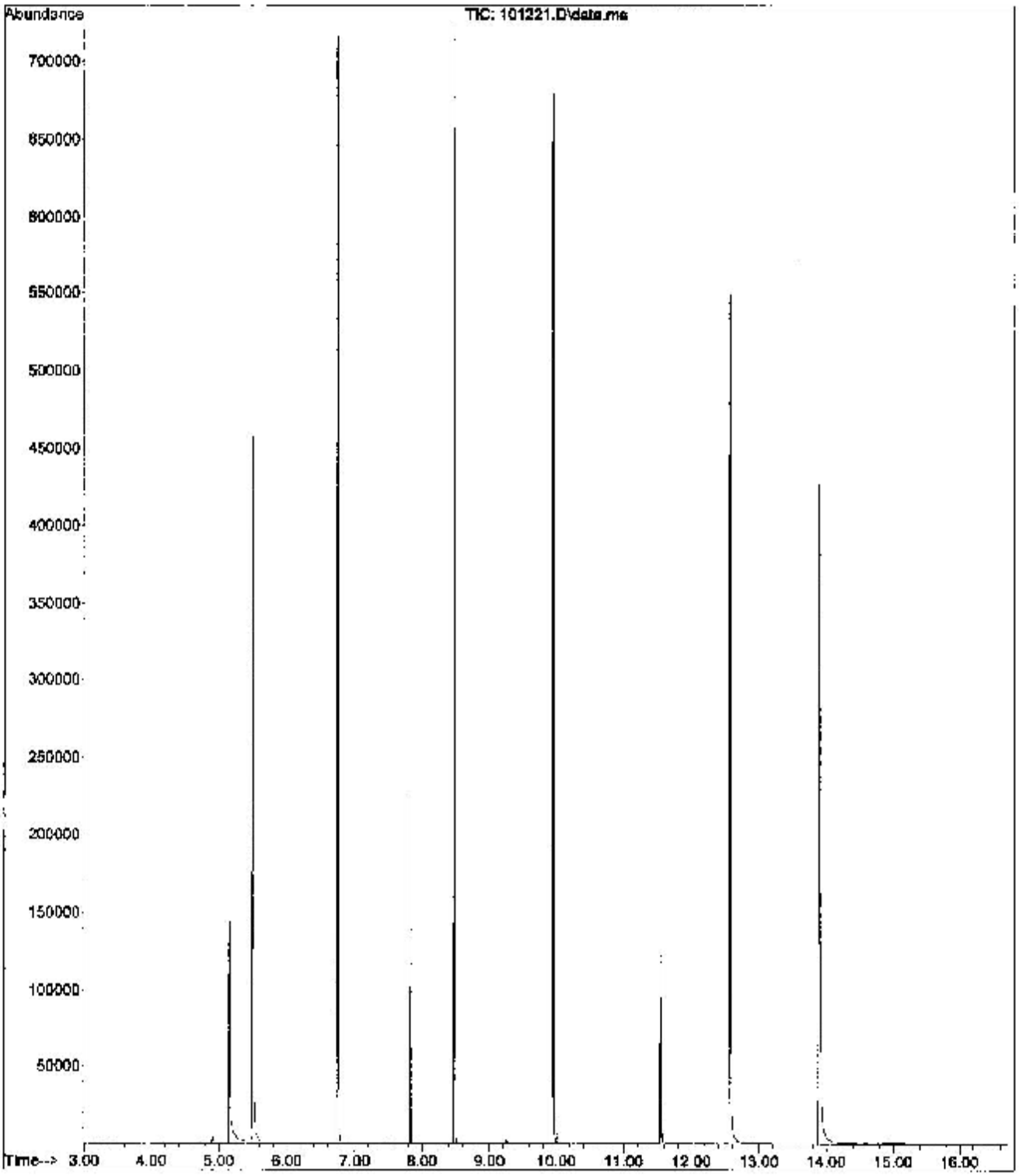
Quant Time: Oct 12 10:09:59 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:53:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4(IS)	5.496	152	176791	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.747	136	563398	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	283405	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.945	188	466408	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.569	240	430439	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.890	264	440469	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.149	99	125791	936.69 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.822	172	127252	511.13 ug/L	0.00
16) Terphenyl-d14 (surr)	11.542	244	92717	539.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.405	107	107	N.D.	
5) Naphthalene	6.769	128	313	N.D.	
6) 2-Methylnaphthalene	7.457	142	256	N.D.	
7) 1-Methylnaphthalene	7.552	142	262	N.D.	
9) Acenaphthylene	8.341	152	10	N.D.	
11) Acenaphthene	8.509	152	45	N.D.	
12) Fluorene	9.022	166	95	N.D.	
14) Phenanthrene	9.969	178	715	N.D.	
15) Anthracene	10.020	178	54	N.D.	
17) Fluoranthene	11.165	202	256	N.D.	
18) Pyrene	11.372	202	339	N.D.	
19) Benzo (a) anthracene	12.568	228	1308	5.21 ug/L #	100
21) Chrysene	12.568	228	917	N.D.	
22) benzo (b) fluoranthene	13.560	252	147	N.D.	
23) benzo (k) fluoranthene	13.583	252	221	N.D.	
24) benzo (a) pyrene	13.842	252	221	N.D.	
26) Indeno(1,2,3-cd)pyrene	14.957	276	46	N.D.	
27) Dibenz (a,h) anthracene	14.965	278	15	N.D.	
28) Benzo (g,h,i) perylene	15.255	276	40	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:30:53 2012 PAH

File : D:\Data\SVOC\101212\101221.D
Operator :
Acquired : 12 Oct 2012 0:19 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-002A
Misc Info : SAMP O-PAH-SIM-S-LIBBY
Vial Number: 18



Quantitation Report (QT Reviewed)

Data Path : D:\Data\SVOC\101212\
Data File : 101222.D
Acq On : 12 Oct 2012 8:44 am
Operator :
Sample : 1209190-005A
Misc : SAMP O-PAH-SIM-S-LIBBY
ALS Vial : 19 Sample Multiplier: 1

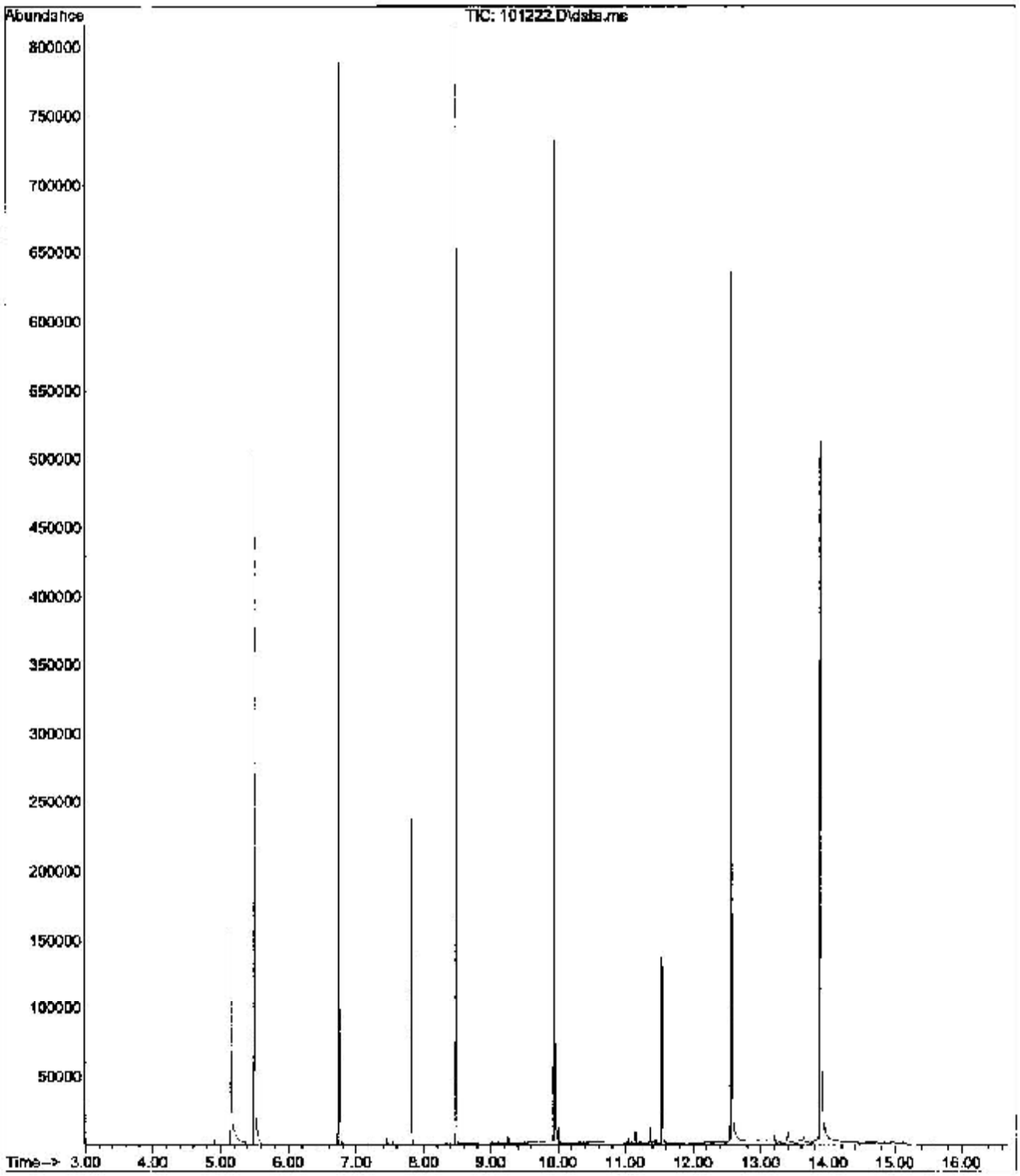
Quant Time: Oct 12 10:10:13 2012
Quant Method : C:\msdchem\1\methods\DBPAH101012PHENOL.M
Quant Title : EPA Method 8270-PAH
QLast Update : Thu Oct 11 14:52:26 2012
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenz-d4 (IS)	5.498	152	192995	2000.00 ug/L	0.00
4) Naphthalene-d8 (IS)	6.745	136	618550	2000.00 ug/L	0.00
10) Acenaphthene-d10 (IS)	8.478	164	317234	2000.00 ug/L	0.00
13) Phenanthrene-d10 (IS)	9.947	188	516112	2000.00 ug/L	0.00
20) Chrysene-d12 (IS)	12.560	240	487636	2000.00 ug/L	0.00
25) Perylene-d12 (IS)	13.887	264	504243	2000.00 ug/L	0.00
System Monitoring Compounds					
2) Phenol-d6	5.151	99	141098	962.45 ug/L	0.00
8) 2-Fluorobiphenyl (surr)	7.821	172	132835	485.98 ug/L	0.00
16) Terphenyl-d14 (surr)	11.540	244	99554	523.29 ug/L	0.00
Target Compounds					Qvalue
3) 2,4-Dimethylphenol	6.345	107	980	8.62 ug/L #	7
5) Naphthalene	6.767	128	2774	7.07 ug/L #	93
6) 2-Methylnaphthalene	7.455	142	1960	8.53 ug/L #	90
7) 1-Methylnaphthalene	7.550	142	1183	5.44 ug/L #	65
9) Acenaphthylene	8.340	152	727	N.D.	
11) Acenaphthene	8.475	152	93	N.D.	
12) Fluorene	9.022	166	748	N.D.	
14) Phenanthrene	9.968	178	4704	13.36 ug/L	99
15) Anthracene	10.021	178	1770	5.63 ug/L	94
17) Fluoranthene	11.149	202	7372	23.25 ug/L #	53
18) Pyrene	11.370	202	8516	25.70 ug/L #	27
19) Benzo [a] anthracene	12.561	228	4802	17.28 ug/L #	100
21) Chrysene	12.592	228	3016	8.56 ug/L #	32
22) benzo (b) fluoranthene	13.561	252	3106	12.13 ug/L #	100
23) benzo (k) fluoranthene	13.648	252	1782	N.D.	
24) benzo (a) pyrene	13.840	252	1867	7.94 ug/L #	1
26) Indeno(1,2,3-cd)pyrene	14.953	276	957	N.D.	
27) Dibenz (a,h) anthracene	14.967	278	129	N.D.	
28) Benzo (g,h,i) perylene	15.262	276	1227	N.D.	

(#) = qualifier out of range (m) = manual integration (+) = signals summed

DBPAH101012PHENOL.M Fri Oct 12 17:31:20 2012 PAH

File : D:\Data\SVOC\101212\101222.D
Operator :
Acquired : 12 Oct 2012 6:44 am using AcqMethod DBPAH101012PHENOL.M
Instrument : HP-MSD
Sample Name: 1209190-005A
Misc Info : SAMP C-PAH-SIM-S-LIBBY
Vial Number: 19



INTERNAL STANDARD AREA AND RT SUMMARY

RunID: GCMS-3_121012C

CCV Name: CAL MID POINT

Run No: 0128

CCV SeqNo: 121771

Lab File ID (Standard): 101014.D

Date Analyzed: 10/10/2012

Instrument ID: GCMS-3

Time Analyzed: 17:48

GC Column: ID (mm): Length (M):

		IS1 (14DCBZ)		2 Acenaphthene-d		IS3 Chrysene-d12		S4 Naphthalene-d	
		AREA #	RT #	AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	211091	5.496	370642	8.480	586943	12.569	703989	6.747
	UPPER LIMIT	422182	5.996	741284	8.980	1173886	13.069	1407978	7.247
	LOWER LIMIT	105546	4.996	185321	7.980	293472	12.069	351995	6.247
	SAMPLE NO.								
01	ICV-3307	197741	5.498	326003	8.48	493899	12.569	642102	6.747
02	ICB-3307	206728	5.495	335186	8.478	483323	12.567	672101	6.745
03	CCV-3307	225889	5.498	384635	8.481	629788	12.568	745071	6.747
04	CCB-3307	260588	5.498	411097	8.48	599141	12.566	829511	6.747
05	MB-3307	179751	5.498	277961	8.48	384299	12.567	568862	6.747
06	LCS-3307	187731	5.495	304778	8.48	452574	12.568	699973	6.747
07	1209142-001A	167904	5.498	293033	8.48	431840	12.568	593470	6.747
08	1209142-001AMS	178484	5.498	287688	8.48	431641	12.568	671150	6.747
09	1209173-003A	180324	5.495	292212	8.478	439299	12.568	574014	6.747
10	1209173-003ADUP	176494	5.495	284577	8.478	430392	12.566	564806	6.747
11	1209190-001A	182347	5.498	291278	8.478	437643	12.566	581629	6.747
12	1209190-002A	178791	5.498	283405	8.478	430439	12.568	563398	6.747
13	1209190-005A	192995	5.498	317234	8.478	487638	12.568	618550	6.745

IS1 (14DCBZ) = 1,4-Dichlorobenzene-d4
IS2 Acenaphthene-d10 = Acenaphthene-d10
IS3 Chrysene-d12 = Chrysene-d12
IS4 Naphthalene-d8 = Naphthalene-d8

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

INTERNAL STANDARD AREA AND RT SUMMARY

RunID:	GCMS-3_121012C	CCV Name:	CAL MID POINT
Run No:	6129	CCV SeqNo:	121771
Lab File ID (Standard):	101014.D	Date Analyzed:	10/10/2012
Instrument ID:	GCMS-3	Time Analyzed:	17:48
GC Column:	ID (mm):	Length (M):	

		IS5 Perylene-d12		IS6 Phenanthrene-d10			
		AREA #	RT #	AREA #	RT #		
	12 HOUR STD	559722	13.889	814915	9.946		
	UPPER LIMIT	1119444	14.389	1629830	10.445		
	LOWER LIMIT	279861	13.389	407458	9.446		
	SAMPLE NO.						
01	ICB-3307	445839	13.885	642903	9.944		
02	ICV-3307	472138	13.887	518454	9.945		
03	CCV-3307	611998	13.885	856042	9.946		
04	CCB-3307	555535	13.885	685528	9.947		
05	MB-3307	362992	13.887	450696	9.945		
06	LCS-3307	431336	13.885	486073	9.946		
07	1209142-001A	419388	13.885	483359	9.945		
08	1209142-001AMS	424824	13.885	459410	9.946		
09	1209173-003A	444062	13.887	476874	9.945		
10	1209173-003ADUP	432564	13.885	467472	9.946		
11	1209190-001A	439523	13.885	476354	9.945		
12	1209190-002A	440469	13.89	466408	9.945		
13	1209190-005A	504243	13.887	516112	9.947		

IS5 Perylene-d12 = Perylene-d12
IS6 Phenanthrene-d10 = Phenanthrene-d10

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = -50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside QC limits with an asterisk.
* Values outside of QC limits.

5975 DFTPP Dynamic Target Tune

Instrument: HP-MSD
US11173714

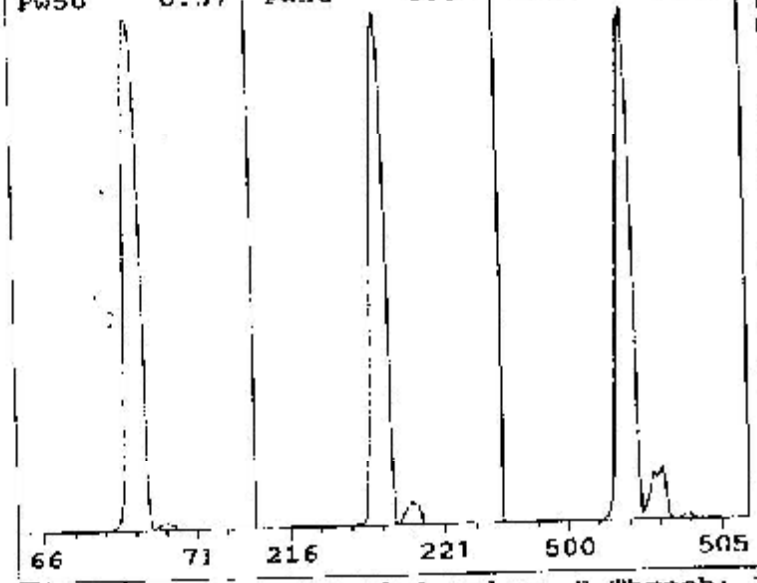
Thu Oct 11 23:54:30 2012
C:\MSDCHEM\1\5975\dftpp.u

Mass	69.00	Mass	219.00	Mass	502.00	Ion Pol	Pos
Ab	496024	Ab	310727	Ab	13192		
Pw50	0.57	Pw50	0.53	Pw50	0.55		

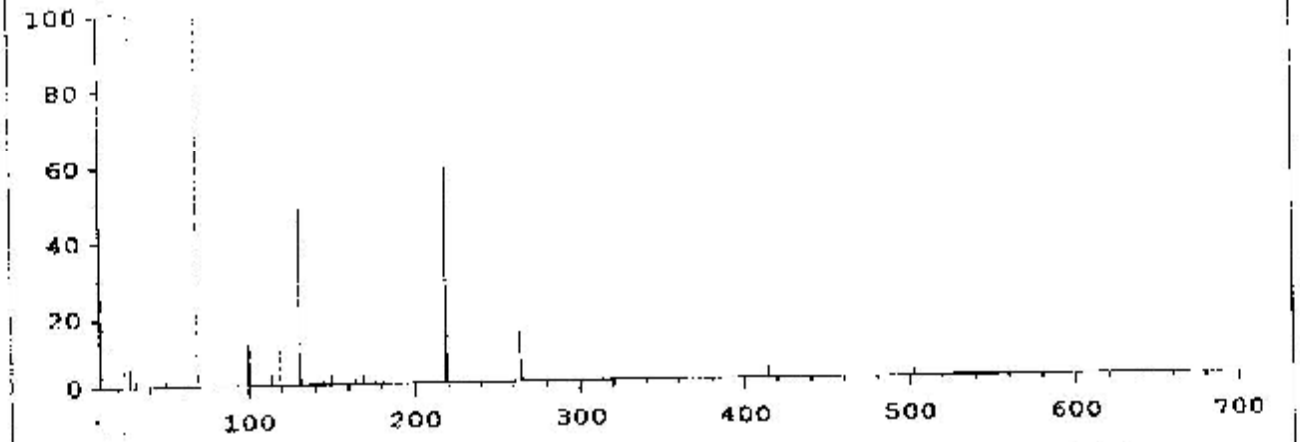
Ion Pol	Pos	MassGain	-613
		MassOffs	-40
Emission	34.6	AmuGain	2045
EIEnrgy	69.9	AmuOffs	124.44
Filament	1	Wid219	-0.025
		DC Pol	Pos
Repeller	20.41		
IonFocus	68.3	HEDEnab	On
EntLens	0.0	EMVolts	1859
EntOffs	Var		
		Samples	8
PFTBA	Open	Averages	3
		Stepsize	0.10

Temperatures and Pressures:

MS Source	230	TurboSpd	100
MS Quad	150	HiVac	1.47e05



Scan: 10.00 - 701.00 Samples: 8 Thresh: 100 Step: 0.10
113 peaks Base: 69.00 Abundance: 479424



Mass	Abund	Rel Abund	Iso Mass	Iso Abund	Iso Ratio
69.00	479424	100.00	70.00	5259	1.10
219.00	283136	59.06	220.00	12334	4.36
502.00	11193	2.33	503.00	1323	11.82

Air/Water Check: H2O~0.41% N2~4.88% O2~1.38% CO2~0.12% N2/H2O~1176.45%

Column(1) Flow: 1.58 Column(2): -1.79769e+308 ml/min. Interface Temp: -

Ramp Criteria:
Ion Focus Maximum 90 volts using ion 502: EM Gain 103947
Repeller Maximum 35 volts using ion 502; Gain Factor 1.04

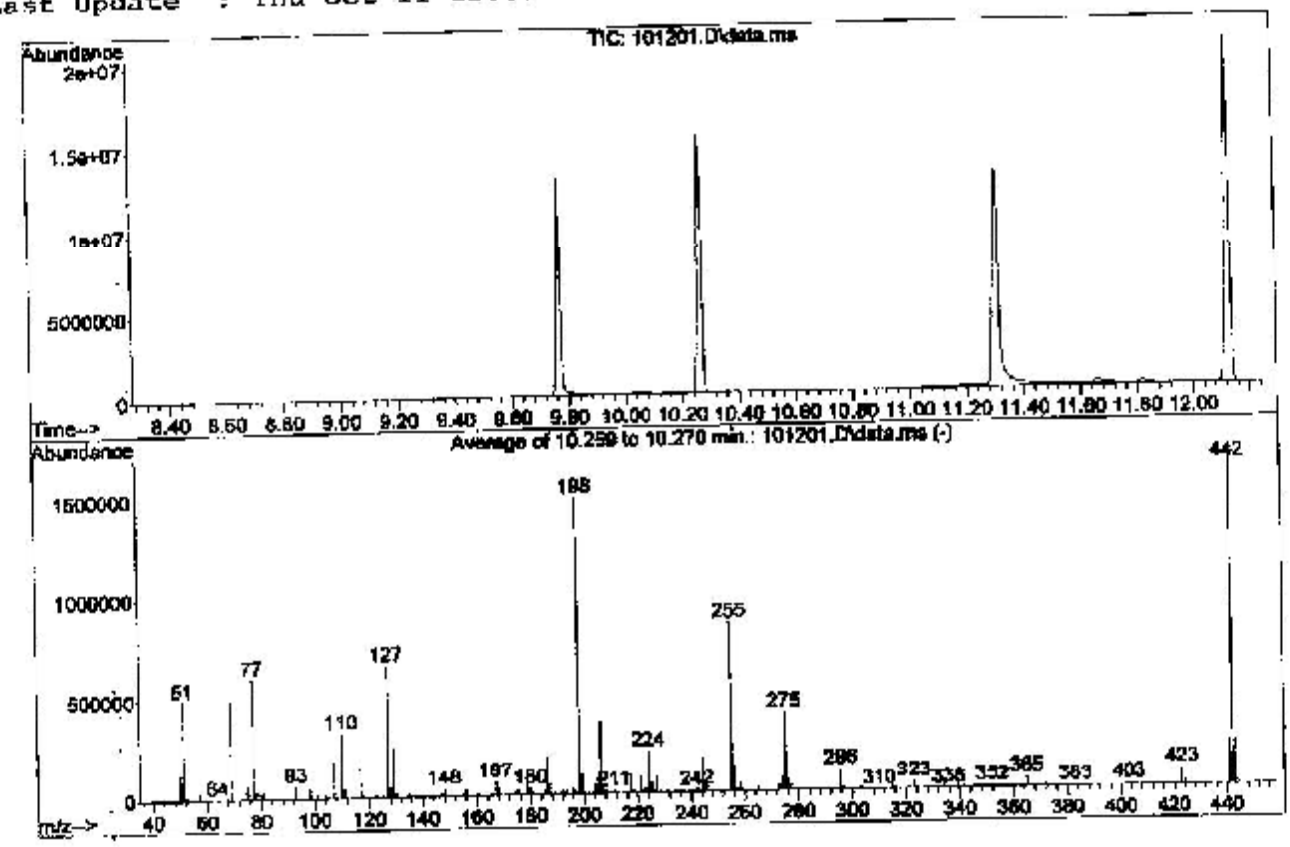
MassGain Values(Samples): -605(3) -592(2) -574(1) -528(0) -440(FS)

TARGET MASS:	50	69	131	219	414	502	1050
Amu Offset:	124.4	124.4	124.4	124.4	124.4	124.4	124.4
Entrance Lens Offset:	14.8	12.5	12.0	12.8	13.1	13.6	13.6
Target Abund(%):	1.0	100.0	45.0	55.0	2.4	2.0	
Actual Tune Abund(%):	1.1	100.0	48.6	59.1	2.8	2.3	

Data Path : D:\Data\SVOC\101212\
Data File : 101201.D
Acq On : 12 Oct 2012 12:00 am
Operator :
Sample : TUNE CHECK
Misc : CCV O-PAH-S-SIM
ALS Vial : 51 Sample Multiplier: 1

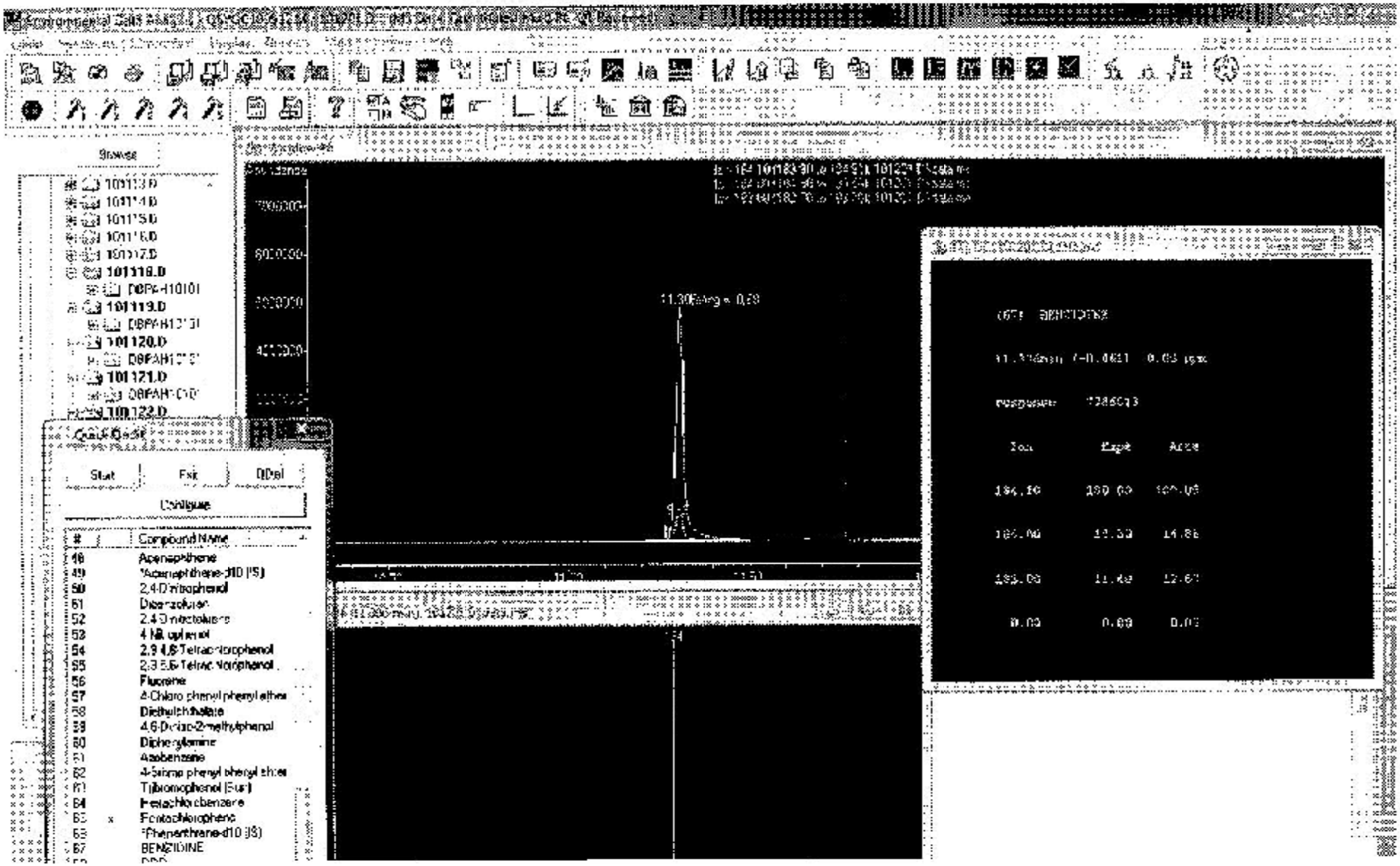
Integration File: RTEINTSG8270.P

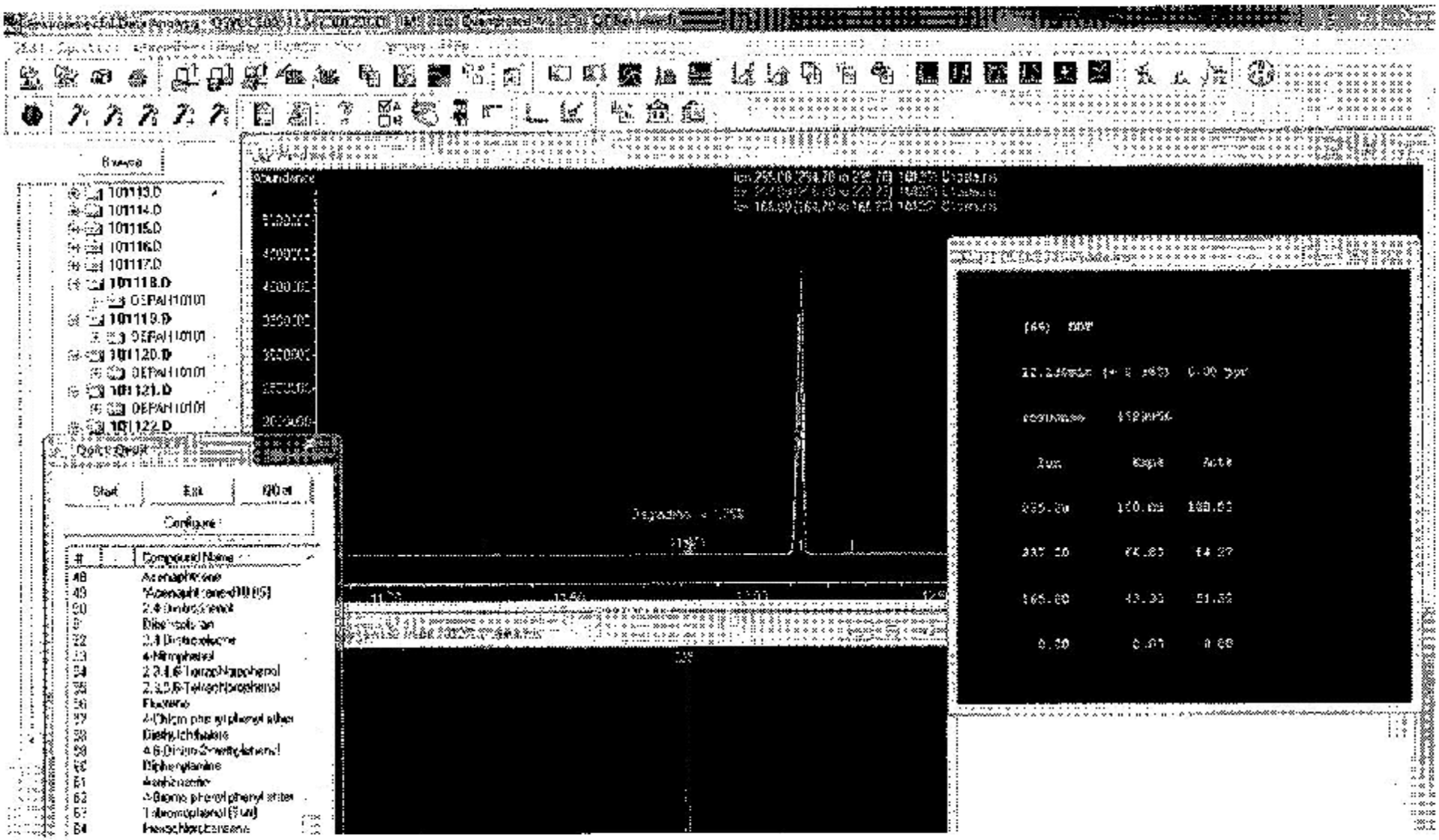
Method : C:\msdchem\1\methods\QSVOC100512.M
Title : Semivol
Last Update : Thu Oct 11 15:59:23 2012

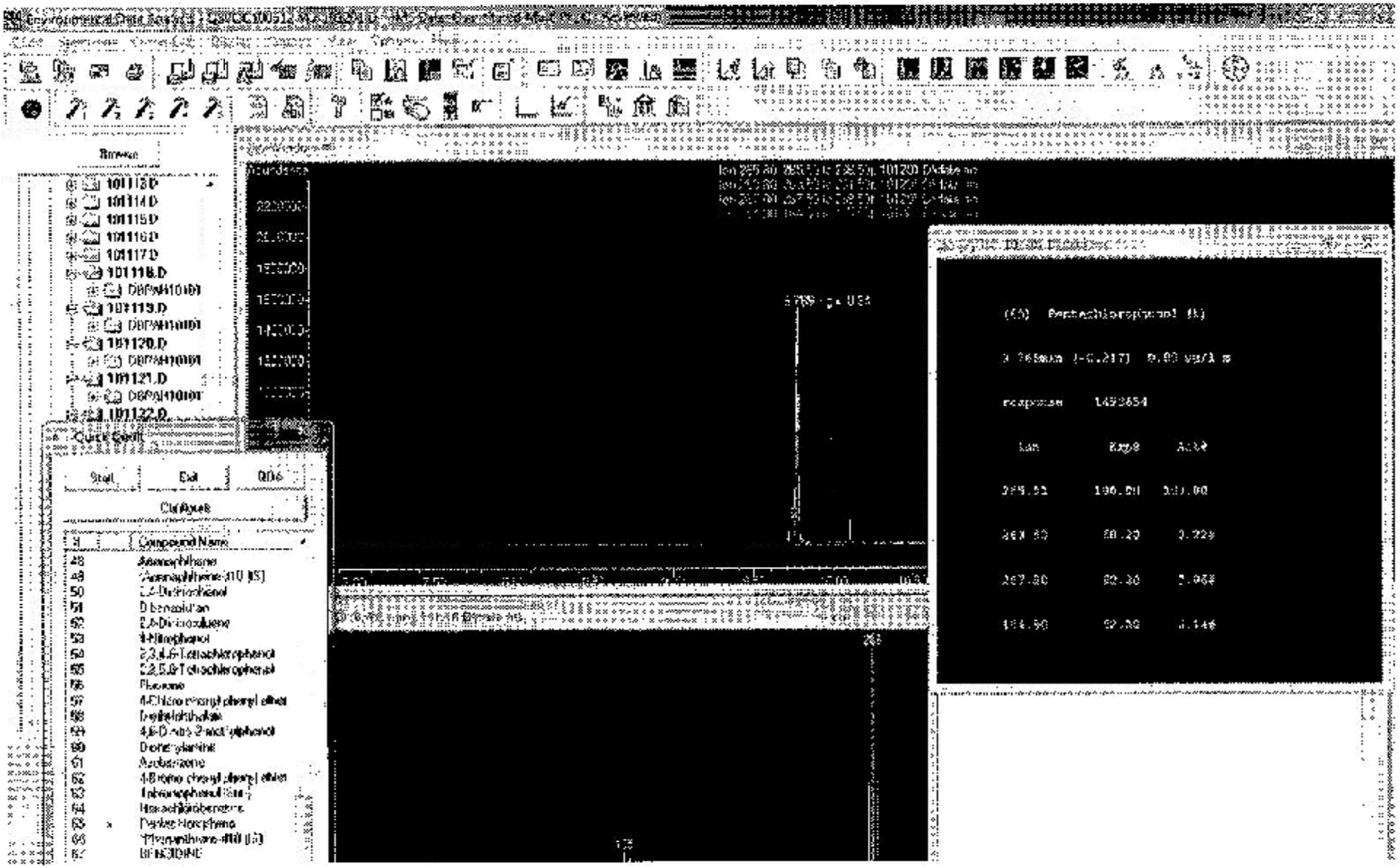


AutoFind: Scans 1341, 1342, 1343; Background Corrected with Scan 1333

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	33.5	495595	PASS
68	69	0.00	2	1.5	7258	PASS
69	198	0.00	100	33.5	494699	PASS
70	69	0.00	2	0.5	2314	PASS
127	198	10	80	44.7	661141	PASS
197	198	0.00	2	0.4	5927	PASS
198	198	100	100	100.0	1478827	PASS
199	198	5	9	6.7	98685	PASS
275	198	10	60	26.6	392661	PASS
365	198	1	100	3.4	50755	PASS
441	442	0.01	24	14.0	228051	PASS
442	198	50	999	110.0	1626155	PASS
443	442	15	24	19.4	314667	PASS


Browse
Start
Exit
Delete
Configure
Compound Name
49 Acenaphthene-d10 (IS)
50 2,4-Dinitrophenol
52 2,4-Dinitrotoluene
54 2,3,4,6-Tetrachlorophenol
55 2,3,5,6-Tetrachlorophenol
56 Fluorene
57 4-Chlorophenyl-phenylether
58 Diethylphthalate
59 4,6-Dinitro-2-methylphenol
60 Diphenylamine
61 Azobenzene
62 4-Bromophenyl-phenylether
63 Hexachlorobenzene
64 Pentachlorophenol
65 Phenanthrene-d10 (IS)
67 BENZIDINE
11.30(Avg = 0.03
Ion Expd Actd
184.10 100.00 100.00
185.00 15.53 14.86
186.00 11.42 12.67
0.00 0.00 0.00


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
DEPAH10101
101119.D
DEPAH10101
101120.D
DEPAH10101
101121.D
DEPAH10101
101122.D
Start
Exit
Configure
Compound Name
Acenaphthene
Diphenylamine


Browse
101113.D
101114.D
101115.D
101116.D
101117.D
101118.D
101119.D
101120.D
101121.D
101122.D
Quick Confirm
Stop
Exit
QDS
Compound Name
Acenaphthene
Acenaphthene-d10 (IS)
Dibenzofuran
2,4-Dinitrotoluene
4-Nitrophenol
2,3,4,6-Tetrachlorophenol
2,3,5,6-Tetrachlorophenol
Fluorene
4-Chlorophenyl-phenyl ether
Diethylphthalate
4,6-Dinitro-2-methylphenol
Diphenylamine
Azobenzene
4-Bromophenyl-phenyl ether
Hexachlorobenzene
Pentachlorophenol
Phenanthrene-d10 (IS)
Phenanthrene
(65) Pentachlorophenol (A)
Response 1493654
Ion Ratio Lower Upper
295.82 100.00 100.00
263.82 80.20 0.22%
237.80 82.30 5.96%
166.90 62.80 1.14%

1311 N. 35th St.
Seattle, WA 98103
T: (206) 352-3790
F: (206) 352-7178
info@fremontanalytical.com

Libby Environmental
Jamie Deyman
4139 Libby Rd. NE
Olympia, Washington 98506

RE: Irondale
Lab ID: 1209188

October 02, 2012

Attention Jamie Deyman:

Fremont Analytical, Inc. received 1 sample(s) on 9/28/2012 for the analyses presented in the following report.

Sample Moisture (Percent Moisture)
Total Metals by EPA Method 6020

This report consists of the following:

- Case Narrative
- Analytical Results
- Applicable Quality Control Summary Reports
- Chain of Custody

All analyses were performed consistent with the Quality Assurance program of Fremont Analytical, Inc. Please contact the laboratory if you should have any questions about the results.

Thank you for using Fremont Analytical.

Sincerely,

Michelle Clements
Sr. Chemist / Lab Manager

Date: *10/02/2012*

CLIENT: Libby Environmental
Project: Irondale
Lab Order: 1209188

Work Order Sample Summary

Lab Sample ID	Client Sample ID	Date/Time Collected	Date/Time Received
1209188-001	Sand Import Profile	09/28/2012 8:00 AM	09/28/2012 1:04 PM

Note: If no "Time Collected" is supplied, a default of 12:00AM is assigned

Case Narrative

WO#: **1209188**
Date: **10/2/2012**

CLIENT: Libby Environmental
Project: Irondale

I. SAMPLE RECEIPT:
All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II. GENERAL REPORTING COMMENTS:
Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report ("mg/kg-dry" or "ug/kg-dry").

Matrix Spike (MS) and MS Duplicate (MSD) samples are tested from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. The sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The LCS and the MB are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

III. ANALYSES AND EXCEPTIONS:
Exceptions associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s) and/or noted below.

Analytical Report

WO#: **1209188**
Date Reported: **10/2/2012**

Client: Libby Environmental
Collection Date: 9/28/2012 8:00:00 AM
Project: Irondale
Lab ID: 1209188-001
Matrix: Sediment
Client Sample ID: Sand Import Profile

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
Total Metals by EPA Method 6020				Batch ID: 3303		Analyst: SG
Arsenic	1.80	0.0753		mg/Kg-dry	1	10/2/2012 2:17:12 AM
Copper	13.5	0.151		mg/Kg-dry	1	10/2/2012 2:17:12 AM
Iron	7,230	4.14	B	mg/Kg-dry	1	10/2/2012 2:17:12 AM
Lead	1.61	0.151		mg/Kg-dry	1	10/2/2012 2:17:12 AM
Nickel	47.0	0.0753		mg/Kg-dry	1	10/2/2012 2:17:12 AM
Zinc	27.2	0.301		mg/Kg-dry	1	10/2/2012 2:17:12 AM
Sample Moisture (Percent Moisture)				Batch ID: R5920		Analyst: CM
Percent Moisture	0.853			wt%	1	9/28/2012 3:42:45 PM

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209188
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **MB-3303**	SampType: **MBLK**	Units: **mg/Kg**	Prep Date: **9/28/2012**	RunNo: **5954**
Client ID: **MBLKS**	Batch ID: **3303**		Analysis Date: **10/2/2012**	SeqNo: **118001**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	ND	0.100									
Copper	ND	0.200									
Iron	51.3	5.50									
Lead	ND	0.200									
Nickel	ND	0.100									
Zinc	ND	0.400									

Sample ID: **LCS-3303**	SampType: **LCS**	Units: **mg/Kg**	Prep Date: **9/28/2012**	RunNo: **5954**
Client ID: **LCSS**	Batch ID: **3303**		Analysis Date: **10/2/2012**	SeqNo: **118002**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	93.9	0.200	84.10	0	112	68.73	130.8				
Copper	278	0.400	262.0	0	106	75.95	124.05				
Iron	2,240	11.0	4,390	0	51.1	4.56	234.62				B
Lead	307	0.400	301.0	0	102	70.1	115.61				
Nickel	116	0.200	105.0	0	110	72.76	127.62				
Zinc	673	0.800	615.0	0	109	68.29	117.89				

Sample ID: **1209170-002ADUP**	SampType: **DUP**	Units: **mg/Kg-dry**	Prep Date: **9/28/2012**	RunNo: **5954**
Client ID: **BATCH**	Batch ID: **3303**		Analysis Date: **10/2/2012**	SeqNo: **118005**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	8.04	0.0725						8.165	1.56	30	
Copper	267	0.145						271.8	1.77	30	
Iron	15,600	3.99						15,720	0.690	30	B
Lead	546	0.145						571.8	4.59	30	
Nickel	16.4	0.0725						16.94	3.54	30	
Zinc	440	0.290						460.4	4.46	30	

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209188
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1209170-002ADUP** SampType: **DUP** Units: **mg/Kg-dry** Prep Date: **9/28/2012** RunNo: **5954**
Client ID: **BATCH** Batch ID: **3303** Analysis Date: **10/2/2012** SeqNo: **118005**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: **1209170-002AMS** SampType: **MS** Units: **mg/Kg-dry** Prep Date: **9/28/2012** RunNo: **5954**
Client ID: **BATCH** Batch ID: **3303** Analysis Date: **10/2/2012** SeqNo: **118007**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	52.7	0.0776	38.79	8.165	115	75	125				
Copper	372	0.155	38.79	271.8	259	75	125				S
Iron	13,400	4.27	387.9	15,720	-602	75	125				SB
Lead	465	0.155	19.40	571.8	-549	75	125				S
Nickel	58.9	0.0776	38.79	16.94	108	75	125				
Zinc	587	0.310	38.79	460.4	328	75	125				S

NOTES:
S - Outlying spike recovery(ies) observed. A duplicate analysis was performed with similar results indicating a possible matrix effect. Analyte concentration washigh for accurate spike recovery(ies). A Post Digestion Spike (PDS) was included.

Sample ID: **1209170-002AMSD** SampType: **MSD** Units: **mg/Kg-dry** Prep Date: **9/28/2012** RunNo: **5954**
Client ID: **BATCH** Batch ID: **3303** Analysis Date: **10/2/2012** SeqNo: **118008**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	54.5	0.0758	37.91	8.165	122	75	125	52.66	3.52	30	
Copper	398	0.152	37.91	271.8	332	75	125	372.1	6.63	30	S
Iron	13,400	4.17	379.1	15,720	-612	75	125	13,380	0.0941	30	SB
Lead	478	0.152	18.95	571.8	-497	75	125	465.4	2.58	30	S
Nickel	60.3	0.0758	37.91	16.94	114	75	125	58.92	2.38	30	
Zinc	601	0.303	37.91	460.4	370	75	125	587.4	2.25	30	S

NOTES:
S - Outlying spike recovery(ies) observed. Analyte concentration washigh for accurate spike recovery(ies). A Post Digestion Spike (PDS) was included.

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Date: *10/2/2012*

Work Order: 1209188
CLIENT: Libby Environmental
Project: Irondale

QC SUMMARY REPORT

Total Metals by EPA Method 6020

Sample ID: **1209170-002APDS** SampType: **PDS** Units: **mg/Kg-dry** Prep Date: **9/28/2012** RunNo: **5954**
Client ID: **BATCH** Batch ID: **3303** Analysis Date: **10/2/2012** SeqNo: **118009**

Analyte	Result	RL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	48.3	0.0747	37.3	8.17	108	75	125				
Copper	311	0.149	37.3	272	105	75	125				
Iron	16,800	4.11	373	15,700	284	75	125				SB
Lead	586	0.149	18.7	572	76.2	75	125				
Nickel	53.0	0.0747	37.3	16.9	96.5	75	125				
Zinc	498	0.299	37.3	460	102	75	125				

NOTES:
Analyte concentration was too high for accurate spike recovery(ies).

Qualifiers:

B	Analyte detected in the associated Method Blank	D	Dilution was required	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	ND	Not detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Limit	S	Spike recovery outside accepted recovery limits

Sample Log-In Check List

Client Name: **LIBBY**	Work Order Number: **1209188**
Logged by: **Clare Griggs**	Date Received: **9/28/2012 1:04:00 PM**

Chain of Custody

1.	Were custodial seals present?	Yes	☐	No	☐	Not Required	☑
2.	Is Chain of Custody complete?	Yes	☑	No	☐	Not Present	☐
3.	How was the sample delivered?	Client					

Log In

4.	Coolers are present?	Yes	☐	No	☑	NA	☐
	Samples not received in cooler.						
5.	Was an attempt made to cool the samples?	Yes	☐	No	☑	NA	☐
	Unknown prior to delivery						
6.	Were all coolers received at a temperature of >0° C to 10.0°C	Yes	☐	No	☐	NA	☑
7.	Sample(s) in proper container(s)?	Yes	☑	No	☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No	☐		
9.	Are samples properly preserved?	Yes	☑	No	☐		
10.	Was preservative added to bottles?	Yes	☐	No	☑	NA	☐
11.	Is there headspace present in VOA vials?	Yes	☐	No	☐	NA	☑
12.	Did all sample containers arrive in good condition?(unbroken)	Yes	☑	No	☐		
13.	Does paperwork match bottle labels?	Yes	☑	No	☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No	☐		
15.	Is it clear what analyses were requested?	Yes	☑	No	☐		
16.	Were all holding times able to be met?	Yes	☑	No	☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No	☐	NA	☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks/Disrepancies

Item Information

Libby Environmental, Inc.

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Chain of Custody Record

1209188

Client: Libby Environmental
Address: see above
Phone: Fax:
Client Project #

Date: 9-28-12 Page: 1 of 1
Project Manager: Jamie Deyman
Project Name: Irondale
Location: — City: —
Collector: — Date of Collection: 9-28-12

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals	METALS		Field Notes
1 Sand Import Profile	—	0800	SED	4oz Jar												X		See below for Analysis -RUSH-
2																		
3																		
4																		
5																		
6																		
7																		
8																		
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17																		
18																		

Relinquished by:	Date / Time	Received by:	Date / Time
[signature]	9/28/12 13:04	[signature]	9/28/12 13:04
Relinquished by:	Date / Time	Received by:	Date / Time
Relinquished by:	Date / Time	Received by:	Date / Time

Sample Receipt

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Analyze for: Arsenic, Copper, Iron Lead, Nickel & Zinc
RUSH!!

Distribution: White - Lab, Yellow - File, Pink - Originator