ADS ENVIRONMENTAL ENGINEERING, LLC

September 11, 2014
File No. 0158.01

Town of Dover
P.O. Box 250
Dover, MA 02030

Attention: Ms. Greer Pugatch, Assistant Town Administrator

RE: Subsurface Sampling and Testing
Environmental Site Assessment
46 Springdale Avenue
Dover, MA

Dear Ms. Pugatch:

At your request, ADS Environmental Engineering, LLC (ADS) has conducted an exploration program to collect soil and water samples for analytical testing at the above referenced property in Dover, Massachusetts. This work was conducted in accordance with our proposal dated May 20, 2014, an addendum scope of work provided on June 10, 2014, and the Limitations attached in Appendix A. The objective of this work was to assess areas of fuel oil storage including a former 1,000 gallon underground storage tank (UST) used in the past to heat the main residence, and an above ground 275 gallon fuel oil tank adjacent to the guest house. Water from the potable water supply well was also collected for analytical laboratory testing for petroleum, metals, and volatile organic compounds.

Subsurface Exploration Program

On July 10, 2014 Crawford Drilling Services conducted four geoprobe explorations at the subject property. This work was completed under the full time observation of ADS. A Locus Plan and Site Plan of the property are attached as Figures No. 1 and 2, and an Exploration Location Plan is attached as Figure No. 3.

Geoprobe exploration GP-1 was completed adjacent to the above ground 275 gallon tank that exists outside the south wall of the guest house, and exploration GP-2 was conducted to the northeast of the fuel feed line for this tank which runs outside the east wall of the guest house. In addition, four hand samples of surface soil were collected along the east wall of the guest house beneath fuel feed line.

A third exploration (GP-3) was located near the former UST at the south side of the main residence. According to recollections by Deputy Chief David Tiberi and Mr. James Snyder, the owner of the property, the tank was located beneath what is now the concrete patio at the entrance to the house. According to the Fire Department files, the tank was removed on April 3, 1990. There was no contamination or indication that the tank had leaked according to Mr. Tiberi who witnessed the tank removal.

A water line runs from the basement of the house to the guest house, the location of which was not certain, therefore exploration GP-3 was located where the line would likely not be encountered and damaged, roughly 20 feet southeast of the former tank area. Groundwater could not be reached due to refusal in dense rocky soils at approximately 9.5 feet. Another exploration was conducted east of the house. This fourth exploration (GP-4) also encountered refusal in dense rocky soils at approximately 8.5 feet. Test boring logs for the explorations are attached in Appendix B. Field screening readings are shown on the geoprobe logs, and Appendix C provides the field screening readings for the collected surface soil samples near the above ground tank's fuel line.

The geoprobe sampling technology provides continuous sampling of subsurface soil using direct push methods. Samples were collected and field screening of the sample headspace was completed using a RAE System MiniRAE 2000 PID with a 10.6 eV lamp. Readings of soil samples collected during the program ranged from 0.0 to 1.1 and are not indicative of a release of petroleum. Additionally, there was no visual or olfactory indication of petroleum contamination in the samples.

Groundwater was encountered at approximately six feet below the ground surface in geoprobe GP-1 near the above ground storage tank for the guest house. A PVC monitoring well was installed, and groundwater was pumped from it using dedicated tubing. A sample of the groundwater was submitted to the analytical laboratory for testing for extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH). Analytical results showed no detection of EPH fractions and diesel range target analytes, and no detection of VPH fractions and target analytes. The water did not exhibit a sheen or indication of contamination. The well was removed upon completion of sampling.

The following soil samples were submitted for analytical testing:

GP-1, S-1	a surface soil sample collected adjacent to the above ground storage tank
GP-3	a sample from the bottom of the exploration near the former UST (8-9.5 feet bgs)
HS-4	a surface soil sample collected where the fuel feed line from the AST bends into the building

In addition, a sample of the potable water for the residence was collected for analytical testing for contaminants related to petroleum and the past use of the easterly abutting by S.E. Luttazi & Sons, Inc., a heavy machinery construction company with underground storage of fuel. The water sample was collected at the spigot of the woodshed building, a location reported to be prior to the water treatment system (particulate filter and reverse osmosis system). The tap was run for approximately 15 minutes before the sample was collected. Testing was conducted for volatile organic compounds (VOCs), metals, petroleum, and pH.

Analytical Test Results and Findings

Results of the Extractable Petroleum Hydrocarbon (EPH) soil testing showed below detection or trace levels of petroleum fractions, and no detection of target analytes. The Analytical Laboratory Report is presented in Appendix D. Sample HS-4 showed 12.1 mg/Kg of C19-C36 Aliphatics and 8.61 mg/Kg of C11-C22 Aromatics. By comparison, the Reportable Concentrations for these petroleum fractions are 3,000 mg/Kg and 1,000 mg/Kg, respectively. Soil sample GP-1, S-1 showed 13.2 mg/Kg C11-C22 Aromatics. Soil sample GP-3 near the UST showed no detection of EPH fractions and target analytes.

The Woodshed Spigot water sample showed no detection of VOCs, and traces of metals including copper (0.0874 mg/L), lead (0.0013 mg/L), nickel (0.0008 mg/L), and zinc (0.0197 mg/L) well below their respective drinking water standards. Reportable Concentrations for these metals in areas where groundwater is used for drinking water (RCGW-1 Reportable Concentrations) are: copper 10 mg/L; lead 0.01 mg/L; nickel 0.1 mg/L; and, zinc 0.9 mg/L. The pH of the water was 6.7, and there was no detection of EPH fractions and target analytes. The groundwater sample from GP-1 showed no detection of VPH and EPH fractions and target analytes.

Summary

Information and data collected from field observations, field screening and analytical laboratory testing conducted as part of ADS' recent work did not reveal an indication of a reportable release of oil or hazardous materials to the environment. This data corroborates information from the environmental site history of these areas as presented in ADS' Phase I Environmental Site Assessment Report dated June 16, 2014.

A prior release discovered in 1994 from storm water runoff through a culvert from the adjacent property at 20 Springdale Avenue, now occupied by The Meadows of Dover, was addressed and closed out with the filing of a Class B-1 Response Action Outcome (RAO) in January 2008 as discussed in the Phase I report. ADS reviewed reports made available it and that are public record on the Department of Environmental Protection's online waste sites and reportable releases database, as discussed in ADS' Environmental Site Assessment Report. Several phases of soil, surface water and groundwater testing were conducted to assess the release. It is ADS' Opinion that additional studies of this area were not warranted as part of the current assessment.

The current work was conducted to assess the area of a former fuel oil UST and current above ground fuel oil storage tank. Although explorations for the UST did not penetrate where the tank allegedly was located (a concrete patio and underground utility in the area restricted the location of the boring), available evidence does not suggest that tank had leaked. The soil collected within 20 feet of the former UST did not exhibit petroleum; the basement of the residence located immediately adjacent to the former tank location, does not have an odor of oil or other indication of oily soils near the foundation; and, Deputy Fire Chief David Tiberi who witnessed the tank removal in 1990, did not observe indications of a release from the tank at that time.

In addition, water samples from the onsite potable water supply were collected and analyzed for petroleum, volatile organic compounds (VOCs), and metals. There was no detection of petroleum and VOCs in the sample, and concentrations of a few metals that were detected were well below drinking water standards.

In accordance with the documentation requirements for All Appropriate Inquiries (AAI) Final Rule, certain documentation requirements need to be fulfilled, including an Opinion as to whether the inquiry identified conditions indicative of releases or threatened release of hazardous substances; an identification of significant data gaps; and, the qualifications and signature of the environmental professional. The following opinions are based on findings of the Environmental Site Assessment as discussed in the report dated June 16, 2014, and the subsurface exploration and chemical testing program discussed herein.

ADS did not observe evidence of a release of oil or hazardous materials to the environment during the recent subsurface exploration and chemical testing program. Except for the prior release identified at the subject property by others that was closed out with the filing of an RAO, the inquiry did not identify conditions indicative of release or threatened releases of hazardous substances, and as applicable, pollutants and contaminants, petroleum or petroleum products, or controlled substances, on, at, in, or to the subject property.

ADS did not identify significant data gaps in the information collected for the inquiry except that a sample representative of the soil and/or groundwater where the former fuel oil UST existed (beneath the existing patio) could not be collected due to the obstructions as described in the Subsurface Exploration Program section of this letter above. Section 312.31(b) of the AAI final rule and Section 12.6.1 of ASTM E1527-13 require me to include an opinion regarding additional investigation, if I have one. In my opinion, sampling in the area of the former underground tank would be appropriate. ADS was informed that the property owner has refused access to conduct this sampling beneath the existing patio, therefore this testing is currently infeasible.

Qualifications

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in Section 312.10 of the AAI final rule. I have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CRM Part 312.

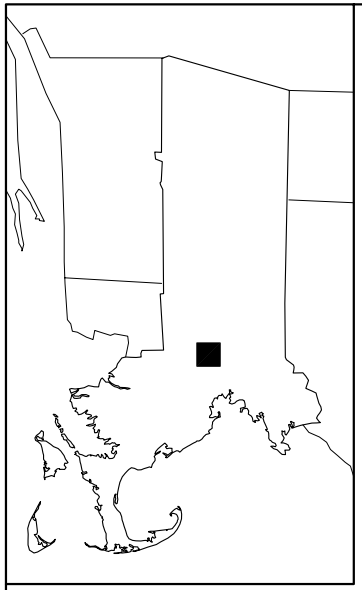
It has been a pleasure assisting you with this project. Please feel free to contact me with any questions or comments.

Sincerely,

ADS ENVIRONMENTAL ENGINEERING, LLC

Andrea D. Stiller, LSP
Principal

Attachments:
Figures
Appendix A – Limitations
Appendix B – Test Boring Logs
Appendix C – Surface Sample PID Logs
Appendix D – Analytical Laboratory Report



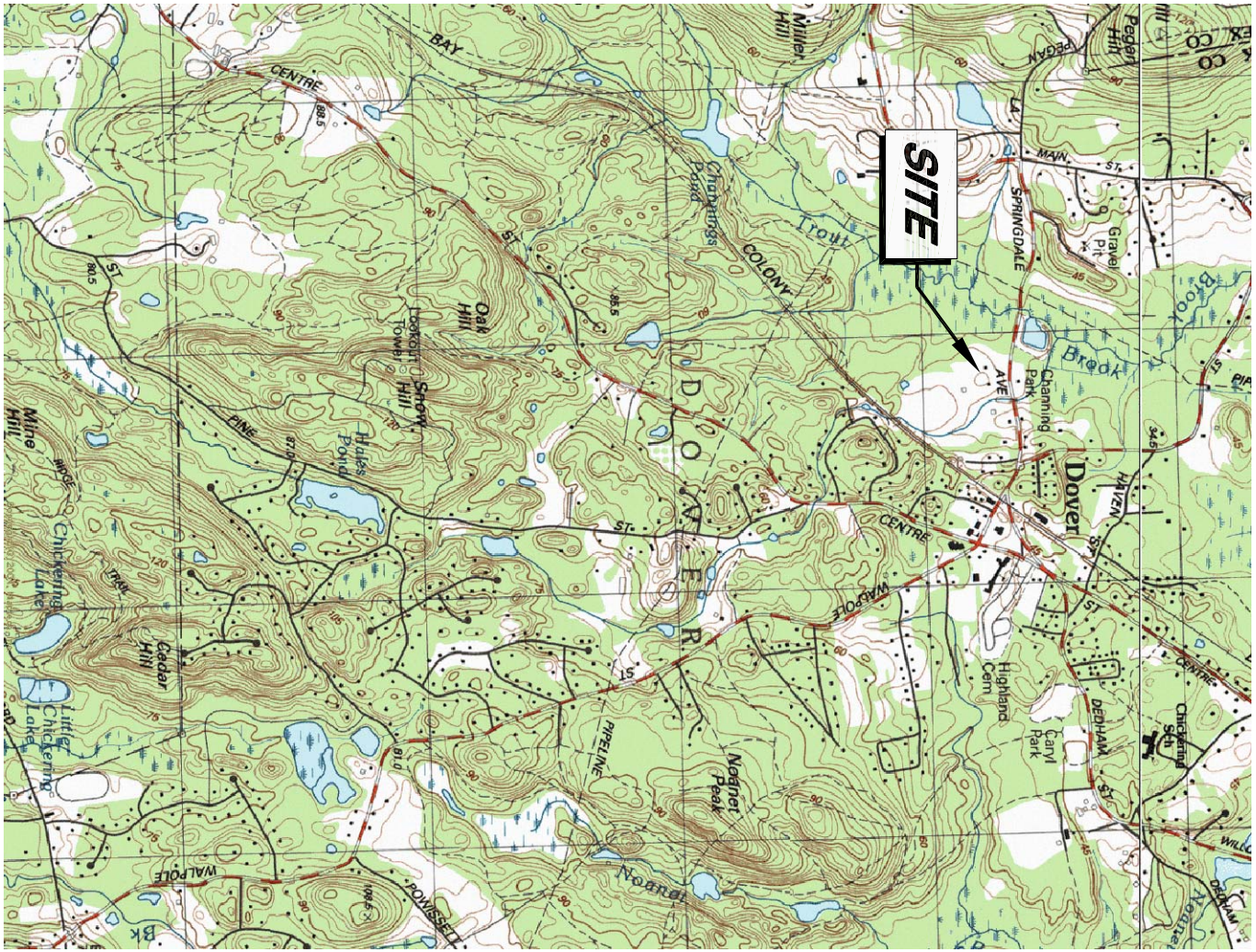


FIGURE No. 1

46 SPRINGDALE ROAD

DOVER, MA

LOCUS PLAN

SOURCE

1987 USGS MEDFIELD, MA QUADRANGLE MAP

(NOT TO SCALE)

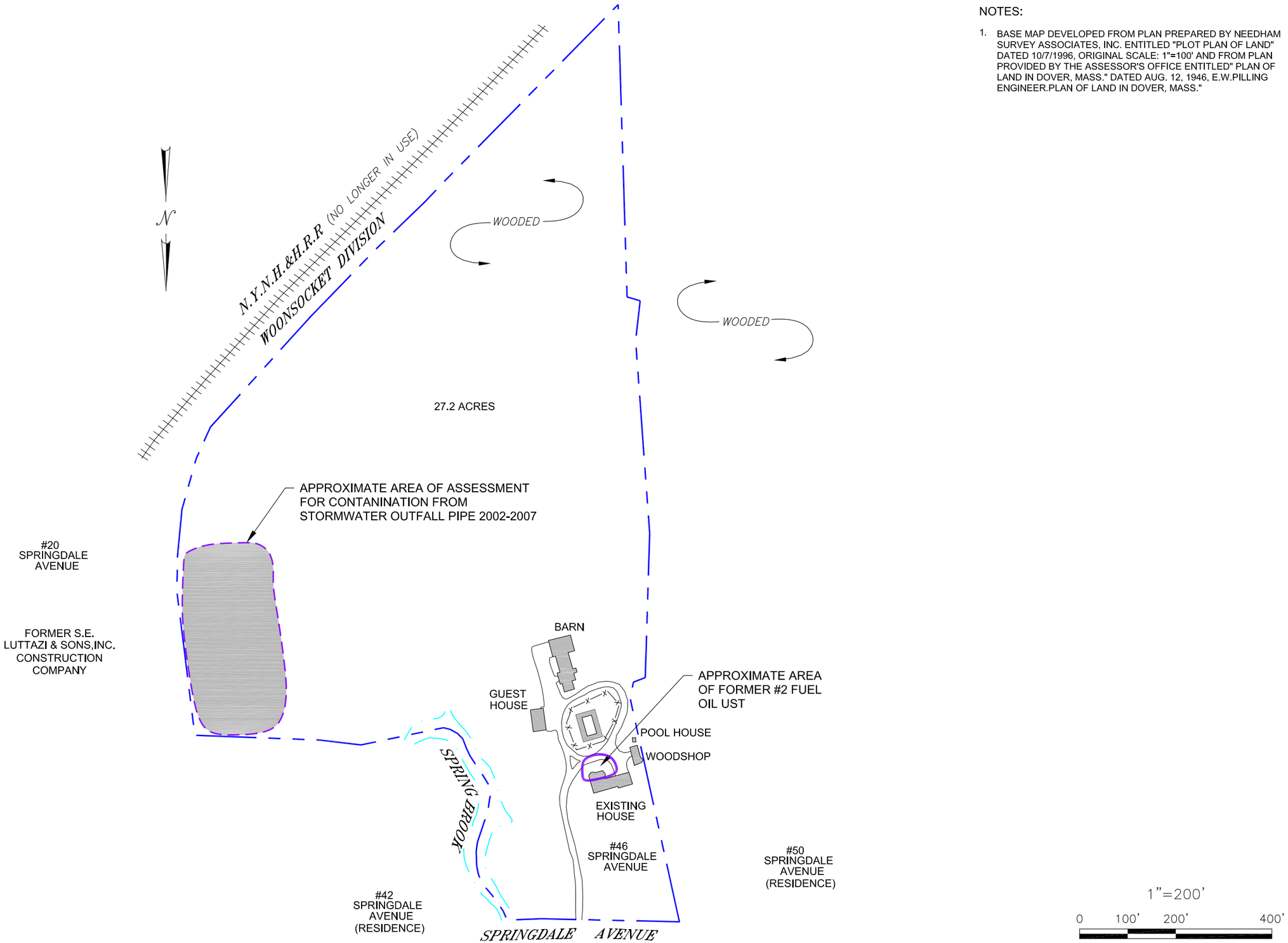
REV No.	DATE	INT.	- DESCRIPTION -

DRAWN BY: JJP	REVIEWED BY: ADS
DATE: 6/15/2014	JOB No. 0158

ADS ENVIRONMENTAL ENGINEERING, LLC

205 Woodland Street
Sherborn, Ma. 01770
Tel: (781) 727-6646
www.adslsp.com

JACK POWERS, 06/17/2014, 00:46:59 | FILE: C:\ADS\2014\DOVER\PLANS\F01.DWG



NOTES:

1. BASE MAP DEVELOPED FROM PLAN PREPARED BY NEEDHAM SURVEY ASSOCIATES, INC. ENTITLED "PLOT PLAN OF LAND" DATED 10/7/1996, ORIGINAL SCALE: 1"=100' AND FROM PLAN PROVIDED BY THE ASSESSOR'S OFFICE ENTITLED" PLAN OF LAND IN DOVER, MASS." DATED AUG. 12, 1946, E.W.PILLING ENGINEER.PLAN OF LAND IN DOVER, MASS."

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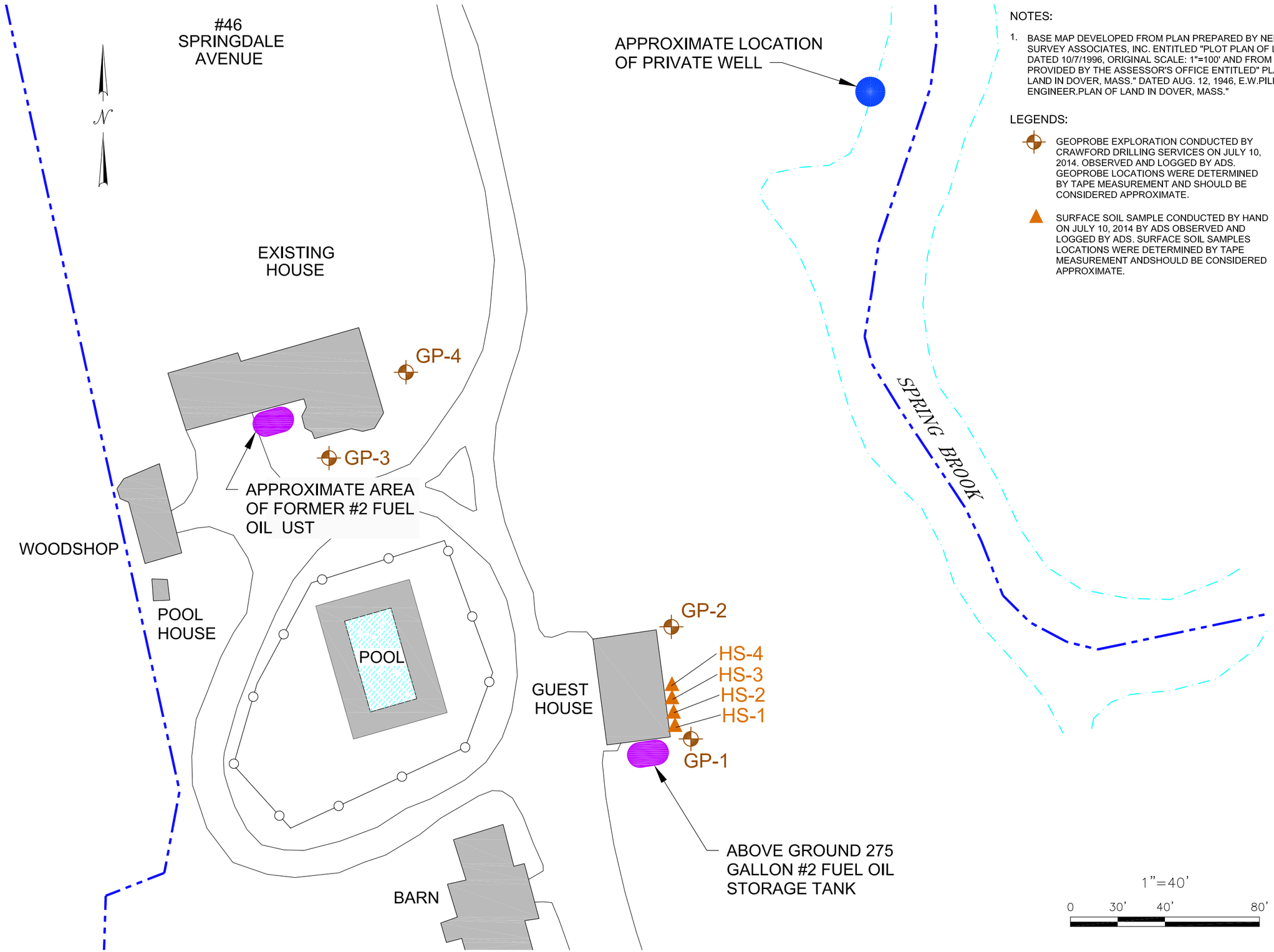
DRAWN BY: JJP | REVIEWED BY: ADS
DATE: 6/15/2014 | SCALE: 1"=200' | JOB No. 0158

46 SPRINGDALE ROAD
DOVER, MA

SITE PLAN

FIGURE No. 2



NOTES:

1. BASE MAP DEVELOPED FROM PLAN PREPARED BY NEEDHAM SURVEY ASSOCIATES, INC. ENTITLED "PLOT PLAN OF LAND" DATED 10/7/1996, ORIGINAL SCALE: 1"=100' AND FROM PLAN PROVIDED BY THE ASSESSOR'S OFFICE ENTITLED" PLAN OF LAND IN DOVER, MASS." DATED AUG. 12, 1946, E.W.PILLING ENGINEER.PLAN OF LAND IN DOVER, MASS."

LEGENDS:

GEOPROBE EXPLORATION CONDUCTED BY CRAWFORD DRILLING SERVICES ON JULY 10, 2014. OBSERVED AND LOGGED BY ADS. GEOPROBE LOCATIONS WERE DETERMINED BY TAPE MEASUREMENT AND SHOULD BE CONSIDERED APPROXIMATE.

SURFACE SOIL SAMPLE CONDUCTED BY HAND ON JULY 10, 2014 BY ADS OBSERVED AND LOGGED BY ADS. SURFACE SOIL SAMPLES LOCATIONS WERE DETERMINED BY TAPE MEASUREMENT ANDSHOULD BE CONSIDERED APPROXIMATE.

ADS ENVIRONMENTAL ENGINEERING, LLC
205 Woodland Street
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REV No.	DATE	INT.	- DESCRIPTION -

DRAWN BY: JJP
REVIEWED BY: ADS
DATE: 7/15/2014
SCALE: 1"=80'
JOB No. 0158

46 SPRINGDALE ROAD
DOVER, MA

EXPLORATION LOCATION PLAN

FIGURE No. 3

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APPENDIX A

LIMITATIONS

LIMITATIONS

1. In preparing this Report, ADS gathered information from interviews with various parties and review of the files of various public agencies. In addition, work completed by others was referenced by ADS. The accuracy of this work cannot be verified by ADS. Due to the potential for errors, omissions or inaccuracies that may exist there is some risk associated with reliance on such information. Although there may have been some corroboration provided by multiple sources, ADS cannot be responsible for the accuracy or completeness of the information reviewed or received during the course of this work

2. Observations were made of the site as indicated within the Report. If areas exist which were inaccessible and therefore not observed, ADS can render no opinion as to the conditions in that area. This includes but is not limited to the areas covered by fill, stockpiles, structures and vegetation.

3. The purpose of this Report was to provide environmental services at the subject site with respect to the presence in the environment of hazardous material or oil, as defined in Massachusetts General Laws Chapter 21E. No specific attempt was made to check on the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.

4. This report was prepared for the exclusive use of The Town of Dover, Massachusetts, solely for use in connection with environmental studies of the property located at 46 Springdale Avenue, in Dover, Massachusetts. This report was prepared in accordance with generally accepted environmental engineering practice. No other warranty, expressed or implied, is made.

APPENDIX B

TEST BORING LOGS

ADS Environmental Engineering, LLC	SOIL BORING LOG	Boring No.:	GP-1
	Project Name: 46 Springdale Ave	Page:	1 of 1
	Project Location: Dover, MA	Project No.:	NA
205 Woodland St., Sherborn, MA, 01770 (P: 781.727.6646)		Checked By:	ads

Drilling Company:	Crawford Drilling Services	Soil Boring Location:	See plan
Drilling Foreman:	Al Ryan	Ground Surface Elevation	NA
ADS Inspector(s):	A. Stiller	Date Started:	07/10/14
		Datum:	NA
		Date Completed:	7/10/14

DRILLING METHOD		SAMPLER		GROUND WATER DEPTH			
VEHICLE:	F550 XLT Super Duty	TYPE:	5-foot macrocore	DATE	DEPTH (feet)	REFERENCE	METHOD
MODEL:	Geoprobe 6600	HAMMER:	NA		NA		Soil
METHOD:	Direct push	FALL:	NA				

SAMPLE DEPTH (feet)	SAMPLE No.	Recovery (inches)	INTERVAL (feet)	BLOW COUNT	SOIL SAMPLE DESCRIPTION	GRAPHIC LOG	PID (ppm)	NOTES
	S-1	20	0-5		0-12" Dark Brown fine to medium SAND, trace silt, organics, dry.		0.0	Topsoil
1	S-2				1-2' Brown find to medium SAND, little F Gravel, trace Silt. Asphalt around 1.7'		0.1	Fill
2	S-3				2-5' Tan fine SAND, Some Silt		0.0	Silty Sand
3								
4								
5								
	S-4	30	5-10		5-8 Tan fine SAND, Some Silt		0.4	Silty Sand
6								
7								
8	S-5				8-10 Brown fine to coarse SAND, Trace (-) Silt		1.1	
9								
10								
	S-6	24	10-15		10-15' Brown fine to coarse SAND, Trace (-) Silt		0.8	
11								
12								
13								
14								
15								
					Bottom of Boring 15 Feet. Water around 6 feet.			
16					Installed 3 1/4" well screen to collect water sample. Removed upon completion of sampling.			
17								
18								
19								
20					Liner lodged in macrocore.			

Notes:

1. Proportions: trace (<10%), little (10-20%), some (20-35%), and (35-50%)
2. Blow Counts, Clay: very soft (<2), soft (2-4), medium stiff (4-8),
3. stiff (8-15), very stiff (15-30), hard (>30)
4. Blow Counts, Sand: very loose (4), loose (4-10), medium dense (10-30),
5. dense (30-50), very dense (50)

Legend

s = sand; si = silt; cl = clay; l = loam; f = fine; m = medium; c = coarse; a = angular; sa = subangular; sr = subrounded; r = rounded; cobbles = >3"; gravel = 1/4 to 3"; sand = 0.003 to 1/4"; fines = <0.003". USCS must include: group symbol, color, group name, particle size range, soil type/consistency, moisture, structure, and origin. Additionally, discuss organics, root holes, mica, gypsum, caving, sloughing, loss of drilling water, contamination, etc. Descriptions based on split spoon observations.

ADS Environmental Engineering, LLC	SOIL BORING LOG	Boring No.:	GP-2
	Project Name: 46 Springdale Ave	Page:	1 of 1
	Project Location: Dover, MA	Project No.:	NA
205 Woodland St., Sherborn, MA, 01770 (P: 781.727.6646)		Checked By:	ads

Drilling Company:	Crawford Drilling Services	Soil Boring Location:	
Drilling Foreman:	Al Ryan	Ground Surface Elevation	NA
ADS Inspector(s):	A. Stiller	Date Started:	07/10/14
Datum:	NA	Date Completed:	7/10/14

DRILLING METHOD		SAMPLER		GROUND WATER DEPTH			
VEHICLE:	F550 XLT Super Duty	TYPE:	5-foot macrocore	DATE	DEPTH (feet)	REFERENCE	METHOD
MODEL:	Geoprobe 6600	HAMMER:	NA		NA		Soil
METHOD:	Direct push	FALL:	NA				

DEPTH (feet)	SAMPLE No.	Recovery (inches)	INTERVAL (feet)	BLOW COUNT	SOIL SAMPLE DESCRIPTION	GRAPHIC LOG	PID (ppm)	NOTES
	S-1	28	0-5'		0-2' Dark Brown fine to medium SAND, Some Silt, Organics		0.1	
1								
2	S-2				2-5' Dark brown fine to medium SAND, Some Silt	topsoil	0.3	
					Orange fine to medium SAND, Trace (+) Silt	Subsoil		
3								
4								
5								
	S-3	30	5-10'		5-7.5 Tan fine to medium SAND, Some Silt	Silty Sand	0.3	
6								
7								
	S-4				7.5-10 Tan SILT, Some Fine Sand. Wet	Sandy Silt	0.5	
8								
9								
10								
	S-5	30	10-15'		10-13' Tan SILT, Some Fine Sand. Wet		0.0	
11								
12								
13								
	S-6				13-15 Tan SILT, Some Fine Sand, Little fine to coarse Gravel. Wet	Gravelly Silt	0.0	
14								
15								
					Bottom of Boring 15'.			
16					Soil wet around 8 feet.			
17								
18								
19								

Notes:

1. Proportions: trace (<10%), little (10-20%), some (20-35%), and (35-50%)
2 Blow Counts, Clay: very soft (<2), soft (2-4), medium stiff (4-8),
3 stiff (8-15), very stiff (15-30), hard (>30)
4 Blow Counts, Sand: very loose (4), loose (4-10), medium dense (10-30),
5 dense (30-50), very dense (50)

Legend

s = sand; si = silt; cl = clay; l = loam; f = fine; m = medium; c = coarse; a = angular; sa = subangular; sr = subrounded; r = rounded; cobbles = >3"; gravel = 1/4 to 3"; sand = 0.003 to 1/4"; fines = <0.003". USCS must include: group symbol, color, group name, particle size range, soil type/consistency, moisture, structure, and origin. Additionally, discuss organics, root holes, mica, gypsum, caving, sloughing, loss of drilling water, contamination, etc. Descriptions based on split spoon observations.

ADS Environmental Engineering, LLC	SOIL BORING LOG	Boring No.:	GP-3
	Project Name: 46 Springdale Avenue	Page:	1 of 1
	Project Location: Dover, MA	Project No.:	NA
205 Woodland St., Sherborn, MA, 01770 (P: 781.727.6646)		Checked By:	ads

Drilling Company:	Crawford Drilling Services	Soil Boring Location:	
Drilling Foreman:	Al Ryan	Ground Surface Elevation	NA — Datum: NA
ADS Inspector(s):	A. Stiller	Date Started:	07/10/14 — Date Completed: 7/10/14

DRILLING METHOD		SAMPLER		GROUND WATER DEPTH			
VEHICLE:	F550 XLT Super Duty	TYPE:	5-foot macrocore	DATE	DEPTH (feet)	REFERENCE	METHOD
MODEL:	Geoprobe 6600	HAMMER:	NA		NA	Ground	Soil
METHOD:	Direct push	FALL:	NA				

SAMPLE					SOIL SAMPLE DESCRIPTION		GRAPHIC LOG	PID (ppm)	NOTES
DEPTH (feet)	SAMPLE No.	Recovery (inches)	INTERVAL (feet)	BLOW COUNT					
	S-1	14	0-5		0-1'	Dark Brown fine to medium SAND, Little Silt, organics	Topsoil	0.4	
1	S-2				1-5'	Tan fine to medium SAND, Little Fine to Coarse Gravel, Tr.(+) Silt		0.4	
							Sand with		
2							Gravel		
3									
4									
5									
	S-3	23	5-10		5-7'	Tan blue fine to medium SAND and fine to coarse GRAVEL,		0.6	
6						trace Silt	Gravelly		
							Sand		
7									
	S-4				7-9.5'	Same as Above		0.3	
8									
9									
10						Refusal at 9.5 feet. Large Rocks in Sample			
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Notes:

1. Proportions: trace (<10%), little (10-20%), some (20-35%), and (35-50%)
2 Blow Counts, Clay: very soft (<2), soft (2-4), medium stiff (4-8),
3 stiff (8-15), very stiff (15-30), hard (>30)
4 Blow Counts, Sand: very loose (4), loose (4-10), medium dense (10-30),
5 dense (30-50), very dense (50)

Legend

s = sand; si = silt; cl = clay; l = loam; f = fine; m = medium; c = coarse; a = angular; sa = subangular; sr = subrounded; r = rounded; cobbles = >3"; gravel = 1/4 to 3"; sand = 0.003 to 1/4"; fines = <0.003". USCS must include: group symbol, color, group name, particle size range, soil type/consistency, moisture, structure, and origin. Additionally, discuss organics, root holes, mica, gypsum, caving, sloughing, loss of drilling water, contamination, etc. Descriptions based on split spoon observations.

ADS Environmental Engineering, LLC	SOIL BORING LOG	Boring No.:	GP-4
	Project Name: 46 Springdale Avenue	Page:	1 of 1
	Project Location: Dover, MA	Project No.:	NA
205 Woodland St., Sherborn, MA, 01770 (P: 781.727.6646)		Checked By:	ads

Drilling Company:	Crawford Drilling Services	Soil Boring Location:	See Plan
Drilling Foreman:	Al Ryan	Ground Surface Elevation	NA
ADS Inspector(s):	A. Stiller	Date Started:	07/10/14
		Datum:	NA
		Date Completed:	7/10/14

DRILLING METHOD		SAMPLER		GROUND WATER DEPTH			
VEHICLE:	F550 XLT Super Duty	TYPE:	5-foot macrocore	DATE	DEPTH (feet)	REFERENCE	METHOD
MODEL:	Geoprobe 6600	HAMMER:	NA		NA	Ground	Soil
METHOD:	Direct push	FALL:	NA				

SAMPLE DEPTH (feet)	SAMPLE No.	Recovery (inches)	INTERVAL (feet)	BLOW COUNT	SOIL SAMPLE DESCRIPTION	GRAPHIC LOG	PID (ppm)	NOTES
	S-1	24	0-5		0-3' Dark Brown fine to medium SAND, Trace Silt, oganics	Topsoil	1.1	
1								
					Orange fine to medium SAND, trace Silt	Subsoil		
2								
3								
	S-2		5-8.5		3-5 Grey fine to medium SAND, Some fine to coarse Gravel	Sand and	0.1	
4					Gravel cut by sampler	Gravel		
5							1.1	
	S-3	16	5-8.5		5-8.5 Grey fine to medium SAND, Some fine to coarse Gravel. Dry			
6					Gravel cut by sampler			
7								
8								
9					Refusal at 8'4". Lots of rock			
10								

Notes:

1. Proportions: trace (<10%), little (10-20%), some (20-35%), and (35-50%)
2. Blow Counts, Clay: very soft (<2), soft (2-4), medium stiff (4-8),
3. stiff (8-15), very stiff (15-30), hard (>30)
4. Blow Counts, Sand: very loose (4), loose (4-10), medium dense (10-30),
5. dense (30-50), very dense (50)

Legend

s = sand; si = silt; cl = clay; l = loam; f = fine; m = medium; c = coarse; a = angular; sa = subangular; sr = subrounded; r = rounded; cobbles = >3"; gravel = 1/4 to 3"; sand = 0.003 to 1/4"; fines = <0.003". USCS must include: group symbol, color, group name, particle size range, soil type/consistency, moisture, structure, and origin. Additionally, discuss organics, root holes, mica, gypsum, caving, sloughing, loss of drilling water, contamination, etc. Descriptions based on split spoon observations.

APPENDIX C

SURFACE SAMPLE PID LOGS

PID

Project Name: 46 Springdale Ave **Location:** Dover MA

File No. _____ **Sample Volume:** headspace **Sample Temperature:** Ambient

Operator: A. Stiller **Date Collected:** 7/10/14 **Dated Tested:** 7/10/14

NUMBER	SAMPLE NUMBER	DEPTH (ft.)	PID	COMMENT
HS-1		0-0.5	0.0	3 ft from bldg corner
HS-2		0-0.5	0.4	8 ft from bldg corner
HS-3		0-0.5	0.0	15 ft from bldg corner
HS-4		0-0.5	0.0	20 ft from bldg corner

APPENDIX D

ANALYTICAL LABORATORY REPORT

ANALYTICAL REPORT

Lab Number:	L1415303
Client:	ADS Environmental 205 Woodland St. Sherborn, MA 01770
ATTN:	Andrea Stiller
Phone:	(781) 727-6646
Project Name:	46 SPRINGDALE AVE.
Project Number:	Not Specified
Report Date:	07/22/14

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Certifications & Approvals: MA (M-MA086), NY (11148), CT (PH-0574), NH (2003), NJ NELAP (MA935), RI (LAO00065), ME (MA00086), PA (68-03671), USDA (Permit #P-330-11-00240), NC (666), TX (T104704476), DOD (L2217), US Army Corps of Engineers.

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508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L1415303-01	GP-1	WATER	DOVER, MA	07/10/14 09:15	07/10/14
L1415303-02	GP-3	SOIL	DOVER, MA	07/10/14 11:00	07/10/14
L1415303-03	HS-4	SOIL	DOVER, MA	07/10/14 08:00	07/10/14
L1415303-04	GP-1, S-1	SOIL	DOVER, MA	07/10/14 08:30	07/10/14
L1415303-05	WOODSHED SPIGOT	DW	DOVER, MA	07/10/14 10:55	07/10/14
L1415303-06	TRIP BLANK	WATER	DOVER, MA	07/10/14 00:00	07/10/14

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	NO
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	NO
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	YES
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES

A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	NO
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	NO

For any questions answered "No", please refer to the case narrative section on the following page(s).

Please note that sample matrix information is located in the Sample Results section of this report.

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303
Project Number: Not Specified **Report Date:** 07/22/14

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet all of the requirements of NELAC, for all NELAC accredited parameters. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively. When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. Performance criteria for CAM and RCP methods allow for some LCS compound failures to occur and still be within method compliance. In these instances, the specific failures are not narrated but are noted in the associated QC table. This information is also incorporated in the Data Usability format for our Data Merger tool where it can be reviewed along with any associated usability implications. Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances the specific failure is not narrated but noted in the associated QC table. The information is also incorporated in the Data Usability format of our Data Merger tool where it can be reviewed along with any associated usability implications.

Please see the associated ADEx data file for a comparison of laboratory reporting limits that were achieved with the regulatory Numerical Standards requested on the Chain of Custody.

HOLD POLICY
For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Client Service Representative and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Client Services at 800-624-9220 with any questions.

Project Name:	46 SPRINGDALE AVE.	**Lab Number:**	L1415303
Project Number:	Not Specified	**Report Date:**	07/22/14

Case Narrative (continued)

Report Submission

This final report replaces the partial report issued July 17, 2014, and includes the results of all requested analyses.

MCP Related Narratives

Sample Receipt

In reference to question A:

The proper field QC samples were not delivered with drinking water samples.

Volatile Organics by Method 524.2

In reference to question B:

At the client's request, the analytical method specified in the CAM protocol was not followed.

In reference to question I:

All samples were analyzed for a subset of MCP compounds per the Chain of Custody.

EPH

L1415303-01 and -05 were re-extracted due to target compounds present above the RL in the associated Method Blank and due to the low LCSD spike recovery for acenaphthylene in the original analysis. The results of both extractions are reported.

L1415303-05RE has elevated detection limits due to limited sample volume available for analysis.

In reference to question G:

L1415303-05RE: One or more of the target analytes did not achieve the requested CAM reporting limits.

In reference to question H:

The WG706632-2 LCS recoveries, associated with L1415303-01RE and -05RE, are below the acceptance criteria for individual target compounds; however, further re-extraction could not be performed due to lack of additional sample. The results of the re-extraction are reported; however, all results are considered to have a potentially low bias for c9-c18 aliphatics (32%), naphthalene (39%), nonane (c9) (2%), decane (c10) (4%), and dodecane (c12) (14%).

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303
Project Number: Not Specified **Report Date:** 07/22/14

Case Narrative (continued)

The WG706632-3 LCSD recoveries, associated with L1415303-01RE and -05RE, are above the acceptance criteria for individual target compounds; however, further re-extraction could not be performed due to lack of additional sample. The results of the re-extraction are reported; however, all results are considered to have a potentially high bias for C19-C36 aliphatics (232%), C11-C22 aromatics (228%), acenaphthene (154%), fluorene (182%), phenanthrene (193%), anthracene (205%), fluoranthene (215%), pyrene (216%), benzo(a)anthracene (204%), chrysene (194%), benzo(b)fluoranthene (219%), benzo(k)fluoranthene (197%), benzo(a)pyrene (203%), indeno(1,2,3-cd)pyrene (216%), dibenzo(a,h)anthracene (194%), benzo(ghi)perylene (192%), tetradecane (C14) (149%), hexadecane (C16) (184%), octadecane (C18) (199%), nonadecane (C19) (203%), eicosane (C20) (200%), docosane (C22) (204%), tetracosane (C24) (203%), hexacosane (C26) (204%), octacosane (C28) (202%), triacontane (C30) (214%), and hexatriacontane (C36) (226%).

Metals

In reference to question I:

All samples were analyzed for a subset of MCP elements per the Chain of Custody.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Kelly Stenstrom

Title: Technical Director/Representative Date: 07/22/14

ORGANICS

VOLATILES

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified
Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05	Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified
Matrix:	Dw		
Analytical Method:	16,524.2		
Analytical Date:	07/11/14 20:56		
Analyst:	GT		

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
Methylene chloride	ND		ug/l	0.50	--	1
1,1-Dichloroethane	ND		ug/l	0.50	--	1
Chloroform	ND		ug/l	0.50	--	1
Carbon tetrachloride	ND		ug/l	0.50	--	1
1,2-Dichloropropane	ND		ug/l	0.50	--	1
Dibromochloromethane	ND		ug/l	0.50	--	1
1,1,2-Trichloroethane	ND		ug/l	0.50	--	1
Tetrachloroethene	ND		ug/l	0.50	--	1
Chlorobenzene	ND		ug/l	0.50	--	1
Trichlorofluoromethane	ND		ug/l	0.50	--	1
1,2-Dichloroethane	ND		ug/l	0.50	--	1
1,1,1-Trichloroethane	ND		ug/l	0.50	--	1
Bromodichloromethane	ND		ug/l	0.50	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.50	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.50	--	1
Bromoform	ND		ug/l	0.50	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	0.50	--	1
Ethylbenzene	ND		ug/l	0.50	--	1
p/m-Xylene	ND		ug/l	0.50	--	1
Chloromethane	ND		ug/l	0.50	--	1
Bromomethane	ND		ug/l	0.50	--	1
Vinyl chloride	ND		ug/l	0.50	--	1
Chloroethane	ND		ug/l	0.50	--	1
1,1-Dichloroethene	ND		ug/l	0.50	--	1
trans-1,2-Dichloroethene	ND		ug/l	0.50	--	1
cis-1,2-Dichloroethene	ND		ug/l	0.50	--	1
Trichloroethene	ND		ug/l	0.50	--	1
1,2-Dichlorobenzene	ND		ug/l	0.50	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-05 Date Collected: 07/10/14 10:55

Client ID: WOODSHED SPIGOT Date Received: 07/10/14

Sample Location: DOVER, MA Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by GC/MS - Westborough Lab						
1,3-Dichlorobenzene	ND		ug/l	0.50	--	1
1,4-Dichlorobenzene	ND		ug/l	0.50	--	1
Styrene	ND		ug/l	0.50	--	1
o-Xylene	ND		ug/l	0.50	--	1
1,1-Dichloropropene	ND		ug/l	0.50	--	1
2,2-Dichloropropane	ND		ug/l	0.50	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--	1
1,2,3-Trichloropropane	ND		ug/l	0.50	--	1
Bromochloromethane	ND		ug/l	0.50	--	1
n-Butylbenzene	ND		ug/l	0.50	--	1
Dichlorodifluoromethane	ND		ug/l	0.50	--	1
Hexachlorobutadiene	ND		ug/l	0.50	--	1
Isopropylbenzene	ND		ug/l	0.50	--	1
p-Isopropyltoluene	ND		ug/l	0.50	--	1
Naphthalene	ND		ug/l	0.50	--	1
n-Propylbenzene	ND		ug/l	0.50	--	1
sec-Butylbenzene	ND		ug/l	0.50	--	1
tert-Butylbenzene	ND		ug/l	0.50	--	1
1,2,3-Trichlorobenzene	ND		ug/l	0.50	--	1
1,2,4-Trichlorobenzene	ND		ug/l	0.50	--	1
1,2,4-Trimethylbenzene	ND		ug/l	0.50	--	1
1,3,5-Trimethylbenzene	ND		ug/l	0.50	--	1
Bromobenzene	ND		ug/l	0.50	--	1
o-Chlorotoluene	ND		ug/l	0.50	--	1
p-Chlorotoluene	ND		ug/l	0.50	--	1
Dibromomethane	ND		ug/l	0.50	--	1
1,2-Dibromoethane	ND		ug/l	0.50	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	--	1
1,3-Dichloropropane	ND		ug/l	0.50	--	1
Methyl tert butyl ether	ND		ug/l	0.50	--	1
Xylenes, Total[1]	ND		ug/l	0.50	--	1

Tentatively Identified Compounds			
No Tentatively Identified Compounds	ND	ug/l	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05	Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Volatile Organics by GC/MS - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	105		80-120
4-Bromofluorobenzene	85		80-120

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 16,524.2
Analytical Date: 07/11/14 12:13
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG704355-6					
Methylene chloride	ND		ug/l	0.50	--
1,1-Dichloroethane	ND		ug/l	0.50	--
Chloroform	ND		ug/l	0.50	--
Carbon tetrachloride	ND		ug/l	0.50	--
1,2-Dichloropropane	ND		ug/l	0.50	--
Dibromochloromethane	ND		ug/l	0.50	--
1,1,2-Trichloroethane	ND		ug/l	0.50	--
Tetrachloroethene	ND		ug/l	0.50	--
Chlorobenzene	ND		ug/l	0.50	--
Trichlorofluoromethane	ND		ug/l	0.50	--
1,2-Dichloroethane	ND		ug/l	0.50	--
1,1,1-Trichloroethane	ND		ug/l	0.50	--
Bromodichloromethane	ND		ug/l	0.50	--
trans-1,3-Dichloropropene	ND		ug/l	0.50	--
cis-1,3-Dichloropropene	ND		ug/l	0.50	--
Bromoform	ND		ug/l	0.50	--
1,1,2,2-Tetrachloroethane	ND		ug/l	0.50	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	0.50	--
Ethylbenzene	ND		ug/l	0.50	--
p/m-Xylene	ND		ug/l	0.50	--
Chloromethane	ND		ug/l	0.50	--
Bromomethane	ND		ug/l	0.50	--
Vinyl chloride	ND		ug/l	0.50	--
Chloroethane	ND		ug/l	0.50	--
1,1-Dichloroethene	ND		ug/l	0.50	--
trans-1,2-Dichloroethene	ND		ug/l	0.50	--
cis-1,2-Dichloroethene	ND		ug/l	0.50	--
Trichloroethene	ND		ug/l	0.50	--

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 16,524.2
Analytical Date: 07/11/14 12:13
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG704355-6					
1,2-Dichlorobenzene	ND		ug/l	0.50	--
1,3-Dichlorobenzene	ND		ug/l	0.50	--
1,4-Dichlorobenzene	ND		ug/l	0.50	--
Styrene	ND		ug/l	0.50	--
o-Xylene	ND		ug/l	0.50	--
1,1-Dichloropropene	ND		ug/l	0.50	--
2,2-Dichloropropane	ND		ug/l	0.50	--
1,1,1,2-Tetrachloroethane	ND		ug/l	0.50	--
1,2,3-Trichloropropane	ND		ug/l	0.50	--
Bromochloromethane	ND		ug/l	0.50	--
n-Butylbenzene	ND		ug/l	0.50	--
Dichlorodifluoromethane	ND		ug/l	0.50	--
Hexachlorobutadiene	ND		ug/l	0.50	--
Isopropylbenzene	ND		ug/l	0.50	--
p-Isopropyltoluene	ND		ug/l	0.50	--
Naphthalene	ND		ug/l	0.50	--
n-Propylbenzene	ND		ug/l	0.50	--
sec-Butylbenzene	ND		ug/l	0.50	--
tert-Butylbenzene	ND		ug/l	0.50	--
1,2,3-Trichlorobenzene	ND		ug/l	0.50	--
1,2,4-Trichlorobenzene	ND		ug/l	0.50	--
1,2,4-Trimethylbenzene	ND		ug/l	0.50	--
1,3,5-Trimethylbenzene	ND		ug/l	0.50	--
Bromobenzene	ND		ug/l	0.50	--
o-Chlorotoluene	ND		ug/l	0.50	--
p-Chlorotoluene	ND		ug/l	0.50	--
Dibromomethane	ND		ug/l	0.50	--
1,2-Dibromoethane	ND		ug/l	0.50	--
1,2-Dibromo-3-chloropropane	ND		ug/l	0.50	--

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 16,524.2
Analytical Date: 07/11/14 12:13
Analyst: GT

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by GC/MS - Westborough Lab for sample(s): 05 Batch: WG704355-6					
1,3-Dichloropropane	ND		ug/l	0.50	--
Methyl tert butyl ether	ND		ug/l	0.50	--
Xylenes, Total[1]	ND		ug/l	0.50	--
No Tentatively Identified Compounds	ND		ug/l		

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	103		80-120
4-Bromofluorobenzene	89		80-120

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG704355-5								
Methylene chloride	108		-		70-130	-		20
1,1-Dichloroethane	103		-		70-130	-		20
Chloroform	102		-		70-130	-		20
Carbon tetrachloride	93		-		70-130	-		20
1,2-Dichloropropane	98		-		70-130	-		20
Dibromochloromethane	93		-		70-130	-		20
1,1,2-Trichloroethane	101		-		70-130	-		20
Tetrachloroethene	101		-		70-130	-		20
Chlorobenzene	102		-		70-130	-		20
Trichlorofluoromethane	118		-		70-130	-		20
1,2-Dichloroethane	94		-		70-130	-		20
1,1,1-Trichloroethane	94		-		70-130	-		20
Bromodichloromethane	92		-		70-130	-		20
trans-1,3-Dichloropropene	85		-		70-130	-		20
cis-1,3-Dichloropropene	87		-		70-130	-		20
Bromoform	90		-		70-130	-		20
1,1,2,2-Tetrachloroethane	101		-		70-130	-		20
Benzene	96		-		70-130	-		20
Toluene	92		-		70-130	-		20
Ethylbenzene	94		-		70-130	-		20
p/m-Xylene	100		-		70-130	-		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG704355-5								
Chloromethane	115		-		70-130	-		20
Bromomethane	105		-		70-130	-		20
Vinyl chloride	114		-		70-130	-		20
Chloroethane	123		-		70-130	-		20
1,1-Dichloroethene	100		-		70-130	-		20
trans-1,2-Dichloroethene	101		-		70-130	-		20
cis-1,2-Dichloroethene	96		-		70-130	-		20
Trichloroethene	94		-		70-130	-		20
1,2-Dichlorobenzene	113		-		70-130	-		20
1,3-Dichlorobenzene	113		-		70-130	-		20
1,4-Dichlorobenzene	112		-		70-130	-		20
Styrene	95		-		70-130	-		20
o-Xylene	93		-		70-130	-		20
1,1-Dichloropropene	90		-		70-130	-		20
2,2-Dichloropropane	86		-		70-130	-		20
1,1,1,2-Tetrachloroethane	99		-		70-130	-		20
1,2,3-Trichloropropane	99		-		70-130	-		20
Bromochloromethane	100		-		70-130	-		20
n-Butylbenzene	96		-		70-130	-		20
Dichlorodifluoromethane	91		-		70-130	-		20
Hexachlorobutadiene	110		-		70-130	-		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG704355-5								
Isopropylbenzene	92		-		70-130	-		20
p-Isopropyltoluene	96		-		70-130	-		20
Naphthalene	84		-		70-130	-		20
n-Propylbenzene	94		-		70-130	-		20
sec-Butylbenzene	94		-		70-130	-		20
tert-Butylbenzene	94		-		70-130	-		20
1,2,3-Trichlorobenzene	104		-		70-130	-		20
1,2,4-Trichlorobenzene	107		-		70-130	-		20
1,2,4-Trimethylbenzene	98		-		70-130	-		20
1,3,5-Trimethylbenzene	91		-		70-130	-		20
Bromobenzene	104		-		70-130	-		20
o-Chlorotoluene	106		-		70-130	-		20
p-Chlorotoluene	105		-		70-130	-		20
Dibromomethane	93		-		70-130	-		20
1,2-Dibromoethane	94		-		70-130	-		20
1,2-Dibromo-3-chloropropane	89		-		70-130	-		20
1,3-Dichloropropane	100		-		70-130	-		20
Methyl tert butyl ether	91		-		70-130	-		20

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 Batch: WG704355-5								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichlorobenzene-d4	109				80-120
4-Bromofluorobenzene	94				80-120

Matrix Spike Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 QC Batch ID: WG704355-4 QC Sample: L1414900-02 Client ID: MS Sample												
Chloroform	0.81	4	5.2	110		-	-		70-130	-		20
Dibromochloromethane	0.81	4	5.2	110		-	-		70-130	-		20
Bromodichloromethane	0.98	4	5.0	101		-	-		70-130	-		20
Bromoform	ND	4	4.5	112		-	-		70-130	-		20

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	102				80-120
4-Bromofluorobenzene	93				80-120

Lab Duplicate Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Volatile Organics by GC/MS - Westborough Lab Associated sample(s): 05 QC Batch ID: WG704355-3 QC Sample: L1414900-01 Client ID: DUP Sample						
Chloroform	3.1	3.1	ug/l	0		20
Dibromochloromethane	3.0	2.9	ug/l	3		20
Bromodichloromethane	3.8	3.8	ug/l	0		20
Bromoform	ND	ND	ug/l	NC		20

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichlorobenzene-d4	108		113		80-120
4-Bromofluorobenzene	87		87		80-120

PETROLEUM HYDROCARBONS

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-01	Date Collected:	07/10/14 09:15
Client ID:	GP-1	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified
Matrix:	Water		
Analytical Method:	100,VPH-04-1.1		
Analytical Date:	07/14/14 20:30		
Analyst:	BS		

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Petroleum Hydrocarbons - Westborough Lab						
C5-C8 Aliphatics	ND		ug/l	50.0	--	1
C9-C12 Aliphatics	ND		ug/l	50.0	--	1
C9-C10 Aromatics	ND		ug/l	50.0	--	1
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--	1
Benzene	ND		ug/l	2.00	--	1
Toluene	ND		ug/l	2.00	--	1
Ethylbenzene	ND		ug/l	2.00	--	1
p/m-Xylene	ND		ug/l	2.00	--	1
o-Xylene	ND		ug/l	2.00	--	1
Methyl tert butyl ether	ND		ug/l	3.00	--	1
Naphthalene	ND		ug/l	4.00	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	111		70-130
2,5-Dibromotoluene-FID	118		70-130

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-01			Date Collected:	07/10/14 09:15
Client ID:	GP-1			Date Received:	07/10/14
Sample Location:	DOVER, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	07/12/14 07:28
Analytical Date:	07/18/14 21:44	M.S. Analytical Date:	07/16/14 19:07	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	KR	Cleanup Date1:	07/16/14

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-01	Date Collected:	07/10/14 09:15
Client ID:	GP-1	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	63		40-140
o-Terphenyl	84		40-140
2-Fluorobiphenyl	96		40-140
2-Bromonaphthalene	91		40-140
O-Terphenyl-MS	77		40-140

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-01	RE		Date Collected:	07/10/14 09:15
Client ID:	GP-1			Date Received:	07/10/14
Sample Location:	DOVER, MA			Field Prep:	Not Specified
Matrix:	Water			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	07/17/14 16:32
Analytical Date:	07/19/14 07:24	M.S. Analytical Date:	07/18/14 13:34	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	KR	Cleanup Date1:	07/18/14

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-01	RE	Date Collected:	07/10/14 09:15
Client ID:	GP-1		Date Received:	07/10/14
Sample Location:	DOVER, MA		Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	61		40-140
o-Terphenyl	79		40-140
2-Fluorobiphenyl	92		40-140
2-Bromonaphthalene	86		40-140
O-Terphenyl-MS	74		40-140

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-02	Date Collected:	07/10/14 11:00
Client ID:	GP-3	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	07/12/14 10:29
Analytical Date:	07/17/14 21:15	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	07/15/14
Percent Solids:	94%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	6.94	--	1
C19-C36 Aliphatics	ND		mg/kg	6.94	--	1
C11-C22 Aromatics	ND		mg/kg	6.94	--	1
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.94	--	1
Naphthalene	ND		mg/kg	0.347	--	1
2-Methylnaphthalene	ND		mg/kg	0.347	--	1
Acenaphthylene	ND		mg/kg	0.347	--	1
Acenaphthene	ND		mg/kg	0.347	--	1
Fluorene	ND		mg/kg	0.347	--	1
Phenanthrene	ND		mg/kg	0.347	--	1
Anthracene	ND		mg/kg	0.347	--	1
Fluoranthene	ND		mg/kg	0.347	--	1
Pyrene	ND		mg/kg	0.347	--	1
Benzo(a)anthracene	ND		mg/kg	0.347	--	1
Chrysene	ND		mg/kg	0.347	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.347	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.347	--	1
Benzo(a)pyrene	ND		mg/kg	0.347	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.347	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.347	--	1
Benzo(ghi)perylene	ND		mg/kg	0.347	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-02	Date Collected:	07/10/14 11:00
Client ID:	GP-3	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	64		40-140
o-Terphenyl	75		40-140
2-Fluorobiphenyl	81		40-140
2-Bromonaphthalene	75		40-140

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified
Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-03	Date Collected:	07/10/14 08:00
Client ID:	HS-4	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	07/12/14 10:29
Analytical Date:	07/17/14 17:33	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	07/15/14
Percent Solids:	89%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	7.13	--	1
C19-C36 Aliphatics	12.1		mg/kg	7.13	--	1
C11-C22 Aromatics	8.61		mg/kg	7.13	--	1
C11-C22 Aromatics, Adjusted	8.61		mg/kg	7.13	--	1
Naphthalene	ND		mg/kg	0.356	--	1
2-Methylnaphthalene	ND		mg/kg	0.356	--	1
Acenaphthylene	ND		mg/kg	0.356	--	1
Acenaphthene	ND		mg/kg	0.356	--	1
Fluorene	ND		mg/kg	0.356	--	1
Phenanthrene	ND		mg/kg	0.356	--	1
Anthracene	ND		mg/kg	0.356	--	1
Fluoranthene	ND		mg/kg	0.356	--	1
Pyrene	ND		mg/kg	0.356	--	1
Benzo(a)anthracene	ND		mg/kg	0.356	--	1
Chrysene	ND		mg/kg	0.356	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.356	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.356	--	1
Benzo(a)pyrene	ND		mg/kg	0.356	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.356	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.356	--	1
Benzo(ghi)perylene	ND		mg/kg	0.356	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-03	Date Collected:	07/10/14 08:00
Client ID:	HS-4	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	49		40-140
o-Terphenyl	55		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	62		40-140

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-04	Date Collected:	07/10/14 08:30
Client ID:	GP-1, S-1	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified
Matrix:	Soil	Extraction Method:	EPA 3546
Analytical Method:	98,EPH-04-1.1	Extraction Date:	07/12/14 10:29
Analytical Date:	07/17/14 18:04	Cleanup Method1:	EPH-04-1
Analyst:	SR	Cleanup Date1:	07/15/14
Percent Solids:	93%		

Quality Control Information

Condition of sample received:	Satisfactory
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Extractable Petroleum Hydrocarbons - Westborough Lab						
C9-C18 Aliphatics	ND		mg/kg	7.04	--	1
C19-C36 Aliphatics	ND		mg/kg	7.04	--	1
C11-C22 Aromatics	13.2		mg/kg	7.04	--	1
C11-C22 Aromatics, Adjusted	13.2		mg/kg	7.04	--	1
Naphthalene	ND		mg/kg	0.352	--	1
2-Methylnaphthalene	ND		mg/kg	0.352	--	1
Acenaphthylene	ND		mg/kg	0.352	--	1
Acenaphthene	ND		mg/kg	0.352	--	1
Fluorene	ND		mg/kg	0.352	--	1
Phenanthrene	ND		mg/kg	0.352	--	1
Anthracene	ND		mg/kg	0.352	--	1
Fluoranthene	ND		mg/kg	0.352	--	1
Pyrene	ND		mg/kg	0.352	--	1
Benzo(a)anthracene	ND		mg/kg	0.352	--	1
Chrysene	ND		mg/kg	0.352	--	1
Benzo(b)fluoranthene	ND		mg/kg	0.352	--	1
Benzo(k)fluoranthene	ND		mg/kg	0.352	--	1
Benzo(a)pyrene	ND		mg/kg	0.352	--	1
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.352	--	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.352	--	1
Benzo(ghi)perylene	ND		mg/kg	0.352	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-04	Date Collected:	07/10/14 08:30
Client ID:	GP-1, S-1	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Extractable Petroleum Hydrocarbons - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	66		40-140
o-Terphenyl	89		40-140
2-Fluorobiphenyl	87		40-140
2-Bromonaphthalene	79		40-140

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05			Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT			Date Received:	07/10/14
Sample Location:	DOVER, MA			Field Prep:	Not Specified
Matrix:	Dw			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	07/12/14 07:28
Analytical Date:	07/18/14 20:56	M.S. Analytical Date:	07/16/14 19:37	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	KR	Cleanup Date1:	07/16/14

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	100	--	1
C19-C36 Aliphatics	ND		ug/l	100	--	1
C11-C22 Aromatics	ND		ug/l	100	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--	1
Naphthalene	ND		ug/l	0.400	--	1
2-Methylnaphthalene	ND		ug/l	0.400	--	1
Acenaphthylene	ND		ug/l	0.400	--	1
Acenaphthene	ND		ug/l	0.400	--	1
Fluorene	ND		ug/l	0.400	--	1
Phenanthrene	ND		ug/l	0.400	--	1
Anthracene	ND		ug/l	0.400	--	1
Fluoranthene	ND		ug/l	0.400	--	1
Pyrene	ND		ug/l	0.400	--	1
Benzo(a)anthracene	ND		ug/l	0.400	--	1
Chrysene	ND		ug/l	0.400	--	1
Benzo(b)fluoranthene	ND		ug/l	0.400	--	1
Benzo(k)fluoranthene	ND		ug/l	0.400	--	1
Benzo(a)pyrene	ND		ug/l	0.200	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--	1
Benzo(ghi)perylene	ND		ug/l	0.400	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05	Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	52		40-140
o-Terphenyl	75		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	77		40-140
O-Terphenyl-MS	72		40-140

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05 RE			Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT			Date Received:	07/10/14
Sample Location:	DOVER, MA			Field Prep:	Not Specified
Matrix:	Dw			Extraction Method:	EPA 3510C
Analytical Method:	98,EPH-04-1.1			Extraction Date:	07/17/14 16:32
Analytical Date:	07/18/14 22:32	M.S. Analytical Date:	07/18/14 20:46	Cleanup Method1:	EPH-04-1
Analyst:	SR	M.S. Analyst:	KR	Cleanup Date1:	07/18/14

Quality Control Information

Condition of sample received:	Satisfactory
Aqueous Preservative:	Laboratory Provided Preserved Container
Sample Temperature upon receipt:	Received on Ice
Sample Extraction method:	Extracted Per the Method

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
EPH w/MS Targets - Westborough Lab						
C9-C18 Aliphatics	ND		ug/l	167	--	1
C19-C36 Aliphatics	ND		ug/l	167	--	1
C11-C22 Aromatics	ND		ug/l	167	--	1
C11-C22 Aromatics, Adjusted	ND		ug/l	167	--	1
Naphthalene	ND		ug/l	0.667	--	1
2-Methylnaphthalene	ND		ug/l	0.667	--	1
Acenaphthylene	ND		ug/l	0.667	--	1
Acenaphthene	ND		ug/l	0.667	--	1
Fluorene	ND		ug/l	0.667	--	1
Phenanthrene	ND		ug/l	0.667	--	1
Anthracene	ND		ug/l	0.667	--	1
Fluoranthene	ND		ug/l	0.667	--	1
Pyrene	ND		ug/l	0.667	--	1
Benzo(a)anthracene	ND		ug/l	0.667	--	1
Chrysene	ND		ug/l	0.667	--	1
Benzo(b)fluoranthene	ND		ug/l	0.667	--	1
Benzo(k)fluoranthene	ND		ug/l	0.667	--	1
Benzo(a)pyrene	ND		ug/l	0.333	--	1
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.667	--	1
Dibenzo(a,h)anthracene	ND		ug/l	0.667	--	1
Benzo(ghi)perylene	ND		ug/l	0.667	--	1

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

SAMPLE RESULTS

Lab ID:	L1415303-05 RE	Date Collected:	07/10/14 10:55
Client ID:	WOODSHED SPIGOT	Date Received:	07/10/14
Sample Location:	DOVER, MA	Field Prep:	Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

EPH w/MS Targets - Westborough Lab

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	56		40-140
o-Terphenyl	69		40-140
2-Fluorobiphenyl	84		40-140
2-Bromonaphthalene	76		40-140
O-Terphenyl-MS	80		40-140

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 07/17/14 03:39
Analyst: SR

Extraction Method: EPA 3546
Extraction Date: 07/12/14 10:29
Cleanup Method: EPH-04-1
Cleanup Date: 07/15/14

Parameter	Result	Qualifier	Units	RL	MDL
Extractable Petroleum Hydrocarbons - Westborough Lab for sample(s): 02-04 Batch: WG705291-1					
C9-C18 Aliphatics	ND		mg/kg	6.45	--
C19-C36 Aliphatics	ND		mg/kg	6.45	--
C11-C22 Aromatics	ND		mg/kg	6.45	--
C11-C22 Aromatics, Adjusted	ND		mg/kg	6.45	--
Naphthalene	ND		mg/kg	0.322	--
2-Methylnaphthalene	ND		mg/kg	0.322	--
Acenaphthylene	ND		mg/kg	0.322	--
Acenaphthene	ND		mg/kg	0.322	--
Fluorene	ND		mg/kg	0.322	--
Phenanthrene	ND		mg/kg	0.322	--
Anthracene	ND		mg/kg	0.322	--
Fluoranthene	ND		mg/kg	0.322	--
Pyrene	ND		mg/kg	0.322	--
Benzo(a)anthracene	ND		mg/kg	0.322	--
Chrysene	ND		mg/kg	0.322	--
Benzo(b)fluoranthene	ND		mg/kg	0.322	--
Benzo(k)fluoranthene	ND		mg/kg	0.322	--
Benzo(a)pyrene	ND		mg/kg	0.322	--
Indeno(1,2,3-cd)Pyrene	ND		mg/kg	0.322	--
Dibenzo(a,h)anthracene	ND		mg/kg	0.322	--
Benzo(ghi)perylene	ND		mg/kg	0.322	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	46		40-140
o-Terphenyl	57		40-140
2-Fluorobiphenyl	69		40-140
2-Bromonaphthalene	65		40-140

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 100,VPH-04-1.1
Analytical Date: 07/14/14 10:50
Analyst: BS

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Petroleum Hydrocarbons - Westborough Lab for sample(s): 01 Batch: WG705753-3					
C5-C8 Aliphatics	ND		ug/l	50.0	--
C9-C12 Aliphatics	ND		ug/l	50.0	--
C9-C10 Aromatics	ND		ug/l	50.0	--
C5-C8 Aliphatics, Adjusted	ND		ug/l	50.0	--
C9-C12 Aliphatics, Adjusted	ND		ug/l	50.0	--
Benzene	ND		ug/l	2.00	--
Toluene	ND		ug/l	2.00	--
Ethylbenzene	ND		ug/l	2.00	--
p/m-Xylene	ND		ug/l	2.00	--
o-Xylene	ND		ug/l	2.00	--
Methyl tert butyl ether	ND		ug/l	3.00	--
Naphthalene	ND		ug/l	4.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2,5-Dibromotoluene-PID	115		70-130
2,5-Dibromotoluene-FID	123		70-130

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method: 98,EPH-04-1.1
Analytical Date: 07/18/14 09:16
Analyst: SR

M.S. Analytical Date: 07/18/14 09:56
M.S. Analyst: KR

Extraction Method: EPA 3510C
Extraction Date: 07/17/14 16:32
Cleanup Method: EPH-04-1
Cleanup Date: 07/18/14

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01,05 Batch: WG706632-1					
C9-C18 Aliphatics	ND		ug/l	100	--
C19-C36 Aliphatics	ND		ug/l	100	--
C11-C22 Aromatics	ND		ug/l	100	--
C11-C22 Aromatics, Adjusted	ND		ug/l	100	--
Naphthalene	ND		ug/l	0.400	--
2-Methylnaphthalene	ND		ug/l	0.400	--
Acenaphthylene	ND		ug/l	0.400	--
Acenaphthene	ND		ug/l	0.400	--
Fluorene	ND		ug/l	0.400	--
Phenanthrene	ND		ug/l	0.400	--
Anthracene	ND		ug/l	0.400	--
Fluoranthene	ND		ug/l	0.400	--
Pyrene	ND		ug/l	0.400	--
Benzo(a)anthracene	ND		ug/l	0.400	--
Chrysene	ND		ug/l	0.400	--
Benzo(b)fluoranthene	ND		ug/l	0.400	--
Benzo(k)fluoranthene	ND		ug/l	0.400	--
Benzo(a)pyrene	ND		ug/l	0.200	--
Indeno(1,2,3-cd)Pyrene	ND		ug/l	0.400	--
Dibenzo(a,h)anthracene	ND		ug/l	0.400	--
Benzo(ghi)perylene	ND		ug/l	0.400	--

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Method Blank Analysis
Batch Quality Control

Analytical Method:	98,EPH-04-1.1		Extraction Method:	EPA 3510C
Analytical Date:	07/18/14 09:16	07/18/14 09:56	Extraction Date:	07/17/14 16:32
Analyst:	SR	KR	Cleanup Method:	EPH-04-1
			Cleanup Date:	07/18/14

Parameter	Result	Qualifier	Units	RL	MDL
EPH w/MS Targets - Westborough Lab for sample(s): 01,05 Batch: WG706632-1					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Chloro-Octadecane	80		40-140
o-Terphenyl	128		40-140
2-Fluorobiphenyl	128		40-140
2-Bromonaphthalene	117		40-140
O-Terphenyl-MS	109		40-140

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02-04 Batch: WG705291-2 WG705291-3								
C9-C18 Aliphatics	51		54		40-140	6		25
C19-C36 Aliphatics	73		75		40-140	3		25
C11-C22 Aromatics	70		84		40-140	18		25
Naphthalene	57		70		40-140	20		25
2-Methylnaphthalene	62		76		40-140	20		25
Acenaphthylene	69		71		40-140	3		25
Acenaphthene	66		80		40-140	19		25
Fluorene	64		78		40-140	20		25
Phenanthrene	67		79		40-140	16		25
Anthracene	68		80		40-140	16		25
Fluoranthene	71		84		40-140	17		25
Pyrene	73		85		40-140	15		25
Benzo(a)anthracene	65		77		40-140	17		25
Chrysene	77		91		40-140	17		25
Benzo(b)fluoranthene	66		80		40-140	19		25
Benzo(k)fluoranthene	78		89		40-140	13		25
Benzo(a)pyrene	70		83		40-140	17		25
Indeno(1,2,3-cd)Pyrene	64		75		40-140	16		25
Dibenzo(a,h)anthracene	75		89		40-140	17		25
Benzo(ghi)perylene	69		82		40-140	17		25
Nonane (C9)	44		47		30-140	7		25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Extractable Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 02-04 Batch: WG705291-2 WG705291-3								
Decane (C10)	51		53		40-140	4		25
Dodecane (C12)	54		57		40-140	5		25
Tetradecane (C14)	56		59		40-140	5		25
Hexadecane (C16)	59		62		40-140	5		25
Octadecane (C18)	63		64		40-140	2		25
Nonadecane (C19)	64		65		40-140	2		25
Eicosane (C20)	63		65		40-140	3		25
Docosane (C22)	64		66		40-140	3		25
Tetracosane (C24)	64		66		40-140	3		25
Hexacosane (C26)	64		66		40-140	3		25
Octacosane (C28)	63		65		40-140	3		25
Triacontane (C30)	66		69		40-140	4		25
Hexatriacontane (C36)	69		71		40-140	3		25

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	54		58		40-140
o-Terphenyl	67		78		40-140
2-Fluorobiphenyl	70		88		40-140
2-Bromonaphthalene	58		75		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG705753-1 WG705753-2								
C5-C8 Aliphatics	98		92		70-130	7		25
C9-C12 Aliphatics	107		99		70-130	8		25
C9-C10 Aromatics	91		88		70-130	3		25
Benzene	95		90		70-130	6		25
Toluene	97		92		70-130	6		25
Ethylbenzene	98		93		70-130	6		25
p/m-Xylene	97		92		70-130	6		25
o-Xylene	94		90		70-130	5		25
Methyl tert butyl ether	94		92		70-130	2		25
Naphthalene	100		97		70-130	3		25
1,2,4-Trimethylbenzene	91		88		70-130	3		25
Pentane	96		93		70-130	3		25
2-Methylpentane	101		95		70-130	7		25
2,2,4-Trimethylpentane	101		94		70-130	7		25
n-Nonane	97		88		30-130	10		25
n-Decane	105		96		70-130	9		25
n-Butylcyclohexane	97		90		70-130	7		25

Lab Control Sample Analysis

Batch Quality Control

Project Name: 46 SPRINGDALE AVE.

Project Number: Not Specified

Lab Number: L1415303

Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Petroleum Hydrocarbons - Westborough Lab Associated sample(s): 01 Batch: WG705753-1 WG705753-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2,5-Dibromotoluene-PID	104		104		70-130
2,5-Dibromotoluene-FID	110		113		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01,05 Batch: WG706632-2 WG706632-3								
C9-C18 Aliphatics	**32**	Q	116		40-140	**114**	Q	25
C19-C36 Aliphatics	87		**232**	Q	40-140	**91**	Q	25
C11-C22 Aromatics	72		**228**	Q	40-140	**104**	Q	25
Naphthalene	**39**	Q	88		40-140	**77**	Q	25
2-Methylnaphthalene	44		124		40-140	**95**	Q	25
Acenaphthylene	58		133		40-140	**79**	Q	25
Acenaphthene	65		**154**	Q	40-140	**81**	Q	25
Fluorene	76		**182**	Q	40-140	**82**	Q	25
Phenanthrene	80		**193**	Q	40-140	**83**	Q	25
Anthracene	79		**205**	Q	40-140	**89**	Q	25
Fluoranthene	89		**215**	Q	40-140	**83**	Q	25
Pyrene	89		**216**	Q	40-140	**83**	Q	25
Benzo(a)anthracene	81		**204**	Q	40-140	**86**	Q	25
Chrysene	84		**194**	Q	40-140	**79**	Q	25
Benzo(b)fluoranthene	88		**219**	Q	40-140	**85**	Q	25
Benzo(k)fluoranthene	83		**197**	Q	40-140	**81**	Q	25
Benzo(a)pyrene	80		**203**	Q	40-140	**87**	Q	25
Indeno(1,2,3-cd)Pyrene	86		**216**	Q	40-140	**86**	Q	25
Dibenzo(a,h)anthracene	86		**194**	Q	40-140	**77**	Q	25
Benzo(ghi)perylene	84		**192**	Q	40-140	**78**	Q	25
Nonane (C9)	**2**	Q	52		30-140	**184**	Q	25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01,05 Batch: WG706632-2 WG706632-3								
Decane (C10)	**4**	Q	66		40-140	**176**	Q	25
Dodecane (C12)	**14**	Q	98		40-140	**150**	Q	25
Tetradecane (C14)	46		**149**	Q	40-140	**106**	Q	25
Hexadecane (C16)	66		**184**	Q	40-140	**94**	Q	25
Octadecane (C18)	74		**199**	Q	40-140	**92**	Q	25
Nonadecane (C19)	76		**203**	Q	40-140	**91**	Q	25
Eicosane (C20)	76		**200**	Q	40-140	**90**	Q	25
Docosane (C22)	77		**204**	Q	40-140	**90**	Q	25
Tetracosane (C24)	77		**203**	Q	40-140	**90**	Q	25
Hexacosane (C26)	77		**204**	Q	40-140	**90**	Q	25
Octacosane (C28)	76		**202**	Q	40-140	**91**	Q	25
Triacontane (C30)	79		**214**	Q	40-140	**92**	Q	25
Hexatriacontane (C36)	82		**226**	Q	40-140	**94**	Q	25

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
EPH w/MS Targets - Westborough Lab Associated sample(s): 01,05 Batch: WG706632-2 WG706632-3								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Chloro-Octadecane	68		88		40-140
o-Terphenyl	70		119		40-140
2-Fluorobiphenyl	74		96		40-140
2-Bromonaphthalene	67		89		40-140
O-Terphenyl-MS	82		107		40-140
% Naphthalene Breakthrough	0		0		
% 2-Methylnaphthalene Breakthrough	0		0		

METALS

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified
Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-05
Client ID: WOODSHED SPIGOT
Sample Location: DOVER, MA
Matrix: Dw

Date Collected: 07/10/14 10:55
Date Received: 07/10/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
MCP Total Metals - Westborough Lab											
Antimony, Total	ND		mg/l	0.0020	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Arsenic, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Beryllium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Cadmium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Chromium, Total	ND		mg/l	0.0010	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Copper, Total	0.0874		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Lead, Total	0.0013		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Mercury, Total	ND		mg/l	0.0002	--	1	07/14/14 15:15	07/16/14 21:40	EPA 7470A	97,7470A	AK
Nickel, Total	0.0008		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Selenium, Total	ND		mg/l	0.001	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Silver, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Thallium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL
Zinc, Total	0.0197		mg/l	0.0050	--	1	07/15/14 11:37	07/15/14 19:55	EPA 3005A	97,6020A	KL

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 05 Batch: WG705574-1										
Mercury, Total	ND		mg/l	0.0002	--	1	07/14/14 15:15	07/16/14 21:35	97,7470A	AK

Prep Information

Digestion Method: EPA 7470A

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
MCP Total Metals - Westborough Lab for sample(s): 05 Batch: WG705845-1										
Antimony, Total	ND		mg/l	0.0020	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Arsenic, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Beryllium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Cadmium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Chromium, Total	ND		mg/l	0.0010	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Copper, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Lead, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Nickel, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Selenium, Total	ND		mg/l	0.001	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Silver, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Thallium, Total	ND		mg/l	0.0005	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL
Zinc, Total	ND		mg/l	0.0050	--	1	07/15/14 11:37	07/15/14 19:29	97,6020A	KL

Prep Information

Digestion Method: EPA 3005A

Lab Control Sample Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Total Metals - Westborough Lab Associated sample(s): 05 Batch: WG705574-2 WG705574-3								
Mercury, Total	116		119		80-120	3		20
MCP Total Metals - Westborough Lab Associated sample(s): 05 Batch: WG705845-2 WG705845-3								
Antimony, Total	93		100		80-120	7		20
Arsenic, Total	98		98		80-120	0		20
Beryllium, Total	102		105		80-120	3		20
Cadmium, Total	108		115		80-120	6		20
Chromium, Total	102		99		80-120	3		20
Copper, Total	108		104		80-120	4		20
Lead, Total	104		108		80-120	4		20
Nickel, Total	102		104		80-120	2		20
Selenium, Total	115		107		80-120	7		20
Silver, Total	107		111		80-120	4		20
Thallium, Total	100		103		80-120	3		20
Zinc, Total	108		106		80-120	2		20

INORGANICS
&
MISCELLANEOUS

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-02
Client ID: GP-3
Sample Location: DOVER, MA
Matrix: Soil

Date Collected: 07/10/14 11:00
Date Received: 07/10/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	94.3		%	0.100	NA	1	-	07/10/14 20:56	30,2540G	RT

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-03
Client ID: HS-4
Sample Location: DOVER, MA
Matrix: Soil

Date Collected: 07/10/14 08:00
Date Received: 07/10/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	88.8		%	0.100	NA	1	-	07/10/14 20:56	30,2540G	RT

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-04
Client ID: GP-1, S-1
Sample Location: DOVER, MA
Matrix: Soil

Date Collected: 07/10/14 08:30
Date Received: 07/10/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	93.0		%	0.100	NA	1	-	07/10/14 20:56	30,2540G	RT

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

SAMPLE RESULTS

Lab ID: L1415303-05
Client ID: WOODSHED SPIGOT
Sample Location: DOVER, MA
Matrix: Dw

Date Collected: 07/10/14 10:55
Date Received: 07/10/14
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
pH (H)	6.7		SU	-	NA	1	-	07/10/14 20:44	30,4500H+-B	JA

Lab Control Sample Analysis

Batch Quality Control

Project Name: 46 SPRINGDALE AVE.

Project Number: Not Specified

Lab Number: L1415303

Report Date: 07/22/14

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG704872-2								
pH	100		-		99-101	-		5

Lab Duplicate Analysis
Batch Quality Control

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 02-04 QC Batch ID: WG704855-1 QC Sample: L1415249-01 Client ID: DUP Sample						
Solids, Total	85.5	85.3	%	0		20
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG704872-1 QC Sample: L1415272-01 Client ID: DUP Sample						
pH	9.0	9.0	SU	0		5

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Reagent H2O Preserved Vials Frozen on: NA

Cooler Information Custody Seal

Cooler	
A	Absent

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)
L1415303-01A	Vial HCl preserved	A	N/A	3.7	Y	Absent	VPH-DELUX-10(14)
L1415303-01B	Vial HCl preserved	A	N/A	3.7	Y	Absent	VPH-DELUX-10(14)
L1415303-01C	Vial HCl preserved	A	N/A	3.7	Y	Absent	VPH-DELUX-10(14)
L1415303-01D	Amber 1000ml HCl preserved	A	<2	3.7	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1415303-01E	Amber 1000ml HCl preserved	A	<2	3.7	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1415303-02A	Amber 250ml unpreserved	A	N/A	3.7	Y	Absent	TS(7),EPH-DELUX-10(14)
L1415303-03A	Amber 250ml unpreserved	A	N/A	3.7	Y	Absent	TS(7),EPH-DELUX-10(14)
L1415303-04A	Amber 250ml unpreserved	A	N/A	3.7	Y	Absent	TS(7),EPH-DELUX-10(14)
L1415303-05A	Vial Ascorbic Acid/HCl preserved	A	N/A	3.7	Y	Absent	524.2(14)
L1415303-05B	Vial Ascorbic Acid/HCl preserved	A	N/A	3.7	Y	Absent	524.2(14)
L1415303-05C	Vial Ascorbic Acid/HCl preserved	A	N/A	3.7	Y	Absent	524.2(14)
L1415303-05D	Plastic 250ml unpreserved	A	7	3.7	Y	Absent	PH-4500(.01)
L1415303-05E	Plastic 1000ml HNO3 preserved	A	<2	3.7	Y	Absent	MCP-BE-6020T-10(180),MCP-CR-6020T-10(180),MCP-7470T-10(28),MCP-TL-6020T-10(180),MCP-CU-6020T-10(180),MCP-ZN-6020T-10(180),MCP-AS-6020T-10(180),MCP-NI-6020T-10(180),MCP-AG-6020T-10(180),MCP-CD-6020T-10(180),MCP-SE-6020T-10(180),MCP-PB-6020T-10(180),MCP-SB-6020T-10(180)
L1415303-05F	Amber 1000ml HCl preserved	A	<2	3.7	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1415303-05G	Amber 1000ml HCl preserved	A	<2	3.7	Y	Absent	EPH-MS-10(14),EPHD-GC-10(14)
L1415303-06A	Vial HCl preserved	A	<2	3.7	Y	Absent	HOLD(14)
L1415303-06B	Vial Ascorbic Acid/HCl preserved	A	<2	3.7	Y	Absent	HOLD(14)

*Values in parentheses indicate holding time in days

Project Name: 46 SPRINGDALE AVE.
Project Number: Not Specified

Lab Number: L1415303
Report Date: 07/22/14

Container Information

Container ID	Container Type	Cooler	pH	Temp deg C	Pres	Seal	Analysis(*)

Container Comments

L1415303-05D

*Values in parentheses indicate holding time in days

Project Name:	46 SPRINGDALE AVE.	**Lab Number:**	L1415303
Project Number:	Not Specified	**Report Date:**	07/22/14

GLOSSARY

Acronyms

EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NI	- Not Ignitable.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.

Footnotes

1	- The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Data Qualifiers

A	- Spectra identified as "Aldol Condensation Product".
B	- The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit.
C	- Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
D	- Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
E	- Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
G	- The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

Report Format: Data Usability Report

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303

Project Number: Not Specified **Report Date:** 07/22/14

Data Qualifiers

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

ND - Not detected at the reporting limit (RL) for the sample.

Report Format: Data Usability Report

Project Name: 46 SPRINGDALE AVE. **Lab Number:** L1415303
Project Number: Not Specified **Report Date:** 07/22/14

REFERENCES

16 Methods for the Determination of Organic Compounds in Drinking Water - Supplement II. EPA/600/R-92/129, August 1992.

30 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WPCF. 18th Edition. 1992.

97 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA, IIB, IIIA, IIIB, IIIC, IIID, VA, VB, VC, VIA, VIB, VIIIA and VIIIB, July 2010.

98 Method for the Determination of Extractable Petroleum Hydrocarbons (EPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of EPH under the Massachusetts Contingency Plan, WSC-CAM-IVB, July 2010.

100 Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), MassDEP, May 2004, Revision 1.1 with QC Requirements & Performance Standards for the Analysis of VPH under the Massachusetts Contingency Plan, WSC-CAM-IVA, July 2010.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

Last revised April 15, 2014

The following analytes are not included in our NELAP Scope of Accreditation:

Westborough Facility
EPA 524.2: Acetone, 2-Butanone (Methyl ethyl ketone (MEK)), Tert-butyl alcohol, 2-Hexanone, Tetrahydrofuran, 1,3,5-Trichlorobenzene, 4-Methyl-2-pentanone (MIBK), Carbon disulfide, Diethyl ether.
EPA 8260C: 1,2,4,5-Tetramethylbenzene, 4-Ethyltoluene, Iodomethane (methyl iodide), Methyl methacrylate, Azobenzene.
EPA 8330A/B: PETN, Picric Acid, Nitroglycerine, 2,6-DANT, 2,4-DANT.
EPA 8270D: 1-Methylnaphthalene, Dimethylnaphthalene,1,4-Diphenylhydrazine.
EPA 625: 4-Chloroaniline, 4-Methylphenol.
SM4500: Soil: Total Phosphorus, TKN, NO2, NO3.
EPA 9071: Total Petroleum Hydrocarbons, Oil & Grease.

Mansfield Facility
EPA 8270D: Biphenyl.
EPA 2540D: TSS
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

The following analytes are included in our Massachusetts DEP Scope of Accreditation, Westborough Facility:

Drinking Water
EPA 200.8: Sb,As,Ba,Be,Cd,Cr,Cu,Pb,Ni,Se,Tl; **EPA 200.7**: Ba,Be,Ca,Cd,Cr,Cu,Na; **EPA 245.1:** Mercury;
EPA 300.0: Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B**
EPA 332: Perchlorate.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, Enterolert-QT.**

Non-Potable Water
EPA 200.8: Al,Sb,As,Be,Cd,Cr,Cu,Pb,Mn,Ni,Se,Ag,Tl,Zn;
EPA 200.7: Al,Sb,As,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Mo,Ni,K,Se,Ag,Na,Sr,Ti,Tl,V,Zn;
EPA 245.1, SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2340B, SM2320B, SM4500CL-E, SM4500F-BC, SM426C, SM4500NH3-BH, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **SM4500NO3-F,**
EPA 353.2: Nitrate-N**, SM4500NH3-BC-NES, EPA 351.1, SM4500P-E, SM4500P-B, E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, SM14 510AC, EPA 420.1, SM4500-CN-CE, SM2540D.**
EPA 624: Volatile Halocarbons & Aromatics,
EPA 608: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9222D-MF**.

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 07/10/14

ALPHA Job #: L1415303

Client Information

Client: ADS
Address: 205 Woodland St Sherborn MA 01770
Phone: 781-727-6646
Fax: 781-644-6000
Email: astiller@comcast.net

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 46 Springdale Ave
Project Location: Dover, MA
Project #:
Project Manager: A Stiller
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/17 Time: AM

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: EPH DRO, VPH	EPH DRO	524.2	~~RCP~~ PP13	pH	EPH							Sample Specific Comments	TOTAL # BOTTLES
15303-01	GP-1	7/10	9:15 AM	GW	ADS	X													
-02	GP-3	7/10	11:00 AM	S	ADS		X												
-03	HS-4	7/10	8 AM	S	ADS		X												
-04	GP-1, S-1	7/10	8:30	S	ADS		X												
-05	Woodshed Spigot	7/10	10:55 A	DW	ADS			X	X	X	X								

Sample Handling: Filtration ☐ Done ☐ Not needed ☐ Lab to do; Preservation ☐ Lab to do (Please specify below)

Container Type	3V	1G	2V	1P	1P	2G
Preservative	2G HCL		HCL	HNO3	Ø	HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/10/14 1515	[signature]	7/10/14 1515
[signature]	7/10/14 1605	[signature]	7/10/14 1605

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

CHAIN OF CUSTODY

PAGE ____ OF ____

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 07/10/14

ALPHA Job #: L1415303

Client Information

Client: ADS
Address: 205 Woodland St Sherborn MA 01770
Phone: 781-727-6646
Fax: 781-644-6000
Email: astiller@comcast.net

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: 46 Springdale Ave
Project Location: Dover, MA
Project #:
Project Manager: A Stiller
ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: 7/17 Time: AM

Report Information - Data Deliverables

☐ FAX ☒ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MA MCP PRESUMPTIVE CERTAINTY --- CT REASONABLE CONFIDENCE PROTO

☐ Yes ☐ No Are MCP Analytical Methods Required?
☐ Yes ☐ No Is Matrix Spike (MS) Required on this SDG? (If yes see note in Comments)
☐ Yes ☐ No Are CT RCP (Reasonable Confidence Protocols) Required?

Other Project Specific Requirements/Comments/Detection Limits:

If MS is required, indicate in Sample Specific Comments which samples and what tests MS to be performed.
(Note: All *CAM* methods for inorganic analyses require MS every 20 soil samples)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	EPH DRO, VPH	EPH DRO	524.2	MCP13	pH	EPH	Sample Specific Comments	Total # Bottles
15303-01	GP-1	7/10	9:15 AM	GW	ADS	X							
-02	GP-3	7/10	11:00 AM	S	ADS		X						
-03	HS-4	7/10	8 AM	S	ADS		X						
-04	GP-1, S-1	7/10	8:30	S	ADS		X						
-05	Woodshed Spigot	7/10	10:55 A	DW	ADS			X	X	X	X		

SAMPLE HANDLING
Filtration ____
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type	3V	1G	2V	1P	1P	2G
Preservative	2G HCL		HCL	HNO3	Ø	HCL

PLEASE ANSWER QUESTIONS ABOVE!

IS YOUR PROJECT MA MCP *or* CT RCP?

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	7/10/14 1515	[signature]	7/10/14 1515
	7/10/14 1605	[signature]	7/10/14 1605

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 18-Jan-2010)

Alpha Analytical Labs

GC/MS Semi - Quantitation Report

Data file : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-1.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:05
Operator : kr Inst ID: Mork.i
Smp Info : wg705263-1,32,eph,kr
Misc Info :
Comment : Splitless Injection - Aug 24th 2009 edits.
Method : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Meth Date : 17-Jul-2014 09:39 krivera Quant Type: ISTD
Cal Date : 11-JUL-2014 19:42 Cal File: L10.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: ephmcp.sub
Target Version: 4.12
Processing Host: EXT-13

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
* 3 1,4-Dichlorobenzene-d4	152	5.467	5.471	(1.000)	104915	4.00000		
* 6 Naphthalene-d8	136	6.678	6.681	(1.000)	339361	4.00000		
7 Naphthalene	128	6.699	6.702	(1.003)	8747	0.09346	0.0935	
9 2-Methylnaphthalene	142	Compound Not Detected.						
13 Acenaphthylene	152	Compound Not Detected.						
* 14 Acenaphthene-d10	164	8.394	8.389	(1.000)	153893	4.00000		
15 Acenaphthene	153	Compound Not Detected.						
16 Fluorene	166	Compound Not Detected.						
* 20 Phenanthrene-d10	188	9.849	9.849	(1.000)	252777	4.00000		
21 Phenanthrene	178	Compound Not Detected.						
22 Anthracene	178	Compound Not Detected.						
$ 23 O-Terphenyl-MS	230	10.233	10.244	(1.039)	474763	15.3915	15.4	
24 Fluoranthene	202	Compound Not Detected.						
25 Pyrene	202	Compound Not Detected.						
27 Benzo(a)anthracene	228	Compound Not Detected.						
* 28 Chrysene-d12	240	13.416	13.424	(1.000)	166555	4.00000		
29 Chrysene	228	Compound Not Detected.						
30 Benzo(b)fluoranthene	252	Compound Not Detected.						
31 Benzo(k)fluoranthene	252	Compound Not Detected.						
33 Benzo(a)pyrene	252	Compound Not Detected.						
* 34 Perylene-d12	264	16.711	16.711	(1.000)	170763	4.00000		
36 Indeno(1,2,3-cd)pyrene	276	Compound Not Detected.						
37 Dibenzo(a,h)anthracene	278	Compound Not Detected.						
38 Benzo(ghi)perylene	276	Compound Not Detected.						

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-1.D Page 2
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: Mork.i
Lab File ID: 705263-1.D
Lab Smp Id:
Analysis Type: SV
Quant Type: ISTD
Operator: kr
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

Calibration Date: 16-JUL-2014
Calibration Time: 09:23

Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.
If Continuing Cal. use Initial Cal. Level 7

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	124292	62146	248584	104915	-15.59
6 Naphthalene-d8	417292	208646	834584	339361	-18.68
14 Acenaphthene-d10	198703	99352	397406	153893	-22.55
20 Phenanthrene-d10	302531	151266	605062	252777	-16.45
28 Chrysene-d12	193693	96847	387386	166555	-14.01
34 Perylene-d12	196459	98230	392918	170763	-13.08

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	5.47	4.97	5.97	5.47	-0.08
6 Naphthalene-d8	6.68	6.18	7.18	6.68	-0.05
14 Acenaphthene-d10	8.39	7.89	8.89	8.39	0.05
20 Phenanthrene-d10	9.85	9.35	10.35	9.85	-0.00
28 Chrysene-d12	13.42	12.92	13.92	13.42	-0.06
34 Perylene-d12	16.71	16.21	17.21	16.71	-0.00

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.

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-1.D Page 3
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: MS DATA
SpikeList File: ephmcpspk.spk
Sublist File: ephmcp.sub
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

Client SDG: SDGa01132
Fraction: SV

Operator: kr
SampleType: SAMPLE
Quant Type: ISTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 23 O-Terphenyl-MS	20.0	15.4	76.96	40-140

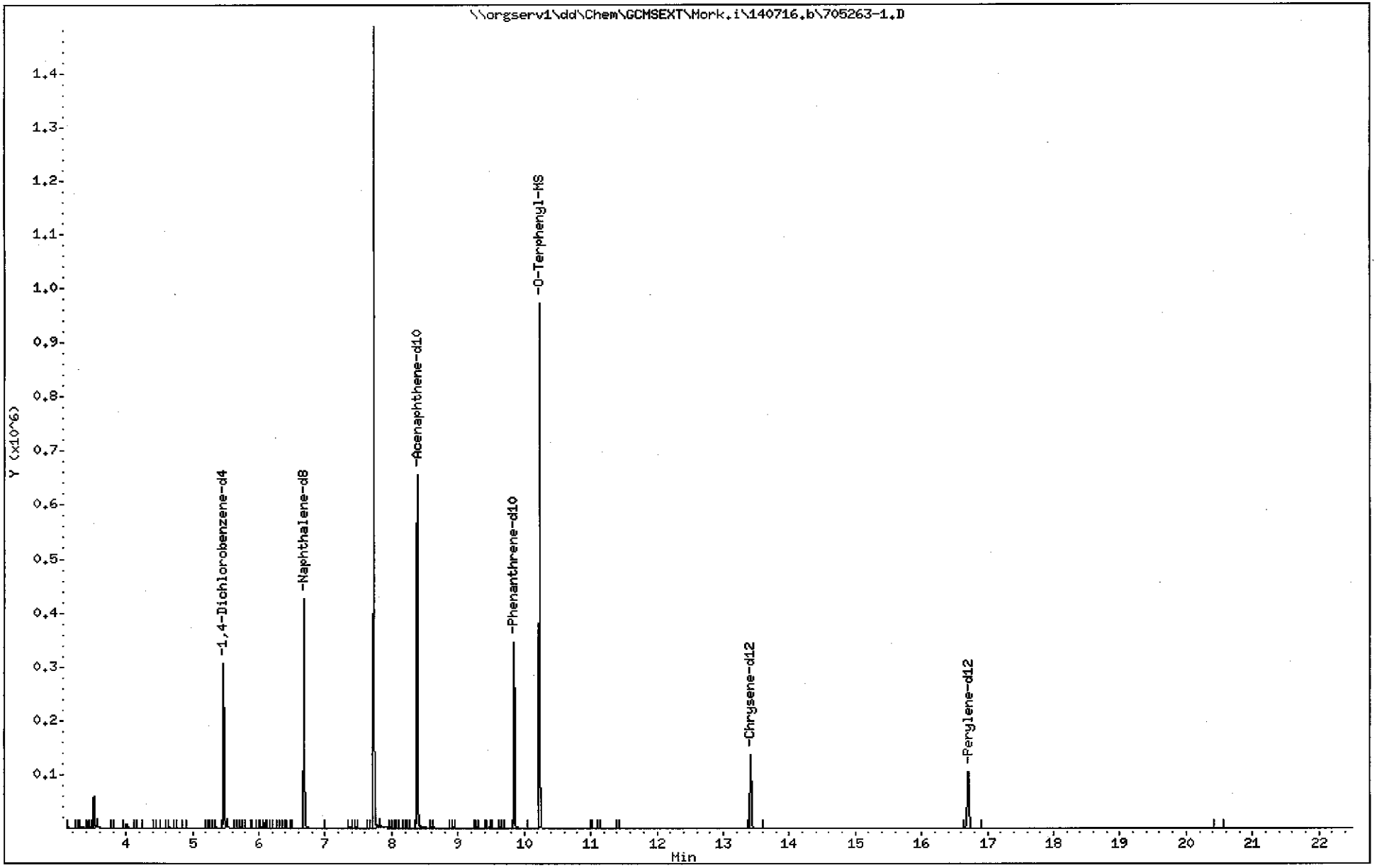
Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-1.D
Date : 16-JUL-2014 16:05
Client ID:
Sample Info: wg705263-1,32,eph,kr

Instrument: Mork.i

Operator: kr

Column phase: RTx-5

Column diameter: 0.32



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info : wg705263-1,32,eph,kr

Instrument ID : Mork.i
Method : 30s2.m
File : 705263-1.D
Injection Date : 16-JUL-2014 16:05
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 1.00 Sample Type: SAMPLE

There are no manual integrations in this file.

Alpha Analytical Labs

GC/MS Semi - Quantitation Report

Data file : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-2.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:35
Operator : kr Inst ID: Mork.i
Smp Info : wg705263-2,32,eph,kr
Misc Info :
Comment : Splitless Injection - Aug 24th 2009 edits.
Method : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Meth Date : 17-Jul-2014 09:39 krivera Quant Type: ISTD
Cal Date : 11-JUL-2014 19:42 Cal File: L10.D
Als bottle: 12 QC Sample: LCS
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: ephmcp.sub
Target Version: 4.12
Processing Host: EXT-13

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
* 3 1,4-Dichlorobenzene-d4	152	5.470	5.471	(1.000)	122874	4.00000		
* 6 Naphthalene-d8	136	6.681	6.681	(1.000)	392334	4.00000		
7 Naphthalene	128	6.702	6.702	(1.003)	444165	4.10512	41.0	
9 2-Methylnaphthalene	142	7.370	7.370	(1.103)	298722	4.59056	45.9	
13 Acenaphthylene	152	8.249	8.249	(1.235)	409749	4.38927	43.9	
* 14 Acenaphthene-d10	164	8.389	8.389	(1.000)	187029	4.00000		
15 Acenaphthene	153	8.421	8.421	(1.004)	263439	4.38147	43.8	
16 Fluorene	166	8.927	8.927	(1.064)	303222	4.54488	45.4	
* 20 Phenanthrene-d10	188	9.848	9.849	(1.000)	294898	4.00000		
21 Phenanthrene	178	9.869	9.870	(1.002)	419558	4.11091	41.1	
22 Anthracene	178	9.922	9.922	(1.007)	429212	4.51209	45.1	
$ 23 O-Terphenyl-MS	230	10.233	10.244	(1.039)	69009	1.58386	15.8	
24 Fluoranthene	202	11.130	11.130	(1.130)	417284	4.61518	46.2	
25 Pyrene	202	11.418	11.419	(1.159)	440295	4.67707	46.8	
27 Benzo(a)anthracene	228	13.401	13.402	(0.999)	331434	4.47913	44.8	
* 28 Chrysene-d12	240	13.419	13.424	(1.000)	188193	4.00000		
29 Chrysene	228	13.471	13.472	(1.004)	317322	4.32305	43.2	
30 Benzo(b)fluoranthene	252	15.794	15.798	(0.945)	329732	4.62241	46.2	
31 Benzo(k)fluoranthene	252	15.860	15.865	(0.949)	327697	4.40288	44.0	
33 Benzo(a)pyrene	252	16.562	16.566	(0.991)	289804	4.26932	42.7	
* 34 Perylene-d12	264	16.710	16.711	(1.000)	193765	4.00000		
36 Indeno(1,2,3-cd)pyrene	276	19.388	19.391	(1.160)	462876	4.35951	43.6	
37 Dibenzo(a,h)anthracene	278	19.471	19.477	(1.165)	429267	4.13783	41.4	
38 Benzo(ghi)perylene	276	19.928	19.931	(1.193)	480197	3.98306	39.8	

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-2.D Page 2
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: Mork.i
Lab File ID: 705263-2.D
Lab Smp Id:
Analysis Type: SV
Quant Type: ISTD
Operator: kr
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

Calibration Date: 16-JUL-2014
Calibration Time: 09:23

Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.
If Continuing Cal. use Initial Cal. Level 7

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	124292	62146	248584	122874	-1.14
6 Naphthalene-d8	417292	208646	834584	392334	-5.98
14 Acenaphthene-d10	198703	99352	397406	187029	-5.88
20 Phenanthrene-d10	302531	151266	605062	294898	-2.52
28 Chrysene-d12	193693	96847	387386	188193	-2.84
34 Perylene-d12	196459	98230	392918	193765	-1.37

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	5.47	4.97	5.97	5.47	-0.01
6 Naphthalene-d8	6.68	6.18	7.18	6.68	-0.01
14 Acenaphthene-d10	8.39	7.89	8.89	8.39	-0.00
20 Phenanthrene-d10	9.85	9.35	10.35	9.85	-0.00
28 Chrysene-d12	13.42	12.92	13.92	13.42	-0.03
34 Perylene-d12	16.71	16.21	17.21	16.71	-0.00

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.

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-2.D Page 3
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: MS DATA
SpikeList File: ephmcpspk.spk
Sublist File: ephmcp.sub
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

Client SDG: SDGa01132
Fraction: SV

Operator: kr
SampleType: LCS
Quant Type: ISTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
7 Naphthalene	50.0	4.10	8.21*	40-140
9 2-Methylnaphthalen	50.0	4.59	9.18*	40-140
13 Acenaphthylene	50.0	4.39	8.78*	40-140
15 Acenaphthene	50.0	4.38	8.76*	40-140
16 Fluorene	50.0	4.54	9.09*	40-140
21 Phenanthrene	50.0	4.11	8.22*	40-140
22 Anthracene	50.0	4.51	9.02*	40-140
24 Fluoranthene	50.0	4.62	9.23*	40-140
25 Pyrene	50.0	4.68	9.35*	40-140
27 Benzo(a)anthracene	50.0	4.48	8.96*	40-140
29 Chrysene	50.0	4.32	8.65*	40-140
30 Benzo(b)fluoranthe	50.0	4.62	9.24*	40-140
31 Benzo(k)fluoranthe	50.0	4.40	8.81*	40-140
33 Benzo(a)pyrene	50.0	4.27	8.54*	40-140
36 Indeno(1,2,3-cd)py	50.0	4.36	8.72*	40-140
37 Dibenzo(a,h)anthra	50.0	4.14	8.28*	40-140
38 Benzo(ghi)perylene	50.0	3.98	7.97*	40-140

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 23 O-Terphenyl-MS	20.0	1.58	7.92*	40-140

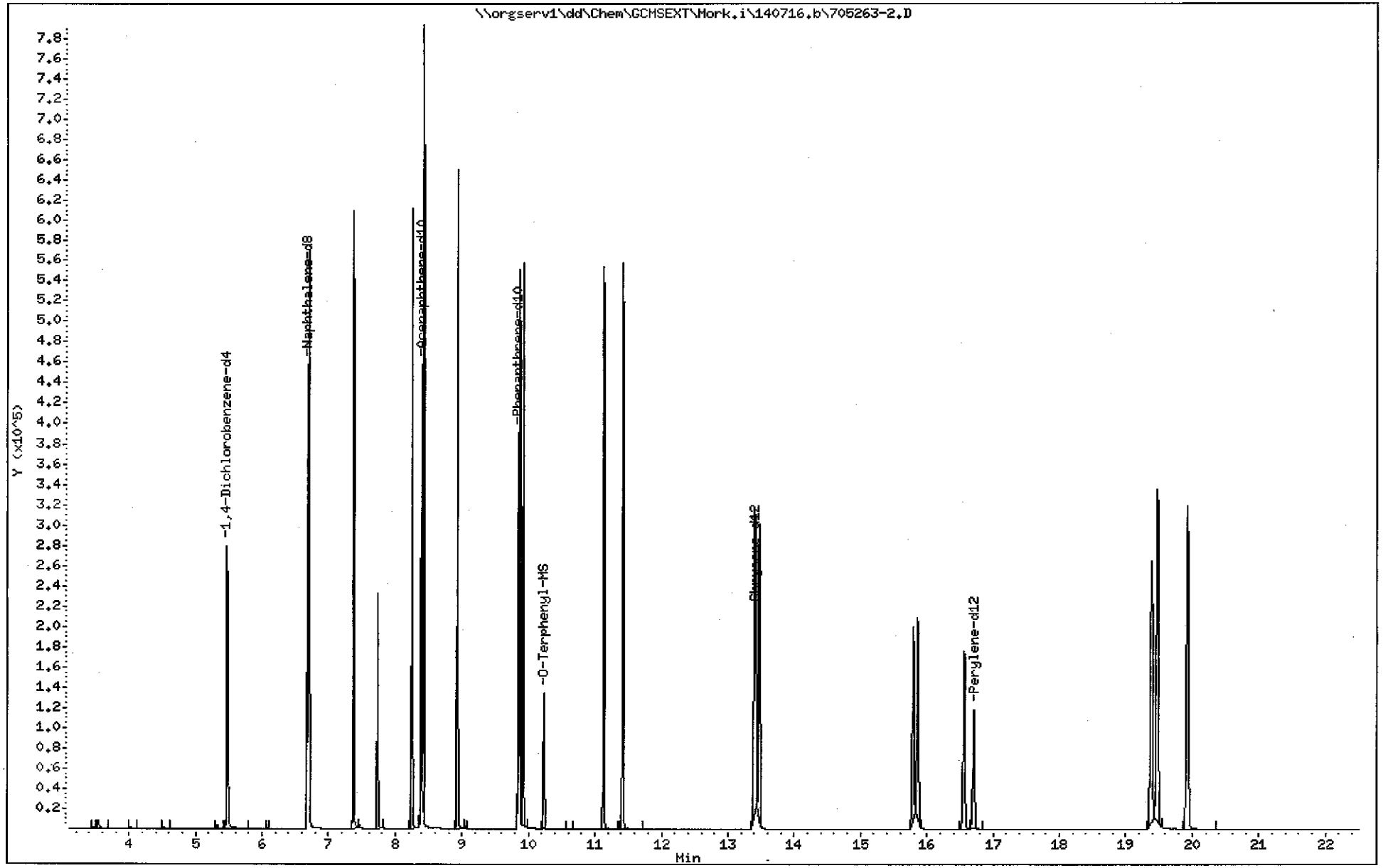
Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-2.D
Date : 16-JUL-2014 16:35
Client ID:
Sample Info: wg705263-2,32,eph,kr

Instrument: Mork.i

Operator: kr

Column phase: RTx-5

Column diameter: 0.32



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info : wg705263-2,32,eph,kr

Instrument ID : Mork.i
Method : 30s2.m
File : 705263-2.D
Injection Date : 16-JUL-2014 16:35
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 10.0 Sample Type: LCS

There are no manual integrations in this file.

Alpha Analytical Labs

GC/MS Semi - Quantitation Report

Data file : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-3.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:06
Operator : kr Inst ID: Mork.i
Smp Info : wg705263-3,32,eph,kr
Misc Info :
Comment : Splitless Injection - Aug 24th 2009 edits.
Method : \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Meth Date : 17-Jul-2014 09:39 krivera Quant Type: ISTD
Cal Date : 11-JUL-2014 19:42 Cal File: L10.D
Als bottle: 13 QC Sample: LCS
Dil Factor: 10.00000
Integrator: HP RTE Compound Sublist: ephmcp.sub
Target Version: 4.12
Processing Host: EXT-13

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	QUANT SIG MASS	RT	EXP RT	REL RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
* 3 1,4-Dichlorobenzene-d4	152	5.470	5.471	(1.000)	127126	4.00000		
* 6 Naphthalene-d8	136	6.680	6.681	(1.000)	409313	4.00000		
7 Naphthalene	128	6.698	6.702	(1.003)	389078	3.44682	34.5	
9 2-Methylnaphthalene	142	7.371	7.370	(1.103)	264967	3.90293	39.0	
13 Acenaphthylene	152	8.246	8.249	(1.234)	113423	1.16460	11.6	
* 14 Acenaphthene-d10	164	8.390	8.389	(1.000)	195615	4.00000		
15 Acenaphthene	153	8.417	8.421	(1.003)	202365	3.21797	32.2	
16 Fluorene	166	8.926	8.927	(1.064)	290812	4.16755	41.7	
* 20 Phenanthrene-d10	188	9.848	9.849	(1.000)	295046	4.00000		
21 Phenanthrene	178	9.869	9.870	(1.002)	428901	4.20035	42.0	
22 Anthracene	178	9.921	9.922	(1.007)	388659	4.08373	40.8	
$ 23 O-Terphenyl-MS	230	10.232	10.244	(1.039)	69405	1.59276	15.9	
24 Fluoranthene	202	11.132	11.130	(1.130)	435814	4.81771	48.2	
25 Pyrene	202	11.415	11.419	(1.159)	319575	3.39301	33.9	
27 Benzo(a)anthracene	228	13.400	13.402	(0.999)	355677	4.68138	46.8	
* 28 Chrysene-d12	240	13.419	13.424	(1.000)	193233	4.00000		
29 Chrysene	228	13.471	13.472	(1.004)	343706	4.56036	45.6	
30 Benzo(b)fluoranthene	252	15.797	15.798	(0.945)	355861	4.78131	47.8	
31 Benzo(k)fluoranthene	252	15.864	15.865	(0.949)	323390	4.16379	41.6	
33 Benzo(a)pyrene	252	16.561	16.566	(0.991)	164349	2.33576	23.4	
* 34 Perylene-d12	264	16.709	16.711	(1.000)	202151	4.00000		
36 Indeno(1,2,3-cd)pyrene	276	19.380	19.391	(1.160)	337915	3.05056	30.5	
37 Dibenzo(a,h)anthracene	278	19.473	19.477	(1.165)	447660	4.13612	41.4	
38 Benzo(ghi)perylene	276	19.923	19.931	(1.192)	282931	2.24945	22.5	

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-3.D Page 2
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

INTERNAL STANDARD COMPOUNDS
AREA AND RT SUMMARY

Instrument ID: Mork.i
Lab File ID: 705263-3.D
Lab Smp Id:
Analysis Type: SV
Quant Type: ISTD
Operator: kr
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

Calibration Date: 16-JUL-2014
Calibration Time: 09:23

Level: LOW
Sample Type: WATER

Test Mode:
Use Last Continuing Calibrator.
If Continuing Cal. use Initial Cal. Level 7

COMPOUND	STANDARD	AREA LIMIT LOWER	AREA LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	124292	62146	248584	127126	2.28
6 Naphthalene-d8	417292	208646	834584	409313	-1.91
14 Acenaphthene-d10	198703	99352	397406	195615	-1.55
20 Phenanthrene-d10	302531	151266	605062	295046	-2.47
28 Chrysene-d12	193693	96847	387386	193233	-0.24
34 Perylene-d12	196459	98230	392918	202151	2.90

COMPOUND	STANDARD	RT LIMIT LOWER	RT LIMIT UPPER	SAMPLE	%DIFF
3 1,4-Dichlorobenze	5.47	4.97	5.97	5.47	-0.02
6 Naphthalene-d8	6.68	6.18	7.18	6.68	-0.02
14 Acenaphthene-d10	8.39	7.89	8.89	8.39	0.01
20 Phenanthrene-d10	9.85	9.35	10.35	9.85	-0.01
28 Chrysene-d12	13.42	12.92	13.92	13.42	-0.04
34 Perylene-d12	16.71	16.21	17.21	16.71	-0.01

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.

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-3.D Page 3
Report Date: 21-Jul-2014 14:00

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Client SDG: SDGa01132
Sample Matrix: LIQUID
Fraction: SV
Lab Smp Id:
Level: LOW
Operator: kr
Data Type: MS DATA
SampleType: LCS
SpikeList File: ephmcpspk.spk
Quant Type: ISTD
Sublist File: ephmcp.sub
Method File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\30s2.m
Misc Info:

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
7 Naphthalene	50.0	3.45	6.89*	40-140
9 2-Methylnaphthalen	50.0	3.90	7.81*	40-140
13 Acenaphthylene	50.0	1.16	2.33*	40-140
15 Acenaphthene	50.0	3.22	6.44*	40-140
16 Fluorene	50.0	4.17	8.34*	40-140
21 Phenanthrene	50.0	4.20	8.40*	40-140
22 Anthracene	50.0	4.08	8.17*	40-140
24 Fluoranthene	50.0	4.82	9.64*	40-140
25 Pyrene	50.0	3.39	6.79*	40-140
27 Benzo(a)anthracene	50.0	4.68	9.36*	40-140
29 Chrysene	50.0	4.56	9.12*	40-140
30 Benzo(b)fluoranthe	50.0	4.78	9.56*	40-140
31 Benzo(k)fluoranthe	50.0	4.16	8.33*	40-140
33 Benzo(a)pyrene	50.0	2.34	4.67*	40-140
36 Indeno(1,2,3-cd)py	50.0	3.05	6.10*	40-140
37 Dibenzo(a,h)anthra	50.0	4.14	8.27*	40-140
38 Benzo(ghi)perylene	50.0	2.25	4.50*	40-140

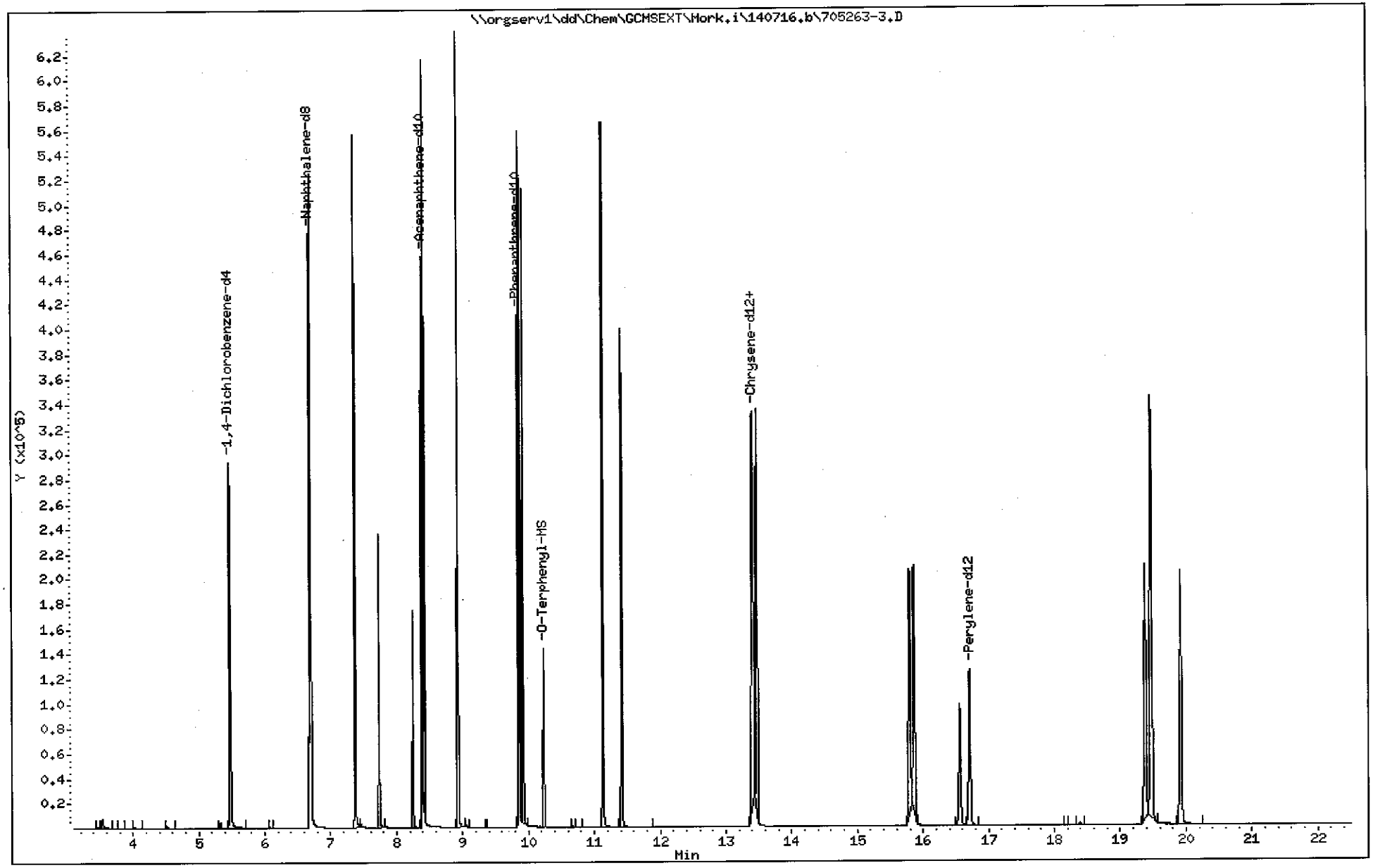
SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 23 O-Terphenyl-MS	20.0	1.59	7.96*	40-140

Data File: \\orgserv1\dd\Chem\GCMSEXT\Mork.i\140716.b\705263-3.D
Date : 16-JUL-2014 17:06
Client ID:
Sample Info: wg705263-3,32,eph,kr

Column phase: RTx-5

Instrument: Mork.i

Operator: kr
Column diameter: 0.32



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info : wg705263-3,32,eph,kr

Instrument ID : Mork.i
Method : 30s2.m
File : 705263-3.D
Injection Date : 16-JUL-2014 17:06
Quantitation : ISTD Integrator : HP RTE
Dilution Factor : 10.0 Sample Type: LCS

There are no manual integrations in this file.

Data File: 0716A011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A011.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:15
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-1,42
Misc Info : wg706624,wg705265,ICAL9071
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
1 Nonane	Compound Not Detected.						
2 Decane	Compound Not Detected.						
3 Naphthalene	Compound Not Detected.						
4 Dodecane	Compound Not Detected.						
5 2-Methylnaphthalene	Compound Not Detected.						
6 2-Fluorobiphenyl	Compound Not Detected.						
7 Tetradecane	Compound Not Detected.						
8 2-Bromonaphthalene	Compound Not Detected.						
9 Hexadecane	Compound Not Detected.						
10 Octadecane	Compound Not Detected.						
11 Nonadecane	Compound Not Detected.						
12 Eicosane	Compound Not Detected.						
$ 13 1-chloro-octadecane	21.387	21.385	0.002	71877	14.1576	14.2	
14 Docosane	Compound Not Detected.						
15 Tetracosane	Compound Not Detected.						
16 Hexacosane	Compound Not Detected.						
17 Octacosane	Compound Not Detected.						
18 Triacontane	Compound Not Detected.						
19 Hexatriacontane	Compound Not Detected.						

Data File: 0716A011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Misc Info: wg706624,wg705265,ICAL9071

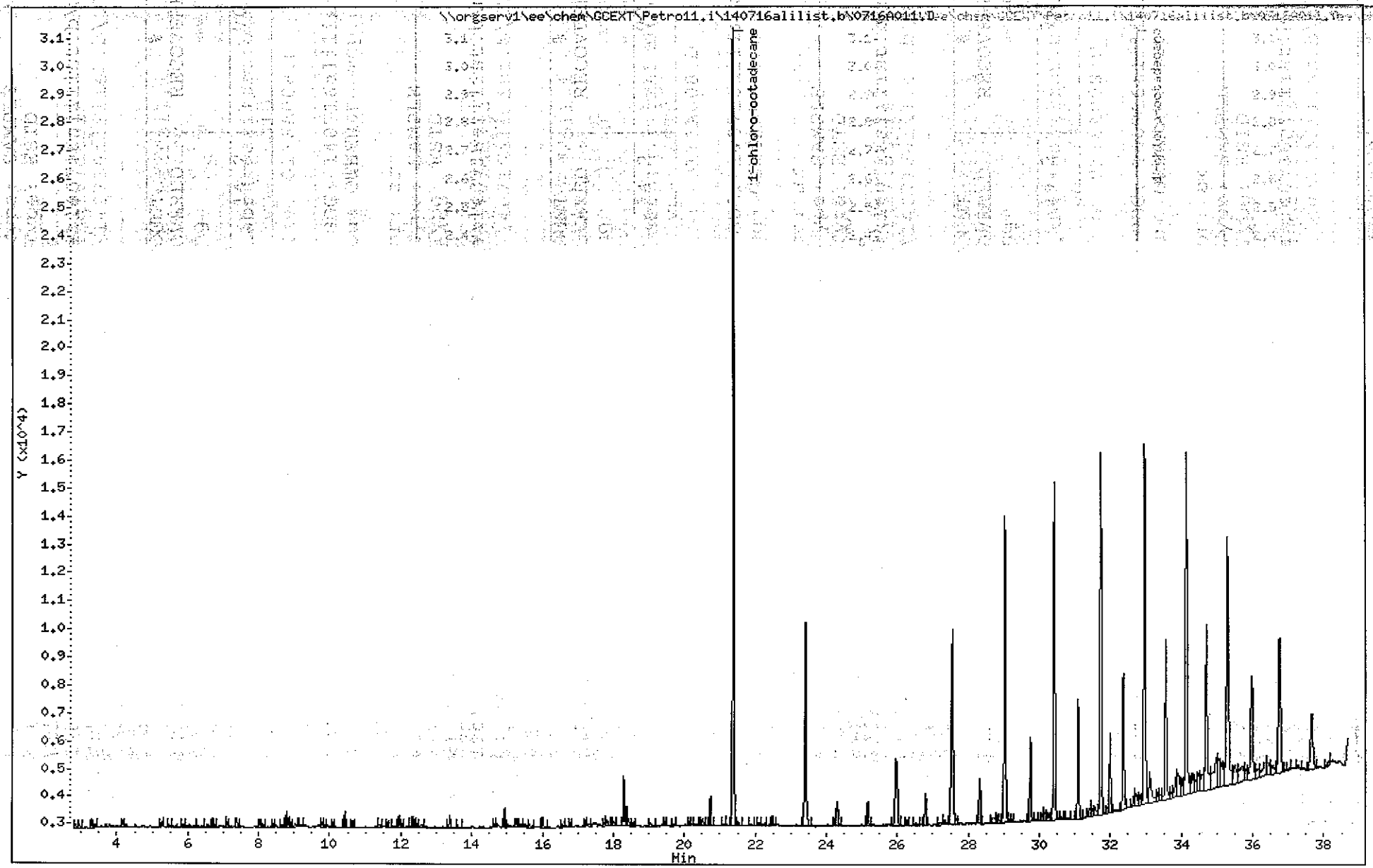
Client SDG: 140716alilist.b
Fraction: OTHER

Operator: sr
SampleType: SAMPLE
Quant Type: ESTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 13 1-chloro-octadecan	20.0	14.2	70.79	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A011.D
Date : 16-JUL-2014 16:15
Client ID:
Sample Info: wg705265-1,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 0.53



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info : wg705265-1,42
wg706624,wg705265,ICAL9071

Instrument ID : Petro11.i
Method : mcpephali1.m
File : 0716A011.D
Injection Date : 16-JUL-2014 16:15
Quantitation : ESTD Integrator : Falcon
Dilution Factor : 1.00 Sample Type: SAMPLE

There are no manual integrations in this file.

Data File: 0716B011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B011.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:15
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-1,42
Misc Info : wg706624,wg705265,ICAL9074
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\mcpepharo2.m
Meth Date : 17-Jul-2014 16:01 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116B008.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

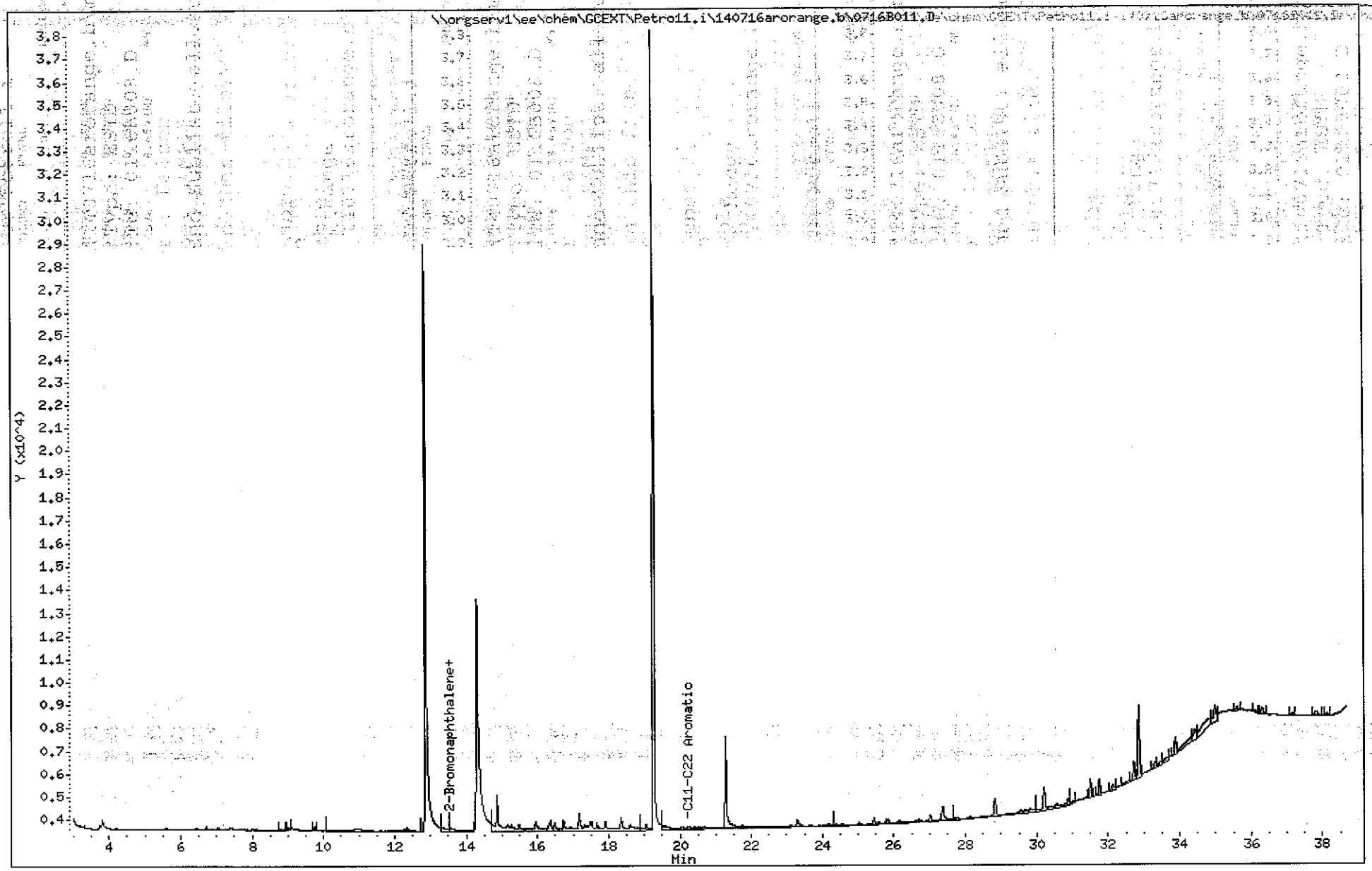
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	1 2-Fluorobiphenyl	12.353	12.882	-0.529	5027	0.89034	0.890(M)	
	2 2-Bromonaphthalene	13.545	14.288	-0.743	2694	0.68506	0.685(M)	
	3 o-Terphenyl	19.053	19.298	-0.245	2130	0.33559	0.335(M)	
S	4 C11-C22 Aromatic	10.007-30.532			115481	18.4576	18.457(M)	M5

QC Flag Legend

M - Compound response manually integrated.

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B011.D
Date : 16-JUL-2014 16:15
Client ID:
Sample Info: wg705265-1,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

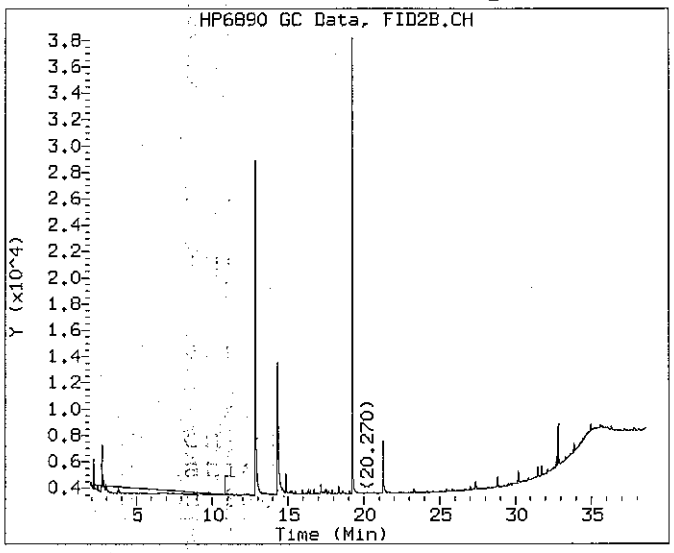
Alpha Analytical Labs

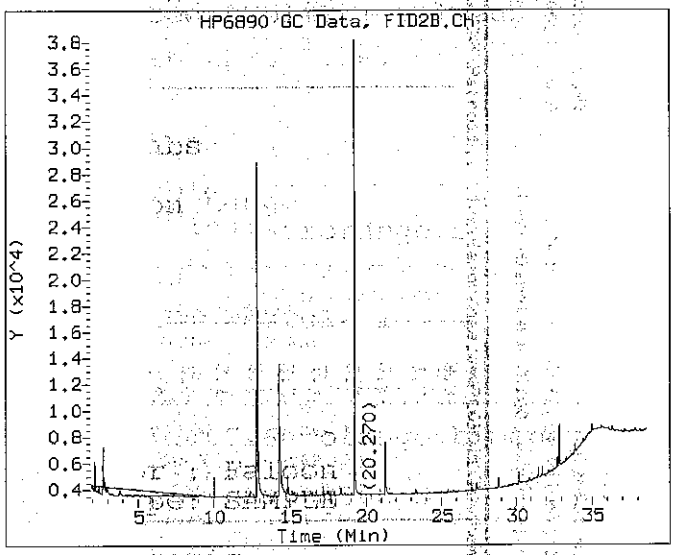
Manual Integration

Sample Info : wg705265-1,42
wg706624,wg705265,ICAL9074

Instrument ID : Petro11.i
Method : mcpepharo2.m
File : 0716B011.D
Injection Date : 16-JUL-2014 16:15
Quantitation : ESTD Integrator : Falcon
Dilution Factor : 1.00 Sample Type: SAMPLE

Compound # 4: C11-C22 Aromatic





Original Peak Response = 45371 Manual Peak Response = 115481 M5

M5 = Manual integration over a retention time range required, i.e. for hydroca
range methods.

Data File: 0716B011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\0716B011.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:15
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-1,42
Misc Info : wg706624,wg705265,ICAL9073
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 16-JAN-2014 18:25 Cal File: 0116B003.D
Als bottle: 61
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
1 Naphthalene	Compound Not Detected.						
2 2-Methyl Naphthalene	Compound Not Detected.						
$ 3 2-Fluorobiphenyl	12.853	12.867	-0.014	84090	14.8934	14.9	
4 Acenaphthalene	Compound Not Detected.						
$ 5 2-Bromonaphthalene	14.295	14.301	-0.006	53318	13.5571	13.6	
6 Acenaphthene	Compound Not Detected.						
7 Fluorene	Compound Not Detected.						
8 Phenanthrene	Compound Not Detected.						
9 Anthracene	Compound Not Detected.						
$ 10 o-terphenyl	19.262	19.259	0.003	82147	12.9425	12.9	
11 Fluoranthene	Compound Not Detected.						
12 Pyrene	Compound Not Detected.						
13 Benzo(a)Anthracene	Compound Not Detected.						
14 Chrysene	Compound Not Detected.						
15 Benzo(b)Fluoranthene	Compound Not Detected.						
16 Benzo(k)Fluoranthene	Compound Not Detected.						
17 Benzo(a)Pyrene	Compound Not Detected.						
18 Indeno(1,2,3-cd)Pyrene	Compound Not Detected.						
19 Dibenzo(a,h)Anthracene	Compound Not Detected.						
20 Benzo(g,h,i)Perylene	Compound Not Detected.						

Data File: 0716B011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Misc Info: wg706624,wg705265,ICAL9073

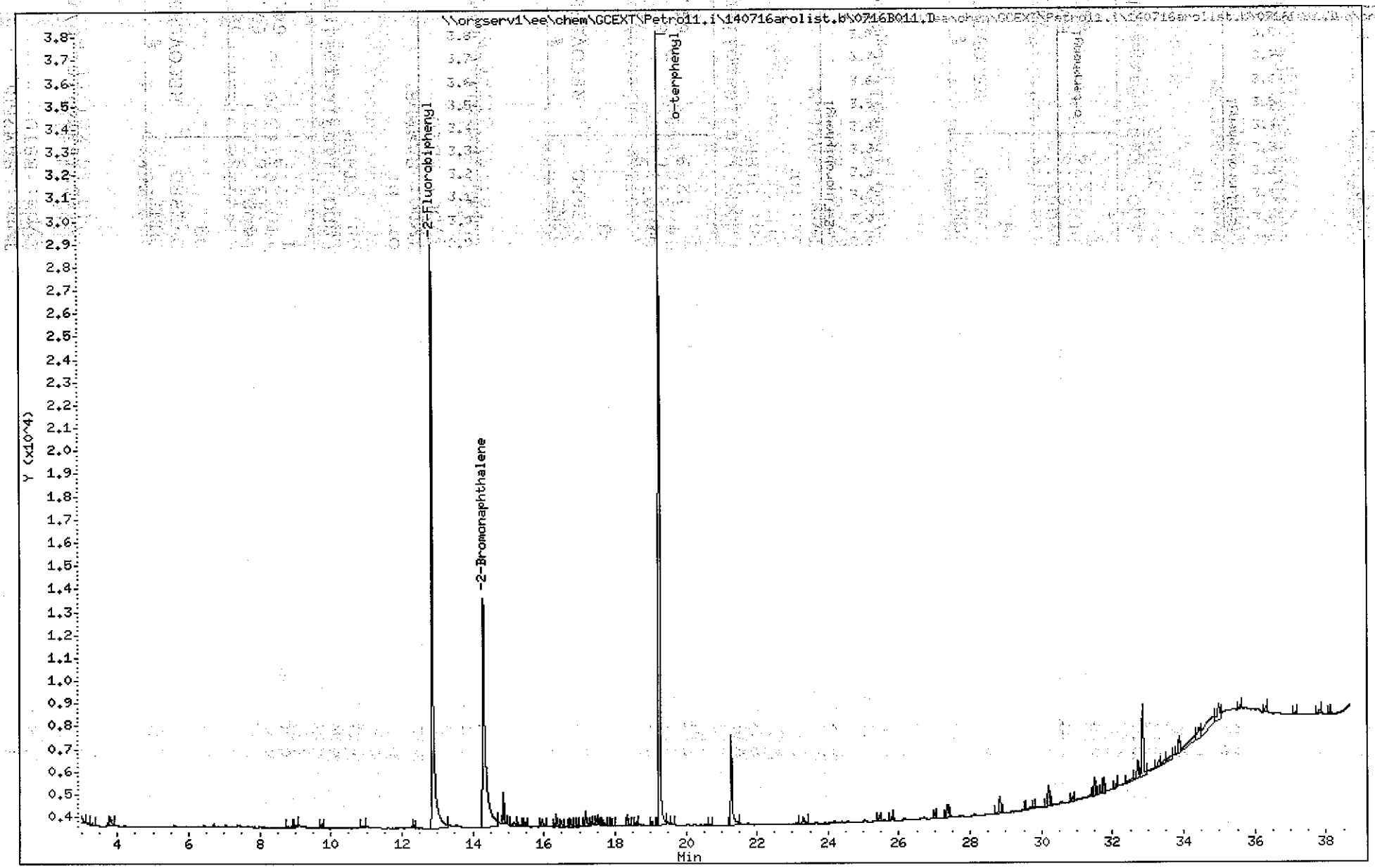
Client SDG: 140716arolist.b
Fraction: OTHER

Operator: sr
SampleType: SAMPLE
Quant Type: ESTD

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3 2-Fluorobiphenyl	20.0	14.9	74.47	40-140
$ 5 2-Bromonaphthalene	20.0	13.6	67.79	40-140
$ 10 o-terphenyl	20.0	12.9	64.71	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\0716B011.D
Date : 16-JUL-2014 16:15
Client ID:
Sample Info: wg705265-1,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 0.53



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info	: wg705265-1,42 wg706624,wg705265,ICAL9073		
Instrument ID	: Petro11.i		
Method	: mcpepharo1.m		
File	: 0716B011.D		
Injection Date	: 16-JUL-2014 16:15		
Quantitation	: ESTD	Integrator	: Falcon
Dilution Factor	: 1.00	Sample Type	: SAMPLE

There are no manual integrations in this file.

Data File: 0716A011.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A011.D
Lab Smp Id:
Inj Date : 16-JUL-2014 16:15
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-1,42
Misc Info : wg706624,wg705265,ICAL9072
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\mcpephali2.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 11
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

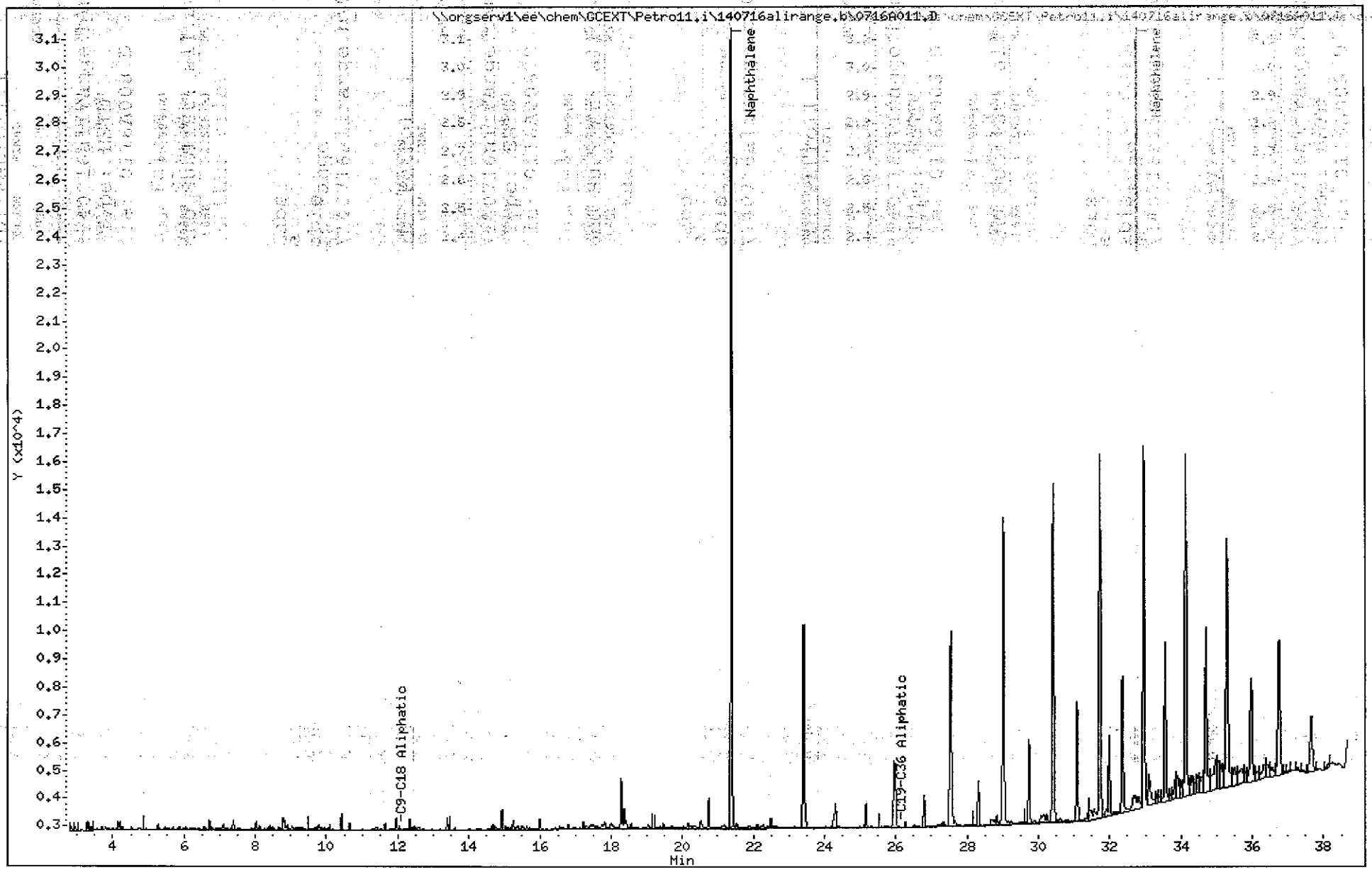
	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	7 Naphthalene	21.387	10.115	11.272	71585	9.63348	9.633(M)	M8
	8 2-Methylnaphthalene	10.429	11.832	-1.403	14914	2.07519	2.075(M)	
	4 2-Fluorobiphenyl	Compound Not Detected.						
	5 2-Bromonaphthalene	Compound Not Detected.						
	2 1-Chloro-octadecane	21.387	21.382	0.005	116696	22.9856	22.985(M)	
S	1 C9-C18 Aliphatic	4.882	-19.365		59397	8.29988	8.299(M)	M5
S	3 C19-C36 Aliphatic	19.365	-32.997		276429	52.5658	52.565(M)	M5

QC Flag Legend

M - Compound response manually integrated.

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A011.D
Date : 16-JUL-2014 16:15
Client ID:
Sample Info: wg705265-1,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

Alpha Analytical Labs

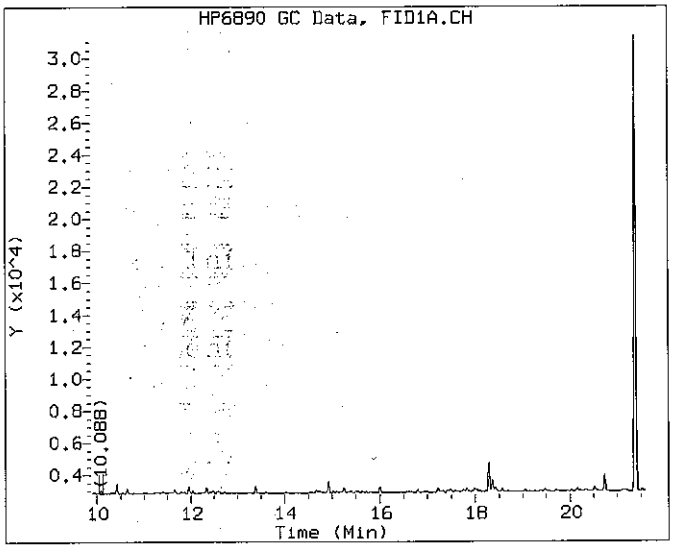
Manual Integration

Sample Info : wg705265-1,42
wg706624,wg705265,ICAL9072

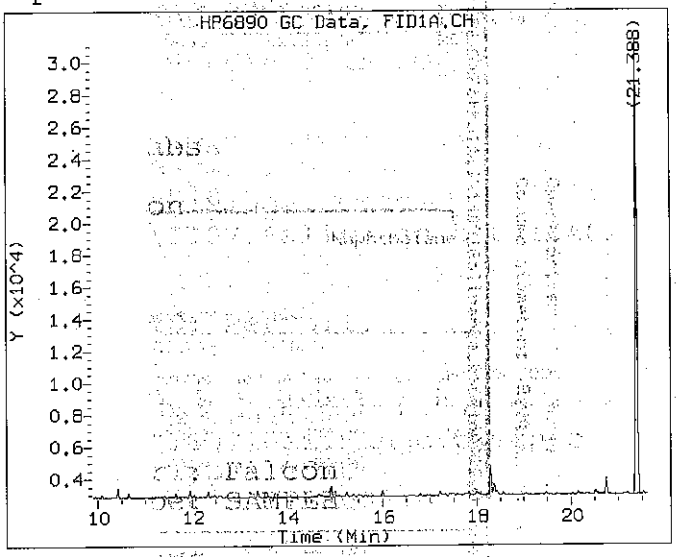
Instrument ID : Petro11.i
Method : mcpephali2.m
File : 0716A011.D
Injection Date : 16-JUL-2014 16:15
Quantitation : ESTD
Dilution Factor : 1.00

Integrator : Falcon
Sample Type : SAMPLE

Compound # 7: Naphthalene



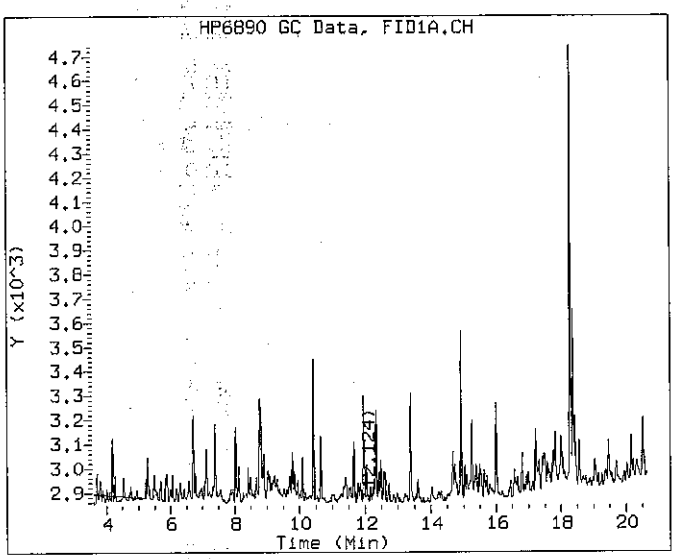
Original Peak Response = 334



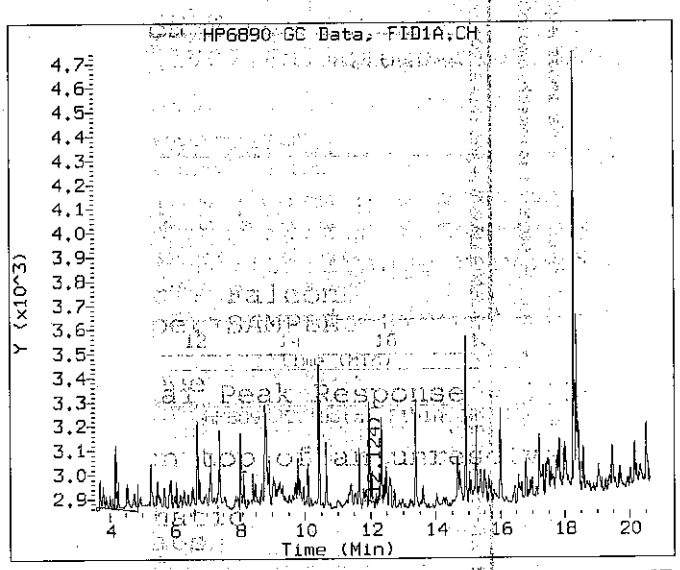
Manual Peak Response = 71585 M8

M8 = Integration of individual analyte eluting on top of an unresolved complex

Compound # 1: C9-C18 Aliphatic



Original Peak Response = 31163



Manual Peak Response = 59397 M5

M5 = Manual integration over a retention time range required, i.e. for hydroca
range methods.

Alpha Analytical Labs

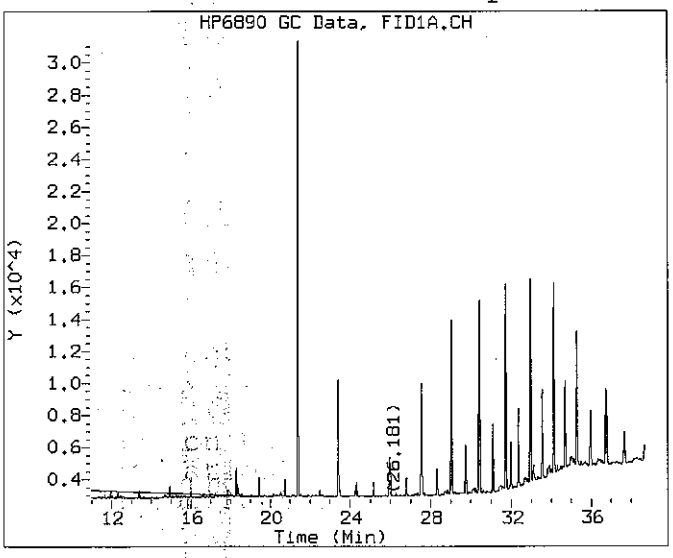
Manual Integration

Sample Info : wg705263/65-1,42

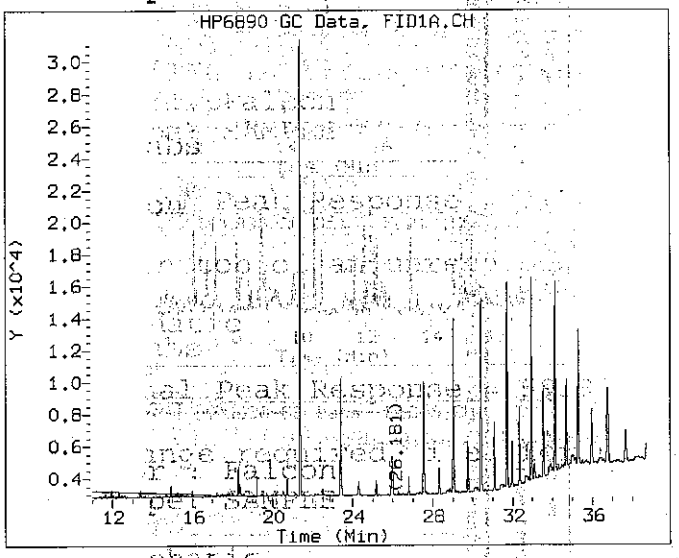
Instrument ID : Petro11.i
Method : mcpephali2.m
File : 0716A011.D
Injection Date : 16-JUL-2014 16:15
Quantitation : ESTD
Dilution Factor : 1.00

Integrator : Falcon
Sample Type: SAMPLE

Compound # 3: C19-C36 Aliphatic



Original Peak Response = 286924



Manual Peak Response = 276429 M5

M5 = Manual integration over a retention time range required, i.e. for hydroca
range methods.

Data File: 0716B012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B012.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:04
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-2,42
Misc Info : wg706624,wg705265,ICAL9074
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\mcpepharo2.m
Meth Date : 17-Jul-2014 16:01 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116B008.D
Als bottle: 62 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	1 2-Fluorobiphenyl	12.852	12.882	-0.030	93465	16.5538	16.553	
	2 2-Bromonaphthalene	14.277	14.288	-0.011	55555	14.1271	14.127	
	3 o-Terphenyl	19.261	19.298	-0.037	92027	14.4992	14.499	
S	4 C11-C22 Aromatic	10.007-30.532			4273917	683.111	683.110	

Data File: 0716B012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

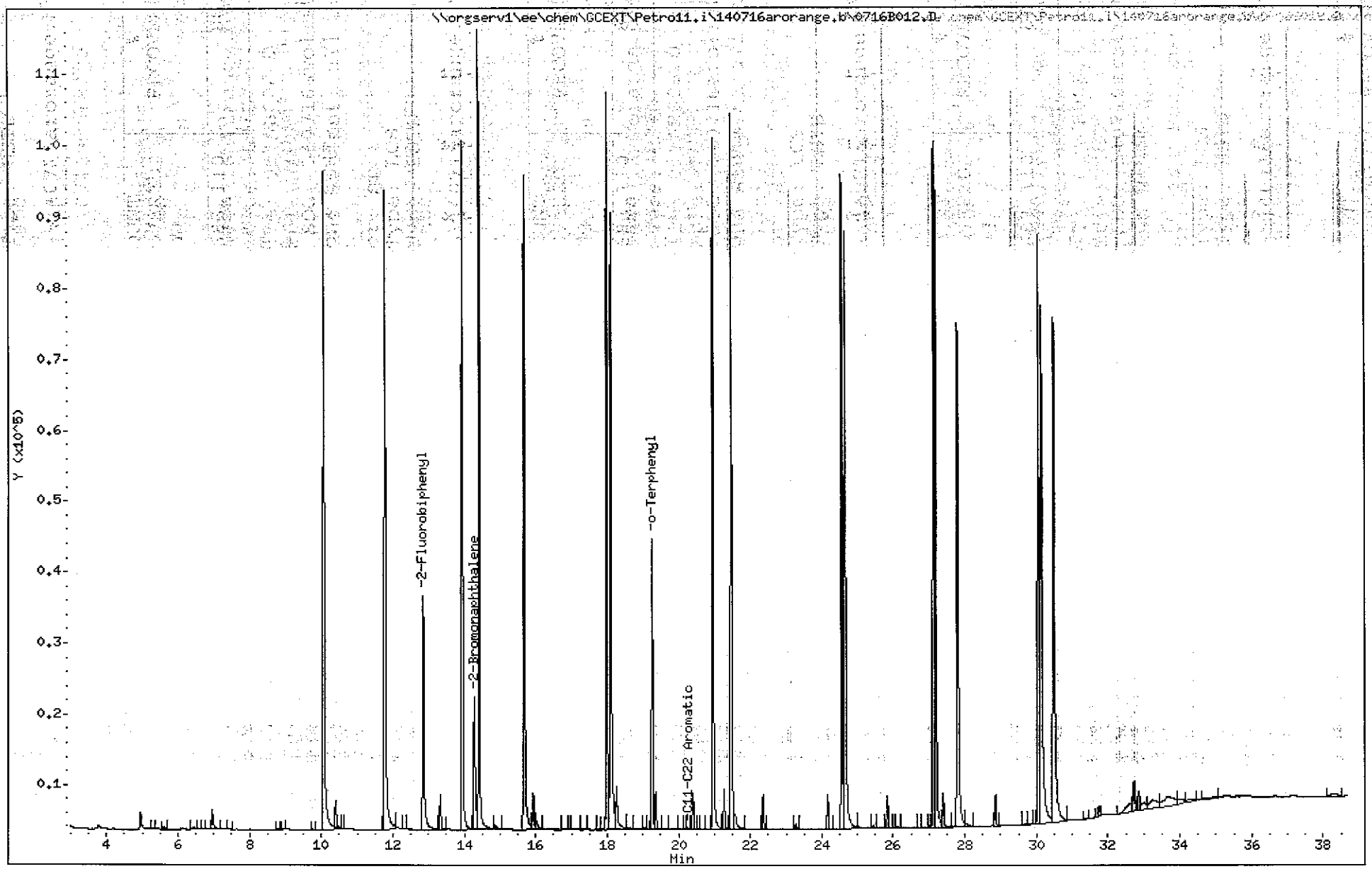
Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: mcpspk.spk
Sublist File: all.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\mcpepharo2.
Misc Info: wg706624,wg705265,ICAL9074

Client SDG: 140716arolist.b
Fraction: OTHER
Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
S 4 C11-C22 Aromatic	850.000	683.110	80.37	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B012.D
Date : 16-JUL-2014 17:04
Client ID:
Sample Info: wg705265-2,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info	: wg705265-2,42 wg706624,wg705265,ICAL9074		
Instrument ID	: Petro11.i		
Method	: mcpepharo2.m		
File	: 0716B012.D		
Injection Date	: 16-JUL-2014 17:04		
Quantitation	: ESTD	Integrator	: Falcon
Dilution Factor	: 1.00	Sample Type	: LCS

There are no manual integrations in this file.

Data File: 0716A012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A012.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:04
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-2,42
Misc Info : wg706624,wg705265,ICAL9071
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 12 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
1 Nonane	4.945	4.943	0.002	177025	25.4588	29.4	
2 Decane	6.961	6.960	0.001	209179	29.8742	29.9	
3 Naphthalene	Compound Not Detected.						
4 Dodecane	10.428	10.426	0.002	222405	32.7348	32.7(H)	
5 2-Methylnaphthalene	Compound Not Detected.						
6 2-Fluorobiphenyl	Compound Not Detected.						
7 Tetradecane	13.386	13.376	0.010	225264	34.0605	34.1	
8 2-Bromonaphthalene	Compound Not Detected.						
9 Hexadecane	16.011	16.001	0.010	229164	35.5252	35.5	
10 Octadecane	18.370	18.360	0.010	231787	36.8123	36.8	
11 Nonadecane	19.470	19.460	0.010	227500	36.9994	37.0	
12 Eicosane	20.528	20.518	0.010	223027	36.3511	36.4	
$ 13 1-chloro-octadecane	21.386	21.385	0.001	83211	16.3901	16.4	
14 Docosane	22.503	22.493	0.010	217980	36.4060	36.4	
15 Tetracosane	24.320	24.310	0.010	211746	35.8944	35.9	
16 Hexacosane	26.011	25.993	0.018	208328	35.6184	35.6	
17 Octacosane	27.578	27.568	0.010	202289	35.0464	35.0	
18 Triacontane	29.053	29.035	0.018	209258	36.8423	36.8	
19 Hexatriacontane	32.970	32.951	0.019	212006	38.4749	38.5	

QC Flag Legend

H - Operator selected an alternate compound hit.

Data File: 0716A012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Misc Info: wg706624,wg705265,ICAL9071

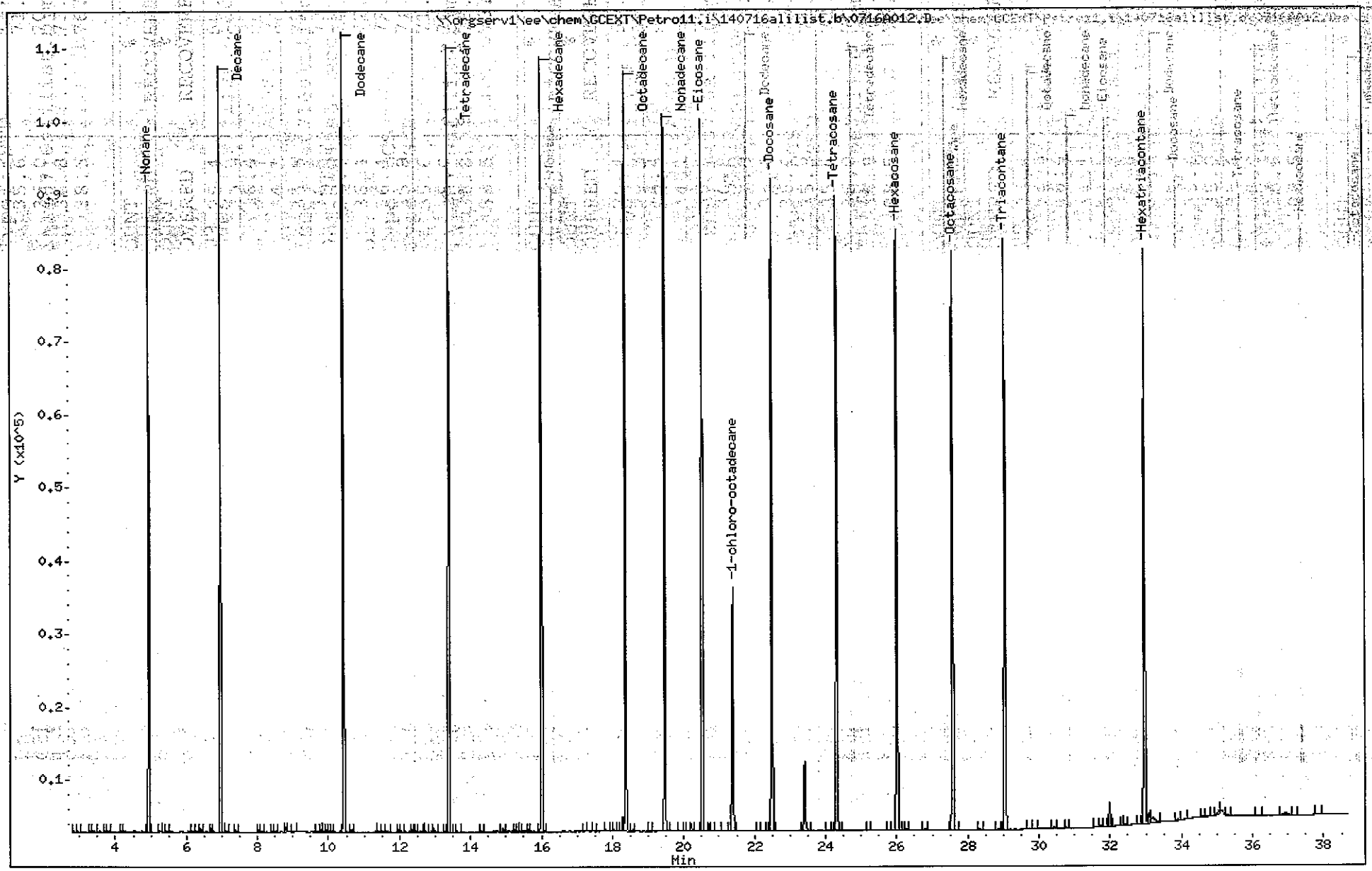
Client SDG: 140716alilist.b
Fraction: OTHER
Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
1 Nonane	50.0	25.4	50.92	30-140
2 Decane	50.0	29.9	59.75	40-140
4 Dodecane	50.0	32.7	65.47	40-140
7 Tetradecane	50.0	34.1	68.12	40-140
9 Hexadecane	50.0	35.5	71.05	40-140
10 Octadecane	50.0	36.8	73.62	40-140
11 Nonadecane	50.0	37.0	74.00	40-140
12 Eicosane	50.0	36.4	72.70	40-140
14 Docosane	50.0	36.4	72.81	40-140
15 Tetracosane	50.0	35.9	71.79	40-140
16 Hexacosane	50.0	35.6	71.24	40-140
17 Octacosane	50.0	35.0	70.09	40-140
18 Triacontane	50.0	36.8	73.68	40-140
19 Hexatriacontane	50.0	38.5	76.95	40-140

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 13 1-chloro-octadecan	20.0	16.4	81.95	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A012.D
Date : 16-JUL-2014 17:04
Client ID:
Sample Info: wg705265-2,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 0.53



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info : wg705265-2,42
wg706624,wg705265,ICAL9071

Instrument ID : Petro11.i
Method : mcpephali1.m
File : 0716A012.D
Injection Date : 16-JUL-2014 17:04
Quantitation : ESTD Integrator : Falcon
Dilution Factor : 1.00 Sample Type: LCS

There are no manual integrations in this file.

Data File: 0716B012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\0716B012.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:04
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-2,42
Misc Info : wg706624,wg705265,ICAL9073
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 16-JAN-2014 18:25 Cal File: 0116B003.D
Als bottle: 62 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	1 Naphthalene	10.061	10.084	-0.023	237457	34.8017	34.8	
	2 2-Methyl Naphthalene	11.777	11.801	-0.024	242922	36.8684	36.9	
$	3 2-Fluorobiphenyl	12.852	12.867	-0.015	93465	16.5538	16.6	
	4 Acenaphthalene	14.411	13.942	0.469	255463	40.6938	40.7(M)	M4
$	5 2-Bromonaphthalene	14.277	14.301	-0.024	55555	14.1259	14.1	
	6 Acenaphthene	14.411	13.942	0.469	255463	38.9731	39.0(M)	M4
	7 Fluorene	15.669	15.692	-0.023	235607	36.8826	36.9	
	8 Phenanthrene	17.994	18.001	-0.007	236494	37.6661	37.7	
	9 Anthracene	18.102	18.126	-0.024	237475	38.1370	38.1	
$	10 o-terphenyl	19.261	19.259	0.002	92027	14.4992	14.5	
	11 Fluoranthene	20.961	20.967	-0.006	249510	40.1519	40.2	
	12 Pyrene	21.461	21.467	-0.006	251658	40.9756	41.0	
	13 Benzo(a)Anthracene	24.552	24.567	-0.015	223890	36.8947	36.9	
	14 Chrysene	24.652	24.659	-0.007	251761	42.8988	42.9	
	15 Benzo(b)Fluoranthene	27.119	27.126	-0.007	244236	39.3383	39.3	
	16 Benzo(k)Fluoranthene	27.177	27.184	-0.007	244212	40.7436	40.7	
	17 Benzo(a)Pyrene	27.786	27.809	-0.023	222271	40.1087	40.1	
	18 Indeno(1,2,3-cd)Pyrene	30.044	30.067	-0.023	217601	35.9064	35.9	
	19 Dibenzo(a,h)Anthracene	30.127	30.151	-0.024	253339	41.7933	41.8	
	20 Benzo(g,h,i)Perylene	30.477	30.492	-0.015	242314	39.6406	39.6	

QC Flag Legend

M - Compound response manually integrated.

Data File: 0716B012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Misc Info: wg706624,wg705265,ICAL9073

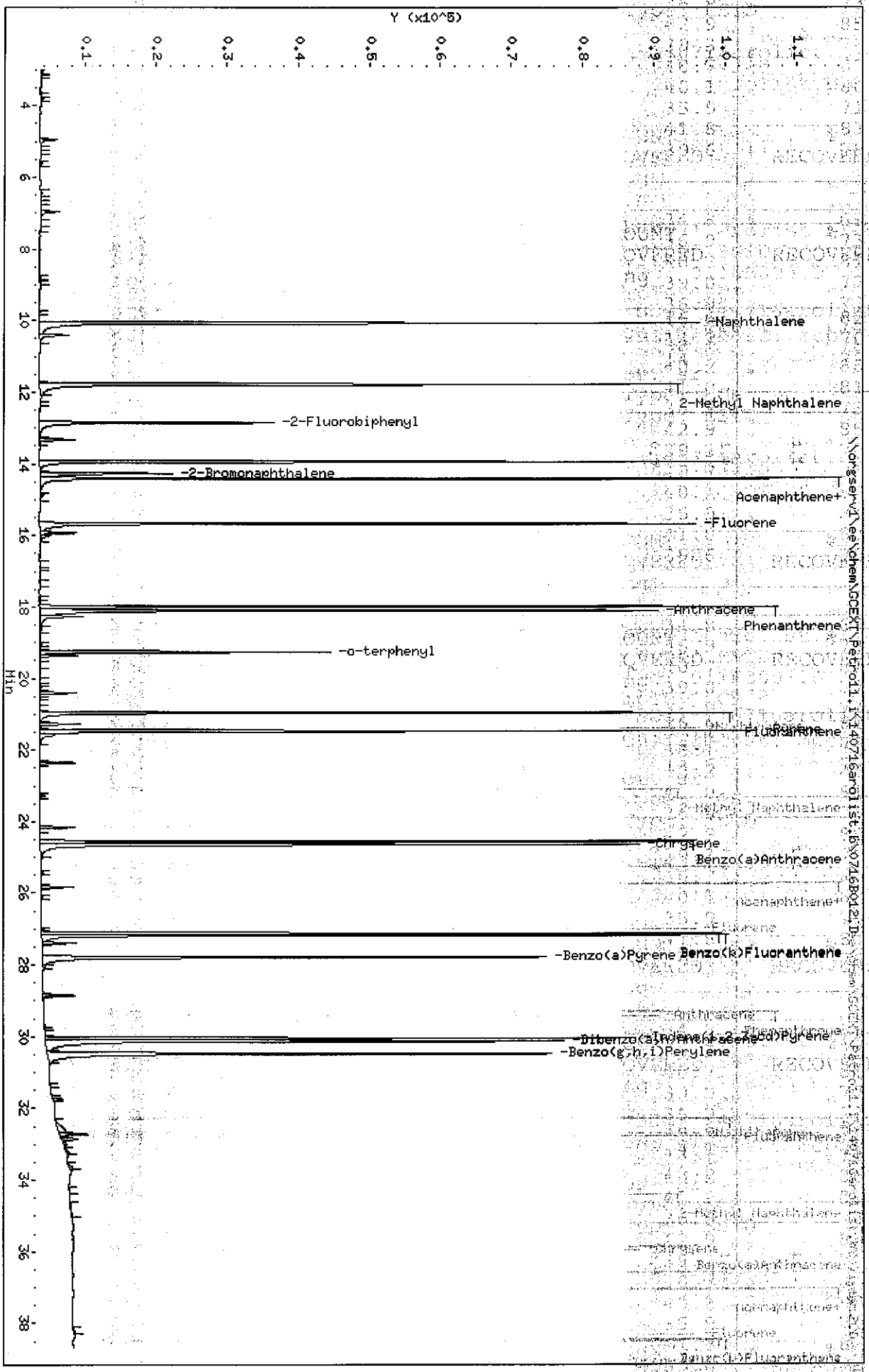
Client SDG: 140716arolist.b
Fraction: OTHER
Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
1 Naphthalene	50.0	34.8	69.60	40-140
2 2-Methyl Naphthale	50.0	36.9	73.74	40-140
4 Acenaphthalene	50.0	40.7	81.39	40-140
6 Acenaphthene	50.0	39.0	77.95	40-140
7 Fluorene	50.0	36.9	73.77	40-140
8 Phenanthrene	50.0	37.7	75.33	40-140
9 Anthracene	50.0	38.1	76.27	40-140
11 Fluoranthene	50.0	40.2	80.30	40-140
12 Pyrene	50.0	41.0	81.95	40-140
13 Benzo(a)Anthracene	50.0	36.9	73.79	40-140
14 Chrysene	50.0	42.9	85.80	40-140
15 Benzo(b)Fluoranthe	50.0	39.3	78.68	40-140
16 Benzo(k)Fluoranthe	50.0	40.7	81.49	40-140
17 Benzo(a)Pyrene	50.0	40.1	80.22	40-140
18 Indeno(1,2,3-cd)Py	50.0	35.9	71.81	40-140
19 Dibenzo(a,h)Anthra	50.0	41.8	83.59	40-140
20 Benzo(g,h,i)Peryle	50.0	39.6	79.28	40-140

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3 2-Fluorobiphenyl	20.0	16.6	82.77	40-140
$ 5 2-Bromonaphthalene	20.0	14.1	70.63	40-140
$ 10 o-terphenyl	20.0	14.5	72.50	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petrol1.i\140716arolist.b\0716B012.D
Date : 16-JUL-2014 17:04
Client ID:
Sample Info: wg705265-2,42
Purge Volume: 1000.0
Column phase:

Instrument: Petrol1.i
Operator: sr
Column diameter: 0.53



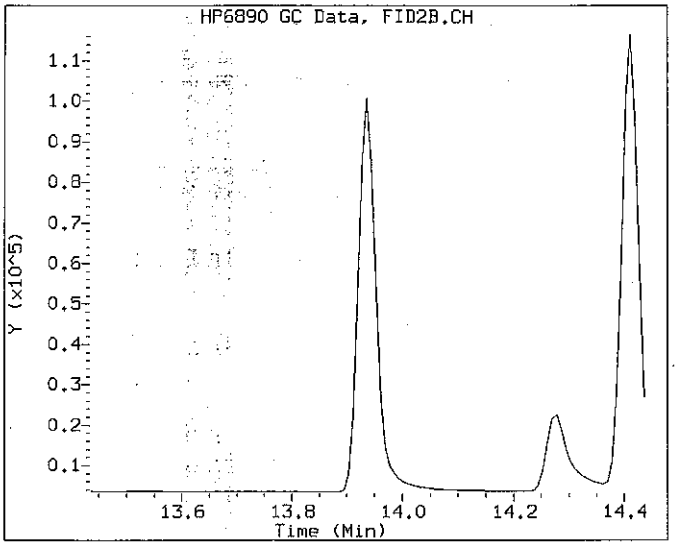
Alpha Analytical Labs

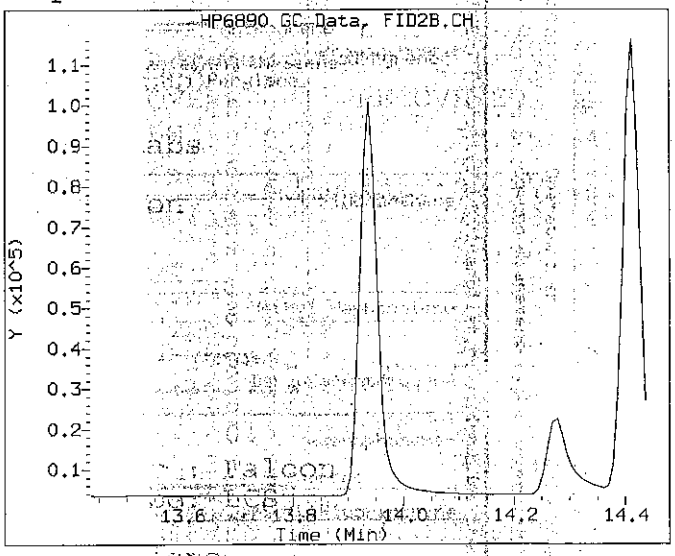
Manual Integration

Sample Info : wg705265-2,42
wg706624,wg705265,ICAL9073

Instrument ID : Petro11.i
Method : mcpepharo1.m
File : 0716B012.D
Injection Date : 16-JUL-2014 17:04
Quantitation : ESTD Integrator : Falcon
Dilution Factor : 1.00 Sample Type: LCS

Compound # 4: Acenaphthalene

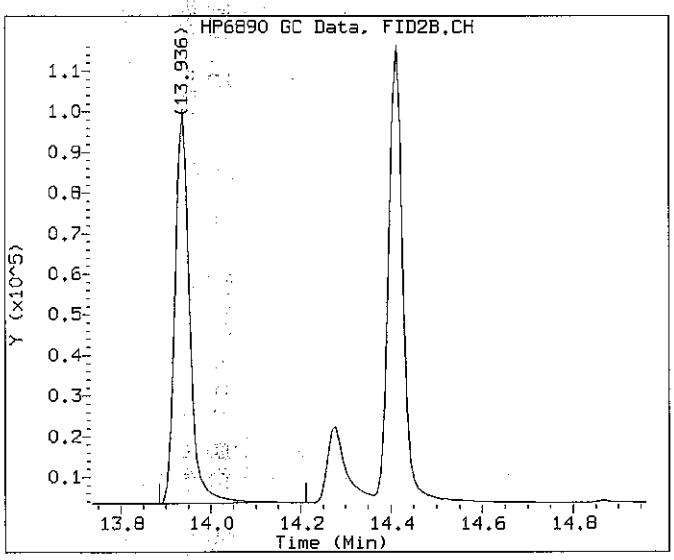


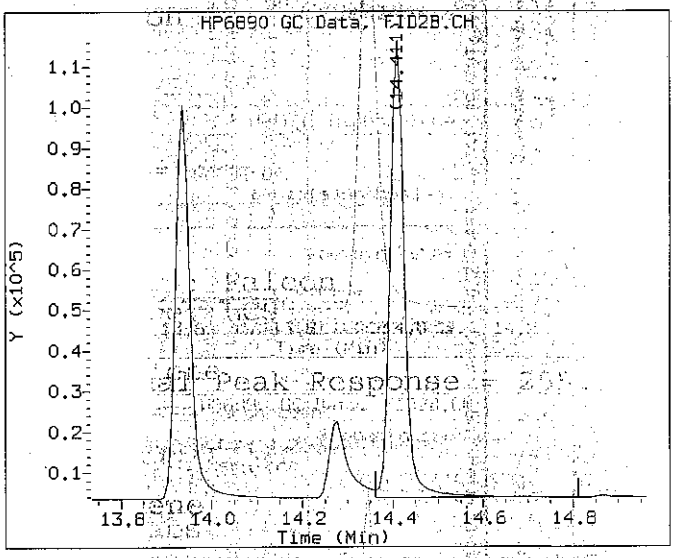


Original Peak Response = 0 Manual Peak Response = 255463 M4

M4 = Poor automated baseline construction.

Compound # 6: Acenaphthene





Original Peak Response = 221707 Manual Peak Response = 255463 M4

M4 = Poor automated baseline construction.

Data File: 0716A012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A012.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:04
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-2,42
Misc Info : wg706624,wg705265,ICAL9072
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\mcpephali2.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 12 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	7 Naphthalene	10.086	10.115	-0.029	275	0.03701	0.037	
	8 2-Methylnaphthalene	Compound Not Detected.						
	4 2-Fluorobiphenyl	12.970	12.915	0.055	1119	0.17694	0.176	
	5 2-Bromonaphthalene	14.311	14.332	-0.021	413	0.09381	0.093	
	2 1-Chloro-octadecane	21.386	21.382	0.004	83211	16.3901	16.390	
S	1 C9-C18 Aliphatic	4.882	19.365		1321246	184.625	184.625	
S	3 C19-C36 Aliphatic	19.365	32.997		1761676	335.000	335.000	

Data File: 0716A012.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: mcpspk.spk
Sublist File: all.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\mcpephali2.
Misc Info: wg706624,wg705265,ICAL9072

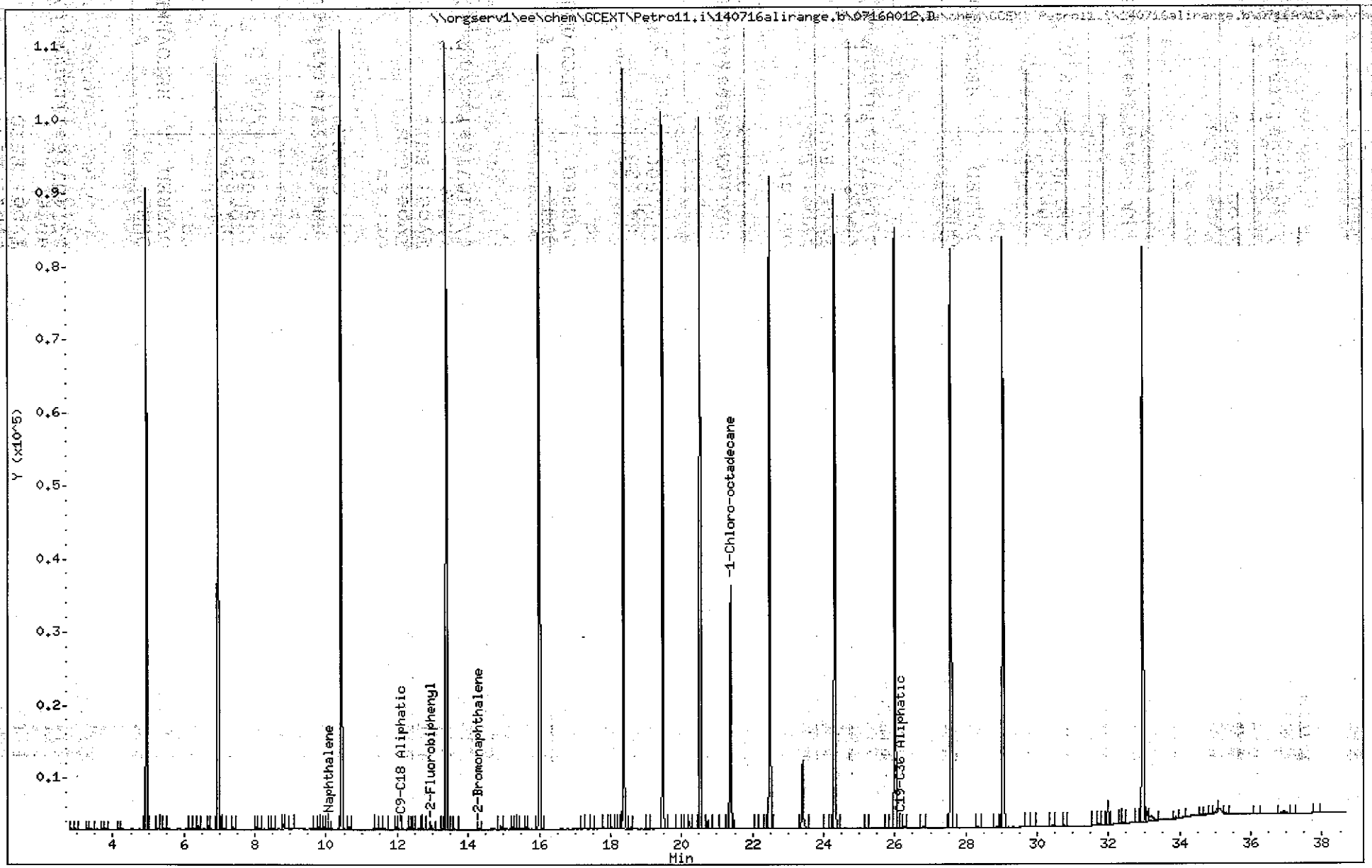
Client SDG: 140716alilist.b
Fraction: OTHER

Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
S 1 C9-C18 Aliphatic	300.000	184.625	61.54	40-140
S 3 C19-C36 Aliphatic	400.000	335.000	83.75	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A012.D
Date : 16-JUL-2014 17:04
Client ID:
Sample Info: wg705265-2,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info	:	wg705265-2,42 wg706624,wg705265,ICAL9072
Instrument ID	:	Petro11.i
Method	:	mcpephali2.m
File	:	0716A012.D
Injection Date	:	16-JUL-2014 17:04
Quantitation	:	ESTD
Dilution Factor	:	1.00

Integrator : Falcon
Sample Type: LCS

There are no manual integrations in this file.

Data File: 0716B013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\0716B013.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:54
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-3,42
Misc Info : wg706624,wg705265,ICAL9073
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 16-JAN-2014 18:25 Cal File: 0116B003.D
Als bottle: 63 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
	1 Naphthalene	10.065	10.084	-0.019	202919	29.7338	29.7	
	2 2-Methyl Naphthalene	11.773	11.801	-0.028	211486	32.0973	32.1	
$	3 2-Fluorobiphenyl	12.848	12.867	-0.019	93583	16.5747	16.6	
	4 Acenaphthalene	14.407	13.942	0.465	196480	31.2882	31.3(M)	M4
$	5 2-Bromonaphthalene	14.273	14.301	-0.028	55003	13.9856	14.0	
	6 Acenaphthene	14.407	13.942	0.465	196480	29.9747	30.0(M)	M4
	7 Fluorene	15.673	15.692	-0.019	228166	35.7177	35.7	
	8 Phenanthrene	17.990	18.001	-0.011	241661	38.4890	38.5	
	9 Anthracene	18.107	18.126	-0.019	216050	34.6963	34.7	
$	10 o-terphenyl	19.257	19.259	-0.002	91223	14.3725	14.4	
	11 Fluoranthene	20.957	20.967	-0.010	263211	42.3568	42.4	
	12 Pyrene	21.465	21.467	-0.002	180431	29.3783	29.4	
	13 Benzo(a)Anthracene	24.557	24.567	-0.010	234075	38.5731	38.6	
	14 Chrysene	24.648	24.659	-0.011	270982	46.1739	46.2	
	15 Benzo(b)Fluoranthene	27.123	27.126	-0.003	242492	39.0574	39.0	
	16 Benzo(k)Fluoranthene	27.173	27.184	-0.011	255394	42.6092	42.6	
	17 Benzo(a)Pyrene	27.798	27.809	-0.011	124900	22.5381	22.5	
	18 Indeno(1,2,3-cd)Pyrene	30.048	30.067	-0.019	149105	24.6039	24.6	
	19 Dibenzo(a,h)Anthracene	30.132	30.151	-0.019	261253	43.0989	43.1	
	20 Benzo(g,h,i)Perylene	30.482	30.492	-0.010	134815	22.0546	22.0	

QC Flag Legend

M - Compound response manually integrated.

Data File: 0716B013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arolist.b\mcpepharo1.m
Misc Info: wg706624,wg705265,ICAL9073

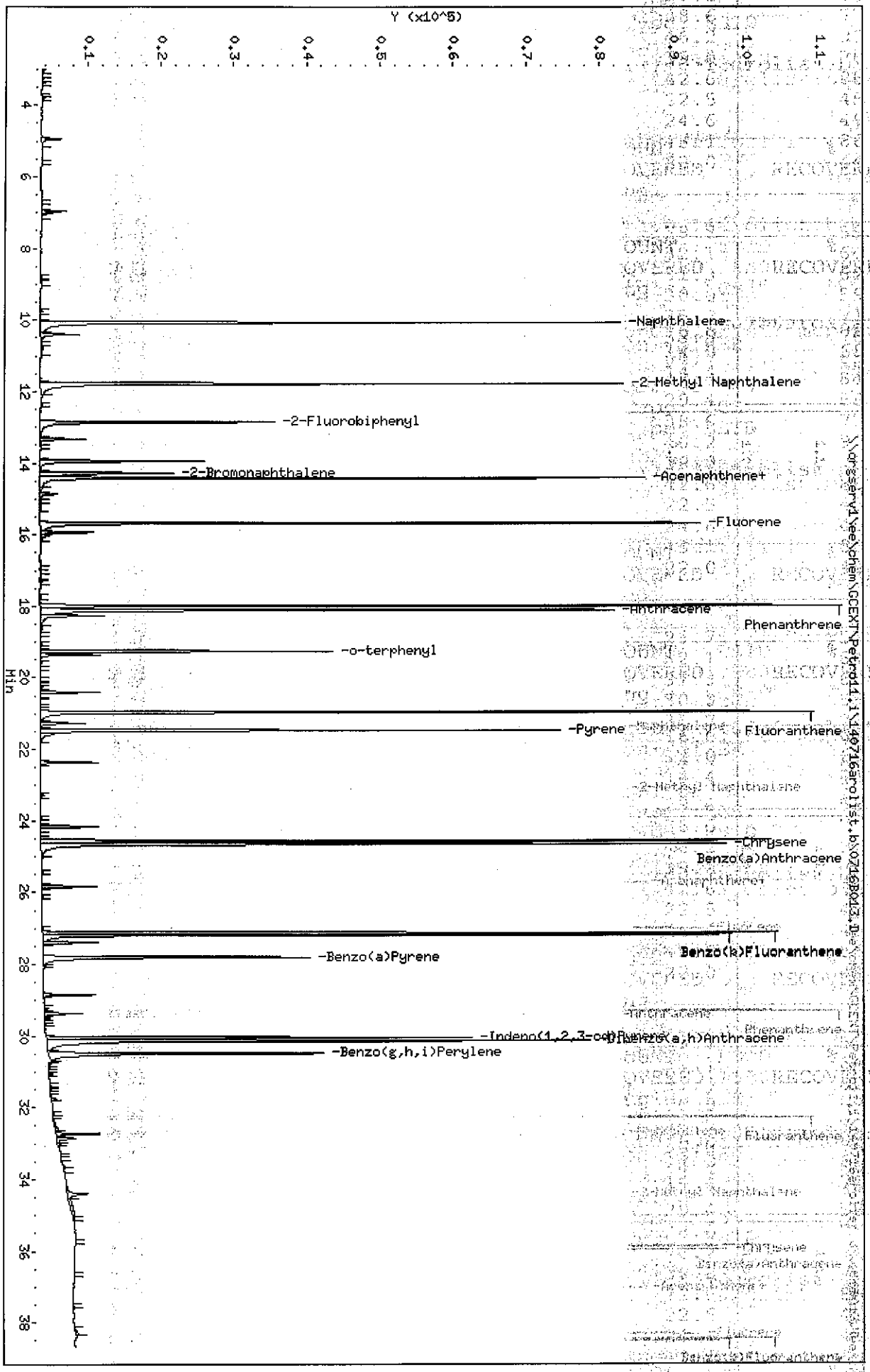
Client SDG: 140716arolist.b
Fraction: OTHER
Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
1 Naphthalene	50.0	29.7	59.48	40-140
2 2-Methyl Naphthale	50.0	32.1	64.19	40-140
4 Acenaphthalene	50.0	31.3	62.60	40-140
6 Acenaphthene	50.0	30.0	59.95	40-140
7 Fluorene	50.0	35.7	71.44	40-140
8 Phenanthrene	50.0	38.5	76.98	40-140
9 Anthracene	50.0	34.7	69.39	40-140
11 Fluoranthene	50.0	42.4	84.71	40-140
12 Pyrene	50.0	29.4	58.76	40-140
13 Benzo(a)Anthracene	50.0	38.6	77.15	40-140
14 Chrysene	50.0	46.2	92.35	40-140
15 Benzo(b)Fluoranthe	50.0	39.0	78.11	40-140
16 Benzo(k)Fluoranthe	50.0	42.6	85.22	40-140
17 Benzo(a)Pyrene	50.0	22.5	45.08	40-140
18 Indeno(1,2,3-cd)Py	50.0	24.6	49.21	40-140
19 Dibenzo(a,h)Anthra	50.0	43.1	86.20	40-140
20 Benzo(g,h,i)Peryle	50.0	22.0	44.11	40-140

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 3 2-Fluorobiphenyl	20.0	16.6	82.87	40-140
$ 5 2-Bromonaphthalene	20.0	14.0	69.93	40-140
$ 10 o-terphenyl	20.0	14.4	71.86	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716aroilist.b\0716B013.D
Date : 16-JUL-2014 17:54
Client ID:
Sample Info: wg705265-3,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 0.53



Page 3

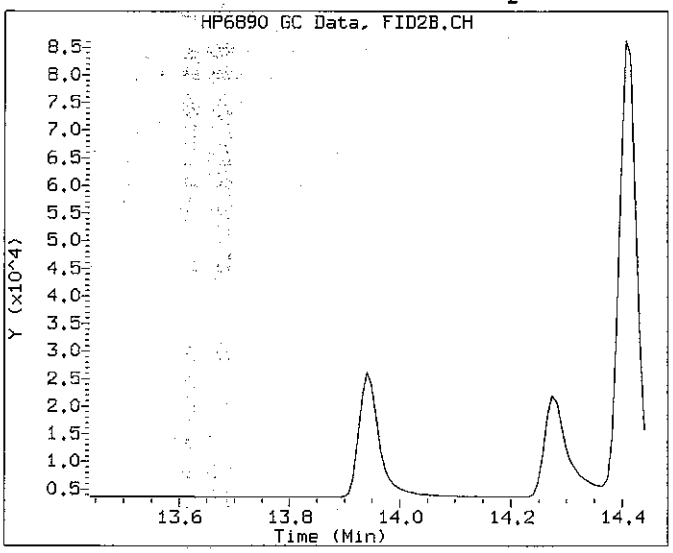
Alpha Analytical Labs

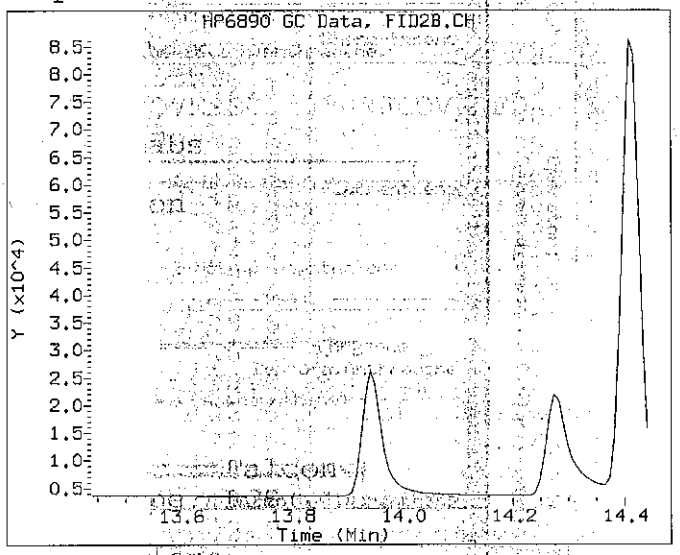
Manual Integration

Sample Info : wg705265-3,42
wg706624,wg705265,ICAL9073

Instrument ID : Petro11.i
Method : mcpepharo1.m
File : 0716B013.D
Injection Date : 16-JUL-2014 17:54
Quantitation : ESTD Integrator : Falcon
Dilution Factor : 1.00 Sample Type: LCS

Compound # 4: Acenaphthalene

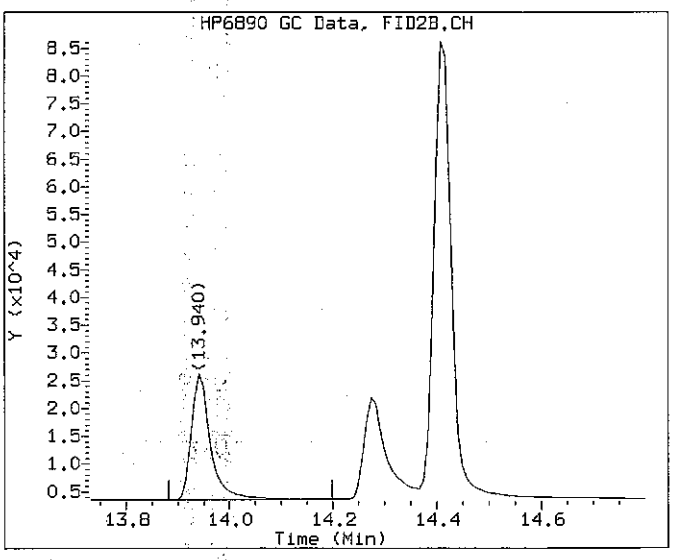


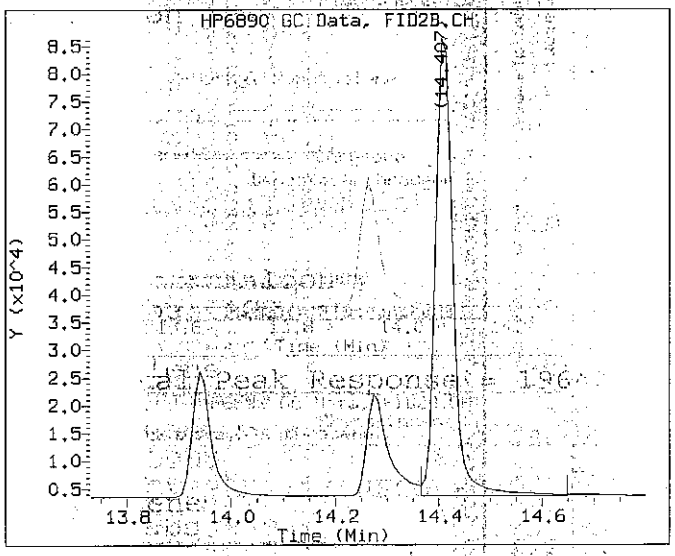


Original Peak Response = 0 Manual Peak Response = 196480 M4

M4 = Poor automated baseline construction.

Compound # 6: Acenaphthene





Original Peak Response = 58451 Manual Peak Response = 196480 M4

M4 = Poor automated baseline construction.

Data File: 0716A013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Individuals

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A013.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:54
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-3,42
Misc Info : wg706624,wg705265,ICAL9071
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 13 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: mcp.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
1 Nonane	4.949	4.943	0.006	144225	20.7417	20.7	
2 Decane	6.957	6.960	-0.003	176122	25.1531	25.2	
3 Naphthalene	Compound Not Detected.						
4 Dodecane	10.432	10.426	0.006	190153	27.9878	28.0	
5 2-Methylnaphthalene	Compound Not Detected.						
6 2-Fluorobiphenyl	Compound Not Detected.						
7 Tetradecane	13.391	13.376	0.015	200035	30.2458	30.2	
8 2-Bromonaphthalene	Compound Not Detected.						
9 Hexadecane	16.007	16.001	0.006	217647	33.7398	33.7	
10 Octadecane	18.374	18.360	0.014	235588	37.4160	37.4	
11 Nonadecane	19.474	19.460	0.014	237675	38.6542	38.6	
12 Eicosane	20.524	20.518	0.006	236515	38.5495	38.5	
$ 13 1-chloro-octadecane	21.391	21.385	0.006	82464	16.2430	16.2	
14 Docosane	22.499	22.493	0.006	234395	39.1476	39.1	
15 Tetracosane	24.324	24.310	0.014	228842	38.7924	38.8	
16 Hexacosane	26.007	25.993	0.014	225016	38.4716	38.5	
17 Octacosane	27.582	27.568	0.014	218522	37.8587	37.8	
18 Triacontane	29.057	29.035	0.022	226026	39.7945	39.8	
19 Hexatriacontane	32.974	32.951	0.023	228842	41.5303	41.5	

Data File: 0716A013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC DATA
SpikeList File: mcpspk.spk
Sublist File: mcp.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\mcpephali1.m
Misc Info: wg706624,wg705265,ICAL9071

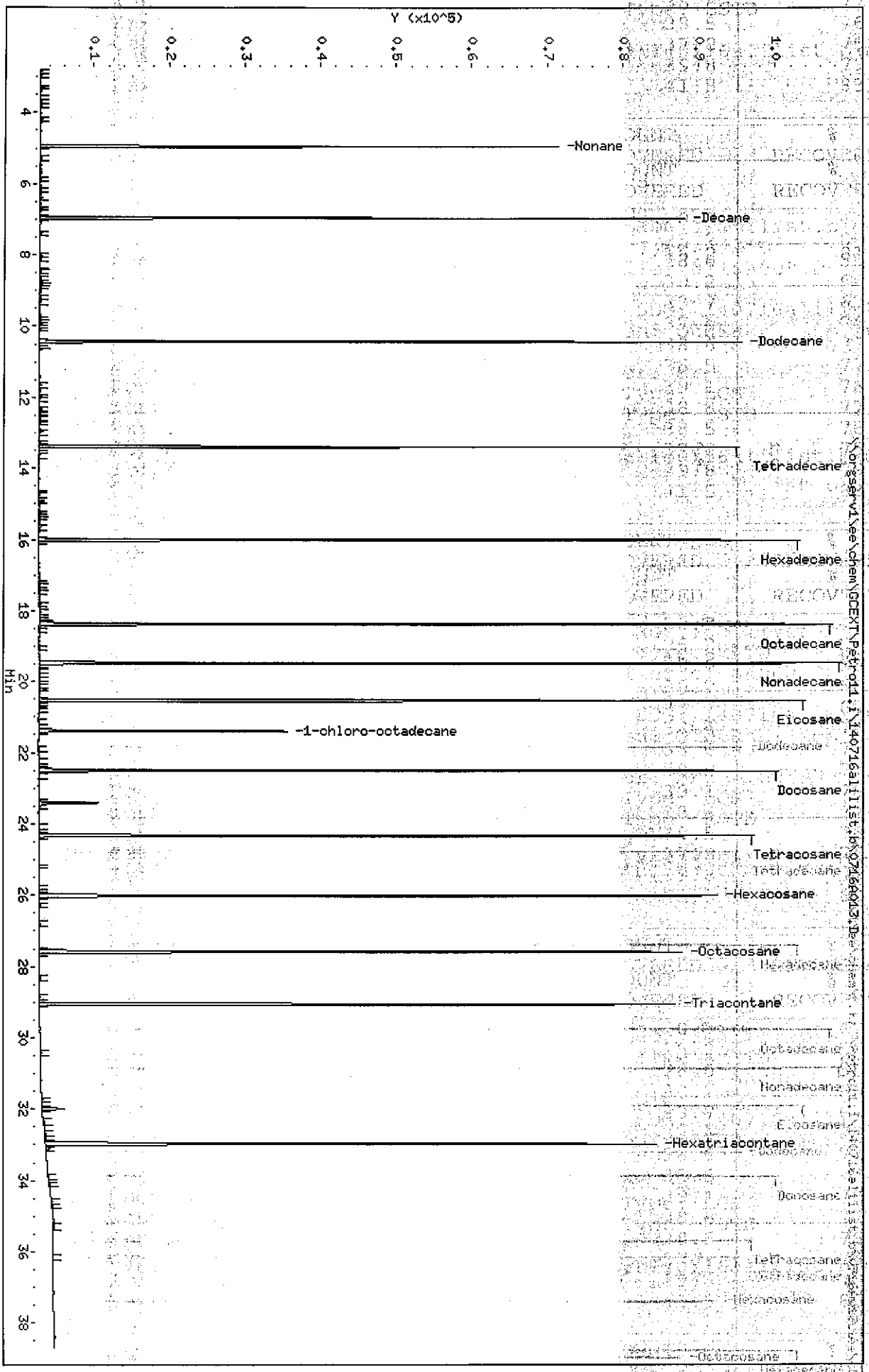
Client SDG: 140716alilist.b
Fraction: OTHER
Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
1 Nonane	50.0	20.7	41.48	30-140
2 Decane	50.0	25.2	50.31	40-140
4 Dodecane	50.0	28.0	55.98	40-140
7 Tetradecane	50.0	30.2	60.49	40-140
9 Hexadecane	50.0	33.7	67.48	40-140
10 Octadecane	50.0	37.4	74.83	40-140
11 Nonadecane	50.0	38.6	77.31	40-140
12 Eicosane	50.0	38.5	77.10	40-140
14 Docosane	50.0	39.1	78.30	40-140
15 Tetracosane	50.0	38.8	77.58	40-140
16 Hexacosane	50.0	38.5	76.94	40-140
17 Octacosane	50.0	37.8	75.72	40-140
18 Triacontane	50.0	39.8	79.59	40-140
19 Hexatriacontane	50.0	41.5	83.06	40-140

SURROGATE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
$ 13 1-chloro-octadecan	20.0	16.2	81.21	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alilist.b\0716A013.D
Date : 16-JUL-2014 17:54
Client ID:
Sample Info: wg705265-3,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 0.53



Alpha Analytical Labs

Manual Integration

Sample Info	: wg705265-3,42 wg706624,wg705265,ICAL9071		
Instrument ID	: Petro11.i		
Method	: mcpephali1.m		
File	: 0716A013.D		
Injection Date	: 16-JUL-2014 17:54		
Quantitation	: ESTD	Integrator	: Falcon
Dilution Factor	: 1.00	Sample Type	: LCS

There are no manual integrations in this file.

Data File: 0716B013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aromatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B013.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:54
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-3,42
Misc Info : wg706624,wg705265,ICAL9074
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\mcpepharo2.m
Meth Date : 17-Jul-2014 16:01 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116B008.D
Als bottle: 63 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	FINAL (ng)	REVIEW CODE
	1 2-Fluorobiphenyl	12.848	12.882	-0.034	93583	16.5747	16.574	
	2 2-Bromonaphthalene	14.273	14.288	-0.015	55003	13.9868	13.986	
	3 o-Terphenyl	19.257	19.298	-0.041	91223	14.3725	14.372	
S	4 C11-C22 Aromatic	10.007	30.532		3772594	602.983	602.983	

Data File: 0716B013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: mcpspk.spk
Sublist File: all.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\mcpepharo2.
Misc Info: wg706624,wg705265,ICAL9074

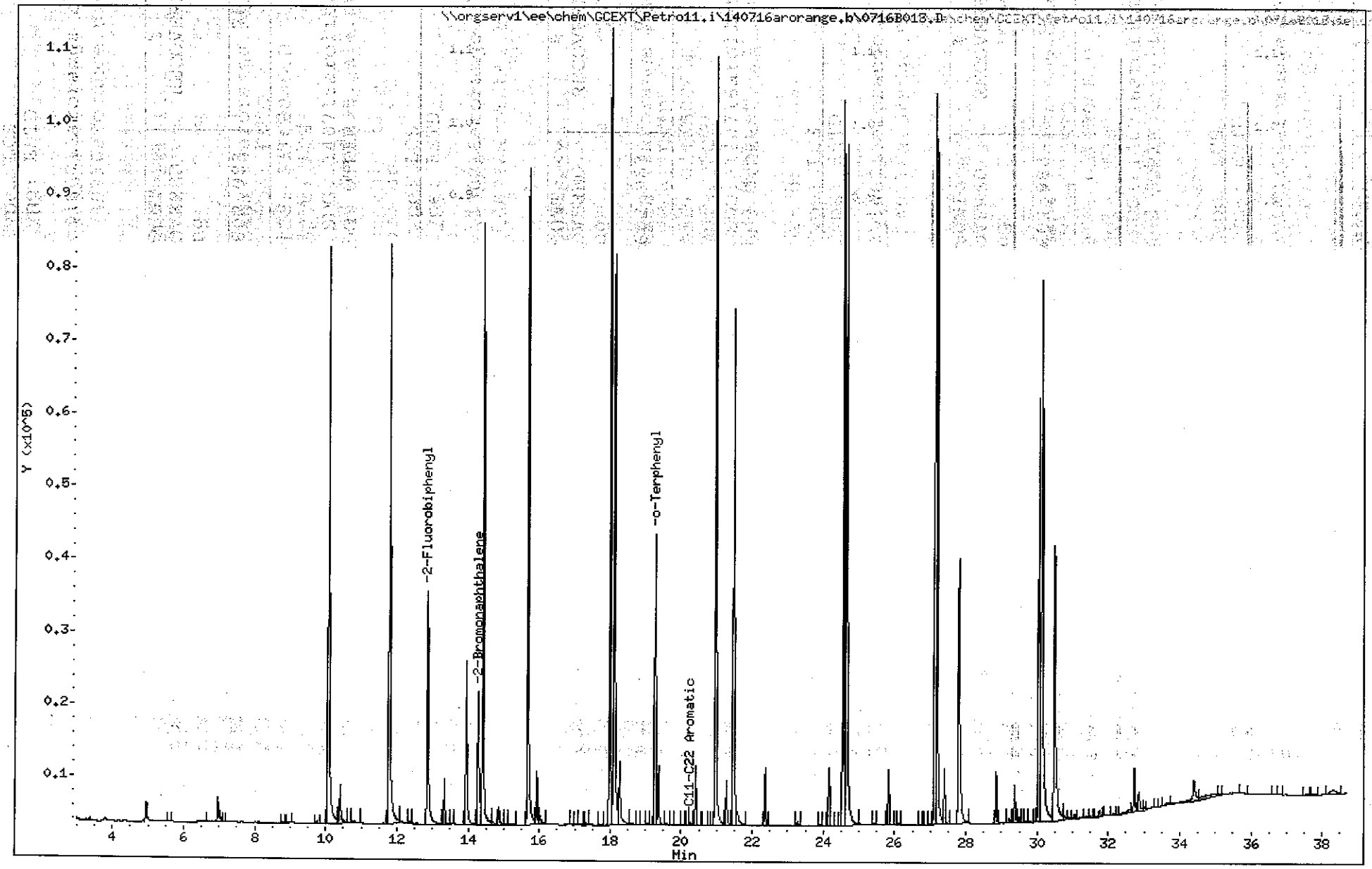
Client SDG: 140716arolist.b
Fraction: OTHER

Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
S 4 C11-C22 Aromatic	850.000	602.983	70.94	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716arorange.b\0716B013.D
Date : 16-JUL-2014 17:54
Client ID:
Sample Info: wg705265-3,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info	:	wg705265-3,42 wg706624,wg705265,ICAL9074
Instrument ID	:	Petro11.i
Method	:	mcpepharo2.m
File	:	0716B013.D
Injection Date	:	16-JUL-2014 17:54
Quantitation	:	ESTD
Dilution Factor	:	1.00

Integrator : Falcon
Sample Type: LCS

There are no manual integrations in this file.

Data File: 0716A013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

GC Semi - EPH Aliphatic Range

Data file : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A013.D
Lab Smp Id:
Inj Date : 16-JUL-2014 17:54
Operator : sr Inst ID: Petro11.i
Smp Info : wg705265-3,42
Misc Info : wg706624,wg705265,ICAL9072
Comment :
Method : \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\mcpephali2.m
Meth Date : 17-Jul-2014 16:00 srobinson Quant Type: ESTD
Cal Date : 17-JAN-2014 13:39 Cal File: 0116A008.D
Als bottle: 13 QC Sample: LCS
Dil Factor: 1.00000
Integrator: Falcon Compound Sublist: all.sub
Target Version: 4.12
Processing Host: A2-001716

Concentration Formula: Amt * DF * CpndVariable
Cpnd Variable Local Compound Variable

	Compounds	RT	EXP RT	DLT RT	RESPONSE	CONCENTRATIONS ON-COLUMN (ng)	CONCENTRATIONS FINAL (ng)	REVIEW CODE
	7 Naphthalene	10.091	10.115	-0.024	337	0.045335	0.045	
	8 2-Methylnaphthalene	Compound Not Detected.						
	4 2-Fluorobiphenyl	12.966	12.915	0.051	968	0.15307	0.153	
	5 2-Bromonaphthalene	Compound Not Detected.						
	2 1-Chloro-octadecane	21.391	21.382	0.009	82464	16.2430	16.242	
S	1 C9-C18 Aliphatic	4.882-19.365			1190878	166.408	166.408	
S	3 C19-C36 Aliphatic	19.365-32.997			1881239	357.737	357.736	

Data File: 0716A013.D
Report Date: 21-Jul-2014 13:11

Alpha Analytical Labs

RECOVERY REPORT

Client Name:
Sample Matrix: LIQUID
Lab Smp Id:
Level: LOW
Data Type: GC MULTI COMP
SpikeList File: mcpspk.spk
Sublist File: all.sub
Method File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\mcpephali2.
Misc Info: wg706624,wg705265,ICAL9072

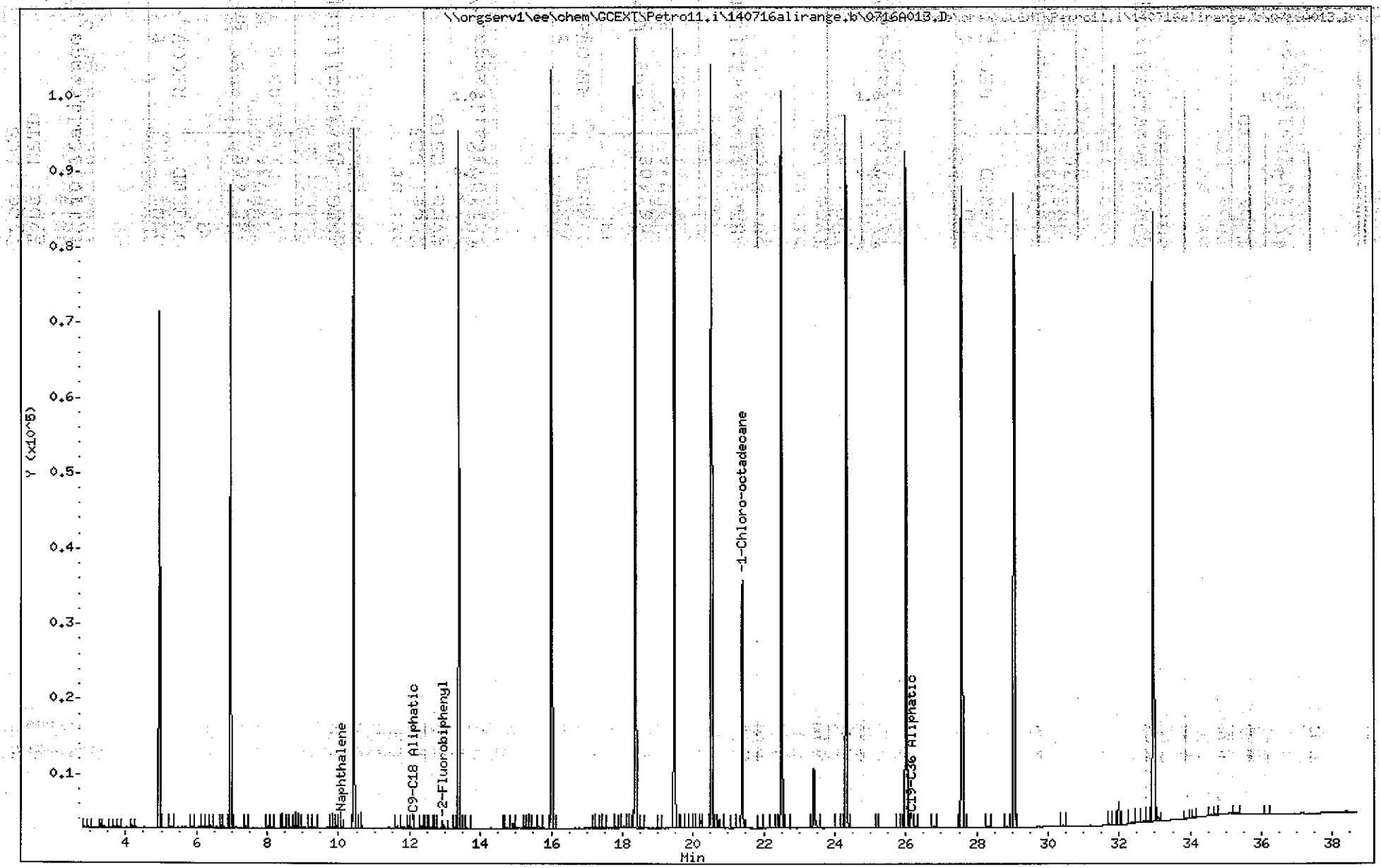
Client SDG: 140716alilist.b
Fraction: OTHER

Operator: sr
SampleType: LCS
Quant Type: ESTD

SPIKE COMPOUND	AMOUNT ADDED ng	AMOUNT RECOVERED ng	% RECOVERED	LIMITS
S 1 C9-C18 Aliphatic	300.000	166.408	55.47	40-140
S 3 C19-C36 Aliphatic	400.000	357.736	89.43	40-140

Data File: \\orgserv1\ee\chem\GCEXT\Petro11.i\140716alirange.b\0716A013.D
Date : 16-JUL-2014 17:54
Client ID:
Sample Info: wg705265-3,42
Purge Volume: 1000.0
Column phase:

Instrument: Petro11.i
Operator: sr
Column diameter: 2.00



Serial_No:07221412:44

Alpha Analytical Labs

Manual Integration

Sample Info	:	wg705265-3,42 wg706624,wg705265,ICAL9072
Instrument ID	:	Petro11.i
Method	:	mcpephali2.m
File	:	0716A013.D
Injection Date	:	16-JUL-2014 17:54
Quantitation	:	ESTD
Dilution Factor	:	1.00

Integrator : Falcon
Sample Type: LCS

There are no manual integrations in this file.