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ANALYSIS: BNA METHOD NO.: 8270

ARDL Report(s) #: 006619 MATRIX: OCTOPUS

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	By:	Date:
Package Preparation	JAL	06/03/14
Analytical Review	PEK	6/3/2014
Final Review	BNS	6/05/14
QA Review	DSS	6/5/14

Rev. 1.1

Organic Package Review Checklist

Rev. 1.1

ORGANIC PACKAGE REVIEW CHECKLIST

METHOD: 8270

	Initial	Date
Case Narrative and/or Nonconformance Reports		
Case Narrative / Analyst Comment Sheets	PEK	6/3/14
Nonconformance / Noncompliance Reports (if applicable)		
Sample Receipt Information		
Copies of Original Chain-of-Custody Forms	PEK	6/3/14
Cooler Receipt Form and Airbills		
Phone Messages (If applicable)		
Field Sample Results	PEK	6/3/14
QC Summary Forms		
Surrogate Summary, if applicable	PEK	6/3/14
Spike Blank and/or MS Summary		
Blank Results & Blank Summary, if applicable		
ISTD Area Summary, if applicable		
Sample Preparation Information (if applicable)		
Total Solids Determination (If applicable)	PEK	6/3/14
Extraction Log (If applicable)		
Extraction Notebook Pages (If applicable)		
Spiking Solutions Notebook Pages		
MS/MSD's		
Surrogate/ISTDs		
Spiking Solutions Certificates Of Analyses		
MS/MSD's		
Surrogates/ISTDs		
Certificates of Analysis (Vendor)		
Standard Preparation Information		
Instrument Logs/Analysis Notebook Pages	PEK	6/3/14
Certificates of Analysis (Vendor)		
Analytical Run Number 1		
Calibration Information	PEK	6/3/14
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 2 (if required)		
Calibration Information	PEK	6/3/14
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		

Rev. 1.1

ORGANIC PACKAGE REVIEW CHECKLIST (Continued)

METHOD: 8270

	Initial	Date
Analytical Run Number 3 (if required)		
Calibration Information	N/A	
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 4 (if required)		
Calibration Information	N/A	
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 5 (if required)		
Calibration Information	N/A	
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 6 (if required)		
Calibration Information	N/A	
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Example Calculation		
Example Calculation Sheet	PEK	6/3/14
Miscellaneous Additional Data (if applicable)	PEK	6/3/14

NA = Not Applicable

I have checked this package for completeness and verify the following:

1. Pencils, whiteout, whiteout tape, and dark highlighters were not used. ✓
2. All notebook pages are signed. ✓
3. All corrections contain the original data "struck through" with initials and date. ✓
4. All comments found throughout the data are defined as required. ✓
5. All pages are legible. ✓
6. Manual integrations, if applicable, are printed out and include an explanation with signature of the analyst and date. ✓

Package Completeness Checked By/Date: PEK 6/3/2014

Rev. 1.1

Case Narrative and/or Nonconformance Reports

Rev. 1.1

ORGANIC ANALYSIS CASE NARRATIVE

Corps of Engineers – ERDC, Vicksburg **Date: 6/05/14**

ARDL Report No.: 6619 **Lab Name: ARDL, Inc.**

Project Name: MAKAU MILITARY RESERVATION OAHU (OCTOPUS)

Samples Received at ARDL: 04/29/2014

Lab ID No.	Sample ID No.	Date Collected	Date Extracted	Analysis Requested
006619-01	MAK109O	01/31/2014	05/29/2014	BNA
006619-02	MAK110O	03/28/2014	05/29/2014	BNA
006619-03	MAK111O	03/28/2014	05/29/2014	BNA
006619-04	MAK112O	03/28/2014	05/29/2014	BNA
006619-05	MAK113O	03/28/2014	05/29/2014	BNA
006619-06	MAK114O	03/28/2014	05/29/2014	BNA
006619-07	MAK115O	03/28/2014	05/29/2014	BNA
006619-08	MAK116O	03/28/2014	05/29/2014	BNA
006619-09	MAK117O	03/28/2014	05/29/2014	BNA
006619-10	MAK118O	03/27/2014	05/29/2014	BNA
006619-11	MAK119O	03/27/2014	05/29/2014	BNA
006619-12	MAK120O	03/27/2014	05/29/2014	BNA
006619-13	MAK121O	03/27/2014	05/29/2014	BNA
006619-14	MAK122O	03/27/2014	05/29/2014	BNA
006619-15	MAK123O	03/27/2014	05/29/2014	BNA
006619-16	MAK124O	03/28/2014	05/29/2014	BNA

SEMIVOLATILE FRACTION – METHOD 8270C

Sixteen (16) tissue (octopus) samples were received by ARDL, Inc. on April 29, 2014, for 8270C analysis.

Due to specific project requirements and the unusual nature of the subject samples, some changes were made to standard method protocol. Since the requested analyte list was limited to five Phthalate Esters and Pyrene, only the three Base/Neutral surrogate compounds were used and evaluated in all calibrations, QC and sample analyses. A sample weight of 5 grams was used for extraction resulting in a 1,000 ug/Kg reporting limit. All extractions were performed with methylene chloride as the only solvent in order to avoid probable matrix interferences.

INITIAL CALIBRATION

The initial calibration was performed using six calibration points and passed method criteria.

CONTINUING CALIBRATIONS

All continuing calibrations met criteria.

SURROGATES

All QC and samples met surrogate recovery criteria.

INTERNAL STANDARDS

Internal standard recoveries were acceptable for all analyses.

LCS

The LCS analysis passed criteria.

ORGANIC ANALYSIS CASE NARRATIVE

Corps of Engineers – ERDC, Vicksburg **Date: 6/05/14**

ARDL Report No.: 6619 **Lab Name: ARDL, Inc.**

Project Name: MAKAU MILITARY RESERVATION OAHU (OCTOPUS)

Samples Received at ARDL: 04/29/2014

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The MS/MSD analysis was performed on sample MAK111O and passed criteria.

METHOD BLANKS

No target analytes were detected in the method blank above the reporting limit.

ORGANIC DATA REPORTING QUALIFIERS

The following organic data reporting qualifiers are used as required.

ND- Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. This flag is used when estimating a concentration of a compound that meets identification criteria but the result is less than the quantitation or reporting limit but greater than the method detection limit.

P - This flag is used for any two column confirmation methodology when there is greater than 40% difference for detected concentrations between the two columns. The primary column value is reported on the Form 1 and flagged with a "P".

B - This flag is used when the analyte is found above the reporting limit in the blank as well as the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

Release of the data contained in this package has been authorized by the Technical Services Manager or his designee as verified by the following signature.

Dean S. Dickerson
Technical Services Manager

Sample Receipt Information

Rev. 1.1

ARDL, Inc

P.O. Box 1566, 400 Aviation Drive, Mount Vernon, Illinois 62864
Phone (618) 244-3235, Fax (618) 244-1149

CHAIN OF CUSTODY RECORD

Project
ARDL / Makau Military Reservation Oahu, Hawaii Project

SAMPLERS (Signature)

SAMPLE NUMBER	DATE	TIME	Comp	Grab	# of Containers	Purgeable Organics 8260B	Explosives 8330	OCPs 8081	SVCOs 8270C	ARDL, Inc Remarks or Sample Location	PRESERVATION ICED	PRESERVATION Specify Chemicals added and final pH if known
MAK109O	1/31/2014	10:45		x	1	x	x	x	x	Octopus	x	
MAK110O	3/28/2014	8:38		x	1	x 14	x	x	x	Octopus	x	
MAK111O	3/28/2014	9:20		x	~~1~~ 3	x	x	x	x	Octopus	x	
MAK112O	3/28/2014	10:00		x	1	x	x	x	x	Octopus	x	
MAK113O	3/28/2014	10:35		x	1	x	x	x	x	Octopus	x	
MAK114O	3/28/2014	11:32		x	1	x	x	x	x	Octopus	x	
MAK115O	3/28/2014	13:01		x	1	x	x	x	x	Octopus	x	
MAK116O	3/28/2014	14:58		x	1	x	x	x	x	Octopus	x	
MAK117O	3/28/2014	16:43		x	1	x	x	x	x	Octopus	x	
MAK118O	3/27/2014	8:50		x	1	x	x	x	x	Octopus	x	
MAK119O	3/27/2014	9:20		x	1	x	x	x	x	Octopus	x	
MAK120O	3/27/2014	11:23		x	1	x	x	x	x	Octopus	x	
MAK121O	3/27/2014	12:05		x	1	x	x	x	x	Octopus	x	
MAK122O	3/27/2014	13:05		x	1	x	x	x	x	Octopus	x	
MAK123O	3/27/2014	15:08		x	1	x	x	x	x	Octopus	x	
MAK124O	3/28/2014	12:25		x	1	x	x	x	x	Octopus	x	
MAK130L	3/27/2014	8:20		x	~~1~~ 3	x	x	x	x	Limu (Sea Weed)	x	
MAK132L	3/28/2014	8:38		x	1	x	x	x	x	Limu (Sea Weed)	x	
MAK134L	3/28/2014	9:20		x	1	x	x	x	x	Limu (Sea Weed)	x	
MAK135L	3/28/2014	10:00		x	1	x	x	x	x	Limu (Sea Weed)	x	
MAK138L	3/28/2014	11:32		x	1	x	x	x	x	Limu (Sea Weed)	x	

Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
[signature]	4-28	1600	
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
Received for Laboratory by: (Signature) [signature]	Date 4/29/14	Time 0930	Shipping Ticket No.

REMARKS / SPECIAL INSTRUCTIONS:

Project Samples. Please treat each matrix separately.

Please send level 4 hardcopy report and excel edd to: Dean Dickerson, c/o ARDL, Inc. 400 Aviation Drive, Mount Vernon, IL 62864. Email questons to ddickerson@ardlinc.com.

original in 6620
dlc
4-29-14

COOLER RECEIPT REPORT
ARDL, INC.

dlc 4-29-14

ARDL #: ~~6620, 6621~~, 6619, 6620

Cooler # NA

Number of Coolers in Shipment: 2

Project: Makaw Military Res. Oahu

Date Received: 04/29/14

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 04/29/14 (Signature) LA Stevens

1. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO

   If YES, enter carrier name and airbill number here: FED-EX ~~AIR~~# 9225 1888 3037

2. Were custody seals on outside of cooler? ..... (YES) NO N/A

   How many and where? 1 front, Seal Date: 04/28/14, Seal Name: K ? can not Read

3. Were custody seals unbroken and intact at the date and time of arrival? ..... (YES) NO

4. Did you screen samples for radioactivity using a Geiger Counter? ..... (YES) NO

5. Were custody papers sealed in a plastic bag and ~~taped inside to the lid~~ loo 4/29/14? ..... (YES) NO

6. Were custody papers filled out properly (ink, signed, etc.)? ..... (YES) NO N/A

7. Were custody papers signed in appropriate place by ARDL personnel? ..... (YES) NO N/A

8. Was project identifiable from custody papers? If YES, enter project name at the top of this form ..... (YES) NO N/A

9. Was a separate container provided for measuring temperature? YES ____ NO ✓ Cooler Temp. -28.9 C

B. **LOG-IN PHASE:** Date samples were logged-in: 04-29-14 (Signature) LA Stevens

10. Describe type of packing in cooler: bubble pack, cardboard box

11. Were all bottles sealed in separate plastic bags? ..... YES (NO) N/A

12. Did all bottles arrive unbroken and were labels in good condition? ..... (YES) NO

13. Were bottle labels complete? ..... (YES) NO

14. Did all bottle labels agree with custody papers? ..... YES NO

15. Were correct containers used for the tests indicated? ..... (YES) NO

16. Was pH correct on preserved water samples? ..... YES NO (N/A)

17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO

18. Were bubbles absent in VOA samples? If NO, list by sample #: ____ YES NO (N/A)

19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO (N/A)

Comments and/or Corrective Action:
(By: Signature) Date:

Sample Transfer	
Fraction: all	Fraction:
Area #: freezer	Area #:
By: lax	By:
On: 04-29-14	On:

M:\ADMIN\FORMS\COOLER RECEIPT REPORT.doc Rev. 05/07/07

ORIGIN ID:GRBA (920) 469-2436
SHIPPING
PACE ANALYTICAL
1241 BELLEVUE

GREEN BAY, WI 54302
UNITED STATES US

SHIP DATE: 28APR14
ACTWGT: 30.4 LB
CAD: 255289/CAFE2704

DRY ICE: 1.1 KGS
BILL THIRD PARTY

TO DEAN DICKERSON
ARDL
400 AVIATION DRIVE
P.O BOX 1566
MOUNT VERNON IL 62864
(618) 244-3235
DEPT: INTRNL BILL REF#1301-9501

518C1/78D9/6F03

FedEx Express

J131118052301 26

TRK# 0201 9325 1888 3037

TUE - 29 APR AA
STANDARD OVERNIGHT
ICE

NA MVNA

62864
IL-US STL

Part # 156148-434 RITA 03/12

ORIGIN ID:GRBA (920) 469-2436
SHIPPING
PACE ANALYTICAL
1241 BELLEVUE

GREEN BAY, WI 54302
UNITED STATES US

SHIP DATE: 28APR14
ACTWGT: 18.3 LB
CAD: 255289/CAFE2704

DRY ICE: 1.1 KGS
BILL THIRD PARTY

TO DEAN DICKERSON
ARDL
400 AVIATION DRIVE
P.O BOX 1566
MOUNT VERNON IL 62864
(618) 244-3235
DEPT: INTRNL BILL REF#1301-9501

518C1/78D9/6F03

FedEx Express

J131118052301 26

TRK# 0201 9325 1888 3059

TUE - 29 APR AA
STANDARD OVERNIGHT
ICE

NA MVNA

62864
IL-US STL

Part # 156148-434 RITA 03/12

Original in binder
dlc
4-29-14

Field Sample Results

Rev. 1.1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK109O	ARDL Lab No.:	006619-01
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530405
Sample Date:	01/31/2014	Received Date:	04/29/2014
Sample Time:	1045	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	66%
2-Fluorobiphenyl	30-130	69%
Terphenyl-d14	30-130	64%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK110O	ARDL Lab No.:	006619-02
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530406
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0838	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	68%
2-Fluorobiphenyl	30-130	72%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-02, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK111O	ARDL Lab No.:	006619-03
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530407
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	66%
2-Fluorobiphenyl	30-130	71%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-03, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK112O	ARDL Lab No.:	006619-04
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530410
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1000	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	45%
2-Fluorobiphenyl	30-130	57%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-04, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK113O	ARDL Lab No.:	006619-05
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530411
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1035	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	50%
2-Fluorobiphenyl	30-130	65%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-05, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK114O	ARDL Lab No.:	006619-06
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530412
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1132	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	51%
2-Fluorobiphenyl	30-130	64%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-06, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK115O	ARDL Lab No.:	006619-07
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530413
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1301	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	61%
2-Fluorobiphenyl	30-130	68%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-07, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK116O	ARDL Lab No.:	006619-08
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530414
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1458	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	63%
2-Fluorobiphenyl	30-130	67%
Terphenyl-d14	30-130	72%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-08, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK117O	ARDL Lab No.:	006619-09
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530415
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1643	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	65%
2-Fluorobiphenyl	30-130	72%
Terphenyl-d14	30-130	80%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-09, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK118O	ARDL Lab No.:	006619-10
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530416
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	0850	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	53%
2-Fluorobiphenyl	30-130	65%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-10, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK119O	ARDL Lab No.:	006619-11
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531404
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	58%
2-Fluorobiphenyl	30-130	66%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-11, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK120O	ARDL Lab No.:	006619-12
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531405
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1123	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	50%
2-Fluorobiphenyl	30-130	64%
Terphenyl-d14	30-130	66%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-12, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK121O	ARDL Lab No.:	006619-13
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531406
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1205	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	47%
2-Fluorobiphenyl	30-130	61%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-13, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK122O	ARDL Lab No.:	006619-14
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531407
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1305	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	37%
2-Fluorobiphenyl	30-130	46%
Terphenyl-d14	30-130	63%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-14, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK123O	ARDL Lab No.:	006619-15
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531408
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1508	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	32%
2-Fluorobiphenyl	30-130	50%
Terphenyl-d14	30-130	69%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-15, BNA'S (METHOD 8270) Page 1 of 1

ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK124O	ARDL Lab No.:	006619-16
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531409
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1225	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	37%
2-Fluorobiphenyl	30-130	51%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

QC Summary Forms

Surrogate Summary, if applicable

Spike Blank and/or MS Summary

Blank Results & Blank Summary, if applicable

ISTD Area Summary, if applicable

Rev. 1.1

2C

OCTOPUS SEMIVOLATILE SURROGATE RECOVERY

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

	EPA SAMPLE NO.	S1 (NBZ) #	S2 (FBP) #	S3 (TPH) #	S4 ( ) #	S5 ( ) #	S6 ( ) #	TOT OUT
01	BLANK B10219	69	75	72				0
02	SPBK B10219	78	82	81				0
03	MAK109O	66	69	64				0
04	MAK110O	68	72	67				0
05	MAK111O	66	71	67				0
06	MAK111OMS	70	74	73				0
07	MAK111OMSD	66	71	72				0
08	MAK112O	45	57	67				0
09	MAK113O	50	65	75				0
10	MAK114O	51	64	75				0
11	MAK115O	61	68	75				0
12	MAK116O	63	67	72				0
13	MAK117O	65	72	80				0
14	MAK118O	53	65	75				0
15	MAK119O	58	66	68				0
16	MAK120O	50	64	66				0
17	MAK121O	47	61	68				0
18	MAK122O	37	46	63				0
19	MAK123O	32	50	69				0
20	MAK124O	37	51	68				0
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS
S1	Nitrobenzene-d5	(30 - 130)
S2	2-Fluorobiphenyl	(30 - 130)
S3	Terphenyl-d14	(30 - 130)
S4		(-)
S5		(-)
S6		(-)

column to be used to flag recovery values
* Values outside of contract required QC limits
D Surrogates diluted out

BLANK SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270) Analytical Method: 8270C
Project No.: Prep Method: 3550A

Matrix: QC Material QC Batch: B10219 Prep. Date: 05/29/2014
Amount Used: 5 g Level: LOW Analysis Date: 05/30/2014

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Dimethylphthalate	3730	5000	75	--	--	--	67-104	--	--
Diethylphthalate	3810	5000	76	--	--	--	65-108	--	--
Di-n-butylphthalate	3940	5000	79	--	--	--	68-115	--	--
Pyrene	4120	5000	82	--	--	--	47-122	--	--
bis(2-Ethylhexyl)phthalate	3900	5000	78	--	--	--	52-128	--	--
Di-n-octylphthalate	3830	5000	77	--	--	--	36-150	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Nitrobenzene-d5	78.5	--	30-130
2-Fluorobiphenyl	81.5	--	30-130
Terphenyl-d14	80.6	--	30-130

'*' indicates a recovery outside of standard limits.

Spike Blanks for 006619-03, BNA'S (METHOD 8270)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

ARDL, INC. 400 Aviation Drive; P.O. Box 1566 Mt. Vernon, IL 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270) Analytical Method: 8270C
Project No.: Prep Method: 3550A

Field ID:	MAK111O	Prep. Date:	05/29/2014	ARDL Lab No.:	006619-03
Desc/Location:	MAKAU MILITARY RESERVATIO	Amount Used:	5 g	Lab Filename:	
Sample Date:	03/28/2014	% Moisture:	No Moisture Present	Received Date:	04/29/2014
Sample Time:	0920	QC Batch:	B10219	Analysis Date:	05/30/2014
Matrix:	TISSUE	Level:	LOW		

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Dimethylphthalate	ND	3440	5000	68.7	3260	5000	65.2	57-110	5.2	30
Diethylphthalate	ND	3500	5000	70	3300	5000	66.1	57-112	5.7	30
Di-n-butylphthalate	ND	3390	5000	67.7	3210	5000	64.3	54-118	5.2	30
Pyrene	ND	3720	5000	74.3	3550	5000	71	43-119	4.6	30
bis(2-Ethylhexyl)phthalate	ND	3620	5000	72.4	3440	5000	68.8	57-116	5.1	30
Di-n-octylphthalate	ND	3350	5000	67	3190	5000	63.7	32-152	5	30

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Nitrobenzene-d5	70	66	30-130
2-Fluorobiphenyl	74	71	30-130
Terphenyl-d14	73	72	30-130

'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 006619-03, BNA'S (METHOD 8270)

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLANK B10219

Lab Name: ARDL, INC. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: E0530403 Lab Sample ID: 006619-03B1

Instrument ID: AG5 Date Extracted: 05/29/14

Matrix: (soil/water) OCTOPUS Date Analyzed: 05/30/14

Level: (low/med) --- Time Analyzed: 10:04

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
01	SPBK B10219	006619-03K1	E0530404	05/30/14
02	MAK109O	006619-01	E0530405	05/30/14
03	MAK110O	006619-02	E0530406	05/30/14
04	MAK111O	006619-03	E0530407	05/30/14
05	MAK111OMS	006619-03MS	E0530408	05/30/14
06	MAK111OMSD	006619-03MD	E0530409	05/30/14
07	MAK112O	006619-04	E0530410	05/30/14
08	MAK113O	006619-05	E0530411	05/30/14
09	MAK114O	006619-06	E0530412	05/30/14
10	MAK115O	006619-07	E0530413	05/30/14
11	MAK116O	006619-08	E0530414	05/30/14
12	MAK117O	006619-09	E0530415	05/30/14
13	MAK118O	006619-10	E0530416	05/30/14
14	MAK119O	006619-11	E0531404	05/31/14
15	MAK120O	006619-12	E0531405	05/31/14
16	MAK121O	006619-13	E0531406	05/31/14
17	MAK122O	006619-14	E0531407	05/31/14
18	MAK123O	006619-15	E0531408	05/31/14
19	MAK124O	006619-16	E0531409	05/31/14
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

COMMENTS:

METHOD BLANK REPORT
ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	NA	ARDL Lab No.:	006619-03B1
Desc/Location:	NA	Lab Filename:	E0530403
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	05/29/2014
Matrix:	QC Material	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Dimethylphthalate	200	1000	ND		UG/KG
Diethylphthalate	200	1000	ND		UG/KG
Di-n-butylphthalate	200	1000	ND		UG/KG
Pyrene	200	1000	ND		UG/KG
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG
Di-n-octylphthalate	200	1000	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	69%
2-Fluorobiphenyl	30-130	75%
Terphenyl-d14	30-130	72%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Blank for Run B10219, BNA'S (METHOD 8270) Page 1 of 1

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID (Standard): E0528406 Date Analyzed: 05/28/14

Instrument ID: AG5 Time Analyzed: 13:19

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STANDARD	2313018	7.05	9193955	9.01	4819437	11.90
	UPPER LIMIT	4626036	7.55	18387910	9.51	9638874	12.40
	LOWER LIMIT	1156509	6.55	4596978	8.51	2409719	11.40
	EPA SAMPLE NO.						
1	BLANK B10219	2639439	7.05	10260554	9.00	5438322	11.89
2	SPBK B10219	2566343	7.05	10063532	9.00	5326682	11.89
3	MAK109O	2499004	7.05	9751398	9.00	5266271	11.89
4	MAK110O	2618021	7.05	10128125	9.00	5402203	11.89
5	MAK111O	2641293	7.05	10167271	9.00	5527978	11.89
6	MAK111OMS	2636101	7.05	10204187	9.00	5436661	11.89
7	MAK111OMSD	2799069	7.05	10837921	9.01	5751479	11.89
8	MAK112O	2651638	7.05	10211789	9.01	5537005	11.89
9	MAK113O	2665641	7.05	10367302	9.01	5585536	11.89
10	MAK114O	2848909	7.05	11042034	9.01	5922042	11.89
11	MAK115O	2705630	7.05	10422393	9.01	5709627	11.89
12	MAK116O	2739266	7.05	10617717	9.01	5726034	11.89
13	MAK117O	2709250	7.05	10581404	9.01	5695980	11.89
14	MAK118O	2827645	7.05	10962661	9.01	5922458	11.89
15							
16							
17							
18							
19							
20							
21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID (Standard): E0528406 Date Analyzed: 05/28/14

Instrument ID: AG5 Time Analyzed: 13:19

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STANDARD	7597694	14.44	7793304	19.71	9115539	24.78
	UPPER LIMIT	15195388	14.94	15586608	20.21	18231078	25.28
	LOWER LIMIT	3798847	13.94	3896652	19.21	4557770	24.28
	EPA SAMPLE NO.						
1	BLANK B10219	8725607	14.44	9262316	19.70	11022589	24.79
2	SPBK B10219	8379160	14.44	8692628	19.70	10929901	24.79
3	MAK109O	8375380	14.44	9328192	19.70	10370017	24.78
4	MAK110O	8631272	14.44	9769694	19.70	9687934	24.79
5	MAK111O	8765525	14.44	9910534	19.71	8903288	24.78
6	MAK111OMS	8661285	14.44	9108363	19.71	7312660	24.78
7	MAK111OMSD	9046398	14.45	9650854	19.71	7869700	24.78
8	MAK112O	8714529	14.44	9727276	19.71	8150138	24.79
9	MAK113O	8919179	14.44	9768097	19.71	7061389	24.78
10	MAK114O	9337029	14.44	10227236	19.71	7136291	24.78
11	MAK115O	9021496	14.44	9662580	19.71	6613386	24.78
12	MAK116O	9087493	14.44	9645845	19.71	6369258	24.78
13	MAK117O	9141569	14.44	9402153	19.71	5932051	24.78
14	MAK118O	9346879	14.44	9558299	19.71	6070502	24.78
15							
16							
17							
18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID (Standard): E0528406 Date Analyzed: 05/28/14

Instrument ID: AG5 Time Analyzed: 13:19

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STANDARD	2313018	7.05	9193955	9.01	4819437	11.90
	UPPER LIMIT	4626036	7.55	18387910	9.51	9638874	12.40
	LOWER LIMIT	1156509	6.55	4596978	8.51	2409719	11.40
	EPA SAMPLE NO.						
1	MAK119O	2723142	7.05	10616816	9.01	5730931	11.89
2	MAK120O	2809522	7.05	10785843	9.00	5790367	11.89
3	MAK121O	2784983	7.05	10821203	9.01	5819750	11.90
4	MAK122O	2834209	7.05	10899329	9.01	5882391	11.89
5	MAK123O	2785977	7.05	10850566	9.01	5822980	11.89
6	MAK124O	2979789	7.05	11548971	9.01	6242780	11.90
7							
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21							
22							

IS1 (DCB) = 1,4-Dichlorobenzene-d4
IS2 (NPT) = Naphthalene-d8
IS3 (ANT) = Acenaphthene-d10

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

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID (Standard): E0528406 Date Analyzed: 05/28/14

Instrument ID: AG5 Time Analyzed: 13:19

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STANDARD	7597694	14.44	7793304	19.71	9115539	24.78
	UPPER LIMIT	15195388	14.94	15586608	20.21	18231078	25.28
	LOWER LIMIT	3798847	13.94	3896652	19.21	4557770	24.28
	EPA SAMPLE NO.						
1	MAK119O	9075206	14.44	10426711	19.70	9849021	24.79
2	MAK120O	9089409	14.44	10392779	19.71	8529900	24.79
3	MAK121O	9217123	14.44	10342454	19.71	8155338	24.79
4	MAK122O	9274883	14.44	10400795	19.71	7573485	24.79
5	MAK123O	9285534	14.44	10213903	19.71	7177776	24.79
6	MAK124O	9885365	14.44	10568097	19.71	7443817	24.80
7							
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18							
19							
20							
21							
22							

IS4 (PHN) = Phenanthrene-d10
IS5 (CRY) = Chrysene-d12
IS6 (PRY) = Perylene-d12

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

Column used to flag internal standard area values with an asterisk
* Values outside of QC limits

Sample Preparation Information

(Not Applicable for VOA Purge and Trap Method)

Rev. 1.1

3550
8270 BNA Tissues

DATE : 05/ 29 / 2014 **BATCH # B10219**

CUST: Makau Military Reservation Oahu **ARDL # 6619**

SAMPLES: BLK; SP BLK; 6619-1 thru 16
QC SAMPLE: 6619-3ms/msd

SOLVENT USED: $MeCL_2$ # 0000075412
REAGENTS USED: Na_2SO_4 # 0000066287

SURROGATE # 20006-050613 CONC BN 1000 PPM __X__ AMOUNT 25 uL __X__

SPIKE # 16511 CONC 250 PPM __X__ AMOUNT 100 uL __X__

EXTRACTION METHOD: SONICATION __X__ MED/LEVEL_____ DILUTION ____

FINAL VOLUME 1 mL

EXTRACTION PERSONNEL: SMN, GJC, JAD

SPIKER: SMN **WITNESS: GJC**

SAMPLE #	WEIGHT/G	pH	Vf		SAMPLE #	WEIGHT/G	pH	Vf
BLK	5.00 g	-----	1 mL		6619-10	5.04 g	-----	1 mL
SP BLK	5.00 g	"	"		6619-11	5.04 g	"	"
6619-1	5.00 g	"	"		6619-12	5.00 g	"	"
6619-2	4.97 g	"	"		6619-13	5.00 g	"	"
6619-3	5.05 g	"	"		6619-14	5.04 g	"	"
6619-3ms	5.02 g	"	"		6619-15	4.98 g	"	"
6619-3msd	5.04 g	"	"		6619-16	5.03 g	"	"
6619-4	4.99 g	"	"					
6619-5	5.02 g	"	"					
6619-6	4.99 g	"	"					
6619-7	4.98 g	"	"					
6619-8	5.05 g	"	"					
6619-9	5.01 g	"	"					

RECEIVED BY: PEK
DATE: 5/29/2014

DELIVERED BY: SMN
DATE: 5/29/14

B10219 8270-BNA-Tissues

Sample I.D.	Wi	Vf	Date:	Time:
BlK	5.00g	1mL	5/29/14	13:30
SpBlK	5.00g	1mL		
6619-1	5.00g	1mL	Water Bath Temp: 93°C	
-2	4.97g	1mL		
-3(A)	5.05g	1mL		
-3MS(A)	5.02g	1mL		
-3MSD(A)	5.04g	1mL		
-4	4.99g	1mL		
-5	5.02g	1mL		
-6	4.99g	1mL		
-7	4.98g	1mL		
-8	5.05g	1mL		
-9	5.01g	1mL		
-10	5.01g	1mL		
-11	5.01g	1mL		
-12	5.00g	1mL		
-13	5.00g	1mL		
-14	5.04g	1mL		
-15	4.98g	1mL		
-16	5.03g	1mL		

All samples contain 25 ml of surrogate # 2006-050613 (1000ppm).

SpBlK, MS, MSD contain 100ml of spike # 16511 (250ppm).

Solvent Used: $MeCl_2$ # 0000075412.

Reagent Used: Na_2SO_4 # 0000066287.

Spiker SMW Witness GJC

Continued on Page

Read and Understood By

Steve Mwcomb 5/29/14 Signed Date

GJC 5/29/14 Signed Date

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CERTIFIED WEIGHT REPORT

Part Number:	20006	**Solvent(s):**	Lot # 28951	Methylene chloride
Lot Number:	050613			
Description:	CLP Semi-Volatiles Base/Neutral Surrogate Standard			
	SOW July'91 GC/MS Calibration - 4 components			
Expiration Date:	050618 .			
Recommended Storage:	Refrigerate (4 °C)			
Nominal Concentration (µg/mL):	1000			

Gabriel Helland	050613	
Formulated By: Gabriel Helland	DATE	
Pedro Rentas	050613	
Reviewed By: Pedro L. Rentas	DATE	

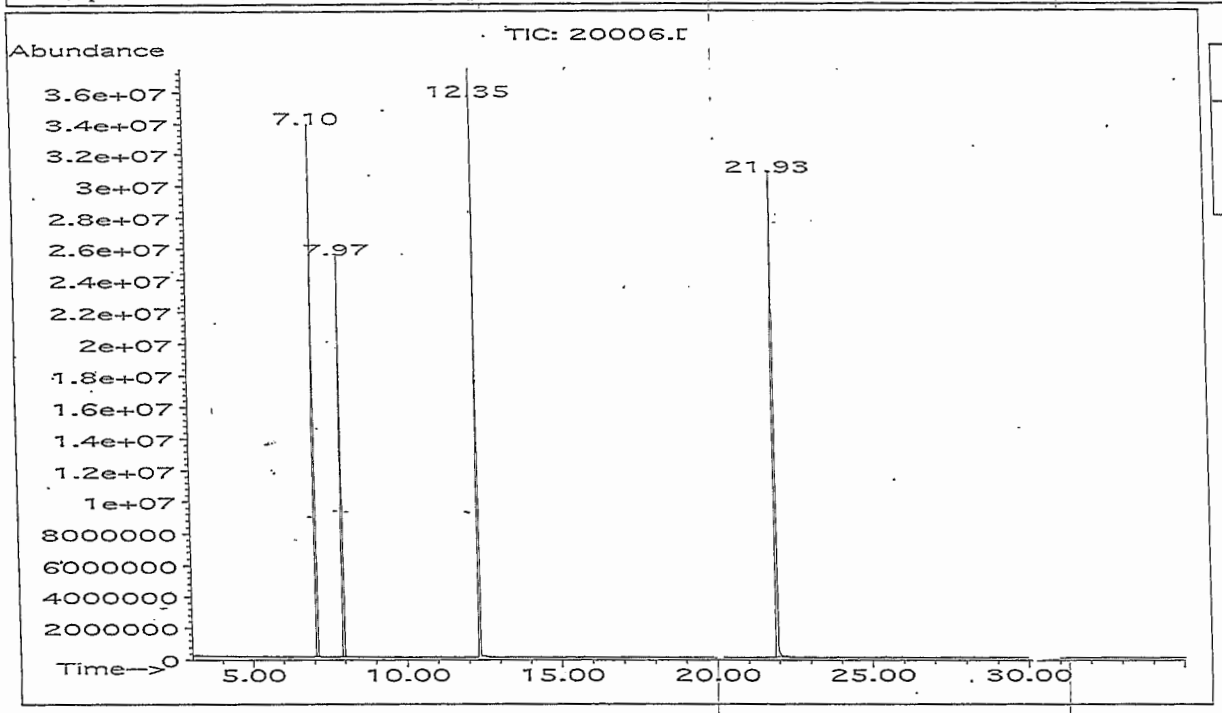
5E-05 Balance Uncertainty

Weight(s) shown below were combined and diluted to: 200.0 0.007 Flask Uncertainty

MSDS Information (Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity (%)	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. 2-Fluorobiphenyl	187	MKAA3698	1000	96	0.2	0.20832	0.20852	1001.0	0.0042	00321-60-8	N/A	N/A
2. p-Terphenyl-d14	272	P-6109	1000	98	0.2	0.20407	0.20438	1001.5	0.0041	01718-51-0	1 ppm (CL)	orl-rbt 2400mg/kg
3. Nitrobenzene-d5	229	U538P20	1000	99.7	0.2	0.20059	0.20091	1001.6	0.0040	04165-60-0	1 ppm (5mg/m3/8H)(skin)	orl-rat 640mg/kg
4. 1,2-Dichlorobenzene-d4	128	PR-18653/12207DB2	1000	99	0.2	0.20201	0.20245	1002.2	0.0041	02199-69-1	50 ppm (300mg/m3) (CL)	orl-rat 500mg/kg

Method GC8MSD-3.M: Column:SPB-5 (30m X 0.25mm ID X 0.25µm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (9min.), Rate = 10°C/min., Injector B= 200°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Melissa Stonier.



Peak No.	Name	MSD RT (min.)
1	1,2-Dichlorobenzene-d4	7.10
2	Nitrobenzene-d5	7.97
3	2-Fluorobiphenyl	12.35
4	p-Terphenyl-d14	21.93

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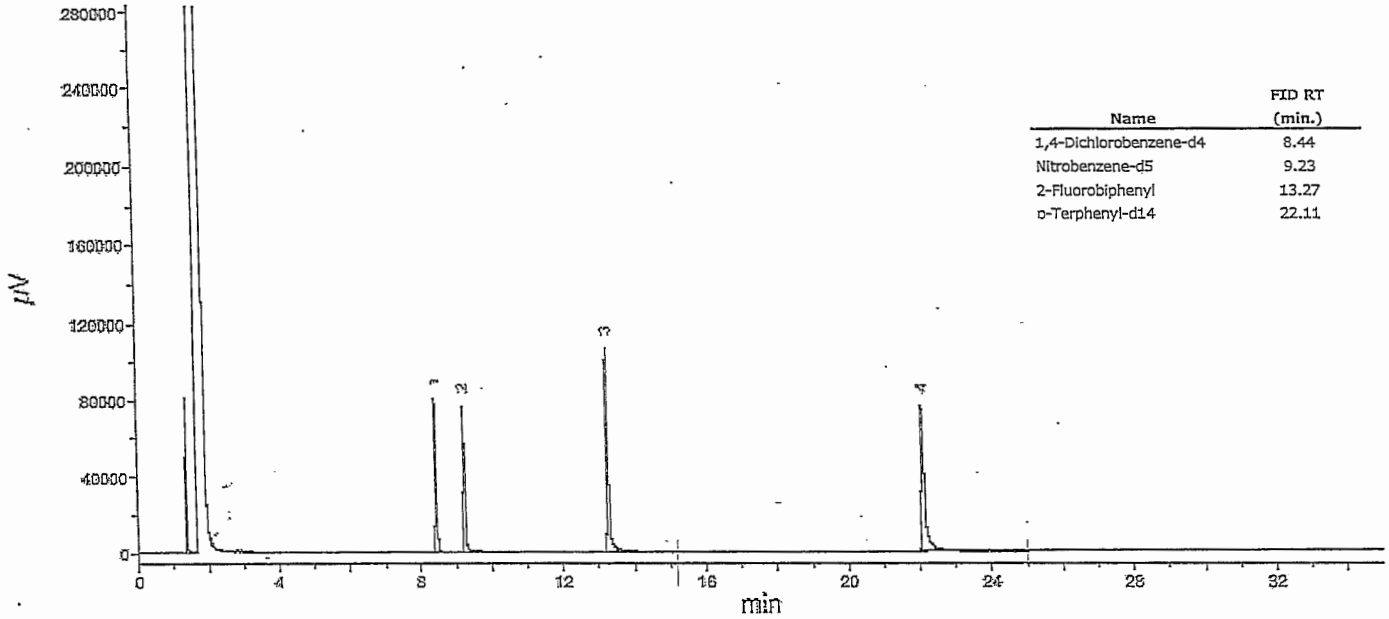
Run 59, "P20006 L050613 [1000µg/mL in MeCl2]"

Run Length: 35.00 min, 20998 points at 10 points/second.
Created: Thu, May 9, 2013 at 2:30:34 AM.
Sampled: Sequence "050713-GC9M1", Method "GC9-M1".
Analyzed using Method "GC9-M1".

Comments
GC9M1 Analysis by Candice Warren
SPB-5 30 meter x 0.53 µm x 1.5 df
Flow Rates; Total Flow = 300 mL/min, Helium (carrier)=6mL, Helium (makeup)=25mL,
Hydrogen (detector)=30, Air (detector)=360, Oven Temp 1 = 50 C (1 min)
Rate = 10 C/min, Oven Temp 2 = 300 (9 min), Total Run Time=35 min.
Injector Temp = 200 C, FID Temp = 300 C, FID Signal = Edaq Channel 1
Gas Chromatograph = HP5890, Standard Injection = 0.5 uL, Range =4



Name	FID RT (min.)
1,4-Dichlorobenzene-d4	8.44
Nitrobenzene-d5	9.23
2-Fluorobiphenyl	13.27
p-Terphenyl-d14	22.11

PROJECT

16508 30 PPM 8270 STD (ICV)

150 µL 9002782 (200 PPM exp 11/2016)
15 µL 16288-R Acid Surr (20000 µg/mL exp 3/7/2015)
30 µL 26006 050613 (1000 µg/mL exp 05/06/2018)
805 µL MeCl2 (0000068488)
1.0 mL 30 PPM STD w/ 20 µL ISTD 16437-S (2000 µg/mL exp 10/2016)
PEK exp
5/16/2014 5/23/2014

16509 50 PPM DFTPP

20 µL 16357-R (2500 µg/mL exp 09/2016)
980 µL MeCl2 (0000074359)
1.0 mL 50 PPM DFTPP
PEK exp
5/22/2014 5/29/2014

16510 5 PPM PNA/SIM STD

250 µL 16272 (20 µg/mL exp 6/1/2014)
750 µL MeCl2 (0000074359)
1.0 mL 5 PPM STD w/ 5 µL ISTD 16437-S (2000 µg/mL exp 10/2016)
PEK exp
5/22/2014 5/29/2014

16511 8270-BNA-Tissues Spike

500 µL 15234-AB (2000 µg/mL exp 10/9/2014)
500 µL 16087-R (2000 µg/mL exp 10/2015)
3000 µL MeCl2 (0000074359)
4.0 mL ~~2500 ppm~~ 250 PPM Spike Solution
PEK 5/23/2014
PEK exp
5/23/2014 10/9/2014

16512 8270 Tune

50 µL 16102-R (1000 µg/mL exp 01/2016)
950 µL MeCl2 (0000074359)
1.0 mL 50 PPM Tune
PEK exp
5/27/2014 6/3/2014

Continued on Page

Read and Understood By

PEK 5/27/2014 5/28/14
Signed Date Signed Date

6/13/12 opened:

15230-AB

Part #: 71480 Laboratory Use Only - See MSDS
Lot #: 120111 Exp: 120116 Storage 4 °C
Diisopropyl methylphosphonate
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15231-AB

Part #: 71475 Laboratory Use Only - See MSDS
Lot #: 051011 Exp: 051016 Storage 4 °C
Dimethyl methylphosphonate
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

NOTEBOOK INSERT LABEL

15232-S

Semi-Volatile Base-Neutral Surrogate Spike Mix 4-8935
Lot: LB80026 EXP: NOV/2013 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 6/2/11 1000 PPM
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15233-AB

Part #: 70373 Laboratory Use Only - See MSDS
Lot #: 060711 Exp: 060716 Storage 4 °C
1,4-Dioxane
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15234-AB

Part #: 10007 Laboratory Use Only
Lot #: 100909 Exp: 100914
CLP Semi-Volatile - PAH Standard
17 components
2000 ug/mL in methylene chloride

15235-AB

Part #: 70313 Laboratory Use Only - See MSDS
Lot #: 020108 Exp: 020113 Storage 4 °C
1-Methylnaphthalene
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15236-AB

Part #: 70214 Laboratory Use
Lot #: 060109 Exp: 060114
2-Methylnaphthalene
1000 ug/mL in methanol

Continued on Page

Read and Understood By

Doug Carson 6/13/12 — Signed — Date

6/14/12 — Signed — Date

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CERTIFIED WEIGHT REPORT

Part Number: 10007
Lot Number: 100909
Description: CLP Semi-Volatiles - PAH Standard
17 components
Expiration Date: 100914
Storage: 4 °C
Nominal Concentration (µg/mL): 2000

Solvent(s): Lot # H16S03 Methylene chloride

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to: 500.0 0.049 Flask Uncertainty

Formulated By:	Justin Dippold	100909 DATE
Reviewed By:	Pedro L. Rentas	100909 DATE

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. Acenaphthene	1	01619AX	2000	99	0.2	1.01015	1.01075	2001.2	0.0040	00083-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	3	ER030707-01	2000	99	0.2	1.01015	1.01080	2001.3	0.0040	00208-96-8	N/A	N/A
3. Anthracene	13	A0210580	2000	99	0.2	1.01015	1.01062	2000.9	0.0040	00120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	28	ER121707-01	2000	99	0.2	1.01015	1.01080	2001.3	0.0040	00056-55-3	N/A	N/A
5. Benzo(a)pyrene	30	ER050707-01	2000	99	0.2	1.01015	1.01063	2001.0	0.0040	00050-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	31	ER022008-02	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	33	ER061608-02	2000	99	0.2	1.01015	1.01103	2001.7	0.0040	00207-08-9	N/A	orl-rat 2820mg/kg
8. Benzo(g,h,i)perylene	32	ER020708-08	2000	99	0.2	1.01015	1.01072	2001.1	0.0040	00191-24-2	N/A	N/A
9. Carbazole	59	022809	2000	99	0.2	1.01015	1.01104	2001.8	0.0040	00086-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	91	ER081006-02	2000	99	0.2	1.01015	1.01094	2001.6	0.0040	00218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	112	ER091206-01	2000	99	0.2	1.01015	1.01072	2001.1	0.0040	00053-70-3	0.2mg/m3	N/A
12. Fluoranthene	183	04221PV	2000	98	0.2	1.02045	1.02126	2001.6	0.0041	00206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	184	07211MV	2000	98	0.2	1.02045	1.02110	2001.3	0.0041	00086-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	202	ER082107-02	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00193-39-5	N/A	N/A
15. Naphthalene	222	09424LC	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00091-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	248	03410PV	2000	99	0.2	1.01015	1.01071	2001.1	0.0040	00085-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	259	010197	2000	98	0.2	1.02045	1.02110	2001.3	0.0041	00129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg

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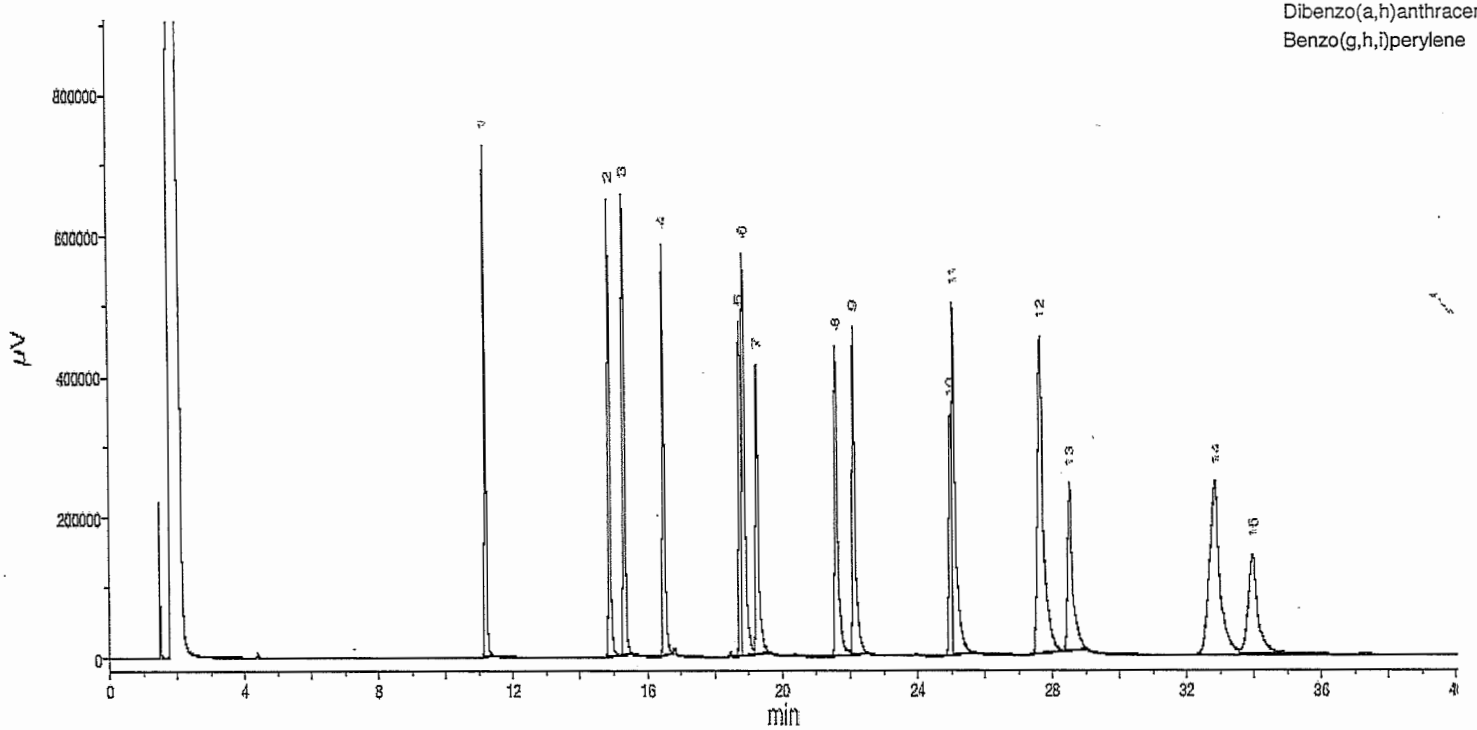
Run 12, "P10007 L100909 [2000µg/mL in MeCl2]"

Run Length: 40.01 min, 24003 points at 10 points/second.
Created: Fri, Nov 13, 2009 at 10:07:24 PM.
Sampled: Sequence "111209-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments
GC9M2 Analysis by Gina McLane
SPB-5 30 meter x 0.53 µm x 1.5 df
Flow Rates; Total Flow = 300 mL/min, Helium (carrier)=6mL, Helium (makeup)=25mL, Hydrogen (detector)=30, Air (detector)=360
Oven Temp 1 = 50 C (1 min), Rate = 10 C/min, Oven Temp 2 = 300 (14 min), Total Run Time=40 min.
Injector Temp = 250 C, FID Temp = 300 C, FID Signal = Edaq Channel 1
Gas Chromatograph = HP5890, Inejector = HP7673A, Standard Injection = 0.5 uL, Range = 3

Retention Time (min.)	
Naphthalene	11.20
Acenaphthylene	14.89
Acenaphthene	15.32
Fluorene	16.51
Phenanthrene	18.77
Anthracene	18.88
Carbazole	19.27
Fluoranthene	21.6
Pyrene	22.14
Benzo(a)anthracene	25
Chrysene	25.1
Benzo(b)fluoranthene	27.69
Benzo(k)fluoranthene	27.69
Benzo(a)pyrene	28.54
Indeno(1,2,3-cd)pyrene	32.87
Dibenzo(a,h)anthracene	32.87
Benzo(g,h,i)perylene	33.98



Absolute St ards, Inc.
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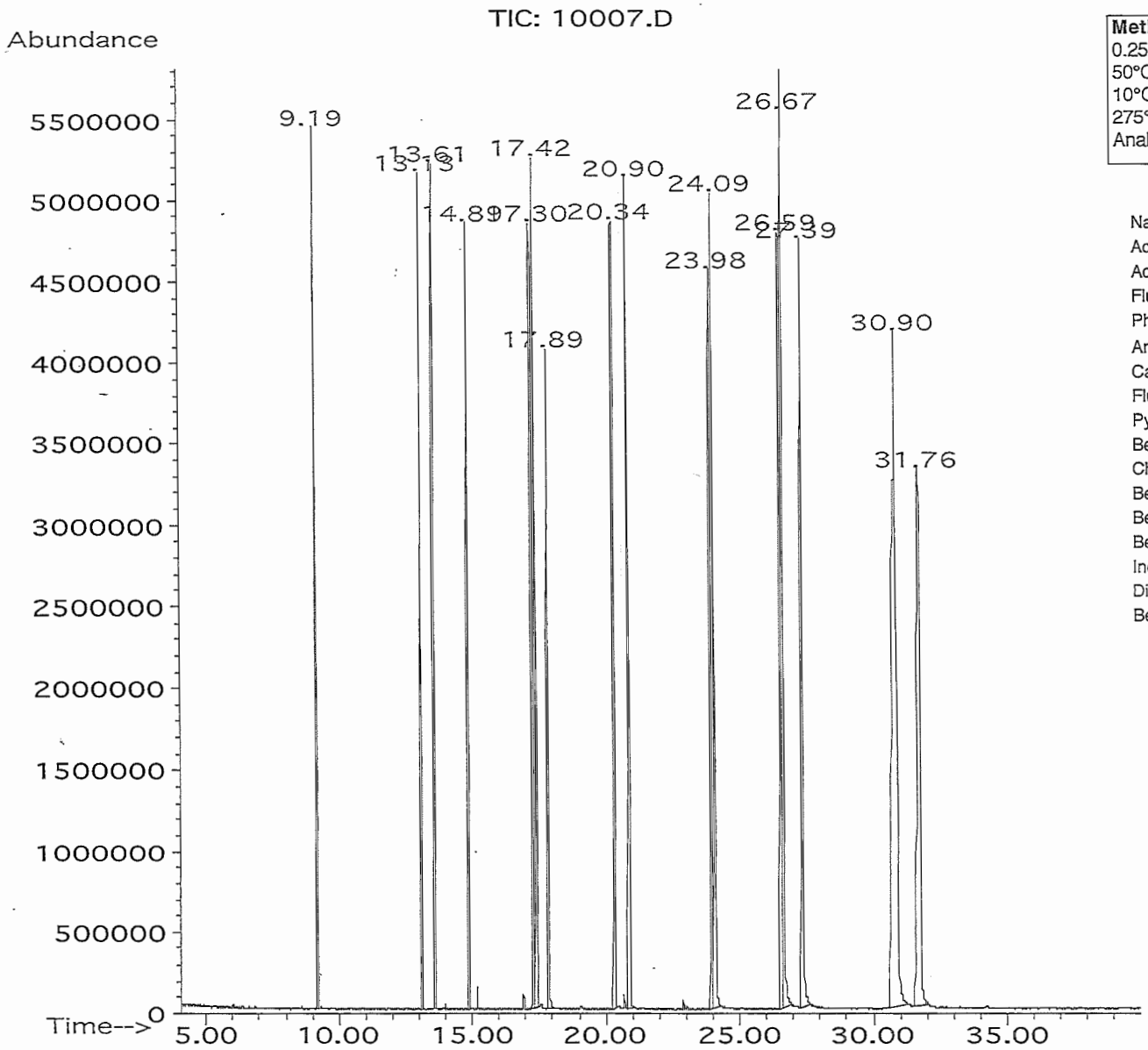
ISO 9(S Registered
ISO J25 Accredited



Method GC8MSD-2.M Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

	Retention Time (min.)
Naphthalene	9.19
Acenaphthylene	13.13
Acenaphthene	13.61
Fluorene	14.89
Phenanthrene	17.3
Anthracene	17.42
Carbazole	17.89
Fluoranthene	20.34
Pyrene	20.9
Benz(a)anthracene	23.98
Chrysene	24.09
Benzo(b)fluoranthene	26.59
Benzo(k)fluoranthene	26.67
Benzo(a)pyrene	27.39
Indeno(1,2,3-cd)pyrene	30.9
Dibenz(a,h)anthracene	30.9
Benzo(ghi)perylene	31.76

STOCK

16086-R

RESTEK Made in USA
Cat# 31282 Rec'd 10.17.13
Sonicate ampule 10 minutes prior to opening
Pyrene Standard
1000 ug/mL each in Methanol
Lot# A071610 Exp. Date: 01/2017 Store: Room Temperature
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823
opened 10/22/13

STOCK

16087-R

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog # 31031 Rec'd 10.17.13
606 Phthalate Esters Calibration Mix
2000 ug/mL each in Methanol
Lot# A082368 Exp. Date: 10/2015 Store: 10°C or colder
opened 10/22/13

16088 HI Spike mix (Tissues)

1.00 mL of # 16086-R Pyrene (1,000 µg/mL)
0.5 mL of # 16087-R 606 Phthalate Esters (2,000 µg/mL)
2.50 mL Methanol (Macron Lot 44064)
4.00 mL of 250 µg/mL each

JC 10/22/13 exp 10/22/14

16089 25 PPM DFTPP

1 µL of 14810-S (25,000 PPM exp 03/2014). Brought to 1.0 mL VF with MeCl2. = 25 PPM DFTPP

MeCl2 PEK exp
00000 54901 10/24/2013 10/31/2013

16090 10 PPM STD D/D UM84

10 µL each 15960-AB (1000 PPM exp. 12/2016), 15961-AB (1000 PPM exp. 05/2016), and 15962-US (1000 PPM exp 03/2016). Brought to 1.0 mL VF with MeCl2.
1.0 mL of 10 µg/mL + 5 µL of 15972-S (2000 µg/mL exp. 05/2016).

MeCl2 PEK exp.
00000 54901 10/24/2013 10/31/2013

Continued on Page

Read and Understood By

PEK 10/24/2013 JRC 10/29/13
Signed Date Signed Date

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 31031 **Lot No.:** A082358

Description : 606 Phthalate Esters Calibration Mix

SV Mix, 600 Series Method, 606 Calibration Std, phthalate esters, 2,000µg/ml, Methanol, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] October 2015 **Storage:** 10°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Dimethylphthalate	131-11-3	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
2	Diethylphthalate	84-66-2	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
3	Di-n-butylphthalate	84-74-2	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
4	Benzyl butyl phthalate	85-68-7	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
5	Bis(2-ethylhexyl)phthalate	117-81-7	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
6	Di-n-octyl phthalate	117-84-0	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
Solvent:	Methanol	67-56-1	99%		

Column:
30m x .25mm x .25um
Rtx-5 (cat.#10223)

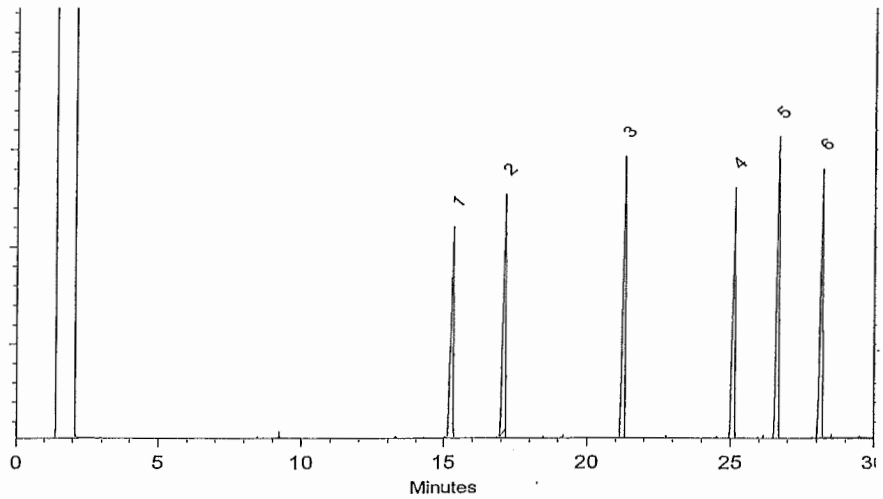
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



Standards Preparation Information

Rev. 1.1

16513-S

SUPELCO
Solutions within.
595 North Harrison Road • Bellefonte, PA
16823-0048 USA • Phone 814-359-3441

Lot: LC03378V CRM48902
EXP: OCT/2016 2 x 1ml
STORAGE: REFRIGERATE

Recevered 10/29/2013
Opened 5/27/2014

Semivolatile Internal Std Mix
2000ug/ml in dichloromethane
Danger

PEK
5/27/2014

16514-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog# 31062
Sonicate prior to use.
B/N Surrogate Mix (4/89 SOW)

Recieved 5/21/2014
Opened 5/21/2014

5000 ug/mL each in Methylene Chloride
Lot# A098468 Exp. Date: 09/2019 Store: 10°C or colder

PEK
5/21/2014

16515- 100 PPM Intermediate 8270 STD (Tissues)
300 µL 16383-R (1000 µg/mL exp 06/2015)
60 µL 16514-R (5000 µg/mL exp 09/2019)
2640 µL MeCl2 (CCCCO 74359)
3.0 mL 100 PPM 8270 Tissue STD
PEK exp
5/27/2014 6/3/2014

~~16~~ PEK 5/28/2014

8270 Tissue Cal STDs

STD #	Name	µL 16515	µL 16513-S	Vf MeCl2
16516	BLK	—	20 µL	1.0 mL
16517	5 PPM	50 µL		
16518	10 PPM	100		
16519	20 PPM	200		
16520	30 PPM	300		
16521	40 PPM	400		
16522	60 PPM	600 µL	20 µL	1.0 mL

PEK 5/28/2014
exp. 6/3/2014

Continued on Page

Read and Understood By

PEK — Signed
5/28/2014 — Date
JD — Signed
5/30/14 — Date

16508 30 PPM 8270 STD (ICV)
150 µL 9002782 (200 PPM exp 11/2016)
15 µL 16288-R Acid Surr (20000 µg/mL exp 3/7/2015)
30 µL 26006 050613 (1000 µg/mL exp 05/06/2018)
805 µL MeCl2 (0000068488)
1.0 mL 30 PPM STD w/ 20 µL ISTD 16437-S (2000 µg/mL exp 10/2016)
PEK exp
5/16/2014 5/23/2014

16509 50 PPM DFTPP
20 µL 16357-R (2500 µg/mL exp 09/2016)
980 µL MeCl2 (0000074359)
1.0 mL 50 PPM DFTPP
PEK exp
5/22/2014 5/29/2014

16510 5 PPM PNA/SIM STD
250 µL 16272 (20 µg/mL exp 6/1/2014)
750 µL MeCl2 (0000074359)
1.0 mL 5 PPM STD w/ 5 µL ISTD 16437-S (2000 µg/mL exp 10/2016)
PEK exp
5/22/2014 5/29/2014

16511 8270 - BNA - Tissues Spike
500 µL 15234-AB (2000 µg/mL exp 10/9/2014)
500 µL 16087-R (2000 µg/mL exp 10/2015)
3000 µL MeCl2 (0000074359)
4.0 mL ~~2500 ppm~~ 250 PPM Spike Solution
PEK 5/23/2014
PEK exp
5/23/2014 10/9/2014

16512 8270 Tune
50 µL 16102-R (1000 µg/mL exp 01/2016)
950 µL MeCl2 (0000074359)
1.0 mL 50 PPM Tune
PEK exp
5/27/2014 6/3/2014

Continued on Page

Read and Understood By
PEK 5/27/2014 5/28/14
Signed Date Signed Date

8270 Cal STDs

[redacted]

STD #	Name	µL 16077	µL 16078	µL 15850-S	Vf MeCl2
16095	Cal BLK	—	—	—	1.0 mL
16096	5 PPM	20 µL	20 µL	2.5 µL	
16097	10 PPM	40	40	5	
16098	20 PPM	80	80	10	
16099	30 PPM	120	120	15	
16100	40 PPM	160	160	20	
16101	60 PPM	240	240	30	

All w/ 20µL ISTD 16076-S (2000 µg/mL exp 05/2014)

MeCl2
000000549 01

PEK
10/30/2013

exp
2/22 ~~2/30~~/2014

gp 11/8/13

16102-R

8270 Tune Mixture Stock

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31615
GC/MS Tuning Mixture
1000 ug/mL each in Methylene Chloride
Lot# A092905 Exp. Date: 01/2016 Store: 10°C or colder

Opened 11/4/2013
recieved 11/1/2013

PEK
11/4/2013

16103

50 PPM 8270 Tune Mixture

50µL of 16102-R (1000 µg/mL exp 1/2016)
950µL MeCl2 (000000549 01)
1.0 mL of 50 PPM 8270 Tune

PEK
11/4/2013

exp
2/4/2014

Continued on Page

Read and Understood By

PEK — Signed
11/4/2013 — Date
gp — Signed
11/8/13 — Date

PROJECT _____

16380: 50 PPM DFTPP
20µL 16357-R (2500µg/mL exp 09/2016)
980µL MeCl2 (0000068488)
1.0 mL 50PPM DFTPP
PEK exp
4/9/2014 4/16/2014

16381: 5 PPM PNA/SIM STD
250µL 16272 (20µg/mL exp 6/1/2014)
750µL MeCl2 (0000068488)
1.0mL 5PPM PNA/SIM STD w/ 5µL ISTD 16364-S (2000µg/mL exp 10/2016)
PEK exp
4/9/2014 4/16/2014

16382: 8270 Tune
50µL 16102-R (1000µg/mL exp 01/2016)
950µL MeCl2 (0000068488)
1.0mL 50 PPM 8270 Tune
PEK exp
4/10/2014 4/17/2014

16383-R 8270 Mega Mix

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog# 31850
Sonication required. Mix is photosensitive.
8270 MegaMix®
Recieved 3/11/2014
Opened 4/10/2014
500-1000 ug/mL each in Methylene Chloride
Lot# A0100278 Exp. Date: 06/2015 Store: 0°C or colder
PEK
4/10/2014

16384 30 PPM 8270 STD (ICV)
150µL 9002782 (200PPM exp 11/2016)
15µL 16288-R Acid Surr (2000µg/mL exp 3/7/2015)
30µL 16291-S B/N Surr (1000µg/mL exp 07/2016)
805µL MeCl2 (0000068488)
1.0mL 30 PPM 8270 STD w/ 20µL ISTD 16364-S (2000µg/mL exp 10/2016)
PEK exp
4/10/2014 4/17/2014

Continued on Page

Read and Understood By

PEK 4/10/2014 [signature] 4/15/14
Signed Date Signed Date

16523 30 PPM 8270 Tissues STD (IICV)

15 µL 15234-AB (2000 µg/mL exp 10/9/2014)
15 µL 16087-R (2000 µg/mL exp 10/2015)
6 µL 16514-R (5000 µg/mL exp 09/2019)
964 µL MeCl2 (0000074359)
1.0 mL 30 PPM STD w/ 20 µL ISTD 16513-S (2000 µg/mL exp 10/2016)
PEK exp
5/28/2014 6/4/2014

16524 25 PPM DFTPP
10 µL 16357-R (2500 µg/mL exp 09/2016)
990 µL MeCl2 (0000074359)
1.0 mL 25 PPM DFTPP
PEK exp
6/2/2014 6/9/2014

16525 10 PPM UM84 STD
10 µL 16165-AB (1000 µg/mL exp 12/1/2016)
10 µL 16166-AB (1000 µg/mL exp 5/10/2016)
10 µL 16167-US (1000 µg/mL exp 3/31/2016)
970 µL MeCl2 (0000074359)
1.0 mL 10 PPM STD w/ 5 µL ISTD 16478-R (2000 µg/mL exp 09/2021)
PEK exp
6/2/2014 6/9/2014

16526 UM81 Tune
100 µL 16524 (25 ppm) DFTPP
900 µL MeCl2
1.0 mL of 2.5 µg/mL Soln. JO 6/2/14 exp 6/9/14

16527 UM81 CalStd

10 µL of 16276 (5 ppm NDMA) exp 9/5/14
10 µL 16335 (5 ppm NDMA06) exp 6/21/14
+ MeCl2 74359
VF 1.0 mL + 10 µL ISTD 16325 of 50 µg/L
JO 6/2/14 exp 6/9/14

Continued on Page

Read and Understood By

JO 6/2/14 PEK 6/3/2014
Signed Date Signed Date

6/13/12 opened:

15230-AB

Part #: 71480 Laboratory Use Only - See MSDS
Lot #: 120111 Exp: 120116 Storage 4 °C
Diisopropyl methylphosphonate
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15231-AB

Part #: 71475 Laboratory Use Only - See MSDS
Lot #: 051011 Exp: 051016 Storage 4 °C
Dimethyl methylphosphonate
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

NOTEBOOK INSERT LABEL

15232-S

Semi-Volatile Base-Neutral Surrogate Spike Mix 4-8935
Lot: LB80026 EXP: NOV/2013 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 6/2/11 1000 PPM SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15233-AB

Part #: 70373 Laboratory Use Only - See MSDS
Lot #: 060711 Exp: 060716 Storage 4 °C
1,4-Dioxane
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15234-AB

Part #: 10007 Laboratory Use Only
Lot #: 100909 Exp: 100914
CLP Semi-Volatile - PAH Standard
17 components
2000 ug/mL in methylene chloride

15235-AB

Part #: 70313 Laboratory Use Only - See MSDS
Lot #: 020108 Exp: 020113 Storage 4 °C
1-Methylnaphthalene
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

15236-AB

Part #: 70214 Laboratory Use
Lot #: 060109 Exp: 060114
2-Methylnaphthalene
Xp 06/2014
1000 ug/mL in methanol

Continued on Page

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Doug Carson 6/13/12 — Signed — Date

[illegible] 6/14/12 — Signed — Date

STOCK

16086-R

RESTEK Made in USA
Cat# 31282 Rec'd 10.17.13
Sonicate ampule 15 minutes prior to opening
Pyrene Standard
1000 ug/mL each in Methanol
Lot# A071610 Exp. Date: 01/2017 Store: Room Temperature
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823
opened 10/22/13

STOCK

16087-R

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog # 31031 Rec'd 10.17.13
606 Phthalate Esters Calibration Mix
2000 ug/mL each in Methanol
Lot# A082368 Exp. Date: 10/2015 Store: 10°C or colder
opened 10/22/13

16088 HI Spike mix (Tissues)

1.00 mL of # 16086-R Pyrene (1,000 µg/mL)
0.5 mL of # 16087-R 606 Phthalate Esters (2,000 µg/mL)
2.50 mL Methanol (Macron Lot 44064)
4.00 mL of 250 µg/mL each

JC 10/22/13 exp 10/22/14

16089 25 PPM DFTPP

1 µL of 14810-S (25,000 PPM exp 03/2014). Brought to 1.0 mL VF with MeCl2. = 25 PPM DFTPP

MeCl2	PEK	exp
0000054901	10/24/2013	10/31/2013

16090 10 PPM STD D/D UM84

10 µL each 15960-AB (1000 PPM exp. 12/2016), 15961-AB (1000 PPM exp. 05/2016), and 15962-US (1000 PPM exp 03/2016). Brought to 1.0 mL VF with MeCl2.
1.0 mL of 10 µg/mL + 5 µL of 15972-S (2000 µg/mL exp. 05/2016).

MeCl2	PEK	exp.
0000054901	10/24/2013	10/31/2013

Continued on Page

Read and Understood By

PEK	10/24/2013	JC	10/29/13
Signed	Date	Signed	Date

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Certificate #3222.01

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Testing Laboratory
Certificate #3222.02

Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31615 **Lot No.:** A092905

Description : GC/MS Tuning Mixture

GC/MS Tuning Mixture 1000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : January 2016 **Storage:** 10°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)		Expanded Uncertainty (95% C.L.; K=2)			
1	Pentachlorophenol	1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 87-86-5			+/-	35.2615	µg/mL	Unstressed
	Purity 99%			+/-	60.8566	µg/mL	Stressed
2	DFTPP (Decafluorotriphenylphosphine)	1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 5074-71-5			+/-	35.2615	µg/mL	Unstressed
	Purity 99%			+/-	60.8566	µg/mL	Stressed
3	Benzidine	1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 92-87-5			+/-	35.2615	µg/mL	Unstressed
	Purity 99%			+/-	60.8566	µg/mL	Stressed
4	4,4'-DDT	1,000.0	µg/mL	+/-	5.8275	µg/mL	Gravimetric
	CAS # 50-29-3			+/-	35.2615	µg/mL	Unstressed
	Purity 99%			+/-	60.8566	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

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ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31850 **Lot No.:** A0100278

Description : 8270 MegaMix®

8270 MegaMix® 500-1000 µg/ml, Methylene Chloride, 1 ml/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : June 30, 2015 **Storage:** 0°C or colder

Handling: Sonication required. Mix is photosensitive.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)	
1	Pyridine CAS # 110-86-1 Purity 99%	(Lot 09882HH)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
2	N-Nitrosodimethylamine CAS # 62-75-9 Purity 99%	(Lot 909500)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
3	Aniline CAS # 62-53-3 Purity 99%	(Lot BCBF4299V)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # 108-95-2 Purity 99%	(Lot BCBC0688)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chloroethyl)ether CAS # 111-44-4 Purity 99%	(Lot 45296HKV)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
6	2-Chlorophenol CAS # 95-57-8 Purity 99%	(Lot MKBD3900V)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
7	1,3-Dichlorobenzene CAS # 541-73-1 Purity 99%	(Lot BCBC1891V)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed
8	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBG7690V)	1,000.0 µg/mL	+/- 6.3027 µg/mL +/- 27.6979 µg/mL +/- 27.6979 µg/mL	Gravimetric Unstressed Stressed

9	1,2-Dichlorobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 95-50-1	(Lot 00245KB)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
10	Benzyl alcohol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 100-51-6	(Lot 02236CC)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
11	Bis(2-chloroisopropyl)ether		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 108-60-1	(Lot LB93561V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
12	2-Methylphenol (o-cresol)		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 95-48-7	(Lot 29996EK)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
13	Hexachloroethane		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 67-72-1	(Lot 4H3SF)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
14	N-Nitroso-di-n-propylamine		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 621-64-7	(Lot OPAGF-LS)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
15	4-Methylphenol (p-cresol)		500.0	µg/mL	+/-	3.1575	µg/mL	Gravimetric
	CAS # 106-44-5	(Lot 49396APV)			+/-	13.8504	µg/mL	Unstressed
	Purity 99%				+/-	13.8504	µg/mL	Stressed
16	3-Methylphenol (m-cresol)		500.0	µg/mL	+/-	3.1575	µg/mL	Gravimetric
	CAS # 108-39-4	(Lot 04627KA)			+/-	13.8504	µg/mL	Unstressed
	Purity 99%				+/-	13.8504	µg/mL	Stressed
17	Nitrobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 98-95-3	(Lot 65096APV)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
18	Isophorone		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 78-59-1	(Lot 06705DE)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
19	2-Nitrophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 88-75-5	(Lot 02611AH)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
20	2,4-Dimethylphenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 105-67-9	(Lot 10165155)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
21	Bis(2-chloroethoxy)methane		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 111-91-1	(Lot 317200)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
22	2,4-Dichlorophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 120-83-2	(Lot BCBH1617V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
23	1,2,4-Trichlorobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 120-82-1	(Lot 26896BM)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
24	Naphthalene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 91-20-3	(Lot MKBF8633V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed

25	4-Chloroaniline		1,000.0	µg/mL	+/-	6.3028	µg/mL	Gravimetric
	CAS # 106-47-8	(Lot 12528PH)			+/-	27.6987	µg/mL	Unstressed
	Purity 98%				+/-	27.6987	µg/mL	Stressed
26	Hexachlorobutadiene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 87-68-3	(Lot K22W009)			+/-	27.6982	µg/mL	Unstressed
	Purity 97%				+/-	27.6982	µg/mL	Stressed
27	2-Methylnaphthalene		1,000.0	µg/mL	+/-	6.3028	µg/mL	Gravimetric
	CAS # 91-57-6	(Lot 19399MJV)			+/-	27.6985	µg/mL	Unstressed
	Purity 96%				+/-	27.6985	µg/mL	Stressed
28	4-Chloro-3-methylphenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 59-50-7	(Lot STBC0769V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
29	1-Methylnaphthalene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 90-12-0	(Lot 5250.00-10)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
30	Hexachlorocyclopentadiene		1,000.0	µg/mL	+/-	6.3025	µg/mL	Gravimetric
	CAS # 77-47-4	(Lot 14752)			+/-	27.6970	µg/mL	Unstressed
	Purity 98%				+/-	27.6970	µg/mL	Stressed
31	2,4,6-Trichlorophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 88-06-2	(Lot MKBH7393V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
32	2,4,5-Trichlorophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 95-95-4	(Lot MKBG3862V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
33	2-Chloronaphthalene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 91-58-7	(Lot FIJ01)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
34	2-Nitroaniline		1,001.7	µg/mL	+/-	5.8240	µg/mL	Gravimetric
	CAS # 88-74-4	(Lot MKBF9132V)			+/-	27.6377	µg/mL	Unstressed
	Purity 99%				+/-	27.6377	µg/mL	Stressed
35	1,4-Dinitrobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 100-25-4	(Lot S58502V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
36	Acenaphthylene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 208-96-8	(Lot ER030707-01)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
37	1,3-Dinitrobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 99-65-0	(Lot 0001338960)			+/-	27.6982	µg/mL	Unstressed
	Purity 97%				+/-	27.6982	µg/mL	Stressed
38	Dimethylphthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 131-11-3	(Lot 10117699)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
39	2,6-Dinitrotoluene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 606-20-2	(Lot 1437483V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
40	1,2-Dinitrobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 528-29-0	(Lot MKBK2313V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed

41	Acenaphthene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 83-32-9	(Lot MKBH3748V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
42	3-Nitroaniline		1,000.1	µg/mL	+/-	5.8145	µg/mL	Gravimetric
	CAS # 99-09-2	(Lot MKBH5131V)			+/-	27.5928	µg/mL	Unstressed
	Purity 97%				+/-	27.5928	µg/mL	Stressed
43	2,4-Dinitrophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 51-28-5	(Lot MKBH0709V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
44	Dibenzofuran		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 132-64-9	(Lot MKBG6507V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
45	2,4-Dinitrotoluene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 121-14-2	(Lot MKAA0690V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
46	4-Nitrophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 100-02-7	(Lot MKBF5564V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
47	2,3,4,6-Tetrachlorophenol		1,000.8	µg/mL	+/-	5.8187	µg/mL	Gravimetric
	CAS # 58-90-2	(Lot ER100206-01)			+/-	27.6129	µg/mL	Unstressed
	Purity 99%				+/-	27.6129	µg/mL	Stressed
48	2,3,5,6-Tetrachlorophenol		1,001.2	µg/mL	+/-	5.8211	µg/mL	Gravimetric
	CAS # 935-95-5	(Lot ER090607-01)			+/-	27.6239	µg/mL	Unstressed
	Purity 99%				+/-	27.6239	µg/mL	Stressed
49	Fluorene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 86-73-7	(Lot 1326187)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
50	4-Chlorophenyl phenyl ether		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 7005-72-3	(Lot MKBK0830V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
51	Diethylphthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 84-66-2	(Lot MKBG0599V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
52	4-Nitroaniline		1,001.9	µg/mL	+/-	5.8251	µg/mL	Gravimetric
	CAS # 100-01-6	(Lot BCBG4702V)			+/-	27.6432	µg/mL	Unstressed
	Purity 99%				+/-	27.6432	µg/mL	Stressed
53	4,6-Dinitro-2-methylphenol (Dinitro-o-cresol)		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 534-52-1	(Lot 13212DW)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
54	Diphenylamine		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 122-39-4	(Lot 07525MF)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
55	Azobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 103-33-3	(Lot 121029JLM)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
56	4-Bromophenyl phenyl ether		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 101-55-3	(Lot STBB9729V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed

57	Hexachlorobenzene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 118-74-1	(Lot LB93343V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
58	Pentachlorophenol		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 87-86-5	(Lot 17181)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
59	Phenanthrene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 85-01-8	(Lot MKBB7303V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
60	Anthracene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 120-12-7	(Lot 81296TJV)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
61	Carbazole		1,000.0	µg/mL	+/-	6.3028	µg/mL	Gravimetric
	CAS # 86-74-8	(Lot S42950-417)			+/-	27.6987	µg/mL	Unstressed
	Purity 98%				+/-	27.6987	µg/mL	Stressed
62	Di-n-butylphthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 84-74-2	(Lot MKBG1851V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
63	Fluoranthene		1,000.0	µg/mL	+/-	6.3025	µg/mL	Gravimetric
	CAS # 206-44-0	(Lot 00828AJ)			+/-	27.6970	µg/mL	Unstressed
	Purity 98%				+/-	27.6970	µg/mL	Stressed
64	Pyrene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 129-00-0	(Lot S22012V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
65	Benzyl butyl phthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 85-68-7	(Lot 03027HV)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
66	Bis(2-ethylhexyl)adipate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 103-23-1	(Lot MKAA1388V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
67	Benz(a)anthracene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 56-55-3	(Lot ER121707-01)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
68	Chrysene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 218-01-9	(Lot ER120810-02)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
69	Bis(2-ethylhexyl)phthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 117-81-7	(Lot MKBH9511V)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
70	Di-n-octyl phthalate		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 117-84-0	(Lot 36100)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
71	Benzo(b)fluoranthene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 205-99-2	(Lot ER022008-02)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed
72	Benzo(k)fluoranthene		1,000.0	µg/mL	+/-	6.3027	µg/mL	Gravimetric
	CAS # 207-08-9	(Lot ER061608-02)			+/-	27.6979	µg/mL	Unstressed
	Purity 99%				+/-	27.6979	µg/mL	Stressed

73	Benzo(a)pyrene **CAS #** 50-32-8 **Purity** 99%	(Lot ER071309-02)	1,000.0	µg/mL	+/- +/- +/-	6.3027 27.6979 27.6979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
74	Indeno(1,2,3-cd)pyrene **CAS #** 193-39-5 **Purity** 99%	(Lot ER082107-02)	1,000.0	µg/mL	+/- +/- +/-	6.3027 27.6979 27.6979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
75	Dibenz(a,h)anthracene **CAS #** 53-70-3 **Purity** 99%	(Lot ER032211-01)	1,000.0	µg/mL	+/- +/- +/-	6.3027 27.6979 27.6979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed
76	Benzo(g,h,i)perylene **CAS #** 191-24-2 **Purity** 99%	(Lot ER020708-08)	1,000.0	µg/mL	+/- +/- +/-	6.3027 27.6979 27.6979	µg/mL µg/mL µg/mL	Gravimetric Unstressed Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Specific Reference Material Notes:

Product Notice

8270 MegaMix™, cat. #31850

The presence of benzene or other high boiling solvents can lead to low response,poor peak shape, or lack of resolution by gas chromatography of certain early
eluting semivolatile organic compounds at low concentrations. These compounds include pyridine, N-nitrosodimethylamine, 1,4-dioxane, 2-picoline, and N-nitrosomethylethylamine.
Therefore, we have discontinued the use of methylene chloride:benzene (75:25) as the solvent for this analytical reference material and replaced it with 100% methylene chloride to ensure superior performance.

If you have any questions, please do not hesitate to contact our technical service department at 800-356-1688 or 814-353-1300 ext.4.

Restek Corporation
110 Benner Circle, Bellefonte, PA16823
phone: (800) 356-1688 or (814) 353-1300
fax: (814) 353-1309; www.restekcorp.com

Tech Tips:

N-Nitrosodiphenylamine is prone to breakdown in the injection port and will be converted to diphenylamine.
N-Nitrosodiphenylamine is also a reactive species that can initiate premature decomposition of other compounds in the mix. For these reasons diphenylamine is used in the preparation of this mixture. When comparing the response of this compound to mixtures manufactured using N-nitrosodiphenylamine, a difference in response will be observed.

RESTEK® CERTIFIED REFERENCE MATERIAL

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

www.restek.com

ACCREDITED
ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

Certificate of Analysis

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

This Reference Material is intended for Laboratory Use Only as a standard for the qualitative and/or quantitative determination of the analyte(s) listed.

Catalog No. : 31062 **Lot No.:** A098468

Description : B/N Surrogate Mix (4/89 SOW)

Base Neutral Surrogate 4/89(SOW) 5000µg/mL, Methylene Chloride, 1mL/ampul

Container Size : 2 mL **Pkg Amt:** > 1 mL

Expiration Date : September 30, 2019 **Storage:** 10°C or colder

Handling: Sonicate prior to use.

CERTIFIED VALUES

Elution Order	Compound		Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Nitrobenzene-d5		5,006.2 µg/mL	+/- 29.1065	µg/mL	Gravimetric
	CAS # 4165-60-0	(Lot PR-20474)		+/- 230.3077	µg/mL	Unstressed
	Purity 99%			+/- 252.1387	µg/mL	Stressed
2	2-Fluorobiphenyl		5,000.4 µg/mL	+/- 29.0728	µg/mL	Gravimetric
	CAS # 321-60-8	(Lot B19Z016)		+/- 230.0408	µg/mL	Unstressed
	Purity 99%			+/- 251.8466	µg/mL	Stressed
3	p-Terphenyl-d14		4,999.8 µg/mL	+/- 29.0693	µg/mL	Gravimetric
	CAS # 1718-51-0	(Lot PR-20577)		+/- 230.0132	µg/mL	Unstressed
	Purity 99%			+/- 251.8164	µg/mL	Stressed

Solvent: Methylene Chloride
CAS # 75-09-2
Purity 99%

Tech Tips:
Due to the limited solubility of p-terphenyl-d14 in methanol, we do not recommend that this mixture be diluted in methanol.

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Certificate of Analysis

Description: Semivolatile Internal Std Mix, 2x1ml, 2000µg/ml in dichloromethane

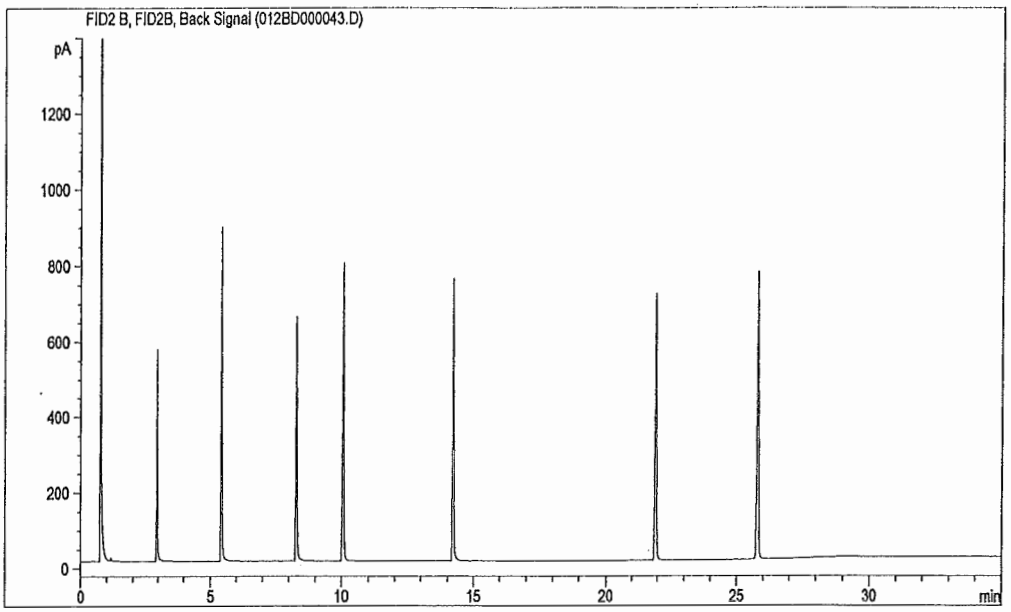
Part Number: CRM48902

Lot Number: LC03378V

Expiration Date: October 2016

Storage: Refrigerate

Analytical Method Parameters:
Column: SPB-5 30m x .53mm x 1.5um
100°C (2 min) to 310°C (8 min) @ 10°C/min
Detector: FID, 310°C
Injection Volume: 1.0ul



Elution	Analyte	Lot Number	CAS Number	Certified Purity %	Certified Gravimetric Conc. µg/ml	Expanded Uncertainty µg/ml	Analytical Conc. µg/ml
1.	1,4-Dichlorobenzene-D4, CRM	LB94999	3855-82-1	99.9	1998.5	±3.9	2009.6
2.	Naphthalene-D8, CRM	LB94261	1146-65-2	96.3	1999.6	±3.9	2090.2
	Internal Standard	N/A	N/A	N/A	N/A	N/A	N/A
4.	Acenaphthene-D10, CRM	LB93879	15067-26-2	99.9	1997.6	±1.7	2019.0
5.	Phenanthrene-D10, CRM	LB95000	1517-22-2	98.7	1974.5	±2.6	1975.5
6.	Chrysene-D12, CRM	LB93880	1719-03-5	98.8	1976.2	±8.0	1901.1
7.	Perylene-D12, CRM	LB95001	1520-96-3	99.7	1994.0	±7.9	2018.6

Notes:

ACLASS ACCREDITED TESTING Cert# AT-1607

ACLASS ACCREDITED REFERENCE MATERIAL PRODUCER Cert# AR-1606

Produced in double accredited laboratory fulfilling
ISO/IEC 17025 and
ISO Guide 34

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CERTIFIED WEIGHT REPORT

Part Number: 10007 **Solvent(s):** Lot # H16S03 Methylene chloride
Lot Number: 100909
Description: CLP Semi-Volatiles - PAH Standard
17 components
Expiration Date: 100914
Storage: 4 °C
Nominal Concentration (µg/mL): 2000

5E-05 Balance Uncertainty
Weight(s) shown below were combined and diluted to: 500.0 0.049 Flask Uncertainty

Formulated By:	Justin Dippold	100909 DATE
Reviewed By:	Pedro L. Rentas	100909 DATE

MSDS Information
(Solvent Safety Info. On Attached pg.)

Compound	RM#	Lot Number	Nominal Conc (µg/mL)	Purity	Uncertainty Purity	Target Weight(g)	Actual Weight(g)	Actual Conc (µg/mL)	Expanded Uncertainty	CAS#	OSHA PEL (TWA)	LD50
1. Acenaphthene	1	01619AX	2000	99	0.2	1.01015	1.01075	2001.2	0.0040	00083-32-9	N/A	ipr-rat 600mg/kg
2. Acenaphthylene	3	ER030707-01	2000	99	0.2	1.01015	1.01080	2001.3	0.0040	00208-96-8	N/A	N/A
3. Anthracene	13	A0210580	2000	99	0.2	1.01015	1.01062	2000.9	0.0040	00120-12-7	0.2mg/m3 (8H)	ipr-mus 430mg/kg
4. Benzo(a)anthracene	28	ER121707-01	2000	99	0.2	1.01015	1.01080	2001.3	0.0040	00056-55-3	N/A	N/A
5. Benzo(a)pyrene	30	ER050707-01	2000	99	0.2	1.01015	1.01063	2001.0	0.0040	00050-32-8	0.2mg/m3 (8H)	scu-rat 50mg/kg
6. Benzo(b)fluoranthene	31	ER022008-02	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00205-99-2	N/A	N/A
7. Benzo(k)fluoranthene	33	ER061608-02	2000	99	0.2	1.01015	1.01103	2001.7	0.0040	00207-08-9	N/A	orl-rat 2820mg/kg
8. Benzo(g,h,i)perylene	32	ER020708-08	2000	99	0.2	1.01015	1.01072	2001.1	0.0040	00191-24-2	N/A	N/A
9. Carbazole	59	022809	2000	99	0.2	1.01015	1.01104	2001.8	0.0040	00086-74-8	N/A	ipr-mus 200mg/kg
10. Chrysene	91	ER081006-02	2000	99	0.2	1.01015	1.01094	2001.6	0.0040	00218-01-9	0.2mg/m3	N/A
11. Dibenzo(a,h)anthracene	112	ER091206-01	2000	99	0.2	1.01015	1.01072	2001.1	0.0040	00053-70-3	0.2mg/m3	N/A
12. Fluoranthene	183	04221PV	2000	98	0.2	1.02045	1.02126	2001.6	0.0041	00206-44-0	N/A	orl-rat 2000mg/kg
13. Fluorene	184	07211MV	2000	98	0.2	1.02045	1.02110	2001.3	0.0041	00086-73-7	N/A	ipr-mus 2 g/kg
14. Indeno(1,2,3-cd)pyrene	202	ER082107-02	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00193-39-5	N/A	N/A
15. Naphthalene	222	09424LC	2000	99	0.2	1.01015	1.01070	2001.1	0.0040	00091-20-3	10 ppm (50mg/m3/8H)	orl-rat 490mg/kg
16. Phenanthrene	248	03410PV	2000	99	0.2	1.01015	1.01071	2001.1	0.0040	00085-01-8	0.2mg/m3/8H	orl-mus 700mg/kg
17. Pyrene	259	010197	2000	98	0.2	1.02045	1.02110	2001.3	0.0041	00129-00-0	0.2mg/m3/8H	orl-rat 2700mg/kg

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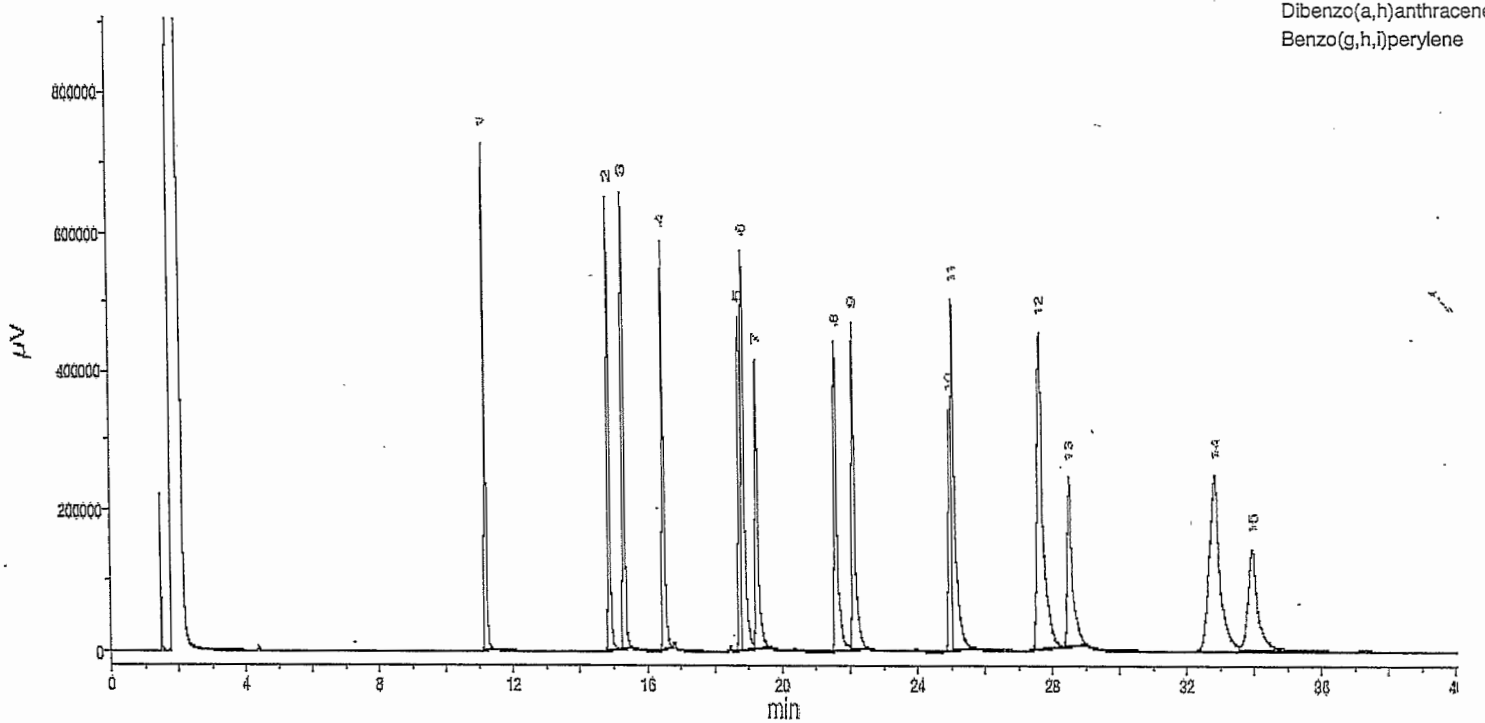
Run 12, "P10007 L100909 [2000µg/mL in MeCl2]"

Run Length: 40.01 min, 24003 points at 10 points/second.
Created: Fri, Nov 13, 2009 at 10:07:24 PM.
Sampled: Sequence "111209-GC9M2", Method "GC9-M2".
Analyzed using Method "GC9-M2".

Comments
GC9M2 Analysis by Gina McLane
SPB-5 30 meter x 0.53 µm x 1.5 df
Flow Rates; Total Flow = 300 mL/min, Helium (carrier)=6mL, Helium (makeup)=25mL, Hydrogen (detector)=30, Air (detector)=360
Oven Temp 1 = 50 C (1 min), Rate = 10 C/min, Oven Temp 2 = 300 (14 min), Total Run Time=40 min.
Injector Temp = 250 C, FID Temp = 300 C, FID Signal = Edaq Channel 1
Gas Chromatograph = HP5890, Inejector = HP7673A, Standard Injection = 0.5 uL, Range = 3

Retention Time (min.)	
Naphthalene	11.20
Acenaphthylene	14.89
Acenaphthene	15.32
Fluorene	16.51
Phenanthrene	18.77
Anthracene	18.88
Carbazole	19.27
Fluoranthene	21.6
Pyrene	22.14
Benzo(a)anthracene	25
Chrysene	25.1
Benzo(b)fluoranthene	27.69
Benzo(k)fluoranthene	27.69
Benzo(a)pyrene	28.54
Indeno(1,2,3-cd)pyrene	32.87
Dibenzo(a,h)anthracene	32.87
Benzo(g,h,i)perylene	33.98



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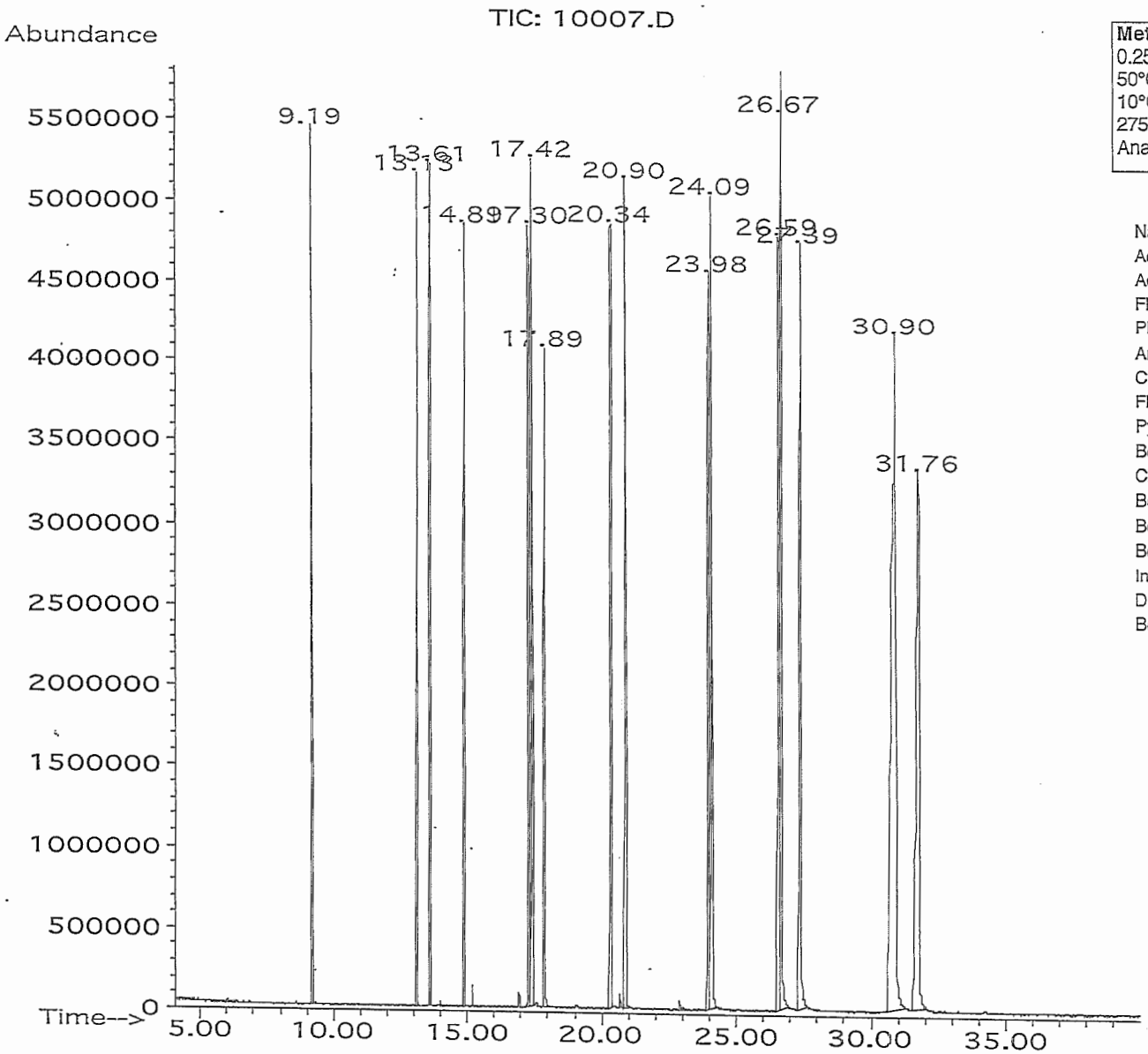

Method GC8MSD-2.M Column:SPB-5 (30m X 0.25mm ID X 0.25μm film thickness) Temp 1 = 50°C (1min.), Temp 2 = 300°C (14min.), Rate = 10°C/min., Injector B= 250°C, Detector B = 275°C, Split Ratio = 100:1, Scan Rate = 2. Analysis performed by: Gina McLane.

	Retention Time (min.)
Naphthalene	9.19
Acenaphthylene	13.13
Acenaphthene	13.61
Fluorene	14.89
Phenanthrene	17.3
Anthracene	17.42
Carbazole	17.89
Fluoranthene	20.34
Pyrene	20.9
Benz(a)anthracene	23.98
Chrysene	24.09
Benzo(b)fluoranthene	26.59
Benzo(k)fluoranthene	26.67
Benzo(a)pyrene	27.39
Indeno(1,2,3-cd)pyrene	30.9
Dibenz(a,h)anthracene	30.9
Benzo(ghi)perylene	31.76

110 Benner Circle
Bellefonte, PA 16823-8812
Tel: (800)356-1688
Fax: (814)353-1309

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Certificate of Analysis

FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.

Catalog No. : 31031 **Lot No.:** A082358

Description : 606 Phthalate Esters Calibration Mix

SV Mix, 600 Series Method, 606 Calibration Std, phthalate esters, 2,000µg/ml, Methanol, 1ml/ampule

Container Size : [5] 2 mL **Pkg Amt:** [5] > 1 mL

Expiration Date : [1] October 2015 **Storage:** 10°C or colder

Elution Order	Compound	CAS #	Percent Purity [2]	Grav. Conc. (weight/volume) [3]	Grav.Uncert. (95% C.L.; K=2) [4]
1	Dimethylphthalate	131-11-3	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
2	Diethylphthalate	84-66-2	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
3	Di-n-butylphthalate	84-74-2	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
4	Benzyl butyl phthalate	85-68-7	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
5	Bis(2-ethylhexyl)phthalate	117-81-7	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
6	Di-n-octyl phthalate	117-84-0	99%	2,000.0 ug/mL	+/- 11.6 ug/mL
Solvent:	Methanol	67-56-1	99%		

Column:
30m x .25mm x .25um
Rtx-5 (cat.#10223)

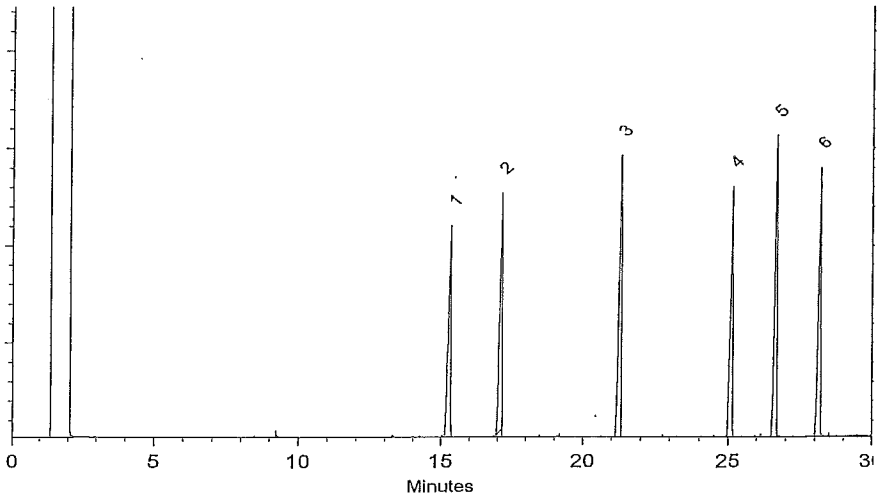
Carrier Gas:
hydrogen-constant pressure 10 psi.

Temp. Program:
40°C (hold 2 min.) to 330°C
@ 10°C/min. (hold 10 min.)

Inj. Temp:
250°C

Det. Temp:
330°C

Det. Type:
FID



Analytical Run Number 1

Calibration Information

Tune Data (If applicable)

Initial Calibration (If different than Initial Calibration in Run 1)
- Calibration Factor Summary
- Chromatogram
- Quant Report (If applicable)

Continuing Calibration
- Calibration Response Check
- Chromatogram
- Quant Report (If applicable)

Instrument Logs/Analysis Notebook Pages

Blank / Field Sample / QC Data

Sample Results
Chromatogram
Quant Report (If applicable)
Confirmation Analysis Quant Report / Chromatogram (If applicable)
Tentatively Identified Compounds (If required)

Rev. 1.1

Calibration Information

Tune Data (If applicable)

Initial Calibration (If different than Initial Calibration in Run 1)
- Calibration Factor Summary
- Chromatogram
- Quant Report (If applicable)

Continuing Calibration
- Calibration Response Check
- Chromatogram
- Quant Report (If applicable)

Rev. 1.1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: E0528401 DFTPP Injection Date: 05/28/14

Instrument ID: AG5 DFTPP Injection Time: 10:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30 - 80% of mass 198	37.0
68	Less than 2.0% of mass 69	0.0 (1)
69	(reference only)	33.1
70	Less than 2.0% of mass 69	0.6 (1)
127	25 - 75% of mass 198	53.3
197	Less than 1% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5 - 9% of mass 198	6.8
275	10 - 30% of mass 198	22.3
365	Greater than 1% of mass 198	2.7
441	0 - 100% of mass 443	86.9
442	40 - 110% of mass 198	71.9
443	15 - 24% of mass 442	21.9 (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

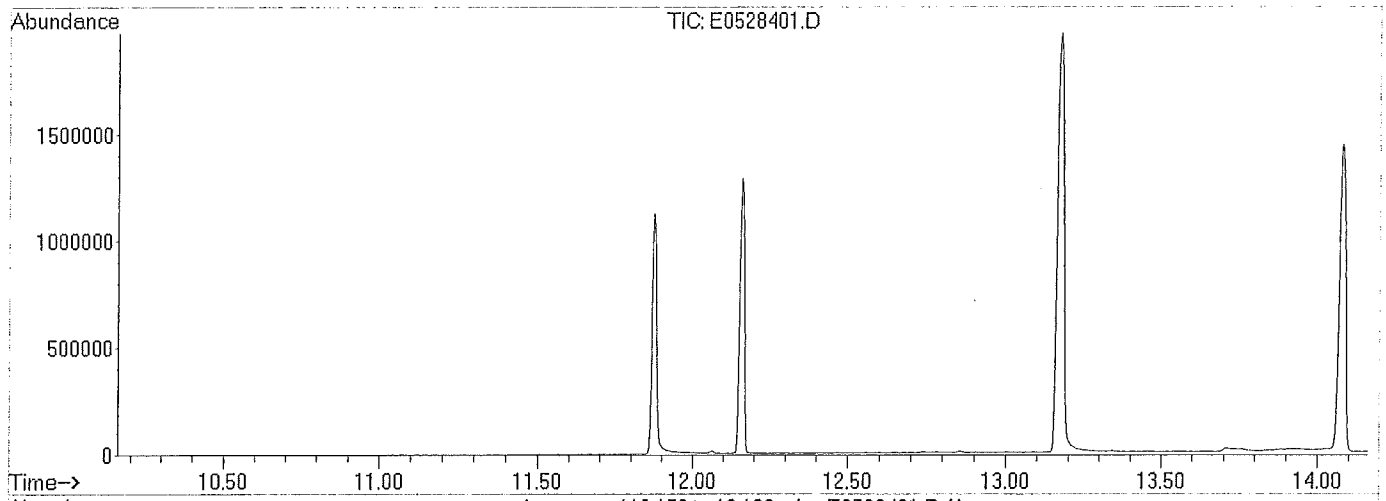
THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

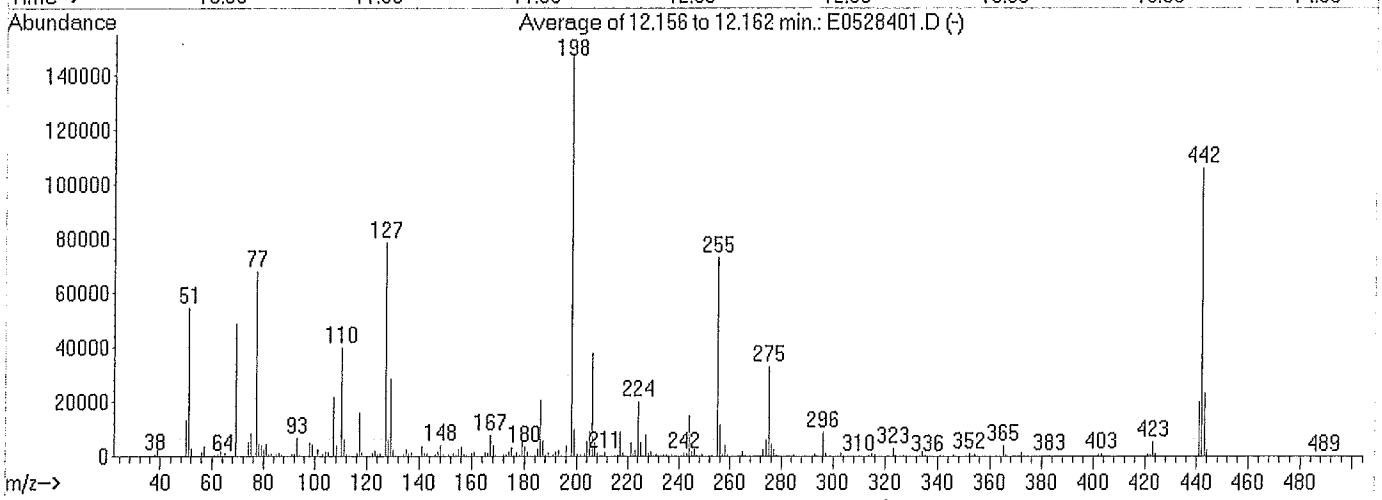
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	BLANK STD	000 PPM STD	E0528402	05/28/14	10:33
2	BNA STD	005 PPM STD	E0528403	05/28/14	11:14
3	BNA STD	010 PPM STD	E0528404	05/28/14	11:55
4	BNA STD	020 PPM STD	E0528405	05/28/14	12:37
5	BNA STD	030 PPM STD	E0528406	05/28/14	13:19
6	BNA STD	040 PPM STD	E0528407	05/28/14	14:02
7	BNA STD	060 PPM STD	E0528408	05/28/14	14:44
8	ICV STD	030 PPM STD	E0528409	05/28/14	15:38
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528401.D
Acq On : 28 May 2014 10:05
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Integration File: FRED.P

Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Title : 8270 TUNE METHOD
Last Update : Wed Apr 16 11:23:29 2014





AutoFind: Scans 1083, 1084, 1085; Background Corrected with Scan 1074

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	80	37.0	54536	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.01	100	33.1	48832	PASS
70	69	0.00	2	0.6	315	PASS
127	198	25	75	53.3	78562	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	147498	PASS
199	198	5	9	6.8	9966	PASS
275	198	10	30	22.3	32933	PASS
365	198	0.75	100	2.7	3938	PASS
441	443	0.01	100	86.9	20202	PASS
442	198	40	110	71.9	106008	PASS
443	442	15	24	21.9	23237	PASS

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.05	186	57.10	3610	71.00	66	84.05	148
38.10	701	58.00	263	73.10	337	85.05	738
39.10	3688	61.00	555	74.10	5330	86.05	1122
40.05	159	62.10	869	75.10	8312	87.05	695
45.00	39	63.10	2130	77.15	68037	88.00	263
50.15	13493	64.10	284	78.15	4527	89.05	201
51.10	54536	65.10	1357	79.10	3967	91.10	861
52.10	2869	66.05	72	80.05	2611	92.05	994
53.10	12	67.10	76	81.10	4520	93.10	6629
55.05	83	69.05	48832	82.05	964	94.05	495
56.10	1360	70.05	315	83.05	955	95.20	68

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
96.05	403	108.10	3877	120.05	308	132.05	254
98.05	4909	110.10	39914	120.95	132	133.00	146
99.10	4205	111.05	6210	122.10	1239	134.05	887
100.05	354	112.05	662	123.10	2057	135.10	2434
101.05	2522	113.05	312	124.10	945	136.05	1096
101.90	61	114.00	122	125.05	1009	137.10	1453
102.05	154	115.05	153	127.10	78562	137.95	253
103.05	845	116.10	1281	128.10	6352	139.10	226
104.10	1672	117.05	16163	129.10	28488	140.00	70
105.05	1393	118.05	1393	130.10	2370	141.10	3699
107.05	21853	119.05	209	131.00	449	142.05	1165

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
143.05	1012	153.05	1103	163.15	74	173.05	806
144.05	246	154.05	671	164.05	183	174.10	1726
145.05	280	155.10	2498	165.05	1441	175.10	3212
146.10	812	156.10	3380	166.10	1454	176.05	558
147.05	1779	157.15	817	167.10	7768	177.00	1265
148.10	4057	158.00	553	168.10	3849	178.05	422
149.00	773	159.05	531	169.05	744	179.05	5249
150.00	344	160.05	1168	170.00	248	180.05	3490
151.10	553	161.05	1588	170.60	94	181.05	1809
151.70	106	162.05	373	171.00	347	182.05	301
151.95	252	162.80	45	172.00	608	182.90	207

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
183.30	84	194.05	483	205.10	9241	215.05	441
184.05	597	195.10	151	206.10	37930	216.00	297
185.10	2876	196.10	3861	207.05	5280	216.20	603
186.10	20608	198.05	147498	208.00	1170	217.05	8966
187.10	5826	199.00	9966	209.15	446	218.05	1163
188.05	627	200.05	881	210.05	567	219.00	148
189.05	1304	200.90	87	211.05	1402	219.20	69
190.10	229	201.50	638	212.00	65	221.10	4928
191.05	758	202.00	122	212.80	35	222.05	1356
192.05	1759	203.10	1132	213.00	27	223.05	2244
193.10	2123	204.05	5693	213.90	30	224.10	20133

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
225.10	5180	236.00	401	246.00	2717	258.00	3983
226.10	421	237.05	651	247.05	621	259.05	682
227.05	7716	238.00	132	248.00	104	260.05	126
228.10	1245	238.80	71	249.05	721	260.90	78
229.05	1668	238.95	180	250.00	168	262.70	49
229.95	313	239.95	270	250.90	160	263.10	36
231.05	843	241.00	461	252.05	230	264.10	80
232.05	185	242.00	1079	252.95	473	265.05	1759
233.00	235	243.10	1128	255.10	73096	265.95	472
234.00	537	244.10	14964	256.10	11502	267.00	32
235.00	542	245.05	1959	257.05	940	267.85	237

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
269.90	131	278.95	98	289.70	48	302.00	197
270.20	46	279.90	27	290.10	41	303.10	1209
271.00	202	280.95	126	290.85	79	304.05	270
272.00	207	282.10	40	292.00	79	305.10	40
273.00	2492	283.05	379	292.20	72	307.95	98
274.10	6077	283.95	242	293.05	694	309.00	88
275.10	32933	285.05	613	294.05	244	310.00	210
276.10	4464	285.90	26	296.05	8768	313.00	64
277.05	2747	286.20	39	297.05	1247	314.00	475
278.05	537	288.10	39	298.10	50	314.95	899
278.80	30	289.00	79	300.90	49	316.05	608

Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
319.10	31	333.10	296	350.00	28	366.90	30
319.90	39	334.05	1891	350.90	126	370.00	62
320.95	353	335.05	495	352.05	1014	370.95	247
321.80	40	336.15	77	353.05	622	372.05	1496
322.00	45	339.20	30	354.05	819	373.00	416
323.10	2960	340.20	27	355.05	246	376.90	32
324.05	502	341.00	418	359.10	26	383.00	432
327.00	492	342.05	109	361.00	27	384.00	171
327.95	248	345.95	722	363.80	39	389.00	35
329.05	148	346.70	38	365.00	3938	390.00	130
332.05	195	347.00	112	365.95	665	391.00	152

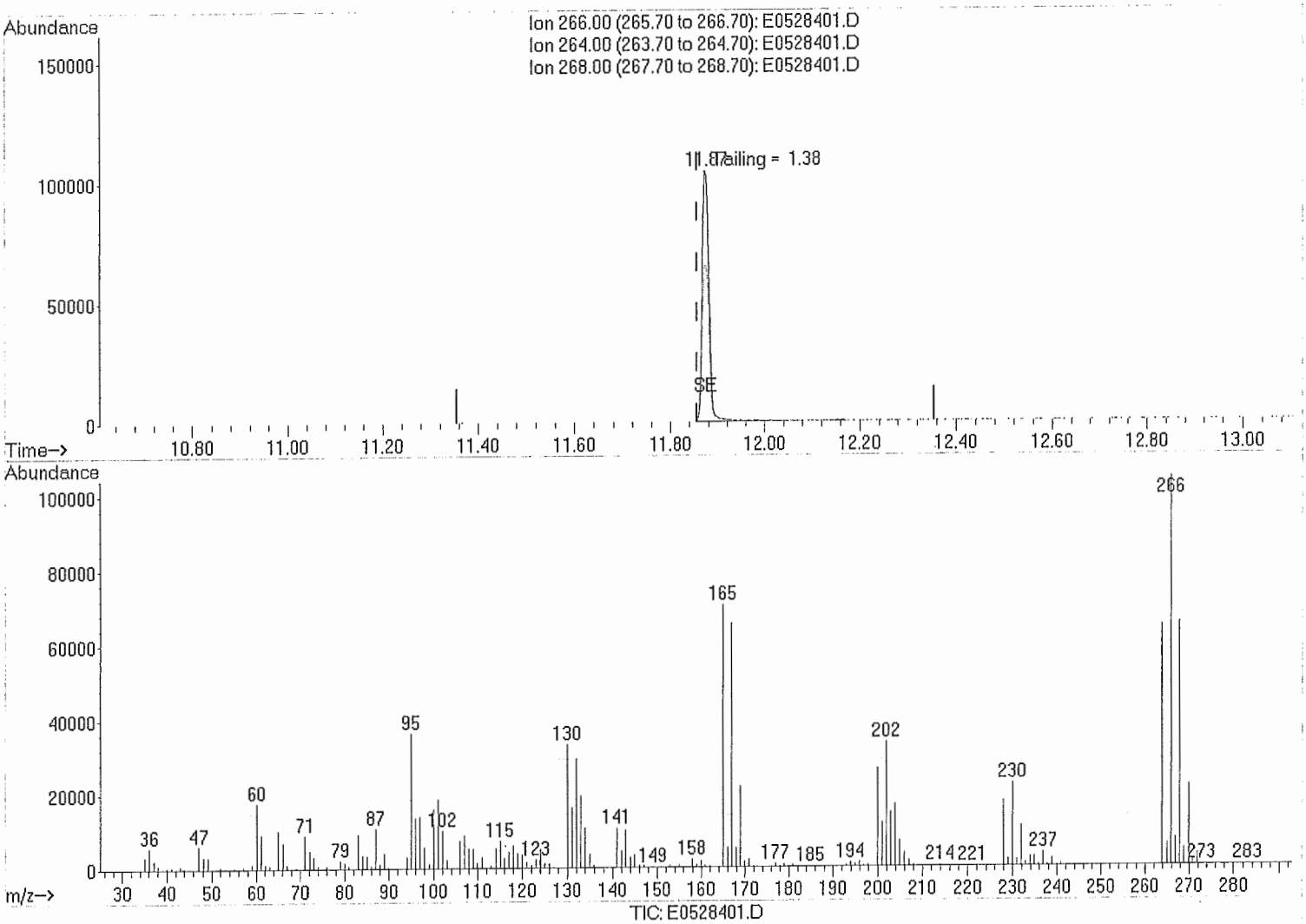
Average of 12.156 to 12.162 min.: E0528401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
392.20	27	421.05	815	432.20	28		
393.00	40	422.05	752	433.60	68		
394.80	36	423.10	5322	435.30	28		
400.85	94	424.00	1106	437.40	27		
401.20	52	424.80	59	441.10	20202		
402.05	738	424.95	99	442.10	106008		
403.05	953	426.20	32	443.10	23237		
403.95	387	427.40	37	444.05	2459		
404.90	31	427.70	40	444.95	91		
408.50	29	428.50	93	489.20	28		
415.30	40	429.30	59				

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528401.D
Acq On : 28 May 2014 10:05
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:24:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration



(1) Pentachlorophenol (TMC)

11.872min (+0.017) 9.18ug/L

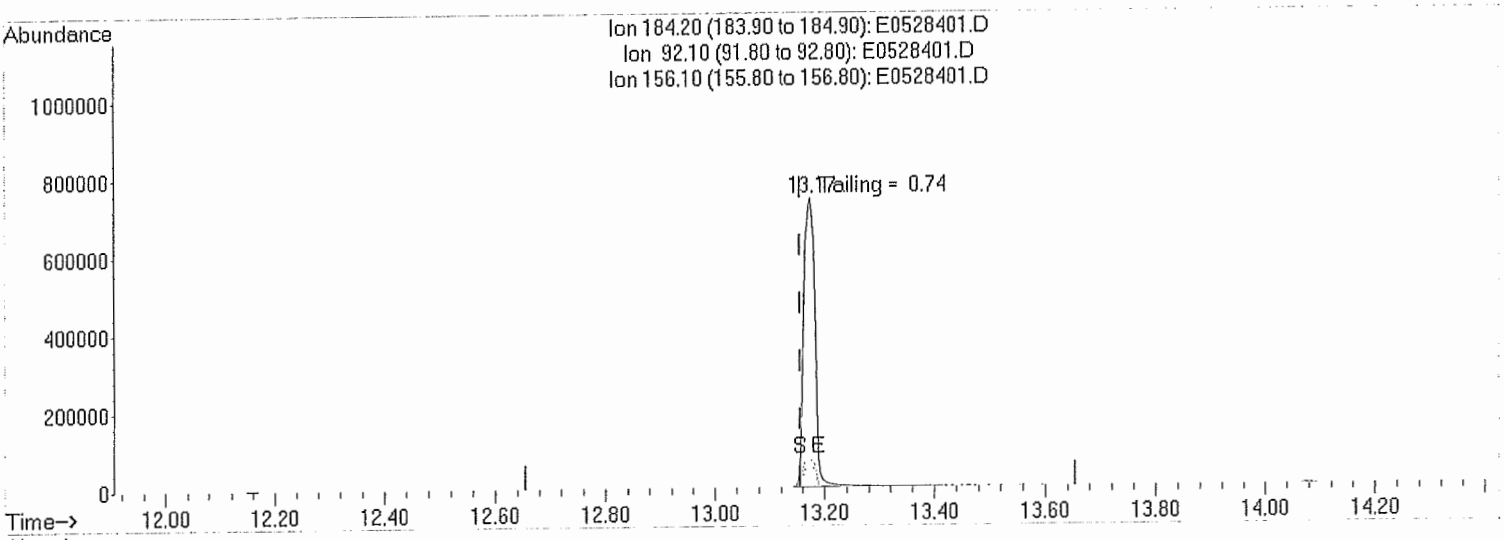
response 97886

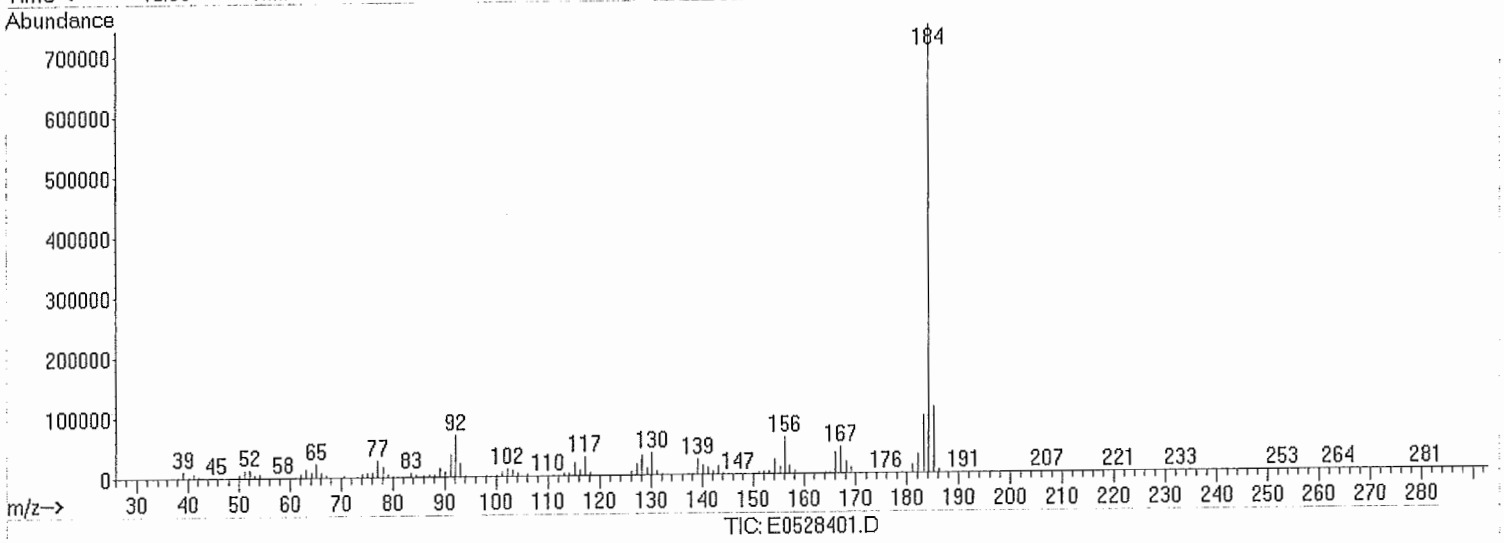
Ion	Exp%	Act%
266.00	100	100
264.00	63.80	64.98
268.00	63.80	63.53
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528401.D
Acq On : 28 May 2014 10:05
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:24:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(3) Benzidine (T)

13.175min (+0.020) 20.33ug/L

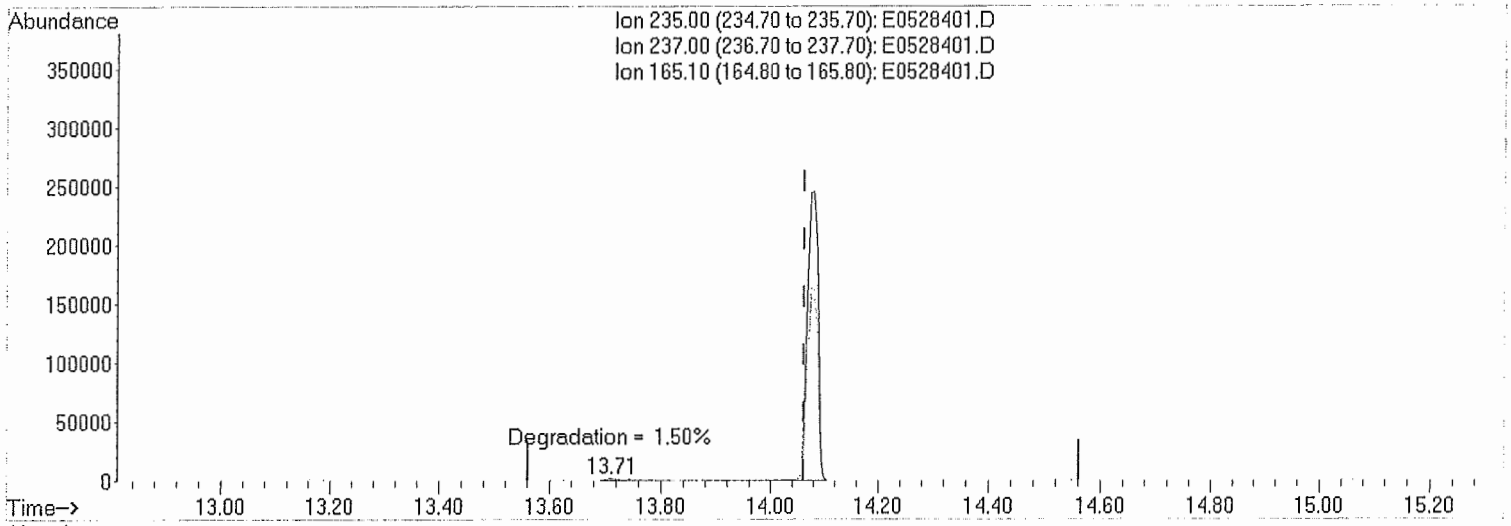
response 1048356

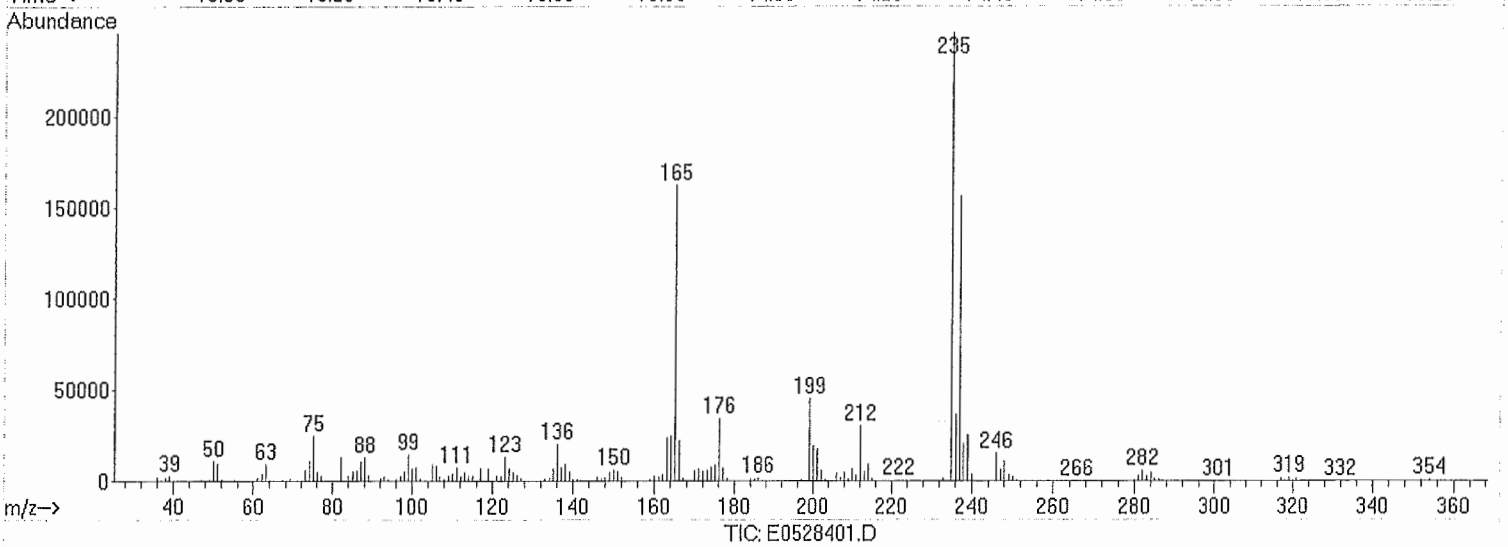
Ion	Exp%	Act%
184.20	100	100
92.10	13.70	10.86#
156.10	8.60	7.80
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528401.D
Acq On : 28 May 2014 10:05
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 28 10:24:29 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(4) DDT

14.080min (+0.019) 13.14ug/L

response 341195

Ion	Exp%	Act%
235.00	100	100
237.00	64.80	63.90
165.10	59.00	69.89
0.00	0.00	0.00

Response Factor Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270323HW.M
Title : 8270 BNA Calibration
Last Update : Wed May 28 15:23:12 2014
Response Via : Initial Calibration

Calibration Files
10 =E0528404.D 20 =E0528405.D 30 =E0528406.D
40 =E0528407.D 5 =E0528403.D 60 =E0528408.D

		Compound	10	20	30	40	5	60	Avg	%RSD
1)	I	1,4-Dichlorobenzene-d	ISTD							
2)	I	Naphthalene-d8	ISTD							
3)	S	Nitrobenzene-d5	0.403	0.383	0.369	0.352	0.406	0.330	0.374	7.87
4)	I	Acenaphthene-d10	ISTD							
5)	S	2-Fluorobiphenyl	1.571	1.457	1.348	1.245	1.650	1.110	1.397	14.51
6)	T	Dimethylphthalate	1.724	1.600	1.504	1.418	1.828	1.305	1.563	12.42
7)	T	Diethylphthalate	1.713	1.597	1.478	1.376	1.823	1.231	1.536	14.24
8)	I	Phenanthrene-d10	ISTD							
9)	T	Di-n-butylphthala	1.871	1.709	1.586	1.452	1.932	1.293	1.640	14.99
10)	I	Chrysene-d12	ISTD							
11)	TM	Pyrene	1.628	1.483	1.405	1.321	1.711	1.216	1.460	12.76
12)	S	Terphenyl-d14	0.951	0.876	0.829	0.786	0.990	0.721	0.859	11.81
13)	T	bis(2-Ethylhexyl)	1.214	1.185	1.165	1.120	1.191	1.053	1.155	5.10
14)	TC	Di-n-octylphthala	2.141	2.149	2.133	2.057	2.042	1.967	2.082	3.46#
15)	I	Perylene-d12	ISTD							

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528402.D
Acq On : 28 May 2014 10:33
Operator : PEK
Sample : CAL BLK 16516
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 15:20:21 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2459850	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9618748	40.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5015884	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	7905751	40.00	ug/L	0.00
10) Chrysene-d12	19.70	240	8522164	40.00	ug/L	-0.01
15) Perylene-d12	24.78	264	8729974	40.00	ug/L	0.00

System Monitoring Compounds						
3) Nitrobenzene-d5	0.00	82	0	0.00	ug/L	
Spiked Amount 50.000			Recovery	=	0.00%	
5) 2-Fluorobiphenyl	0.00	172	0	0.00	ug/L	
Spiked Amount 50.000			Recovery	=	0.00%	
12) Terphenyl-d14	0.00	244	0	0.00	ug/L	
Spiked Amount 50.000			Recovery	=	0.00%	

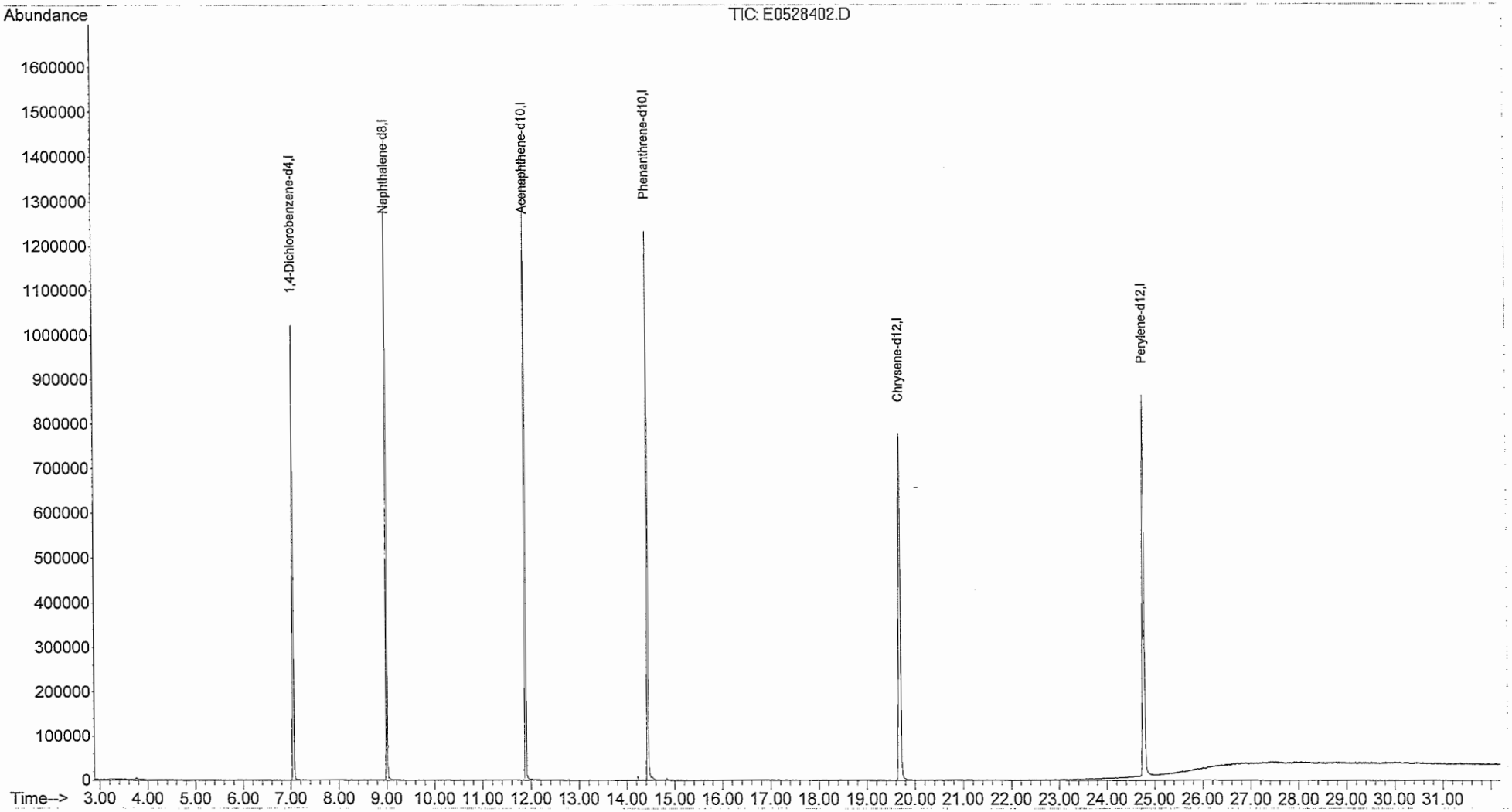
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528402.D
Acq On : 28 May 2014 10:33
Operator : PEK
Sample : CAL BLK 16516
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 28 15:20:21 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528403.D
Acq On : 28 May 2014 11:14
Operator : PEK
Sample : 5 PPM STD 16517
Misc : AG-5 8270
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 28 15:20:23 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

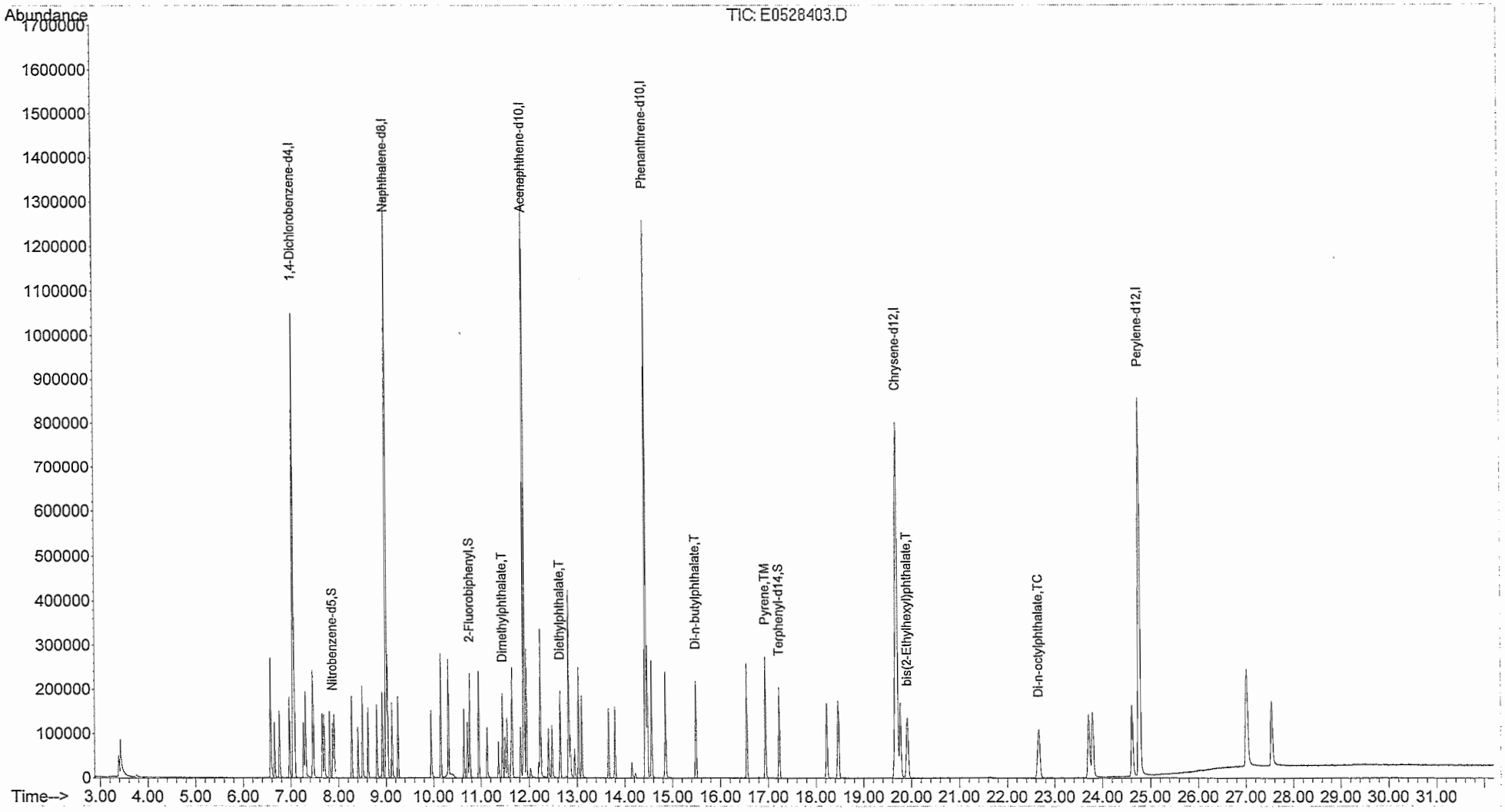
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2449773	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9538883	40.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5017280	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	7861638	40.00	ug/L	0.00
10) Chrysene-d12	19.70	240	8571150	40.00	ug/L	-0.01
15) Perylene-d12	24.78	264	9189937	40.00	ug/L	0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	483896	6.03	ug/L	-0.01
Spiked Amount 50.000			Recovery	=	12.06%	
5) 2-Fluorobiphenyl	10.76	172	1034736	6.63	ug/L	0.00
Spiked Amount 50.000			Recovery	=	13.26%	
12) Terphenyl-d14	17.23	244	1061181	7.36	ug/L	-0.01
Spiked Amount 50.000			Recovery	=	14.72%	
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	1146286	5.69	ug/L #	78
7) Diethylphthalate	12.65	149	1143398	5.64	ug/L	98
9) Di-n-butylphthalate	15.49	149	1898295	6.10	ug/L	94
11) Pyrene	16.94	202	1832753	6.52	ug/L	83
13) bis(2-Ethylhexyl)phthalate	19.92	149	1275562	6.01	ug/L	98
14) Di-n-octylphthalate	22.66	149	2187363	6.16	ug/L	99

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528403.D
Acq On : 28 May 2014 11:14
Operator : PEK
Sample : 5 PPM STD 16517
Misc : AG-5 8270
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 28 15:20:23 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528404.D
Acq On : 28 May 2014 11:55
Operator : PEK
Sample : 10 PPM STD 16518
Misc : AG-5 8270
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 15:20:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

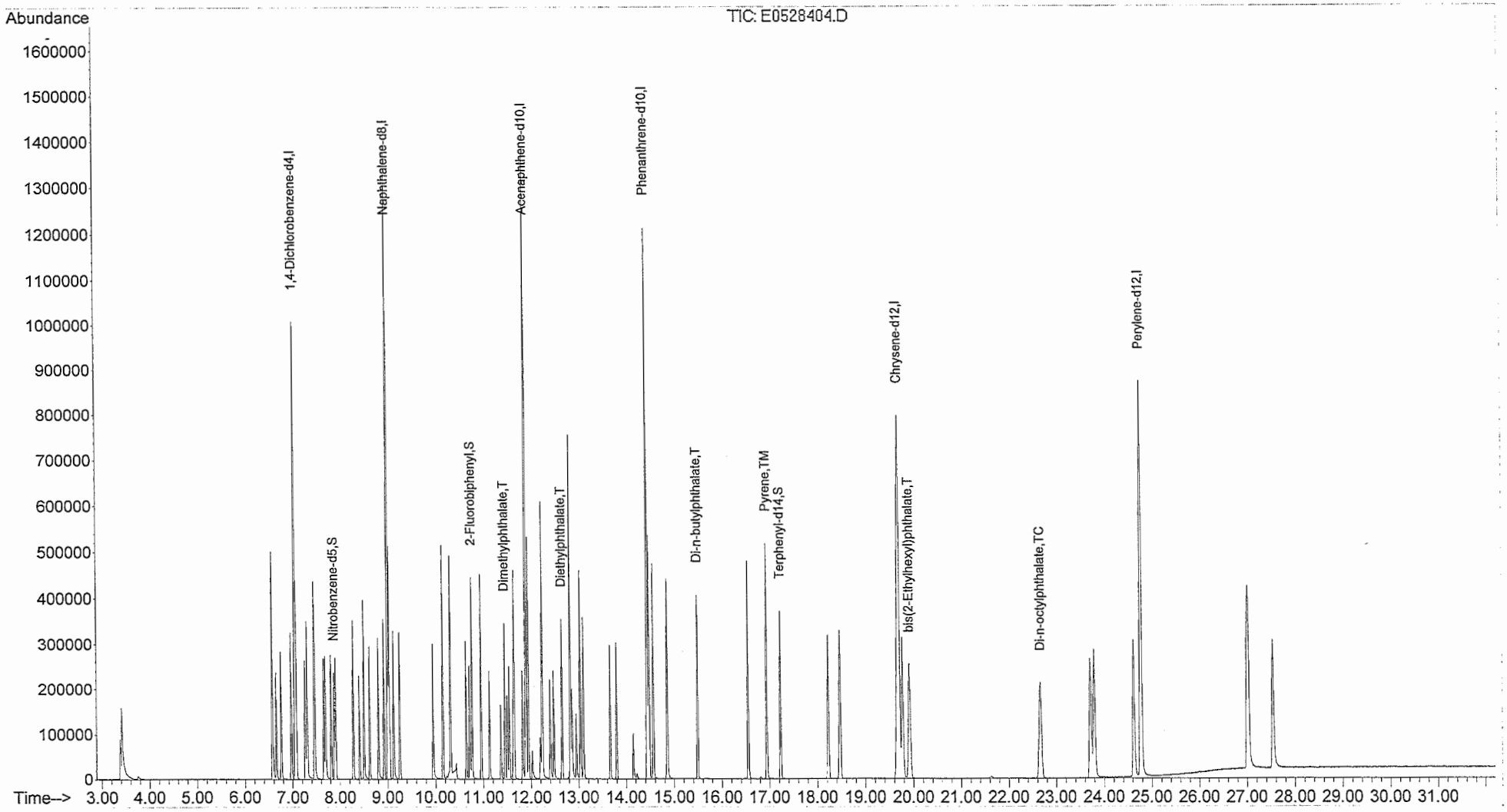
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2323411	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9303740	40.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	4897335	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	7669810	40.00	ug/L	0.00
10) Chrysene-d12	19.70	240	8226018	40.00	ug/L	-0.01
15) Perylene-d12	24.78	264	9056856	40.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	938025	11.98	ug/L	0.00
Spiked Amount 50.000			Recovery = 23.96%			
5) 2-Fluorobiphenyl	10.76	172	1923274	12.63	ug/L	0.00
Spiked Amount 50.000			Recovery = 25.26%			
12) Terphenyl-d14	17.23	244	1956252	14.14	ug/L	-0.01
Spiked Amount 50.000			Recovery = 28.28%			
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	2110299	10.73	ug/L	99
7) Diethylphthalate	12.65	149	2096738	10.59	ug/L	99
9) Di-n-butylphthalate	15.49	149	3588101	11.83	ug/L	94
11) Pyrene	16.94	202	3348566	12.42	ug/L	83
13) bis(2-Ethylhexyl)phthalate	19.92	149	2497001	12.26	ug/L	97
14) Di-n-octylphthalate	22.67	149	4402681	12.91	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528404.D
Acq On : 28 May 2014 11:55
Operator : PEK
Sample : 10 PPM STD 16518
Misc : AG-5 8270
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 28 15:20:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528405.D
Acq On : 28 May 2014 12:37
Operator : PEK
Sample : 20 PPM STD 16519
Misc : AG-5 8270
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 15:20:28 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

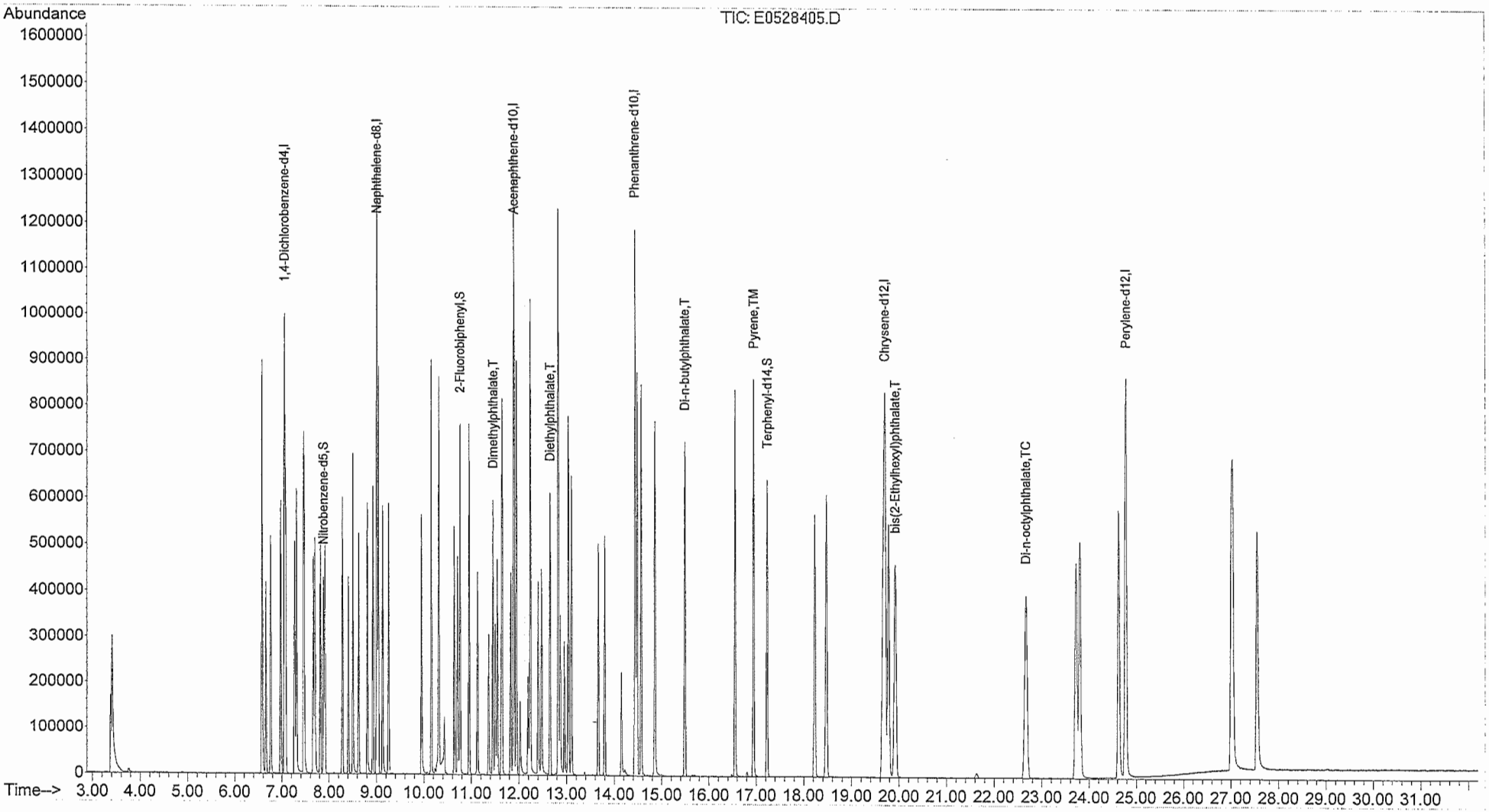
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2308585	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9201404	40.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	4788961	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	7538826	40.00	ug/L	0.00
10) Chrysene-d12	19.71	240	7982927	40.00	ug/L	0.00
15) Perylene-d12	24.78	264	9009861	40.00	ug/L	0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1761994	22.75	ug/L	0.00
Spiked Amount 50.000			Recovery = 45.50%			
5) 2-Fluorobiphenyl	10.77	172	3487910	23.43	ug/L	0.00
Spiked Amount 50.000			Recovery = 46.86%			
12) Terphenyl-d14	17.23	244	3497280	26.04	ug/L	-0.01
Spiked Amount 50.000			Recovery = 52.08%			
Target Compounds						Qvalue
6) Dimethylphthalate	11.46	163	3830070	19.91	ug/L	99
7) Diethylphthalate	12.66	149	3824207	19.75	ug/L	99
9) Di-n-butylphthalate	15.49	149	6441386	21.60	ug/L	94
11) Pyrene	16.94	202	5917547	22.62	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	4728400	23.93	ug/L	97
14) Di-n-octylphthalate	22.67	149	8576665	25.92	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528405.D
Acq On : 28 May 2014 12:37
Operator : PEK
Sample : 20 PPM STD 16519
Misc : AG-5 8270
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 28 15:20:28 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528406.D
Acq On : 28 May 2014 13:19
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 15:20:30 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

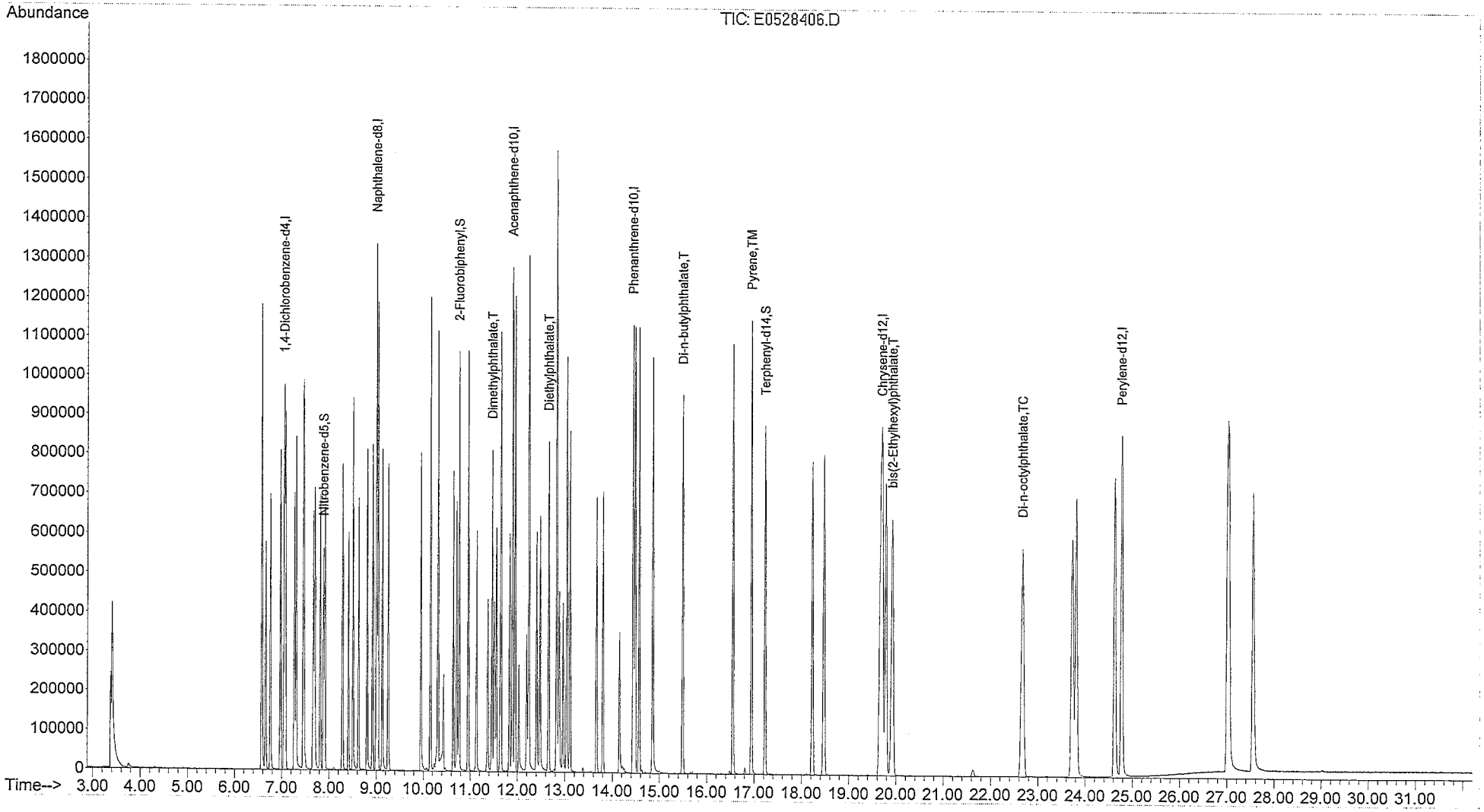
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2313018	40.00 ug/L	0.00
2) Naphthalene-d8	9.01	136	9193955	40.00 ug/L	0.00
4) Acenaphthene-d10	11.90	164	4819437	40.00 ug/L	0.00
8) Phenanthrene-d10	14.44	188	7597694	40.00 ug/L	0.00
10) Chrysene-d12	19.71	240	7793304	40.00 ug/L	0.00
15) Perylene-d12	24.78	264	9115539	40.00 ug/L	0.01
System Monitoring Compounds					
3) Nitrobenzene-d5	7.88	82	2547068	32.91 ug/L	0.00
Spiked Amount 50.000			Recovery	= 65.82%	
5) 2-Fluorobiphenyl	10.77	172	4871473	32.52 ug/L	0.00
Spiked Amount 50.000			Recovery	= 65.04%	
12) Terphenyl-d14	17.23	244	4844269	36.95 ug/L	0.00
Spiked Amount 50.000			Recovery	= 73.90%	
Target Compounds					Qvalue
6) Dimethylphthalate	11.47	163	5435429	28.08 ug/L	99
7) Diethylphthalate	12.66	149	5342306	27.41 ug/L	99
9) Di-n-butylphthalate	15.50	149	9036404	30.07 ug/L	94
11) Pyrene	16.95	202	8210656	32.15 ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	6806702	35.28 ug/L	97
14) Di-n-octylphthalate	22.67	149	12467614	38.59 ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528406.D
Acq On : 28 May 2014 13:19
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 28 15:20:30 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528407.D
Acq On : 28 May 2014 14:02
Operator : PEK
Sample : 40 PPM STD 16521
Misc : AG-5 8270
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 15:20:33 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

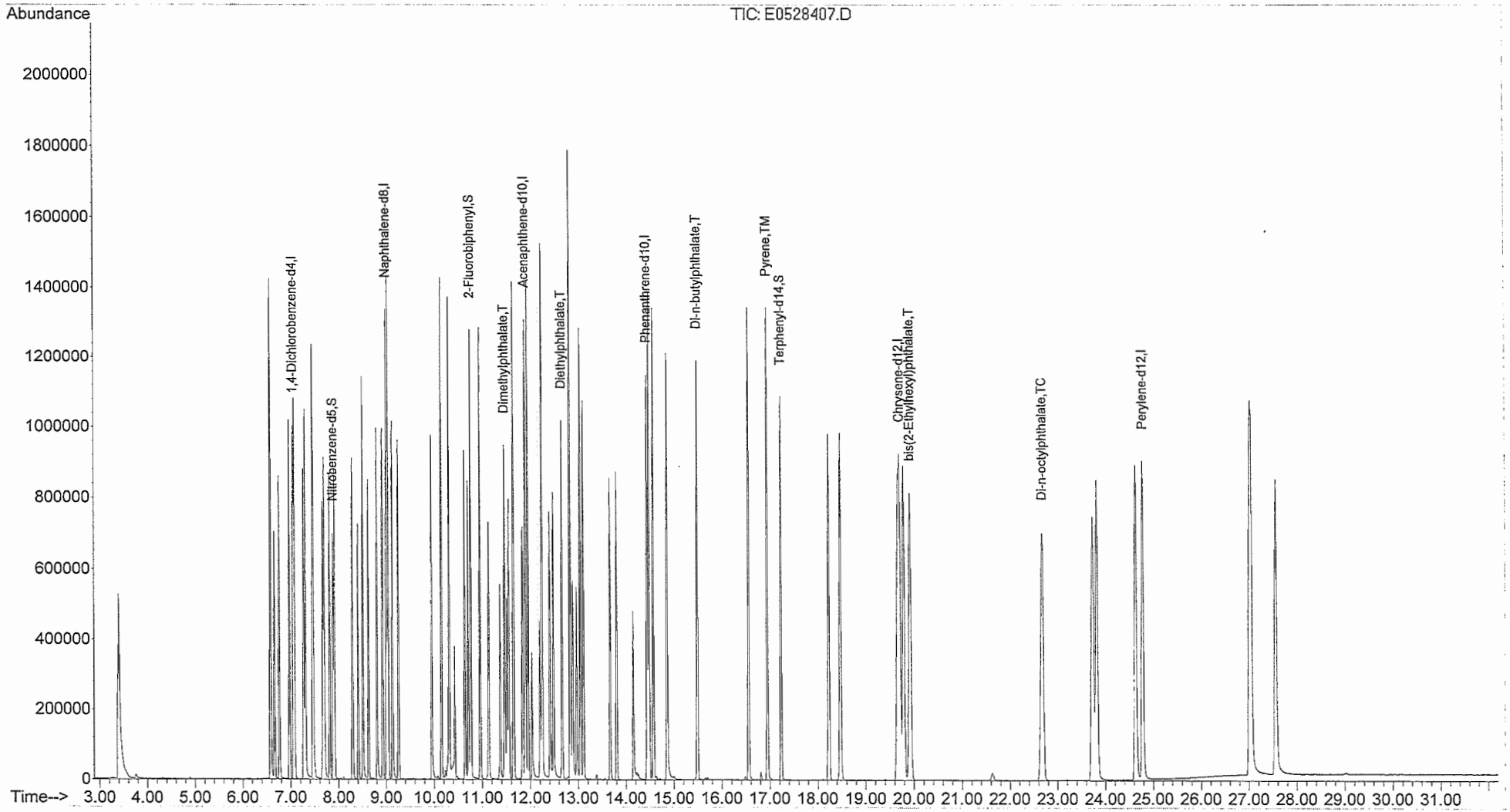
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2314989	40.00 ug/L	0.00
2) Naphthalene-d8	9.01	136	9321703	40.00 ug/L	0.00
4) Acenaphthene-d10	11.90	164	4880097	40.00 ug/L	0.00
8) Phenanthrene-d10	14.44	188	7740461	40.00 ug/L	0.00
10) Chrysene-d12	19.71	240	7789732	40.00 ug/L	0.00
15) Perylene-d12	24.78	264	9301494	40.00 ug/L	0.01
System Monitoring Compounds					
3) Nitrobenzene-d5	7.89	82	3285450	41.87 ug/L	0.00
Spiked Amount 50.000			Recovery	= 83.74%	
5) 2-Fluorobiphenyl	10.77	172	6077461	40.06 ug/L	0.00
Spiked Amount 50.000			Recovery	= 80.12%	
12) Terphenyl-d14	17.24	244	6126016	46.75 ug/L	0.00
Spiked Amount 50.000			Recovery	= 93.50%	
Target Compounds					Qvalue
6) Dimethylphthalate	11.47	163	6917647	35.29 ug/L	99
7) Diethylphthalate	12.66	149	6716608	34.03 ug/L	99
9) Di-n-butylphthalate	15.50	149	11239861	36.71 ug/L	94
11) Pyrene	16.95	202	10286951	40.30 ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.93	149	8725545	45.25 ug/L	97
14) Di-n-octylphthalate	22.68	149	16026125	49.63 ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528407.D
Acq On : 28 May 2014 14:02
Operator : PEK
Sample : 40 PPM STD 16521
Misc : AG-5 8270
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 28 15:20:33 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528408.D
Acq On : 28 May 2014 14:44
Operator : PEK
Sample : 60 PPM STD 16522
Misc : AG-5 8270
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 15:20:35 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration

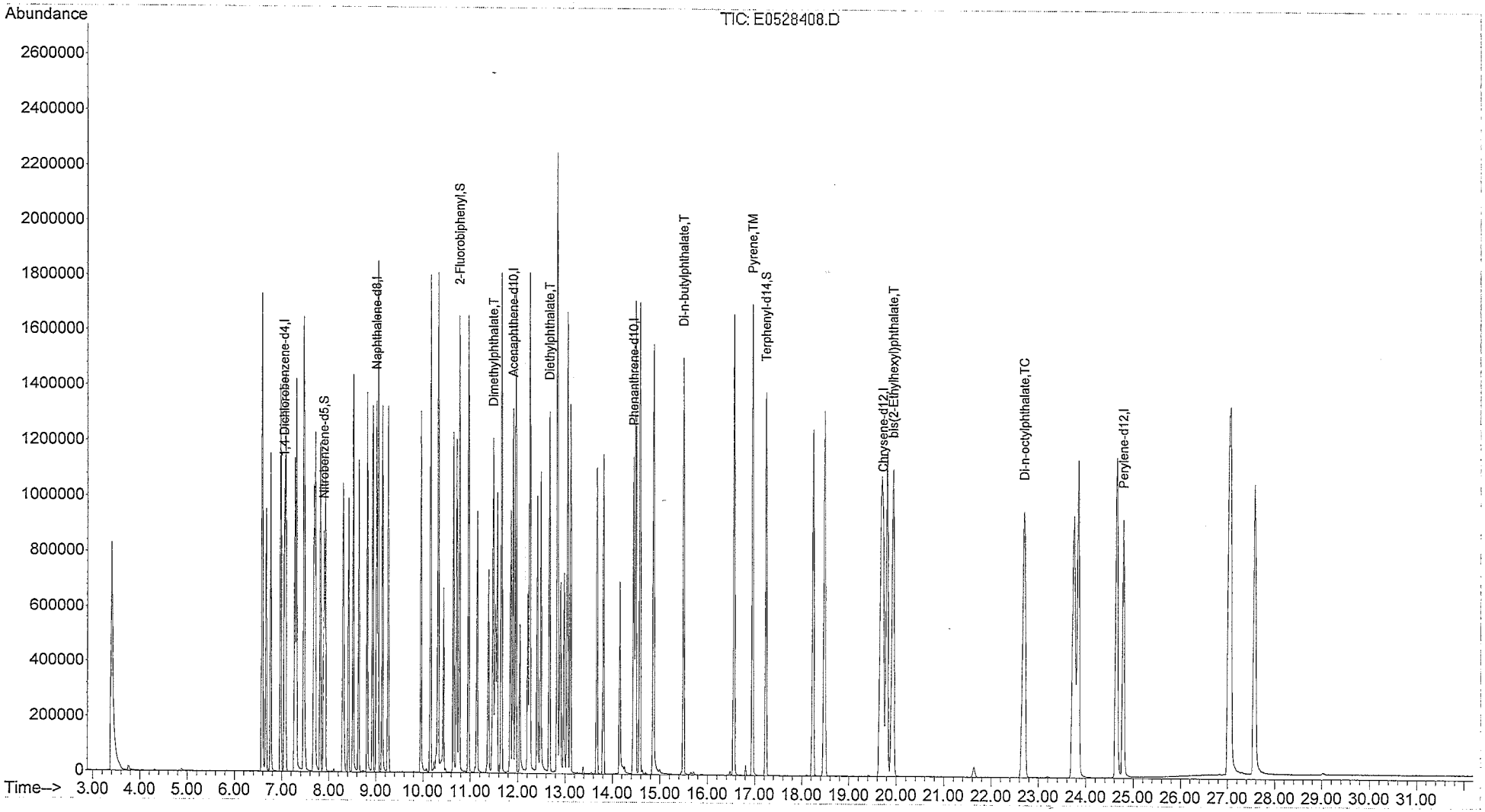
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2393713	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9654595	40.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	5063792	40.00	ug/L	0.00
8) Phenanthrene-d10	14.45	188	7938638	40.00	ug/L	0.00
10) Chrysene-d12	19.73	240	7755735	40.00	ug/L	0.02
15) Perylene-d12	24.79	264	9445296	40.00	ug/L	0.02
System Monitoring Compounds						
3) Nitrobenzene-d5	7.89	82	4785610	58.88	ug/L	0.00
Spiked Amount 50.000			Recovery	=	117.76%	
5) 2-Fluorobiphenyl	10.77	172	8432231	53.57	ug/L	0.00
Spiked Amount 50.000			Recovery	=	107.14%	
12) Terphenyl-d14	17.24	244	8383519	64.26	ug/L	0.00
Spiked Amount 50.000			Recovery	=	128.52%	
Target Compounds						Qvalue
6) Dimethylphthalate	11.48	163	9911571	48.73	ug/L	99
7) Diethylphthalate	12.67	149	9349866	45.66	ug/L	100
9) Di-n-butylphthalate	15.50	149	15392691	49.01	ug/L	94
11) Pyrene	16.96	202	14144102	55.65	ug/L	81
13) bis(2-Ethylhexyl)phthalate	19.93	149	12250360	63.81	ug/L	97
14) Di-n-octylphthalate	22.70	149	22888166	71.20	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528408.D
Acq On : 28 May 2014 14:44
Operator : PEK
Sample : 60 PPM STD 16522
Misc : AG-5 8270
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 28 15:20:35 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Tue May 27 14:47:46 2014
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528409.D
Acq On : 28 May 2014 15:38
Operator : PEK
Sample : 30 PPM ICV 16523
Misc : AG-5 8270
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 16:10:43 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration

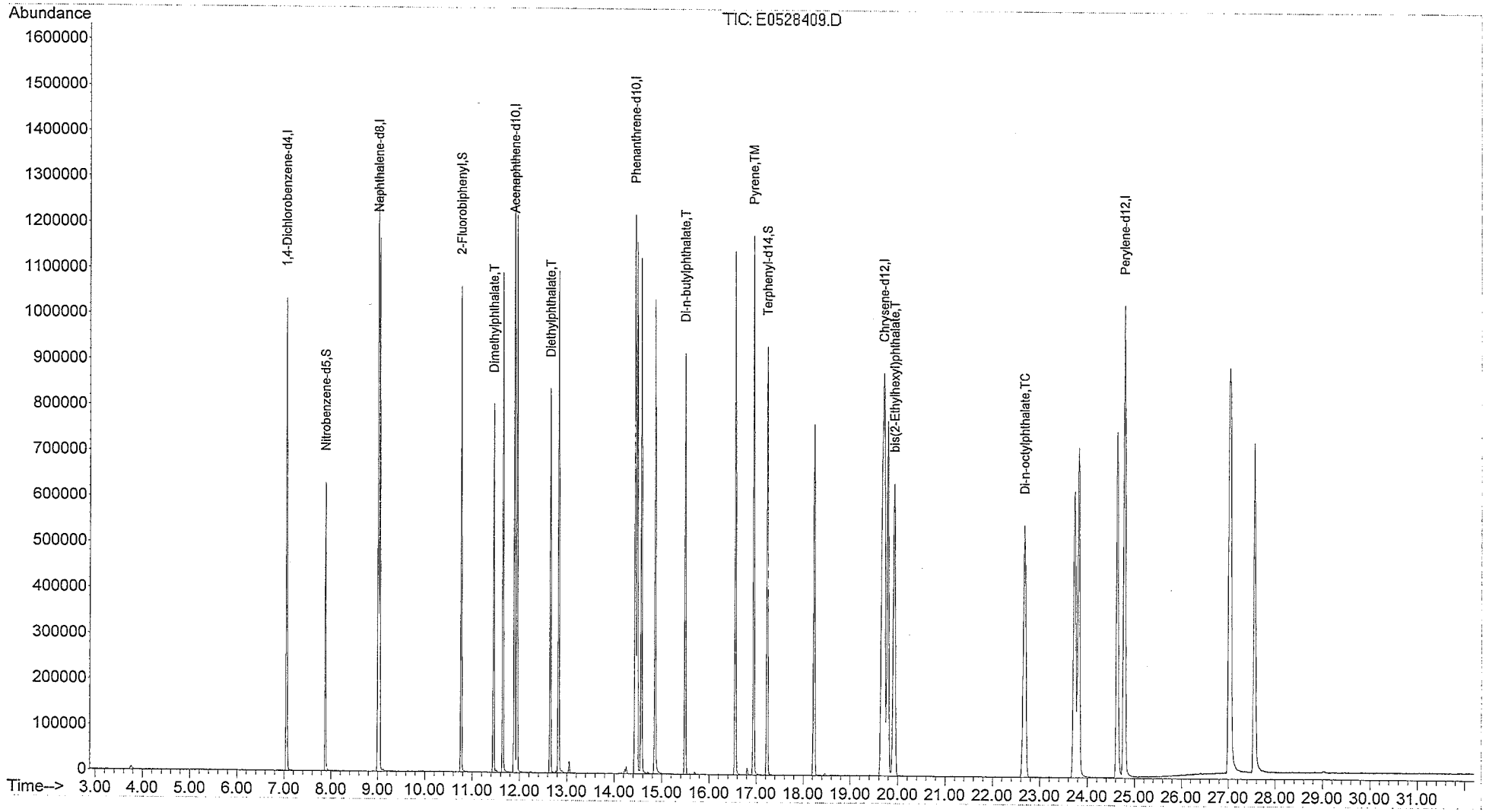
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2430075	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9535107	40.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	4971961	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	7882635	40.00	ug/L	0.00
10) Chrysene-d12	19.71	240	8192733	40.00	ug/L	0.00
15) Perylene-d12	24.79	264	11132752	40.00	ug/L	0.02
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	2608685	29.26	ug/L	0.00
Spiked Amount 50.000			Recovery = 58.52%			
5) 2-Fluorobiphenyl	10.77	172	5097511	29.36	ug/L	0.00
Spiked Amount 50.000			Recovery = 58.72%			
12) Terphenyl-d14	17.24	244	5167723	29.37	ug/L	0.00
Spiked Amount 50.000			Recovery = 58.74%			
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	5193735	26.74	ug/L	99
7) Diethylphthalate	12.65	149	5099108	26.70	ug/L	99
9) Di-n-butylphthalate	15.50	149	8752285	27.07	ug/L	94
11) Pyrene	16.95	202	8385530	28.03	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.93	149	6519514	27.57	ug/L	97
14) Di-n-octylphthalate	22.67	149	11794515	27.67	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\052814\
Data File : E0528409.D
Acq On : 28 May 2014 15:38
Operator : PEK
Sample : 30 PPM ICV 16523
Misc : AG-5 8270
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 28 16:10:43 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration



Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270323HW.M
Title : 8270 BNA Calibration
Last Update : Wed May 28 16:10:46 2014
Response Via : Initial Calibration

CC Data File: E0528409.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105
2	I	Naphthalene-d8	1.000	1.000	0.0	104
3	S	Nitrobenzene-d5	0.374	0.365	2.5	102
4	I	Acenaphthene-d10	1.000	1.000	0.0	103
5	S	2-Fluorobiphenyl	1.397	1.367	2.1	105
6	T	Dimethylphthalate	1.563	1.393	10.9	96
7	T	Diethylphthalate	1.536	1.367	11.0	95
8	I	Phenanthrene-d10	1.000	1.000	0.0	104
9	T	Di-n-butylphthalate	1.640	1.480	9.8	97
10	I	Chrysene-d12	1.000	1.000	0.0	105
11	TM	Pyrene	1.460	1.365	6.6	102
12	S	Terphenyl-d14	0.859	0.841	2.1	107
13	T	bis(2-Ethylhexyl)phthalate	1.155	1.061	8.1	96
14	TC	Di-n-octylphthalate	2.082	1.920	7.8#	95
15	I	Perylene-d12	1.000	1.000	0.0	122

(#) = Out of Range SPCC's out = 0 CCC's out = 1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: E0530401 DFTPP Injection Date: 05/30/14

Instrument ID: AG5 DFTPP Injection Time: 08:56

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30 - 80% of mass 198	36.4
68	Less than 2.0% of mass 69	0.0 (1)
69	(reference only)	33.0
70	Less than 2.0% of mass 69	0.4 (1)
127	25 - 75% of mass 198	53.2
197	Less than 1% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5 - 9% of mass 198	7.0
275	10 - 30% of mass 198	22.7
365	Greater than 1% of mass 198	2.9
441	0 - 100% of mass 443	93.5
442	40 - 110% of mass 198	79.0
443	15 - 24% of mass 442	20.6 (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

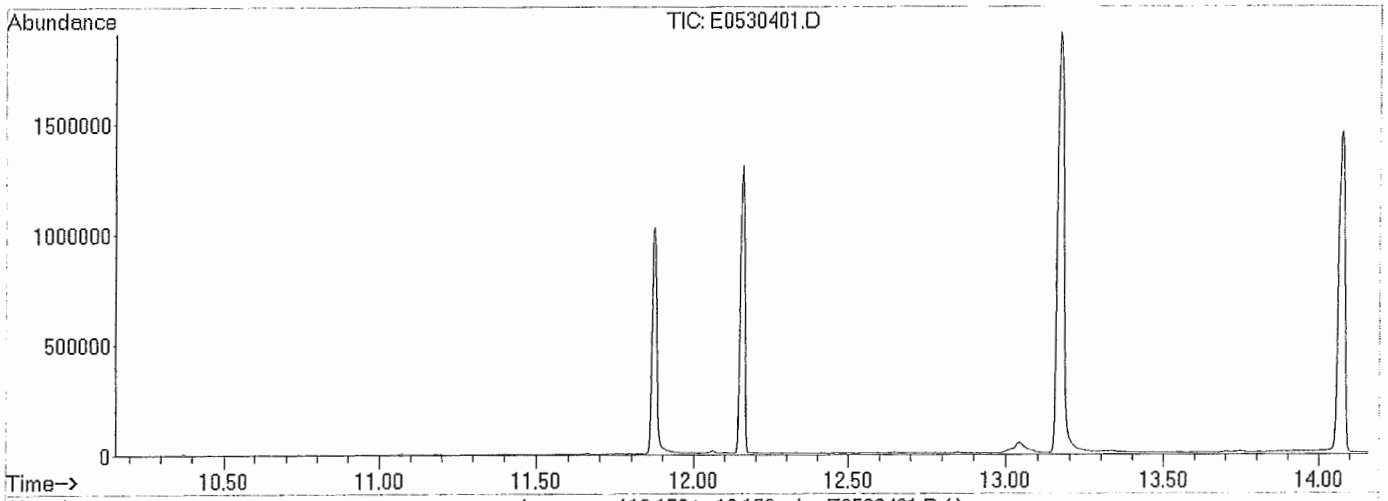
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	BNA STD	030 PPM STD	E0530402	05/30/14	09:23
2	BLANK B10219	006619-03B1	E0530403	05/30/14	10:04
3	SPBK B10219	006619-03K1	E0530404	05/30/14	10:46
4	MAK109O	006619-01	E0530405	05/30/14	11:28
5	MAK110O	006619-02	E0530406	05/30/14	12:10
6	MAK111O	006619-03	E0530407	05/30/14	12:51
7	MAK111OMS	006619-03MS	E0530408	05/30/14	13:33
8	MAK111OMSD	006619-03MD	E0530409	05/30/14	14:15
9	MAK112O	006619-04	E0530410	05/30/14	14:57
10	MAK113O	006619-05	E0530411	05/30/14	15:39
11	MAK114O	006619-06	E0530412	05/30/14	16:21
12	MAK115O	006619-07	E0530413	05/30/14	17:03
13	MAK116O	006619-08	E0530414	05/30/14	17:44
14	MAK117O	006619-09	E0530415	05/30/14	18:26
15	MAK118O	006619-10	E0530416	05/30/14	19:07
16					
17					
18					
19					
20					
21					
22					

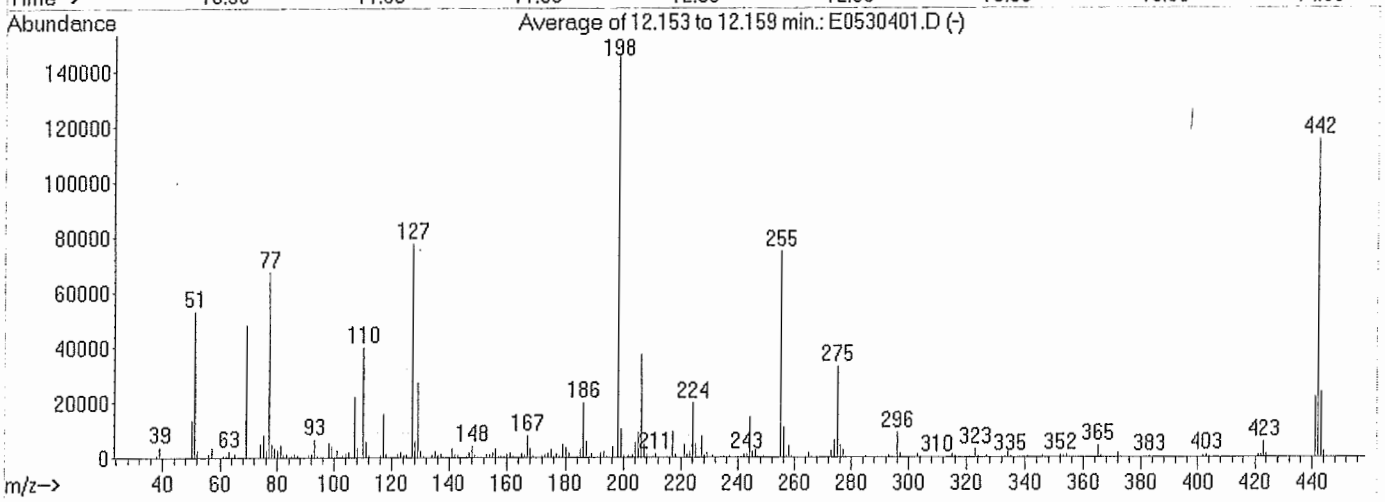
DFTPP

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530401.D
Acq On : 30 May 2014 8:56
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Integration File: FRED.P

Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Title : 8270 TUNE METHOD
Last Update : Wed Apr 16 11:23:29 2014





AutoFind: Scans 1082, 1083, 1084; Background Corrected with Scan 1072

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	80	36.4	53088	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.01	100	33.0	48233	PASS
70	69	0.00	2	0.4	207	PASS
127	198	25	75	53.2	77709	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	146005	PASS
199	198	5	9	7.0	10194	PASS
275	198	10	30	22.7	33125	PASS
365	198	0.75	100	2.9	4231	PASS
441	443	0.01	100	93.5	22168	PASS
442	198	40	110	79.0	115333	PASS
443	442	15	24	20.6	23717	PASS

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.05	211	53.00	194	66.00	30	79.10	3459
38.10	669	55.05	145	67.15	164	80.10	2718
39.15	3728	56.05	1330	69.10	48233	81.10	4454
40.00	94	57.10	3495	70.05	207	82.05	1132
41.05	37	58.05	174	71.90	34	83.10	1178
44.05	160	59.10	48	73.05	201	83.95	96
45.00	14	61.05	588	74.05	4898	85.00	841
47.70	37	62.05	727	75.10	8004	86.10	1175
50.15	13526	63.10	2161	76.20	2589	87.10	696
51.15	53088	64.05	400	77.15	67418	87.95	208
52.10	2577	65.10	1273	78.15	4810	88.95	100

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
91.05	1067	101.05	2733	113.15	173	124.05	967
92.05	1154	101.90	192	114.40	57	125.05	1010
93.10	6524	103.00	774	115.10	43	127.10	77709
94.05	607	104.05	1546	116.10	809	128.10	6168
95.05	286	105.10	1828	117.10	15878	129.05	27144
96.00	118	107.10	21965	118.05	1268	130.05	2338
96.15	305	108.10	3536	119.05	147	131.05	511
96.90	23	110.10	39978	120.05	291	132.00	254
98.10	5193	111.10	5679	121.00	94	132.95	26
99.10	4099	112.05	805	122.10	1276	134.05	893
100.05	403	112.80	63	123.05	1944	135.10	2302

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
136.05	1043	145.20	57	156.10	3313	167.10	7949
137.10	1265	146.05	618	157.15	615	168.10	3439
137.95	346	147.10	1857	157.95	616	169.00	665
139.00	203	148.10	4163	159.00	541	170.00	131
139.90	206	149.00	1034	160.05	1189	171.00	269
140.20	141	150.05	336	161.10	1743	172.05	642
141.05	3400	151.15	476	162.05	565	173.00	1002
142.00	1121	152.05	255	163.00	106	174.10	1642
143.05	896	153.05	1144	164.10	92	175.10	2973
144.15	237	154.05	1011	165.05	1570	176.05	624
144.95	112	155.10	1907	166.05	1028	177.05	1266

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
178.05	574	189.00	1382	200.05	861	211.05	1308
179.05	4797	189.95	235	201.55	714	211.90	151
180.10	3601	191.00	516	203.05	1069	213.05	127
181.10	1655	192.05	1746	204.10	5356	213.90	68
182.00	427	193.10	2188	205.10	9104	214.20	37
183.15	173	194.05	568	206.10	37480	215.00	518
184.05	468	194.70	127	207.10	4894	216.10	456
185.10	2949	195.00	168	208.10	1140	217.00	9491
186.10	19941	196.10	3874	208.95	327	218.05	1217
187.10	5773	198.00	146005	210.00	210	218.90	49
188.05	600	199.00	10194	210.15	421	219.90	51

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
221.10	4631	232.00	231	242.05	1109	252.90	305
222.05	1289	232.90	174	243.15	1330	253.20	178
223.05	2231	233.95	426	244.10	14706	255.05	74800
224.10	19784	235.00	635	245.10	2179	256.10	10952
225.10	4857	236.00	394	246.05	2842	257.05	917
226.10	387	237.00	671	246.95	598	258.05	4214
227.05	7678	238.00	28	247.80	122	259.00	630
228.05	1013	238.20	52	248.95	606	259.95	95
229.05	1709	239.05	264	249.90	164	261.00	161
229.95	309	239.90	311	251.05	235	263.95	243
231.05	713	241.00	414	252.05	285	265.00	1724

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
265.95	348	278.00	505	290.90	41	303.05	1124
267.85	140	279.10	33	292.05	135	304.05	369
269.90	95	281.10	31	293.05	707	305.10	50
270.10	44	282.10	28	293.95	127	307.95	160
270.90	225	283.00	289	296.05	8931	309.00	27
272.10	242	283.95	148	297.00	1411	309.90	161
273.05	2429	284.20	53	297.80	29	312.10	29
274.10	6388	285.00	568	298.15	59	312.95	132
275.10	33125	286.05	77	299.10	30	313.95	394
276.05	4455	288.95	156	300.95	85	315.05	1125
277.00	2937	289.90	55	301.80	75	316.05	566

Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
316.90	46	328.00	324	346.95	161	365.95	749
320.00	28	328.80	33	347.90	29	369.90	34
320.20	72	332.05	198	351.00	79	370.20	27
321.05	364	333.05	317	352.05	821	371.00	249
321.95	92	334.10	2061	353.00	660	372.05	1603
323.10	2995	335.00	516	354.10	899	373.05	318
324.05	493	336.10	34	354.90	53	383.05	427
324.90	42	340.00	31	355.15	118	383.95	167
325.80	33	340.95	443	358.95	64	390.00	229
326.00	37	342.00	70	359.20	44	391.00	166
327.00	712	345.95	805	365.00	4231	391.95	157

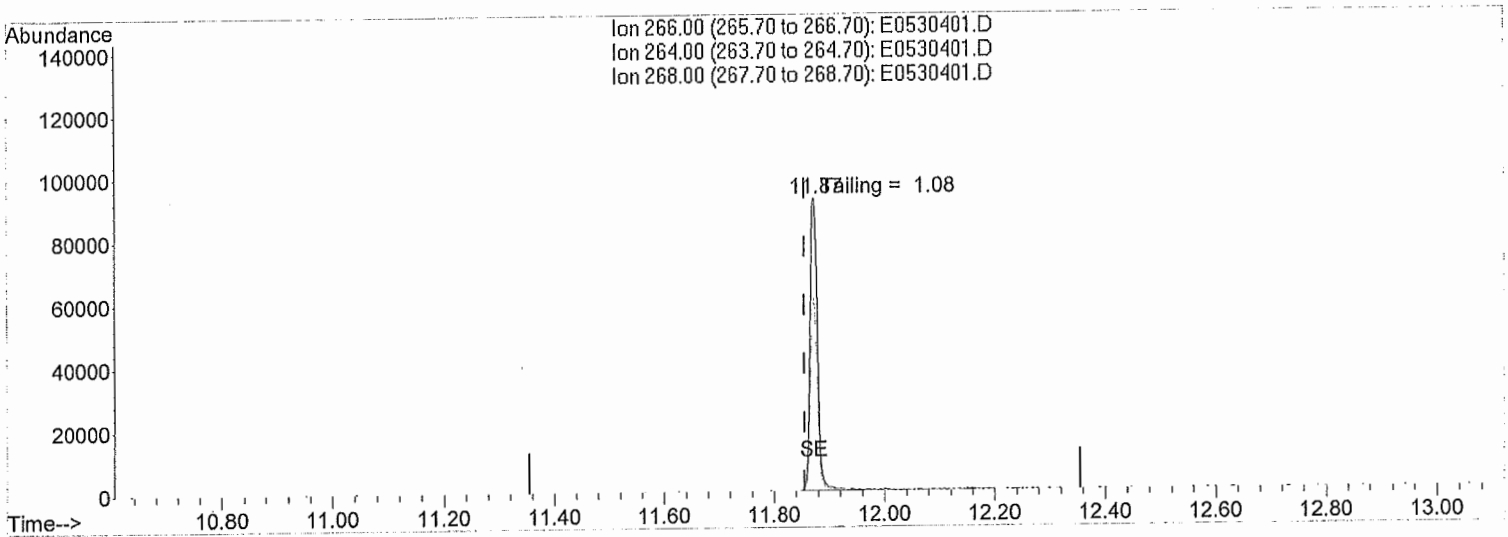
Average of 12.153 to 12.159 min.: E0530401.D
50 PPM TUNE 16512
Modified:subtracted

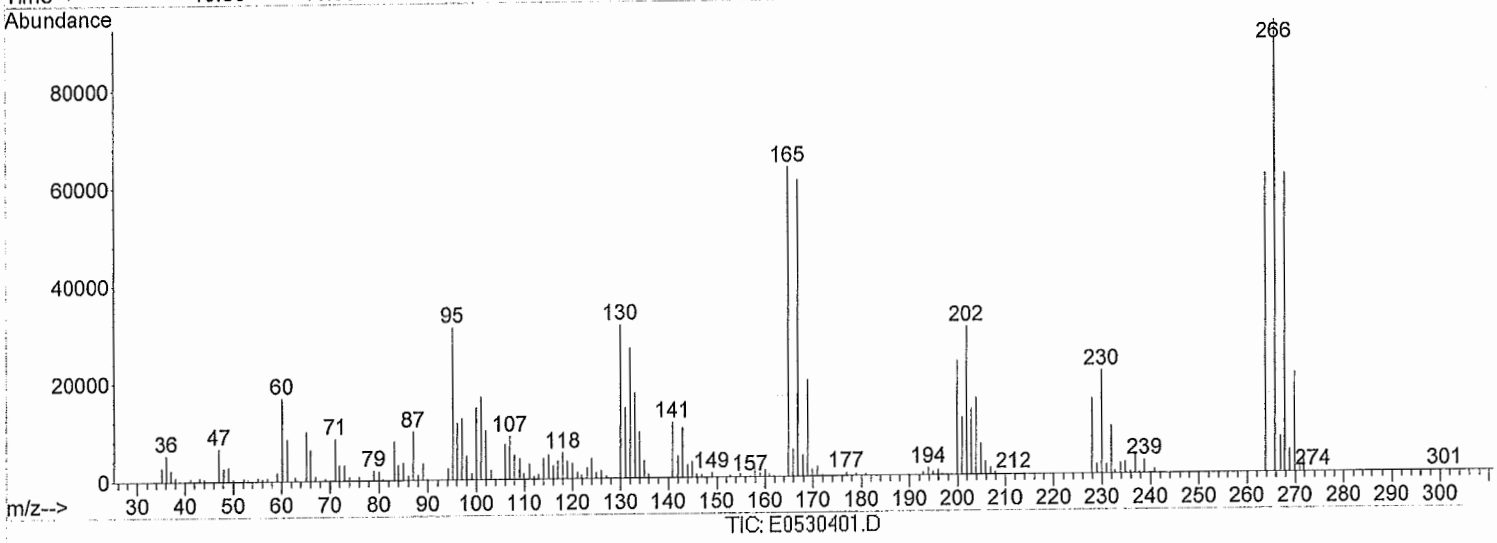
m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
396.90	28	423.10	5648	431.75	80		
401.00	47	424.00	1252	432.60	29		
402.00	667	424.95	90	433.20	28		
403.05	999	425.20	37	433.40	36		
404.00	373	425.90	27	434.60	32		
410.00	40	427.70	41	441.10	22168		
415.00	56	428.20	48	442.05	115333		
419.80	33	428.90	33	443.05	23717		
420.10	30	429.50	36	444.05	2376		
421.05	940	430.30	84	445.05	216		
422.05	1045	430.80	56				

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530401.D
Acq On : 30 May 2014 8:56
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 30 09:15:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(1) Pentachlorophenol (TMC)

11.872min (+0.017) 8.10ug/L

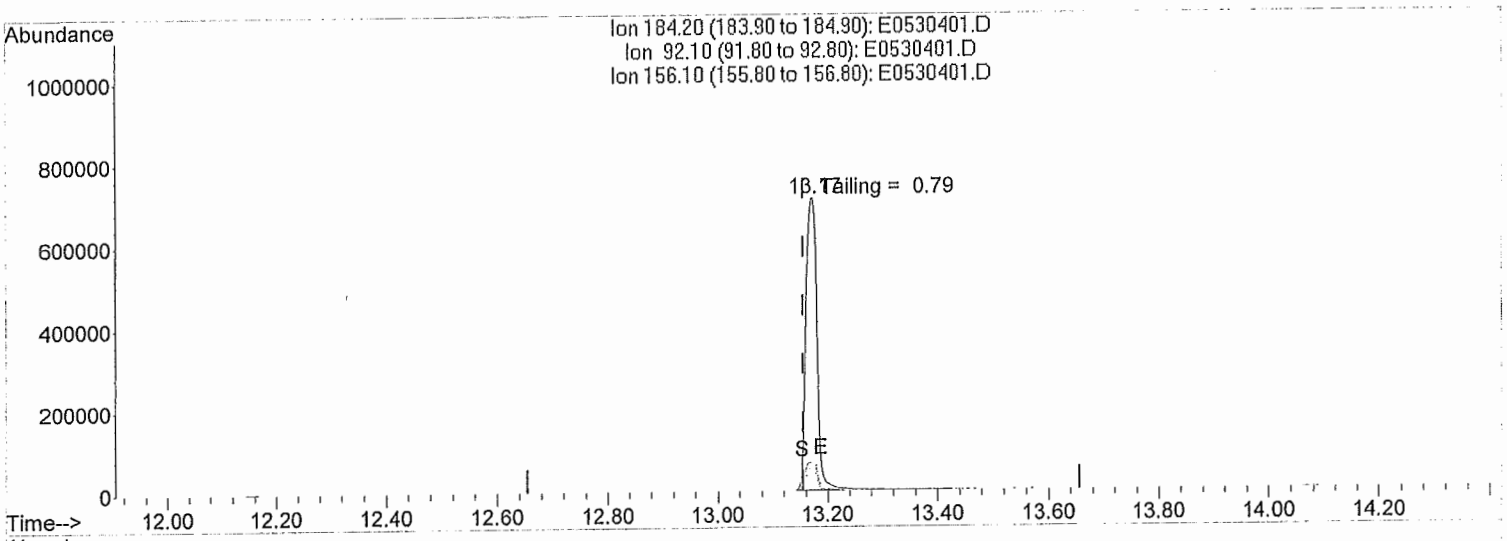
response 86309

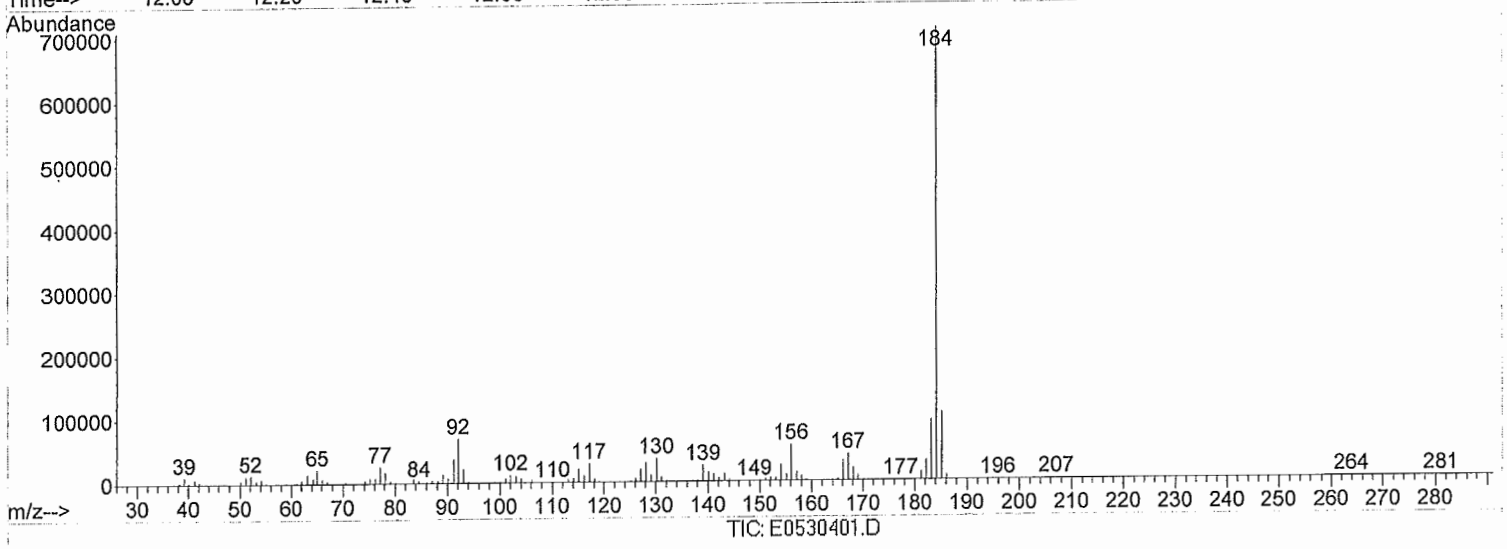
Ion	Exp%	Act%
266.00	100	100
264.00	63.80	63.77
268.00	63.80	62.63
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530401.D
Acq On : 30 May 2014 8:56
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 30 09:15:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(3) Benzidine (T)

13.172min (+0.017) 19.52ug/L

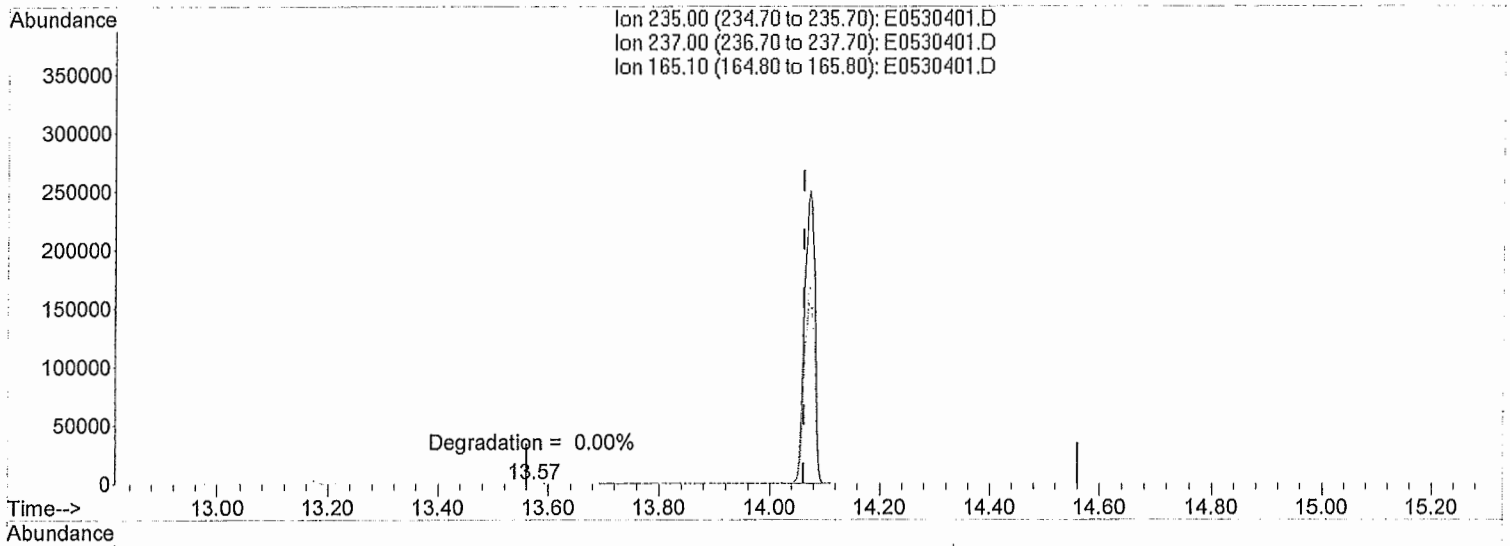
response 1006699

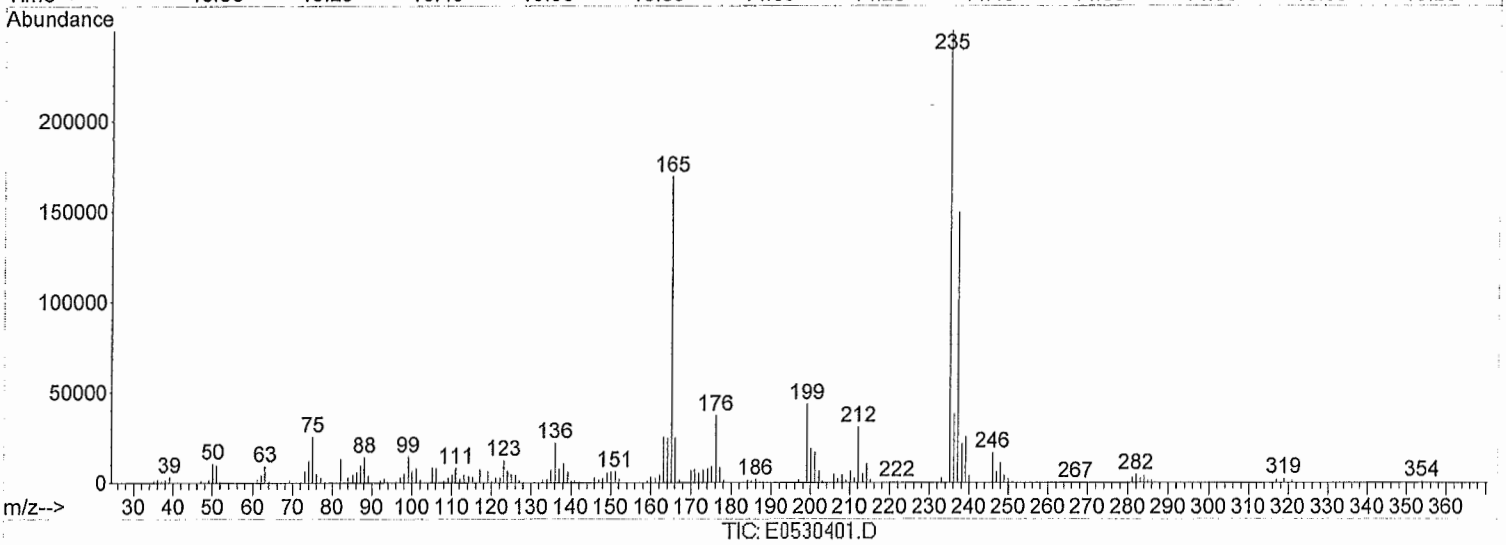
Ion	Exp%	Act%
184.20	100	100
92.10	13.70	11.09
156.10	8.60	7.77
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530401.D
Acq On : 30 May 2014 8:56
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 30 09:15:44 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(4) DDT

14.072min (+0.011) 13.04ug/L

response 338472

Ion	Exp%	Act%
235.00	100	100
237.00	64.80	63.93
165.10	59.00	71.03#
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530402.D
Acq On : 30 May 2014 9:23
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 30 09:55:51 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration

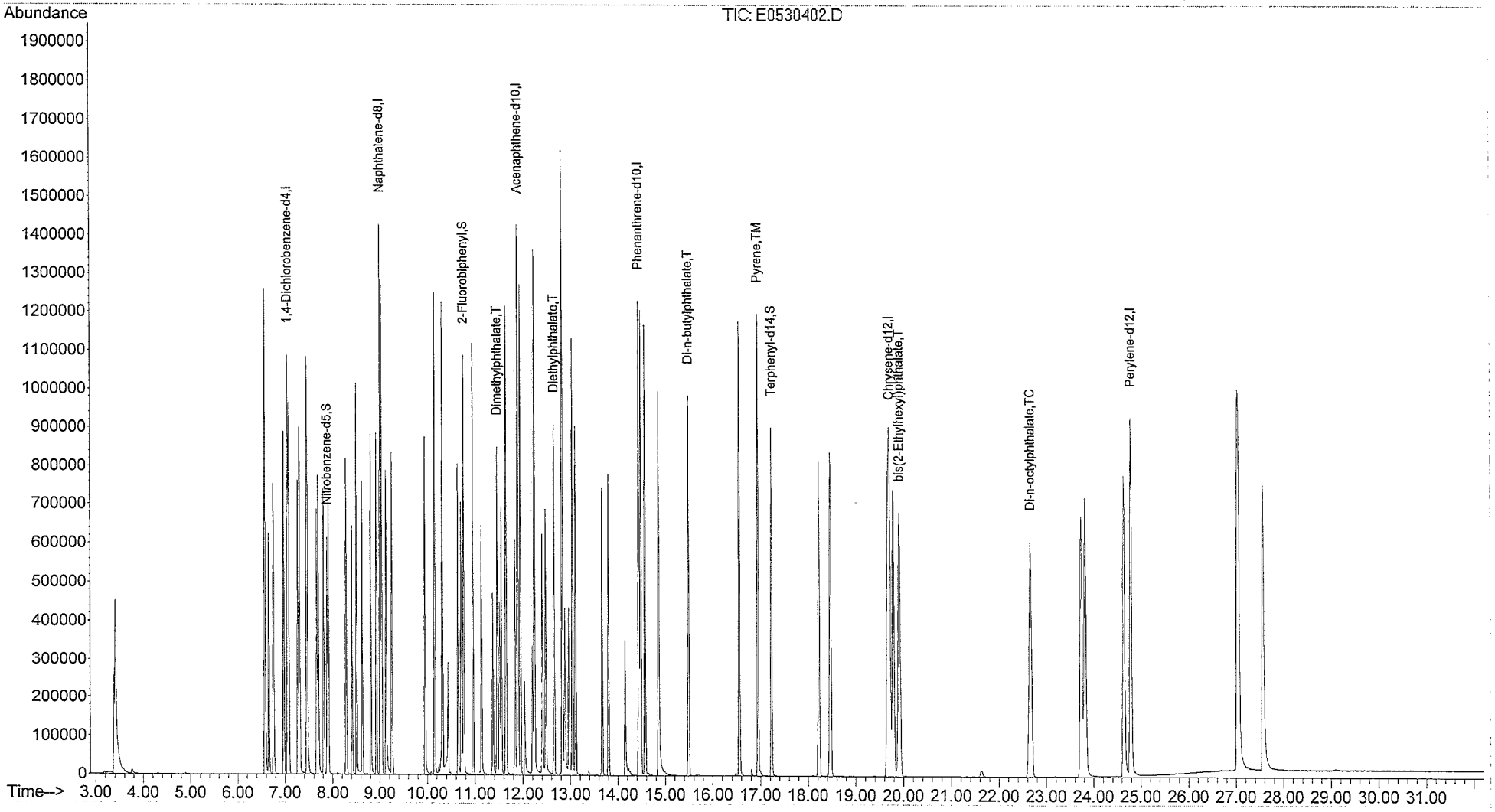
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2443694	40.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	9688795	40.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	5118001	40.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8055175	40.00	ug/L	0.00
10) Chrysene-d12	19.71	240	8051885	40.00	ug/L	0.00
15) Perylene-d12	24.79	264	9305239	40.00	ug/L	0.02
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	2711390	29.93	ug/L	0.00
Spiked Amount 50.000			Recovery = 59.86%			
5) 2-Fluorobiphenyl	10.77	172	5125162	28.68	ug/L	0.00
Spiked Amount 50.000			Recovery = 57.36%			
12) Terphenyl-d14	17.23	244	5082681	29.40	ug/L	0.00
Spiked Amount 50.000			Recovery = 58.80%			
Target Compounds						Qvalue
6) Dimethylphthalate	11.47	163	5804211	29.03	ug/L	99
7) Diethylphthalate	12.66	149	5625730	28.62	ug/L	99
9) Di-n-butylphthalate	15.49	149	9486756	28.72	ug/L	94
11) Pyrene	16.95	202	8605336	29.27	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	7081892	30.47	ug/L	97
14) Di-n-octylphthalate	22.66	149	12932774	30.87	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530402.D
Acq On : 30 May 2014 9:23
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 30 09:55:51 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration



Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270323HW.M
Title : 8270 BNA Calibration
Last Update : Fri May 30 09:56:15 2014
Response Via : Initial Calibration

CC Data File: E0530402.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	106
2	I	Naphthalene-d8	1.000	1.000	0.0	105
3	S	Nitrobenzene-d5	0.374	0.373	0.2	106
4	I	Acenaphthene-d10	1.000	1.000	0.0	106
5	S	2-Fluorobiphenyl	1.397	1.335	4.4	105
6	T	Dimethylphthalate	1.563	1.512	3.2	107
7	T	Diethylphthalate	1.536	1.466	4.6	105
8	I	Phenanthrene-d10	1.000	1.000	0.0	106
9	T	Di-n-butylphthalate	1.640	1.570	4.3	105
10	I	Chrysene-d12	1.000	1.000	0.0	103
11	TM	Pyrene	1.460	1.425	2.4	105
12	S	Terphenyl-d14	0.859	0.842	2.0	105
13	T	bis(2-Ethylhexyl)phthalate	1.155	1.173	-1.6	104
14	TC	Di-n-octylphthalate	2.082	2.142	-2.9#	104
15	I	Perylene-d12	1.000	1.000	0.0	102

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Instrument Logs/
Analysis Notebook Pages

Rev. 1.1

Injection Log

Directory: C:\MSDCHEM\1\DATA\052814

Line	Vial	FileName	Multiplier	SampleName	Misc Info
1	1	E0528401.d	1.	50 PPM TUNE 16512 Pass	AG-5 8270
2	2	E0528402.d	1.	CAL BLK 16516	AG-5 8270
3	3	E0528403.d	1.	5 PPM STD 16517	AG-5 8270
4	4	E0528404.d	1.	10 PPM STD 16518	AG-5 8270
5	5	E0528405.d	1.	20 PPM STD 16519	AG-5 8270
6	6	E0528406.d	1.	30 PPM STD 16520	AG-5 8270
7	7	E0528407.d	1.	40 PPM STD 16521	AG-5 8270
8	8	E0528408.d	1.	60 PPM STD 16522	AG-5 8270
9	9	E0528409.d	1.	30 PPM ICV 16523 Pass	AG-5 8270
10	10	E0528410.d	1.	006620-01B1 Pass	B10211 AG-5 8270 ...
11	11	E0528411.d	1.	006620-01K1	B10211 AG-5 8270 ...
12	12	E0528412.d	1.	006620-01	B10211 AG-5 8270 ...
13	13	E0528413.d	1.	006620-01MS	B10211 AG-5 8270 ...
14	14	E0528414.d	1.	006620-01MD	B10211 AG-5 8270 ...
15	15	E0528415.d	1.	006620-02	B10211 AG-5 8270 ...
16	16	E0528416.d	1.	006620-03 Pass	B10211 AG-5 8270 ...

Valid Curve Saved as E8270323HW.M

E8270323HT.W used for Tissue Analysis.

PEK 5/29/2014

Continued on Page

Read and Understood By

PEK — Signed
5/29/2014 — Date
Signed
5/30/14 — Date

Injection Log

Directory: C:\MSDCHEM\1\DATA\053014

Line	Vial	FileName	Multiplier	SampleName	Misc Info
1	1	E0530401.d	1.	50 PPM TUNE 16512 Pass	AG-5 8270
2	2	E0530402.d	1.	30 PPM STD 16520 Pass	AG-5 8270
3	3	E0530403.d	1.	006619-03B1 Pass	B10219 AG-5 8270 ...
4	4	E0530404.d	1.	006619-03K1	B10219 AG-5 8270 ...
5	5	E0530405.d	1.	006619-01	B10219 AG-5 8270 ...
6	6	E0530406.d	1.	006619-02	B10219 AG-5 8270 ...
7	7	E0530407.d	1.	006619-03	B10219 AG-5 8270 ...
8	8	E0530408.d	1.	006619-03MS	B10219 AG-5 8270 ...
9	9	E0530409.d	1.	006619-03MD	B10219 AG-5 8270 ...
10	10	E0530410.d	1.	006619-04	B10219 AG-5 8270 ...
11	11	E0530411.d	1.	006619-05	B10219 AG-5 8270 ...
12	12	E0530412.d	1.	006619-06	B10219 AG-5 8270 ...
13	13	E0530413.d	1.	006619-07	B10219 AG-5 8270 ...
14	14	E0530414.d	1.	006619-08	B10219 AG-5 8270 ...
15	15	E0530415.d	1.	006619-09	B10219 AG-5 8270 ...
16	16	E0530416.d	1.	006619-10 Pass	B10219 AG-5 8270 ...

PEK 5/31/2014

Continued on Page

Read and Understood By

PEK — Signed
5/31/2014 — Date
Signed
6/2/14 — Date

Blank / Field Sample / QC Data

Sample Results

Chromatogram

Quant Report (If applicable)

Confirmation Analysis Quant Report / Chromatogram (If applicable)

Tentatively Identified Compounds (If required)

Rev. 1.1

METHOD BLANK REPORT
ARDL, Inc. 400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	NA	ARDL Lab No.:	006619-03B1
Desc/Location:	NA	Lab Filename:	E0530403
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	05/29/2014
Matrix:	QC Material	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Dimethylphthalate	200	1000	ND		UG/KG
Diethylphthalate	200	1000	ND		UG/KG
Di-n-butylphthalate	200	1000	ND		UG/KG
Pyrene	200	1000	ND		UG/KG
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG
Di-n-octylphthalate	200	1000	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	69%
2-Fluorobiphenyl	30-130	75%
Terphenyl-d14	30-130	72%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Blank for Run B10219, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530403.D
Acq On : 30 May 2014 10:04
Operator : PEK
Sample : 006619-03B1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 30 10:37:47 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2639439	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10260554	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5438322	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8725607	8000.00	ug/L	0.00
10) Chrysene-d12	19.70	240	9262316	8000.00	ug/L	-0.02
15) Perylene-d12	24.79	264	11022589	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1664360	3469.12	ug/L	0.00
Spiked Amount 5000.000			Recovery =	69.38%		
5) 2-Fluorobiphenyl	10.76	172	3562493	3751.93	ug/L	0.00
Spiked Amount 5000.000			Recovery =	75.04%		
12) Terphenyl-d14	17.23	244	3573637	3593.42	ug/L	0.00
Spiked Amount 5000.000			Recovery =	71.87%		

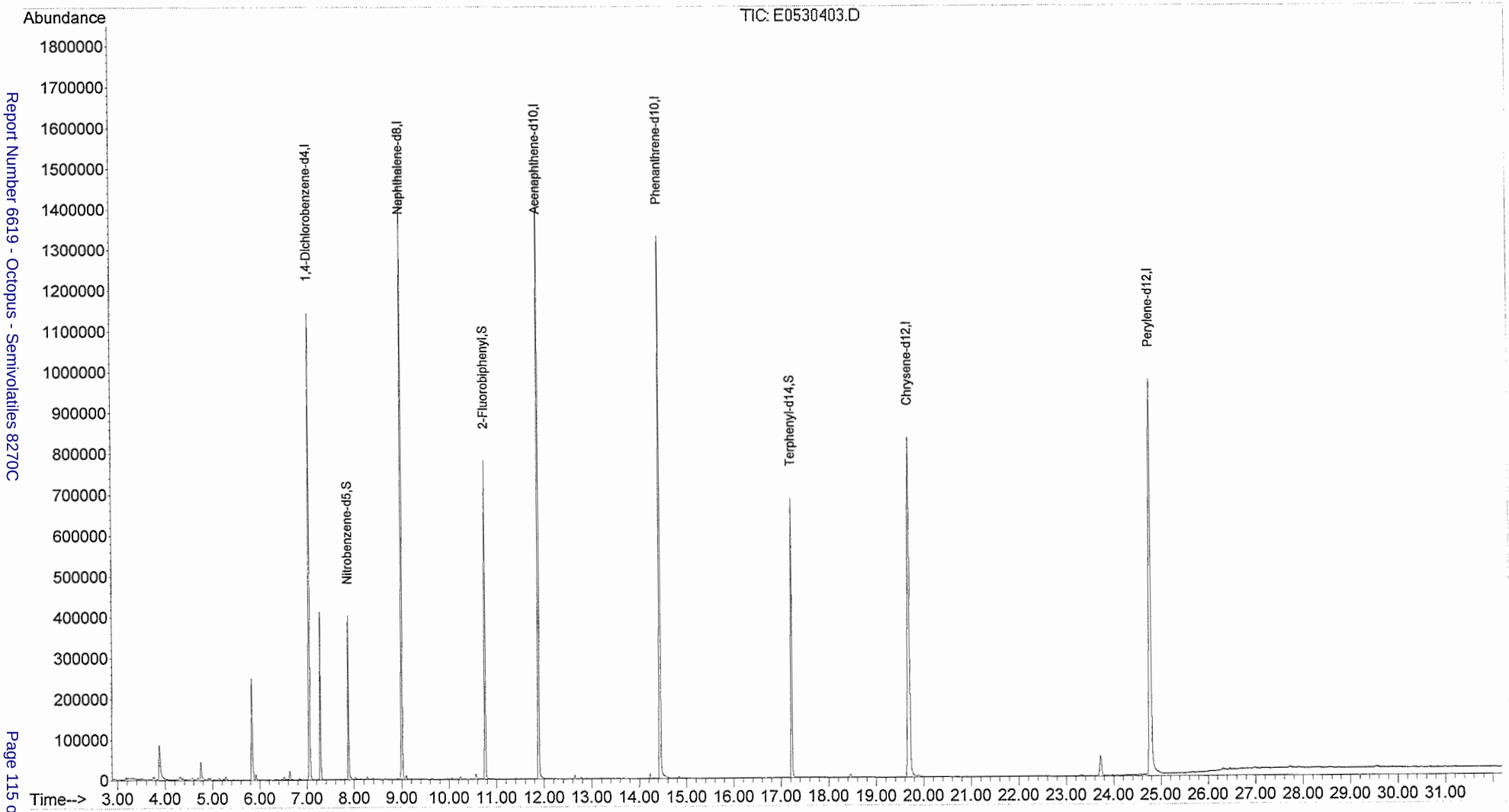
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530403.D
Acq On : 30 May 2014 10:04
Operator : PEK
Sample : 006619-03B1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: May 30 10:37:47 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	NA	ARDL Lab No.:	006619-03K1
Desc/Location:	NA	Lab Filename:	E0530404
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	05/29/2014
Matrix:	QC Material	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Dimethylphthalate	200	1000	3730		UG/KG
Diethylphthalate	200	1000	3810		UG/KG
Di-n-butylphthalate	200	1000	3940		UG/KG
Pyrene	200	1000	4120		UG/KG
bis(2-Ethylhexyl)phthalate	200	1000	3900		UG/KG
Di-n-octylphthalate	200	1000	3830		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	78%
2-Fluorobiphenyl	30-130	82%
Terphenyl-d14	30-130	81%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Spike Blank for Run B10219, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530404.D
Acq On : 30 May 2014 10:46
Operator : PEK
Sample : 006619-03K1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 30 11:18:51 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

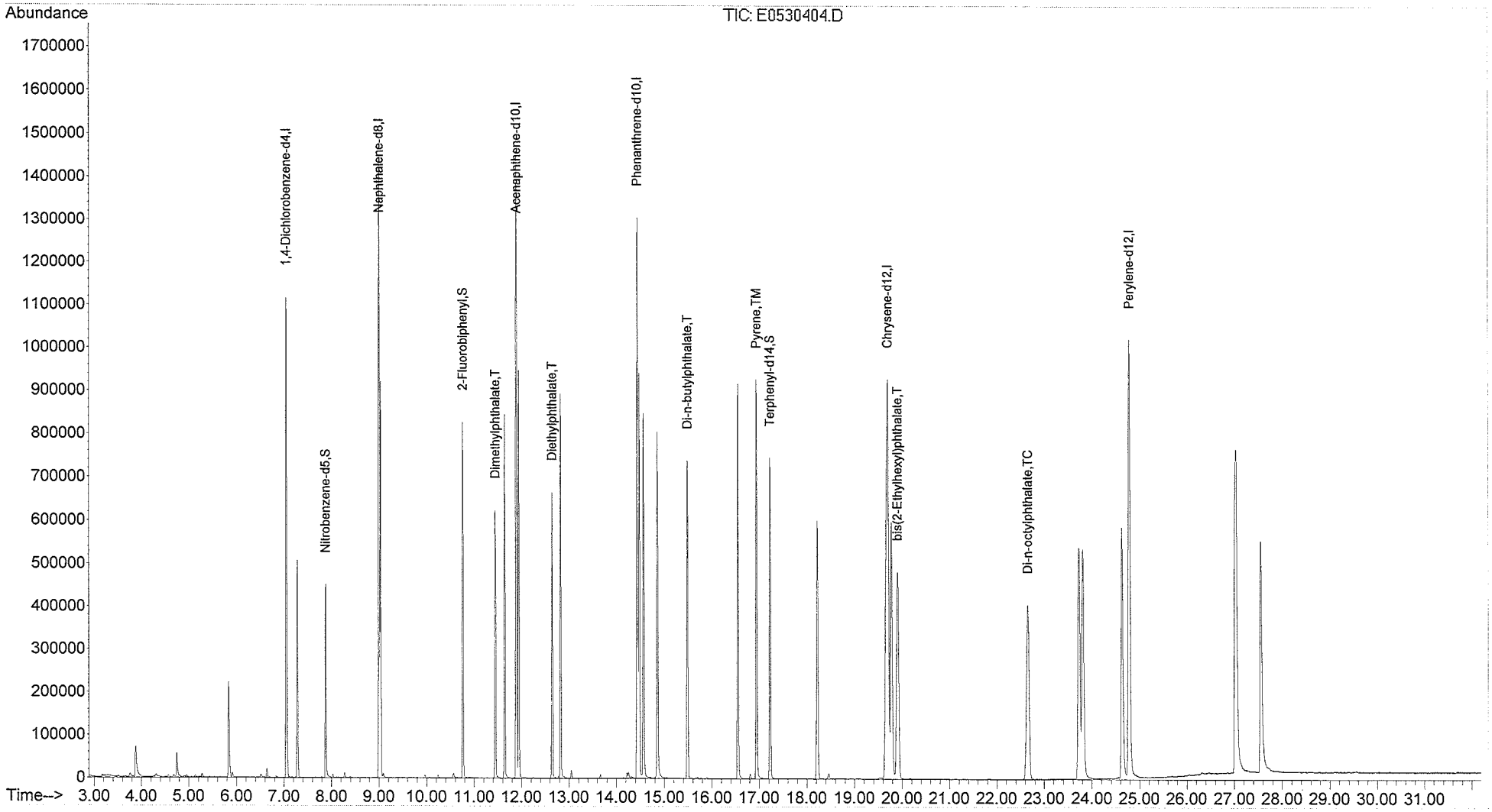
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2566343	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10063532	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5326682	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8379160	8000.00	ug/L	0.00
10) Chrysene-d12	19.70	240	8692628	8000.00	ug/L	-0.01
15) Perylene-d12	24.79	264	10929901	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1846655	3924.44	ug/L	0.00
Spiked Amount 5000.000			Recovery =	78.49%		
5) 2-Fluorobiphenyl	10.76	172	3791544	4076.85	ug/L	0.00
Spiked Amount 5000.000			Recovery =	81.54%		
12) Terphenyl-d14	17.23	244	3760120	4028.73	ug/L	0.00
Spiked Amount 5000.000			Recovery =	80.57%		
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	3885659	3734.06	ug/L	99
7) Diethylphthalate	12.65	149	3901382	3813.86	ug/L	99
9) Di-n-butylphthalate	15.49	149	6766065	3938.00	ug/L	94
11) Pyrene	16.94	202	6533227	4117.05	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.91	149	4898605	3904.92	ug/L	97
14) Di-n-octylphthalate	22.65	149	8669745	3833.26	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530404.D
Acq On : 30 May 2014 10:46
Operator : PEK
Sample : 006619-03K1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 30 11:18:51 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK109O	ARDL Lab No.:	006619-01
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530405
Sample Date:	01/31/2014	Received Date:	04/29/2014
Sample Time:	1045	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	66%
2-Fluorobiphenyl	30-130	69%
Terphenyl-d14	30-130	64%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-01, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530405.D
Acq On : 30 May 2014 11:28
Operator : PEK
Sample : 006619-01
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 30 12:00:34 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2499004	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	9751398	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5266271	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8375380	8000.00	ug/L	0.00
10) Chrysene-d12	19.70	240	9328192	8000.00	ug/L	-0.02
15) Perylene-d12	24.78	264	10370017	8000.00	ug/L	-0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1515511	3323.80	ug/L	0.00
Spiked Amount 5000.000			Recovery =	66.48%		
5) 2-Fluorobiphenyl	10.76	172	3177636	3455.94	ug/L	0.00
Spiked Amount 5000.000			Recovery =	69.12%		
12) Terphenyl-d14	17.23	244	3222719	3217.68	ug/L	0.00
Spiked Amount 5000.000			Recovery =	64.35%		

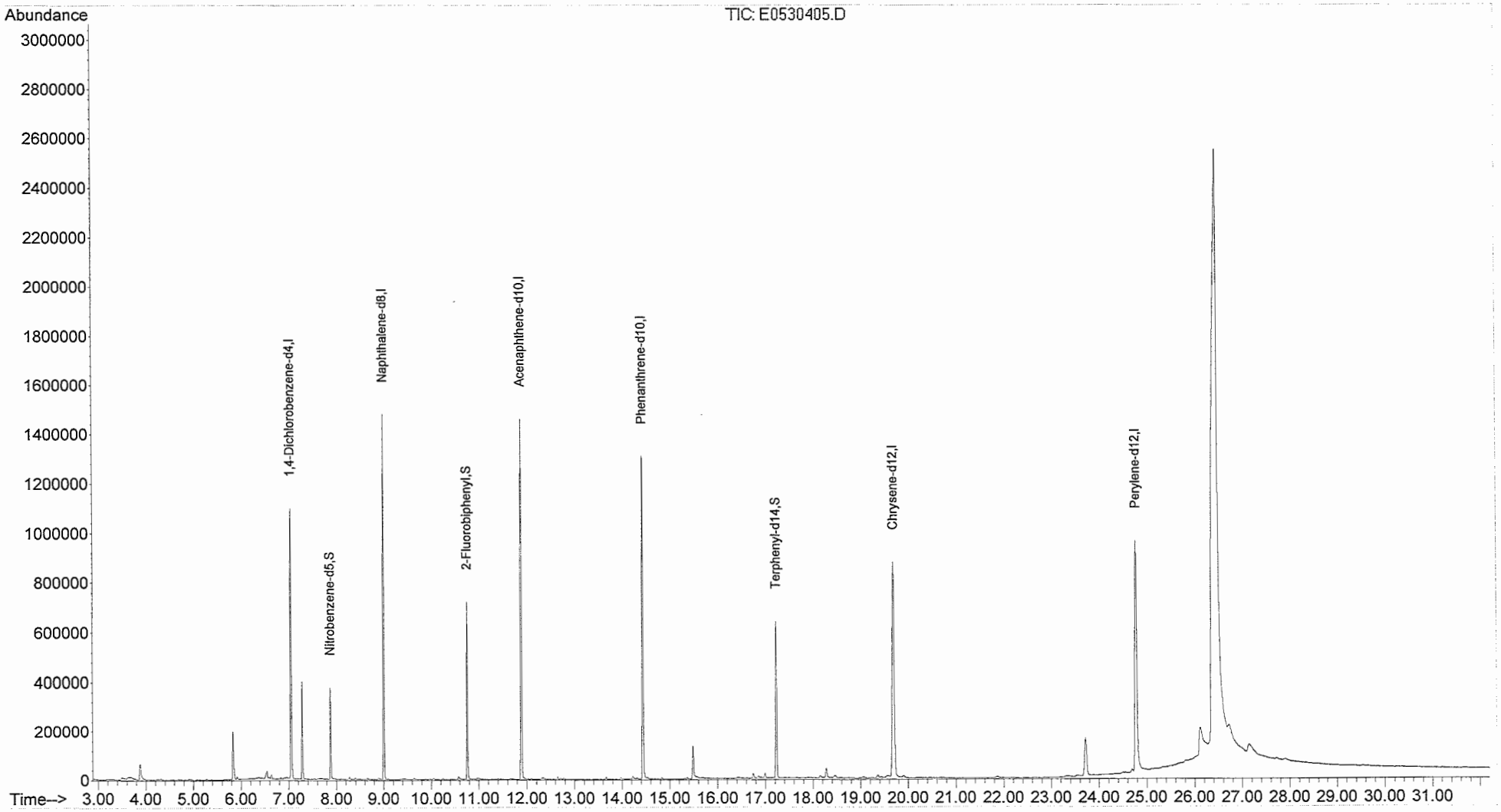
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530405.D
Acq On : 30 May 2014 11:28
Operator : PEK
Sample : 006619-01
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: May 30 12:00:34 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK110O	ARDL Lab No.:	006619-02
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530406
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0838	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	68%
2-Fluorobiphenyl	30-130	72%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-02, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530406.D
Acq On : 30 May 2014 12:10
Operator : PEK
Sample : 006619-02
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 30 13:35:41 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2618021	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10128125	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5402203	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8631272	8000.00	ug/L	0.00
10) Chrysene-d12	19.70	240	9769694	8000.00	ug/L	-0.01
15) Perylene-d12	24.79	264	9687934	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1616958	3414.38	ug/L	0.00
Spiked Amount 5000.000			Recovery =	68.29%		
5) 2-Fluorobiphenyl	10.76	172	3416137	3621.84	ug/L	0.00
Spiked Amount 5000.000			Recovery =	72.44%		
12) Terphenyl-d14	17.23	244	3526224	3361.60	ug/L	0.00
Spiked Amount 5000.000			Recovery =	67.23%		

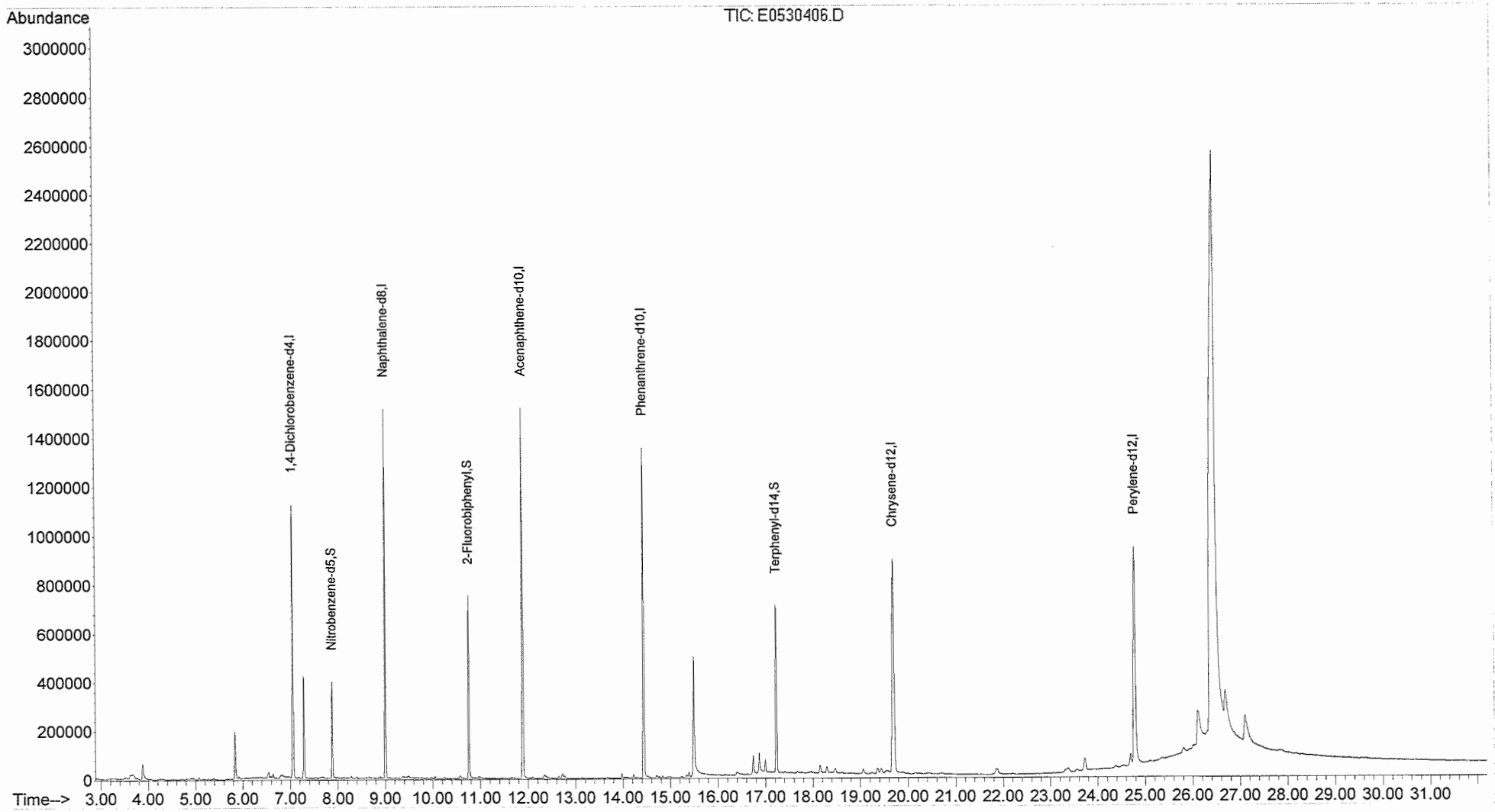
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530406.D
Acq On : 30 May 2014 12:10
Operator : PEK
Sample : 006619-02
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 30 13:35:41 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK111O	ARDL Lab No.:	006619-03
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530407
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	66%
2-Fluorobiphenyl	30-130	71%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-03, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530407.D
Acq On : 30 May 2014 12:51
Operator : PEK
Sample : 006619-03
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 30 13:35:52 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2641293	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10167271	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5527978	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8765525	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9910534	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	8903288	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1566409	3294.91	ug/L	0.00
Spiked Amount 5000.000			Recovery =	65.90%		
5) 2-Fluorobiphenyl	10.76	172	3403013	3525.84	ug/L	0.00
Spiked Amount 5000.000			Recovery =	70.52%		
12) Terphenyl-d14	17.23	244	3585751	3369.77	ug/L	0.00
Spiked Amount 5000.000			Recovery =	67.40%		

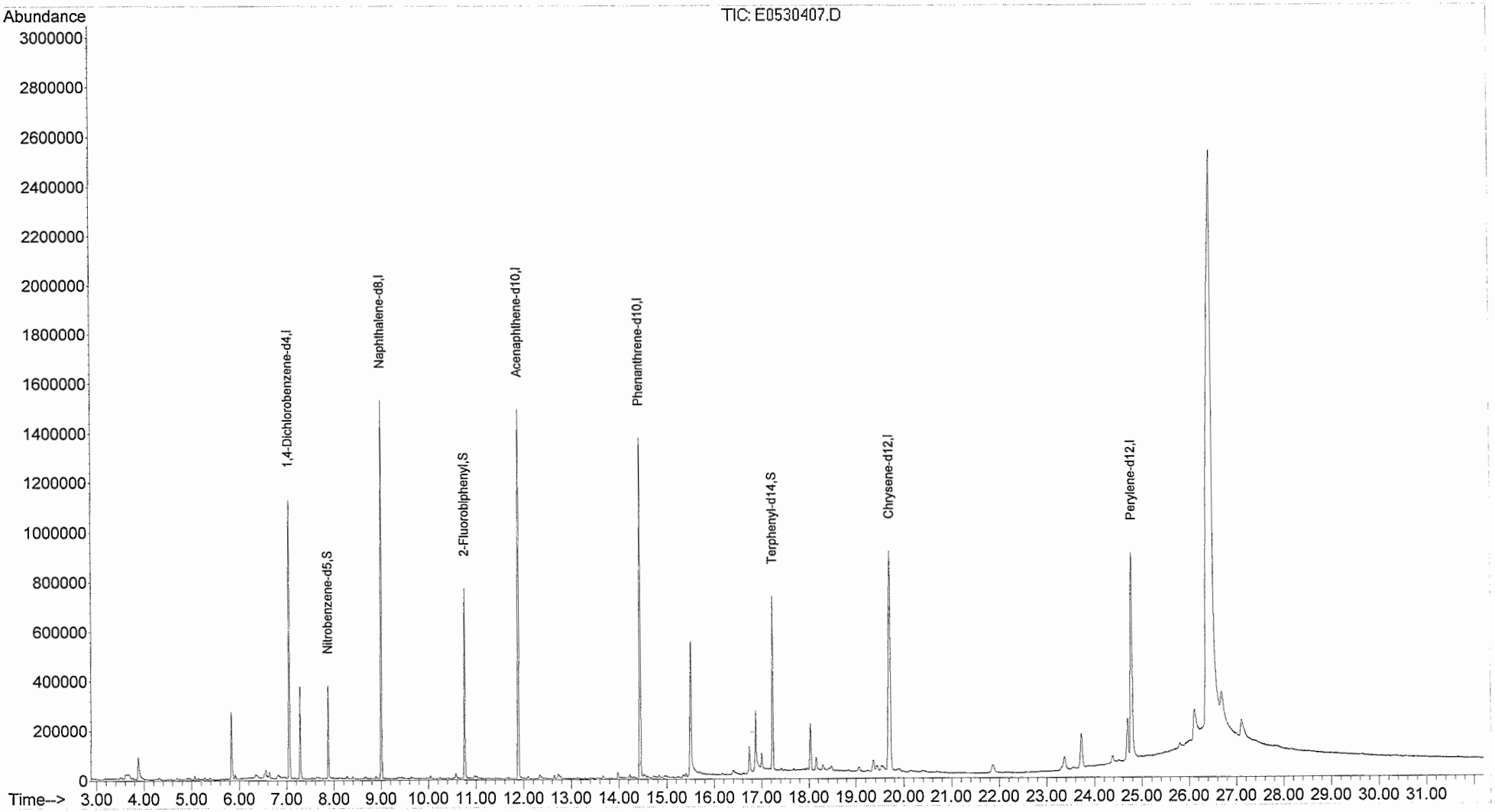
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530407.D
Acq On : 30 May 2014 12:51
Operator : PEK
Sample : 006619-03
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 30 13:35:52 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK111O	ARDL Lab No.:	006619-03MS
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530408
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	3440		UG/KG	1
Diethylphthalate	200	1000	3500		UG/KG	1
Di-n-butylphthalate	200	1000	3390		UG/KG	1
Pyrene	200	1000	3720		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	3620		UG/KG	1
Di-n-octylphthalate	200	1000	3350		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	70%
2-Fluorobiphenyl	30-130	74%
Terphenyl-d14	30-130	73%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Matrix Spike for 006619-03, BNA'S (METHOD 8270)

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530408.D
Acq On : 30 May 2014 13:33
Operator : PEK
Sample : 006619-03MS
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 30 14:06:09 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

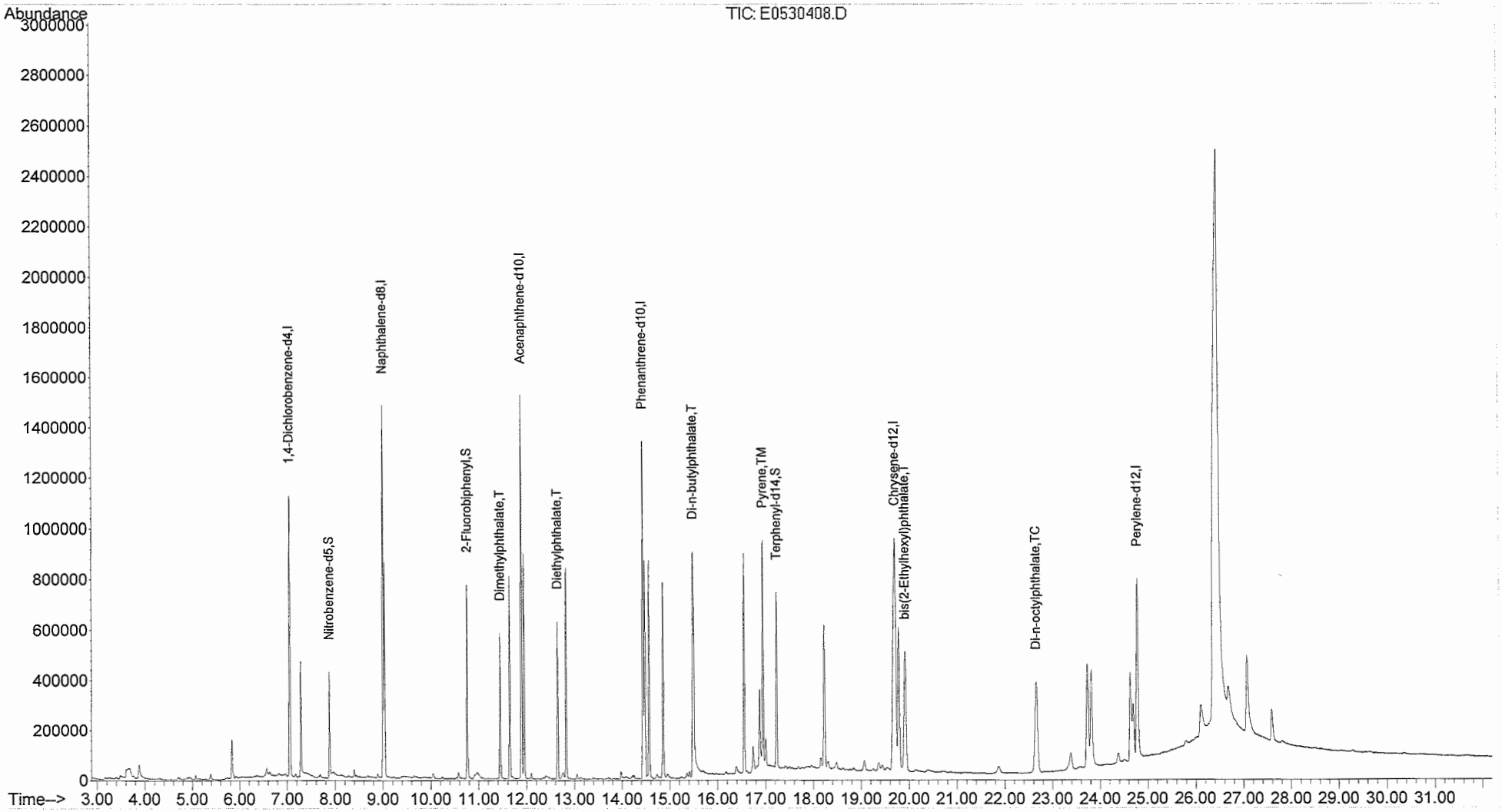
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2636101	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10204187	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5436661	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8661285	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9108363	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	7312660	8000.00	ug/L	-0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1674953	3510.48	ug/L	0.00
Spiked Amount 5000.000			Recovery =	70.21%		
5) 2-Fluorobiphenyl	10.76	172	3499229	3686.43	ug/L	0.00
Spiked Amount 5000.000			Recovery =	73.73%		
12) Terphenyl-d14	17.23	244	3560865	3641.10	ug/L	0.00
Spiked Amount 5000.000			Recovery =	72.82%		
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	3649902	3436.55	ug/L	99
7) Diethylphthalate	12.65	149	3653735	3499.51	ug/L	99
9) Di-n-butylphthalate	15.49	149	6012525	3385.44	ug/L	94
11) Pyrene	16.95	202	6180489	3717.00	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	4757561	3619.39	ug/L	97
14) Di-n-octylphthalate	22.66	149	7943404	3351.81	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530408.D
Acq On : 30 May 2014 13:33
Operator : PEK
Sample : 006619-03MS
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 30 14:06:09 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK111O	ARDL Lab No.:	006619-03MD
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530409
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	3260		UG/KG	1
Diethylphthalate	200	1000	3300		UG/KG	1
Di-n-butylphthalate	200	1000	3210		UG/KG	1
Pyrene	200	1000	3550		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	3440		UG/KG	1
Di-n-octylphthalate	200	1000	3190		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	66%
2-Fluorobiphenyl	30-130	71%
Terphenyl-d14	30-130	72%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Matrix Spike Duplicate for 006619-03, BNA'S (METHOD 8270)

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530409.D
Acq On : 30 May 2014 14:15
Operator : PEK
Sample : 006619-03MD
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 30 15:18:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

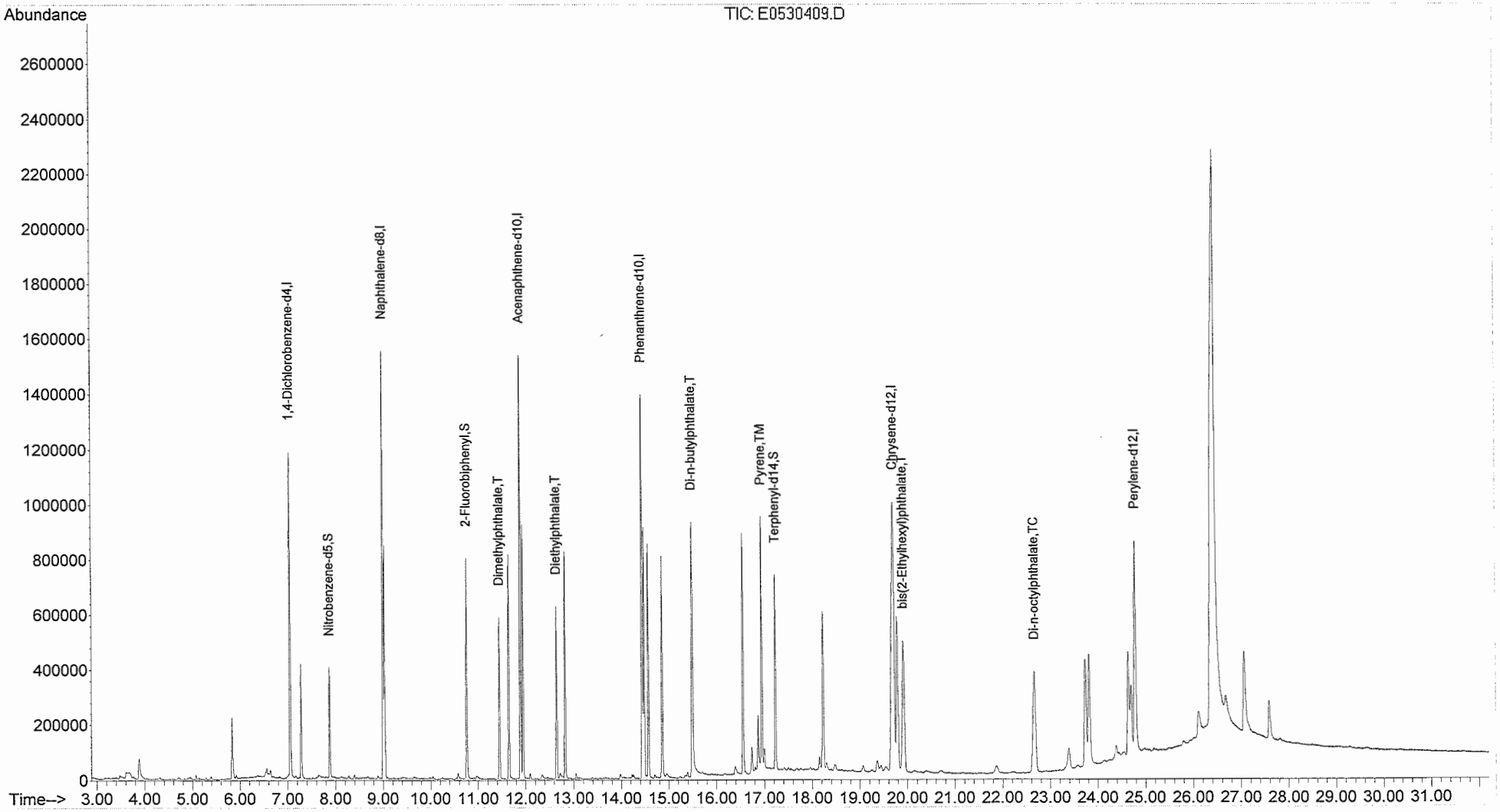
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2799069	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10837921	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5751479	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.45	188	9046398	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9650854	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	7869700	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1673146	3301.64	ug/L	0.00
Spiked Amount 5000.000			Recovery =	66.03%		
5) 2-Fluorobiphenyl	10.76	172	3558735	3543.90	ug/L	0.00
Spiked Amount 5000.000			Recovery =	70.88%		
12) Terphenyl-d14	17.23	244	3707919	3578.35	ug/L	0.00
Spiked Amount 5000.000			Recovery =	71.57%		
Target Compounds						Qvalue
6) Dimethylphthalate	11.45	163	3665328	3262.17	ug/L	99
7) Diethylphthalate	12.65	149	3650024	3304.60	ug/L	99
9) Di-n-butylphthalate	15.49	149	5960101	3213.06	ug/L	94
11) Pyrene	16.95	202	6256484	3551.19	ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	4791385	3440.22	ug/L	97
14) Di-n-octylphthalate	22.66	149	8002217	3186.82	ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530409.D
Acq On : 30 May 2014 14:15
Operator : PEK
Sample : 006619-03MD
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 30 15:18:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK112O	ARDL Lab No.:	006619-04
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530410
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1000	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	45%
2-Fluorobiphenyl	30-130	57%
Terphenyl-d14	30-130	67%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-04, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530410.D
Acq On : 30 May 2014 14:57
Operator : PEK
Sample : 006619-04
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 30 15:45:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2651638	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10211789	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5537005	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8714529	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9727276	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	8150138	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1074298	2249.91	ug/L	0.00
Spiked Amount 5000.000			Recovery =	45.00%		
5) 2-Fluorobiphenyl	10.76	172	2731212	2825.18	ug/L	0.00
Spiked Amount 5000.000			Recovery =	56.50%		
12) Terphenyl-d14	17.23	244	3474176	3326.43	ug/L	0.00
Spiked Amount 5000.000			Recovery =	66.53%		

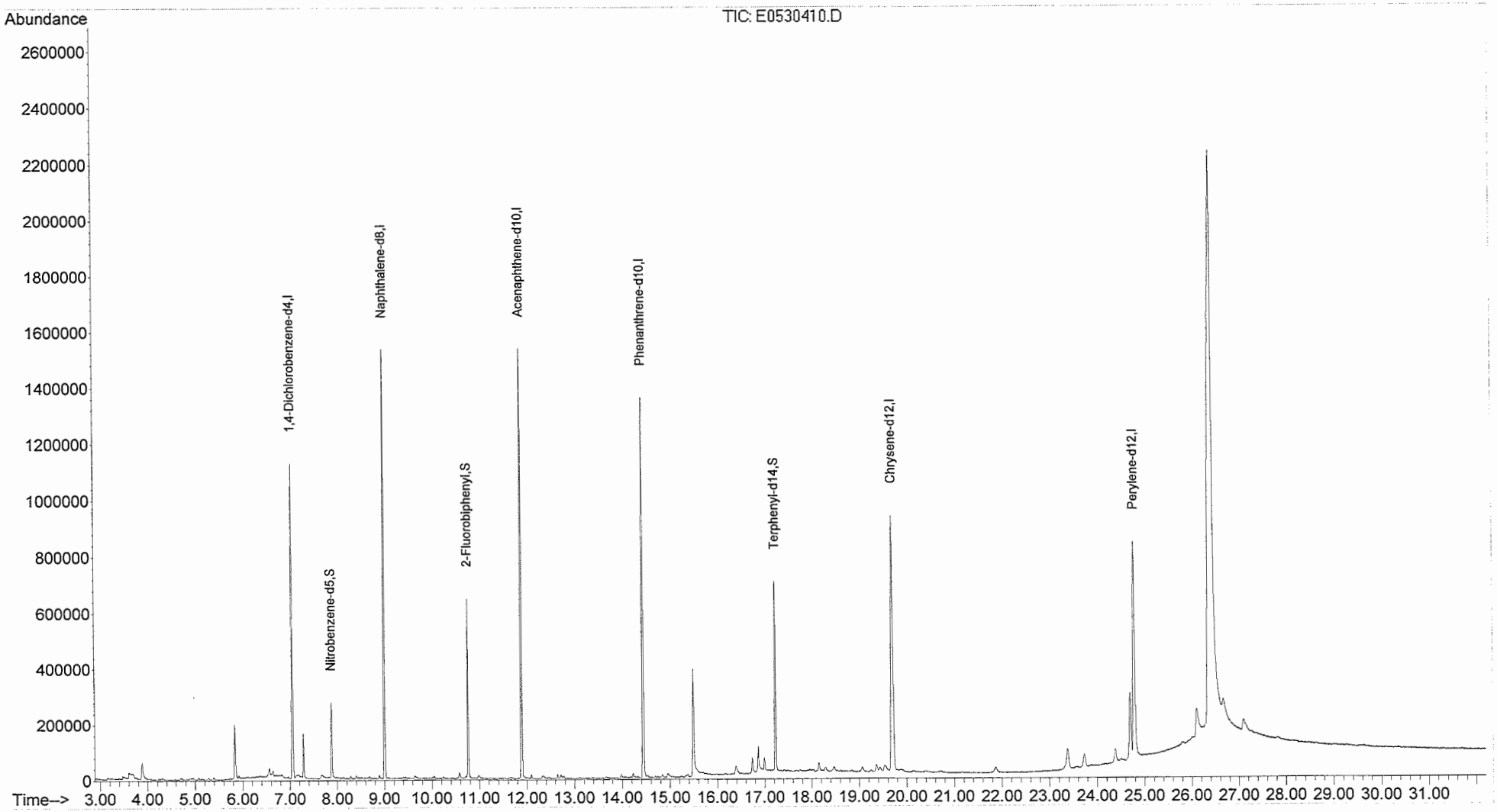
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530410.D
Acq On : 30 May 2014 14:57
Operator : PEK
Sample : 006619-04
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 30 15:45:26 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK113O	ARDL Lab No.:	006619-05
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530411
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1035	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	50%
2-Fluorobiphenyl	30-130	65%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-05, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530411.D
Acq On : 30 May 2014 15:39
Operator : PEK
Sample : 006619-05
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 30 16:57:49 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2665641	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10367302	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5585536	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	8919179	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9768097	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	7061389	8000.00	ug/L	-0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1203135	2481.94	ug/L	0.00
Spiked Amount 5000.000			Recovery =	49.64%		
5) 2-Fluorobiphenyl	10.76	172	3185240	3266.20	ug/L	0.00
Spiked Amount 5000.000			Recovery =	65.32%		
12) Terphenyl-d14	17.23	244	3935884	3752.75	ug/L	0.00
Spiked Amount 5000.000			Recovery =	75.06%		

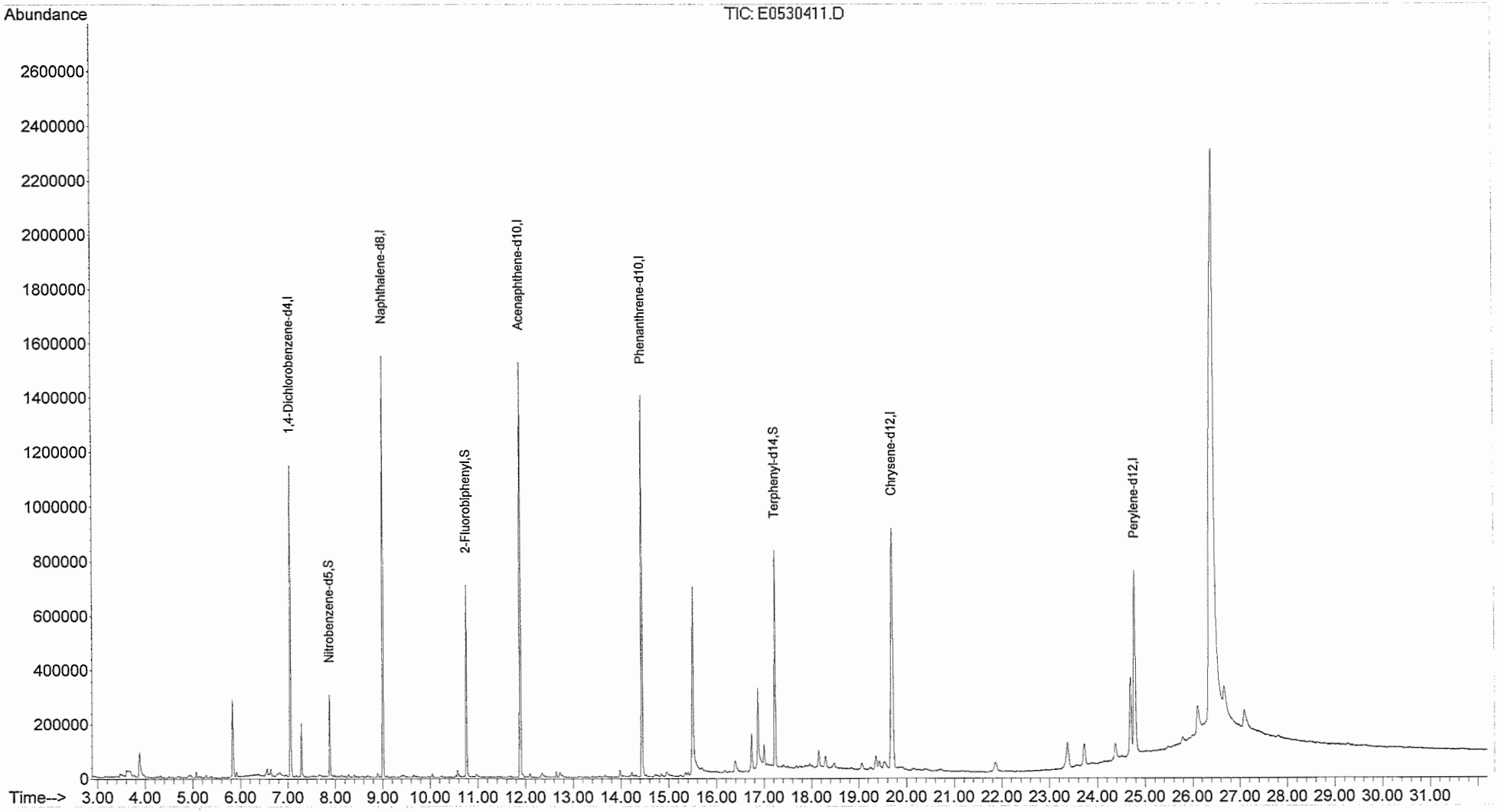
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530411.D
Acq On : 30 May 2014 15:39
Operator : PEK
Sample : 006619-05
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 30 16:57:49 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK114O	ARDL Lab No.:	006619-06
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530412
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1132	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	51%
2-Fluorobiphenyl	30-130	64%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-06, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530412.D
Acq On : 30 May 2014 16:21
Operator : PEK
Sample : 006619-06
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 30 16:57:57 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2848909	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	11042034	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5922042	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9337029	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10227236	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	7136291	8000.00	ug/L	-0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1314226	2545.44	ug/L	0.00
Spiked Amount 5000.000			Recovery =	50.91%		
5) 2-Fluorobiphenyl	10.76	172	3320851	3211.76	ug/L	0.00
Spiked Amount 5000.000			Recovery =	64.24%		
12) Terphenyl-d14	17.23	244	4110736	3743.51	ug/L	0.00
Spiked Amount 5000.000			Recovery =	74.87%		

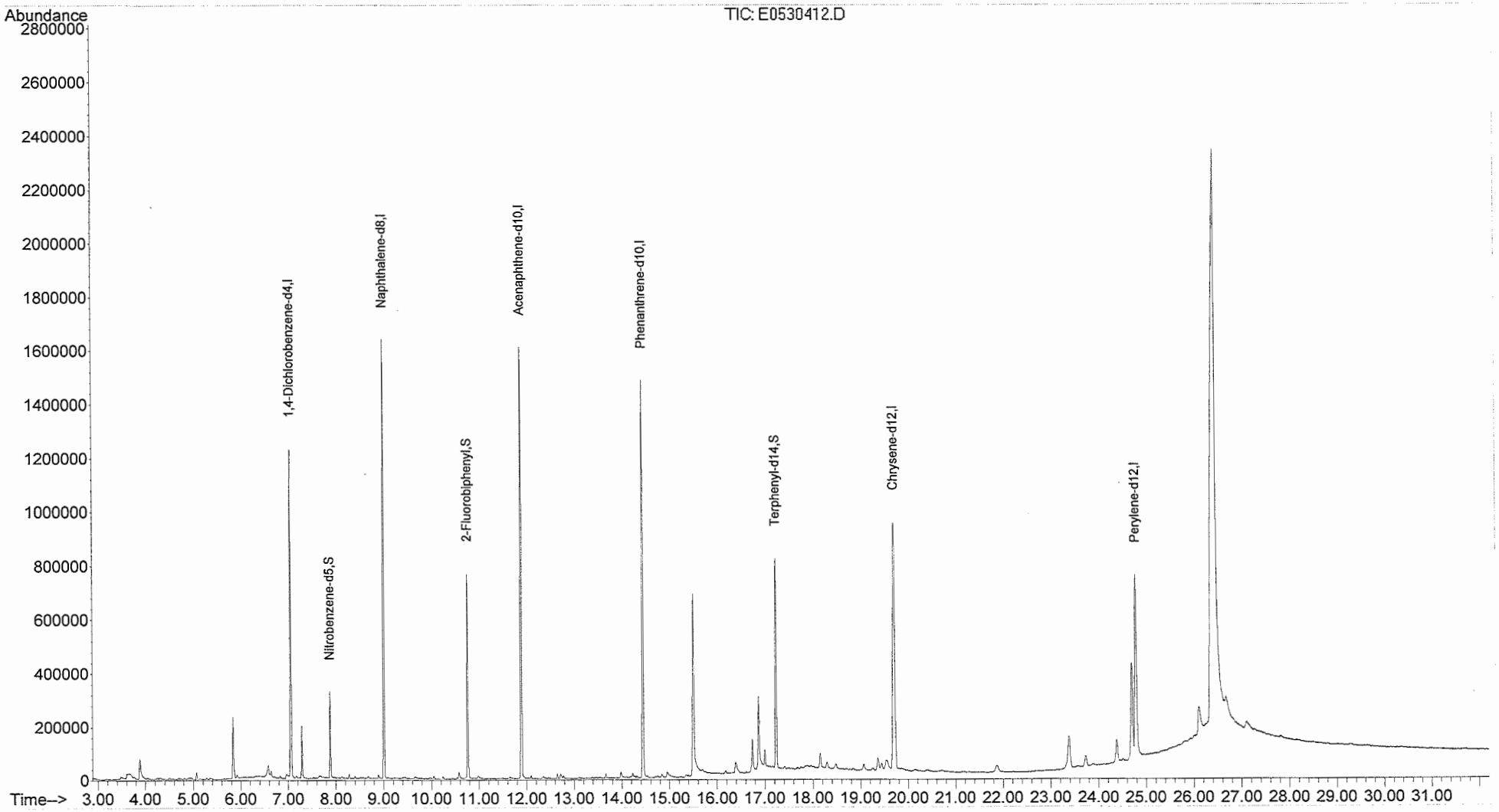
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530412.D
Acq On : 30 May 2014 16:21
Operator : PEK
Sample : 006619-06
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 12 Sample Multiplier: 1

Quant Time: May 30 16:57:57 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK115O	ARDL Lab No.:	006619-07
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530413
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1301	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	61%
2-Fluorobiphenyl	30-130	68%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-07, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530413.D
Acq On : 30 May 2014 17:03
Operator : PEK
Sample : 006619-07
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 31 10:03:21 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2705630	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10422393	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5709627	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9021496	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9662580	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	6613386	8000.00	ug/L	-0.01
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1489206	3055.83	ug/L	0.00
Spiked Amount 5000.000			Recovery =	61.12%		
5) 2-Fluorobiphenyl	10.76	172	3399071	3409.71	ug/L	0.00
Spiked Amount 5000.000			Recovery =	68.19%		
12) Terphenyl-d14	17.23	244	3897541	3756.78	ug/L	0.00
Spiked Amount 5000.000			Recovery =	75.14%		

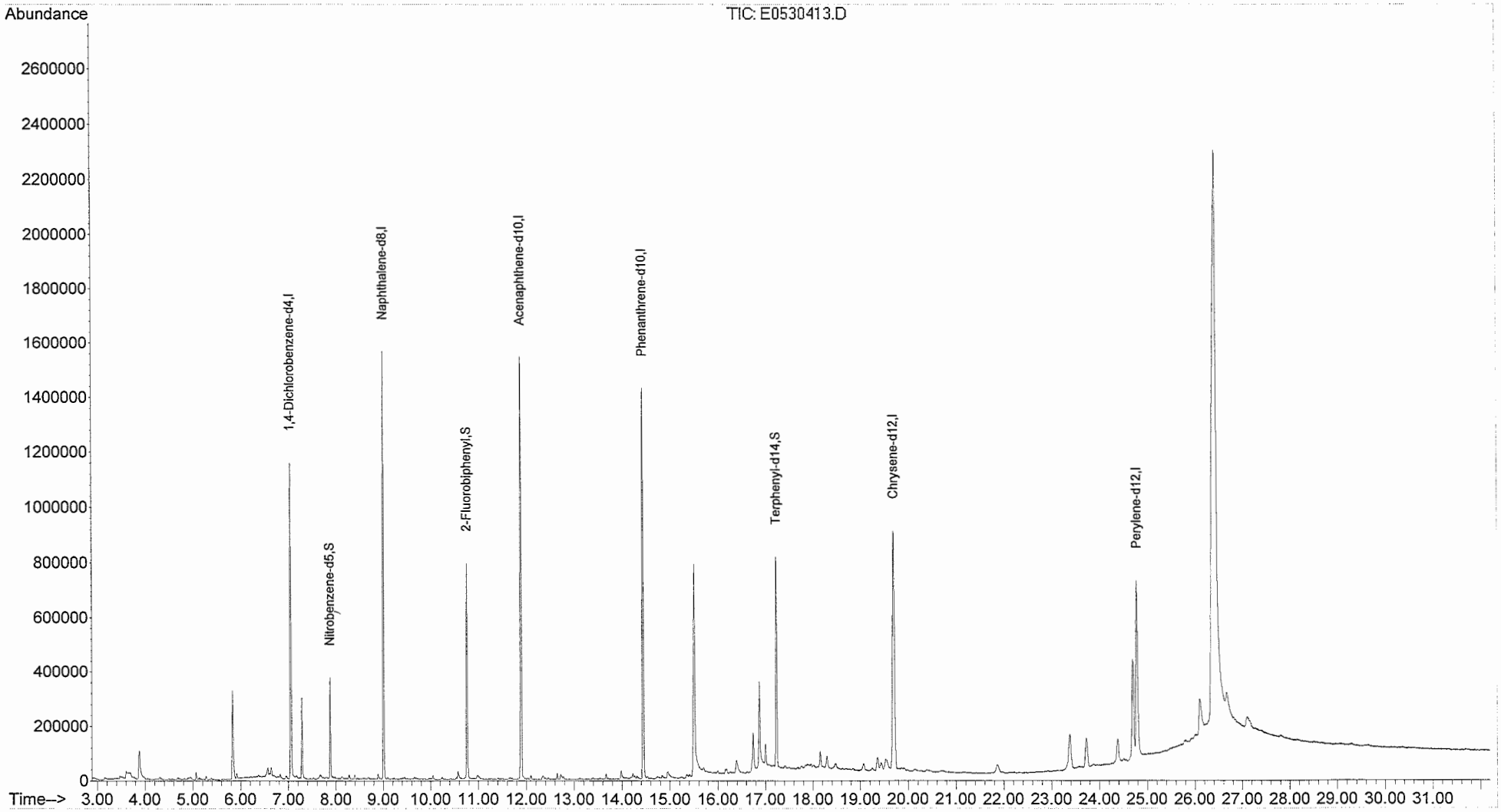
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530413.D
Acq On : 30 May 2014 17:03
Operator : PEK
Sample : 006619-07
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 13 Sample Multiplier: 1

Quant Time: May 31 10:03:21 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK116O	ARDL Lab No.:	006619-08
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530414
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1458	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	63%
2-Fluorobiphenyl	30-130	67%
Terphenyl-d14	30-130	72%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-08, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530414.D
Acq On : 30 May 2014 17:44
Operator : PEK
Sample : 006619-08
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 31 10:03:32 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2739266	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10617717	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5726034	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9087493	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9645845	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	6369258	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1562979	3148.21	ug/L	0.00
Spiked Amount 5000.000			Recovery =	62.96%		
5) 2-Fluorobiphenyl	10.76	172	3369660	3370.52	ug/L	0.00
Spiked Amount 5000.000			Recovery =	67.41%		
12) Terphenyl-d14	17.23	244	3712985	3585.09	ug/L	0.00
Spiked Amount 5000.000			Recovery =	71.70%		

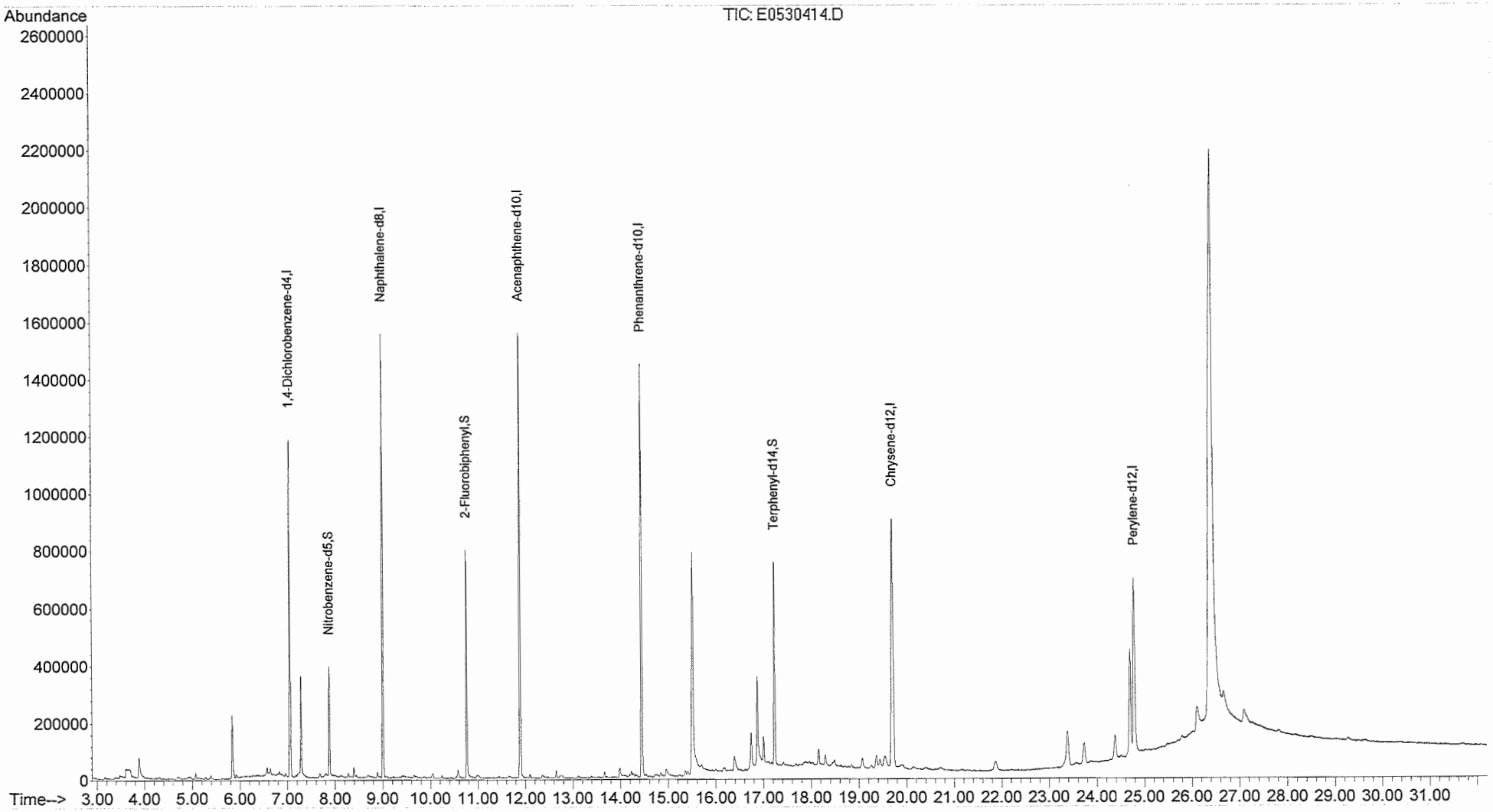
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530414.D
Acq On : 30 May 2014 17:44
Operator : PEK
Sample : 006619-08
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 14 Sample Multiplier: 1

Quant Time: May 31 10:03:32 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK117O	ARDL Lab No.:	006619-09
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530415
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1643	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	65%
2-Fluorobiphenyl	30-130	72%
Terphenyl-d14	30-130	80%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-09, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530415.D
Acq On : 30 May 2014 18:26
Operator : PEK
Sample : 006619-09
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 31 10:03:40 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2709250	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10581404	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5695980	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9141569	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9402153	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	5932051	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1613660	3261.45	ug/L	0.00
Spiked Amount 5000.000			Recovery =	65.23%		
5) 2-Fluorobiphenyl	10.76	172	3562931	3582.65	ug/L	0.00
Spiked Amount 5000.000			Recovery =	71.65%		
12) Terphenyl-d14	17.23	244	4036210	3998.20	ug/L	0.00
Spiked Amount 5000.000			Recovery =	79.96%		

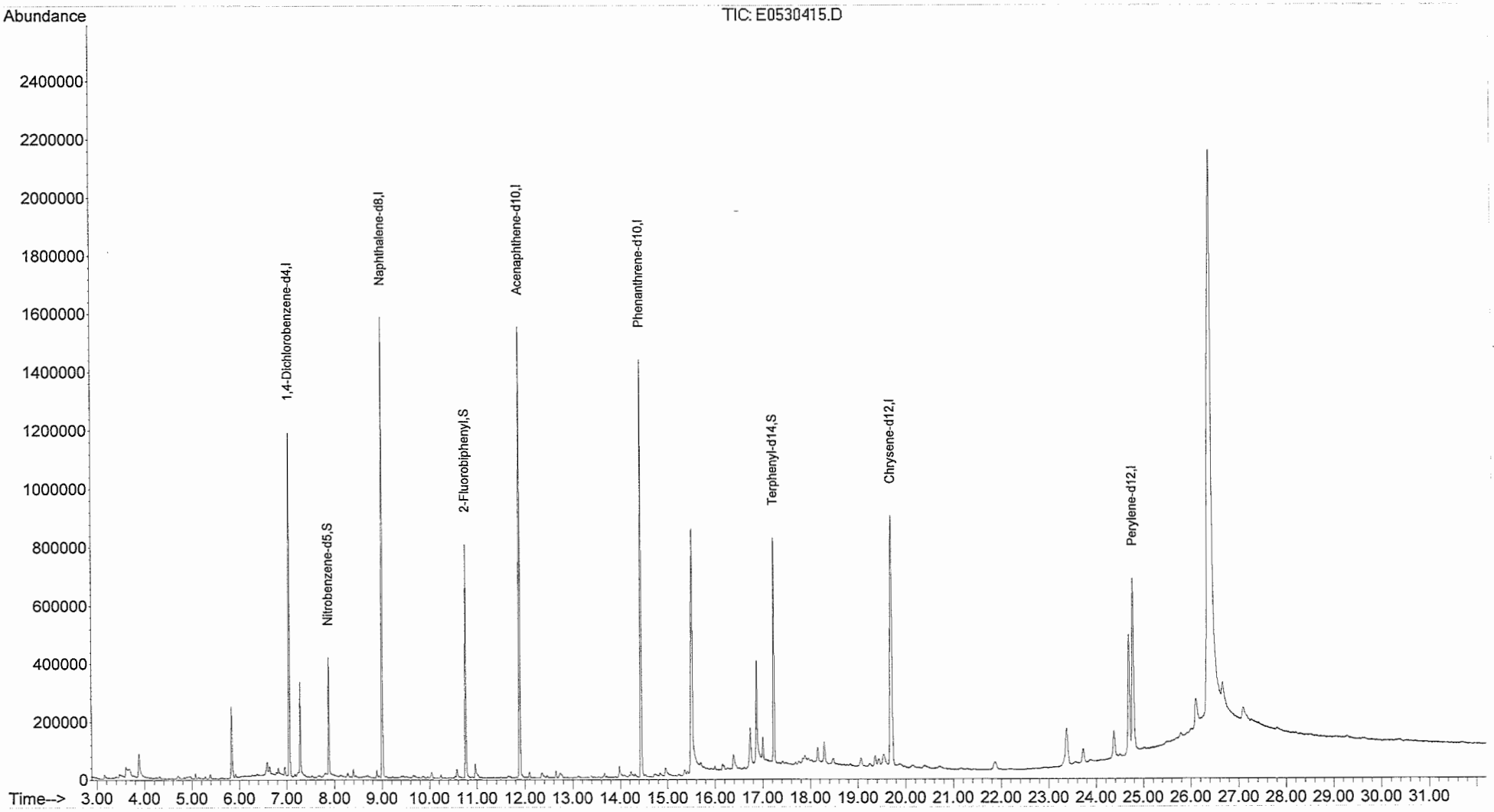
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530415.D
Acq On : 30 May 2014 18:26
Operator : PEK
Sample : 006619-09
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 15 Sample Multiplier: 1

Quant Time: May 31 10:03:40 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK118O	ARDL Lab No.:	006619-10
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0530416
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	0850	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/30/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	53%
2-Fluorobiphenyl	30-130	65%
Terphenyl-d14	30-130	75%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-10, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530416.D
Acq On : 30 May 2014 19:07
Operator : PEK
Sample : 006619-10
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 31 10:03:49 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2827645	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10962661	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5922458	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9346879	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	9558299	8000.00	ug/L	0.00
15) Perylene-d12	24.78	264	6070502	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1367403	2667.61	ug/L	0.00
Spiked Amount 5000.000			Recovery =	53.35%		
5) 2-Fluorobiphenyl	10.76	172	3346260	3236.11	ug/L	0.00
Spiked Amount 5000.000			Recovery =	64.72%		
12) Terphenyl-d14	17.23	244	3838948	3740.67	ug/L	0.00
Spiked Amount 5000.000			Recovery =	74.81%		

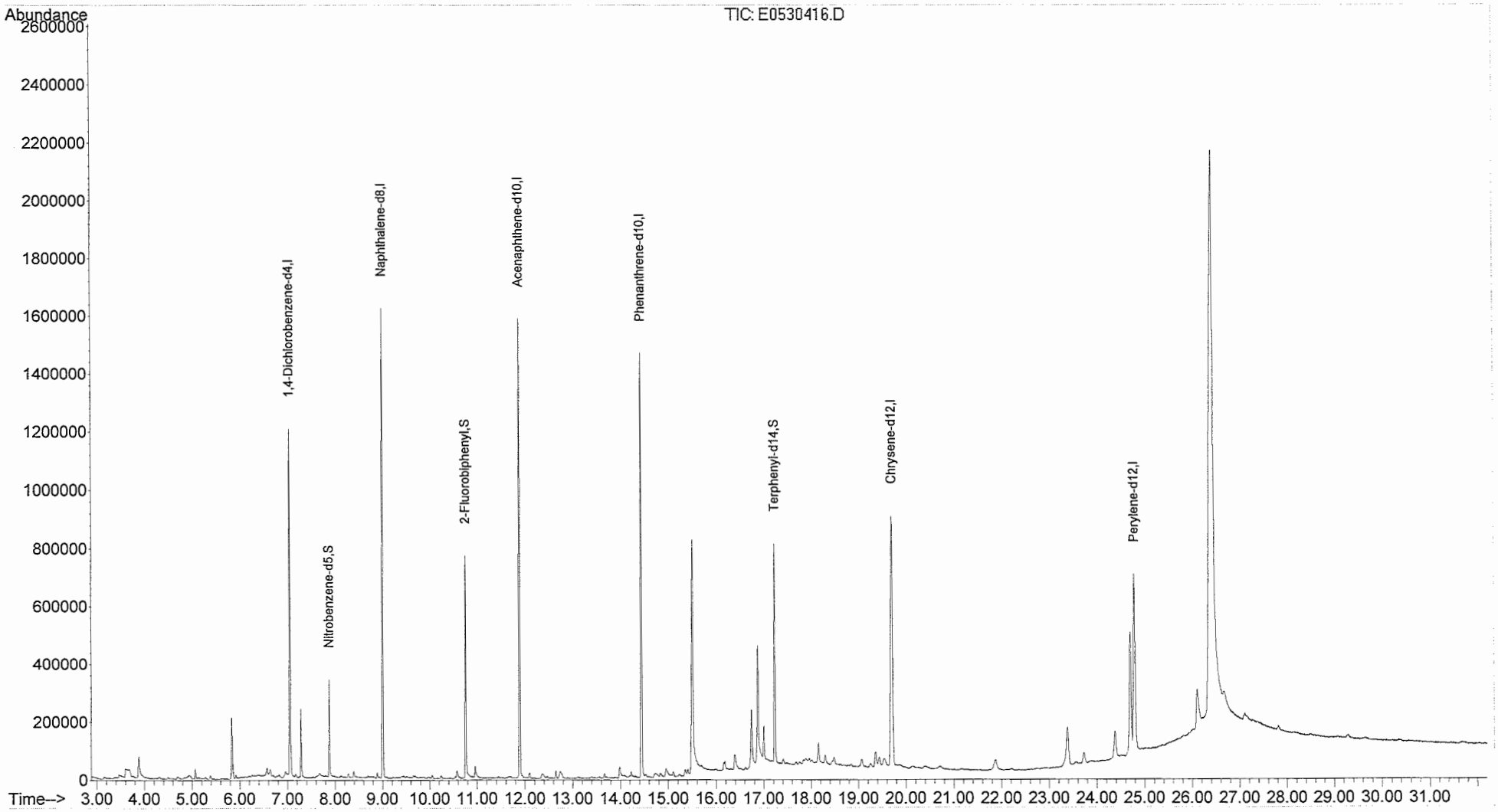
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053014\
Data File : E0530416.D
Acq On : 30 May 2014 19:07
Operator : PEK
Sample : 006619-10
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 16 Sample Multiplier: 1

Quant Time: May 31 10:03:49 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



Analytical Run Number 2

Calibration Information

Tune Data (If applicable)

Initial Calibration (If different than Initial Calibration in Run 1)
- Calibration Factor Summary
- Chromatogram
- Quant Report (If applicable)

Continuing Calibration
- Calibration Response Check
- Chromatogram
- Quant Report (If applicable)

Instrument Logs/Analysis Notebook Pages

Blank / Field Sample / QC Data

Sample Results
Chromatogram
Quant Report (If applicable)
Confirmation Analysis Quant Report / Chromatogram (If applicable)
Tentatively Identified Compounds (If required)

Rev. 1.1

Calibration Information

Tune Data (If applicable)

Initial Calibration (If different than Initial Calibration in Run 1)
- Calibration Factor Summary
- Chromatogram
- Quant Report (If applicable)

Continuing Calibration
- Calibration Response Check
- Chromatogram
- Quant Report (If applicable)

Rev. 1.1

5B

SEMIVOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: ARDL, Inc. Contract: ---

Lab Code: --- Case No.: --- SAS No.: --- SDG No.: ---

Lab File ID: E0531401 DFTPP Injection Date: 05/31/14

Instrument ID: AG5 DFTPP Injection Time: 10:30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30 - 80% of mass 198	34.8
68	Less than 2.0% of mass 69	0.0 (1)
69	(reference only)	32.8
70	Less than 2.0% of mass 69	0.2 (1)
127	25 - 75% of mass 198	50.8
197	Less than 1% of mass 198	0.0
198	Base Peak, 100% relative abundance	100.
199	5 - 9% of mass 198	6.5
275	10 - 30% of mass 198	22.6
365	Greater than 1% of mass 198	2.8
441	0 - 100% of mass 443	87.7
442	40 - 110% of mass 198	75.7
443	15 - 24% of mass 442	21.1 (2)

(1)-Value is % mass 69 (2)-Value is % mass 442

THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

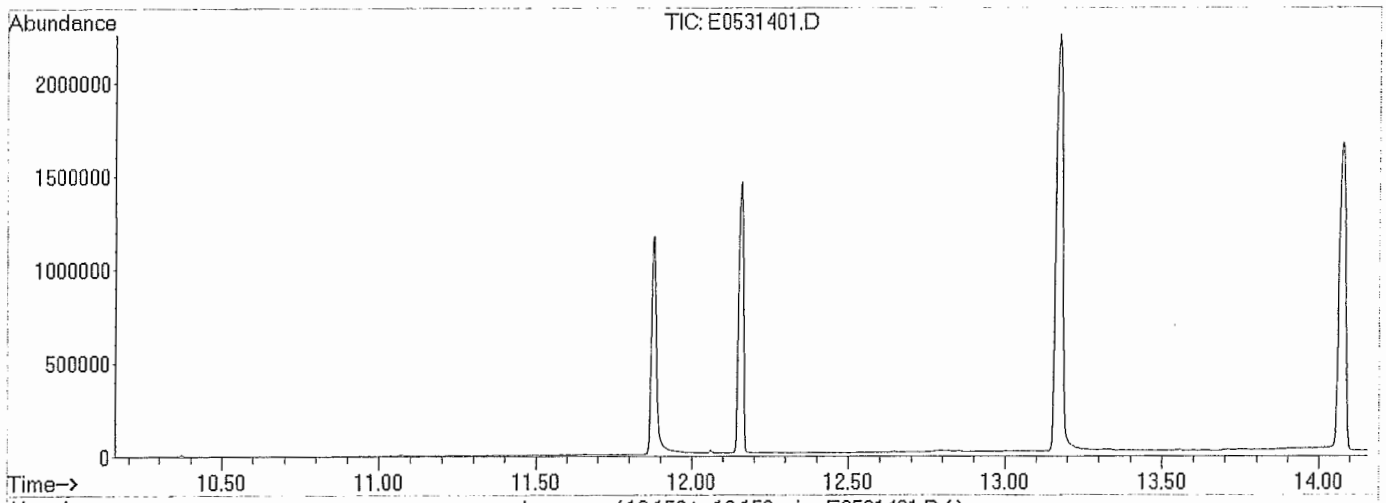
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	BNA STD	030 PPM STD	E0531402	05/31/14	10:57
2	BLANK B10219	006619-03B2	E0531403	05/31/14	11:42
3	MAK119O	006619-11	E0531404	05/31/14	12:24
4	MAK120O	006619-12	E0531405	05/31/14	13:07
5	MAK121O	006619-13	E0531406	05/31/14	13:49
6	MAK122O	006619-14	E0531407	05/31/14	14:30
7	MAK123O	006619-15	E0531408	05/31/14	15:12
8	MAK124O	006619-16	E0531409	05/31/14	15:53
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

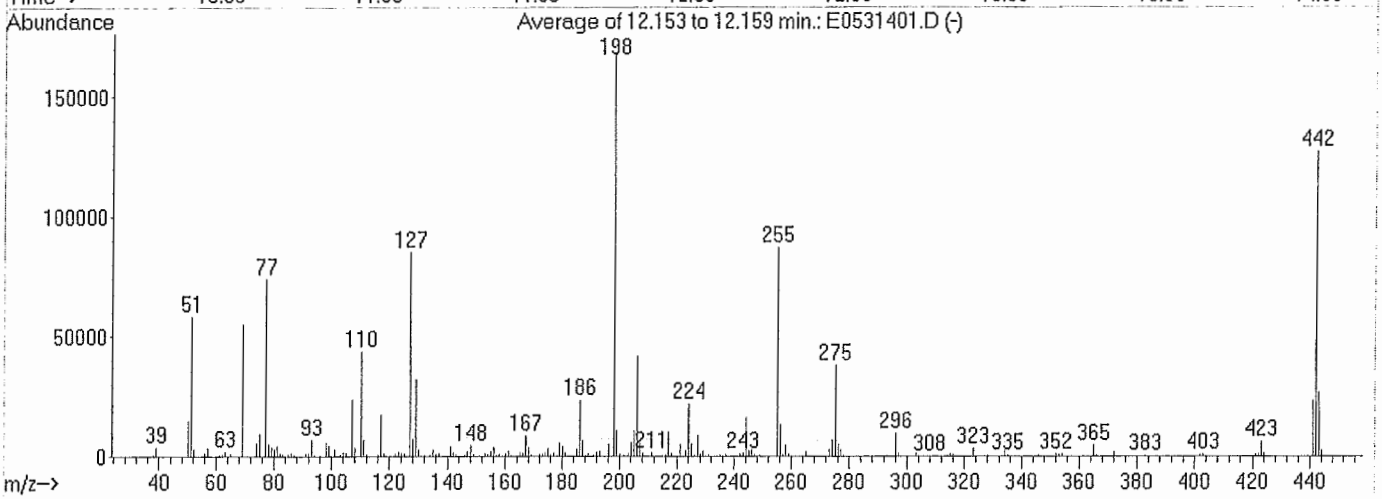
DFTPP

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531401.D
Acq On : 31 May 2014 10:30
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Integration File: FRED.P

Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Title : 8270 TUNE METHOD
Last Update : Wed Apr 16 11:23:29 2014





AutoFind: Scans 1082, 1083, 1084; Background Corrected with Scan 1073

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	80	34.8	58376	PASS
68	69	0.00	2	0.0	0	PASS
69	198	0.01	100	32.8	55064	PASS
70	69	0.00	2	0.2	127	PASS
127	198	25	75	50.8	85224	PASS
197	198	0.00	1	0.0	0	PASS
198	198	100	100	100.0	167850	PASS
199	198	5	9	6.5	10959	PASS
275	198	10	30	22.6	37981	PASS
365	198	0.75	100	2.8	4647	PASS
441	443	0.01	100	87.7	23533	PASS
442	198	40	110	75.7	127098	PASS
443	442	15	24	21.1	26848	PASS

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.05	187	58.05	146	73.10	120	85.00	806
38.15	715	59.00	35	74.05	5571	86.10	1391
39.05	3809	61.05	657	75.10	9562	87.00	694
44.95	76	62.10	853	77.15	73970	88.10	300
50.15	15046	63.10	2078	78.15	5033	89.00	103
51.15	58376	64.05	399	79.05	3807	91.05	1147
52.10	3130	65.05	1143	80.05	3018	92.05	1266
53.00	17	66.00	1	81.05	4251	93.10	6885
53.20	39	69.10	55064	82.05	1160	94.00	693
56.05	1443	70.10	127	83.00	935	95.05	27
57.10	3685	71.10	96	84.00	94	96.00	383

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
98.10	5611	111.05	6992	121.10	21	132.90	18
99.05	4552	112.05	877	122.00	1251	134.00	742
100.05	434	113.00	260	123.05	1932	135.05	2762
101.05	2972	113.95	85	124.05	1152	136.05	1102
102.05	231	114.95	148	125.05	1189	137.05	1413
103.05	809	115.20	64	127.10	85224	138.10	285
104.05	1784	116.10	610	128.10	7400	139.05	204
105.05	1515	117.05	17602	129.05	32142	140.10	252
107.05	23756	118.05	1414	130.05	2795	141.10	4196
108.10	3644	118.95	220	131.00	491	142.05	1630
110.10	43677	120.05	399	132.05	380	143.00	848

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
144.10	227	155.10	2308	165.05	1645	176.05	997
145.05	298	156.10	3709	166.10	1337	177.05	1314
146.05	657	157.05	619	167.10	8756	177.90	198
147.00	2085	158.00	801	168.10	3891	178.10	436
148.10	4573	159.00	313	169.05	805	179.05	5584
149.00	942	160.05	1190	170.05	274	180.10	4115
150.10	317	161.05	2312	171.05	456	181.00	1796
151.10	579	162.00	602	172.05	770	182.05	306
152.00	382	162.90	78	173.05	1065	183.15	203
153.05	1248	163.00	26	174.05	1608	183.90	200
154.05	940	164.05	319	175.10	3316	184.20	214

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
185.05	3201	196.10	5086	208.05	1394	218.05	1387
186.10	23597	198.00	167850	209.05	371	219.05	113
187.10	6883	199.05	10959	210.00	165	221.10	5045
188.05	647	200.05	886	210.20	293	222.00	410
189.00	1165	201.55	605	211.05	1587	223.05	2591
190.05	299	202.00	192	212.20	54	224.10	22018
191.00	704	203.05	1245	213.15	171	225.10	5353
192.05	1874	204.10	5874	214.10	28	226.05	742
193.05	2260	205.10	10713	214.95	427	227.10	9039
194.05	463	206.10	41890	216.10	944	228.05	1289
195.10	200	207.05	5616	217.00	10140	229.00	2084

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
229.95	258	239.95	364	251.00	320	261.05	154
231.00	811	240.95	511	251.40	68	263.05	129
232.05	215	242.00	1258	252.05	217	263.85	276
232.90	37	243.10	1454	253.00	408	265.05	2010
233.05	113	244.10	16377	253.20	91	265.95	456
234.00	571	245.10	2484	255.10	87130	267.00	32
235.00	716	246.05	2817	256.10	13344	269.20	39
236.00	478	247.00	764	257.05	1090	269.90	242
237.05	843	247.95	95	258.00	4783	270.90	240
237.95	176	249.00	632	259.05	892	271.95	154
238.95	345	249.95	220	260.00	109	273.10	2991

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512

Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
274.05	6913	284.90	181	294.00	236	307.95	163
275.10	37981	285.05	332	296.05	9707	309.00	67
276.10	5123	285.90	117	297.00	1282	309.80	60
277.00	3073	286.10	29	297.95	81	310.00	108
278.00	486	288.70	28	298.90	56	311.00	36
278.90	41	289.00	46	300.90	97	312.90	37
279.10	88	289.90	95	301.90	125	313.15	108
280.90	63	290.10	28	302.10	33	314.00	541
282.00	122	291.00	167	303.05	1315	315.00	1106
282.95	336	292.00	154	304.00	396	316.05	782
283.95	322	293.00	561	306.90	45	316.70	30

Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
317.05	131	327.05	476	340.90	124	355.05	190
320.10	37	328.05	486	341.05	411	358.90	92
321.05	390	329.00	59	341.95	98	360.90	27
322.00	145	329.90	32	345.95	674	365.00	4647
323.10	3343	331.90	96	347.05	153	365.95	664
324.00	380	332.15	172	349.90	27	367.10	42
324.20	201	332.95	288	350.10	36	369.90	162
325.00	47	334.05	2552	350.90	92	370.95	216
325.70	32	335.05	679	352.05	1049	372.05	1833
325.95	73	335.90	74	353.00	804	373.05	429
326.90	108	338.90	29	354.10	1061	374.00	88

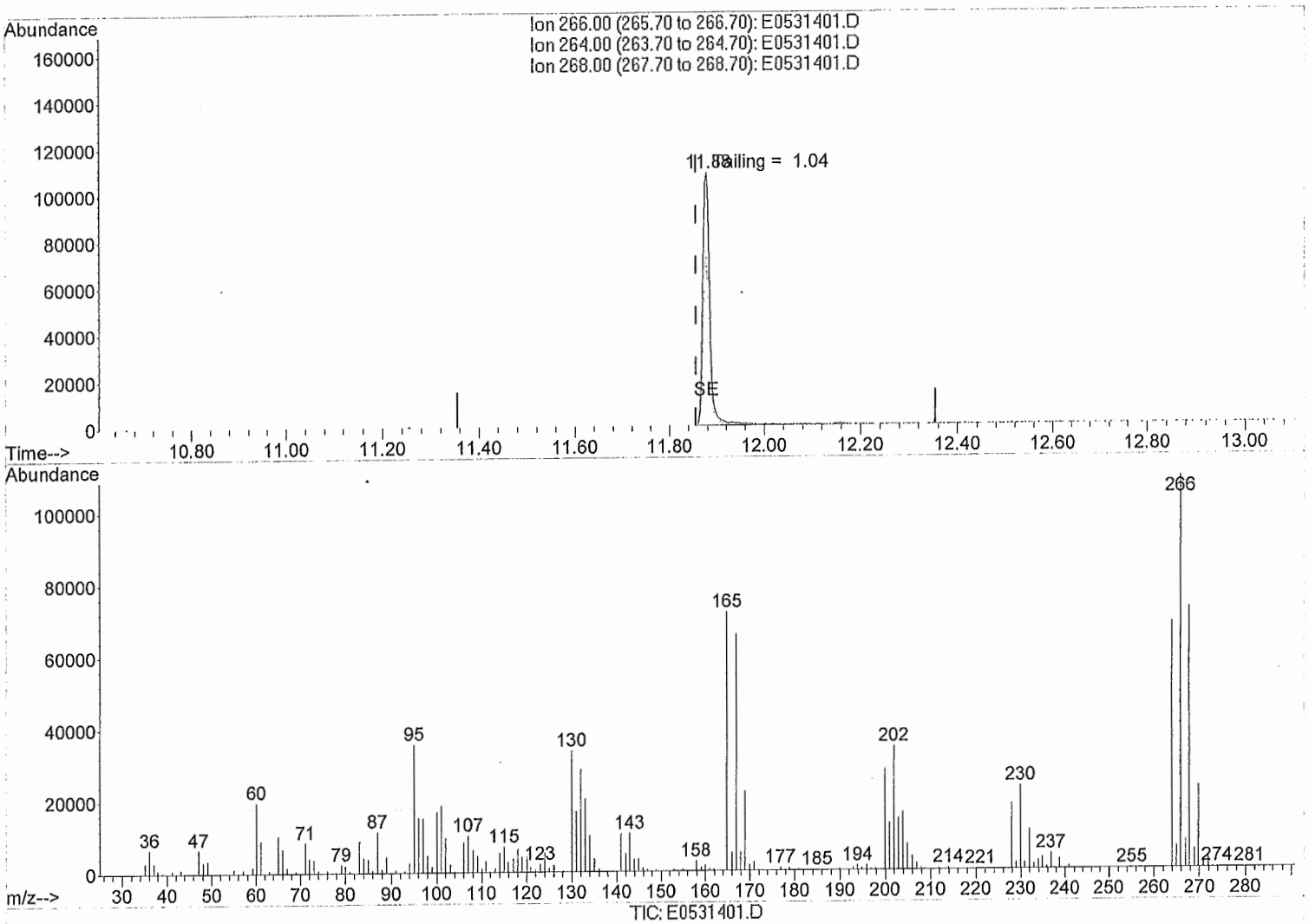
Average of 12.153 to 12.159 min.: E0531401.D
50 PPM TUNE 16512
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
375.10	33	403.95	388	426.00	40	442.10	127098
383.00	518	405.00	71	427.40	71	443.10	26848
383.95	141	407.30	29	428.30	77	444.05	2354
386.20	29	410.20	39	428.95	86	445.10	182
390.05	286	419.90	30	429.60	42		
390.95	265	421.00	959	430.60	52		
392.05	162	422.05	1111	431.10	39		
395.10	26	423.10	6321	432.20	41		
401.05	208	424.05	1498	432.80	52		
401.95	768	424.90	115	434.50	28		
403.05	999	425.70	36	441.10	23533		

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531401.D
Acq On : 31 May 2014 10:30
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 31 10:51:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration



(1) Pentachlorophenol (TMC)

11.878min (+0.023) 10.09ug/L

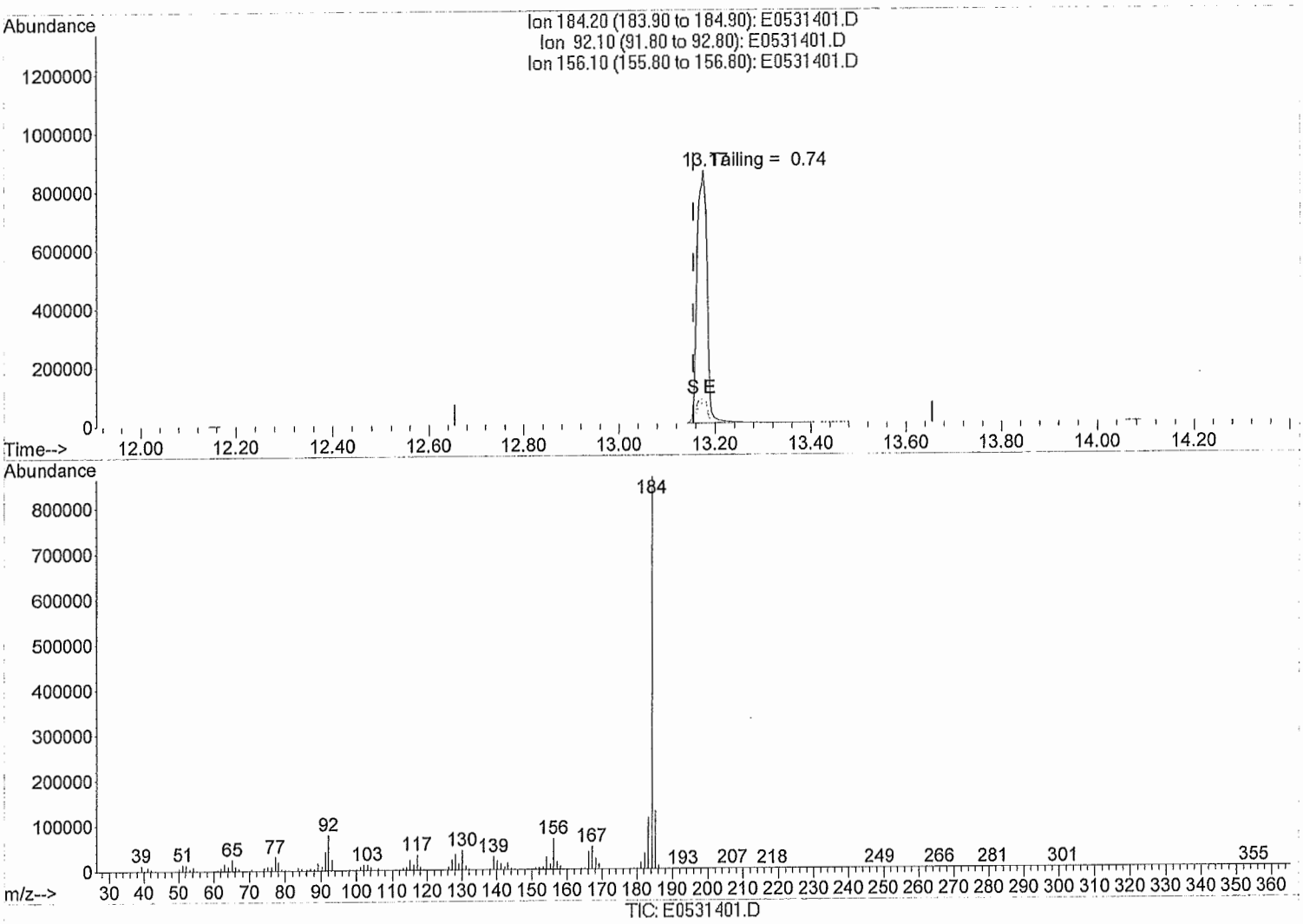
response 107592

Ion	Exp%	Act%
266.00	100	100
264.00	63.80	63.59
268.00	63.80	65.73
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531401.D
Acq On : 31 May 2014 10:30
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 31 10:51:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration



(3) Benzidine (T)

13.175min (+0.020) 23.58ug/L

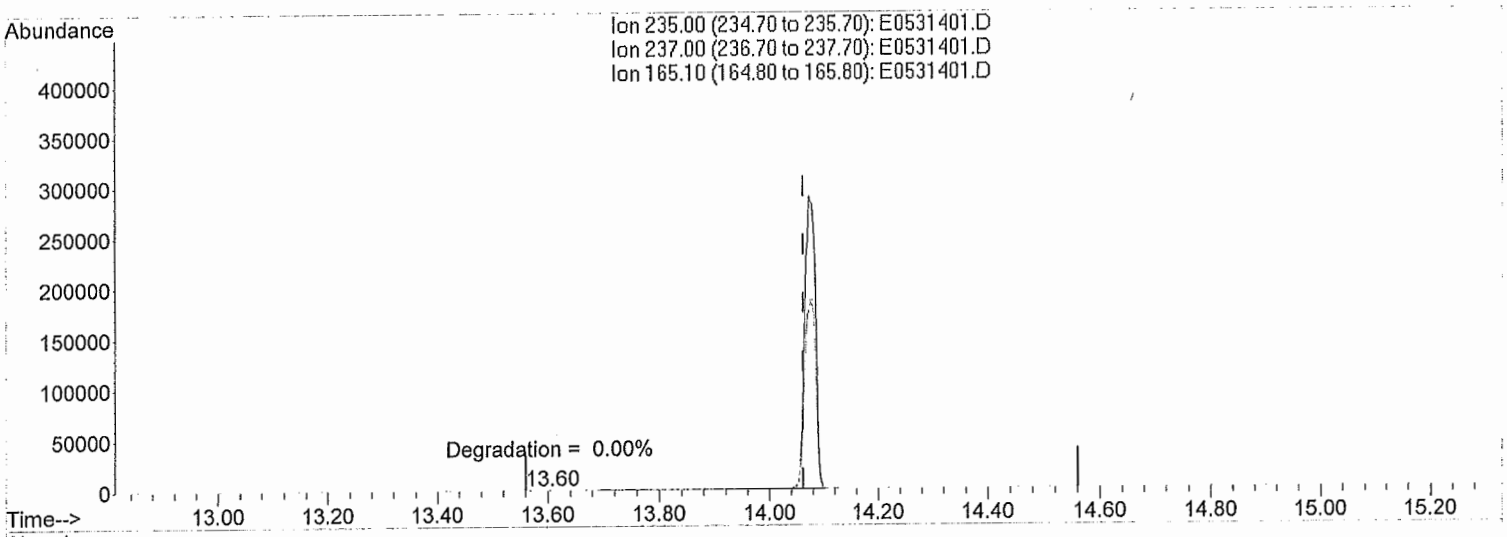
response 1215787

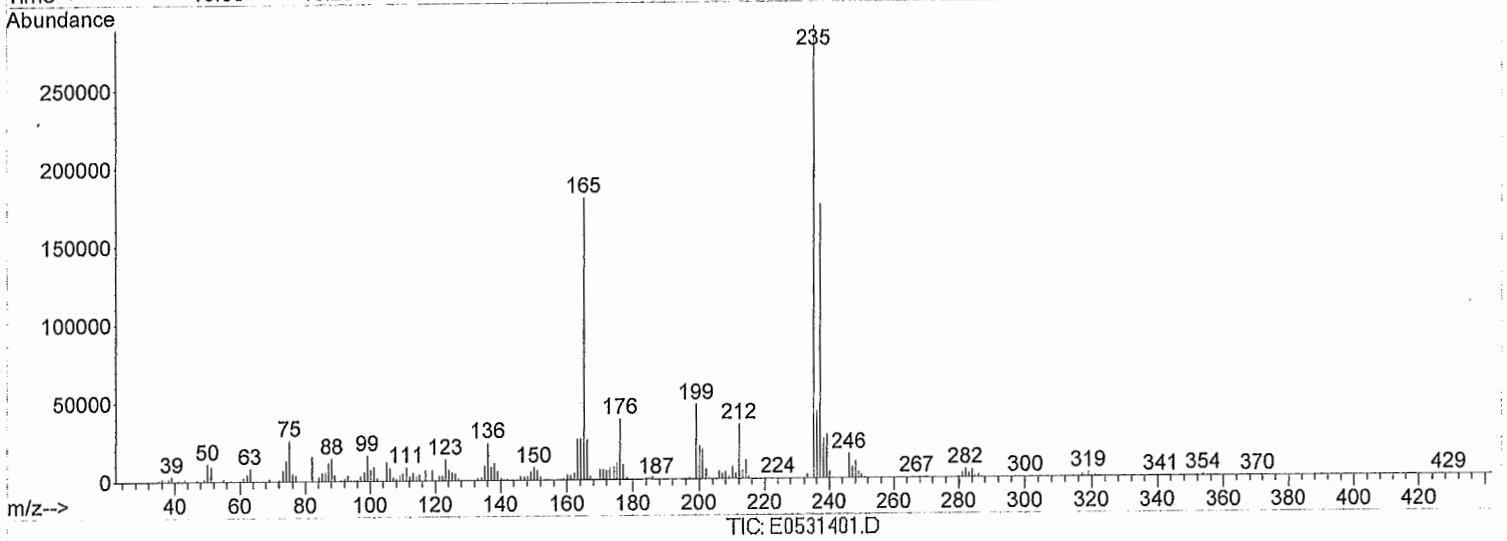
Ion	Exp%	Act%
184.20	100	100
92.10	13.70	10.43#
156.10	8.60	7.74
0.00	0.00	0.00

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531401.D
Acq On : 31 May 2014 10:30
Operator : PEK
Sample : 50 PPM TUNE 16512
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 31 10:51:20 2014
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Apr 16 11:23:29 2014
Response via : Initial Calibration





(4) DDT

14.072min (+0.011) 15.65ug/L

response 406211

Ion	Exp%	Act%
235.00	100	100
237.00	64.80	65.09
165.10	59.00	68.36
0.00	0.00	0.00

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531402.D
Acq On : 31 May 2014 10:57
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 31 11:33:48 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration

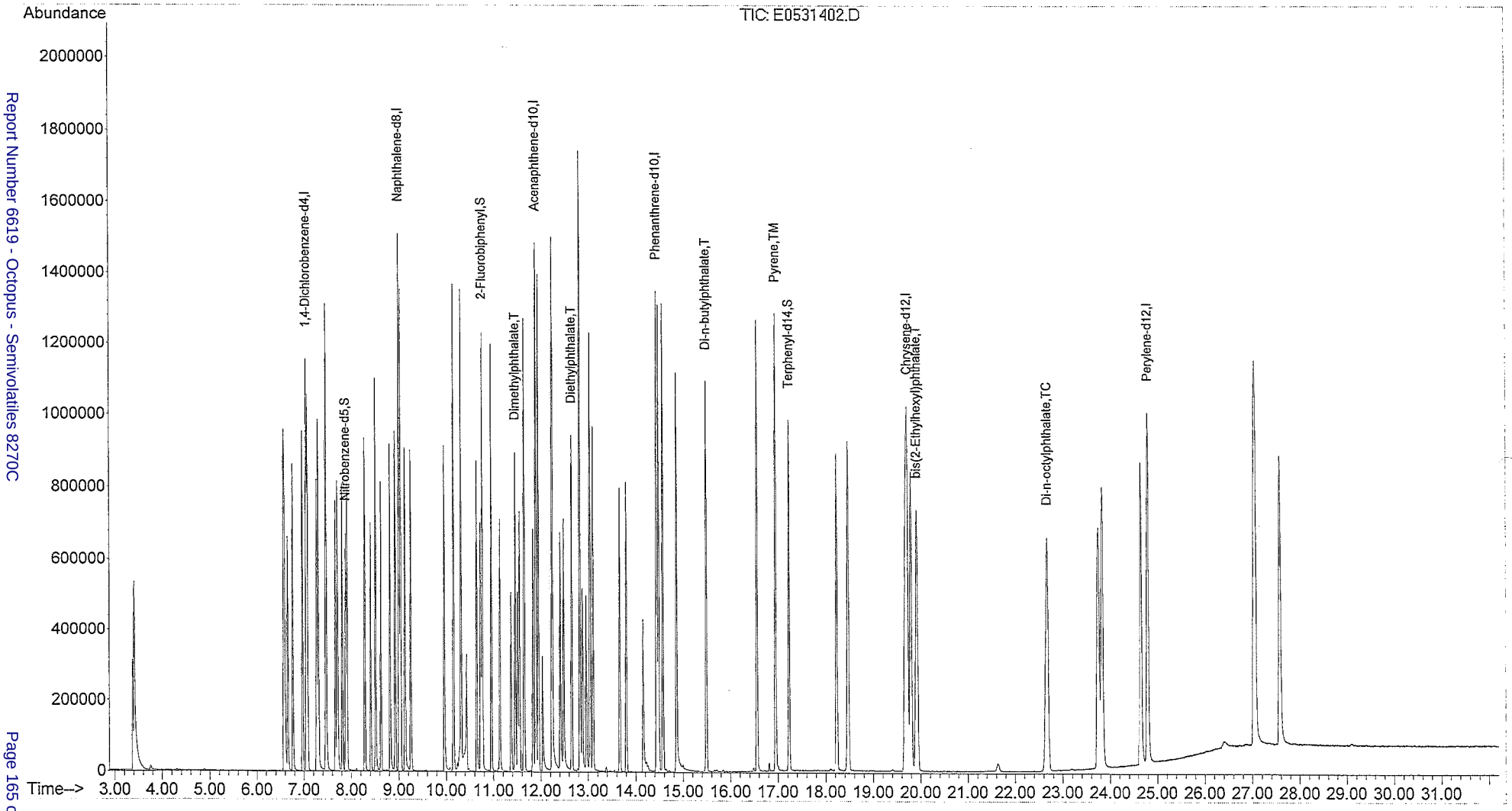
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2692050	40.00 ug/L	0.00
2) Naphthalene-d8	9.01	136	10549046	40.00 ug/L	0.00
4) Acenaphthene-d10	11.90	164	5550765	40.00 ug/L	0.00
8) Phenanthrene-d10	14.45	188	8759117	40.00 ug/L	0.00
10) Chrysene-d12	19.72	240	8901807	40.00 ug/L	0.00
15) Perylene-d12	24.80	264	10214449	40.00 ug/L	0.03
System Monitoring Compounds					
3) Nitrobenzene-d5	7.88	82	2983498	30.24 ug/L	0.00
Spiked Amount 50.000			Recovery	= 60.48%	
5) 2-Fluorobiphenyl	10.77	172	5589124	28.84 ug/L	0.00
Spiked Amount 50.000			Recovery	= 57.68%	
12) Terphenyl-d14	17.23	244	5620117	29.40 ug/L	0.00
Spiked Amount 50.000			Recovery	= 58.80%	
Target Compounds					Qvalue
6) Dimethylphthalate	11.47	163	6311265	29.10 ug/L	99
7) Diethylphthalate	12.66	149	6055985	28.41 ug/L	99
9) Di-n-butylphthalate	15.49	149	10262140	28.57 ug/L	94
11) Pyrene	16.95	202	9422142	28.99 ug/L	82
13) bis(2-Ethylhexyl)phthalate	19.92	149	7642872	29.75 ug/L	97
14) Di-n-octylphthalate	22.67	149	14217151	30.69 ug/L	100

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531402.D
Acq On : 31 May 2014 10:57
Operator : PEK
Sample : 30 PPM STD 16520
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 31 11:33:48 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed May 28 15:23:12 2014
Response via : Initial Calibration



Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270323HW.M
Title : 8270 BNA Calibration
Last Update : Sat May 31 11:33:58 2014
Response Via : Initial Calibration

CC Data File: E0531402.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	116
2	I	Naphthalene-d8	1.000	1.000	0.0	115
3	S	Nitrobenzene-d5	0.374	0.377	-0.8	117
4	I	Acenaphthene-d10	1.000	1.000	0.0	115
5	S	2-Fluorobiphenyl	1.397	1.343	3.9	115
6	T	Dimethylphthalate	1.563	1.516	3.0	116
7	T	Diethylphthalate	1.536	1.455	5.3	113
8	I	Phenanthrene-d10	1.000	1.000	0.0	115
9	T	Di-n-butylphthalate	1.640	1.562	4.8	114
10	I	Chrysene-d12	1.000	1.000	0.0	114
11	TM	Pyrene	1.460	1.411	3.4	115
12	S	Terphenyl-d14	0.859	0.842	2.0	116
13	T	bis(2-Ethylhexyl)phthalate	1.155	1.145	0.8	112
14	TC	Di-n-octylphthalate	2.082	2.129	-2.3#	114
15	I	Perylene-d12	1.000	1.000	0.0	112

(#) = Out of Range SPCC's out = 0 CCC's out = 1

Instrument Logs/
Analysis Notebook Pages

Rev. 1.1

PROJECT 5/31/2014 8270/Tissues

Notebook No. 3323 57

Continued from Page

Injection Log

Directory: C:\MSDCHEM\1\DATA\053114

Line	Vial	FileName	Multiplier	SampleName	Misc Info
1	1	E0531401.d	1.	50 PPM TUNE 16512 Pass	AG-5 8270
2	2	E0531402.d	1.	30 PPM STD 16520 Pass	AG-5 8270
3	3	E0531403.d	1.	006619-03B1 Pass	B10219 AG-5 8270 ...
4	4	E0531404.d	1.	006619-11	B10219 AG-5 8270 ...
5	5	E0531405.d	1.	006619-12	B10219 AG-5 8270 ...
6	6	E0531406.d	1.	006619-13	B10219 AG-5 8270 ...
7	7	E0531407.d	1.	006619-14	B10219 AG-5 8270 ...
8	8	E0531408.d	1.	006619-15	B10219 AG-5 8270 ...
9	9	E0531409.d	1.	006619-16 Pass	B10219 AG-5 8270 ...

PEK 6/2/2014

Continued on Page

Read and Understood By

PEK — Signed — 6/2/2014 — Date

Signed — 6/2/14 — Date

Blank / Field Sample / QC Data

Sample Results

Chromatogram

Quant Report (If applicable)

Confirmation Analysis Quant Report / Chromatogram (If applicable)

Tentatively Identified Compounds (If required)

Rev. 1.1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531403.D
Acq On : 31 May 2014 11:42
Operator : PEK
Sample : 006619-03B1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 02 08:17:45 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2822766	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10899378	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5793157	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9140974	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10173864	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	12017574	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1828083	3587.04	ug/L	0.00
Spiked Amount 5000.000			Recovery =	71.74%		
5) 2-Fluorobiphenyl	10.76	172	3845715	3802.13	ug/L	0.00
Spiked Amount 5000.000			Recovery =	76.04%		
12) Terphenyl-d14	17.23	244	3866208	3539.30	ug/L	0.00
Spiked Amount 5000.000			Recovery =	70.79%		

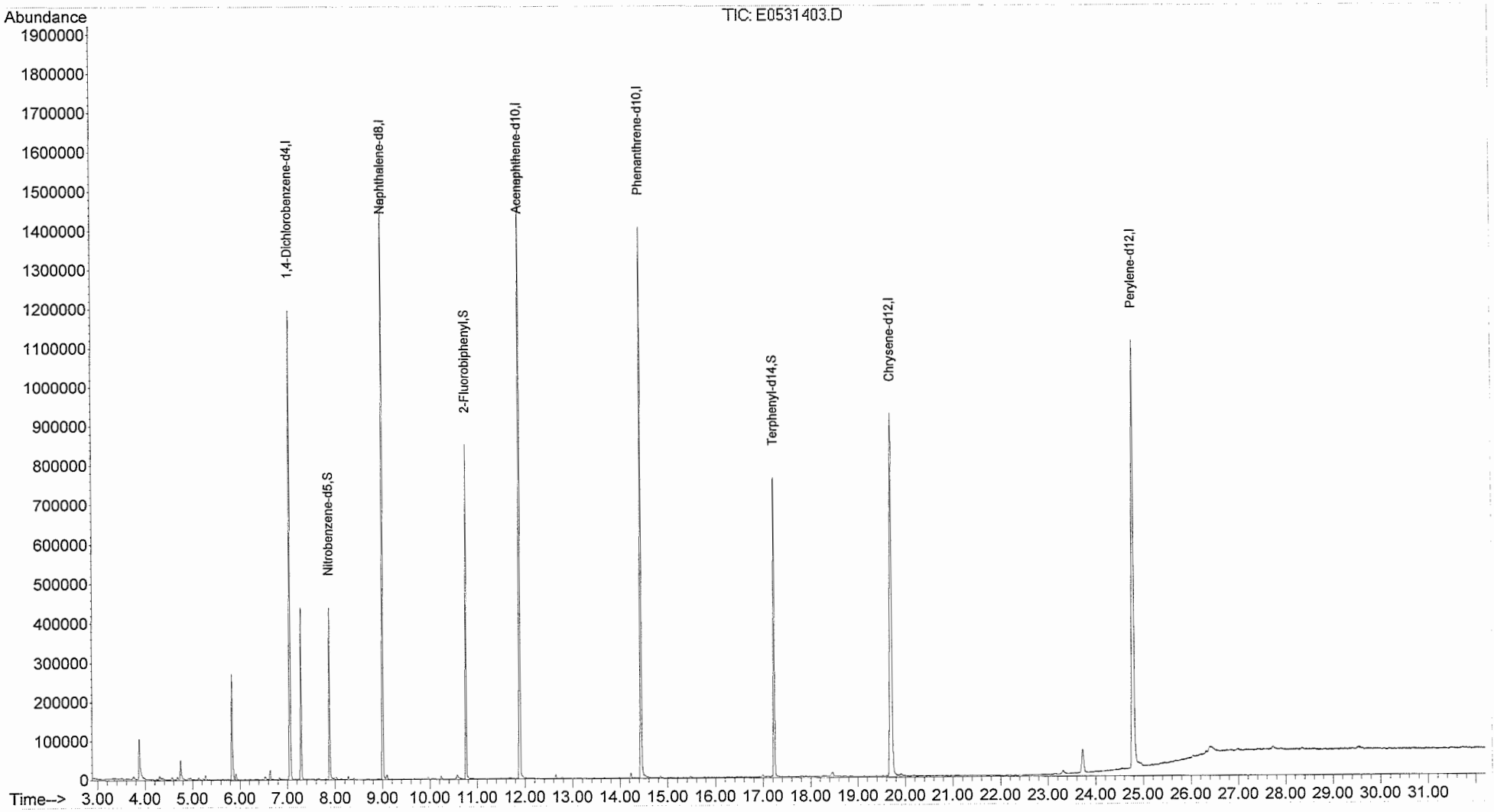
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531403.D
Acq On : 31 May 2014 11:42
Operator : PEK
Sample : 006619-03B1
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 02 08:17:45 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



ARDL, INC.
400 Aviation Drive; P.O. Box 1566
Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK119O	ARDL Lab No.:	006619-11
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531404
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	0920	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	58%
2-Fluorobiphenyl	30-130	66%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-11, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531404.D
Acq On : 31 May 2014 12:24
Operator : PEK
Sample : 006619-11
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 02 08:17:55 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2723142	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10616816	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5730931	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9075206	8000.00	ug/L	0.00
10) Chrysene-d12	19.70	240	10426711	8000.00	ug/L	-0.01
15) Perylene-d12	24.79	264	9849021	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1435069	2890.82	ug/L	0.00
Spiked Amount 5000.000			Recovery =	57.82%		
5) 2-Fluorobiphenyl	10.76	172	3326081	3324.09	ug/L	0.00
Spiked Amount 5000.000			Recovery =	66.48%		
12) Terphenyl-d14	17.23	244	3830358	3421.45	ug/L	0.00
Spiked Amount 5000.000			Recovery =	68.43%		

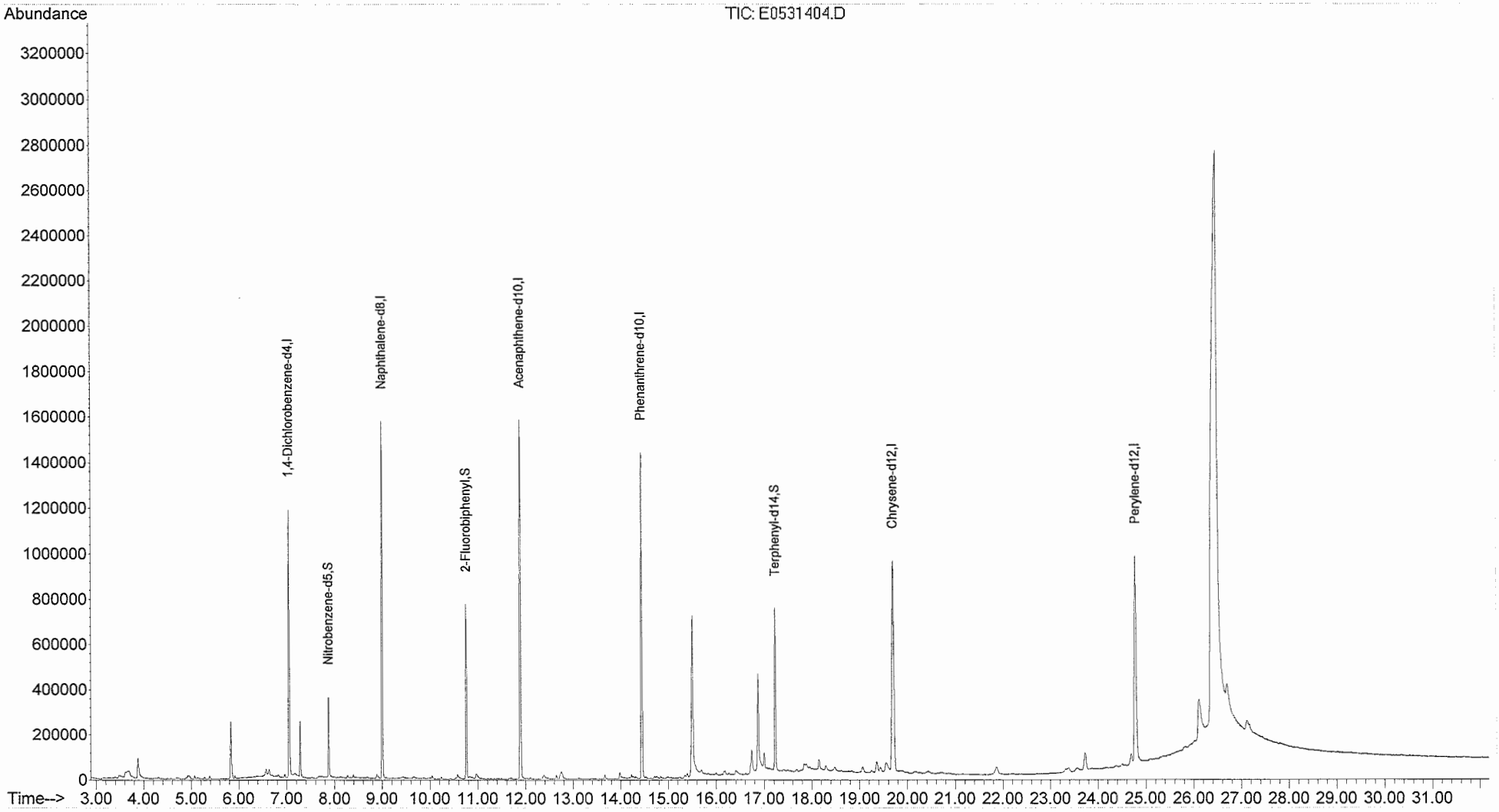
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531404.D
Acq On : 31 May 2014 12:24
Operator : PEK
Sample : 006619-11
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 02 08:17:55 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK120O	ARDL Lab No.:	006619-12
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531405
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1123	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	50%
2-Fluorobiphenyl	30-130	64%
Terphenyl-d14	30-130	66%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-12, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531405.D
Acq On : 31 May 2014 13:07
Operator : PEK
Sample : 006619-12
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 08:18:07 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2809522	8000.00	ug/L	0.00
2) Naphthalene-d8	9.00	136	10785843	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5790367	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9089409	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10392779	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	8529900	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1249474	2477.51	ug/L	0.00
Spiked Amount 5000.000			Recovery =	49.55%		
5) 2-Fluorobiphenyl	10.76	172	3245027	3209.80	ug/L	0.00
Spiked Amount 5000.000			Recovery =	64.20%		
12) Terphenyl-d14	17.23	244	3709630	3324.43	ug/L	0.00
Spiked Amount 5000.000			Recovery =	66.49%		

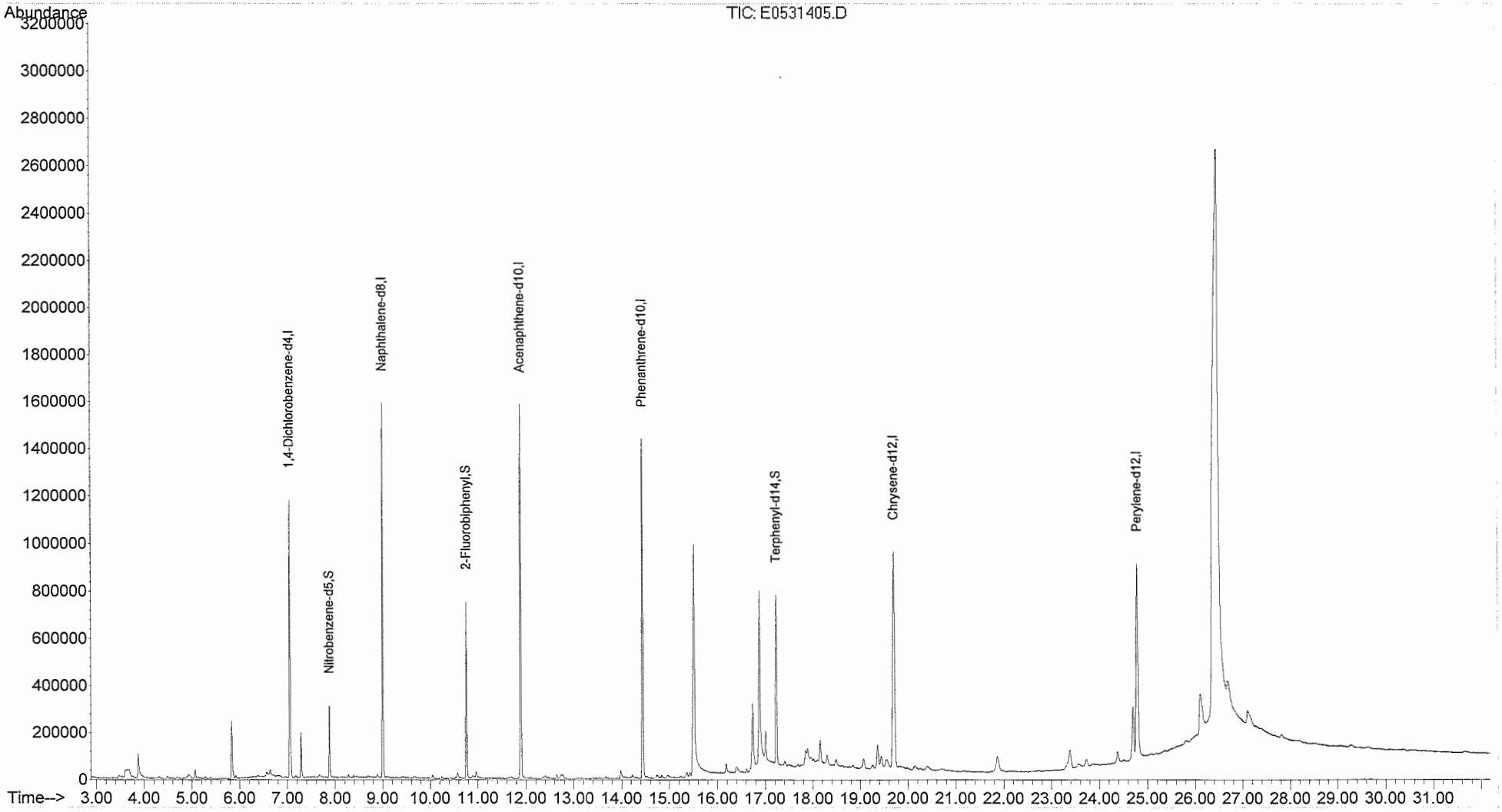
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531405.D
Acq On : 31 May 2014 13:07
Operator : PEK
Sample : 006619-12
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 02 08:18:07 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Mt. Vernon, Illinois 62864

Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK121O	ARDL Lab No.:	006619-13
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531406
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1205	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	47%
2-Fluorobiphenyl	30-130	61%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-13, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531406.D
Acq On : 31 May 2014 13:49
Operator : PEK
Sample : 006619-13
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 08:18:16 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2784983	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10821203	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	5819750	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9217123	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10342454	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	8155338	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1194297	2360.36	ug/L	0.00
Spiked Amount 5000.000			Recovery =	47.21%		
5) 2-Fluorobiphenyl	10.76	172	3092491	3043.47	ug/L	0.00
Spiked Amount 5000.000			Recovery =	60.87%		
12) Terphenyl-d14	17.23	244	3759797	3385.78	ug/L	0.00
Spiked Amount 5000.000			Recovery =	67.72%		

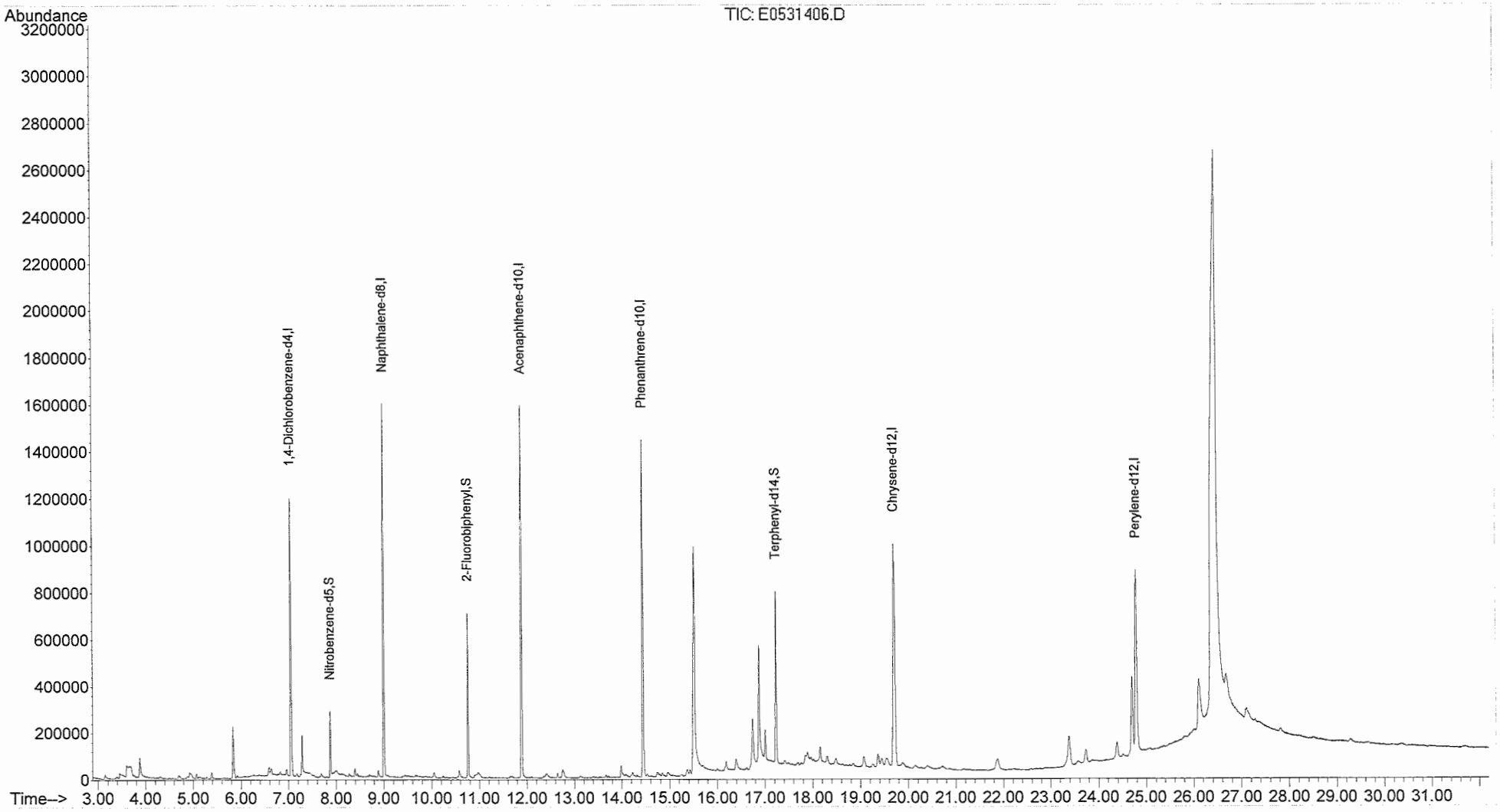
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531406.D
Acq On : 31 May 2014 13:49
Operator : PEK
Sample : 006619-13
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 02 08:18:16 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK122O	ARDL Lab No.:	006619-14
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531407
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1305	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	37%
2-Fluorobiphenyl	30-130	46%
Terphenyl-d14	30-130	63%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-14, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531407.D
Acq On : 31 May 2014 14:30
Operator : PEK
Sample : 006619-14
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 08:18:25 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2834209	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10899329	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5882391	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9274883	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10400795	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	7573485	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	944815	1853.91	ug/L	0.00
Spiked Amount 5000.000			Recovery =	37.08%		
5) 2-Fluorobiphenyl	10.76	172	2367000	2304.68	ug/L	0.00
Spiked Amount 5000.000			Recovery =	46.09%		
12) Terphenyl-d14	17.24	244	3505551	3139.12	ug/L	0.00
Spiked Amount 5000.000			Recovery =	62.78%		

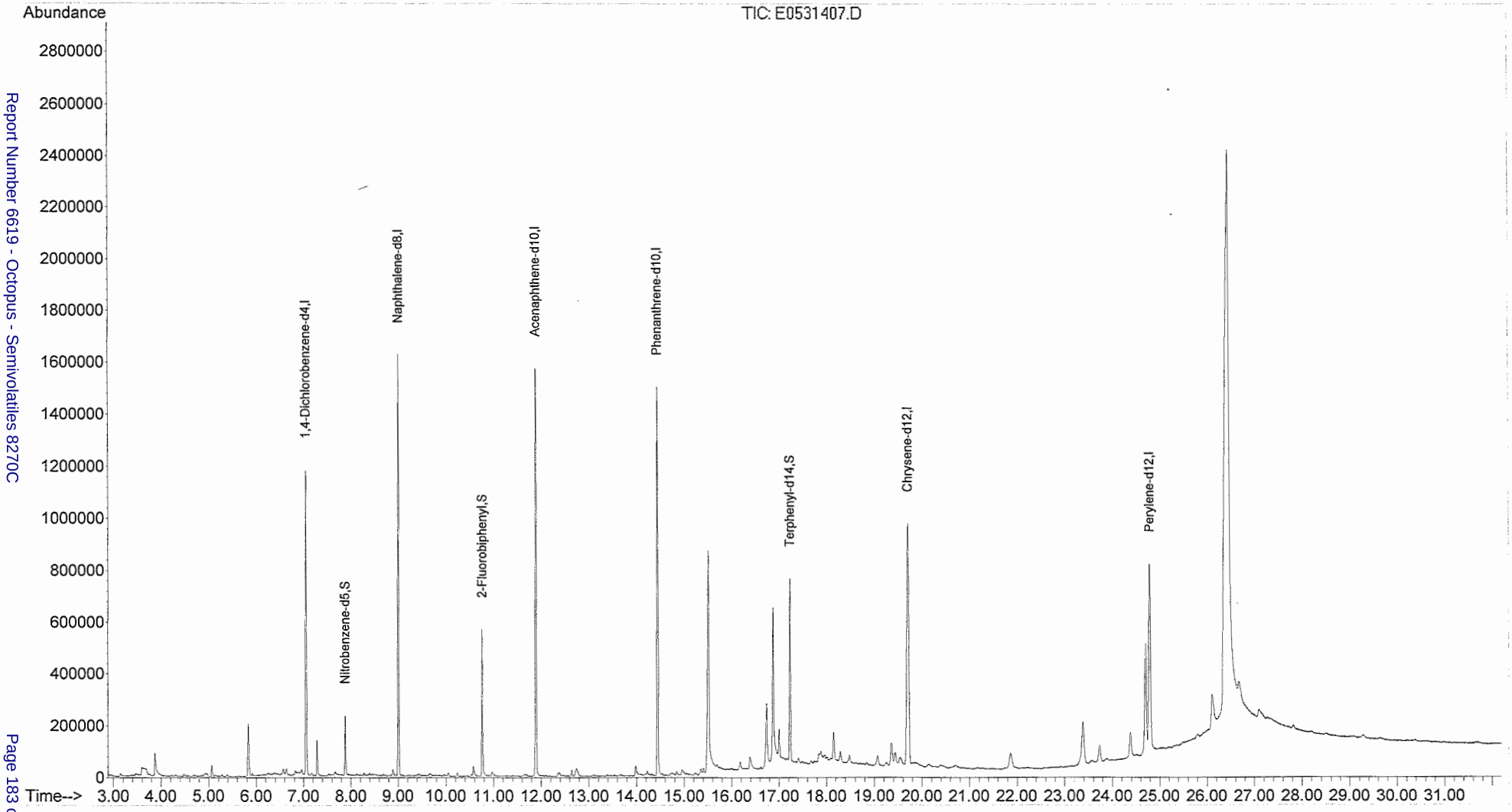
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531407.D
Acq On : 31 May 2014 14:30
Operator : PEK
Sample : 006619-14
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 02 08:18:25 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK123O	ARDL Lab No.:	006619-15
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531408
Sample Date:	03/27/2014	Received Date:	04/29/2014
Sample Time:	1508	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	32%
2-Fluorobiphenyl	30-130	50%
Terphenyl-d14	30-130	69%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-15, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531408.D
Acq On : 31 May 2014 15:12
Operator : PEK
Sample : 006619-15
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 02 08:18:33 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2785977	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	10850566	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.89	164	5822980	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9285534	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10213903	8000.00	ug/L	0.00
15) Perylene-d12	24.79	264	7177776	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	823502	1623.13	ug/L	0.00
Spiked Amount 5000.000			Recovery =	32.46%		
5) 2-Fluorobiphenyl	10.76	172	2527308	2485.87	ug/L	0.00
Spiked Amount 5000.000			Recovery =	49.72%		
12) Terphenyl-d14	17.23	244	3795549	3460.99	ug/L	0.00
Spiked Amount 5000.000			Recovery =	69.22%		

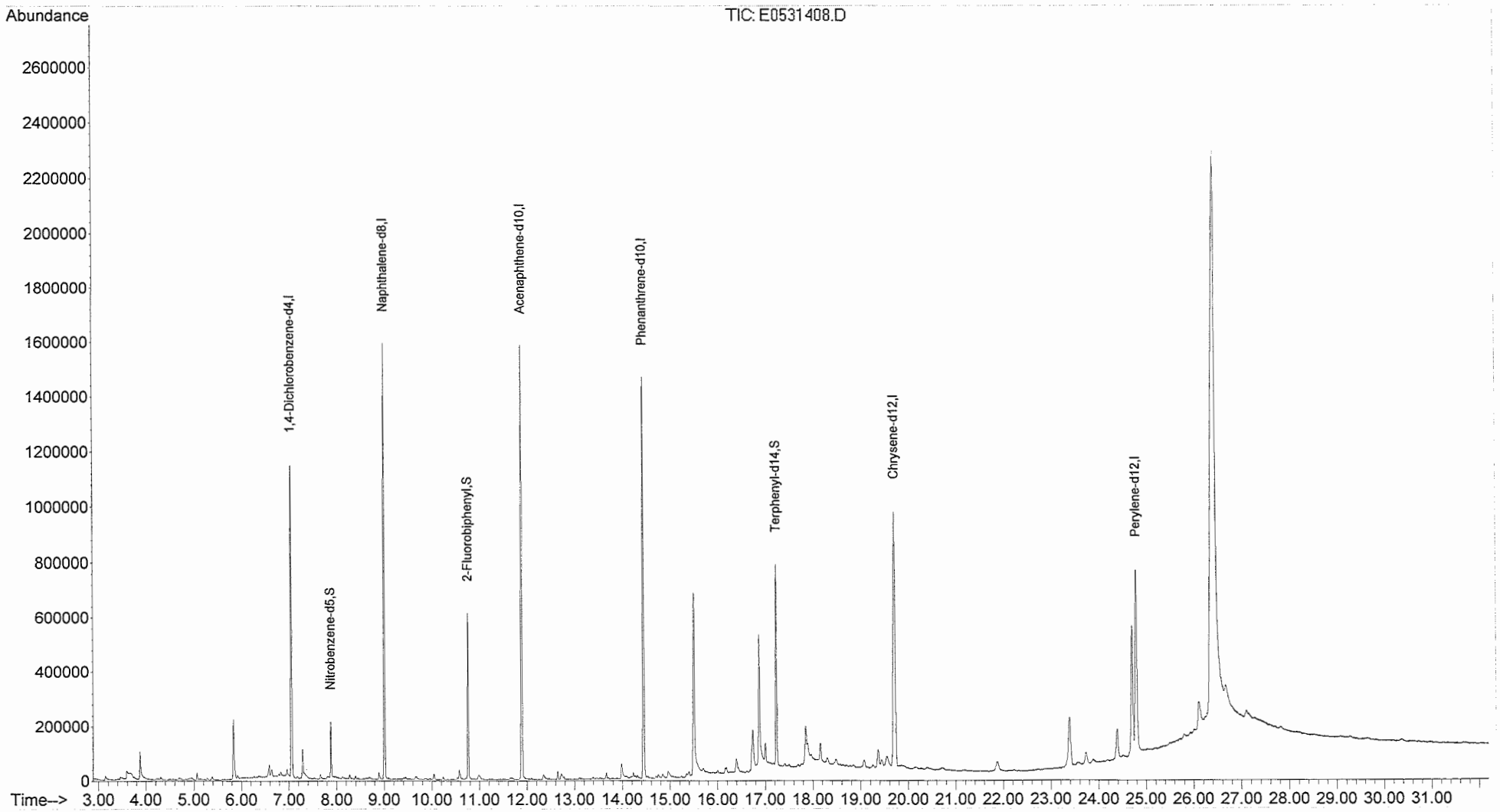
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531408.D
Acq On : 31 May 2014 15:12
Operator : PEK
Sample : 006619-15
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 02 08:18:33 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



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Lab Report No: 006619 Report Date: 06/02/2014

Project Name: MAKAU MILITARY RESER Analysis: BNA'S (METHOD 8270)
Project No.: Analytical Method: 8270C
NELAC Certified - IL100308 Prep Method: 3550A

Field ID:	MAK124O	ARDL Lab No.:	006619-16
Desc/Location:	MAKAU MILITARY RESERVATION	Lab Filename:	E0531409
Sample Date:	03/28/2014	Received Date:	04/29/2014
Sample Time:	1225	Prep. Date:	05/29/2014
Matrix:	TISSUE	Analysis Date:	05/31/2014
Amount Used:	5 g	Instrument ID:	AG5
Final Volume:	1 mL	QC Batch:	B10219
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Dimethylphthalate	200	1000	ND		UG/KG	1
Diethylphthalate	200	1000	ND		UG/KG	1
Di-n-butylphthalate	200	1000	ND		UG/KG	1
Pyrene	200	1000	ND		UG/KG	1
bis(2-Ethylhexyl)phthalate	200	1000	ND		UG/KG	1
Di-n-octylphthalate	200	1000	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Nitrobenzene-d5	30-130	37%
2-Fluorobiphenyl	30-130	51%
Terphenyl-d14	30-130	68%

Surrogate recoveries marked with '*' indicates they are outside standard limits.

Sample 006619-16, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531409.D
Acq On : 31 May 2014 15:53
Operator : PEK
Sample : 006619-16
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 08:18:42 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-Dichlorobenzene-d4	7.05	152	2979789	8000.00	ug/L	0.00
2) Naphthalene-d8	9.01	136	11548971	8000.00	ug/L	0.00
4) Acenaphthene-d10	11.90	164	6242780	8000.00	ug/L	0.00
8) Phenanthrene-d10	14.44	188	9885365	8000.00	ug/L	0.00
10) Chrysene-d12	19.71	240	10568097	8000.00	ug/L	0.00
15) Perylene-d12	24.80	264	7443817	8000.00	ug/L	0.00
System Monitoring Compounds						
3) Nitrobenzene-d5	7.88	82	1002030	1855.58	ug/L	0.00
Spiked Amount 5000.000			Recovery =	37.11%		
5) 2-Fluorobiphenyl	10.76	172	2776190	2547.04	ug/L	0.00
Spiked Amount 5000.000			Recovery =	50.94%		
12) Terphenyl-d14	17.23	244	3850999	3393.86	ug/L	0.00
Spiked Amount 5000.000			Recovery =	67.88%		

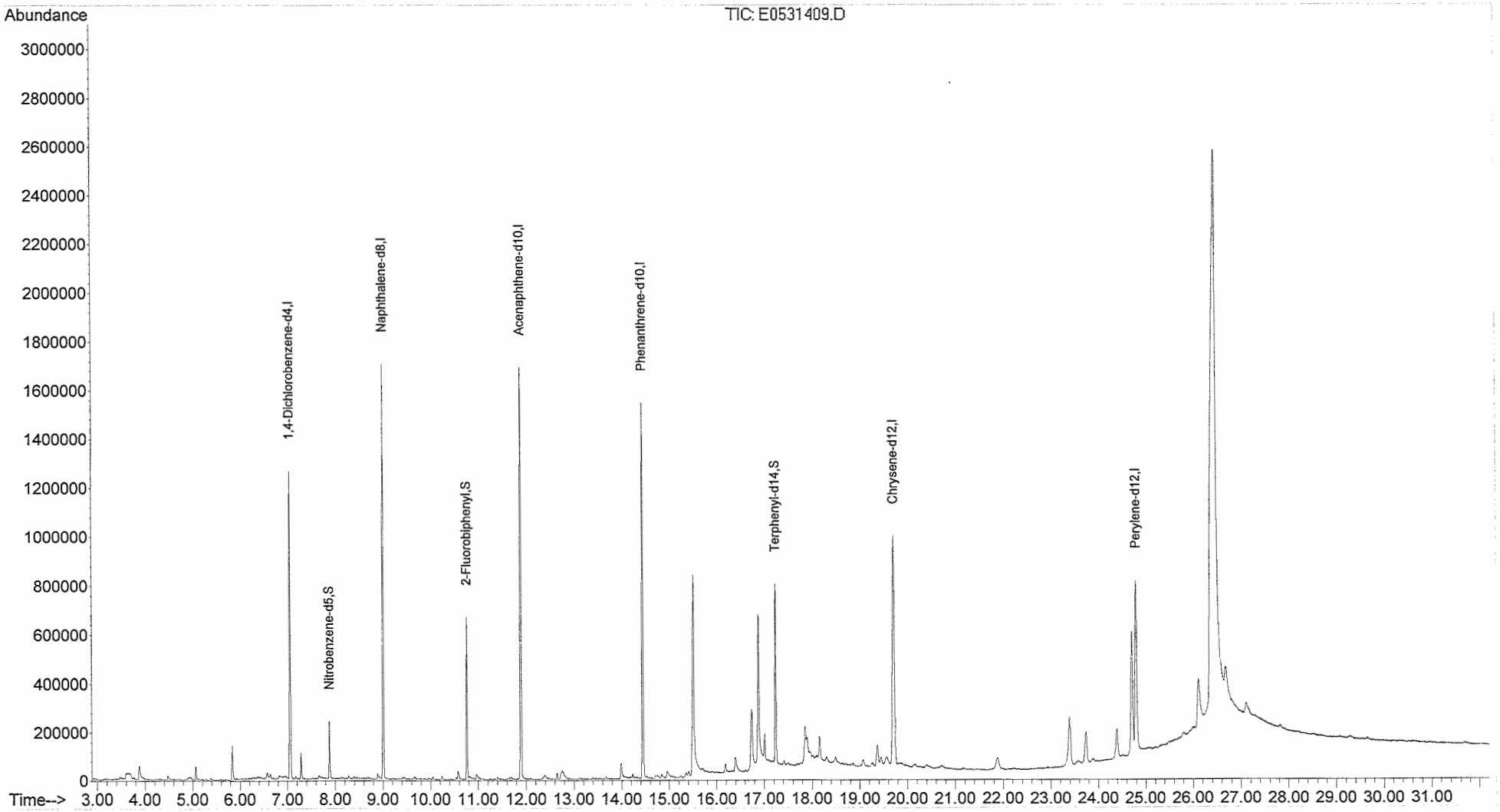
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\053114\
Data File : E0531409.D
Acq On : 31 May 2014 15:53
Operator : PEK
Sample : 006619-16
Misc : B10219 AG-5 8270 SOIL
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 02 08:18:42 2014
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270323HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Fri May 30 09:59:52 2014
Response via : Initial Calibration



Example Calculation

Rev. 1.1

EXAMPLE CALCULATIONS
(BNA – General Use)

Response Factor Calculations

The data system tabulates the area response of the characteristic ions against the concentration for each compound and each internal standard. Response factors (RF) are calculated for each compound relative to the internal standard assignments. The RF is calculated as follows:

$$RF = (A_x C_{is}) / (A_{is} C_x)$$

Where:

- A_x = Area of the characteristic ion for the compound being measured
- A_{is} = Area of the characteristic ion for the specific internal standard.
- C_{is} = Concentration of the specific internal standard.
- C_x = Concentration of the compound being measured.

The RF is calculated for each standard concentration level in the initial calibration curve. The average RF is then calculated off these points.

Sample Calculations

Sample calculations are made by the instrument software and are performed as follows:

Water:

$$\text{Concentration (ug/L)} = \frac{(A_x)(Is)(V_t)}{(A_{is})(RF)(V_i)(V_o)}$$

Soil: (Low and Medium Level)

$$\text{Concentration (ug/Kg)} = \frac{(A_x)(Is)(V_t)}{(A_{is})(RF)(V_i)(W_s)}$$

Where:

- A_x = Area of characteristic ion for the compound being measured.
- Is = Amount of internal standard injected (ng).
- A_{is} = Area of characteristic ion for the internal standard.
- RF = Average response factor for the compound being measured.
- V_i = Volume of extract injected (uL).
- V_t = Volume of total extract (uL).
- V_o = Volume of water extracted (mL).
- W_s = Weight of sample extracted (g).

Example Sample Calculation

Sample No.: 006619-03MS Compound: Dimethylphthalate Matrix: Tissue

$$\text{Concentration (ug/Kg)} = \frac{(3649902)*(40ng)*(1000\mu L)}{(5436661)*(1.563)*(1\mu L)*(5g)} = 3440$$

Example Calculations Performed By: PEK Date: 6/3/2014

Miscellaneous Additional Data
(If applicable)

☑ **None** PEK 6/3/2014

Rev. 1.1