# Table Of Contents

ANALYSIS: Semi-volatiles METHOD NO.: 8270C

ARDL Report(s) #: 6557 + 6558 MATRIX: Sea Cucumber


| | PAGE |
|---|---|
| Organic Package Review Checklist | 2 |
| Case Narrative and/or Nonconformance Reports | 5 |
| Chain of Custody Information | 8 |
| Field Sample Form 1s | 14 |
| QC Summary Forms | 39 |
| Sample Preparation Information | 56 |
| Standard Preparation Information | 65 |
| Analytical Run Data | 106 |
| Example Calculation | 280 |
| Miscellaneous Additional Data | 283 |


| | By: | Date: |
|---|---|---|
| Package Preparation | [illegible] | 11/14/13 |
| Analytical Review | PEK | 11/20/2013 |
| Final Review | BMD | 11/22/13 |
| QA Review | AJS | 11/25/13 |

Rev. 1.0

# Organic Package Review Checklist

Rev. 1.0

# ORGANIC PACKAGE REVIEW CHECKLIST

**METHOD:** 8270C

| | Initial | Date |
|---|---|---|
| **Case Narrative and/or Nonconformance Reports** | | |
| Case Narrative / Analyst Comment Sheets | PEK | 11/20/13 |
| Nonconformance / Noncompliance Reports (if applicable) | ↓ | ↓ |
| **Chain-Of-Custody Information** | | |
| Copies of Original Chain-of-Custody Forms | PEK | 11/20/13 |
| Cooler Receipt Form and Airbills | ↓ | ↓ |
| Phone Messages (If applicable) | ↓ | ↓ |
| **Sample Form 1s** | PEK | 11/20/13 |
| **QC Summary Forms** | | |
| Form 2 (Surrogate Summary, if applicable) | PEK | 11/20/13 |
| Form 3 (Spike and/or MS Summary, if applicable) | ↓ | ↓ |
| Blank Form 1(s) & Form 4 (Blank Summary, if applicable) | ↓ | ↓ |
| Form 8 (ISTD Area Summary, if applicable) | ↓ | ↓ |
| **Sample Preparation Information (if applicable)** | | |
| Total Solids Determination (If applicable) | PEK | 11/20/13 |
| 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 | 11/20/13 |
| Certificates of Analysis (Vendor) | ↓ | ↓ |
| **Analytical Run Number 1** | | |
| Calibration Information | PEK | 11/20/13 |
| 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 | 11/20/13 |
| Tune Data | ↓ | ↓ |
| Initial Calibration | ↓ | ↓ |
| Continuing Calibration | ↓ | ↓ |
| Instrument Logs/Analysis Notebook Pages | ↓ | ↓ |
| Blank/Sample/Field QC Data | ↓ | ↓ |

Rev. 1.0

## ORGANIC PACKAGE REVIEW CHECKLIST (Continued)

**METHOD:** 8270C

| | 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 | 11/20/13 |
| **Miscellaneous Additional Data (if applicable)** | PEK | 11/20/13 |

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 11/20/2013

Rev. 1.0

# Case Narrative and/or Nonconformance Reports

Rev. 1.0

# ORGANIC ANALYSIS CASE NARRATIVE

**Corps of Engineers – ERDC, Vicksburg** **Date: 11/21/13**

**ARDL Report No.: 6557, 6558** **Lab Name: ARDL, Inc.**

**Project Name: MAKAU MILITARY RESERVATION OAHU (SEA CUCUMBER)**

**Samples Received at ARDL: 10/23/2013**

| Lab ID No. | Sample ID No. | Date Collected | Date Extracted | Analysis Requested |
|---|---|---|---|---|
| 006557-01 | MAK001C | 09/09/2013 | 10/28/13 | BNA |
| 006557-02 | MAK002C | 09/09/2013 | 10/28/13 | BNA |
| 006557-03 | MAK004C | 09/09/2013 | 10/28/13 | BNA |
| 006557-04 | MAK005C | 09/09/2013 | 10/28/13 | BNA |
| 006557-05 | MAK006C | 09/11/2013 | 10/28/13 | BNA |
| 006557-06 | MAK007C | 09/11/2013 | 10/28/13 | BNA |
| 006557-07 | MAK008C | 09/11/2013 | 10/28/13 | BNA |
| 006557-08 | MAK009C | 09/11/2013 | 10/28/13 | BNA |
| 006555-09 | MAK010C | 09/13/2013 | 10/28/13 | BNA |
| 006557-10 | MAK014C | 09/13/2013 | 10/28/13 | BNA |
| 006557-11 | MAK015C | 09/13/2013 | 10/28/13 | BNA |
| 006557-12 | MAK018C | 09/16/2013 | 10/29/13 | BNA |
| 006557-13 | MAK019C | 09/16/2013 | 10/29/13 | BNA |
| 006557-14 | MAK020C | 09/16/2013 | 10/29/13 | BNA |
| 006557-15 | MAK022C | 09/16/2013 | 10/29/13 | BNA |
| 006557-16 | MAK024C | 09/22/2013 | 10/29/13 | BNA |
| 006557-17 | MAK025C | 09/22/2013 | 10/29/13 | BNA |
| 006557-18 | MAK026C | 09/22/2013 | 10/29/13 | BNA |
| 006557-19 | MAK027C | 09/22/2013 | 10/29/13 | BNA |
| 006557-20 | MAK032C | 09/23/2013 | 10/28/13 | BNA |
| 006558-01 | MAK029C | 09/23/2013 | 10/29/13 | BNA |
| 006558-02 | MAK030C | 09/23/2013 | 10/29/13 | BNA |
| 006558-03 | MAK031C | 09/23/2013 | 10/29/13 | BNA |
| 006558-04 | MAK028C | 09/22/2013 | 10/29/13 | BNA |

## SEMIVOLATILE FRACTION – METHOD 8270C

Twenty five (25) tissue (sea cucumber) samples were received by ARDL, Inc. on October 23, 2013, for 8270C analysis. One sample, MAK003C-TEST, was provided for preliminary evaluation of the methods only.

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 CALIBRATION

All continuing calibrations met criteria.

### SURROGATES

All QC and samples met surrogate recovery criteria.

# ORGANIC ANALYSIS CASE NARRATIVE

**Corps of Engineers – ERDC, Vicksburg** **Date: 11/21/13**

**ARDL Report No.: 6557, 6558** **Lab Name: ARDL, Inc.**

**Project Name: MAKAU MILITARY RESERVATION OAHU (SEA CUCUMBER)**

**Samples Received at ARDL: 10/23/2013**

INTERNAL STANDARDS

Internal standard recoveries were acceptable for all analyses.

LCS

Both LCS analyses passed the supplied recovery criteria.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

The MS/MSD analyses were performed on samples MAK030C and MAK032C. All passed the supplied recovery criteria.

METHOD BLANKS

No target analytes were detected in the method blank above the method 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

# Chain-Of-Custody Information

Rev. 1.0

# 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 | Containers Sent | | | | | | | | ARDL, Inc Remarks or Sample Location | PRESERVATION ICED | PRESERVATION Specify Chemicals added and final pH if known |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAK001C | 9/9/2013 | 1403 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK002C | 9/9/2013 | 1227 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK004C | 9/9/2013 | 1420 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK005C | 9/9/2013 | 1514 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK006C | 9/11/2013 | 1005 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK007C | 9/11/2013 | 1020 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK008C | 9/11/2013 | 1115 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |
| MAK009C | 9/11/2013 | 1126 | | x | 1 | x | x | x | x | 1 | | | | | | | | Sea Cucumber | x | |

6557
10/23/13

| Relinquished by: (Signature) | Date | Time | Relinquished by: (Signature) |
|---|---|---|---|
| | 10/22/13 | 1600 | |
| Relinquished by: (Signature) | Date | Time | Relinquished by: (Signature) |
| | | | |
| Received for Laboratory by: (Signature) | Date | Time | Shipping Ticket No. |
| | 10/23/13 | 0910 | |

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 6558
dlc 10-23-13

# 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)

dlc 10/23/13

| SAMPLE NUMBER | DATE | TIME | Comp | Grab | # of Containers | Purgeable Organics 8260B | Explosives 8330 | OCPs 8081 | SVCOs 8270C | Continuous Set # | | ARDL, Inc Remarks or Sample Location | PRESERVATION ICED | PRESERVATION Specify Chemicals added and final pH if known |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MAK010C | 9/13/2013 | 1128 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK014C | 9/13/2013 | 1355 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK015C | 9/13/2013 | 958 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK018C | 9/16/2013 | 905 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK019C | 9/16/2013 | 915 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK020C | 9/16/2013 | 1018 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK022C | 9/16/2013 | 1150 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK024C | 9/22/2013 | 830 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK025C | 9/22/2013 | 906 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK026C | 9/22/2013 | 1018 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK027C | 9/22/2013 | 1140 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK028C | 9/22/2013 | 1300 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK029C | 9/23/2013 | 820 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK030C | 9/23/2013 | 833 | | x | 1 | x | x | x | x | 3 | Extra Volume | Sea Cucumber | x | |
| MAK031C | 9/23/2013 | 1050 | | x | 1 | x | x | x | x | 1 | | Sea Cucumber | x | |
| MAK032C | 9/23/2013 | 1210 | | x | 1 | x | x | x | x | 3 | Extra Volume | Sea Cucumber | x | |
| | | | | | | | | | | | | | | |
| Trip Blank | | | | | 2 | | | | | | | | | |
| Temp Blank | | | | | 1 | | | | | | | | | |

2557
558-4
6558
557-20

| Relinquished by: (Signature) | Date | Time | Relinquished by: (Signature) | REMARKS / SPECIAL INSTRUCTIONS: |
|---|---|---|---|---|
| | 10/22/13 | 1600 | | |
| Relinquished by: (Signature) | Date | Time | Relinquished by: (Signature) | Project Samples. Please treat each matrix separately. |
| Received for Laboratory by: (Signature) | Date 10/23/13 | Time 0910 | Shipping Ticket No. | 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. |

# COOLER RECEIPT REPORT
## ARDL, INC.

original in 6558
dlc
10-28-13

ARDL #: 6555- 6558

Cooler # NONE (1 of 2)
Number of Coolers in Shipment: 2

Project: MAKAU Military Reservation Oahu

Date Received: 10-23-13

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 10-23-13 (Signature) D L Cochrum

1. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO
   If YES, enter carrier name and airbill number here: Fed 9325 1887 7914
2. Were custody seals on outside of cooler? ..... YES (NO) N/A
   How many and where? _____ ,Seal Date: _____ ,Seal Name: _____
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (N/A)
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~~? dlc 10/23/13 ..... (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. 15.0 C

B. **LOG-IN PHASE:** Date samples were logged-in: 10-23-13 (Signature) D L Cochrum

10. Describe type of packing in cooler: ice / bubble pack
11. Were all bottles ~~sealed~~ in separate plastic bags? dlc 10/23/13 ..... (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: dlc | By: |
| On: 10-23-12 | On: |

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

original in 6558 dle 10-23-13

# COOLER RECEIPT REPORT
# ARDL, INC.

ARDL #: 6555-6558

Cooler # 2 of 2
Number of Coolers in Shipment: 2

Project: MAKAU Military Reservation Oahu

Date Received: 10-23-13

A. **PRELIMINARY EXAMINATION PHASE:** Date cooler was opened: 10-23-13 (Signature) LA Stewart

1. Did cooler come with a shipping slip (airbill, etc.)? ..... (YES) NO
   If YES, enter carrier name and airbill number here: FED-EX TRK# 9325 1887 7888
2. Were custody seals on outside of cooler? ..... YES (NO) N/A
   How many and where? NA, Seal Date: NA, Seal Name: NA
3. Were custody seals unbroken and intact at the date and time of arrival? ..... YES NO (NA)
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? ..... 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. 10.4 C

B. **LOG-IN PHASE:** Date samples were logged-in: 10-23-13 (Signature) LA Stewart

10. Describe type of packing in cooler: dry ice, bubble pack + bubble bags
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? ..... See #5 ..... YES NO (NA)
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: las | By: |
| On: 10-23-13 | 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: 22OCT13
ACTWGT: 25.0 LB MAN
CAD: 255289/CAFE2704

DRY ICE: 4.5 KGS
BILL THIRD PARTY

TO DEAN DICKERSON
ARDL
400 AVIATION DRIVE
P.O BOX 1566
MOUNT VERNON IL 62864
(618) 244-3235
INV:
PO: REF:
DEPT:

518C1/0B1B/6F03

FedEx Express

J131113052301 26

TRK# 0201 9325 1887 7914

WED - 23 OCT AA
STANDARD OVERNIGHT

NA MVNA

ICE
62864
IL-US STL

Part # 156148-434 RIT2 03/12

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

GREEN BAY, WI 54302
UNITED STATES US

SHIP DATE: 22OCT13
ACTWGT: 35.0 LB MAN
CAD: 255289/CAFE2704

DRY ICE: 4.5 KGS
BILL THIRD PARTY

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

518C1/0B1B/6F03

FedEx Express

J131113052301 26

TRK# 0201 9325 1887 7888

WED - 23 OCT AA
STANDARD OVERNIGHT

NA MVNA

ICE
62864
IL-US STL

Part # 156148-434 RIT2 03/12

Original in 6558
ale
10-23-13

# Field Sample
# Form 1s

Rev. 1.0

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK001C | ARDL Lab No.: | 006557-01 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030316 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1403 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 74% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-01, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK002C | ARDL Lab No.: | 006557-02 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030317 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1227 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 69% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 74% |

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

Sample 006557-02, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK004C | ARDL Lab No.: | 006557-03 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030318 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1420 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 64% |
| 2-Fluorobiphenyl | 30-130 | 75% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-03, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK005C | ARDL Lab No.: | 006557-04 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030319 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1514 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 81% |
| Terphenyl-d14 | 30-130 | 82% |

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

Sample 006557-04, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK006C | ARDL Lab No.: | 006557-05 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031310 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1005 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 70% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-05, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK007C | ARDL Lab No.: | 006557-06 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031311 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1020 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 73% |
| 2-Fluorobiphenyl | 30-130 | 81% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-06, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK008C | ARDL Lab No.: | 006557-07 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031312 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1115 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 76% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-07, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK009C | ARDL Lab No.: | 006557-08 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031313 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1126 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 84% |
| Terphenyl-d14 | 30-130 | 94% |

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

Sample 006557-08, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK010C | ARDL Lab No.: | 006557-09 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031314 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1128 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 71% |
| 2-Fluorobiphenyl | 30-130 | 80% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006557-09, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK014C | ARDL Lab No.: | 006557-10 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031315 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1355 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 62% |
| 2-Fluorobiphenyl | 30-130 | 73% |
| Terphenyl-d14 | 30-130 | 71% |

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

Sample 006557-10, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK015C | ARDL Lab No.: | 006557-11 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031316 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0958 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 70% |
| Terphenyl-d14 | 30-130 | 68% |

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

Sample 006557-11, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK018C | ARDL Lab No.: | 006557-12 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031322 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0905 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 70% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 73% |

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

Sample 006557-12, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK019C | ARDL Lab No.: | 006557-13 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031323 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0915 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 69% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-13, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK020C | ARDL Lab No.: | 006557-14 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031324 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1018 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 78% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-14, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK022C | ARDL Lab No.: | 006557-15 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101305 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1150 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 73% |
| Terphenyl-d14 | 30-130 | 71% |

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

Sample 006557-15, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK024C | ARDL Lab No.: | 006557-16 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101306 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0830 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 73% |
| 2-Fluorobiphenyl | 30-130 | 82% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-16, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK025C | ARDL Lab No.: | 006557-17 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101307 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0906 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 83% |
| Terphenyl-d14 | 30-130 | 82% |

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

Sample 006557-17, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK026C | ARDL Lab No.: | 006557-18 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101308 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1018 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 59% |
| 2-Fluorobiphenyl | 30-130 | 70% |
| Terphenyl-d14 | 30-130 | 69% |

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

Sample 006557-18, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK027C | ARDL Lab No.: | 006557-19 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101309 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1140 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 71% |
| 2-Fluorobiphenyl | 30-130 | 80% |
| Terphenyl-d14 | 30-130 | 76% |

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

Sample 006557-19, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK032C | ARDL Lab No.: | 006557-20 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031317 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1210 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 64% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-20, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK029C | ARDL Lab No.: | 006558-01 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101310 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0820 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 81% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006558-01, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK030C | ARDL Lab No.: | 006558-02 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101311 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0833 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 75% |
| Terphenyl-d14 | 30-130 | 73% |

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

Sample 006558-02, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK031C | ARDL Lab No.: | 006558-03 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101314 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1050 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 59% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 76% |

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

Sample 006558-03, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK028C | ARDL Lab No.: | 006558-04 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101315 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1300 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 56% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006558-04, BNA'S (METHOD 8270) Page 1 of 1

# QC Summary Forms

**Form 2 (Surrogate Summary, if applicable)**

**Form 3 (Spike and/or MS Summary, if applicable)**

**Blank Form 1(s) & Form 4 (Blank Summary, if applicable)**

**Form 8 (ISTD Area Summary, if applicable)**

2C

TISSUE 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 B10108 | 74 | 82 | 82 | | | | 0 |
| 02 | SPBK B10108 | 67 | 75 | 77 | | | | 0 |
| 03 | MAK001C | 65 | 74 | 78 | | | | 0 |
| 04 | MAK002C | 69 | 76 | 74 | | | | 0 |
| 05 | MAK004C | 64 | 75 | 77 | | | | 0 |
| 06 | MAK005C | 72 | 81 | 82 | | | | 0 |
| 07 | MAK006C | 70 | 77 | 77 | | | | 0 |
| 08 | MAK007C | 73 | 81 | 78 | | | | 0 |
| 09 | MAK008C | 68 | 76 | 77 | | | | 0 |
| 10 | MAK009C | 63 | 84 | 94 | | | | 0 |
| 11 | MAK010C | 71 | 80 | 79 | | | | 0 |
| 12 | MAK014C | 62 | 73 | 71 | | | | 0 |
| 13 | MAK015C | 61 | 70 | 68 | | | | 0 |
| 14 | MAK032C | 64 | 76 | 75 | | | | 0 |
| 15 | MAK032CMS | 65 | 74 | 72 | | | | 0 |
| 16 | MAK032CMSD | 62 | 71 | 72 | | | | 0 |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 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

2C

TISSUE 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 B10111 | 76 | 83 | 77 | | | | 0 |
| 02 | SPBK B10111 | 76 | 84 | 82 | | | | 0 |
| 03 | MAK018C | 70 | 76 | 73 | | | | 0 |
| 04 | MAK019C | 69 | 77 | 75 | | | | 0 |
| 05 | MAK020C | 72 | 78 | 75 | | | | 0 |
| 06 | MAK022C | 66 | 73 | 71 | | | | 0 |
| 07 | MAK024C | 73 | 82 | 78 | | | | 0 |
| 08 | MAK025C | 72 | 83 | 82 | | | | 0 |
| 09 | MAK026C | 59 | 70 | 69 | | | | 0 |
| 10 | MAK027C | 71 | 80 | 76 | | | | 0 |
| 11 | MAK029C | 68 | 81 | 79 | | | | 0 |
| 12 | MAK030C | 65 | 75 | 73 | | | | 0 |
| 13 | MAK030CMS | 70 | 79 | 77 | | | | 0 |
| 14 | MAK030CMSD | 71 | 78 | 77 | | | | 0 |
| 15 | MAK031C | 59 | 77 | 76 | | | | 0 |
| 16 | MAK028C | 56 | 77 | 79 | | | | 0 |
| 17 | | | | | | | | |
| 18 | | | | | | | | |
| 19 | | | | | | | | |
| 20 | | | | | | | | |
| 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: 006557 Report Date: 11/04/2013

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

Matrix: QC Material QC Batch: B6634 Prep. Date: 10/28/2013
Amount Used: 5 g Level: LOW Analysis Date: 10/30/2013

| Parameter | Spike Result | Spike Level | Spike % Rec | Duplicate Result | Duplicate Level | Duplicate % Rec | Recovery Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dimethylphthalate | 3570 | 5000 | 71 | -- | -- | -- | 67-104 | -- | -- |
| Diethylphthalate | 3740 | 5000 | 75 | -- | -- | -- | 65-108 | -- | -- |
| Di-n-butylphthalate | 3790 | 5000 | 76 | -- | -- | -- | 68-115 | -- | -- |
| Pyrene | 3850 | 5000 | 77 | -- | -- | -- | 47-122 | -- | -- |
| bis(2-Ethylhexyl)phthalate | 3650 | 5000 | 73 | -- | -- | -- | 52-128 | -- | -- |
| Di-n-octylphthalate | 3670 | 5000 | 73 | -- | -- | -- | 36-150 | -- | -- |

| SURROGATE RECOVERIES: | Spike %R | Duplicate %R | %R Limits |
|---|---|---|---|
| Nitrobenzene-d5 | 67.4 | -- | 30-130 |
| 2-Fluorobiphenyl | 75.2 | -- | 30-130 |
| Terphenyl-d14 | 76.6 | -- | 30-130 |

'*' indicates a recovery outside of standard limits.

Spike Blanks for 006557-20, BNA'S (METHOD 8270)

Page 1 of 1

# MATRIX SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | | | |
|---|---|---|---|---|---|
| Field ID: | MAK032C | Prep. Date: | 10/28/2013 | ARDL Lab No.: | 006557-20 |
| Desc/Location: | MAKAU MILITARY RESERV OAH | Amount Used: | 5 g | Lab Filename: | |
| Sample Date: | 09/23/2013 | % Moisture: | No Moisture Present | Received Date: | 10/23/2013 |
| Sample Time: | 1210 | QC Batch: | B6634 | Analysis Date: | 10/31/2013 |
| 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 | 3490 | 5000 | 69.8 | 3310 | 5000 | 66.3 | 57-110 | 5.2 | 30 |
| Diethylphthalate | ND | 3590 | 5000 | 71.8 | 3460 | 5000 | 69.2 | 57-112 | 3.7 | 30 |
| Di-n-butylphthalate | ND | 3660 | 5000 | 73.2 | 3490 | 5000 | 69.8 | 54-118 | 4.8 | 30 |
| Pyrene | ND | 3720 | 5000 | 74.4 | 3550 | 5000 | 71.1 | 43-119 | 4.5 | 30 |
| bis(2-Ethylhexyl)phthalate | ND | 3560 | 5000 | 71.1 | 3200 | 5000 | 64.1 | 57-116 | 10.4 | 30 |
| Di-n-octylphthalate | ND | 3650 | 5000 | 73 | 3370 | 5000 | 67.3 | 32-152 | 8.2 | 30 |

| SURROGATE RECOVERIES: | MS %R | MSD %R | %R Limits |
|---|---|---|---|
| Nitrobenzene-d5 | 65 | 62 | 30-130 |
| 2-Fluorobiphenyl | 74 | 71 | 30-130 |
| Terphenyl-d14 | 72 | 72 | 30-130 |

'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 006557-20, BNA'S (METHOD 8270)

Page 1 of 1

# BLANK SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006558 Report Date: 11/04/2013

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

Matrix: QC Material QC Batch: B6635 Prep. Date: 10/29/2013
Amount Used: 5 g Level: LOW Analysis Date: 10/31/2013

| Parameter | Spike Result | Spike Level | Spike % Rec | Duplicate Result | Duplicate Level | Duplicate % Rec | Recovery Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|
| Dimethylphthalate | 3690 | 5000 | 74 | -- | -- | -- | 67-104 | -- | -- |
| Diethylphthalate | 3800 | 5000 | 76 | -- | -- | -- | 65-108 | -- | -- |
| Di-n-butylphthalate | 3820 | 5000 | 76 | -- | -- | -- | 68-115 | -- | -- |
| Pyrene | 3920 | 5000 | 78 | -- | -- | -- | 47-122 | -- | -- |
| bis(2-Ethylhexyl)phthalate | 3760 | 5000 | 75 | -- | -- | -- | 52-128 | -- | -- |
| Di-n-octylphthalate | 3830 | 5000 | 77 | -- | -- | -- | 36-150 | -- | -- |

| SURROGATE RECOVERIES: | Spike %R | Duplicate %R | %R Limits |
|---|---|---|---|
| Nitrobenzene-d5 | 76.5 | -- | 30-130 |
| 2-Fluorobiphenyl | 83.6 | -- | 30-130 |
| Terphenyl-d14 | 81.6 | -- | 30-130 |

'*' indicates a recovery outside of standard limits.

Spike Blanks for 006558-02, BNA'S (METHOD 8270)

Page 1 of 1

# MATRIX SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | | | |
|---|---|---|---|---|---|
| Field ID: | MAK030C | Prep. Date: | 10/29/2013 | ARDL Lab No.: | 006558-02 |
| Desc/Location: | MAKAU MILITARY RESERV OAH | Amount Used: | 5 g | Lab Filename: | |
| Sample Date: | 09/23/2013 | % Moisture: | No Moisture Present | Received Date: | 10/23/2013 |
| Sample Time: | 0833 | QC Batch: | B6635 | Analysis Date: | 11/01/2013 |
| 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 | 68.9 | 3440 | 5000 | 68.8 | 57-110 | 0.2 | 30 |
| Diethylphthalate | ND | 3490 | 5000 | 69.7 | 3460 | 5000 | 69.2 | 57-112 | 0.8 | 30 |
| Di-n-butylphthalate | ND | 3630 | 5000 | 72.5 | 3560 | 5000 | 71.2 | 54-118 | 1.8 | 30 |
| Pyrene | ND | 3650 | 5000 | 73 | 3620 | 5000 | 72.4 | 43-119 | 0.9 | 30 |
| bis(2-Ethylhexyl)phthalate | ND | 3550 | 5000 | 71 | 3580 | 5000 | 71.7 | 57-116 | 1 | 30 |
| Di-n-octylphthalate | ND | 3620 | 5000 | 72.4 | 3650 | 5000 | 73.1 | 32-152 | 0.9 | 30 |

| SURROGATE RECOVERIES: | MS %R | MSD %R | %R Limits |
|---|---|---|---|
| Nitrobenzene-d5 | 70 | 71 | 30-130 |
| 2-Fluorobiphenyl | 79 | 78 | 30-130 |
| Terphenyl-d14 | 77 | 77 | 30-130 |

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits.

Matrix Spikes for 006558-02, BNA'S (METHOD 8270)

Page 1 of 1

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006557-20B1 |
| Desc/Location: | NA | Lab Filename: | E1030314 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/28/2013 |
| Matrix: | QC Material | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 74% |
| 2-Fluorobiphenyl | 30-130 | 82% |
| Terphenyl-d14 | 30-130 | 82% |

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

Blank for Run B6634, BNA'S (METHOD 8270) Page 1 of 1

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006558-02B1 |
| Desc/Location: | NA | Lab Filename: | E1031320 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/29/2013 |
| Matrix: | QC Material | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 76% |
| 2-Fluorobiphenyl | 30-130 | 83% |
| Terphenyl-d14 | 30-130 | 77% |

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

Blank for Run B6635, BNA'S (METHOD 8270) Page 1 of 1

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLANK B10108

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

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

Lab File ID: E1030314 Lab Sample ID: 006557-20B1

Instrument ID: AG5 Date Extracted: 10/28/13

Matrix: (soil/water) TISSUE Date Analyzed: 10/30/13

Level: (low/med) --- Time Analyzed: 17:10

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

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|---|
| 01 | SPBK B10108 | 006557-20K1 | E1030315 | 10/30/13 |
| 02 | MAK001C | 006557-01 | E1030316 | 10/30/13 |
| 03 | MAK002C | 006557-02 | E1030317 | 10/30/13 |
| 04 | MAK004C | 006557-03 | E1030318 | 10/30/13 |
| 05 | MAK005C | 006557-04 | E1030319 | 10/30/13 |
| 06 | MAK006C | 006557-05 | E1031310 | 10/31/13 |
| 07 | MAK007C | 006557-06 | E1031311 | 10/31/13 |
| 08 | MAK008C | 006557-07 | E1031312 | 10/31/13 |
| 09 | MAK009C | 006557-08 | E1031313 | 10/31/13 |
| 10 | MAK010C | 006557-09 | E1031314 | 10/31/13 |
| 11 | MAK014C | 006557-10 | E1031315 | 10/31/13 |
| 12 | MAK015C | 006557-11 | E1031316 | 10/31/13 |
| 13 | MAK032C | 006557-20 | E1031317 | 10/31/13 |
| 14 | MAK032CMS | 006557-20MS | E1031318 | 10/31/13 |
| 15 | MAK032CMSD | 006557-20MD | E1031319 | 10/31/13 |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | |

COMMENTS:

4B

SEMIVOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BLANK B10111

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

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

Lab File ID: E1031320 Lab Sample ID: 006558-02B1

Instrument ID: AG5 Date Extracted: 10/29/13

Matrix: (soil/water) TISSUE Date Analyzed: 10/31/13

Level: (low/med) --- Time Analyzed: 20:04

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

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED |
|---|---|---|---|---|
| 01 | SPBK B10111 | 006558-02K1 | E1031321 | 10/31/13 |
| 02 | MAK018C | 006557-12 | E1031322 | 10/31/13 |
| 03 | MAK019C | 006557-13 | E1031323 | 10/31/13 |
| 04 | MAK020C | 006557-14 | E1031324 | 10/31/13 |
| 05 | MAK022C | 006557-15 | E1101305 | 11/01/13 |
| 06 | MAK024C | 006557-16 | E1101306 | 11/01/13 |
| 07 | MAK025C | 006557-17 | E1101307 | 11/01/13 |
| 08 | MAK026C | 006557-18 | E1101308 | 11/01/13 |
| 09 | MAK027C | 006557-19 | E1101309 | 11/01/13 |
| 10 | MAK029C | 006558-01 | E1101310 | 11/01/13 |
| 11 | MAK030C | 006558-02 | E1101311 | 11/01/13 |
| 12 | MAK030CMS | 006558-02MS | E1101312 | 11/01/13 |
| 13 | MAK030CMSD | 006558-02MD | E1101313 | 11/01/13 |
| 14 | MAK031C | 006558-03 | E1101314 | 11/01/13 |
| 15 | MAK028C | 006558-04 | E1101315 | 11/01/13 |
| 16 | | | | |
| 17 | | | | |
| 18 | | | | |
| 19 | | | | |
| 20 | | | | |
| 21 | | | | |
| 22 | | | | |
| 23 | | | | |
| 24 | | | | |
| 25 | | | | |
| 26 | | | | |
| 27 | | | | |
| 28 | | | | |
| 29 | | | | |
| 30 | | | | |

COMMENTS:

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): E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS1(DCB) AREA # | RT # | IS2(NPT) AREA # | RT # | IS3(ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 1978845 | 7.45 | 7315795 | 9.42 | 4301435 | 12.34 |
| | UPPER LIMIT | 3957690 | 7.95 | 14631590 | 9.92 | 8602870 | 12.84 |
| | LOWER LIMIT | 989423 | 6.95 | 3657898 | 8.92 | 2150718 | 11.84 |
| | EPA SAMPLE NO. | | | | | | |
| 1 | BLANK B10108 | 1846727 | 7.45 | 6933830 | 9.41 | 4091062 | 12.33 |
| 2 | SPBK B10108 | 1984603 | 7.45 | 7413783 | 9.41 | 4332357 | 12.33 |
| 3 | MAK001C | 2048277 | 7.45 | 7541753 | 9.41 | 4462113 | 12.33 |
| 4 | MAK002C | 2056214 | 7.45 | 7676960 | 9.42 | 4451347 | 12.33 |
| 5 | MAK004C | 2125793 | 7.45 | 7929031 | 9.41 | 4616701 | 12.33 |
| 6 | MAK005C | 2014575 | 7.45 | 7451130 | 9.41 | 4392043 | 12.33 |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 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):E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS4(PHN) AREA # | RT # | IS5(CRY) AREA # | RT # | IS6(PRY) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 7468671 | 14.91 | 8866680 | 20.58 | 7174451 | 25.49 |
| | UPPER LIMIT | 14937342 | 15.41 | 17733360 | 21.08 | 14348902 | 25.99 |
| | LOWER LIMIT | 3734336 | 14.41 | 4433340 | 20.08 | 3587226 | 24.99 |
| | EPA SAMPLE NO. | | | | | | |
| 1 | BLANK B10108 | 7354272 | 14.90 | 8610891 | 20.56 | 7705166 | 25.48 |
| 2 | SPBK B10108 | 7738584 | 14.90 | 9228679 | 20.56 | 8399376 | 25.48 |
| 3 | MAK001C | 7913613 | 14.90 | 9357914 | 20.56 | 8493115 | 25.48 |
| 4 | MAK002C | 7922280 | 14.90 | 9638123 | 20.56 | 8781196 | 25.49 |
| 5 | MAK004C | 8293997 | 14.90 | 10028590 | 20.56 | 9040363 | 25.48 |
| 6 | MAK005C | 7743377 | 14.90 | 9161098 | 20.56 | 8314671 | 25.48 |
| 7 | | | | | | | |
| 8 | | | | | | | |
| 9 | | | | | | | |
| 10 | | | | | | | |
| 11 | | | | | | | |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 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):E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS1(DCB) AREA # | RT # | IS2(NPT) AREA # | RT # | IS3(ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 1978845 | 7.45 | 7315795 | 9.42 | 4301435 | 12.34 |
| | UPPER LIMIT | 3957690 | 7.95 | 14631590 | 9.92 | 8602870 | 12.84 |
| | LOWER LIMIT | 989423 | 6.95 | 3657898 | 8.92 | 2150718 | 11.84 |
| | EPA SAMPLE NO. | | | | | | |
| 1 | MAK006C | 1929808 | 7.45 | 7198305 | 9.41 | 4256913 | 12.33 |
| 2 | MAK007C | 2016414 | 7.45 | 7484987 | 9.41 | 4401094 | 12.33 |
| 3 | MAK008C | 1902403 | 7.45 | 7073538 | 9.41 | 4186309 | 12.33 |
| 4 | MAK009C | 1428650 | 7.45 | 5835769 | 9.41 | 3469213 | 12.33 |
| 5 | MAK010C | 1990803 | 7.45 | 7428307 | 9.41 | 4366971 | 12.33 |
| 6 | MAK014C | 2126496 | 7.45 | 7895277 | 9.42 | 4667900 | 12.33 |
| 7 | MAK015C | 2153385 | 7.45 | 7962416 | 9.41 | 4700922 | 12.34 |
| 8 | MAK032C | 1950119 | 7.45 | 7747908 | 9.41 | 4539941 | 12.34 |
| 9 | MAK032CMS | 2113522 | 7.45 | 7874844 | 9.41 | 4602707 | 12.33 |
| 10 | MAK032CMSD | 2163305 | 7.45 | 7994598 | 9.41 | 4551831 | 12.34 |
| 11 | BLANK B10111 | 2182938 | 7.45 | 8069557 | 9.41 | 4794322 | 12.33 |
| 12 | SPBK B10111 | 2103397 | 7.45 | 7737916 | 9.41 | 4545599 | 12.34 |
| 13 | MAK018C | 2053434 | 7.45 | 7670707 | 9.41 | 4505984 | 12.33 |
| 14 | MAK019C | 2032418 | 7.45 | 7545040 | 9.41 | 4486161 | 12.33 |
| 15 | MAK020C | 2215345 | 7.45 | 8167249 | 9.41 | 4873143 | 12.33 |
| 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):E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS4(PHN) AREA | # | RT | # | IS5(CRY) AREA | # | RT | # | IS6(PRY) AREA | # | RT | # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 7468671 | | 14.91 | | 8866680 | | 20.58 | | 7174451 | | 25.49 | |
| | UPPER LIMIT | 14937342 | | 15.41 | | 17733360 | | 21.08 | | 14348902 | | 25.99 | |
| | LOWER LIMIT | 3734336 | | 14.41 | | 4433340 | | 20.08 | | 3587226 | | 24.99 | |
| | EPA SAMPLE NO. | | | | | | | | | | | | |
| 1 | MAK006C | 7511395 | | 14.90 | | 8916458 | | 20.57 | | 9599196 | | 25.50 | |
| 2 | MAK007C | 7828033 | | 14.90 | | 9271350 | | 20.57 | | 9706118 | | 25.49 | |
| 3 | MAK008C | 7447682 | | 14.90 | | 8908325 | | 20.56 | | 9495953 | | 25.49 | |
| 4 | MAK009C | 6121459 | | 14.90 | | 7054154 | | 20.56 | | 7314504 | | 25.48 | |
| 5 | MAK010C | 7747967 | | 14.90 | | 9074694 | | 20.57 | | 9640336 | | 25.49 | |
| 6 | MAK014C | 8281406 | | 14.90 | | 9868510 | | 20.57 | | 10365140 | | 25.50 | |
| 7 | MAK015C | 8247662 | | 14.90 | | 9599442 | | 20.58 | | 10009819 | | 25.50 | |
| 8 | MAK032C | 8078836 | | 14.90 | | 9455957 | | 20.57 | | 9713059 | | 25.50 | |
| 9 | MAK032CMS | 8146519 | | 14.91 | | 9660405 | | 20.57 | | 9982357 | | 25.49 | |
| 10 | MAK032CMSD | 8240104 | | 14.90 | | 9870549 | | 20.57 | | 10131496 | | 25.49 | |
| 11 | BLANK B10111 | 8592513 | | 14.90 | | 10078894 | | 20.57 | | 10932026 | | 25.49 | |
| 12 | SPBK B10111 | 8043224 | | 14.90 | | 9449063 | | 20.57 | | 10275452 | | 25.50 | |
| 13 | MAK018C | 7981685 | | 14.90 | | 9594250 | | 20.57 | | 9720053 | | 25.50 | |
| 14 | MAK019C | 7807237 | | 14.90 | | 9376600 | | 20.57 | | 9551307 | | 25.50 | |
| 15 | MAK020C | 8549723 | | 14.90 | | 10287178 | | 20.57 | | 10908806 | | 25.50 | |
| 16 | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | |
| 19 | 0 | | | | | | | | | | | | |
| 20 | 0 | | | | | | | | | | | | |
| 21 | 0 | | | | | | | | | | | | |
| 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):E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS1(DCB) AREA # | RT # | IS2(NPT) AREA # | RT # | IS3(ANT) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 1978845 | 7.45 | 7315795 | 9.42 | 4301435 | 12.34 |
| | UPPER LIMIT | 3957690 | 7.95 | 14631590 | 9.92 | 8602870 | 12.84 |
| | LOWER LIMIT | 989423 | 6.95 | 3657898 | 8.92 | 2150718 | 11.84 |
| | EPA SAMPLE NO. | | | | | | |
| 1 | MAK022C | 2215345 | 7.45 | 8167249 | 9.41 | 4873143 | 12.33 |
| 2 | MAK024C | 2261524 | 7.45 | 8360009 | 9.42 | 4927916 | 12.33 |
| 3 | MAK025C | 2006843 | 7.45 | 7433749 | 9.41 | 4343119 | 12.33 |
| 4 | MAK026C | 2187094 | 7.45 | 8130655 | 9.41 | 4787906 | 12.34 |
| 5 | MAK027C | 2209299 | 7.45 | 8188629 | 9.41 | 4833893 | 12.34 |
| 6 | MAK029C | 2186753 | 7.45 | 8079427 | 9.41 | 4752064 | 12.33 |
| 7 | MAK030C | 1938215 | 7.45 | 7254009 | 9.41 | 4262561 | 12.33 |
| 8 | MAK030CMS | 2158158 | 7.45 | 8020015 | 9.41 | 4698427 | 12.33 |
| 9 | MAK030CMSD | 2144115 | 7.45 | 7933990 | 9.41 | 4650542 | 12.34 |
| 10 | MAK031C | 2252072 | 7.45 | 8300723 | 9.41 | 4847719 | 12.34 |
| 11 | MAK028C | 2331969 | 7.45 | 8604658 | 9.41 | 5039307 | 12.33 |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 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):E1030310 Date Analyzed: 10/30/13

Instrument ID: AG5 Time Analyzed: 14:26

| | | IS4(PHN) AREA # | RT # | IS5(CRY) AREA # | RT # | IS6(PRY) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STANDARD | 7468671 | 14.91 | 8866680 | 20.58 | 7174451 | 25.49 |
| | UPPER LIMIT | 14937342 | 15.41 | 17733360 | 21.08 | 14348902 | 25.99 |
| | LOWER LIMIT | 3734336 | 14.41 | 4433340 | 20.08 | 3587226 | 24.99 |
| | EPA SAMPLE NO. | | | | | | |
| 1 | MAK022C | 8549723 | 14.90 | 10287178 | 20.57 | 10908806 | 25.50 |
| 2 | MAK024C | 8614217 | 14.90 | 10324411 | 20.57 | 10862029 | 25.49 |
| 3 | MAK025C | 7658415 | 14.90 | 9052095 | 20.56 | 9524138 | 25.49 |
| 4 | MAK026C | 8398676 | 14.90 | 10040444 | 20.57 | 10600221 | 25.49 |
| 5 | MAK027C | 8605266 | 14.90 | 10184851 | 20.57 | 10684532 | 25.49 |
| 6 | MAK029C | 8351030 | 14.90 | 9998368 | 20.57 | 10265964 | 25.49 |
| 7 | MAK030C | 7569609 | 14.90 | 8803247 | 20.56 | 9117075 | 25.49 |
| 8 | MAK030CMS | 8213418 | 14.90 | 9945950 | 20.57 | 10205609 | 25.49 |
| 9 | MAK030CMSD | 8194234 | 14.91 | 9787207 | 20.57 | 10012721 | 25.49 |
| 10 | MAK031C | 8548551 | 14.90 | 10294793 | 20.57 | 10368234 | 25.49 |
| 11 | MAK028C | 8878857 | 14.90 | 10699295 | 20.57 | 11125444 | 25.49 |
| 12 | | | | | | | |
| 13 | | | | | | | |
| 14 | | | | | | | |
| 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

# Sample Preparation Information

## (Not Applicable for VOA Purge and Trap Method)

Rev. 1.0

# 3550
# 8270 BNA Tissues

**DATE : 10/ 28 / 2013** **BATCH # B10108**

**CUST: Makau Military Reservation Oahu** **ARDL # 6557**

**SAMPLES:** BLK; SP BLK; 6557-1 thru 11, 20
**QC SAMPLE:** 6557-20ms/msd

**SOLVENT USED:** $MeCL_2$ # 0000057182
**REAGENTS USED:** $Na_2SO_4$ # 0000047479

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

**SPIKE # 16088** CONC 250 PPM __X__ AMOUNT 100 uL __X__

**EXTRACTION METHOD:** SONICATION __X__ MED/LEVEL_____ DILUTION ____

**FINAL VOLUME 1 mL**

**EXTRACTION PERSONNEL: SMN, JAD**

**SPIKER: SMN** **WITNESS: JAD**

| SAMPLE # | WEIGHT/G | pH | Vf | | SAMPLE # | WEIGHT/G | pH | Vf |
|---|---|---|---|---|---|---|---|---|
| BLK | 5.00 g | ----- | 1 mL | | 6557-20 | 5.02 g | ----- | 1 mL |
| SP BLK | 5.00 g | " | " | | 6557-20ms | 5.00 g | " | " |
| 6557-1 | 5.02 g | " | " | | 6557-20msd | 5.03 g | " | " |
| 6557-2 | 5.03 g | " | " | | | | | |
| 6557-3 | 5.04 g | " | " | | | | | |
| 6557-4 | 5.01 g | " | " | | | | | |
| 6557-5 | 5.02 g | " | " | | | | | |
| 6557-6 | 5.02 g | " | " | | | | | |
| 6557-7 | 5.01 g | " | " | | | | | |
| 6557-8 | 5.02 g | " | " | | | | | |
| 6557-9 | 5.04 g | " | " | | | | | |
| 6557-10 | 5.01 g | " | " | | | | | |
| 6557-11 | 5.01 g | " | " | | | | | |

**RECEIVED BY:** PEK **DELIVERED BY:** SMN

DATE: 10/28/2013 DATE: 10/28/13

B10108 8270 - BMA - Tissues

| Sample I.D. | $W_I$ | $V_f$ | Date: | Time: |
|---|---|---|---|---|
| BlK | 5.00g | 1mL | 10/28/13 | 10:45 |
| SpBlK | 5.00g | 1mL | | |
| 6557-1 | 5.02g | 1mL | Water Bath Temp: | |
| -2 | 5.03g | 1mL | | |
| -3 | 5.04g | 1mL | 94°C | |
| -4 | 5.01g | 1mL | | |
| -5 | 5.02g | 1mL | | |
| -6 | 5.02g | 1mL | | |
| -7 | 5.01g | 1mL | | |
| -8 | 5.02g | 1mL | | |
| -9 | 5.04g | 1mL | | |
| -10 | 5.01g | 1mL | | |
| -11 | 5.01g | 1mL | | |
| -20 | 5.02g | 1mL | | |
| -20MS | 5.00g | 1mL | | |
| -20MSD | 5.03g | 1mL | | |

All samples contain 25 ul of surrogate # 20006-050613 (1000ppm).

SpBlK, MS, MSD contain 100 ul of spike # 16088 (250ppm).

Solvent Used: $MeCl_2$ # 0000057182.

Reagent Used: $Na_2SO_4$ # 0000047479.

Spiker SMW Witness JAD

Continued on Page

Read and Understood By

Steve Unwcal 10/28/13 JD 10/28/13
Signed Date Signed Date

# 3550
# 8270 BNA Tissues

**DATE : 10/ 29 / 2013** **BATCH # B10111**

**CUST: Makau Military Reservation Oahu** **ARDL # 6557, 6558**

**SAMPLES:** BLK; SP BLK; 6557-12 thru 19; 6558-1 thru 5
**QC SAMPLE:** 6558-2ms/msd

**SOLVENT USED:** $MeCL_2$ # 0000057182
**REAGENTS USED:** $Na_2SO_4$ # 0000047479

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

**SPIKE # 16088** CONC 250 PPM __X__ AMOUNT 100 uL __X__

**EXTRACTION METHOD:** SONICATION __X__ MED/LEVEL_____ DILUTION ____

**FINAL VOLUME 1 mL**

**EXTRACTION PERSONNEL: SMN, JAD**

**SPIKER: SMN** **WITNESS: JAD**

| SAMPLE # | WEIGHT/G | pH | Vf | | SAMPLE # | WEIGHT/G | pH | Vf |
|---|---|---|---|---|---|---|---|---|
| BLK | 5.00 g | ----- | 1 mL | | 6558-2msd | 5.02 g | ----- | 1 mL |
| SP BLK | 5.00 g | " | " | | 6558-3 | 5.03 g | " | " |
| 6557-12 | 5.04 g | " | " | | 6558-4 | 5.00 g | " | " |
| 6557-13 | 5.04 g | " | " | | 6558-5 | 5.04 g | " | " |
| 6557-14 | 5.01 g | " | " | | | | | |
| 6557-15 | 5.04 g | " | " | | | | | |
| 6557-16 | 5.04 g | " | " | | | | | |
| 6557-17 | 5.01 g | " | " | | | | | |
| 6557-18 | 5.00 g | " | " | | | | | |
| 6557-19 | 5.03 g | " | " | | | | | |
| 6558-1 | 5.01 g | " | " | | | | | |
| 6558-2 | 5.00 g | " | " | | | | | |
| 6558-2ms | 5.01 g | " | " | | | | | |

**RECEIVED BY:** PEK **DELIVERED BY:** SMN

DATE: 10/29/2013 DATE: 10/29/13

B10111 8270-BNA-Tissues

| Sample I.D. | $W_I$ | $V_f$ | Date: | Time: |
|---|---|---|---|---|
| BlK | 5.00g | 1mL | 10/29/13 | 13:00 |
| SpBlK | 5.00g | 1mL | | |
| 6557-12 | 5.04g | 1mL | Water Bath Temp: 95°C | |
| -13 | 5.04g | 1mL | | |
| -14 | 5.01g | 1mL | | |
| -15 | 5.04g | 1mL | | |
| -16 | 5.04g | 1mL | | |
| -17 | 5.01g | 1mL | | |
| -18 | 5.00g | 1mL | | |
| -19 | 5.03g | 1mL | | |
| 6558-1 | 5.01g | 1mL | | |
| -2 | 5.00g | 1mL | | |
| -2mS | 5.01g | 1mL | | |
| -2mSD | 5.02g | 1mL | | |
| -3 | 5.03g | 1mL | | |
| -4 | 5.00g | 1mL | | |
| -5 | 5.04g | 1mL | | |

All samples contain 25 ul of surrogate # 20006-050613 (1000 ppm).

SpBlK, mS, mSD contain 100 ul of spike # 16088 (250 ppm).

Solvent Used: $MeCl_2$ # 0000057182.

Reagent Used: $Na_2SO_4$ # 0000047479.

Spiker SMN Witness JAS

Continued on Page

Read and Understood By

Steve Newsom 10/29/13 JAS 10/29/13

Signed Date Signed Date

CERTIFIED WEIGHT REPORT

| | | | Lot # | |
|---|---|---|---|---|
| **Part Number:** | 20006 | **Solvent(s):** | 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 |

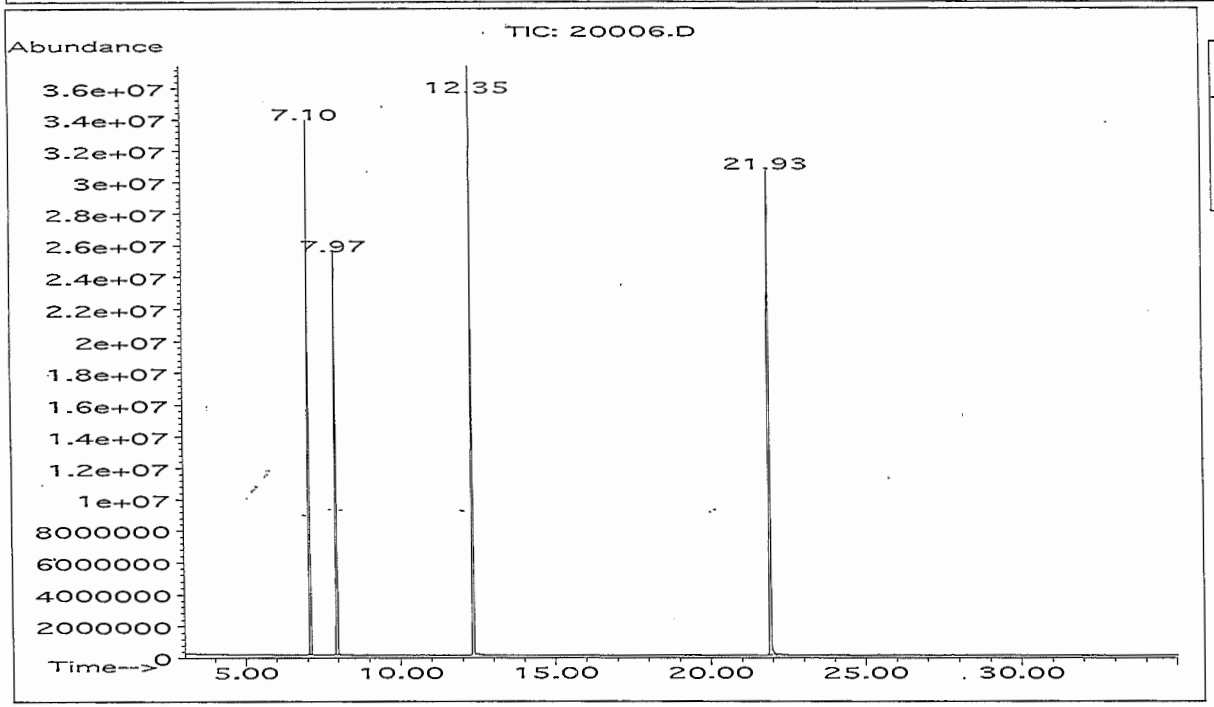
5E-05 Balance Uncertainty

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 |

STOCK

16086-R

RESTEK Made in USA
Cat# 31282 Recd 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 Recd 10.17.13
606 Phthalate Esters Calibration Mix
2000 ug/mL each in Methanol
Lot# A082358 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

JO 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 $MeCl_2$. = 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 $MeCl_2$. 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 | JRC | 10/29/13 |
|---|---|---|---|
| Signed | Date | Signed | Date |

# Certificate of Analysis

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

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

**Catalog No. :** 31282 **Lot No.:** A071610

**Description :** Pyrene Standard

**Expiration Date[1]:** January 2017 **Storage:** Room Temperature

**Handling:** Sonicate ampule 15 minutes prior to opening

| Elution Order | Compound | CAS # | Percent Purity 2 | Concentration 3 (weight/volume) | % Uncertainty 4 (95% C.L.; K=2) |
|---|---|---|---|---|---|
| 1 | Pyrene | 129-00-0 | 98% | 999.600 ug/ml | +/-0.59 % |
| **Solvent:** | Methanol | 67-56-1 | 99% | | |

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

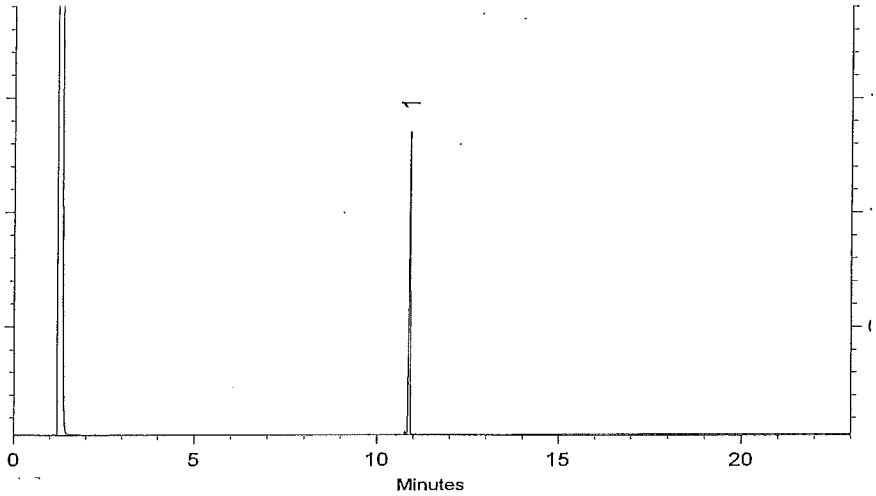
**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**Temp. Program:**
75°C (hold 1 min.) to 330°C
@ 20°C/min. (hold 5 min.)

**Inj. Temp:**
250°C

**Det. Temp:**
330°C

**Det. Type:**
FID




Adam Clark - QA Analyst

**Date Passed:** 12/02/2009 **Balance:** 1128342314

**Manufactured under Restek's ISO 9001-2000 Registered Quality System Certificate #FM80397**

1 Expiration date of the unopened ampule stored at recommended temperature.

2A Purity was determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value rounded to the nearest whole number. In addition to detectors listed above, chemical identity and purity are confirmed using one or more of the following: MS, DSC, solid probe MS, GC/FPD, GC/NPD, GC/TC, FTIR, melting point, refractive index, and Karl Fisher. See data pack or contact Restek for further details.

2B Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities.

2C Compounds with a listed purity of less than 99% may be salts, derivatives, or hydrates. The listed purity is actually a correction factor that was used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound.

2D Purity of isomeric compounds is reported as the sum of the isomers. Value is rounded to the nearest whole number after summation.

3 Based upon gravimetric preparation with balance calibration verified using NIST traceable weights (seven mass levels).

4 Uncertainties determined using repeatability and reproducibility data for balances and glassware from measurement systems analysis methodology, balance and glassware tolerances, raw material purity, and, where applicable, eccentricity and linearity values from an accredited calibration laboratory.

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

www.Restek.com

# 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)

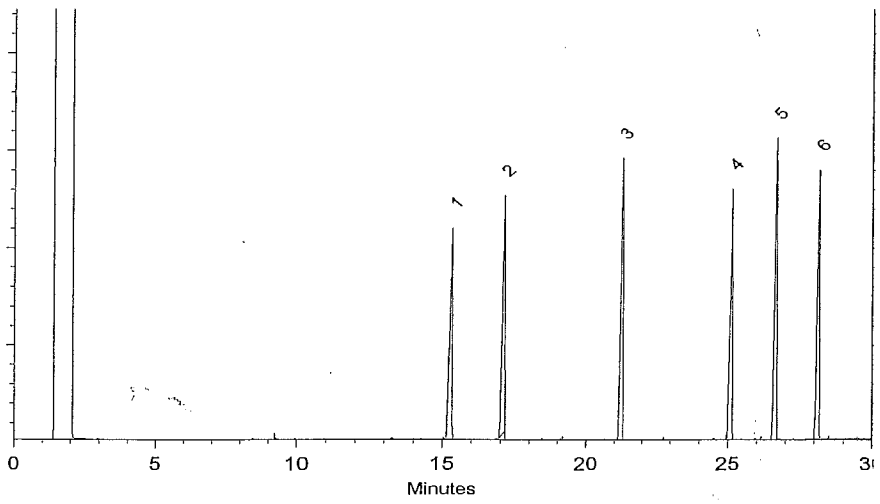
**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**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



# Standards Preparation Information

Rev. 1.0

PROJECT

Continued From Page

# 15778 8270 Tune Mix

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

47387 LB91084

EPA 8270 GC/MS Tuning Solution 50µg/ml in methylene chloride

opened 2/28/13 exp 03/2015

JD

# 15779

NOTEBOOK INSERT LABEL

Semi-Volatile Acids Surrogate Spike Mix 4-8939

Lot: LB80515 EXP: DEC/2013 STORAGE: REFRIGERATE 1 x 1ml

DATE RECEIVED: 10/19/12

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

JD 2/28/13

## 15780 8270 ICV (30 µg/mL)

| Vol | STD / Conc | Exp. Date | Name |
|---|---|---|---|
| 15 µL | 15651-R / 2,000 ppm | 02/2015 | SV Mix #1 |
| | 15682-R / " | 03/2014 | " #2 |
| | 15703-R / " | 10/2014 | #3 |
| | 15652-R / " | 03/2014 | #4 |
| | 15238-R / " | 03/2018 | #5 |
| | 14688-R / " | 05/2019 | Benzidines |
| | 14931-R / " | 04/2013 | SV Mix #7 |
| 15 µL | 15779-S / 2,000 ppm | 12/2013 | Acid Surr. |
| 30 µL | 15094-US / 1,000 ppm | 07/2013 | 1,2,4,5 TCB |
| | 15704-R / 1,000 " | 02/2017 | Azobenzene |
| | 15208-R / 1,000 | 03/2013 | Aniline |
| | 15209-AB / 1,000 | 02/2014 | Pyridine |
| 30 µL | 15679-S / 1,000 ppm | 11/2013 | B/N Surr |

All to 1.0 mL VF $MeCl_2$ (L07501) + 20 µL of ISTD #15639-S (exp. 05/2014)

JD 2/28/13 exp 3/31/2013

Continued on Page

Read and Understood By

JD 2/28/13 TRC 3/12/13

Signed Date Signed Date

15844 Um84 (CD/O) Cal Std

10 µL each 15758-AB, 15764-AB + 15712 US
+ MeCl2
1,00 mL + 5 µL ISTD 15817-5

gD 5/15/13 exp 5/28/13

15845 Dioxane Cal. Std (5 µg/mL)

2.5 µL Dioxane 14897-A (2000 ppm) exp 03/2016
5.0 µL 15739-AB (1,000 ppm) exp 06/2017
MeCl2
1,00 mL VF + 5 µL of ISTD (15817-5)
of 5.0 µg/mL

gD 5/21/13 exp 5/28/13

15846-5

NOTEBOOK INSERT LABEL

TCL Base/Neutrals Mix 2 2000 ppm 48120-U
Lot: LB95506 EXP: SEP/2015 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

gD

Op 5/22/13

15847-5

NOTEBOOK INSERT LABEL

TCL Hazardous Substances Mix 1 2000 ppm 4-8907
Lot: LB95713 EXP: SEP/2015 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

gD

Opend 5.22.13

15848-5

NOTEBOOK INSERT LABEL

TCL Polynuclear Aromatic Hydrocarbons Mix 2000 ppm 48905-U
Lot: LB92157 EXP: APR/2015 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

Continued on Page

Read and Understood By

gD 5/22/13 PEK 5/28/2013

Signed Date Signed Date

PROJECT

Continued From Page

15849-5

NOTEBOOK INSERT LABEL

Semivolatile Internal Standard Mix (2000 ppm ea.) 4-8902
Lot: LB84817 EXP: MAY/2014 STORAGE: REFRIGERATE 2 x 1ml
DATE RECEIVED: Oped 5/22/13 Rec'd 4/16/12
SUPELCO Analytical 595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15850-5

NOTEBOOK INSERT LABEL

TCL Hazardous Substances Mix 2 2000 ppm 4-8908
Lot: LB82059 EXP: FEB/2014 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical 595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15851-5

NOTEBOOK INSERT LABEL

TCL Benzidines Mix 2000 ppb
Lot: LB95197 EXP: SEP/2015 STORAGE: REFRIGERATE 4-8906 1 x 1ml
DATE RECEIVED: Rec'd 11/1/12
SUPELCO Analytical 595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15852 8270 "A" mix intermed (250µg/mL)

| | | | | | |
|---|---|---|---|---|---|
| 250µL of | 15689-5 | (2,000 ppm) | B/N mix 1 | exp | 10/2014 |
| " | 15846-5 | " | B/N mix 2 | " | 09/2015 |
| " | 15685-5 | " | Phenols | " | 05/2015 |
| " | 15851-5 | " | Benzidines | " | 09/2015 |
| " | 15847-5 | " | Haz Sub mix 1 | " | 09/2015 |
| " | 15848-5 | " | PAH mix | " | 04/2015 |
| " | 15638-5 | " | Pyridine | | 06/2014 |

250µL MeCl2 STB 39236
2,000µL of 250µg/mL in (Note: Haz Sub #2 Separate)
5/22/13 exp 11/22/13

15853 8270 "B" Interm Mix

| | | | | |
|---|---|---|---|---|
| ~~500µL~~ | | ~~1,2,4,5 TCL Benz. 1,000 ppm~~ | | 5/22/13 |
| 500 " | 15854-5 | B/N Surr | 1000 ppm | exp 11/2013 |
| 250 µL | 15779-5 | Acid Surr | (2000 ppm) | exp 12/2013 |

MeCl2 exp 11/2013
2,000µL of 250µg/mL

Continued on Page

Read and Understood By

Signed 5/22/13 Date PEK Signed 5/28/2013 Date

16005 30ppm 8270 (R) Cal Std

15 µL of 15651-R (2000ppm)
15682-R
15703-R
15652-R
15238-R
14688-R
~~15884-R~~ 15881-R 2000
15 µL 15779-S (2000) Acid Surr
30 µL 15704-R (1000 ppm)
15 µL 16004-R (2000 ppm) Pyridine
30 µL of 15854-S (1000 ppm) B/N Surr.

790 µL MeCl2 45564
1.0 mL Vf + 20 µL ISTD#16001-S
8/28/13 exp 12/31/13

8270 ISTDS

16006-S

SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA
16823-0048 USA • Phone 814-359-3441
Lot: LB84817 4-8902
EXP: MAY/2014 2 x 1ml
STORAGE: REFRIGERATE
Recd 7/12/12
**Semivolatile Internal Standard Mix**
2000ug/ml each in CH2Cl2
WARNING-HARMFUL IF SWALLOWED
CAUTION-IRRITANT IF INHALED
CAUTION-IRRITANT TO EYES AND SKIN
REPORTED CANCER HAZARD

Opened 8/29/13

NOTEBOOK INSERT LABEL

16007-S

TCL Base Neutrals Mix 1 2000 ppm
Lot: LB87423 EXP: OCT/2014 STORAGE: REFRIGERATE 48900-U 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA
16823-0048 USA • Phone 814-359-3441
8/29/13

Continued on Page

Read and Understood By

| Signed | Date | Signed | Date |
|---|---|---|---|
| | 8/29/13 | PEK | 9/11/2013 |

PROJECT

Continued From Page

16008-5

NOTEBOOK INSERT LABEL

TCL Phenols Mix 2,000 ppm 4-8904
Lot: LB92624 EXP: MAY/2015 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 11/1/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

GO 8/29/13

8270 2° STD MIX "A"

16009

250 µL of 16007-5 (2,000 ppm) B/N #1 exp 10/2014
250 15846-5 " B/N #2 " 09/2015
250 16008-5 " Phenols 05/2015
250 15851-5 " TCL Benzidine 09/2015
250 15847-5 " Haz Mix #1 09/2015
250 ~~15850-5~~ 48-5 " GO 8/29/13 PNA Mix ~~02/2014~~ 04/15
250 15638-5 2000 Pyridine 06/2014
250 µL MeCl2 (45564)

2.0 mL of 250 µg/mL each
GO 8/29/13 exp 12/31/13

16010 8270 Mix "B" 2° STD

500 µL of 1,000 ppm B/N Surrogate 15854-5 Xp 11/2013
250 µL of 2,000 ppm Acid Surr. #15779-5 Xp 12/2013
1250

2,000 µL of 250 µg/mL
GO 8/29/13 exp 11/30/13

Continued on Page

Read and Understood By

| Signed | Date | Signed | Date |
|---|---|---|---|
| GO | 8/29/13 | PEK | 9/11/2013 |

16018 - 16022 PNA Cal Stds. - Curve

| STD | Concen. | µL of 15993 | VF CH2Cl2 |
|---|---|---|---|
| 16018 | Blank | — | 1.0 mL |
| 16019 | 0.1 | ~~0.5 µL~~ 5 µL PEK 9/9/2013 | |
| 16020 | 0.5 | 25 µL | |
| 16021 | 2.0 | 100 µL | |
| 16022 | 10.0 | 500 µL | 1.0 mL |

All with 5 µL ISTD 16001-S ISTD.

MeCl2 PEK exp
0000045564 9/9/2013 10/9/2013

16023-S

NOTEBOOK INSERT LABEL

Semi-Volatile Base-Neutral Surrogate Spike Mix 4-8935
Lot: LB80026 EXP: NOV/2013 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 7/12/2012
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

Opened 9/9/2013

PEK 9-9-2013

16024 20 PPM PNA - AB STK

50 µL of 15234-AB (2000 µg/mL exp 10/09/2014)
100 µL of 15803-AB (1000 µg/mL) (exp 08/2014)
100 µL of 15802-AB (1000 µg/mL) (exp 10/2015)
100 µL of 16023-S (1000 µg/mL) (exp 11/2013)
4650 µL MeCl2
5.0 mL of 20 ppm

MeCl2 PEK
0000045564 9/9/2013

16025 PNA ICV (AB)

250 µL of 16024 (20 ppm)
750 µL MeCl2
1000 µL of 5.0 µg/mL with 5 µL 16001-S ISTD.

MeCl2 PEK exp
0000045564 9/9/2013 12/9/2013

Continued on Page

Read and Understood By

PEK 9/9/2013 9/9/13
Signed Date Signed Date

16074 8270 (FCU) Restek

| | | | |
|---|---|---|---|
| 15 µL | 15651-R | 2000 PPM | exp. 02/2015 |
| | 15682-R | | 03/2014 |
| | 15703-R | | 10/2014 |
| | 15652-R | | 03/2014 |
| | 15238-R | | 03/2018 |
| | 16015-R | | 08/2017 |
| | 15881-R | | 02/2015 |
| 15 µL | 15779-S | 2000 PPM (Acid Surrogate) | exp 12/2013 |
| 30 µL | 15704-R | 1000 PPM | exp 02/2017 |
| 30 µL | 15209-AB | 1000 PPM (Pyridine) | 02/2014 |
| 30 µL | 16023-S | 1000 PPM (B/N Surrogate) | 11/2013 |
| 775 µL | MeCl2 | | |

1.0 mL of 30 µg/mL w/ 20 µL ISTD 16059-S (exp. 05/2014)

MeCl2
0000054901

PEK
10/21/2013

~~exp 2/21/2014~~ 11/30/13 gp 11/22/13

16075-S

NOTEBOOK INSERT LABEL

Pyridine 48305-U
Lot: LB85418 EXP: JUN/2014 STORAGE: ROOM TEMP. 1 x 1ml
DATE RECEIVED: 9/25/2013
SUPELCO Solutions within.
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

Opened 10/22/2013

PEK
10/22/2013

16076-S

SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441
48902 LB84817
Semivolatile Internal Standard Mix 2000ug/ml each in CH2Cl2
recieved 7/12/2012

Opened 10/22/2013

Exp 05/2014

PEK
10/22/2013

Continued on Page

Read and Understood By

| Signed | Date | Signed | Date |
|---|---|---|---|
| PEK | 10/22/2013 | gp | 10/22/13 |

16077 8270 STD Mix "A"

| | | | | |
|---|---|---|---|---|
| 250 µL of | 16007-S | 2000 ppm | B/N #1 | exp. 10/2014 |
| | 15846-S | | B/N #2 | 09/2015 |
| | 16008-S | | Phenols | 05/2015 |
| | 15847-S | | Haz Mix #1 | 09/2015 |
| | 15851-S | | TCL Benzidine | 09/2015 |
| | 15848-S | | PNA Mix | 03/2015 |
| | 16075-S | 2000 ppm | Pyridine | 06/2014 |

250 µL $MeCl_2$ (0000054901)
2.0 mL of 250 µg/mL

PEK 10/22/2013 exp PEK 10/22/2013 2/22/2014

16078 8270 STD Mix "B"

| | | | | |
|---|---|---|---|---|
| 500 µL of | 16023-S | 1000 ppm | B/N Surrogate | exp 11/2013 |
| 250 µL of | 15779-S | 2000 ppm | Acid Surrogate | exp 12/2013 |

1250 µL $MeCl_2$ (0000054901)
2000 µL of 250 µg/mL PEK 10/22/2013 exp 11/30/13 2/22/2014 JD 11/22/13

8270 Cal STDs

| STD # | Name | µL "A" | µL "B" | µL 15850-S | VF $MeCl_2$ |
|---|---|---|---|---|---|
| 16079 | Cal BLK | — | — | — | 1.0 mL |
| 16080 | 5 PPM | 20 µL | 20 µL | 2.5 µL | |
| 16081 | 10 PPM | 40 | 40 | 5 | |
| 16082 | 20 PPM | 80 | 80 | 10 | |
| 16083 | 30 PPM | 120 | 120 | 15 | |
| 16084 | 40 PPM | 160 | 160 | 20 | |
| 16085 | 60 PPM | 240 | 240 | 30 | |

All with 20 µL ISTD 16076-S (2000 µg/mL exp 03/2014)

PEK 10/22/2013 exp 2/22/2014

Continued on Page

Read and Understood By

PEK 10/22/2013 JD 10/23/13
Signed Date Signed Date

PROJECT

Continued From Page

16091 10 PPM STD D/D UM84

10uL 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 10µg/mL + 5µL of 15972-S (2000 PPM exp 05/2016).

MeCl2 PEK exp
0000054901 10/25/2013 11/1/2013

16092 25 PPM DFTPP

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

MeCl2 PEK exp
0000054901 10/28/2013 11/4/2013

NOTEBOOK INSERT LABEL

16093-S

EPA 8270 GC/MS Tuning Solution 4-7387
Lot: LB91084 EXP: MAR/2015 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 9/25/13
SUPELCO Solutions within.
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

opened 10/29/13

16094 50 ppm DFTPP

2µL of 14810-S (25,000 ppm) exp 03/2014
MeCl2 54901
1.0 mL
JP 10/29/13 exp 11/5/13

Continued on Page

Read and Understood By

PEK 10/30/2013 JP 11/8/13
Signed Date Signed Date

8270 Cal STDs

| STD # | Name | µL 16077 | µL 16078 | µL 15880-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 (2000µg/mL exp 05/2014)

MeCl2
0000054901

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 (1000µg/mL exp 1/2016)
950µL MeCl2 (0000054901)
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

# Certificate of Analysis

DESCRIPTION: EPA 8270 GC/MS Tuning Solution

CATALOG NO.: 47387 MFG DATE: Mar-2012

LOT NO.: LB91084 EXPIRATION DATE: Mar-2015

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| BENZIDINE | 92-87-5 | 99.9 | 50.00 | 45.91 | +/- | 2.902 | LB83682 |
| DFTPP | 5074-71-5 | 99.3 | 50.10 | 46.33 | +/- | 0.585 | LB70119 |
| PENTACHLOROPHENOL | 87-86-5 | 99.9 | 50.10 | 47.29 | +/- | 1.274 | LB84380 |
| 4,4'-DDT | 50-29-3 | 96.0 | 50.02 | 46.21 | +/- | 0.559 | LA83013 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Hazardous Substances Mix 2

CATALOG NO.: 48908 MFG DATE: Feb-2011

LOT NO.: LB82059 EXPIRATION DATE: Feb-2014

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| ANILINE | 62-53-3 | 99.9 | 2001 | 2029 | +/- | 51.5 | LA41596 |
| BENZYL ALCOHOL | 100-51-6 | 99.9 | 2001 | 2075 | +/- | 38.6 | LB48374 |
| DIBENZOFURAN | 132-64-9 | 98.9 | 2001 | 2008 | +/- | 14.8 | LB78814 |
| 2-METHYLNAPHTHALENE | 91-57-6 | 98.3 | 2001 | 2044 | +/- | 11.6 | LB44448 |
| 2-NITROANILINE | 88-74-4 | 99.9 | 2001 | 2018 | +/- | 17.9 | LB49936 |
| 3-NITROANILINE | 99-09-2 | 99.9 | 2001 | 2015 | +/- | 29.3 | LB65269 |
| 4-CHLOROANILINE | 106-47-8 | 99.9 | 2001 | 2032 | +/- | 16.1 | LB19242 |
| 4-NITROANILINE | 100-01-6 | 99.9 | 2002 | 2100 | +/- | 48.2 | LB42566 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: Pyridine

CATALOG NO.: 48305-U MFG DATE: Jun-2011

LOT NO.: LB85418 EXPIRATION DATE: Jun-2014

SOLVENT: METHANOL

| ANALYTE | CAS NUMBER | PERCENT PURITY(1) | WEIGHT(2) | ANALYTICAL(3) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| PYRIDINE (LOW WATER) | 110-86-1 | 99.9 | 2000 | 1978 | +/- | 4.0 | LB55487 |

(1) Determined by capillary GC-FID, unless otherwise noted.

(2) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.

(3) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: Semivolatile Internal Standard Mix

CATALOG NO.: 48902 MFG DATE: May-2011

LOT NO.: LB84817 EXPIRATION DATE: May-2014

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| ACENAPHTHENE-D10 | 15067-26-2 | 99.3 | 2000 | 1935 | +/- | 6.5 | LB67842 |
| CHRYSENE-D12 | 1719-03-5 | 99.9 | 2000 | 1859 | +/- | 27.8 | LB78331 |
| NAPHTHALENE-D8 | 1146-65-2 | 99.9 | 2000 | 1930 | +/- | 21.2 | LB80207 |
| PERYLENE-D12 | 1520-96-3 | 99.9 | 2000 | 1982 | +/- | 62.2 | LB78404 |
| PHENANTHRENE-D10 | 1517-22-2 | 99.4 | 2000 | 1920 | +/- | 12.6 | LB80379 |
| 1,4-DICHLOROBENZENE-D4 | 3855-82-1 | 98.7 | 2000 | 1940 | +/- | 22.6 | LB82415 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Base Neutrals Mix 1

CATALOG NO.: 48900-U

MFG DATE: Oct-2011

LOT NO.: LB87423

EXPIRATION DATE: Oct-2014

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| BENZYL BUTYL PHTHALATE | 85-68-7 | 98.6 | 2000 | 2081 | +/- | 26.0 | LB60340 |
| BIS (2-CHLOROETHOXY) METHANE | 111-91-1 | 98.5 | 2000 | 2061 | +/- | 0.1 | LB71304 |
| BIS (2-CHLOROETHYL) ETHER | 111-44-4 | 99.9 | 2000 | 2056 | +/- | 6.2 | LB33319 |
| BIS (2-CHLOROISOPROPYL) ETHER | 108-60-1 | 97.4 | 2001 | 1982 | +/- | 4.4 | LB84548 |
| BIS (2-ETHYLHEXYL) PHTHALATE | 117-81-7 | 99.7 | 2000 | 2071 | +/- | 24.6 | LB58359 |
| DI-N-BUTYL PHTHALATE | 84-74-2 | 99.5 | 2000 | 2073 | +/- | 13.6 | LB64921 |
| DI-N-OCTYL PHTHALATE | 117-84-0 | 99.9 | 2000 | 2130 | +/- | 25.5 | LB83131 |
| DIETHYL PHTHALATE | 84-66-2 | 99.2 | 2000 | 2077 | +/- | 17.9 | LB60384 |
| DIMETHYL PHTHALATE | 131-11-3 | 99.9 | 2000 | 2064 | +/- | 3.3 | LB30494 |
| N-NITROSODI-N-PROPYLAMINE | 621-64-7 | 99.9 | 2000 | 2040 | +/- | 3.1 | LB79763 |
| N-NITROSODIMETHYLAMINE | 62-75-9 | 99.9 | 2000 | 2049 | +/- | 6.1 | LB83854 |
| N-NITROSODIPHENYLAMINE | 86-30-6 | 98.6 | 2000 | 1983 | +/- | 60.3 | LB17295 |
| 4-BROMOPHENYLPHENYL ETHER | 101-55-3 | 98.8 | 2000 | 2073 | +/- | 6.1 | LB63786 |
| 4-CHLOROPHENYLPHENYL ETHER | 7005-72-3 | 99.9 | 2000 | 2060 | +/- | 26.9 | LB72185 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO® Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Polynuclear Aromatic Hydrocarbons Mix

CATALOG NO.: 48905-U MFG DATE: Apr-2012

LOT NO.: LB92157 EXPIRATION DATE: Apr-2015

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| ACENAPHTHENE | 83-32-9 | 99.9 | 2000 | 2017 | +/- | 96.5 | LB82590 |
| ACENAPHTHYLENE | 208-96-8 | 99.9 | 2000 | 2120 | +/- | 5.1 | LB84923 |
| ANTHRACENE | 120-12-7 | 99.5 | 2000 | 2163 | +/- | 56.3 | LB77576 |
| BENZO (A) ANTHRACENE | 56-55-3 | 99.9 (a) | 2000 | 2117 | +/- | 24.3 | LB89579 |
| BENZO (A) PYRENE | 50-32-8 | 99.9 (a) | 2000 | 2076 | +/- | 10.4 | LB79478 |
| BENZO (B) FLUORANTHENE | 205-99-2 | 98.1 | 2000 | 2060 | +/- | 31.9 | LB90241 |
| BENZO (G,H,I) PERYLENE | 191-24-2 | 99.6 | 2000 | 2121 | +/- | 0.8 | LB62550 |
| BENZO (K) FLUORANTHENE | 207-08-9 | 99.9 | 2000 | 2105 | +/- | 22.4 | LB85440 |
| CHRYSENE | 218-01-9 | 98.4 | 2000 | 2150 | +/- | 60.2 | LB85109 |
| DIBENZ (A,H) ANTHRACENE | 53-70-3 | 99.9 | 2000 | 2142 | +/- | 8.8 | LB87229 |
| FLUORANTHENE | 206-44-0 | 99.5 | 2000 | 2128 | +/- | 12.1 | LB36331 |
| FLUORENE | 86-73-7 | 98.5 | 2000 | 2036 | +/- | 49.1 | LB82164 |
| INDENO (1,2,3-CD) PYRENE | 193-39-5 | 99.9 | 2000 | 2066 | +/- | 13.4 | LB90242 |
| NAPHTHALENE | 91-20-3 | 99.9 | 2000 | 2118 | +/- | 4.3 | LB77841 |
| PHENANTHRENE | 85-01-8 | 99.1 | 2000 | 2111 | +/- | 20.5 | LB68872 |
| PYRENE | 129-00-0 | 97.5 | 2000 | 2131 | +/- | 9.3 | LB70761 |

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.
a) HPLC UV-254NM

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.

(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Phenols Mix

CATALOG NO.: 48904 MFG DATE: May-2012

LOT NO.: LB92624 EXPIRATION DATE: May-2015

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| PENTACHLOROPHENOL | 87-86-5 | 99.9 | 2000 | 1975 | +/- | 6.3 | LB75554 |
| PHENOL | 108-95-2 | 99.9 | 2000 | 1963 | +/- | 5.4 | LB57703 |
| 2-CHLOROPHENOL | 95-57-8 | 99.6 | 2000 | 1968 | +/- | 3.6 | LB83266 |
| 2-METHYL-4,6-DINITROPHENOL | 534-52-1 | 99.9 | 2000 | 1971 | +/- | 23.2 | LB31592 |
| 2-NITROPHENOL | 88-75-5 | 99.9 | 2000 | 1965 | +/- | 4.4 | LB44736 |
| 2,4-DICHLOROPHENOL | 120-83-2 | 98.8 | 2000 | 1956 | +/- | 0.1 | LB76837 |
| 2,4-DIMETHYLPHENOL | 105-67-9 | 99.9 | 2000 | 1972 | +/- | 2.6 | LB88935 |
| 2,4-DINITROPHENOL | 51-28-5 | 98.6 | 2000 | 1986 | +/- | 28.4 | LB28389 |
| 2,4,6-TRICHLOROPHENOL | 88-06-2 | 99.9 | 2000 | 1959 | +/- | 0.1 | LB65559 |
| 4-CHLORO-3-METHYLPHENOL | 59-50-7 | 99.9 | 2000 | 1966 | +/- | 3.4 | LB83265 |
| 4-NITROPHENOL | 100-02-7 | 99.9 | 2000 | 1967 | +/- | 18.6 | LB83255 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: Semi-Volatile Base-Neutral Surrogate Spike Mix

CATALOG NO.: 48935 MFG DATE: Nov-2010

LOT NO.: LB80026 EXPIRATION DATE: Nov-2013

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| NITROBENZENE-D5 | 4165-60-0 | 99.9 | 1000 | 1019 | +/- | 17.7 | LB47918 |
| P-TERPHENYL-D14 | 1718-51-0 | 99.9 | 1000 | 987 | +/- | 10.2 | LB77930 |
| 1,2-DICHLOROBENZENE-D4 | 2199-69-1 | 99.9 | 1000 | 1020 | +/- | 21.3 | LB66630 |
| 2-FLUOROBIPHENYL | 321-60-8 | 99.9 | 1001 | 1019 | +/- | 11.1 | LB68246 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: Semi-Volatile Acids Surrogate Spike Mix

CATALOG NO.: 48939 MFG DATE: Dec-2010

LOT NO.: LB80515 EXPIRATION DATE: Dec-2013

SOLVENT: METHANOL

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| PHENOL-D6 | 13127-88-3 | 99.9 | 2002 | 1887 | +/- | 8.3 | LB77381 |
| 2-CHLOROPHENOL D4 | 93951-73-6 | 99.4 | 2002 | 1872 | +/- | 7.1 | LB74323 |
| 2-FLUOROPHENOL | 367-12-4 | 99.9 | 2001 | 1862 | +/- | 9.0 | LB72440 |
| 2,4,6-TRIBROMOPHENOL | 118-79-6 | 99.9 | 2001 | 1873 | +/- | 9.1 | LB59603 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Elwood Doughty
Quality Control Supervisor

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Base/Neutrals Mix 2

CATALOG NO.: 48120-U

MFG DATE: Sep-2012

LOT NO.: LB95606

EXPIRATION DATE: Sep-2015

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| AZOBENZENE | 103-33-3 | 99.9 | 2000 | 1934 | +/- | 4.1 | LB83060 |
| CARBAZOLE | 86-74-8 | 98.2 | 2000 | 1933 | +/- | 18.2 | LB80615 |
| HEXACHLOROBENZENE | 118-74-1 | 99.9 | 2000 | 1924 | +/- | 10.1 | LB88881 |
| HEXACHLOROBUTADIENE | 87-68-3 | 98.5 | 2000 | 1881 | +/- | 7.0 | LB75566 |
| HEXACHLOROCYCLOPENTADIENE | 77-47-4 | 98.8 | 2001 | 1926 | +/- | 6.7 | LB95525 |
| HEXACHLOROETHANE | 67-72-1 | 99.9 | 2000 | 1944 | +/- | 11.2 | LB29072 |
| ISOPHORONE | 78-59-1 | 99.1 | 2001 | 1882 | +/- | 2.2 | LB45460 |
| NITROBENZENE | 98-95-3 | 99.9 | 2000 | 1936 | +/- | 2.8 | LB47070 |
| 1,2-DICHLOROBENZENE | 95-50-1 | 99.9 | 2000 | 1928 | +/- | 5.7 | LA96474 |
| 1,2,4-TRICHLOROBENZENE | 120-82-1 | 99.5 | 2001 | 1922 | +/- | 3.5 | LB48083 |
| 1,3-DICHLOROBENZENE | 541-73-1 | 99.9 | 2001 | 1936 | +/- | 5.9 | LB68066 |
| 1,4-DICHLOROBENZENE | 106-46-7 | 99.9 | 2000 | 1936 | +/- | 5.8 | LB83282 |
| 2-CHLORONAPHTHALENE | 91-58-7 | 99.9 | 2000 | 1945 | +/- | 2.0 | LB86449 |
| 2,4-DINITROTOLUENE | 121-14-2 | 96.0 | 2001 | 1949 | +/- | 3.7 | LB46632 |
| 2,6-DINITROTOLUENE | 606-20-2 | 99.9 | 2000 | 1928 | +/- | 3.6 | LB79891 |

(1) Listed in alphabetical order.
(2) Determined by capillary GC-FID, unless otherwise noted.
(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.
(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO® Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Hazardous Substances Mix 1

CATALOG NO.: 48907 MFG DATE: Sep-2012

LOT NO.: LB95713 EXPIRATION DATE: Sep-2015

SOLVENT: METHYLENE CHLORIDE

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| BENZOIC ACID | 65-85-0 | 99.9 | 2000 | 2140 | +/- | 25.7 | LB85791 |
| 2-METHYLPHENOL | 95-48-7 | 99.9 | 2000 | 2071 | +/- | 1.5 | LB91878 |
| 2,4,5-TRICHLOROPHENOL | 95-95-4 | 99.9 | 2001 | 2082 | +/- | 3.5 | LB35288 |
| 4-METHYLPHENOL | 106-44-5 | 99.9 | 2000 | 1981 | +/- | 1.6 | LB32518 |

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.

(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

# Certificate of Analysis

DESCRIPTION: TCL Benzidines Mix

CATALOG NO.: 48906 MFG DATE: Sep-2012

LOT NO.: LB95197 EXPIRATION DATE: Sep-2015

SOLVENT: METHANOL

| ANALYTE (1) | CAS NUMBER | PERCENT PURITY(2) | WEIGHT(3) CONCENTRATION | ANALYTICAL(4) CONCENTRATION | | STD DEV | SUPELCO LOT NO |
|---|---|---|---|---|---|---|---|
| BENZIDINE | 92-87-5 | 99.9 | 2000 | 2196 | +/- | 33.6 | LB83682 |
| 3,3-DICHLOROBENZIDINE | 91-94-1 | 99.9 | 2000 | 2082 | +/- | 71.2 | LB94134 |

(1) Listed in alphabetical order.

(2) Determined by capillary GC-FID, unless otherwise noted.

(3) NIST traceable weights are used to verify balance calibration with the preparation of each lot. Concentration of analyte in solution is ug/ml +/- 0.5%, uncertainty based upon balance and Class A volumetric glassware. Weights are corrected for analytes less than 98% pure.

(4) Determined by chromatographic analysis against an independently prepared reference lot. Mean of replicate injections.

Duane Funk

Duane Funk
Quality Manager

Supelco warrants that its products conform to the information contained in this publication. Purchaser must determine the suitability of the product for its particular use. Please see the latest catalog or order invoice and packing slip for additional terms and conditions of sale.

SUPELCO® Analytical
595 North Harrison Road
Bellefonte, PA 16823-0048 USA
Phone (814) 359-3441

16074 8270 (FCU) Restek

| | | | | |
|---|---|---|---|---|
| 15 µL | 15651-R | 2000 PPM | exp. | 02/2015 |
| | 15682-R | | | 03/2014 |
| | 15703-R | | | 10/2014 |
| | 15652-R | | | 03/2014 |
| | 15238-R | | | 03/2018 |
| | 16015-R | | | 08/2017 |
| | 15881-R | | | 02/2015 |
| 15 µL | 15779-S | 2000 PPM (Acid Surrogate) | exp | 12/2013 |
| 30 µL | 15704-R | 1000 PPM | exp | 02/2017 |
| 30 µL | 15209-AB | 1000 PPM (Pyridine) | | 02/2014 |
| 30 µL | 16023-S | 1000 PPM (B/N Surrogate) | | 11/2013 |
| 775 µL | MeCl2 | | | |

1.0 mL of 30 µg/mL w/ 20 µL ISTD 16059-S (exp. 05/2014)

MeCl2
0000054901

PEK
10/21/2013

exp
~~2/21/2014~~ 11/30/13 gp 11/22/13

16075-S

NOTEBOOK INSERT LABEL

Pyridine
Lot: LB85418 EXP: JUN/2014 STORAGE: ROOM TEMP. 48305-U 1 x 1ml
DATE RECEIVED: 9/25/2013
SUPELCO Solutions within.
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

Opened 10/22/2013

PEK
10/22/2013

16076-S

SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441
48902 LB84817
Semivolatile Internal Standard Mix 2000ug/ml each in CH2Cl2
recieved 7/12/2012

Opened 10/22/2013

Exp 05/2014

PEK
10/22/2013

Continued on Page

Read and Understood By

| | | | |
|---|---|---|---|
| PEK | 10/22/2013 | gp | 10/22/13 |
| Signed | Date | Signed | Date |

PROJECT

Continued From Page

Initial Calibration Standards (8270)

| Stnd # | Stnd Conc | Vol of "A" Mix #15197 | Vol of "B" Mix #15198 | Vol ISTD #15110-5 |
|---|---|---|---|---|
| 15199 | Blank | — | — | 20 uL |
| 15200 | 10 Ng | 40 uL | 40 uL | |
| 15201 | 20 | 80 | 80 | |
| 15202 | 30 | 120 | 120 | |
| 15203 | 40 | 160 | 160 | |
| 15204 | 50 | 200 | 200 | |
| 15205 | 60 | 240 | 240 | |
| 15206 | 70 | 280 | 280 | |
| 15207 | 80 | 320 | 320 | |

All standards are 1mL VF

MeCl2 K45J04 — DAC 5/30/12 — Exp 8/16/12 — DAC 5/30/12

5/30/12 opened:

15208-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31470
Aniline Standard
1000 ug/mL each in Methanol
Lot# A078917 Exp. Date: 03/2013 Store: 10°C or colder

DAC 5/30/12

15209-AB

Part #: 79091
Lot #: 021511
Laboratory Use Only - See MSDS
Exp: 021514 Storage 4 °C
Pyridine
1000 ug/mL in methylene chloride 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1131

Continued on Page

Read and Understood By

Doug Cassel — Signed — 5/30/12 Date

JD — Signed — 6/5/12 Date

PROJECT

Continued From Page

15237-AB

Part #: 70081
Lot #: 092310
Laboratory Use Only - See MSDS
Exp: 092315 Storage 4 °C
2-Chloronaphthalene
1000 ug/mL in methanol 1 mL
ABSOLUTE STANDARDS, INC. • 800-368-1181

15238-R

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog # 31011
This product is photosensitive.
SV Calibration Mix #5
2000 ug/mL each in Methylene Chloride
Lot# A079674 Exp. Date: 03/2018 Store: 25°C nominal

6/13/12

15239-R

RESTEK
Cat# 31283
1-Methylnaphthalene Standard
1000 ug/mL each in Methanol
Lot# A059636 Exp: 05/2015 Store: Room Temperature
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823

15240-R

RESTEK
Cat# 31285 Warm & sonicate prior to use.
2-Methylnaphthalene Standard
1000 ug/ml each in Methylene Chloride
Lot# A054806 Exp: 10/14 Store: Room Temp
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823

6/13/12

15241-R

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog # 31284
Sonicate prior to use.
2-Chloronaphthalene Standard
1000 ug/mL each in Methanol
Lot# A088876 Exp. Date: 07/2019 Store: 25°C nominal

Continued on Page

Read and Understood By

Doug Cassidy 6/13/12 JD 6/14/12

Signed Date Signed Date

10/17/12 opened the following:

15651-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31007
SV Calibration Mix #1
2000 ug/mL each in Methylene Chloride
Lot# A086821 Exp. Date: 02/2015 Store: 10°C or colder

15652-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31010
Sonicate prior to use.
SV Calibration Mix #4
2000 ug/mL each in Methylene Chloride
Lot# A078618 Exp. Date: 03/2014 Store: 10°C or colder

DAC 10/17/12

15653 30 Ng Val Stnd (8270)

Diluted the following volumes to 1mL VF:

| Vol | Mix # | Mix Name | Exp Date | Conc |
|---|---|---|---|---|
| 15µL | 15651-R | S/V Mix #1 | 02/2015 | 2000ug/mL |
| | 14667-R | #2 | 04/2013 | |
| | 14685-R | #3 | 11/2012 | |
| | 15652-R | #4 | 03/2014 | |
| | 15238-R | #5 | 03/2018 | |
| | 14688-R | Benzidines | 05/2019 | |
| | 14931-R | S/V Mix #7 | 04/2013 | |
| | 15402-S | Acid SuRR | Dec/2013 | |
| 30µL | 15094-US | 1,2,4,5-TCB | 07/31/2013 | 1000ug/mL |
| | 14756-R | Azobenzene | 12/2014 | |
| | 15208-R | Aniline | 03/2018 | |
| | 15209-AB | Pyridine | 02/15/14 | |
| | 15400-S | B/N SuRR | Nov/2013 | |

Plus 20µL of ISTD # 15639-S (exp May/2014)

MeCl2 107501 DAC 10/17/12 Exp 10/24/12

Continued on Page

Read and Understood By

Doug Casada 10/17/12 JD 1/28/13

Signed Date Signed Date

88
PROJECT

Notebook No. 3242

Continued From Page

11/26/12 opened:

NOTEBOOK INSERT LABEL

Semi-Volatile Base-Neutral Surrogate Spike Mix 4-8935
Lot: LB80026 EXP: NOV/2013 STORAGE: REFRIGERATE 1 x 1ml
DATE RECEIVED: 1/12/12
SUPELCO Analytical
595 North Harrison Road • Bellefonte, PA 16823-0048 USA • Phone 814-359-3441

15679-S

DAC 11/26/12

15680 50 Ng DFTPP (8270 PNAs by SIM)

Diluted 2µL of # 14810-S (exp Mar 2014) to 1mL VF

15681 5 PPM Vol Std (8270 PNAs by SIM)

Diluted 250µL of # 15635 (exp 1/12/13), plus 5µL of B/N SURR # 15679-S (exp Nov 2013) to 1mL VF, plus 5µL of ISTD # 15639-S (exp May 2014)

MeCl2 L07501 DAC 11/26/12 Exp 12/3/12

11/29/12 opened:

15682-R

RESTEK
Cat# 31008
SV Calibration Mix #2
2000 ug/mL each in Methylene Chloride
Lot# A066336 Exp. Date: 03/2014 Store: Refrigerate
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823
Made in USA

15683-R

RESTEK
Cat# 31009
Sonicate ampule 15 minutes prior to opening
SV Calibration Mix #3
2000 ug/mL each in Methylene Chloride
Lot# A069965 Exp. Date: 11/2012 Store: Refrigerate
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823

DAC 11/29/12

Continued on Page

Read and Understood By

Signed 11/29/12 Date

Signed 12/13/12 Date

# Initial Calibration Standards (8270)

| Std # | Std Conc | Vol of "A" Mix #15692 (exp 2/30/13) | Vol of "B" Mix #15693 (exp 2/30/13) | Vol of ISTD 15639-5 (May/14) |
|---|---|---|---|---|
| 15694 | Blank | — | — | 20 µL |
| 15695 | 10 Ng | 40 µL | 40 µL | |
| 15696 | 20 | 80 | 80 | |
| 15697 | 30 | 120 | 120 | |
| 15698 | 40 | 160 | 160 | |
| 15699 | 50 | 200 | 200 | |
| 15700 | 60 | 240 | 240 | |
| 15701 | 70 | 280 | 280 | |
| 15702 | 80 | 320 | 320 | |

All standards are 1mL VF

| | DAC | EXP |
|---|---|---|
| MeCl2 207501 | 11/30/12 | 12/7/12 |

12/5/12 opened:

15703-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31009
Sonicate prior to use.
SV Calibration Mix #3
2 0 3
2000 ug/mL each in Methylene Chloride
Lot# A083302 Exp. Date: 10/2014 Store: 10°C or colder

15704-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31496
Azobenzene Standard
0 1
1000 ug/mL each in Methylene Chloride
Lot# A086727 Exp. Date: 02/2017 Store: 10°C or colder

12/5/12

Continued on Page

Read and Understood By

| Signed | Date | Signed | Date |
|---|---|---|---|
| Doug Cassel | 12/5/12 | GD | 12/13/12 |

15881-R

RESTEK
110 Benner Circle
Bellefonte, PA 16823
Made in USA
Catalog # 31013
SV Calibration Mix #7
2000 ug/mL each in Methylene Chloride
Lot# A086710 Exp. Date: 02/2015 Store: 10°C or colder

opened. 6/6/13

15882 8270 - ICV - (30 ppm)

15 µL - 15651-R (2,000 ppm) SV mix 1 xp 02/2015
- 15682-R 2 03/14
- 15703-R 3 10/14
- 15652-R 4 03/14
- 15238-R PNA 03/18
- 14688-R Benzidines 05/2019
- 15881-R mix #7 xp 02/2015
15 µL - 15779-S Acid Surr (2000 ppm) xp 12/2013

30 µL - 15691-US 1,2,4,5 TCB (1000) xp. 07/31/13
- 15704-R Azobenz. (1000) 02/2017
- 15209-A8 Pyridine 02/2014
30 µL - 15854-S B/N Surr 11/2013
760 µL MeCl2
1,000 µL + 20 µL ISTD 15849-S

6/6/13 xp 12/31/2013

15883 8270 - ICV STD (30 ppm)

Made same as 15882 above except made sure ISTD mix was at room temp before adding

6/7/13 6/21/13

Continued on Page

Read and Understood By

Signed 6/7/13 Date Signed 06/12/13 Date

16014 Dioxane Standard

5 µL of 15890-AB (1000 µg/mL exp. 06/2017)
2 µL of 15940-S (2000 µg/mL exp. 06/2016)
Brought to volume (1 mL VF) with MeCl2 = 5.0 µg/mL Diox. Std.
Added 5 µL of 15972-S (2000 µg/mL exp. 05/2016).

| MeCl2 | PEK | exp. |
|---|---|---|
| 0000045564 | ~~9/5/2013~~ PEK 9/5/2013 9/5/2013 | 9/12/2013 |

16015-R

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog # 31030
605 Benzidines Calibration Mix
Recieved 07/29/2013
2000 ug/mL each in Methanol
Lot# A092934 Exp. Date: 09/2017 Store: 10°C or colder
3 0
Opened 9/6/2013
PEK 9/6/2013

16016 50 ng DFTPP

2 µL of 14810-S (25,000 ppm exp 03/2014). Brought to 1.0 mL VF with MeCl2 = 50 ng DFTPP

| MeCl2 | PEK | exp |
|---|---|---|
| 0000045564 | 9/6/2013 | 9/13/2013 |

16017 PNA Calibration Standard

250 µL #15993 (20 ppm)
750 µL MeCl2
1000 µL of 5.0 µg/mL with 5 µL 16001-S (exp 05/2014)

| MeCl2 | PEK | exp |
|---|---|---|
| 0000045564 | 9/6/2013 | 10/6/2013 |

Continued on Page

Read and Understood By

| Signed | Date | Signed | Date |
|---|---|---|---|
| PEK | 9/11/2013 | [illegible] | 9/11/13 |

PROJECT

Continued From Page

16056 50 ppm DETPP

2 µL of 14810-5 (25,000 ppm) exp 03/2014
QS MeCl2
1.0 mL of 50 µg/mL

PEK 9/25/13

16057 PNA/SIM ICV

250 µL of 16024 (20 µg/mL exp. 3/9/2014)
750 µL of MeCl2 PEK 9/25/2013
1.0 mL of 5.0 µg/mL w/ ~~[illegible]~~ ISTD 16046-S
20 µL

MeCl2
000000453564

PEK
9/25/2013

exp
3/9/2014

16058 PNA/SIM ICV

250 µL of 16024 (20 µg/mL exp 3/9/2014)
750 µL of MeCl2
1.0 mL of 5 µg/mL w/ 20 µL ISTD 16046-S

PEK 9/25/2013 EXP 3/9/2014

16059-S 8270 ISTD

NOTEBOOK INSERT LABEL

Semivolatile Internal Standard Mix 4-8902
Lot: LB84817 EXP: MAY/2014 STORAGE: REFRIGERATE 2 x 1ml
DATE RECEIVED: 7/12/2012

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

Opened 9/30/2013

PEK 9/30/2013

Continued on Page

Read and Understood By

PEK 9/30/2013 10/3/13
Signed Date Signed Date

CERTIFIED WEIGHT REPORT

**Part Number:** 79091
Lot Number: 021511
Description: Pyridine

Expiration Date: 021514

Storage: 4 °C

Nominal Concentration (µg/mL): 1000

**Solvent(s):** Lot # J24S04 Methylene chloride

| | | |
|---|---|---|
| Formulated By: | Pat Scaturchio | 021511 DATE |
| Reviewed By: | Pedro L. Rentas | 021511 DATE |

5E-05 Balance Uncertainty

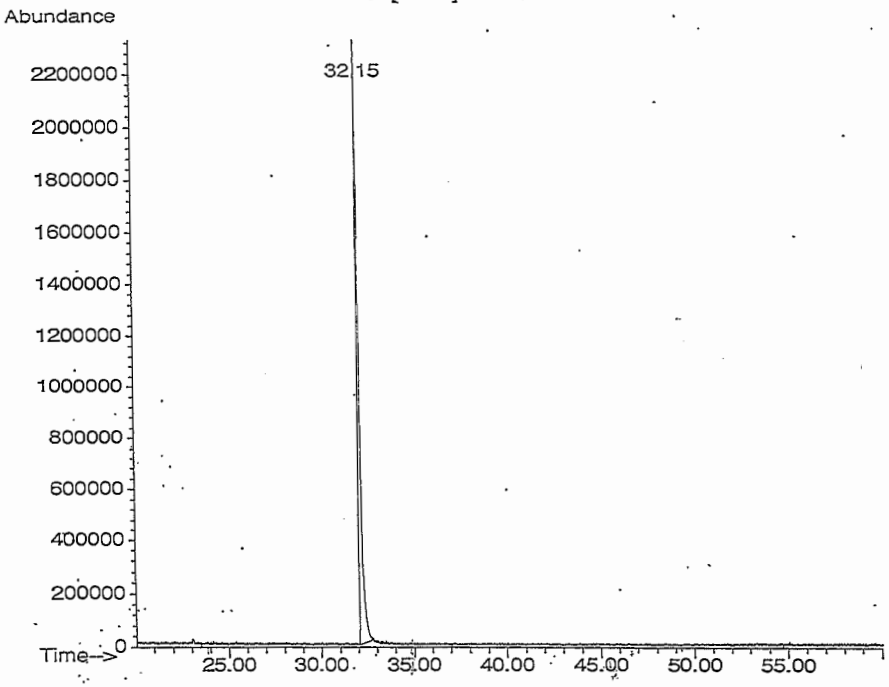
Weight(s) shown below were combined and diluted to: 25.0 0.001 Flask Uncertainty

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

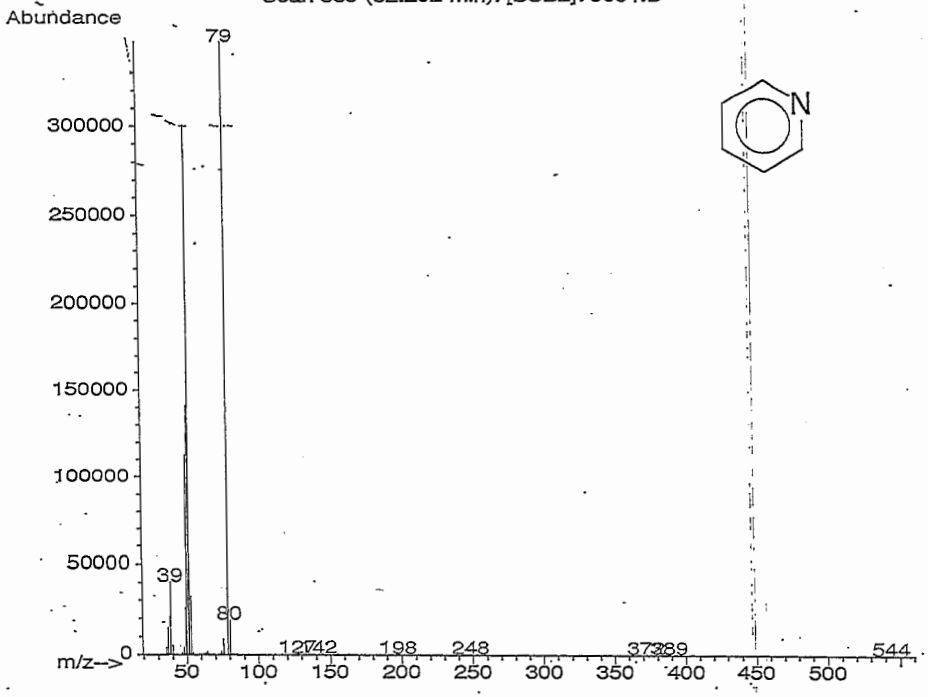
| Compound | RM# | Lot Number | Nominal Conc (µg/mL) | Purity (%) | Uncertainty Purity | Target Weight(g) | Actual Weight(g) | Actual Conc (µg/mL) | Expanded Uncertainty | CAS# | OSHA PEL (TWA) | LD50 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Pyridine | 260 | HS 00354ES | 1000 | 99.8 | 0.2 | 0.02504 | 0.02518 | 1005.5 | 0.0056 | 00110-86-1 | 5 ppm (15mg/m3/8H) | orl-rat 891mg/kg |

**Method GC6MSD-1.M:** Column: (60m X 0.25mm X 1.5 µm) Temp 1 = 35°C (10min.), Temp 2 = 200°C (8.75 min.), Rate = 4°C/min., Injector B= 200°C, Detector B = 220°C Solvent delay = 20 min. Analyst: Candice Warren.

TIC: [BSB2]79091.D




Scan 889 (32.202 min): [BSB2]79091.D



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

www.Restek.com

# Certificate of Analysis

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

**Catalog No. :** 31011 **Lot No.:** A079674

**Description :** SV Calibration Mix #5

SV Mix, CLP Method, Calibration Std #5, 610 PAH Mixture 2,000µg/ml, CH2Cl2, 1ml/ampule

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

**Expiration Date :** [1] March 2018 **Storage:** 25°C nominal

**Handling:** This product is photosensitive.

| Elution Order | Compound | CAS # | Percent Purity [2] | Grav. Conc. (weight/volume) [3] | Grav.Uncert. (95% C.L.; K=2) [4] |
|---|---|---|---|---|---|
| 1 | Naphthalene | 91-20-3 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 2 | Acenaphthylene | 208-96-8 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 3 | Acenaphthene | 83-32-9 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 4 | Fluorene | 86-73-7 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 5 | Phenanthrene | 85-01-8 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 6 | Anthracene | 120-12-7 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 7 | Fluoranthene | 206-44-0 | 98% | 2,000.0 ug/mL | +/- 11.6275 ug/mL |
| 8 | Pyrene | 129-00-0 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 9 | Benz(a)anthracene | 56-55-3 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 10 | Chrysene | 218-01-9 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 11 | Benzo(b)fluoranthene | 205-99-2 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 12 | Benzo(k)fluoranthene | 207-08-9 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 13 | Benzo(a)pyrene | 50-32-8 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 14 | Indeno(1,2,3-cd)pyrene | 193-39-5 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 15 | Dibenz(a,h)anthracene | 53-70-3 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |
| 16 | Benzo(g,h,i)perylene | 191-24-2 | 99% | 2,000.0 ug/mL | +/- 11.6276 ug/mL |

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

www.Restek.com

ACCREDITED
Reference Material Producer
Certificate #3222.01

ACCREDITED
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. :** 31007 **Lot No.:** A086821

**Description :** SV Calibration Mix #1

Calibration Std #1 2000ug/mL, Methylene Chloride, 1mL/ampul

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

**Expiration Date :** February 2015 **Storage:** 10°C or colder

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | Benzyl alcohol | 2,000.0 ug/mL | +/- 11.7371 | ug/mL | Gravimetric |
| | CAS # 100-51-6 | | +/- 43.8488 | ug/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | ug/mL | Stressed |
| 2 | 4-Chloroaniline | 2,000.0 ug/mL | +/- 11.7371 | ug/mL | Gravimetric |
| | CAS # 106-47-8 | | +/- 43.8488 | ug/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | ug/mL | Stressed |
| 3 | 2-Nitroaniline | 2,000.0 ug/mL | +/- 11.7371 | ug/mL | Gravimetric |
| | CAS # 88-74-4 | | +/- 43.8488 | ug/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | ug/mL | Stressed |
| 4 | 3-Nitroaniline | 2,000.1 ug/mL | +/- 11.7379 | ug/mL | Gravimetric |
| | CAS # 99-09-2 | | +/- 43.8519 | ug/mL | Unstressed |
| | Purity 97% | | +/- 43.8519 | ug/mL | Stressed |
| 5 | 4-Nitroaniline | 2,000.0 ug/mL | +/- 11.7371 | ug/mL | Gravimetric |
| | CAS # 100-01-6 | | +/- 43.8488 | ug/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | ug/mL | Stressed |

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

RESTEK

# Certificate of Analysis

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

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

**Catalog No. :** 31010 **Lot No.:** A078618

**Description :** SV Calibration Mix #4

SV Mix, CLP Method, Calibration Std #4, 2,000µg/ml, CH2Cl2, 1ml/ampule

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

**Expiration Date :** [1] March 2014 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use.

| Elution Order | Compound | CAS # | Percent Purity [2] | Grav. Conc. (weight/volume) [3] | % Grav.Uncert. (95% C.L., K=2) [4] |
|---|---|---|---|---|---|
| 1 | Hexachloroethane | 67-72-1 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 2 | Nitrobenzene | 98-95-3 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 3 | Isophorone | 78-59-1 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 4 | 1,2,4-Trichlorobenzene | 120-82-1 | 97% | 2,000.1 ug/ml | +/-0.59 % |
| 5 | Hexachlorobutadiene | 87-68-3 | 98% | 2,000.2 ug/ml | +/-0.59 % |
| 6 | 2-Methylnaphthalene | 91-57-6 | 97% | 2,000.1 ug/ml | +/-0.59 % |
| 7 | Hexachlorocyclopentadiene | 77-47-4 | 98% | 2,000.2 ug/ml | +/-0.59 % |
| 8 | 2,6-Dinitrotoluene | 606-20-2 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 9 | Dibenzofuran | 132-64-9 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 10 | 2,4-Dinitrotoluene | 121-14-2 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 11 | Diethylphthalate | 84-66-2 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 12 | Hexachlorobenzene | 118-74-1 | 99% | 2,000.0 ug/ml | +/-0.59 % |
| 13 | Carbazole | 86-74-8 | 98% | 2,000.2 ug/ml | +/-0.59 % |
| **Solvent:** | Methylene Chloride | 75-09-2 | 99% | | |

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

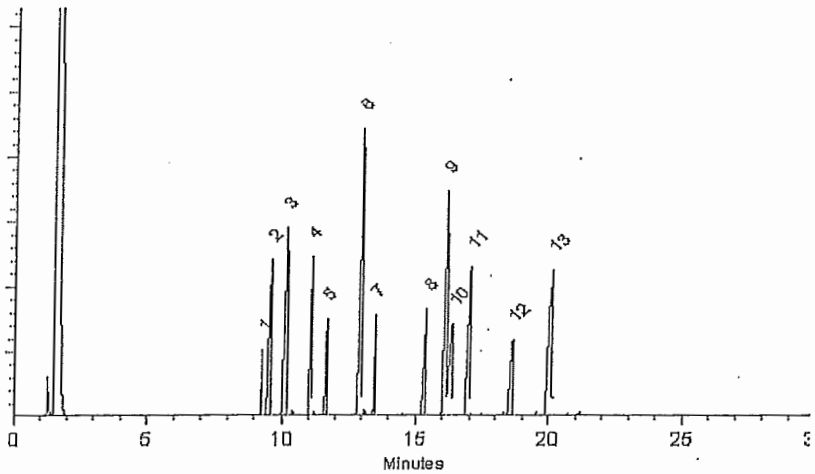
**Carrier Gas:**
hydrogen-constant pressure 10 psi.

**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



# Certificate of Analysis

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

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

Catalog No. : 31008 Lot No.: A066336
Description : SV Calibration Mix #2
Expiration Date[1]: March 2014 Storage: Refrigerate

| Elution Order | Compound | CAS # | Percent Purity 2 | Concentration 3 (weight/volume) | % Uncertainty 4 (95% C.L.; K=2) |
|---|---|---|---|---|---|
| 1 | Phenol | 108-95-2 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 2 | 2-Chlorophenol | 95-57-8 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 3 | 2-Methylphenol (o-cresol) | 95-48-7 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 4 | 4-Methylphenol (p-cresol) | 106-44-5 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 5 | 2-Nitrophenol | 88-75-5 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 6 | 2,4-Dimethylphenol | 105-67-9 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 7 | 2,4-Dichlorophenol | 120-83-2 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 8 | Benzoic acid | 65-85-0 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 9 | 4-Chloro-3-methylphenol | 59-50-7 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 10 | 2,4,6-Trichlorophenol | 88-06-2 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 11 | 2,4,5-Trichlorophenol | 95-95-4 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 12 | 2,4-Dinitrophenol | 51-28-5 | 97% | 1,999.946 ug/ml | +/-0.63 % |
| 13 | 4-Nitrophenol | 100-02-7 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 14 | 4,6-Dinitro-2-methylphenol | 534-52-1 | 99% | 2,000.000 ug/ml | +/-0.63 % |
| 15 | Pentachlorophenol | 87-86-5 | 97% | 1,999.946 ug/ml | +/-0.63 % |
| **Solvent:** | Methylene Chloride | 75-09-2 | 99% | | |

**Column:**
30m x .25mm x .5um
Rtx-5 (cat.#10238)

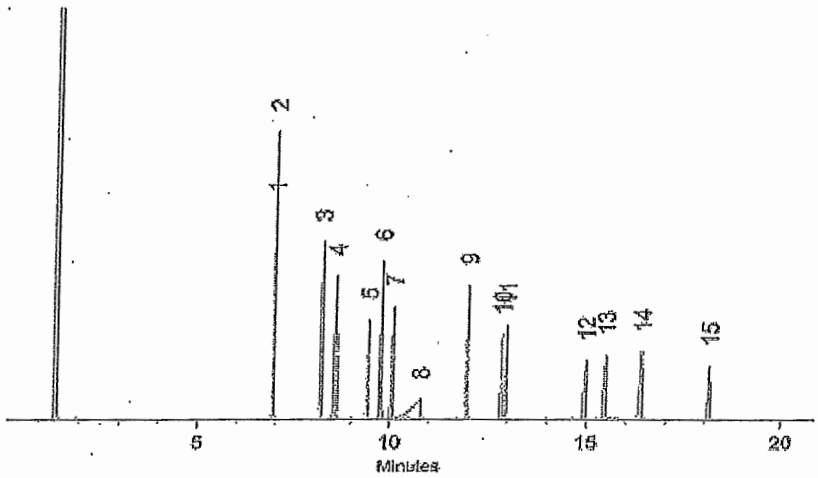
**Carrier Gas:**
hydrogen @ 40cm/sec.

**Temp. Program:**
40°C (hold 4 min.) to 200°C
@ 4°C/min. (hold 5 min.)

**Inj. Temp:**
250°C

**Det. Temp:**
250°C

**Det. Type:**
FID



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

www.Restek.com

# Certificate of Analysis

**FOR LABORATORY USE ONLY-READ MSDS PRIOR TO USE.**

**Catalog No. :** 31009 **Lot No.:** A083302

**Description :** SV Calibration Mix #3

SV Mix, CLP Method, Calibration Std #3, 2,000µg/ml; CH2Cl2, 1ml/ampule

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

**Expiration Date :** [1] October 2014 **Storage:** 10°C or colder

**Handling:** Sonicate prior to use.

| Elution Order | Compound | CAS # | Percent Purity [2] | Grav. Conc. (weight/volume) [3] | Grav. Uncert. (95% C.L., K=2) [4] |
|---|---|---|---|---|---|
| 1 | N-Nitrosodimethylamine | 62-75-9 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 2 | Bis(2-chloroethyl)ether | 111-44-4 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 3 | Bis(2-chloroisopropyl)ether | 108-60-1 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 4 | N-Nitroso-di-n-propylamine | 621-64-7 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 5 | Bis(2-chloroethoxy)methane | 111-91-1 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 6 | 2-Chloronaphthalene | 91-58-7 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 7 | Dimethylphthalate | 131-11-3 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 8 | 4-Chlorophenyl phenyl ether | 7005-72-3 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 9 | N-Nitrosodiphenylamine | 86-30-6 | 97% | 1,999.7 ug/mL | +/- 11.7351 ug/mL |
| 10 | 4-Bromophenyl phenyl ether | 101-55-3 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 11 | Di-n-butylphthalate | 84-74-2 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 12 | Benzyl butyl phthalate | 85-68-7 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 13 | Bis(2-ethylhexyl)phthalate | 117-81-7 | 99% | 2,000.0 ug/mL | +/- 11.7371 ug/mL |
| 14 | Di-n-octyl phthalate | 117-84-0 | 99% | 2,001.0 ug/mL | +/- 11.743 ug/mL |

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

www.Restek.com

ACCREDITED
Reference Material Producer
Certificate #3222.01

ACCREDITED
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. :** 31496 **Lot No.:** A086727

**Description :** Azobenzene Standard

Azobenzene Standard 1000ug/mL, Methylene Chloride, 1mL/ampul

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

**Expiration Date :** February 2017 **Storage:** 10°C or colder

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | Azobenzene | 1,000.0 ug/mL | +/- 10.0737 | ug/mL | Gravimetric |
| | CAS # 103-33-3 | | +/- 23.4034 | ug/mL | Unstressed |
| | Purity 99% | | +/- 23.4034 | ug/mL | Stressed |

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

RESTEK

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

ilac-MRA

ACCREDITED
ISO/IEC 17025 Accredited 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. :** 31030 **Lot No.:** A092934

**Description :** 605 Benzidines Calibration Mix

605 Benzidines Calibration Mix 2000µg/mL, Methanol, 1mL/ampul

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

**Expiration Date :** August 2017 **Storage:** 10°C or colder

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | Benzidine | 2,000.0 µg/mL | +/- 11.7371 | µg/mL | Gravimetric |
| | CAS # 92-87-5 | | +/- 43.8488 | µg/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | µg/mL | Stressed |
| 2 | 3,3'-Dichlorobenzidine | 2,000.0 µg/mL | +/- 11.7371 | µg/mL | Gravimetric |
| | CAS # 91-94-1 | | +/- 43.8488 | µg/mL | Unstressed |
| | Purity 99% | | +/- 43.8488 | µg/mL | Stressed |

**Solvent:** Methanol
**CAS #** 67-56-1
**Purity** 99%

RESTEK

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

www.Restek.com

ACCREDITED
Reference Material Producer
Certificate #3222.01

ilac-MRA

ACCREDITED
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. :** 31013 **Lot No.:** A086710

**Description :** SV Calibration Mix #7

Calibration Std #7 2000ug/mL, Methylene Chloride, 1mL/ampul

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

**Expiration Date :** February 2015 **Storage:** 10°C or colder

## CERTIFIED VALUES

| Elution Order | Compound | Grav. Conc. (weight/volume) | Expanded Uncertainty (95% C.L.; K=2) | | |
|---|---|---|---|---|---|
| 1 | 1,3-Dichlorobenzene<br>CAS # 541-73-1<br>Purity 99% | 2,000.0 ug/mL | +/- 11.7371<br>+/- 24.1603<br>+/- 27.2485 | ug/mL<br>ug/mL<br>ug/mL | Gravimetric<br>Unstressed<br>Stressed |
| 2 | 1,4-Dichlorobenzene<br>CAS # 106-46-7<br>Purity 99% | 2,000.0 ug/mL | +/- 11.7371<br>+/- 24.1603<br>+/- 27.2485 | ug/mL<br>ug/mL<br>ug/mL | Gravimetric<br>Unstressed<br>Stressed |
| 3 | 1,2-Dichlorobenzene<br>CAS # 95-50-1<br>Purity 99% | 2,000.0 ug/mL | +/- 11.7371<br>+/- 24.1603<br>+/- 27.2485 | ug/mL<br>ug/mL<br>ug/mL | Gravimetric<br>Unstressed<br>Stressed |

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

# 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

Form 1 (If required)
Chromatogram
Quant Report (If applicable)
Confirmation Analysis Quant Report / Chromatogram (If applicable)
Tentatively Identified Compounds (If required)

Rev. 1.0

# 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. 1.0

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: E1030303 DFTPP Injection Date: 10/30/13

Instrument ID: AG5 DFTPP Injection Time: 09:32

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30 - 80% of mass 198 | 30.4 |
| 68 | Less than 2.0% of mass 69 | 0.0 (1) |
| 69 | (reference only) | 31.6 |
| 70 | Less than 2.0% of mass 69 | 0.5 (1) |
| 127 | 25 - 75% of mass 198 | 46.2 |
| 197 | Less than 1% of mass 198 | 0.0 |
| 198 | Base Peak, 100% relative abundance | 100. |
| 199 | 5 - 9% of mass 198 | 6.9 |
| 275 | 10 - 30% of mass 198 | 25.7 |
| 365 | Greater than 1% of mass 198 | 2.8 |
| 441 | 0 - 100% of mass 443 | 84.9 |
| 442 | 40 - 110% of mass 198 | 74.9 |
| 443 | 15 - 24% of mass 442 | 20.9 (2) |

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

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

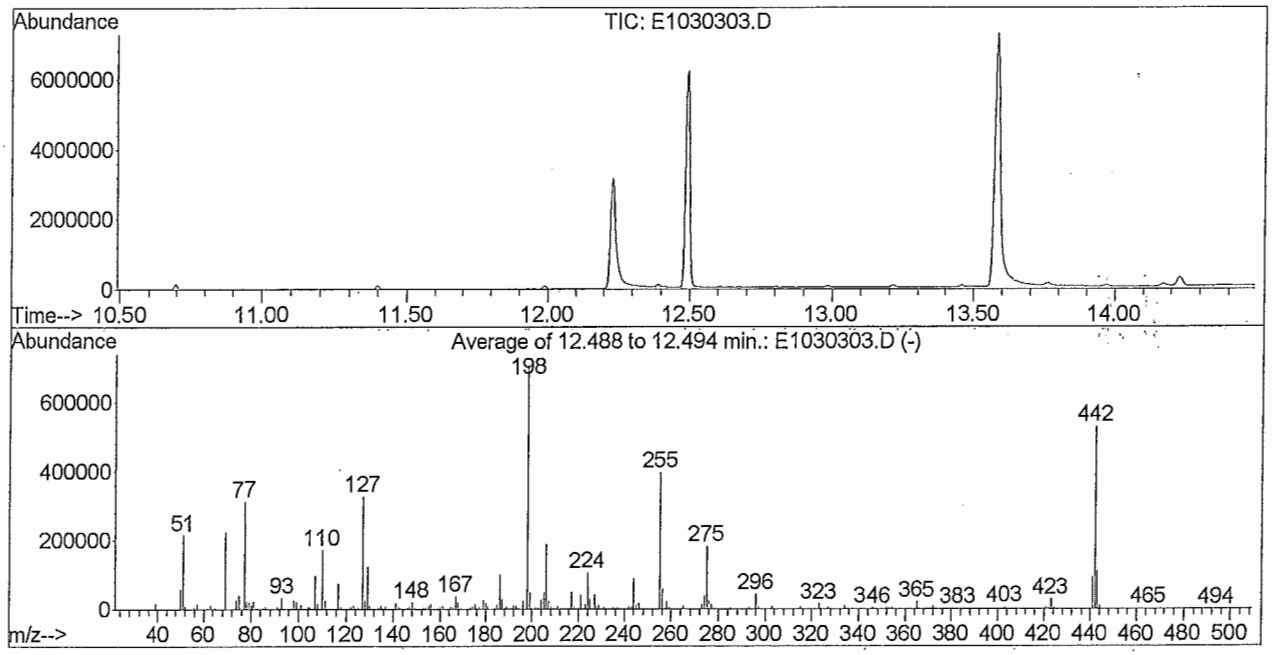
| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | BLANK STD | 000 PPM STD | E1030306 | 10/30/13 | 11:41 |
| 2 | BNA STD | 005 PPM STD | E1030307 | 10/30/13 | 12:22 |
| 3 | BNA STD | 010 PPM STD | E1030308 | 10/30/13 | 13:03 |
| 4 | BNA STD | 020 PPM STD | E1030309 | 10/30/13 | 13:44 |
| 5 | BNA STD | 030 PPM STD | E1030310 | 10/30/13 | 14:26 |
| 6 | BNA STD | 040 PPM STD | E1030311 | 10/30/13 | 15:07 |
| 7 | BNA STD | 060 PPM STD | E1030312 | 10/30/13 | 15:48 |
| 8 | ICV STD | 030 PPM STD | E1030313 | 10/30/13 | 16:29 |
| 9 | BLANK B10108 | 006557-20B1 | E1030314 | 10/30/13 | 17:10 |
| 10 | SPBK B10108 | 006557-20K1 | E1030315 | 10/30/13 | 17:51 |
| 11 | MAK001C | 006557-01 | E1030316 | 10/30/13 | 18:32 |
| 12 | MAK002C | 006557-02 | E1030317 | 10/30/13 | 19:13 |
| 13 | MAK004C | 006557-03 | E1030318 | 10/30/13 | 19:54 |
| 14 | MAK005C | 006557-04 | E1030319 | 10/30/13 | 20:34 |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

# DFTPP

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030303.D
Acq On : 30 Oct 2013 9:32
Operator : DOUG
Sample : 50 NG DFTPP 16093
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 Aug 28 11:55:28 2013




AutoFind: Scans 1200, 1201, 1202; Background Corrected with Scan 1188

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 80 | 30.4 | 214672 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.01 | 100 | 31.6 | 223061 | PASS |
| 70 | 69 | 0.00 | 2 | 0.5 | 1050 | PASS |
| 127 | 198 | 25 | 75 | 46.2 | 326310 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 705984 | PASS |
| 199 | 198 | 5 | 9 | 6.9 | 48670 | PASS |
| 275 | 198 | 10 | 30 | 25.7 | 181248 | PASS |
| 365 | 198 | 0.75 | 100 | 2.8 | 19526 | PASS |
| 441 | 443 | 0.01 | 100 | 84.9 | 93736 | PASS |
| 442 | 198 | 40 | 110 | 74.9 | 528597 | PASS |
| 443 | 442 | 15 | 24 | 20.9 | 110424 | PASS |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 1056 | 53.05 | 355 | 66.10 | 267 | 80.05 | 14075 |
| 38.05 | 2661 | 55.05 | 532 | 66.30 | 103 | 81.05 | 21145 |
| 39.10 | 14596 | 56.05 | 6304 | 69.00 | 223061 | 82.00 | 5018 |
| 40.00 | 480 | 57.10 | 13207 | 70.00 | 1050 | 83.00 | 4130 |
| 44.10 | 125 | 58.05 | 828 | 72.00 | 176 | 85.05 | 3591 |
| 44.90 | 128 | 59.00 | 42 | 73.10 | 1866 | 86.05 | 6183 |
| 45.00 | 185 | 61.05 | 2880 | 74.05 | 26326 | 87.00 | 2369 |
| 46.70 | 45 | 62.05 | 3010 | 75.05 | 39725 | 87.95 | 811 |
| 50.10 | 57680 | 63.10 | 9213 | 77.10 | 312262 | 89.00 | 428 |
| 51.10 | 214672 | 64.10 | 1439 | 78.05 | 22958 | 91.05 | 5167 |
| 52.05 | 10922 | 65.05 | 4113 | 79.05 | 18618 | 92.05 | 5222 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 93.05 | 32181 | 107.05 | 96229 | 120.05 | 1187 | 132.00 | 773 |
| 94.00 | 2303 | 108.05 | 15461 | 120.95 | 297 | 132.90 | 454 |
| 96.00 | 1048 | 109.95 | 171712 | 121.95 | 5955 | 133.95 | 3675 |
| 98.00 | 25598 | 111.00 | 24314 | 123.00 | 9229 | 135.05 | 10071 |
| 99.10 | 20565 | 112.05 | 3162 | 124.00 | 4256 | 135.95 | 3770 |
| 100.00 | 2115 | 113.05 | 940 | 125.00 | 4175 | 137.00 | 5999 |
| 101.00 | 11335 | 114.20 | 91 | 127.00 | 326310 | 137.90 | 682 |
| 102.00 | 966 | 115.10 | 488 | 128.05 | 27169 | 138.10 | 291 |
| 103.00 | 4632 | 116.95 | 75811 | 129.00 | 122526 | 138.95 | 741 |
| 103.95 | 6361 | 118.00 | 5775 | 129.95 | 10392 | 140.05 | 1815 |
| 105.00 | 6574 | 118.95 | 627 | 131.00 | 1886 | 140.95 | 16206 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 142.05 | 6183 | 151.90 | 352 | 162.00 | 2829 | 172.00 | 2791 |
| 142.95 | 3417 | 152.30 | 579 | 163.00 | 670 | 173.00 | 4097 |
| 144.05 | 1063 | 152.95 | 4608 | 163.95 | 812 | 174.00 | 7985 |
| 145.00 | 974 | 154.05 | 4231 | 164.20 | 421 | 175.10 | 13229 |
| 146.05 | 3749 | 155.05 | 9304 | 164.95 | 5591 | 176.00 | 3603 |
| 147.00 | 8761 | 156.00 | 14040 | 166.05 | 5728 | 177.00 | 6097 |
| 148.00 | 19216 | 157.00 | 2479 | 166.95 | 35830 | 178.05 | 1579 |
| 149.05 | 4304 | 158.00 | 3381 | 167.95 | 19583 | 178.95 | 23467 |
| 150.00 | 1109 | 158.95 | 2268 | 168.95 | 2847 | 180.00 | 18042 |
| 151.00 | 651 | 160.05 | 5558 | 169.95 | 1074 | 181.00 | 8704 |
| 151.20 | 1854 | 161.05 | 8339 | 171.00 | 1645 | 182.05 | 1420 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 183.00 | 926 | 194.00 | 2139 | 207.95 | 5559 | 219.00 | 697 |
| 184.05 | 1788 | 196.00 | 23634 | 208.90 | 1706 | 221.00 | 38833 |
| 185.05 | 14497 | 198.00 | 705984 | 210.30 | 1305 | 223.00 | 12501 |
| 186.00 | 99069 | 199.00 | 48670 | 211.05 | 7641 | 224.00 | 105082 |
| 187.00 | 28493 | 199.95 | 3598 | 212.00 | 475 | 225.00 | 29088 |
| 188.00 | 3021 | 201.55 | 4107 | 212.95 | 617 | 226.95 | 41106 |
| 188.95 | 5887 | 202.95 | 5130 | 213.60 | 66 | 227.95 | 5668 |
| 190.05 | 1389 | 204.05 | 25914 | 214.00 | 200 | 229.00 | 9106 |
| 191.00 | 3107 | 205.00 | 47934 | 215.00 | 1970 | 229.85 | 327 |
| 192.00 | 8600 | 205.95 | 188206 | 216.95 | 47822 | 230.05 | 1253 |
| 193.00 | 8806 | 207.00 | 23399 | 218.00 | 6710 | 231.00 | 4062 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 391.90 | 557 | 400.70 | 83 | 413.60 | 90 | 419.90 | 84 |
| 392.85 | 130 | 400.95 | 262 | 414.10 | 38 | 420.95 | 3656 |
| 395.05 | 117 | 401.90 | 2510 | 414.80 | 44 | 422.00 | 4431 |
| 395.60 | 43 | 403.00 | 4171 | 415.00 | 156 | 423.00 | 27261 |
| 395.95 | 57 | 404.00 | 1600 | 415.50 | 49 | 424.05 | 4962 |
| 396.70 | 65 | 404.85 | 202 | 416.10 | 28 | 424.85 | 615 |
| 397.00 | 35 | 405.90 | 66 | 416.50 | 29 | 425.75 | 213 |
| 397.70 | 32 | 409.00 | 42 | 417.50 | 33 | 427.25 | 221 |
| 398.10 | 30 | 409.95 | 97 | 418.70 | 76 | 427.80 | 123 |
| 399.10 | 37 | 410.80 | 37 | 419.20 | 60 | 428.20 | 338 |
| 399.80 | 50 | 412.30 | 53 | 419.50 | 50 | 428.70 | 86 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 429.00 | 91 | 435.00 | 282 | 444.00 | 10531 | | |
| 429.40 | 53 | 435.20 | 198 | 444.90 | 136 | | |
| 429.80 | 78 | 436.00 | 298 | 445.10 | 294 | | |
| 430.30 | 60 | 436.50 | 150 | 445.90 | 28 | | |
| 430.80 | 285 | 437.05 | 444 | 451.60 | 29 | | |
| 431.50 | 398 | 437.80 | 542 | 457.50 | 37 | | |
| 432.10 | 157 | 438.20 | 101 | 465.30 | 90 | | |
| 432.50 | 356 | 438.90 | 703 | 492.70 | 28 | | |
| 432.90 | 230 | 441.05 | 93736 | 493.90 | 29 | | |
| 433.70 | 461 | 442.00 | 528597 | | | | |
| 434.10 | 392 | 443.00 | 110424 | | | | |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 232.00 | 594 | 242.00 | 5468 | 252.20 | 249 | 263.00 | 117 |
| 233.00 | 1003 | 243.10 | 5541 | 253.00 | 933 | 263.85 | 142 |
| 234.00 | 2578 | 244.00 | 88117 | 253.25 | 1384 | 265.00 | 7986 |
| 235.00 | 3513 | 245.05 | 12784 | 255.00 | 395128 | 265.80 | 1860 |
| 236.05 | 2173 | 246.00 | 15635 | 256.00 | 58300 | 266.95 | 189 |
| 237.05 | 3494 | 247.00 | 2731 | 257.05 | 5351 | 268.90 | 138 |
| 237.80 | 230 | 247.95 | 616 | 258.00 | 20434 | 269.85 | 58 |
| 238.00 | 307 | 248.95 | 3141 | 259.00 | 3954 | 270.20 | 199 |
| 239.00 | 1732 | 249.90 | 742 | 259.95 | 640 | 270.90 | 394 |
| 239.95 | 1265 | 251.00 | 880 | 261.00 | 776 | 271.05 | 746 |
| 241.00 | 2589 | 252.00 | 677 | 261.95 | 155 | 272.00 | 441 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 273.00 | 14431 | 282.05 | 248 | 291.95 | 1071 | 303.95 | 1393 |
| 273.95 | 36689 | 283.00 | 1545 | 293.00 | 3109 | 305.00 | 236 |
| 275.00 | 181248 | 284.00 | 1196 | 294.00 | 1085 | 305.90 | 18 |
| 276.00 | 25093 | 285.05 | 2625 | 296.00 | 42610 | 306.80 | 135 |
| 277.00 | 13875 | 286.00 | 429 | 297.00 | 7046 | 307.00 | 81 |
| 278.00 | 2635 | 287.10 | 54 | 297.95 | 327 | 308.00 | 804 |
| 278.80 | 211 | 287.85 | 327 | 298.95 | 134 | 308.95 | 404 |
| 279.00 | 394 | 288.95 | 517 | 300.05 | 104 | 310.00 | 547 |
| 279.70 | 42 | 290.05 | 623 | 301.05 | 800 | 311.15 | 101 |
| 281.00 | 264 | 290.90 | 227 | 302.00 | 751 | 311.80 | 51 |
| 281.80 | 24 | 291.10 | 106 | 303.00 | 5604 | 311.95 | 167 |

Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 312.95 | 616 | 321.05 | 1461 | 330.20 | 70 | 339.95 | 314 |
| 313.95 | 2109 | 321.95 | 1096 | 330.85 | 119 | 340.95 | 1974 |
| 315.00 | 4577 | 323.05 | 14769 | 332.00 | 1254 | 341.95 | 763 |
| 316.00 | 2898 | 324.00 | 2798 | 333.05 | 1736 | 343.00 | 66 |
| 316.70 | 88 | 325.00 | 351 | 334.00 | 8516 | 344.05 | 79 |
| 317.00 | 89 | 325.85 | 231 | 335.05 | 2598 | 344.70 | 181 |
| 317.70 | 59 | 326.95 | 3019 | 336.00 | 472 | 345.95 | 3220 |
| 318.00 | 71 | 328.00 | 1303 | 337.05 | 89 | 346.85 | 626 |
| 318.90 | 78 | 328.80 | 141 | 337.95 | 87 | 347.90 | 76 |
| 319.75 | 190 | 329.00 | 258 | 338.85 | 185 | 348.80 | 29 |
| 320.00 | 63 | 329.90 | 116 | 339.10 | 125 | 349.30 | 30 |

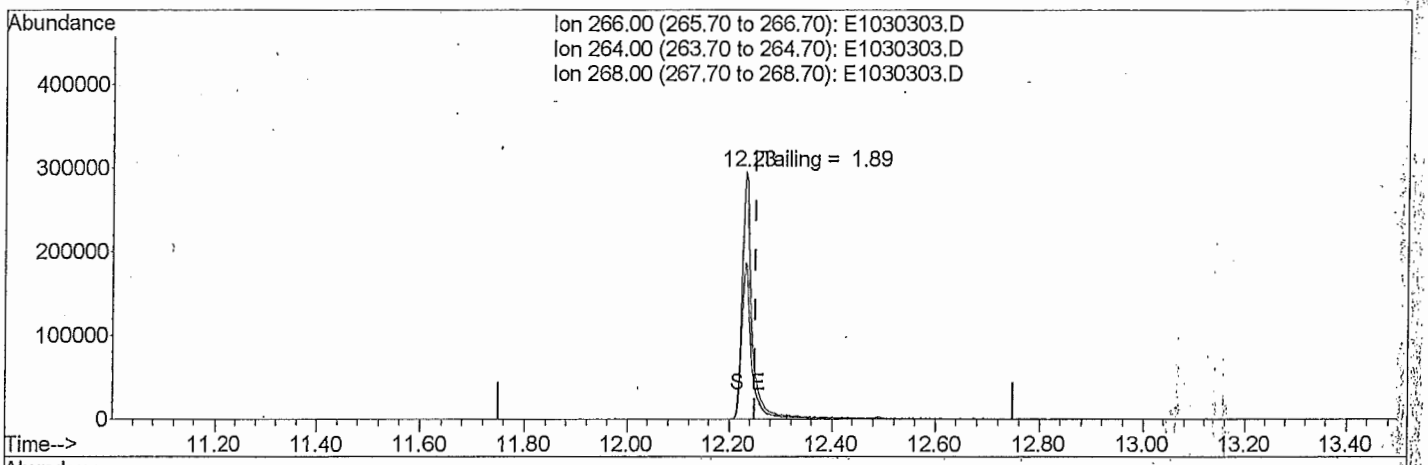
Average of 12.488 to 12.494 min.: E1030303.D
50 NG DFTPP 16093
Modified:subtracted

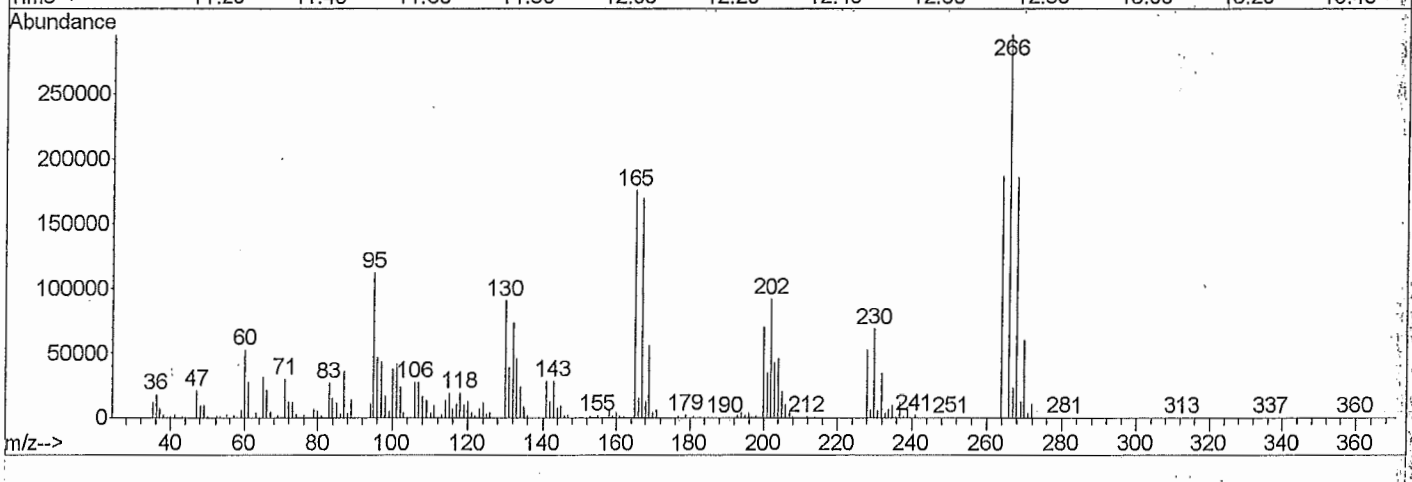
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 350.05 | 194 | 358.20 | 105 | 366.90 | 284 | 378.60 | 39 |
| 350.95 | 241 | 358.75 | 157 | 367.70 | 137 | 379.10 | 66 |
| 352.00 | 4323 | 359.00 | 213 | 369.90 | 514 | 382.95 | 1800 |
| 353.05 | 3215 | 360.10 | 57 | 370.95 | 1433 | 383.90 | 617 |
| 354.00 | 5164 | 360.90 | 188 | 372.00 | 7206 | 384.75 | 127 |
| 355.05 | 1011 | 361.30 | 114 | 372.95 | 1908 | 385.15 | 87 |
| 355.90 | 55 | 362.15 | 99 | 373.90 | 256 | 385.70 | 35 |
| 356.20 | 28 | 362.80 | 142 | 374.10 | 162 | 387.60 | 48 |
| 356.70 | 37 | 363.15 | 108 | 374.90 | 78 | 388.60 | 59 |
| 357.00 | 62 | 364.95 | 19526 | 376.75 | 117 | 389.95 | 887 |
| 357.90 | 58 | 365.95 | 3104 | 378.00 | 30 | 391.00 | 735 |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030303.D
Acq On : 30 Oct 2013 9:32
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 30 09:52:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1030303.D

(1) Pentachlorophenol (TMC)

12.230min (-0.020) 36.05ug/L

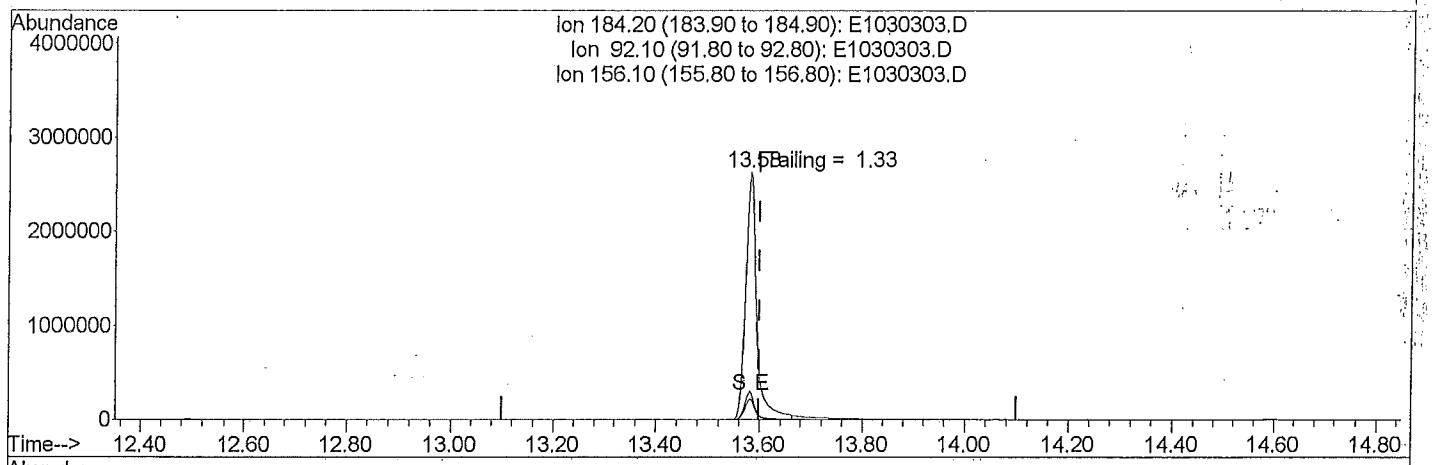
response 384248

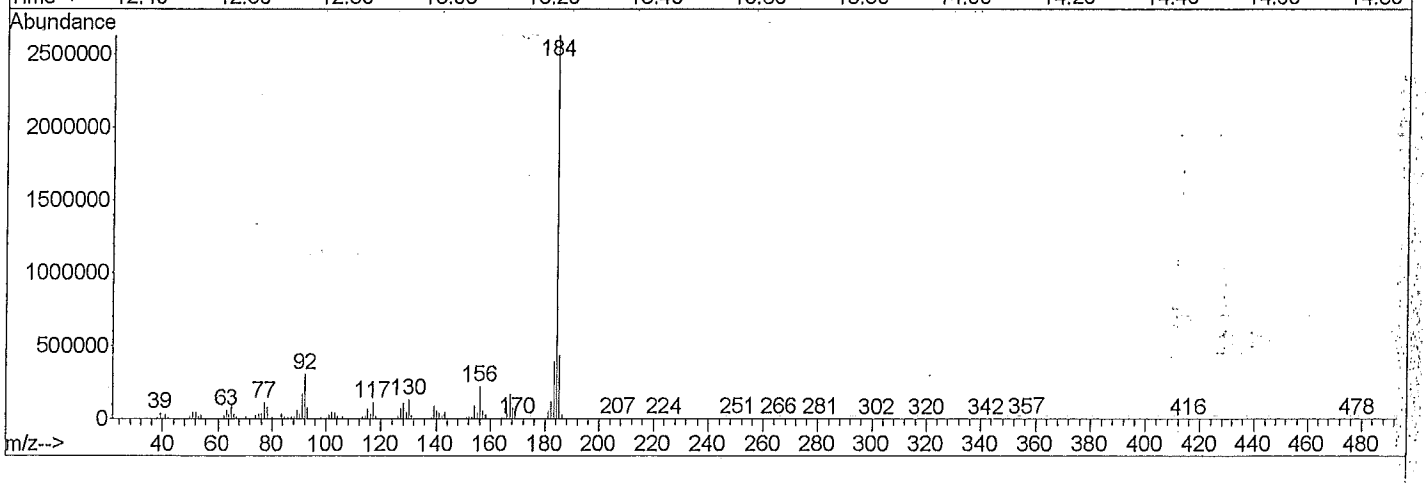
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 264.00 | 63.80 | 62.84 |
| 268.00 | 63.80 | 62.93 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030303.D
Acq On : 30 Oct 2013 9:32
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 30 09:52:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1030303.D

(3) Benzidine (T)

13.581min (-0.019) 81.29ug/L

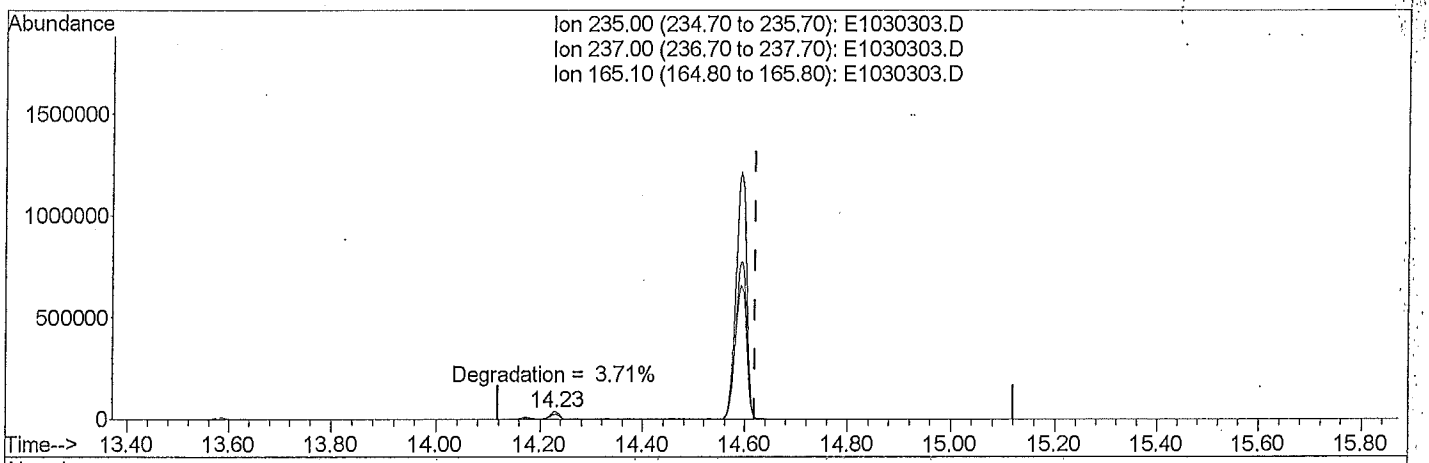
response 4192112

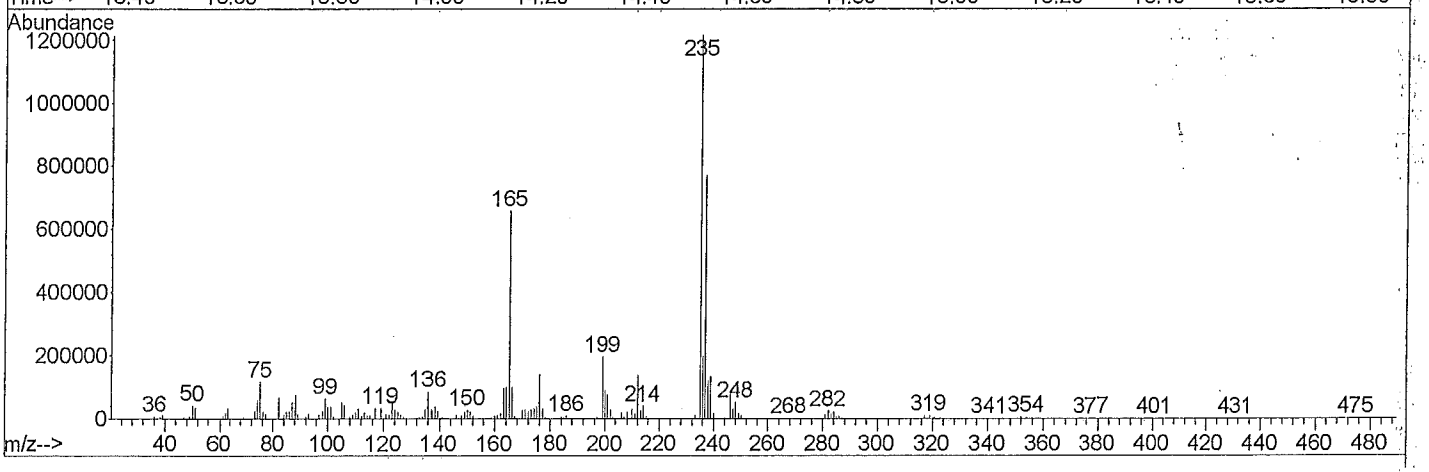
| Ion | Exp% | Act% |
|---|---|---|
| 184.20 | 100 | 100 |
| 92.10 | 13.70 | 10.46# |
| 156.10 | 8.60 | 7.83 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030303.D
Acq On : 30 Oct 2013 9:32
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 30 09:52:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1030303.D

(4) DDT

14.591min (-0.029) 69.21ug/L

response 1796619

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.80 | 64.73 |
| 165.10 | 59.00 | 57.90 |
| 0.00 | 0.00 | 0.00 |

# Response Factor Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270316HW.M
Title : 8270 BNA Calibration
Last Update : Wed Oct 30 16:31:12 2013
Response Via : Initial Calibration

Calibration Files
10 =E1030308.D 20 =E1030309.D 30 =E1030310.D
40 =E1030311.D 5 =E1030307.D 60 =E1030312.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 | 0.482 | 0.467 | 0.454 | 0.438 | 0.450 | 0.423 | 0.452 | 4.56 |
| 4) | I | Acenaphthene-d10 | ISTD | | | | | | | |
| 5) | S | 2-Fluorobiphenyl | 1.733 | 1.595 | 1.489 | 1.397 | 1.722 | 1.274 | 1.535 | 11.92 |
| 6) | T | Dimethylphthalate | 1.769 | 1.653 | 1.557 | 1.511 | 1.701 | 1.390 | 1.597 | 8.65 |
| 7) | T | Diethylphthalate | 1.723 | 1.613 | 1.509 | 1.460 | 1.683 | 1.306 | 1.549 | 10.03 |
| 8) | I | Phenanthrene-d10 | ISTD | | | | | | | |
| 9) | T | Di-n-butylphthala | 1.660 | 1.537 | 1.453 | 1.371 | 1.546 | 1.207 | 1.462 | 10.83 |
| 10) | I | Chrysene-d12 | ISTD | | | | | | | |
| 11) | TM | Pyrene | 1.450 | 1.343 | 1.267 | 1.220 | 1.406 | 1.106 | 1.299 | 9.76 |
| 12) | S | Terphenyl-d14 | 0.999 | 0.935 | 0.906 | 0.869 | 0.964 | 0.813 | 0.914 | 7.31 |
| 13) | T | bis(2-Ethylhexyl) | 0.899 | 0.899 | 0.885 | 0.880 | 0.808 | 0.834 | 0.867 | 4.34 |
| 14) | TC | Di-n-octylphthala | 1.523 | 1.550 | 1.520 | 1.508 | 1.338 | 1.422 | 1.477 | 5.46# |
| 15) | I | Perylene-d12 | ISTD | | | | | | | |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030306.D
Acq On : 30 Oct 2013 11:41
Operator : DOUG
Sample : CAL BLK 16095
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 30 15:17:43 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2001146 | 40.00 | ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7529191 | 40.00 | ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4354741 | 40.00 | ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7816995 | 40.00 | ug/L | 0.00 |
| 10) Chrysene-d12 | 20.57 | 240 | 9027576 | 40.00 | ug/L | -0.01 |
| 15) Perylene-d12 | 25.47 | 264 | 4374571 | 40.00 | ug/L | -0.02 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 0.00 | 82 | 0 | 0.00 | ug/L | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |
| 5) 2-Fluorobiphenyl | 11.28 | 172 | 8114 | 0.05 | ug/L | 0.09 |
| Spiked Amount 50.000 | | | Recovery = 0.10% | | | |
| 12) Terphenyl-d14 | 0.00 | 244 | 0 | 0.00 | ug/L | |
| Spiked Amount 50.000 | | | Recovery = 0.00% | | | |

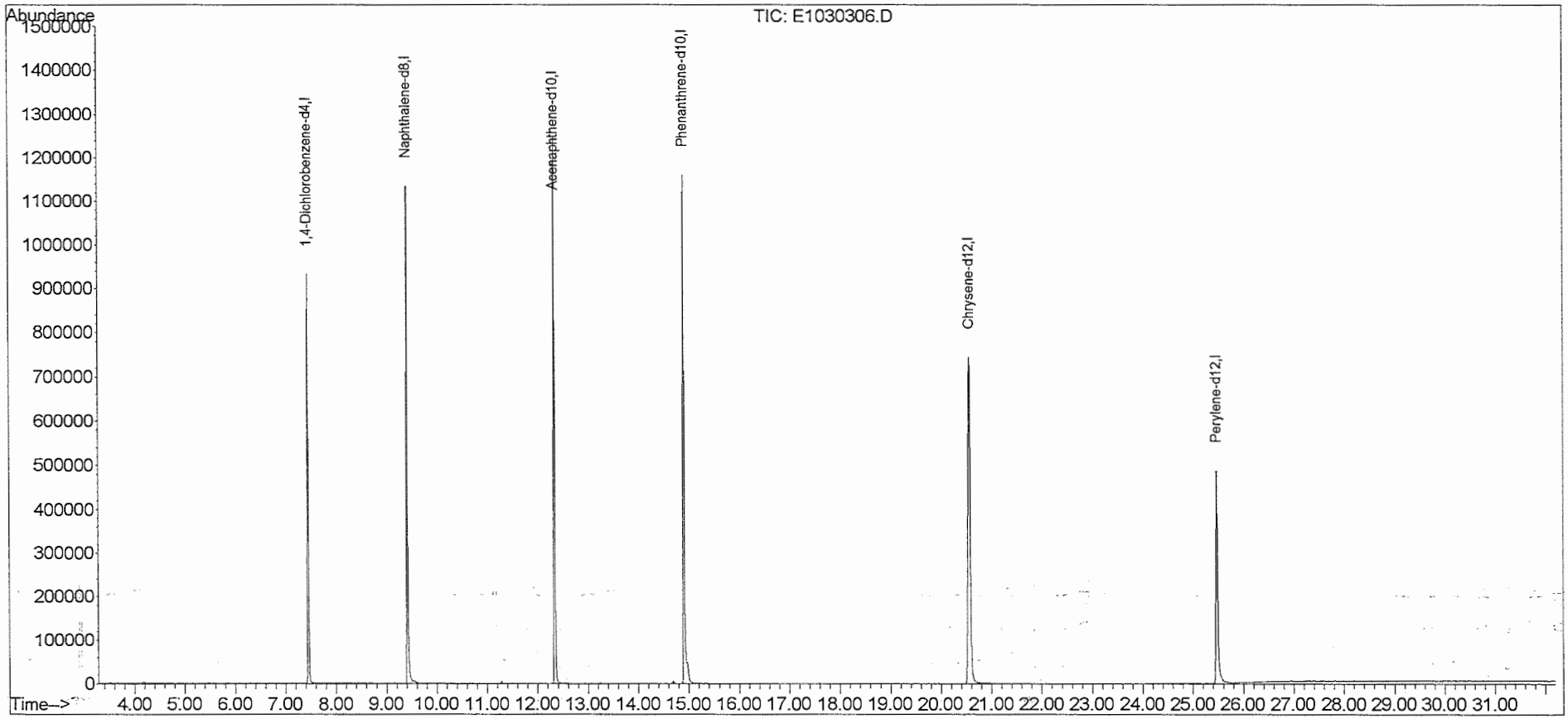
Target Compounds Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030306.D
Acq On : 30 Oct 2013 11:41
Operator : DOUG
Sample : CAL BLK 16095
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 30 15:17:43 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Thu Nov 07 11:09:26 2013 Page: 2

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030307.D
Acq On : 30 Oct 2013 12:22
Operator : DOUG
Sample : 5 PPM STD 16096
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 30 15:18:08 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

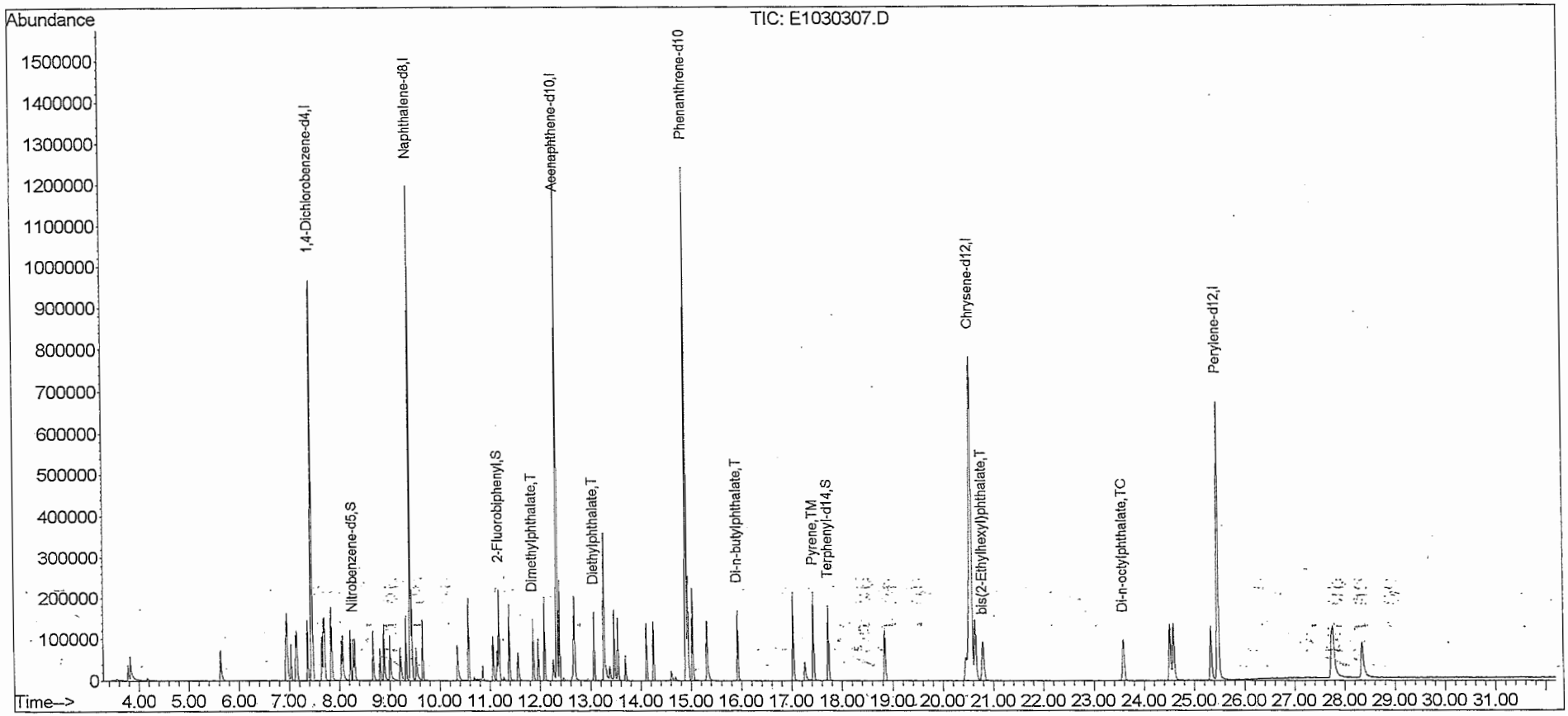
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1945900 | 40.00 | ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7229990 | 40.00 | ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4163541 | 40.00 | ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7367680 | 40.00 | ug/L | 0.00 |
| 10) Chrysene-d12 | 20.57 | 240 | 8853026 | 40.00 | ug/L | -0.01 |
| 15) Perylene-d12 | 25.47 | 264 | 5459178 | 40.00 | ug/L | -0.02 |
| System Monitoring Compounds | | | | | | |
| 3) Nitrobenzene-d5 | 8.27 | 82 | 407037 | 4.99 | ug/L | -0.01 |
| Spiked Amount 50.000 | | | Recovery | = | 9.98% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 896307 | 5.83 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 11.66% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 1066516 | 5.73 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = | 11.46% | |
| Target Compounds | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 885297 | 5.56 | ug/L # | 78 |
| 7) Diethylphthalate | 13.07 | 149 | 875919 | 5.24 | ug/L | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 1423620 | 4.40 | ug/L | 95 |
| 11) Pyrene | 17.43 | 202 | 1555431 | 4.94 | ug/L | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.79 | 149 | 894441 | 2.79 | ug/L | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 1481090 | 2.69 | ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030307.D
Acq On : 30 Oct 2013 12:22
Operator : DOUG
Sample : 5 PPM STD 16096
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 30 15:18:08 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:33:11 2013 Page: 2

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030308.D
Acq On : 30 Oct 2013 13:03
Operator : DOUG
Sample : 10 PPM STD 16097
Misc : AG-5 8270
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 15:18:23 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

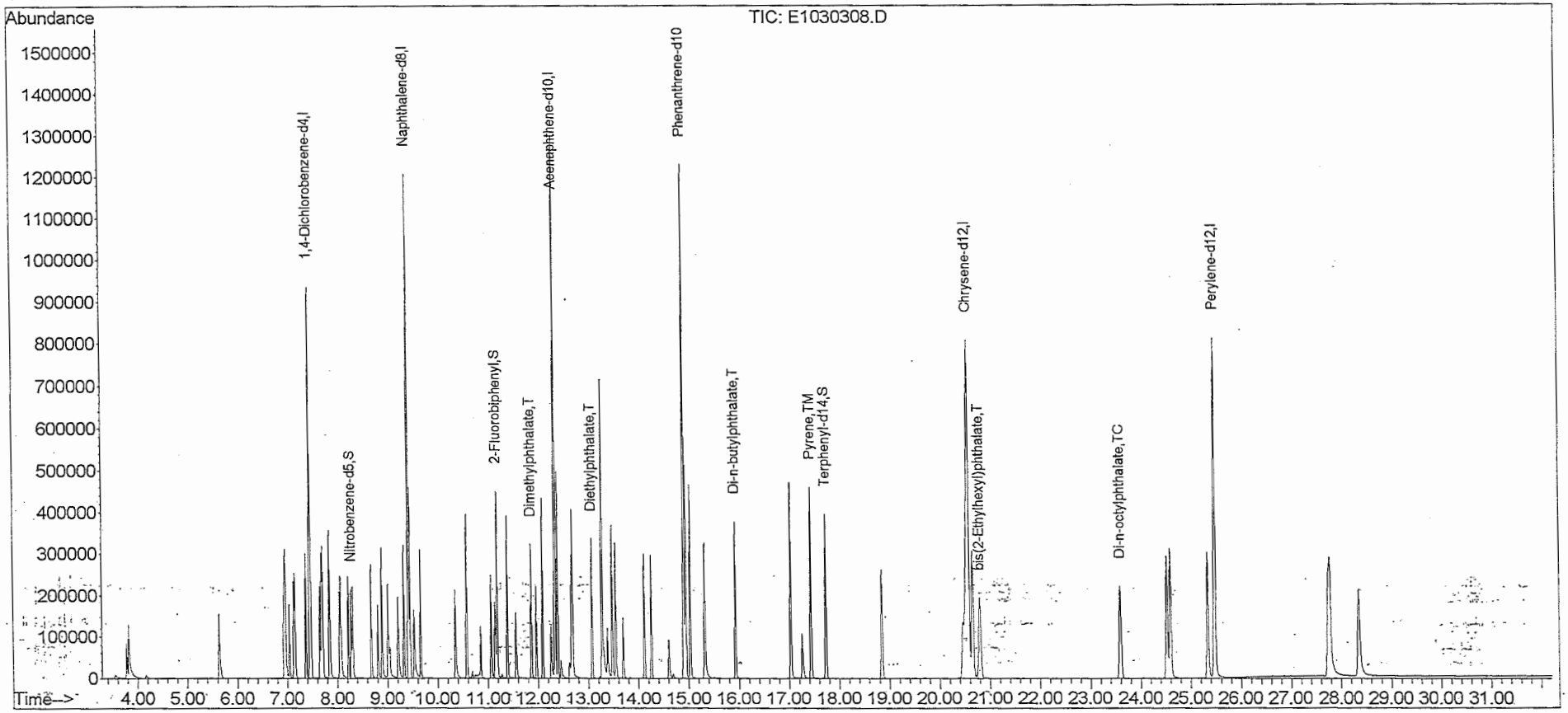
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1941800 | 40.00 | ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7212851 | 40.00 | ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4205951 | 40.00 | ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7357272 | 40.00 | ug/L | 0.00 |
| 10) Chrysene-d12 | 20.57 | 240 | 8938122 | 40.00 | ug/L | -0.02 |
| 15) Perylene-d12 | 25.48 | 264 | 6795587 | 40.00 | ug/L | -0.01 |
| System Monitoring Compounds | | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 868738 | 10.68 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 21.36% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 1822334 | 11.74 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 23.48% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 2232317 | 11.88 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 23.76% | | |
| Target Compounds | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 1860253 | 11.57 | ug/L | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 1811247 | 10.74 | ug/L | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 3053057 | 9.44 | ug/L | 95 |
| 11) Pyrene | 17.43 | 202 | 3240276 | 10.18 | ug/L | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.79 | 149 | 2008292 | 6.21 | ug/L | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 3402290 | 6.13 | ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030308.D
Acq On : 30 Oct 2013 13:03
Operator : DOUG
Sample : 10 PPM STD 16097
Misc : AG-5 8270
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Oct 30 15:18:23 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:33:38 2013 Page: 2

# Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030309.D
Acq On : 30 Oct 2013 13:44
Operator : DOUG
Sample : 20 PPM STD 16098
Misc : AG-5 8270
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 30 15:18:36 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

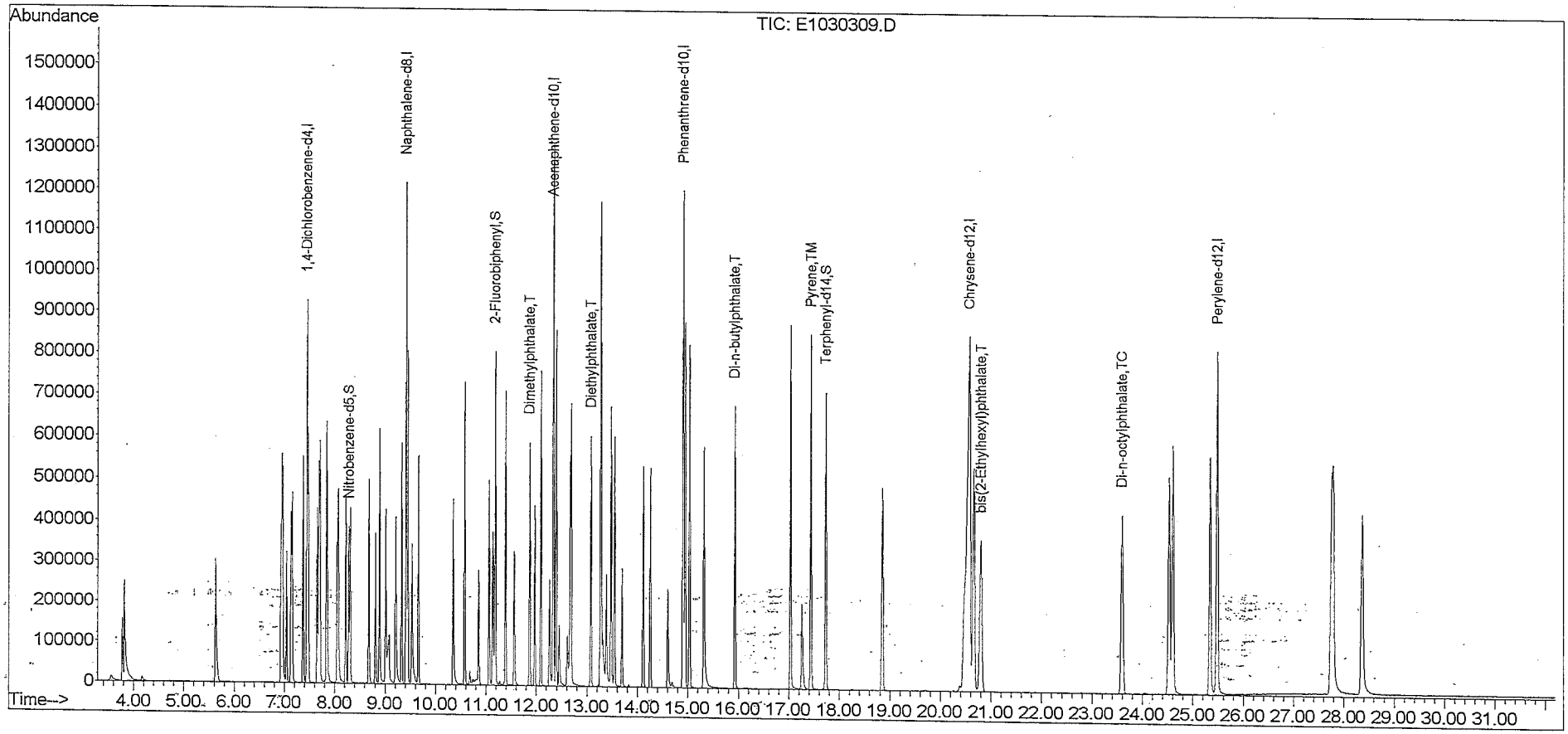
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1918573 | 40.00 ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7122583 | 40.00 ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4151245 | 40.00 ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7284326 | 40.00 ug/L | 0.00 |
| 10) Chrysene-d12 | 20.57 | 240 | 8659118 | 40.00 ug/L | -0.01 |
| 15) Perylene-d12 | 25.48 | 264 | 6720868 | 40.00 ug/L | -0.01 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1663509 | 20.70 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 41.40% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3309858 | 21.60 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 43.20% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4047463 | 22.23 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 44.46% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 3431723 | 21.63 ug/L | 99 |
| 7) Diethylphthalate | 13.08 | 149 | 3347840 | 20.10 ug/L | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5599787 | 17.49 ug/L | 95 |
| 11) Pyrene | 17.43 | 202 | 5813948 | 18.86 ug/L | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.79 | 149 | 3893511 | 12.43 ug/L | 99 |
| 14) Di-n-octylphthalate | 23.60 | 149 | 6708887 | 12.47 ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030309.D
Acq On : 30 Oct 2013 13:44
Operator : DOUG
Sample : 20 PPM STD 16098
Misc : AG-5 8270
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Oct 30 15:18:36 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:33:48 2013

Page: 2

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030310.D
Acq On : 30 Oct 2013 14:26
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 30 15:18:50 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

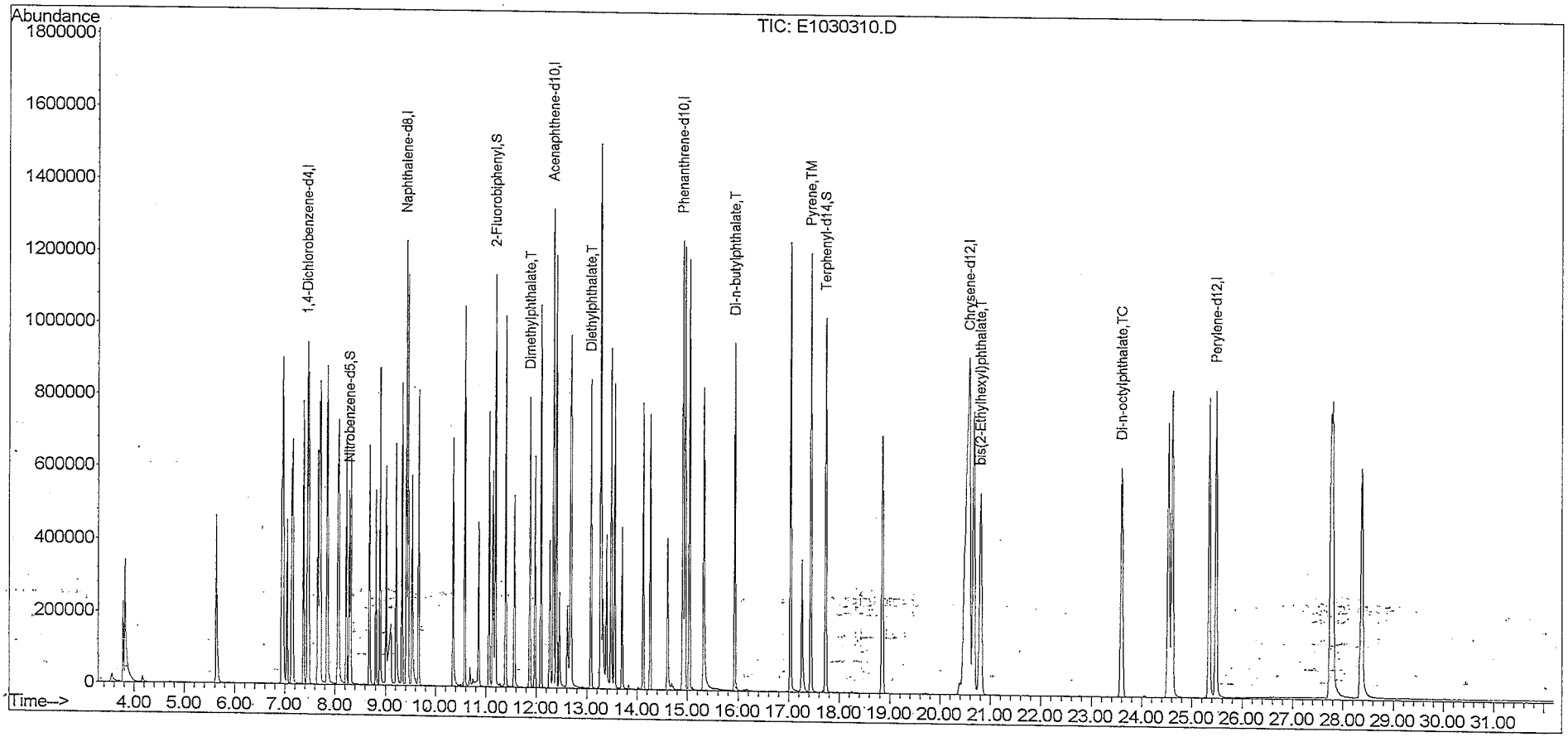
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1978845 | 40.00 ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7315795 | 40.00 ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4301435 | 40.00 ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7468671 | 40.00 ug/L | 0.00 |
| 10) Chrysene-d12 | 20.58 | 240 | 8866680 | 40.00 ug/L | 0.00 |
| 15) Perylene-d12 | 25.49 | 264 | 7174451 | 40.00 ug/L | 0.00 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 2490631 | 30.18 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 60.36% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 4803394 | 30.26 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 60.52% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 6025435 | 32.32 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 64.64% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 5023908 | 30.56 ug/L | 100 |
| 7) Diethylphthalate | 13.08 | 149 | 4867350 | 28.21 ug/L | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 8138259 | 24.79 ug/L | 98 |
| 11) Pyrene | 17.44 | 202 | 8426136 | 26.69 ug/L | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.81 | 149 | 5882072 | 18.34 ug/L | 99 |
| 14) Di-n-octylphthalate | 23.60 | 149 | 10109420 | 18.35 ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030310.D
Acq On : 30 Oct 2013 14:26
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Oct 30 15:18:50 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:34:00 2013

Page: 2

# Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030311.D
Acq On : 30 Oct 2013 15:07
Operator : DOUG
Sample : 40 PPM STD 16100
Misc : AG-5 8270
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 30 16:23:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

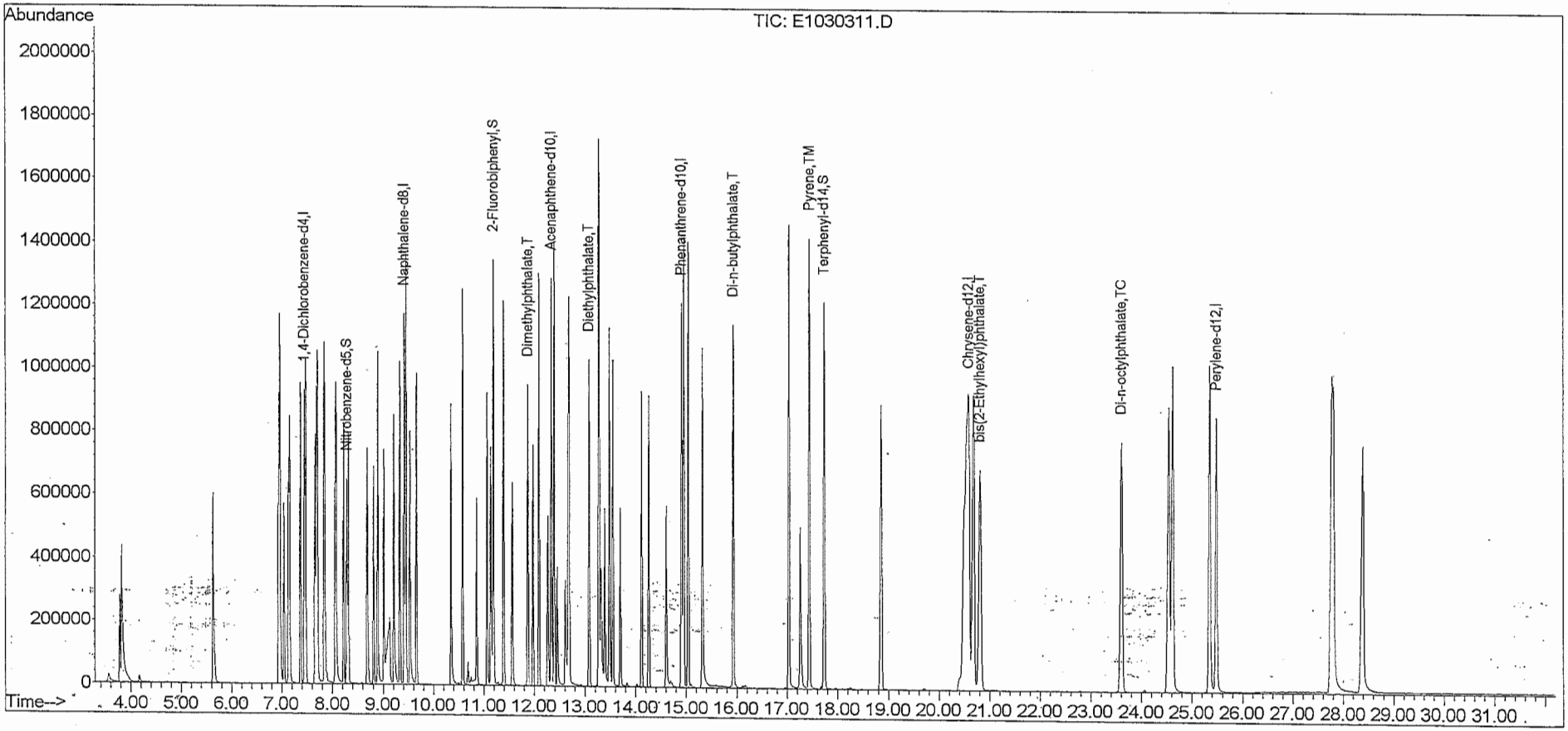
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1904954 | 40.00 ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7153426 | 40.00 ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4187116 | 40.00 ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7335146 | 40.00 ug/L | 0.00 |
| 10) Chrysene-d12 | 20.59 | 240 | 8556424 | 40.00 ug/L | 0.00 |
| 15) Perylene-d12 | 25.48 | 264 | 7112357 | 40.00 ug/L | 0.00 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 3134115 | 38.84 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 77.68% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 5848438 | 37.85 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 75.70% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 7433327 | 41.32 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 82.64% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 6328406 | 39.55 ug/L | 99 |
| 7) Diethylphthalate | 13.09 | 149 | 6114530 | 36.40 ug/L | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 10058364 | 31.19 ug/L | 95 |
| 11) Pyrene | 17.44 | 202 | 10441429 | 34.28 ug/L | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.81 | 149 | 7531743 | 24.34 ug/L | 99 |
| 14) Di-n-octylphthalate | 23.61 | 149 | 12906575 | 24.28 ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030311.D
Acq On : 30 Oct 2013 15:07
Operator : DOUG
Sample : 40 PPM STD 16100
Misc : AG-5 8270
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Oct 30 16:23:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:34:24 2013

Page: 2

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030312.D
Acq On : 30 Oct 2013 15:48
Operator : DOUG
Sample : 60 PPM STD 16101
Misc : AG-5 8270
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 30 16:23:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration

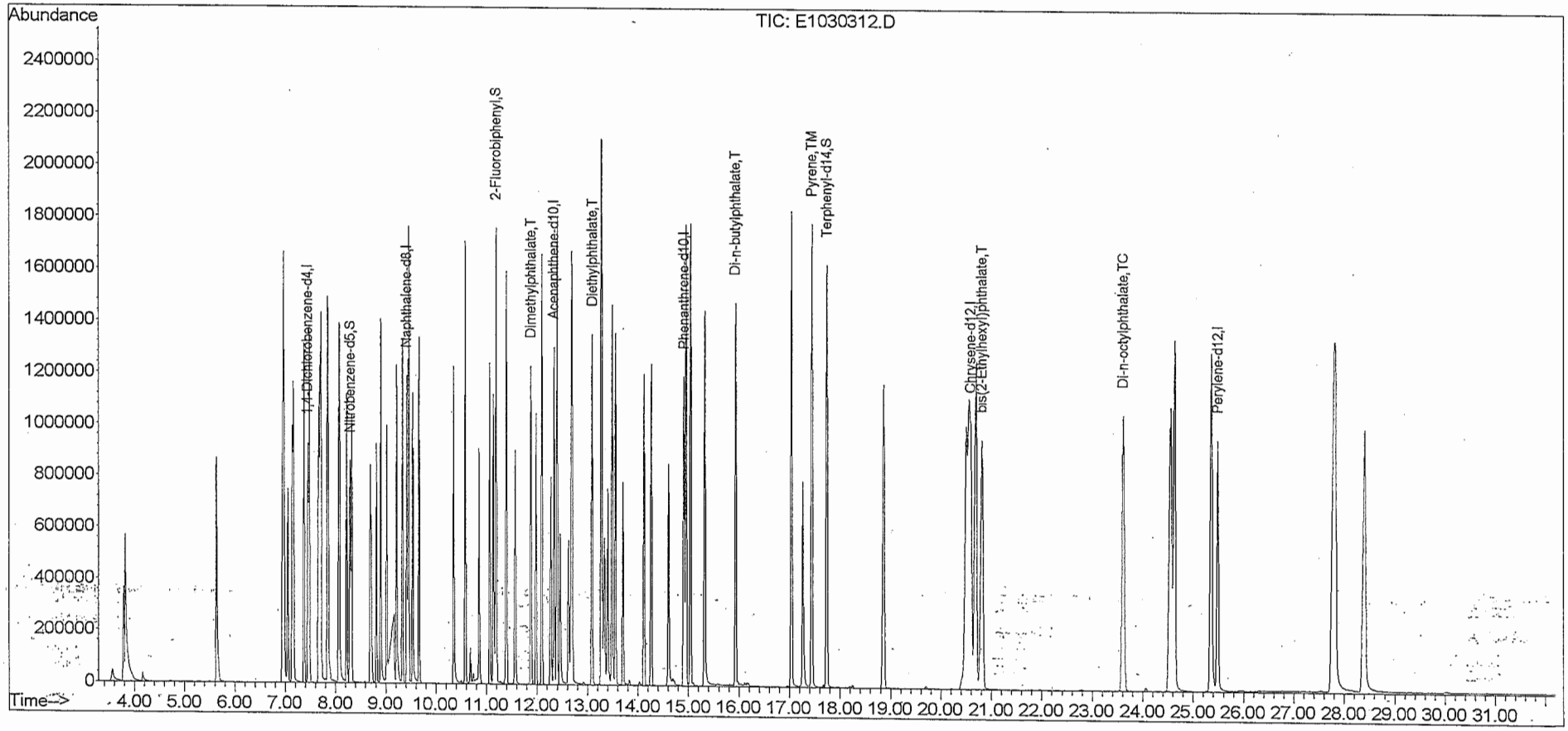
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1959845 | 40.00 ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7384721 | 40.00 ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4364498 | 40.00 ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7677107 | 40.00 ug/L | 0.00 |
| 10) Chrysene-d12 | 20.60 | 240 | 8714341 | 40.00 ug/L | 0.01 |
| 15) Perylene-d12 | 25.49 | 264 | 7663686 | 40.00 ug/L | 0.00 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.29 | 82 | 4689735 | 56.29 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 112.58% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 8337513 | 51.76 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 103.52% | |
| 12) Terphenyl-d14 | 17.74 | 244 | 10633125 | 58.03 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery | = 116.06% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.88 | 163 | 9099083 | 54.55 ug/L | 100 |
| 7) Diethylphthalate | 13.10 | 149 | 8549596 | 48.83 ug/L | 99 |
| 9) Di-n-butylphthalate | 15.94 | 149 | 13895119 | 41.17 ug/L | 96 |
| 11) Pyrene | 17.45 | 202 | 14462755 | 46.62 ug/L | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.82 | 149 | 10899492 | 34.58 ug/L | 99 |
| 14) Di-n-octylphthalate | 23.62 | 149 | 18581997 | 34.33 ug/L | 99 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030312.D
Acq On : 30 Oct 2013 15:48
Operator : DOUG
Sample : 60 PPM STD 16101
Misc : AG-5 8270
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Oct 30 16:23:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 11:16:31 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 16:34:38 2013

Page: 2

# Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030313.D
Acq On : 30 Oct 2013 16:29
Operator : DOUG
Sample : 30 PPM ICV 16074
Misc : AG-5 8270
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 30 17:02:08 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration

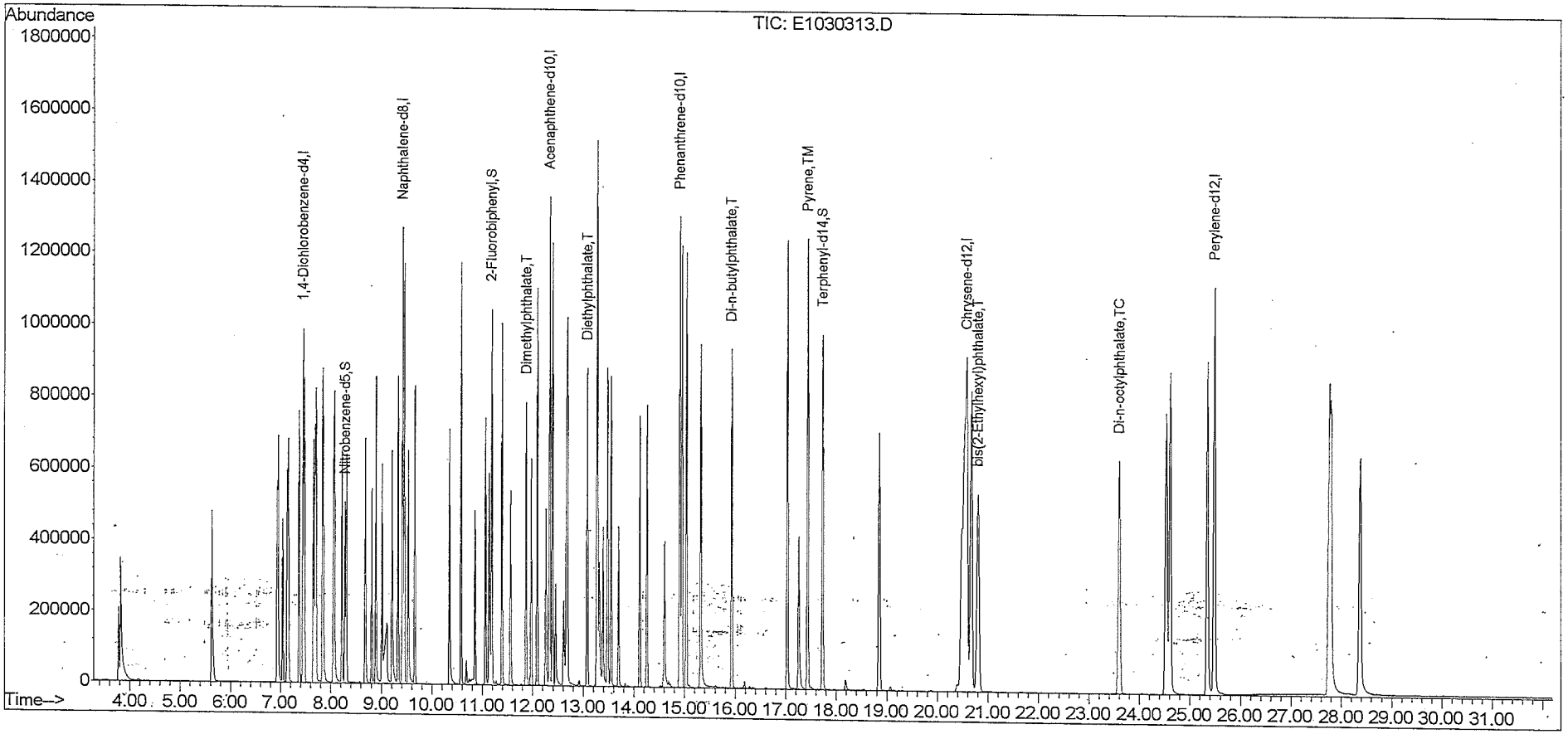
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2069659 | 40.00 | ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7659858 | 40.00 | ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4529471 | 40.00 | ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7973422 | 40.00 | ug/L | 0.00 |
| 10) Chrysene-d12 | 20.59 | 240 | 9466575 | 40.00 | ug/L | 0.00 |
| 15) Perylene-d12 | 25.50 | 264 | 9968639 | 40.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 2295838 | 26.50 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 53.00% | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 4443828 | 25.57 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 51.14% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 5564131 | 25.71 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 51.42% | | |
| Target Compounds | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 5036750 | 27.85 | ug/L | 99 |
| 7) Diethylphthalate | 13.08 | 149 | 4958994 | 28.27 | ug/L | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 8151719 | 27.97 | ug/L | 95 |
| 11) Pyrene | 17.44 | 202 | 8803077 | 28.64 | ug/L | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.81 | 149 | 5904387 | 28.76 | ug/L | 99 |
| 14) Di-n-octylphthalate | 23.60 | 149 | 10149348 | 29.04 | ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030313.D
Acq On : 30 Oct 2013 16:29
Operator : DOUG
Sample : 30 PPM ICV 16074
Misc : AG-5 8270
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Oct 30 17:02:08 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration




E8270316HW.M Wed Oct 30 17:02:08 2013

Page: 2

# Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270316HW.M
Title : 8270 BNA Calibration
Last Update : Wed Oct 30 17:02:43 2013
Response Via : Initial Calibration

CC Data File: E1030313.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 | 105 |
| 3 | S | Nitrobenzene-d5 | 0.452 | 0.400 | 11.7 | 92 |
| 4 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 105 |
| 5 | S | 2-Fluorobiphenyl | 1.535 | 1.308 | 14.8 | 93 |
| 6 | T | Dimethylphthalate | 1.597 | 1.483 | 7.2 | 100 |
| 7 | T | Diethylphthalate | 1.549 | 1.460 | 5.8 | 102 |
| 8 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 107 |
| 9 | T | Di-n-butylphthalate | 1.462 | 1.363 | 6.8 | 100 |
| 10 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 107 |
| 11 | TM | Pyrene | 1.299 | 1.240 | 4.5 | 104 |
| 12 | S | Terphenyl-d14 | 0.914 | 0.784 | 14.3 | 92 |
| 13 | T | bis(2-Ethylhexyl)phthalate | 0.867 | 0.832 | 4.1 | 100 |
| 14 | TC | Di-n-octylphthalate | 1.477 | 1.429 | 3.2# | 100 |
| 15 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 139 |

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

# Instrument Logs/
# Analysis Notebook Pages

Rev. 1.0

PROJECT 10/30/2013 8270

Notebook No. 3308 49

Continued from Page

## Injection Log

Directory: C:\MSDCHEM\1\DATA\103013

| Line | Vial | FileName | Multiplier | SampleName | | Misc Info |
|---|---|---|---|---|---|---|
| 1 | 1 | E1030301.d | 1. | 50 NG DFTPP 16093 | | AG-5 8270 |
| 2 | 1 | E1030302.d | 1. | 50 NG DFTPP 16093 | | AG-5 8270 |
| 3 | 1 | E1030303.d | 1. | 50 NG DFTPP 16093 | Pass | AG-5 8270 |
| 4 | 2 | E1030304.d | 1. 30PPM STD | ~~50 NG DFTPP~~ 16083 | ↑ STD | AG-5 8270 |
| 5 | 2 | E1030305.d | 1. 30 PPM STD | ~~50 NG DFTPP~~ 16083 | Pass | AG-5 8270 |
| 6 | 1 | E1030306.d | 1. | CAL BLK 16095 | | AG-5 8270 |
| 7 | 2 | E1030307.d | 0. PEK 10/30/13 | 5 PPM STD 16096 | | AG-5 8270 |
| 8 | 3 | E1030308.d | 0. | 10 PPM STD 16097 | | AG-5 8270 |
| 9 | 4 | E1030309.d | 0. | 20 PPM STD 16098 | | AG-5 8270 |
| 10 | 5 | E1030310.d | 0. | 30 PPM STD 16099 | | AG-5 8270 |
| 11 | 6 | E1030311.d | 0. | 40 PPM STD 16100 | | AG-5 8270 |
| 12 | 7 | E1030312.d | 0. | 60 PPM STD 16101 | | AG-5 8270 |
| 13 | 8 | E1030313.d | 0. | 30 PPM ICV 16074 | | AG-5 8270 |
| 14 | 1 | E1030314.d | 1. | 006557-20B1 | | AG-5 8270 B10108 |
| 15 | 2 | E1030315.d | 0. | 006557-20K1 | | AG-5 8270 B10108 |
| 16 | 3 | E1030316.d | 0. | 006557-01 | | AG-5 8270 B10108 |
| 17 | 4 | E1030317.d | 0. | 006557-02 | | AG-5 8270 B10108 |
| 18 | 5 | E1030318.d | 0. | 006557-03 | | AG-5 8270 B10108 |
| 19 | 6 | E1030319.d | 0. | 006557-04 | Pass | AG-5 8270 B10108 |

E8270 3/6HW 3/6HT*

PEK 10/30/2013

*IO for 5g. Tissue Samps

Continued on Page

Read and Understood By

PEK — Signed

10/30/2013 — Date

Signed

11/2/13 — Date

# Blank / Field Sample / QC Data

Rev. 1.0

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006557-20B1 |
| Desc/Location: | NA | Lab Filename: | E1030314 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/28/2013 |
| Matrix: | QC Material | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 74% |
| 2-Fluorobiphenyl | 30-130 | 82% |
| Terphenyl-d14 | 30-130 | 82% |

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

Blank for Run B6634, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030314.D
Acq On : 30 Oct 2013 17:10
Operator : DOUG
Sample : 006557-20B1
Misc : AG-5 8270 B10108
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 14:11:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1846727 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 6933830 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4091062 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7354272 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 8610891 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 7705166 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1446612 | 3688.92 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 73.78% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3209955 | 4089.63 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.79% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4023016 | 4087.88 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.76% | | |

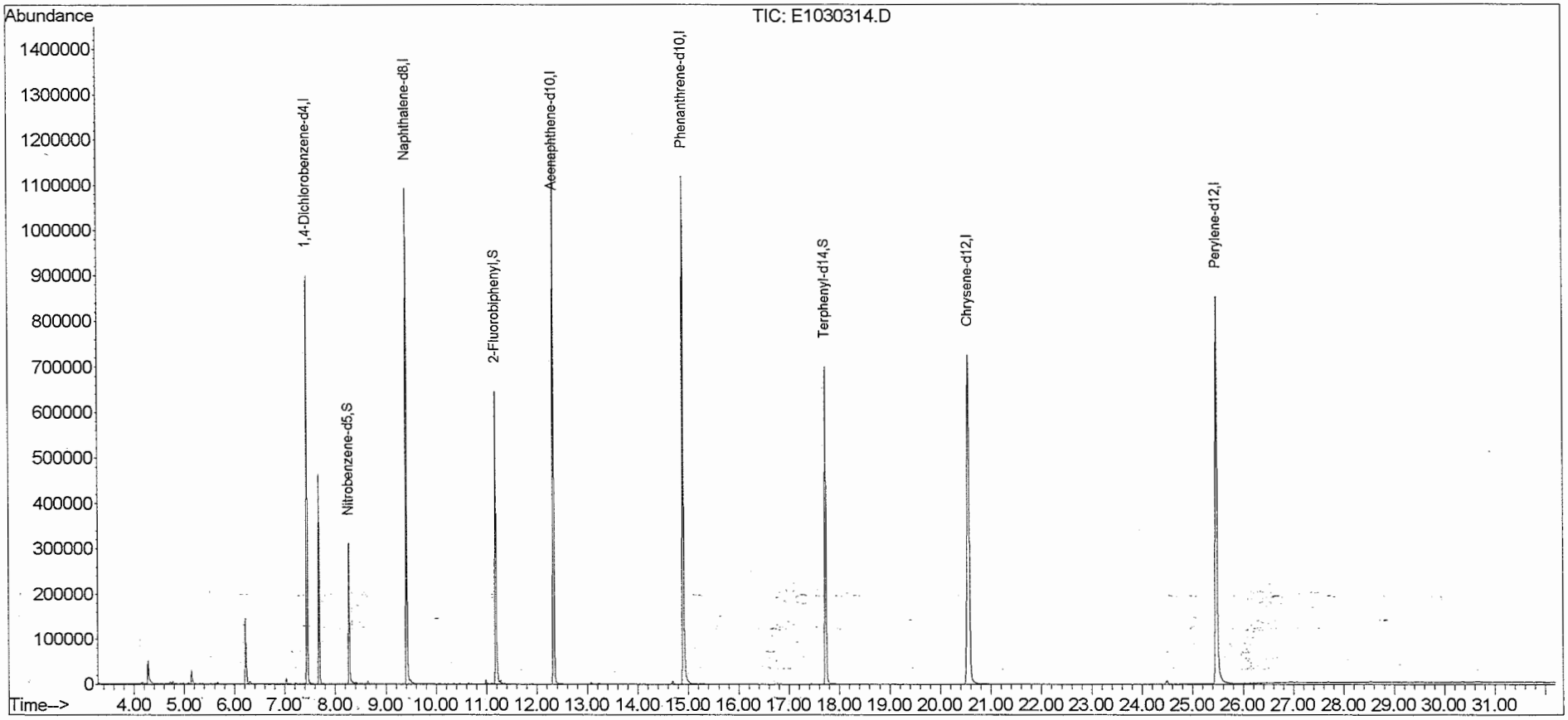
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030314.D
Acq On : 30 Oct 2013 17:10
Operator : DOUG
Sample : 006557-20B1
Misc : AG-5 8270 B10108
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 14:11:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 14:11:44 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006557-20K1 |
| Desc/Location: | NA | Lab Filename: | E1030315 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/28/2013 |
| Matrix: | QC Material | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % Moisture: | NA | Level: | LOW |

| Parameter | Method Limit | Reporting Limit | Result | Data Flag | Units |
|---|---|---|---|---|---|
| Dimethylphthalate | 200 | 1000 | 3570 | | UG/KG |
| Diethylphthalate | 200 | 1000 | 3740 | | UG/KG |
| Di-n-butylphthalate | 200 | 1000 | 3790 | | UG/KG |
| Pyrene | 200 | 1000 | 3850 | | UG/KG |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3650 | | UG/KG |
| Di-n-octylphthalate | 200 | 1000 | 3670 | | UG/KG |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 67% |
| 2-Fluorobiphenyl | 30-130 | 75% |
| Terphenyl-d14 | 30-130 | 77% |

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

Spike Blank for Run B6634, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030315.D
Acq On : 30 Oct 2013 17:51
Operator : DOUG
Sample : 006557-20K1
Misc : AG-5 8270 B10108
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 01 13:48:01 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

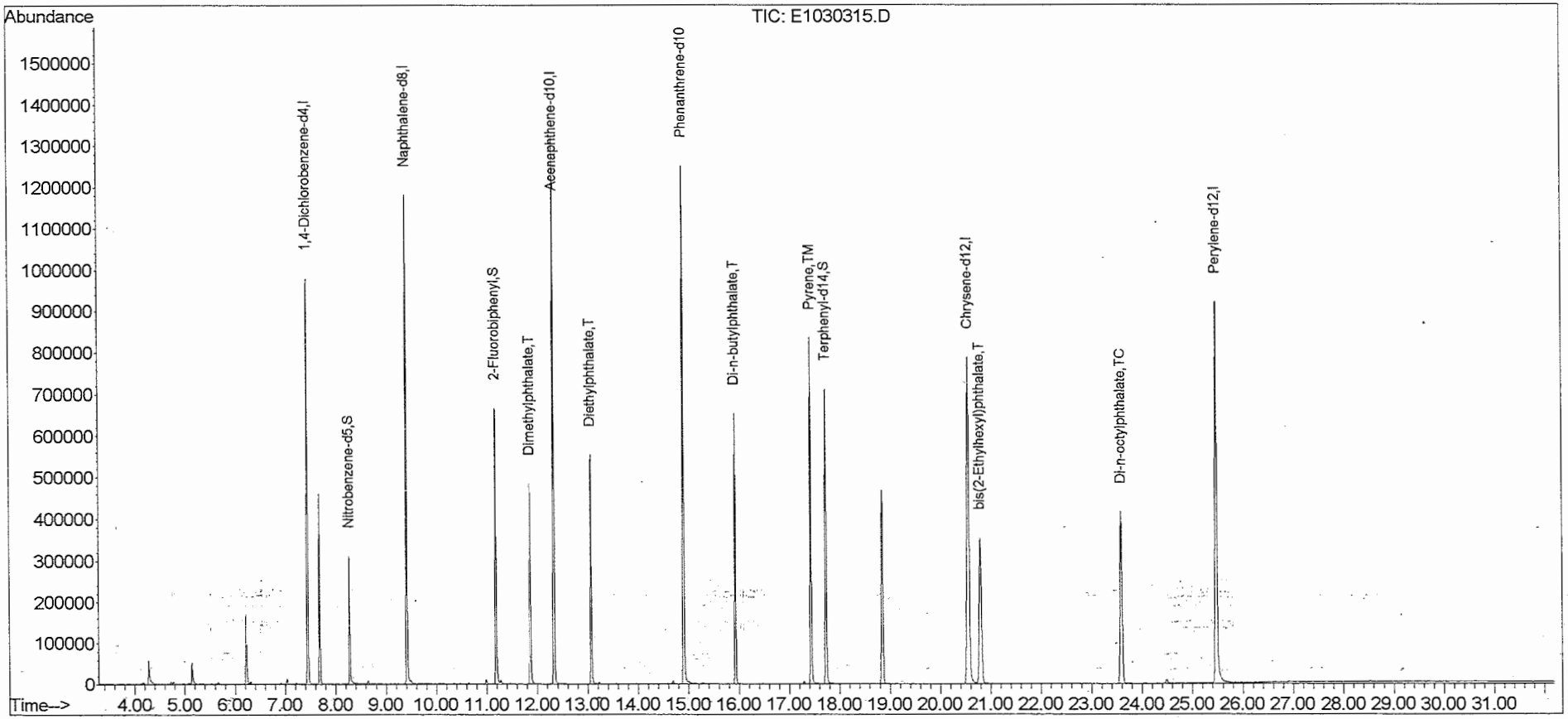
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1984603 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7413783 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4332357 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7738584 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 9228679 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 8399376 | 8000.00 | ug/Kg | 0.0 |
| **System Monitoring Compounds** | | | | | | |
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1412844 | 3369.57 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = 67.39% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3123459 | 3757.79 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 75.16% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4038654 | 3829.05 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 76.58% | | | |
| **Target Compounds** | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 3084909 | 3566.96 | ug/Kg | 98 |
| 7) Diethylphthalate | 13.07 | 149 | 3139533 | 3742.85 | ug/Kg | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5367260 | 3794.36 | ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 5769266 | 3850.84 | ug/Kg | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3648611 | 3646.00 | ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6258441 | 3673.66 | ug/Kg | 100 |

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

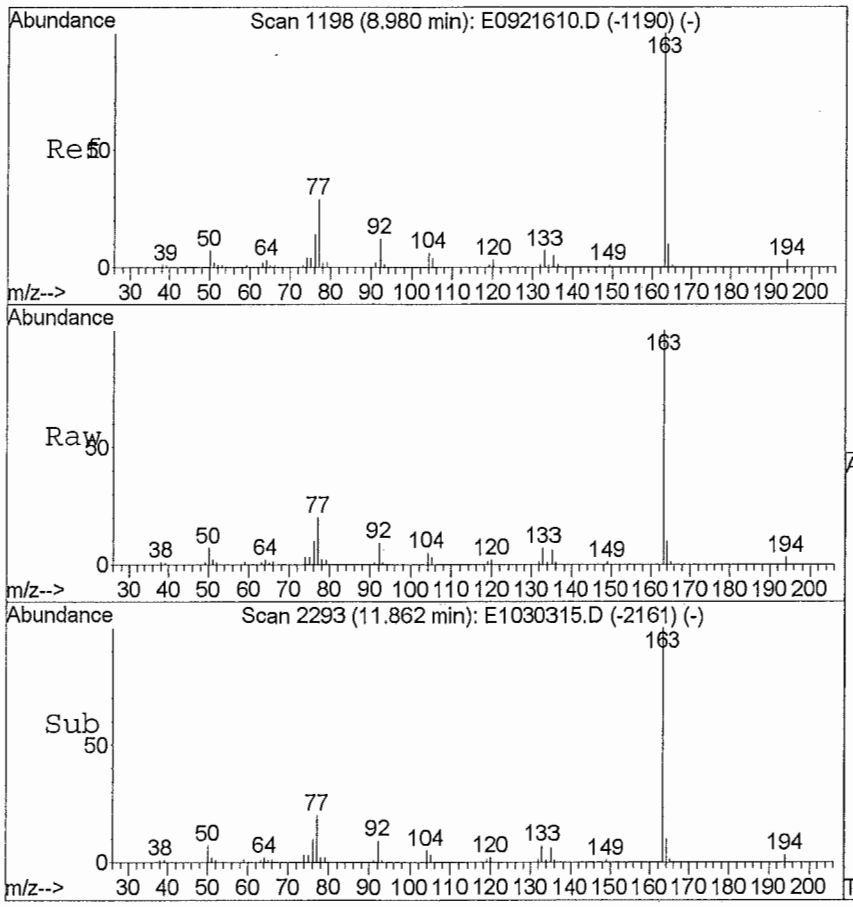
Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030315.D
Acq On : 30 Oct 2013 17:51
Operator : DOUG
Sample : 006557-20K1
Misc : AG-5 8270 B10108
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 01 13:48:01 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration



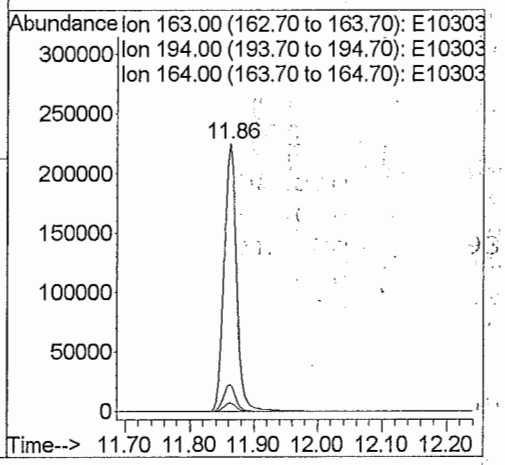

E8270316HT.M Fri Nov 01 13:48:10 2013 Page: 2

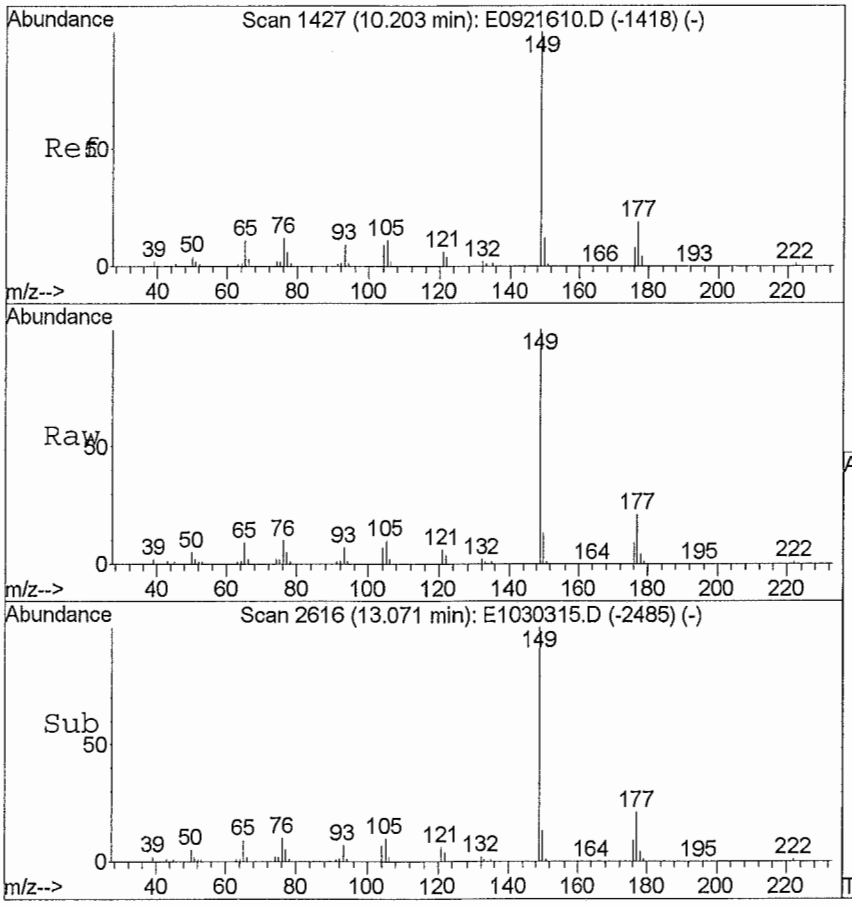



#6
Dimethylphthalate
Concen: 3566.96 ug/Kg
RT: 11.86 min Scan# 2293
Delta R.T. -0.01 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:163 Resp: 3084909

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 3.1 | 0.0 | 23.3 |
| 164 | 10.0 | 0.0 | 30.7 |

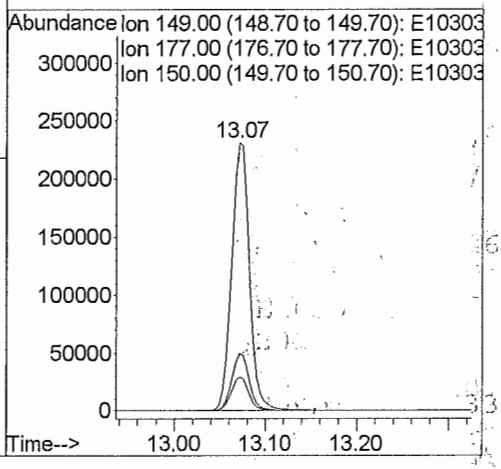


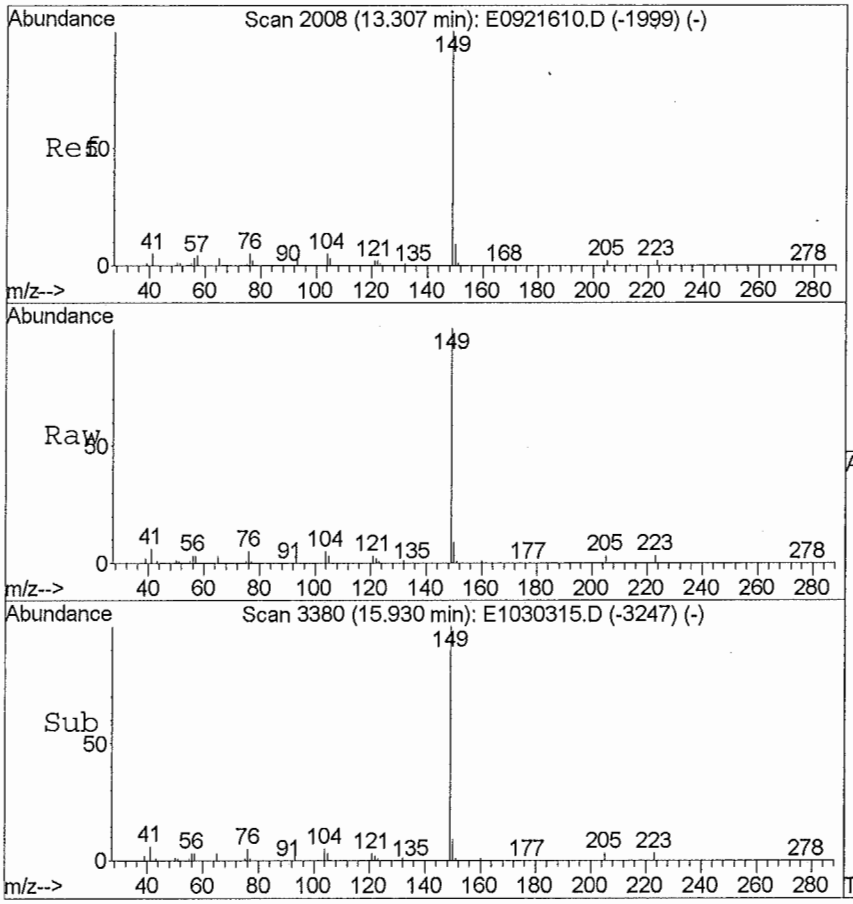




#7
Diethylphthalate
Concen: 3742.85 ug/Kg
RT: 13.07 min Scan# 2616
Delta R.T. -0.01 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:149 Resp: 3139533

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 177 | 21.0 | 0.8 | 40.8 |
| 150 | 12.4 | 0.0 | 32.3 |

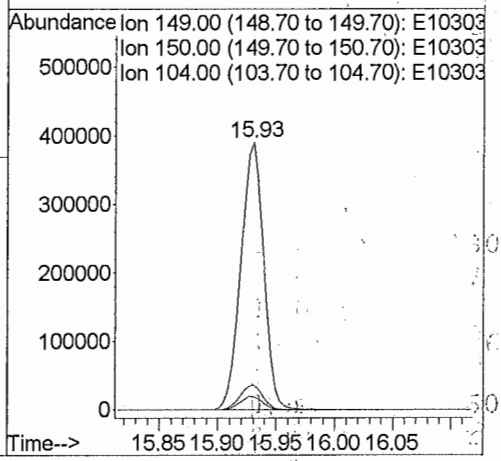


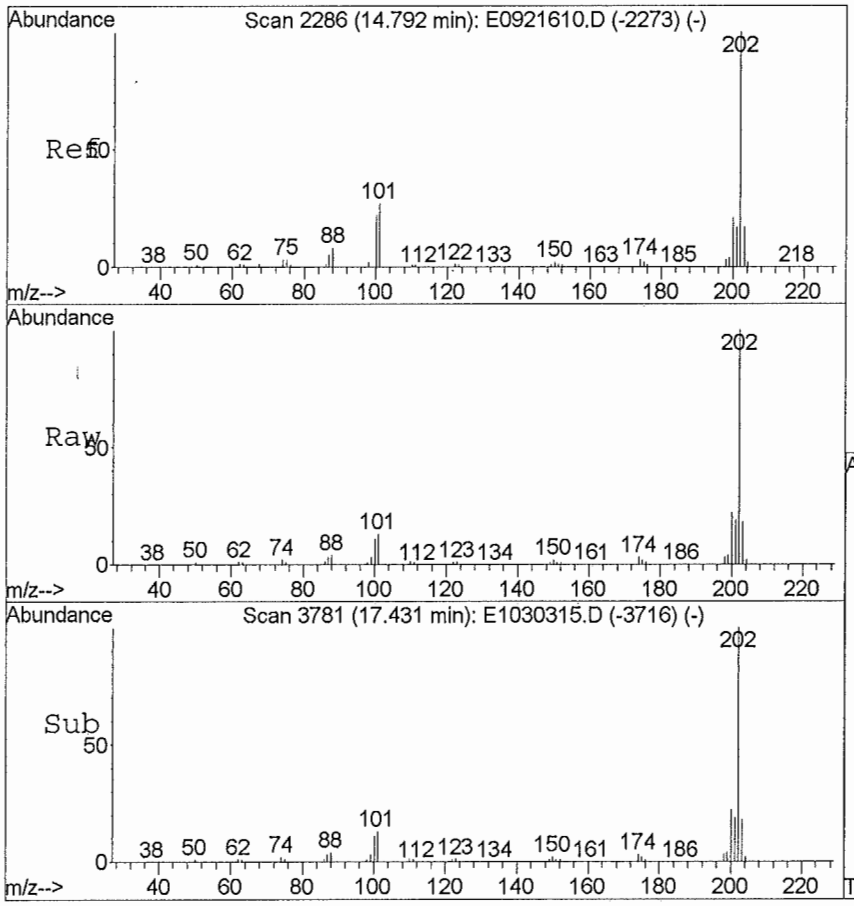



#9
Di-n-butylphthalate
Concen: 3794.36 ug/Kg
RT: 15.93 min Scan# 3380
Delta R.T. -0.00 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:149 Resp: 5367260

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.2 | 0.0 | 29.4 |
| 104 | 5.1 | 0.0 | 28.5 |

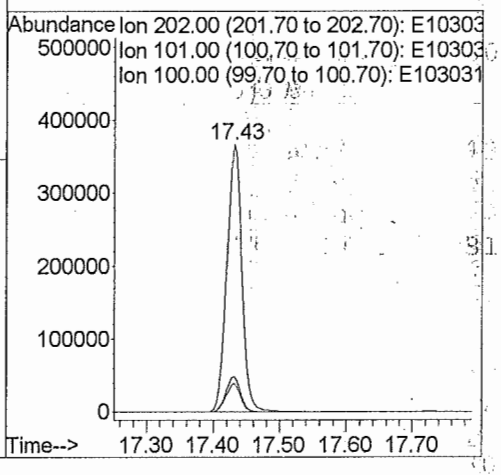


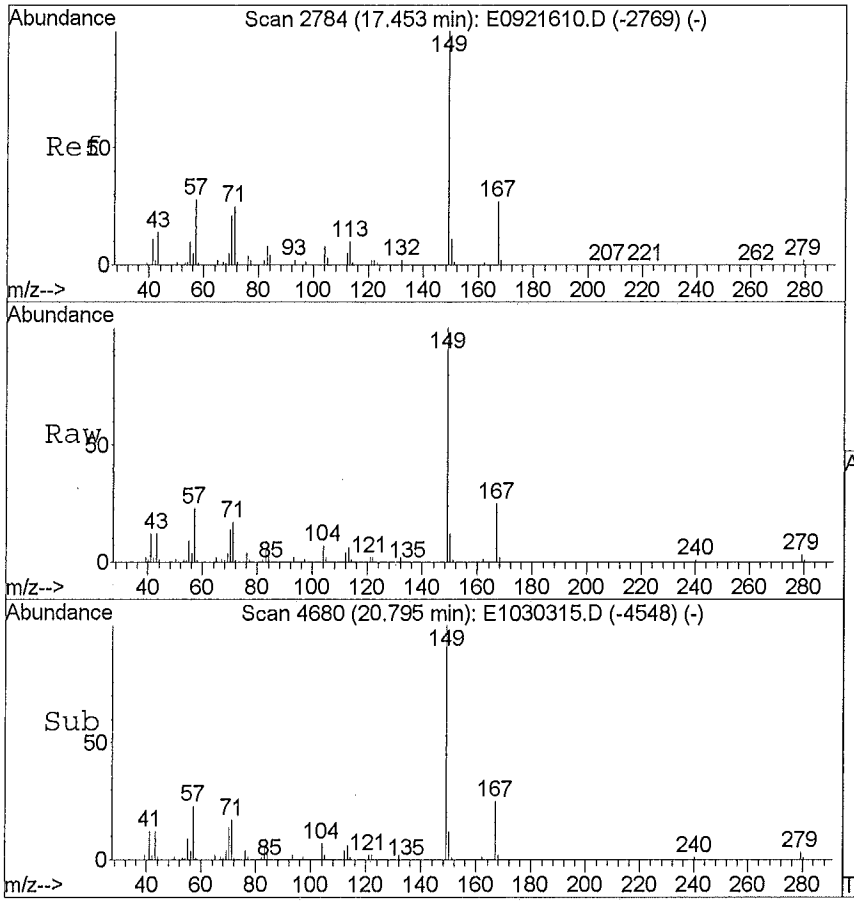




#11
Pyrene
Concen: 3850.84 ug/Kg
RT: 17.43 min Scan# 3781
Delta R.T. -0.01 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:202 Resp: 5769266

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.1 | 3.8 | 43.8 |
| 100 | 10.5 | 0.0 | 38.1 |

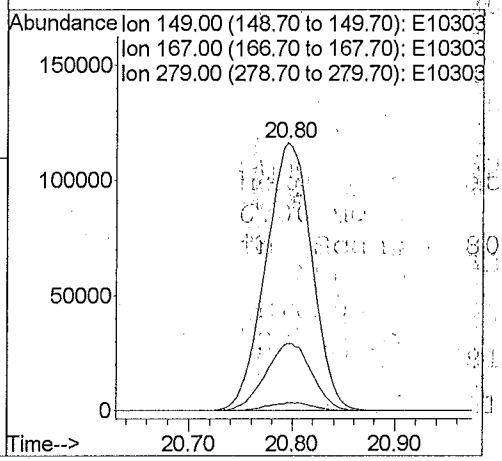


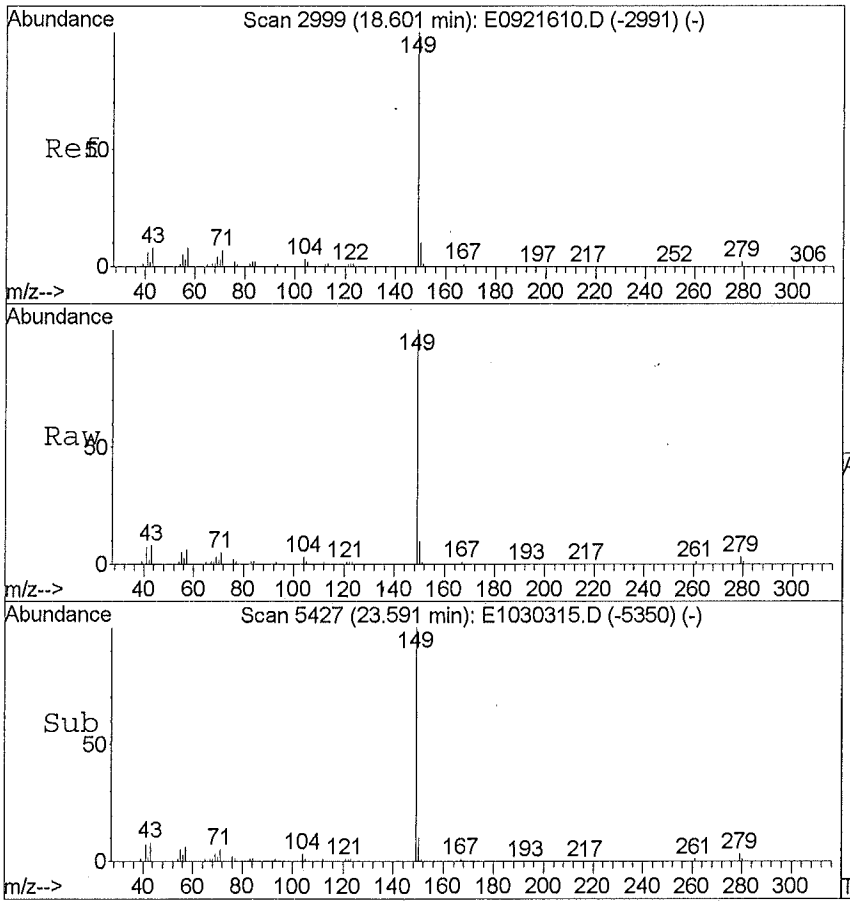



#13
bis(2-Ethylhexyl)phthalate
Concen: 3646.00 ug/Kg
RT: 20.80 min Scan# 4680
Delta R.T. -0.01 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:149 Resp: 3648611

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 25.1 | 4.9 | 44.9 |
| 279 | 3.0 | 0.0 | 22.2 |

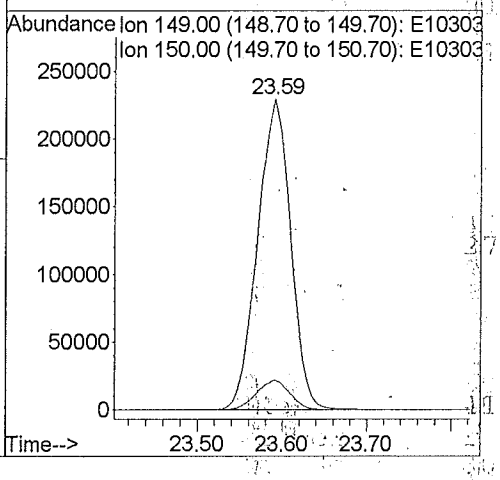



#14
Di-n-octylphthalate
Concen: 3673.66 ug/Kg
RT: 23.59 min Scan# 5427
Delta R.T. -0.01 min
Lab File: E1030315.D
Acq: 30 Oct 2013 17:51

Tgt Ion:149 Resp: 6258441

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.6 | 0.0 | 29.7 |



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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK001C | ARDL Lab No.: | 006557-01 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030316 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1403 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 74% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-01, BNA'S (METHOD 8270) Page 1 of 1

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030316.D
Acq On : 30 Oct 2013 18:32
Operator : DOUG
Sample : 006557-01
Misc : AG-5 8270 B10108
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 01 14:12:44 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2048277 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7541753 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4462113 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7913613 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 9357914 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 8493115 | 8000.00 | ug/Kg | -0.0 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1385285 | 3247.78 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 64.96% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3185411 | 3720.88 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 74.42% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4174443 | 3903.14 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.06% | | |

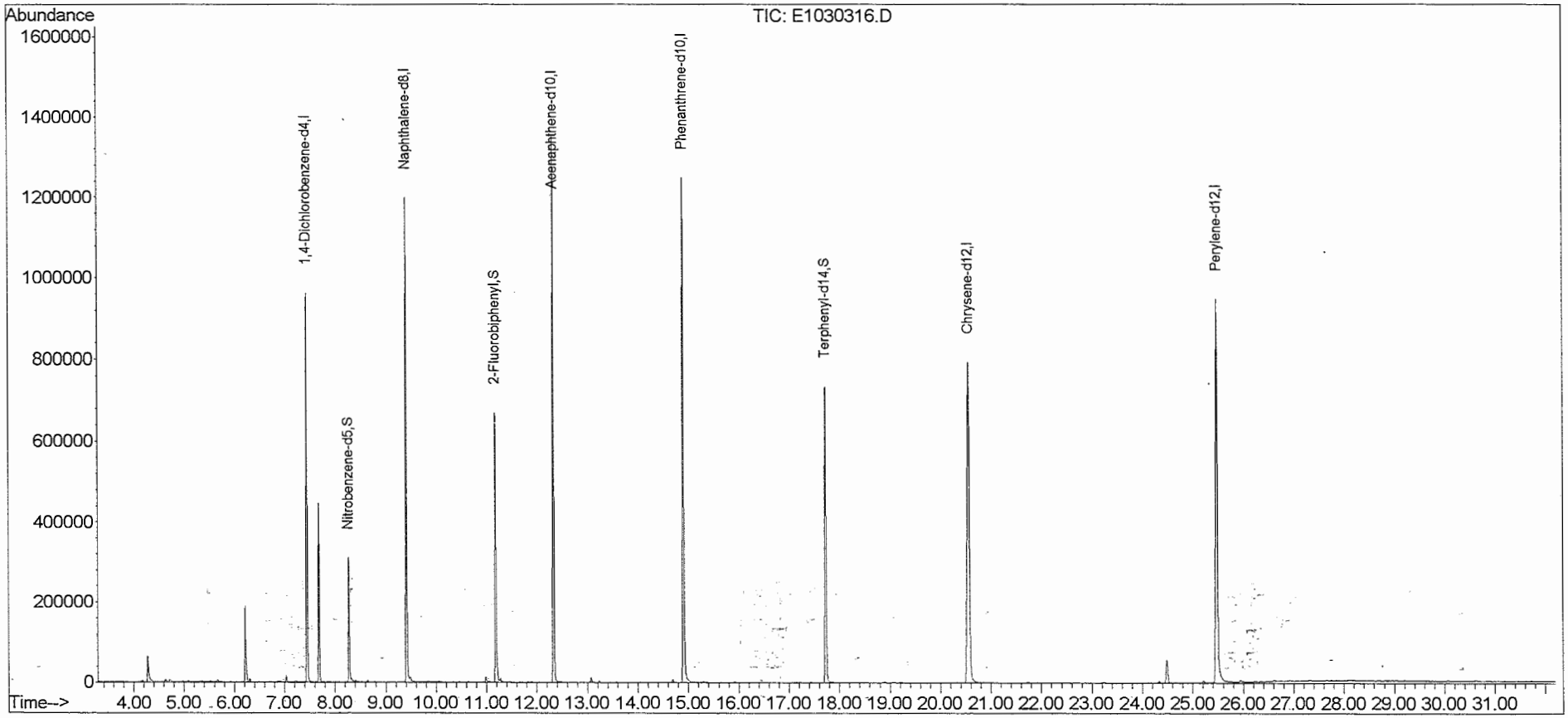
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030316.D
Acq On : 30 Oct 2013 18:32
Operator : DOUG
Sample : 006557-01
Misc : AG-5 8270 B10108
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Nov 01 14:12:44 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 14:12:50 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK002C | ARDL Lab No.: | 006557-02 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030317 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1227 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 69% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 74% |

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

Sample 006557-02, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030317.D
Acq On : 30 Oct 2013 19:13
Operator : DOUG
Sample : 006557-02
Misc : AG-5 8270 B10108
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 01 14:16:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2056214 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7676960 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4451347 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7922280 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 9638123 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 8781196 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1490207 | 3432.24 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = 68.64% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3261646 | 3819.15 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 76.38% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4078156 | 3702.25 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 74.05% | | | |

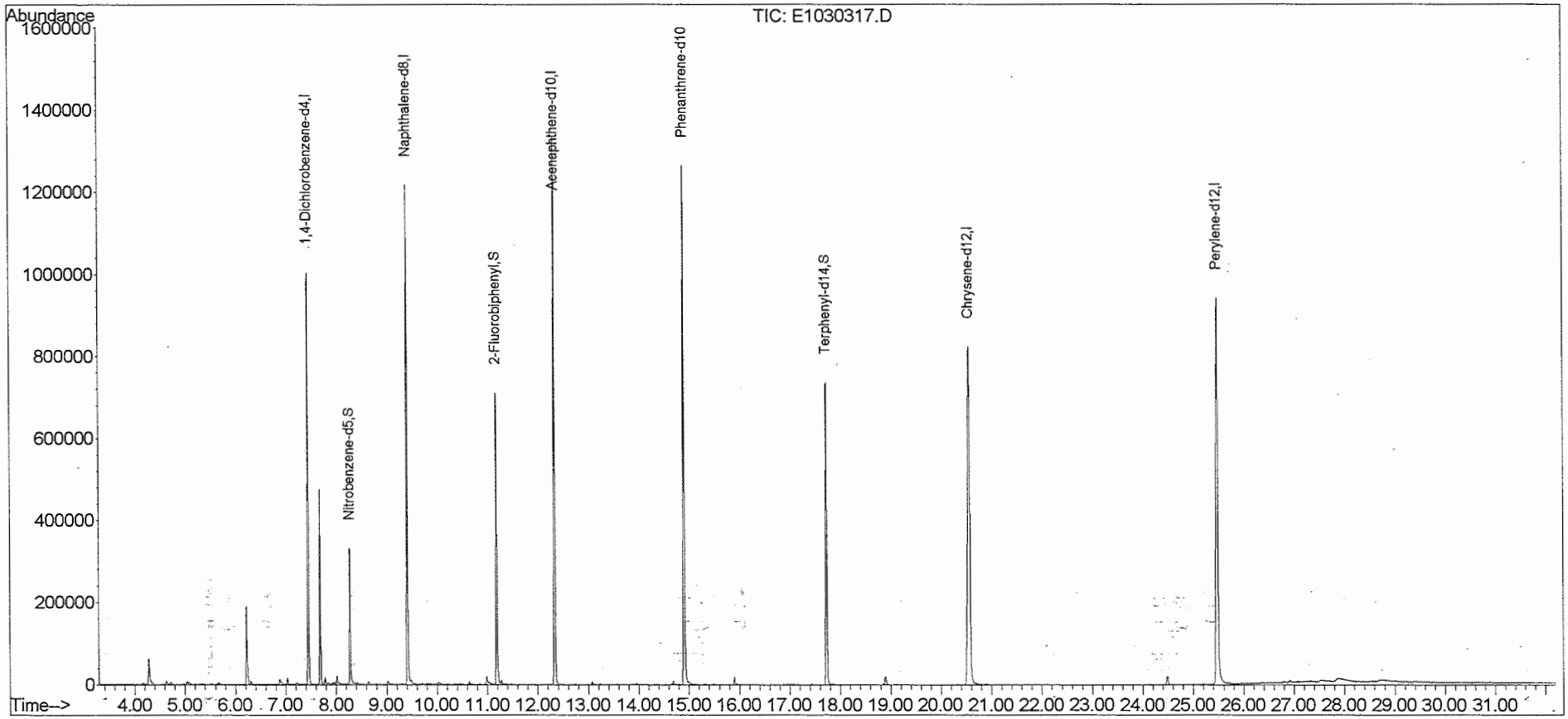
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030317.D
Acq On : 30 Oct 2013 19:13
Operator : DOUG
Sample : 006557-02
Misc : AG-5 8270 B10108
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 01 14:16:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 14:16:54 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK004C | ARDL Lab No.: | 006557-03 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030318 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1420 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 64% |
| 2-Fluorobiphenyl | 30-130 | 75% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-03, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030318.D
Acq On : 30 Oct 2013 19:54
Operator : DOUG
Sample : 006557-03
Misc : AG-5 8270 B10108
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 01 14:17:54 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2125793 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7929031 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4616701 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8293997 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 10028590 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 9040363 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1444350 | 3220.86 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 64.42% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3334927 | 3765.09 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 75.30% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4390841 | 3830.91 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 76.62% | | |

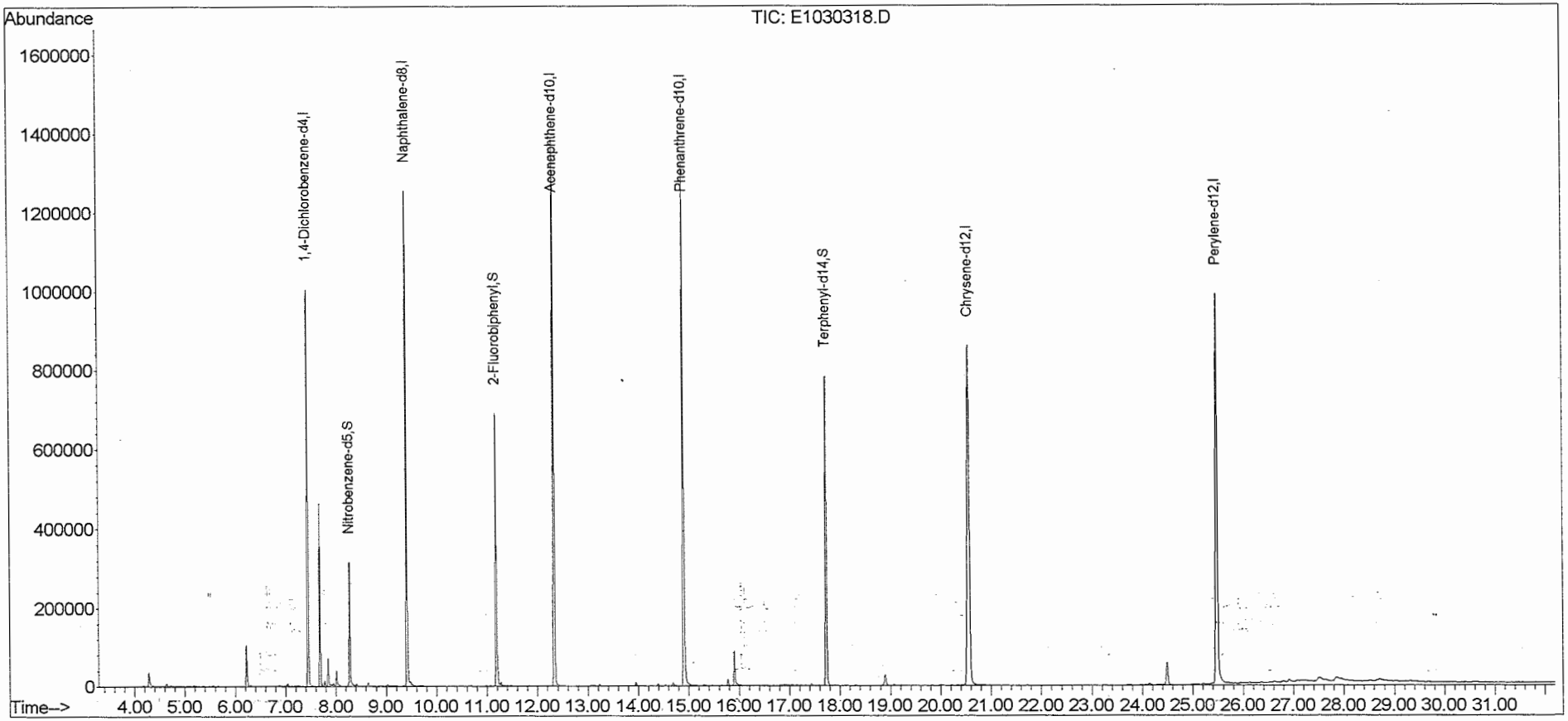
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030318.D
Acq On : 30 Oct 2013 19:54
Operator : DOUG
Sample : 006557-03
Misc : AG-5 8270 B10108
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 01 14:17:54 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 14:18:03 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK005C | ARDL Lab No.: | 006557-04 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1030319 |
| Sample Date: | 09/09/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1514 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/30/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 81% |
| Terphenyl-d14 | 30-130 | 82% |

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

Sample 006557-04, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030319.D
Acq On : 30 Oct 2013 20:34
Operator : DOUG
Sample : 006557-04
Misc : AG-5 8270 B10108
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 01 14:18:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2014575 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7451130 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4392043 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7743377 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 9161098 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 8314671 | 8000.00 ug/Kg | -0.0 |

System Monitoring Compounds

| | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1515146 | 3595.44 ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 71.91% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3427155 | 4067.13 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.34% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4312155 | 4118.52 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 82.37% | |

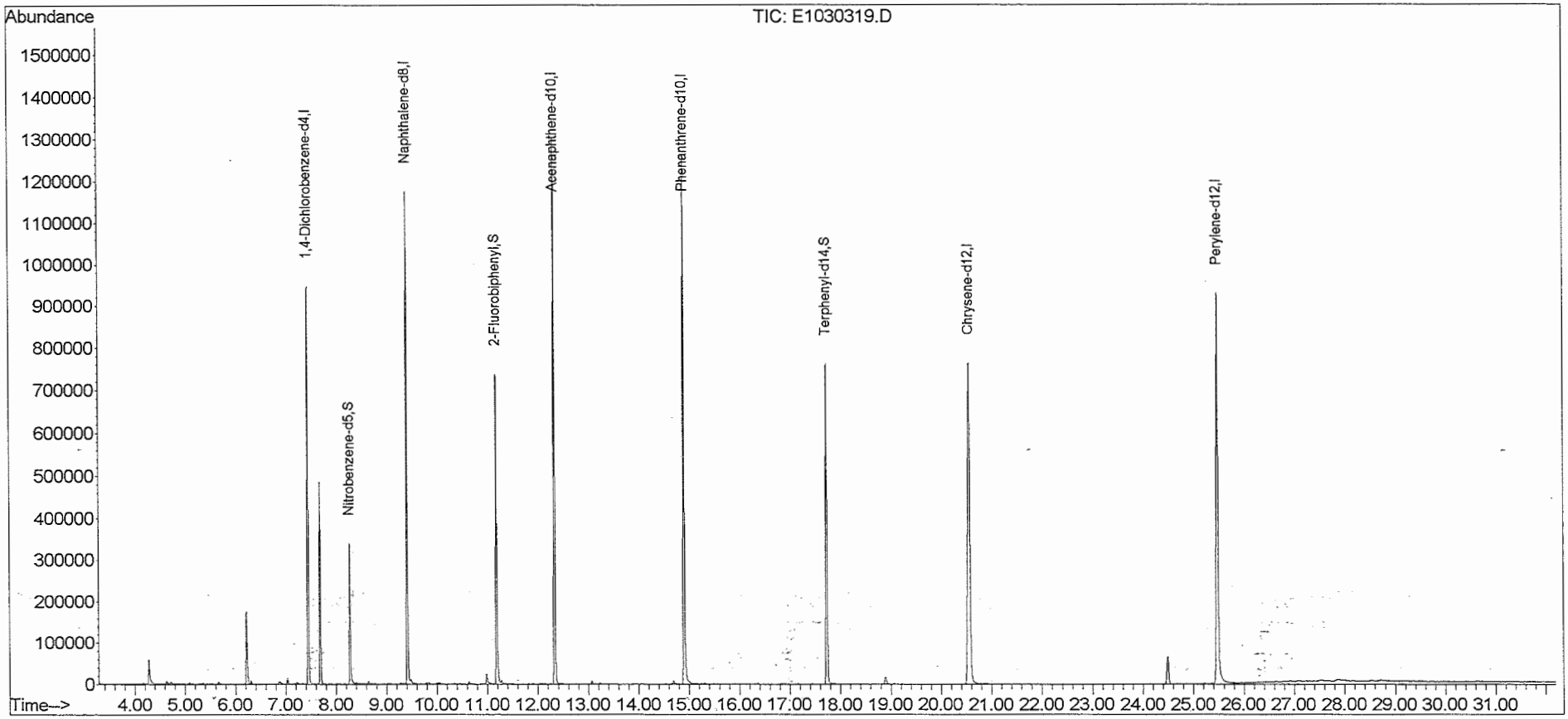
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103013\
Data File : E1030319.D
Acq On : 30 Oct 2013 20:34
Operator : DOUG
Sample : 006557-04
Misc : AG-5 8270 B10108
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 01 14:18:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 14:18:53 2013 Page: 2

# 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

Form 1 (If required)
Chromatogram
Quant Report (If applicable)
Confirmation Analysis Quant Report / Chromatogram (If applicable)
Tentatively Identified Compounds (If required)

Rev. 1.0

# 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. 1.0

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: E1031307 DFTPP Injection Date: 10/31/13

Instrument ID: AG5 DFTPP Injection Time: 11:21

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30 - 80% of mass 198 | 30.0 |
| 68 | Less than 2.0% of mass 69 | 0.0 (1) |
| 69 | (reference only) | 31.5 |
| 70 | Less than 2.0% of mass 69 | 0.6 (1) |
| 127 | 25 - 75% of mass 198 | 45.4 |
| 197 | Less than 1% of mass 198 | 0.0 |
| 198 | Base Peak, 100% relative abundance | 100. |
| 199 | 5 - 9% of mass 198 | 6.7 |
| 275 | 10 - 30% of mass 198 | 24.6 |
| 365 | Greater than 1% of mass 198 | 2.5 |
| 441 | 0 - 100% of mass 443 | 84.5 |
| 442 | 40 - 110% of mass 198 | 79.6 |
| 443 | 15 - 24% of mass 442 | 19.6 (2) |

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

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

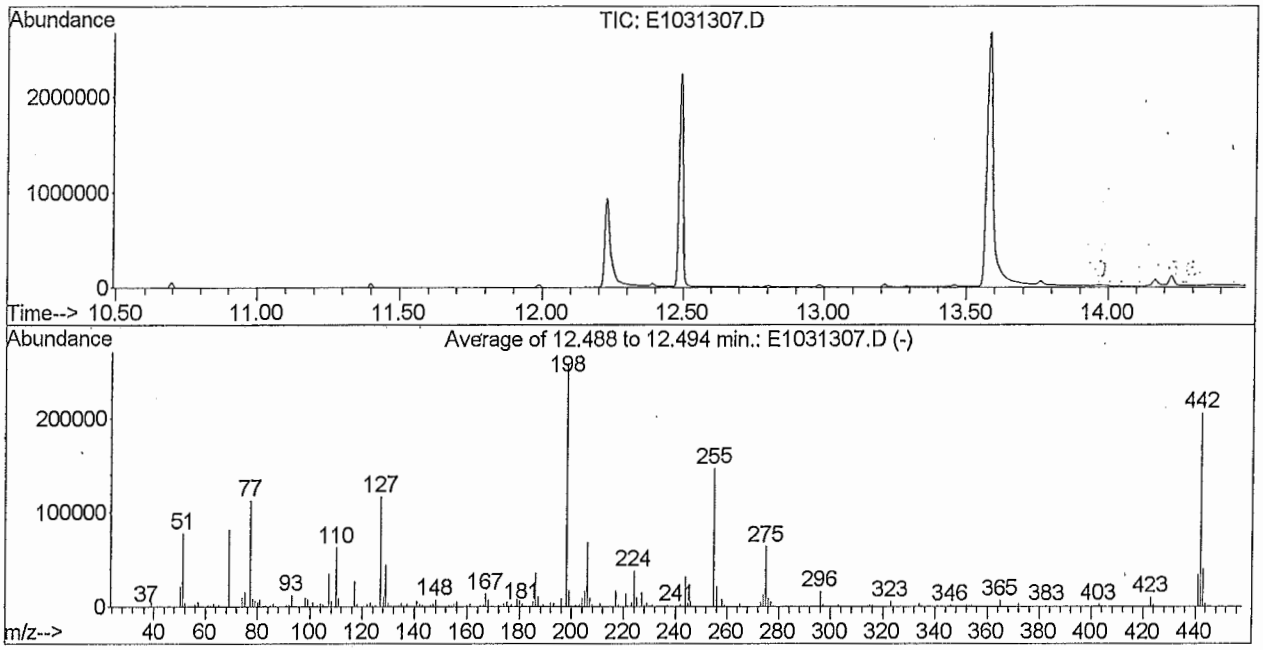
| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | BNA STD | 030 PPM STD | E1031308 | 10/31/13 | 11:49 |
| 2 | MAK006C | 006557-05 | E1031310 | 10/31/13 | 13:11 |
| 3 | MAK007C | 006557-06 | E1031311 | 10/31/13 | 13:52 |
| 4 | MAK008C | 006557-07 | E1031312 | 10/31/13 | 14:33 |
| 5 | MAK009C | 006557-08 | E1031313 | 10/31/13 | 15:16 |
| 6 | MAK010C | 006557-09 | E1031314 | 10/31/13 | 15:57 |
| 7 | MAK014C | 006557-10 | E1031315 | 10/31/13 | 16:39 |
| 8 | MAK015C | 006557-11 | E1031316 | 10/31/13 | 17:20 |
| 9 | MAK032C | 006557-20 | E1031317 | 10/31/13 | 18:01 |
| 10 | MAK032CMS | 006557-20MS | E1031318 | 10/31/13 | 18:42 |
| 11 | MAK032CMSD | 006557-20MD | E1031319 | 10/31/13 | 19:23 |
| 12 | BLANK B10111 | 006558-02B1 | E1031320 | 10/31/13 | 20:04 |
| 13 | SPBK B10111 | 006558-02K1 | E1031321 | 10/31/13 | 20:46 |
| 14 | MAK018C | 006557-12 | E1031322 | 10/31/13 | 21:27 |
| 15 | MAK091C | 006557-13 | E1031323 | 10/31/13 | 22:09 |
| 16 | MAK020C | 006557-14 | E1031324 | 10/31/13 | 22:51 |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

DFTPP

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031307.D
Acq On : 31 Oct 2013 11:21
Operator : DOUG
Sample : 50 NG DFTPP 16093
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 Aug 28 11:55:28 2013




AutoFind: Scans 1200, 1201, 1202; Background Corrected with Scan 1190

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 80 | 30.0 | 77381 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.01 | 100 | 31.5 | 81272 | PASS |
| 70 | 69 | 0.00 | 2 | 0.6 | 450 | PASS |
| 127 | 198 | 25 | 75 | 45.4 | 117122 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 258005 | PASS |
| 199 | 198 | 5 | 9 | 6.7 | 17280 | PASS |
| 275 | 198 | 10 | 30 | 24.6 | 63586 | PASS |
| 365 | 198 | 0.75 | 100 | 2.5 | 6387 | PASS |
| 441 | 443 | 0.01 | 100 | 84.5 | 34056 | PASS |
| 442 | 198 | 40 | 110 | 79.6 | 205354 | PASS |
| 443 | 442 | 15 | 24 | 19.6 | 40290 | PASS |

8270TUNPULSE.M Thu Oct 31 11:47:20 2013 Page: 1

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 322 | 56.05 | 2105 | 69.90 | 450 | 83.05 | 1641 |
| 38.05 | 904 | 57.05 | 4926 | 71.20 | 26 | 84.00 | 48 |
| 39.05 | 5241 | 57.95 | 207 | 73.10 | 852 | 85.00 | 1237 |
| 41.10 | 62 | 59.00 | 85 | 74.05 | 9489 | 86.05 | 2182 |
| 45.10 | 148 | 61.05 | 1234 | 75.10 | 14901 | 87.00 | 926 |
| 48.10 | 65 | 62.05 | 1225 | 77.10 | 112752 | 88.00 | 542 |
| 50.10 | 21360 | 63.10 | 3253 | 78.10 | 8129 | 89.00 | 293 |
| 51.10 | 77381 | 64.00 | 478 | 79.05 | 6153 | 89.90 | 42 |
| 52.10 | 4282 | 65.05 | 1815 | 80.05 | 5122 | 91.00 | 1658 |
| 53.10 | 238 | 66.05 | 121 | 81.00 | 7079 | 92.05 | 1820 |
| 55.00 | 362 | 68.95 | 81272 | 82.00 | 1817 | 93.00 | 11775 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 94.05 | 816 | 105.00 | 2607 | 116.05 | 678 | 128.10 | 10077 |
| 94.95 | 87 | 107.00 | 35060 | 117.00 | 26130 | 128.95 | 44334 |
| 96.00 | 577 | 108.05 | 5677 | 118.00 | 2177 | 129.95 | 3619 |
| 98.00 | 9386 | 110.00 | 62728 | 119.00 | 178 | 130.95 | 848 |
| 99.00 | 7632 | 111.00 | 9117 | 120.05 | 507 | 132.05 | 326 |
| 100.05 | 814 | 112.05 | 1187 | 121.05 | 193 | 134.05 | 1476 |
| 101.05 | 4309 | 113.00 | 243 | 121.95 | 2092 | 135.00 | 3770 |
| 102.00 | 232 | 113.90 | 75 | 123.05 | 3434 | 136.00 | 1544 |
| 102.20 | 148 | 114.10 | 60 | 124.05 | 1683 | 137.00 | 2211 |
| 103.00 | 1565 | 114.50 | 30 | 125.00 | 1530 | 138.00 | 484 |
| 104.00 | 2805 | 114.90 | 107 | 127.05 | 117122 | 138.90 | 216 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 139.10 | 83 | 150.00 | 497 | 160.00 | 2010 | 169.00 | 952 |
| 140.00 | 699 | 151.05 | 817 | 161.00 | 2933 | 169.95 | 429 |
| 140.95 | 5733 | 151.80 | 213 | 162.00 | 913 | 170.95 | 535 |
| 142.00 | 1957 | 152.00 | 277 | 162.90 | 234 | 172.00 | 1052 |
| 142.90 | 1183 | 153.00 | 1902 | 163.10 | 94 | 173.00 | 1470 |
| 144.05 | 428 | 154.00 | 1604 | 163.70 | 99 | 174.00 | 2745 |
| 145.00 | 344 | 155.00 | 3188 | 164.00 | 309 | 175.05 | 4967 |
| 146.00 | 1282 | 156.05 | 4840 | 164.95 | 1793 | 176.00 | 1422 |
| 147.00 | 2990 | 157.00 | 964 | 166.10 | 2209 | 176.95 | 2095 |
| 148.00 | 6923 | 157.90 | 1140 | 167.00 | 13493 | 179.00 | 8550 |
| 149.00 | 1587 | 159.00 | 930 | 168.00 | 6874 | 180.00 | 6354 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 181.00 | 2772 | 192.00 | 3382 | 206.00 | 68053 | 218.00 | 2204 |
| 181.95 | 446 | 193.00 | 3763 | 206.95 | 8961 | 218.85 | 208 |
| 183.00 | 388 | 194.00 | 851 | 207.95 | 2332 | 221.00 | 12943 |
| 184.00 | 781 | 196.05 | 8444 | 208.95 | 828 | 221.80 | 1049 |
| 185.10 | 5442 | 198.00 | 258005 | 211.00 | 3043 | 223.05 | 4548 |
| 186.00 | 35416 | 199.00 | 17280 | 212.00 | 163 | 224.00 | 37655 |
| 187.00 | 10186 | 199.95 | 1499 | 212.95 | 212 | 225.00 | 9564 |
| 188.00 | 1160 | 201.50 | 1510 | 213.95 | 129 | 227.00 | 14406 |
| 189.00 | 2009 | 203.05 | 1979 | 214.95 | 765 | 228.00 | 1980 |
| 189.95 | 394 | 203.95 | 9272 | 216.00 | 679 | 229.00 | 3226 |
| 191.00 | 1055 | 205.05 | 16502 | 217.00 | 16480 | 229.95 | 558 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 231.05 | 1338 | 242.00 | 2070 | 252.20 | 106 | 263.85 | 242 |
| 231.95 | 334 | 243.10 | 943 | 253.05 | 631 | 265.00 | 3050 |
| 233.00 | 341 | 244.05 | 31189 | 255.00 | 146304 | 265.85 | 235 |
| 234.00 | 905 | 245.05 | 4155 | 256.00 | 21557 | 266.80 | 56 |
| 234.95 | 1156 | 246.00 | 5543 | 257.00 | 1828 | 267.10 | 55 |
| 235.95 | 823 | 246.95 | 1111 | 258.00 | 7463 | 268.90 | 27 |
| 237.00 | 1227 | 247.95 | 282 | 258.95 | 1373 | 269.30 | 30 |
| 237.95 | 208 | 248.95 | 1138 | 259.90 | 254 | 269.85 | 83 |
| 238.95 | 723 | 250.00 | 338 | 260.80 | 139 | 270.95 | 348 |
| 240.00 | 484 | 250.90 | 277 | 261.00 | 91 | 272.00 | 438 |
| 240.95 | 821 | 251.95 | 221 | 262.90 | 38 | 273.00 | 5037 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 274.00 | 13232 | 283.85 | 360 | 293.00 | 1214 | 304.80 | 32 |
| 275.00 | 63586 | 285.00 | 887 | 294.00 | 383 | 305.10 | 53 |
| 276.00 | 8897 | 285.85 | 105 | 296.00 | 15631 | 308.00 | 246 |
| 277.00 | 5019 | 286.10 | 64 | 297.00 | 2151 | 308.90 | 192 |
| 277.95 | 924 | 286.95 | 72 | 297.85 | 181 | 309.85 | 231 |
| 278.90 | 123 | 287.90 | 30 | 298.90 | 61 | 311.80 | 32 |
| 279.10 | 35 | 288.90 | 144 | 300.90 | 118 | 312.00 | 36 |
| 280.90 | 164 | 289.10 | 38 | 301.10 | 78 | 312.90 | 141 |
| 281.85 | 138 | 289.95 | 183 | 301.95 | 365 | 313.95 | 723 |
| 282.10 | 64 | 290.90 | 129 | 303.05 | 1779 | 314.95 | 1702 |
| 282.95 | 524 | 292.00 | 262 | 303.95 | 513 | 315.95 | 1105 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 316.80 | 56 | 328.80 | 86 | 343.40 | 29 | 361.00 | 71 |
| 317.00 | 118 | 329.10 | 34 | 346.00 | 1195 | 361.40 | 37 |
| 319.85 | 58 | 330.10 | 43 | 346.90 | 270 | 364.95 | 6387 |
| 320.95 | 420 | 331.95 | 421 | 350.70 | 28 | 365.95 | 1150 |
| 322.00 | 133 | 333.05 | 522 | 352.00 | 1465 | 366.80 | 147 |
| 323.00 | 5282 | 334.00 | 3361 | 353.00 | 1145 | 369.95 | 195 |
| 324.00 | 854 | 335.00 | 834 | 354.00 | 1665 | 370.95 | 386 |
| 325.15 | 78 | 335.95 | 104 | 354.95 | 386 | 372.00 | 2842 |
| 325.95 | 115 | 338.90 | 138 | 356.00 | 39 | 372.95 | 688 |
| 326.95 | 1085 | 340.95 | 593 | 359.00 | 100 | 374.00 | 26 |
| 327.95 | 595 | 341.95 | 163 | 360.70 | 38 | 382.90 | 864 |

Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 383.95 | 240 | 403.95 | 519 | 426.90 | 83 | 434.35 | 82 |
| 385.10 | 37 | 404.90 | 41 | 427.75 | 65 | 434.70 | 71 |
| 390.00 | 400 | 411.00 | 29 | 429.25 | 107 | 434.95 | 81 |
| 390.95 | 336 | 414.80 | 88 | 429.85 | 100 | 435.65 | 83 |
| 391.80 | 91 | 421.00 | 1317 | 430.85 | 113 | 436.25 | 194 |
| 392.00 | 83 | 422.00 | 1407 | 431.20 | 44 | 437.20 | 129 |
| 392.20 | 70 | 423.00 | 9820 | 431.90 | 69 | 437.70 | 80 |
| 395.00 | 30 | 424.00 | 2202 | 432.30 | 90 | 437.95 | 136 |
| 401.00 | 211 | 424.90 | 242 | 432.90 | 44 | 438.50 | 152 |
| 401.90 | 960 | 425.70 | 33 | 433.50 | 107 | 438.90 | 211 |
| 402.95 | 1706 | 426.40 | 31 | 433.75 | 130 | 439.50 | 85 |

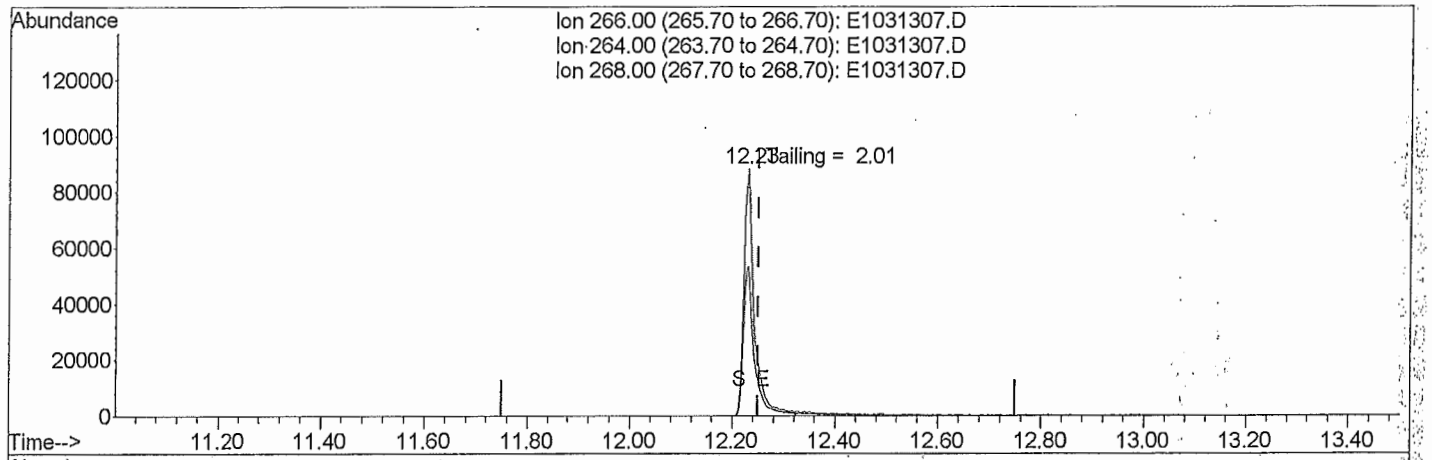
Average of 12.488 to 12.494 min.: E1031307.D
50 NG DFTPP 16093
Modified:subtracted

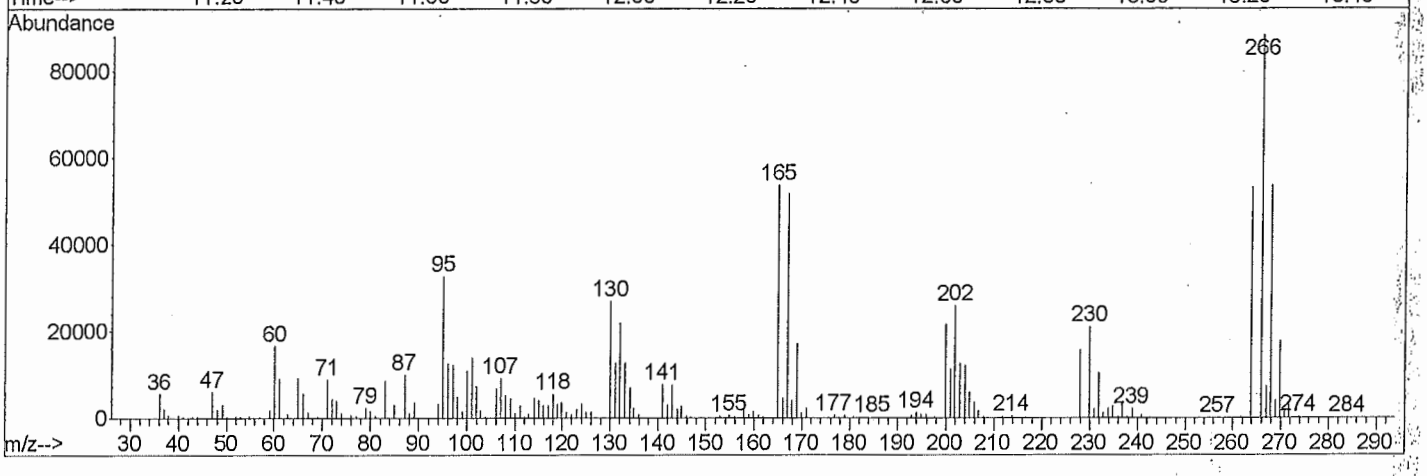
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 441.00 | 34056 | | | | | | |
| 442.00 | 205354 | | | | | | |
| 443.00 | 40290 | | | | | | |
| 444.00 | 3883 | | | | | | |
| 444.90 | 199 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031307.D
Acq On : 31 Oct 2013 11:21
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:43:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1031307.D

(1) Pentachlorophenol (TMC)

12.230min (-0.020) 11.49ug/L

response 122471

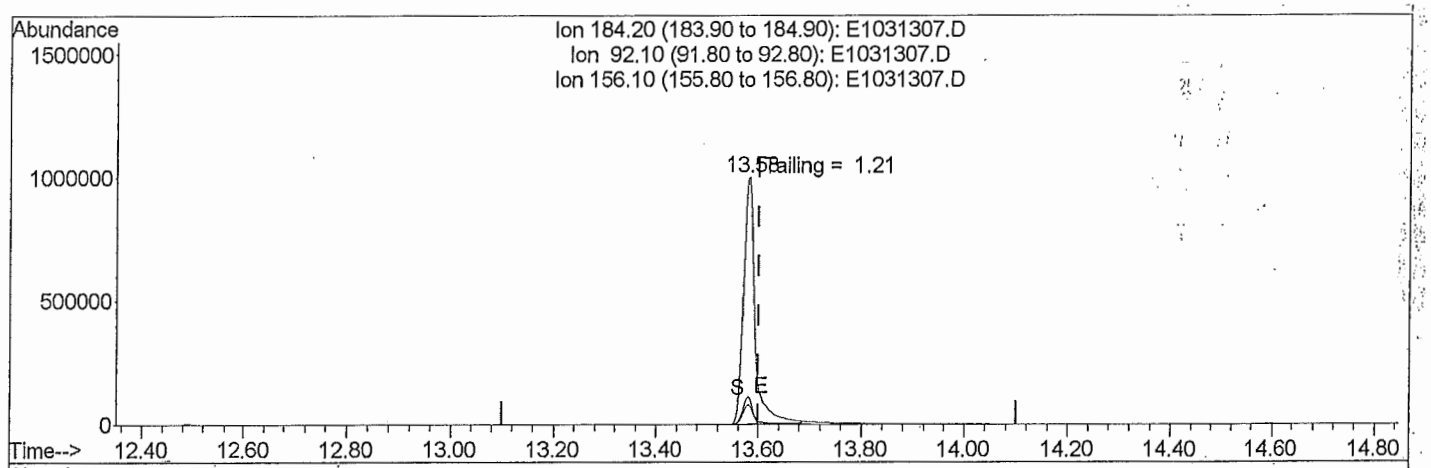
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 264.00 | 63.80 | 62.48 |
| 268.00 | 63.80 | 64.24 |
| 0.00 | 0.00 | 0.00 |

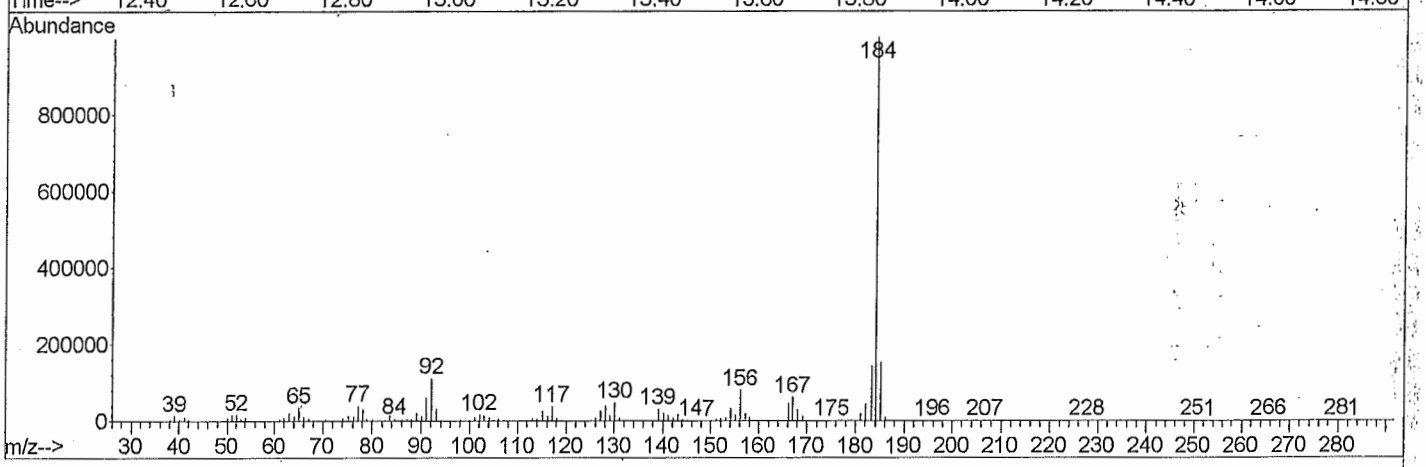
8270TUNPULSE.M Thu Oct 31 11:44:07 2013 Page: 1

Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031307.D
Acq On : 31 Oct 2013 11:21
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:43:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1031307.D

(3) Benzidine (T)

13.581min (-0.019) 32.28ug/L

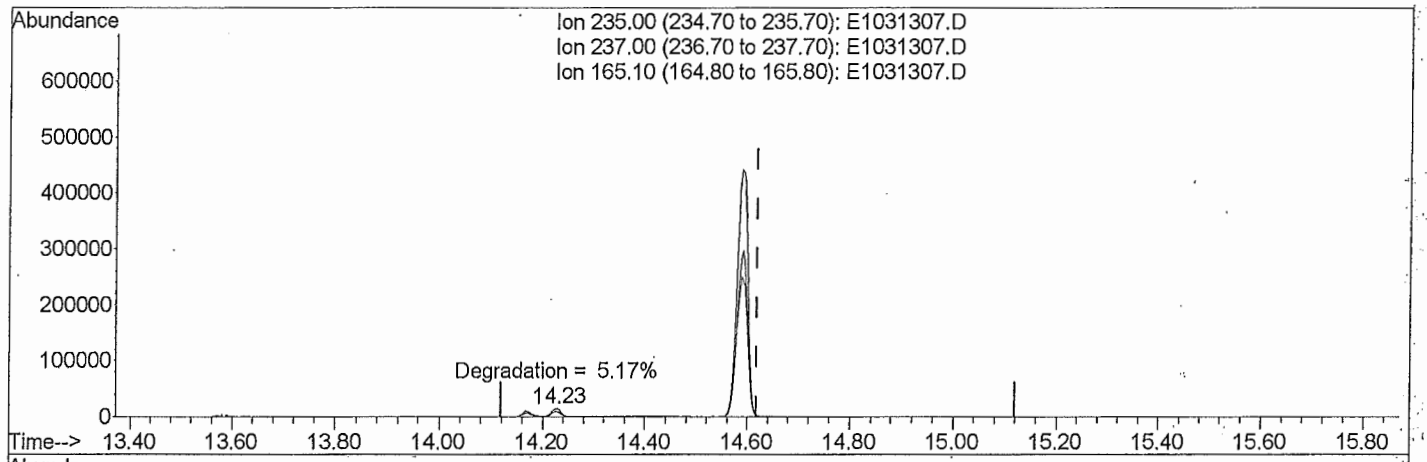
response 1664491

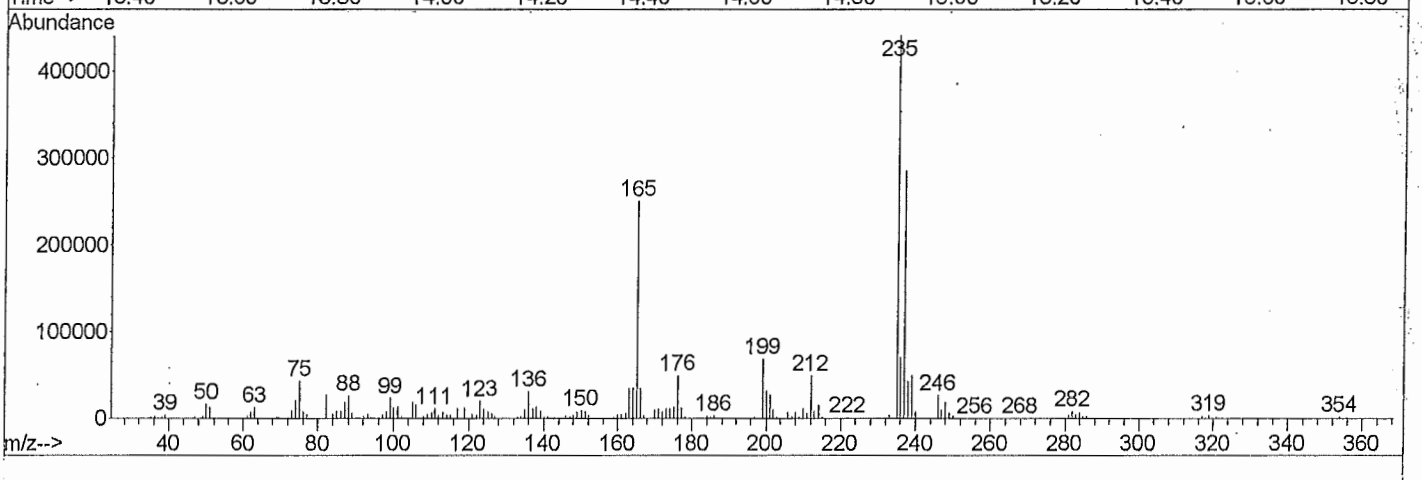
| Ion | Exp% | Act% |
|---|---|---|
| 184.20 | 100 | 100 |
| 92.10 | 13.70 | 10.29# |
| 156.10 | 8.60 | 7.66 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031307.D
Acq On : 31 Oct 2013 11:21
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Oct 31 11:43:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1031307.D

(4) DDT

14.588min (-0.032) 25.35ug/L

response 658147

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.80 | 64.57 |
| 165.10 | 59.00 | 58.19 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031308.D
Acq On : 31 Oct 2013 11:49
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:23:33 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration

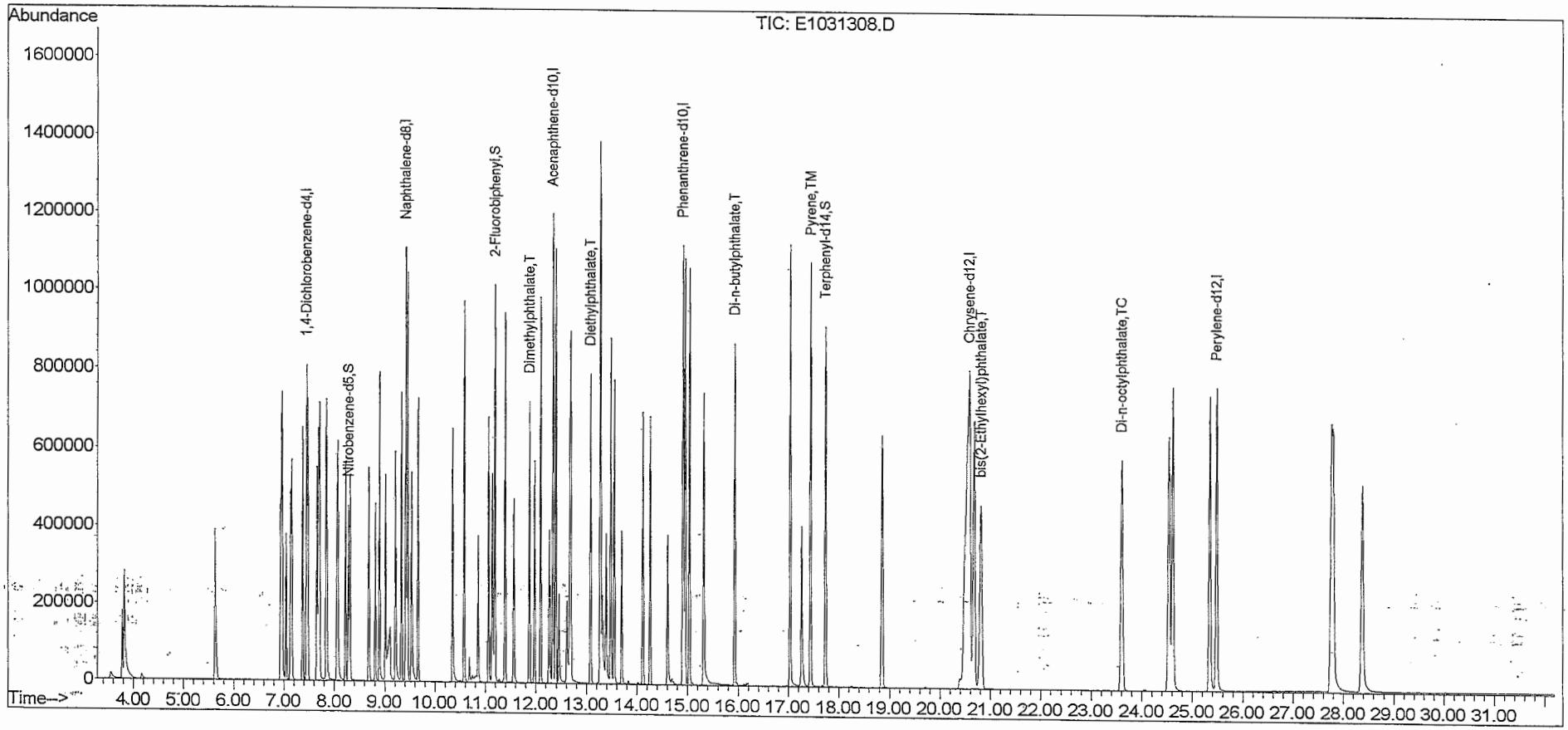
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1655877 | 40.00 | ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 6666920 | 40.00 | ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 3908624 | 40.00 | ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 6792122 | 40.00 | ug/L | 0.00 |
| 10) Chrysene-d12 | 20.59 | 240 | 7790210 | 40.00 | ug/L | 0.00 |
| 15) Perylene-d12 | 25.49 | 264 | 6267580 | 40.00 | ug/L | 0.00 |
| System Monitoring Compounds | | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 2050202 | 27.19 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 54.38% | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 4348900 | 29.00 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 58.00% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 5223148 | 29.33 | ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 58.66% | | |
| Target Compounds | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 4536351 | 29.07 | ug/L | 99 |
| 7) Diethylphthalate | 13.08 | 149 | 4396180 | 29.05 | ug/L | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 7212509 | 29.05 | ug/L | 95 |
| 11) Pyrene | 17.44 | 202 | 7556689 | 29.88 | ug/L | 82 |
| 13) bis(2-Ethylhexyl)phthalate | 20.81 | 149 | 5109881 | 30.25 | ug/L | 99 |
| 14) Di-n-octylphthalate | 23.61 | 149 | 9120264 | 31.71 | ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031308.D
Acq On : 31 Oct 2013 11:49
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Oct 31 12:23:33 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration




E8270316HW.M Thu Oct 31 12:23:34 2013

Page: 2

# Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270316HW.M
Title : 8270 BNA Calibration
Last Update : Thu Oct 31 12:23:50 2013
Response Via : Initial Calibration

CC Data File: E1031308.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 | 84 |
| 2 | I | Naphthalene-d8 | 1.000 | 1.000 | 0.0 | 91 |
| 3 | S | Nitrobenzene-d5 | 0.452 | 0.410 | 9.4 | 82 |
| 4 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 91 |
| 5 | S | 2-Fluorobiphenyl | 1.535 | 1.484 | 3.3 | 91 |
| 6 | T | Dimethylphthalate | 1.597 | 1.547 | 3.1 | 90 |
| 7 | T | Diethylphthalate | 1.549 | 1.500 | 3.2 | 90 |
| 8 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 91 |
| 9 | T | Di-n-butylphthalate | 1.462 | 1.416 | 3.2 | 89 |
| 10 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 88 |
| 11 | TM | Pyrene | 1.299 | 1.293 | 0.4 | 90 |
| 12 | S | Terphenyl-d14 | 0.914 | 0.894 | 2.2 | 87 |
| 13 | T | bis(2-Ethylhexyl)phthalate | 0.867 | 0.875 | -0.8 | 87 |
| 14 | TC | Di-n-octylphthalate | 1.477 | 1.561 | -5.7# | 90 |
| 15 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 87 |

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

# Instrument Logs/
# Analysis Notebook Pages

Rev. 1.0

50
PROJECT 10/31/2013 8270

Notebook No. 3308
Continued from Page

## Injection Log

Directory: C:\MSDChem\1\DATA\103113

| Line | Vial | FileName | Multiplier | SampleName | Misc Info |
|---|---|---|---|---|---|
| 1 | 1 | E1031301.d | 1. | 50 NG DFTPP 16093 Mass 51 0.4↓ | AG-5 8270 |
| 2 | 1 | E1031302.d | 1. | 50 NG DFTPP 16093 Mass 51 0.9↓ | AG-5 8270 |
| 3 | 1 | E1031303.d | 1. | 50 NG DFTPP 16093 Mass 51 1.4↓ | AG-5 8270 |
| 4 | 1 | E1031304.d | 1. | 50 NG DFTPP 16093 Mass 51 2.4↓ | AG-5 8270 |
| 5 | 1 | E1031305.d | 1. | 50 NG DFTPP 16093 Mass 51 0.6↓ | AG-5 8270 |
| 6 | 1 | E1031306.d | 1. | 50 NG DFTPP 16093 Mass 51 0.3↓ | AG-5 8270 |
| 7 | 1 | E1031307.d | 1. | 50 NG DFTPP 16093 Pass | AG-5 8270 |
| 8 | 2 | E1031308.d | 1. | 30 PPM STD 16099 Pass | AG-5 8270 |
| 9 | 3 | E1031309.d | 1. | CAL BLK 16095 Pass | AG-5 8270 |
| 10 | 4 | E1031310.d | 0. | 006557-05 Pass | AG-5 8270 B10108 |
| 11 | 5 | E1031311.d | 0. | 006557-06 Pass | AG-5 8270 B10108 |
| 12 | 6 | E1031312.d | 0. | 006557-07 | AG-5 8270 B10108 |
| 13 | 7 | E1031313.d | 0. | 006557-08 | AG-5 8270 B10108 |
| 14 | 8 | E1031314.d | 0. | 006557-09 | AG-5 8270 B10108 |
| 15 | 9 | E1031315.d | 0. | 006557-10 | AG-5 8270 B10108 |
| 16 | 10 | E1031316.d | 0. | 006557-11 | AG-5 8270 B10108 |
| 17 | 11 | E1031317.d | 0. | 006557-20 | AG-5 8270 B10108 |
| 18 | 12 | E1031318.d | 0. | 006557-20MS | AG-5 8270 B10108 |
| 19 | 13 | E1031319.d | 0. | 006557-20MSD | AG-5 8270 B10108 |
| 20 | 14 | E1031320.d | 0. | 006558-02B1 | AG-5 8270 B10111 |
| 21 | 15 | E1031321.d | 0. | 006558-02K1 | AG-5 8270 B10111 |
| 22 | 16 | E1031322.d | 0. | 006557-12 | AG-5 8270 B10111 |
| 23 | 17 | E1031323.d | 0. | 006557-13 | AG-5 8270 B10111 |
| 24 | 18 | E1031324.d | 0. | 006557-14 Pass | AG-5 8270 B10111 |

PEK 10/31/2013

Continued on Page

PEK 10/31/2013
Signed Date

Read and Understood By
Signed 11/4/13
Date

# Blank / Field Sample / QC Data

Rev. 1.0

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK006C | ARDL Lab No.: | 006557-05 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031310 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1005 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 70% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-05, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031310.D
Acq On : 31 Oct 2013 13:11
Operator : DOUG
Sample : 006557-05
Misc : AG-5 8270 B10108
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 01 16:22:00 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1929808 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7198305 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4256913 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7511395 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 8916458 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 9599196 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1424827 | 3499.87 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 70.00% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3157955 | 3866.62 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 77.33% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3942038 | 3868.32 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 77.37% | | |

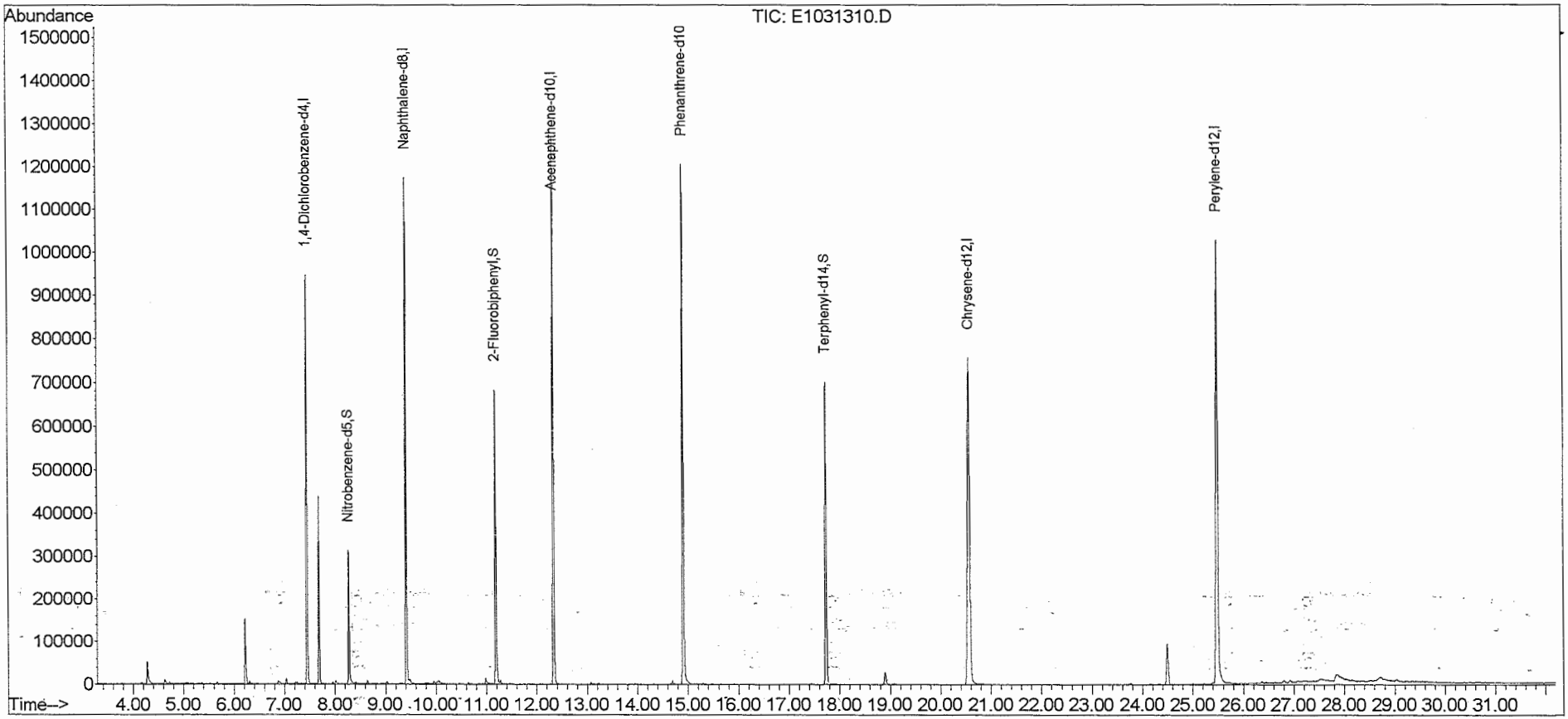
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031310.D
Acq On : 31 Oct 2013 13:11
Operator : DOUG
Sample : 006557-05
Misc : AG-5 8270 B10108
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 01 16:22:00 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:22:09 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK007C | ARDL Lab No.: | 006557-06 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031311 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1020 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 73% |
| 2-Fluorobiphenyl | 30-130 | 81% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-06, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031311.D
Acq On : 31 Oct 2013 13:52
Operator : DOUG
Sample : 006557-06
Misc : AG-5 8270 B10108
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 01 16:22:56 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2016414 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7484987 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4401094 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7828033 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9271350 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 9706118 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1538176 | 3633.58 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 72.67% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3421906 | 4052.55 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.05% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4152606 | 3918.97 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.38% | | |

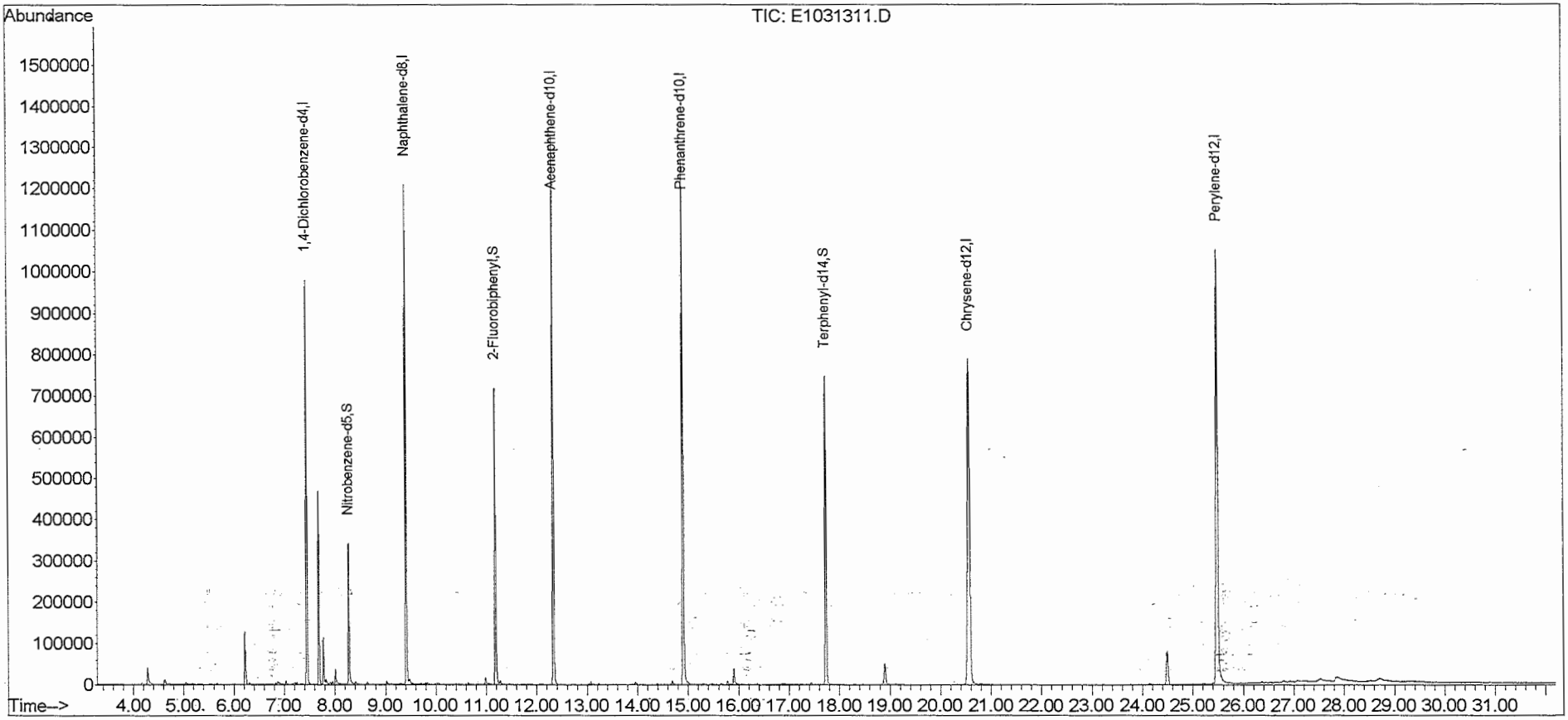
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031311.D
Acq On : 31 Oct 2013 13:52
Operator : DOUG
Sample : 006557-06
Misc : AG-5 8270 B10108
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 01 16:22:56 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:23:02 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK008C | ARDL Lab No.: | 006557-07 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031312 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1115 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 76% |
| Terphenyl-d14 | 30-130 | 77% |

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

Sample 006557-07, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031312.D
Acq On : 31 Oct 2013 14:33
Operator : DOUG
Sample : 006557-07
Misc : AG-5 8270 B10108
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 01 16:23:56 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1902403 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7073538 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4186309 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7447682 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 8908325 | 8000.00 ug/Kg | -0.02 |
| 15) Perylene-d12 | 25.49 | 264 | 9495953 | 8000.00 ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1364578 | 3411.00 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 68.22% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3056898 | 3806.01 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 76.12% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3923790 | 3853.93 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 77.08% | | |

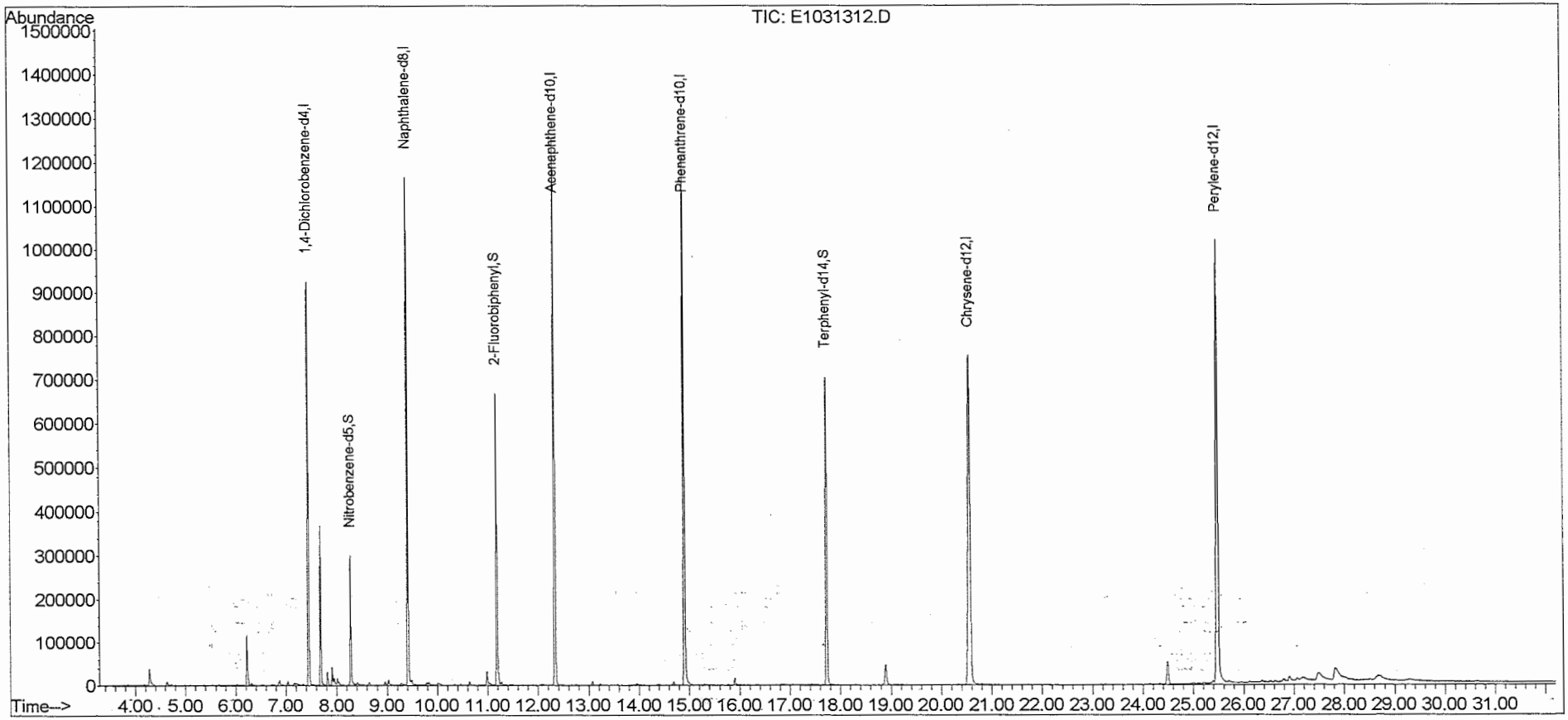
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031312.D
Acq On : 31 Oct 2013 14:33
Operator : DOUG
Sample : 006557-07
Misc : AG-5 8270 B10108
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 01 16:23:56 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:24:03 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK009C | ARDL Lab No.: | 006557-08 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031313 |
| Sample Date: | 09/11/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1126 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 84% |
| Terphenyl-d14 | 30-130 | 94% |

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

Sample 006557-08, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031313.D
Acq On : 31 Oct 2013 15:16
Operator : DOUG
Sample : 006557-08
Misc : AG-5 8270 B10108
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 01 16:24:58 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1428650 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 5835769 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 3469213 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 6121459 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 7054154 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.48 | 264 | 7314504 | 8000.00 | ug/Kg | -0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1045572 | 3167.93 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 63.36% | | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 2782240 | 4180.08 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 83.60% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3794356 | 4706.39 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 94.13% | | | |

Target Compounds Qvalue

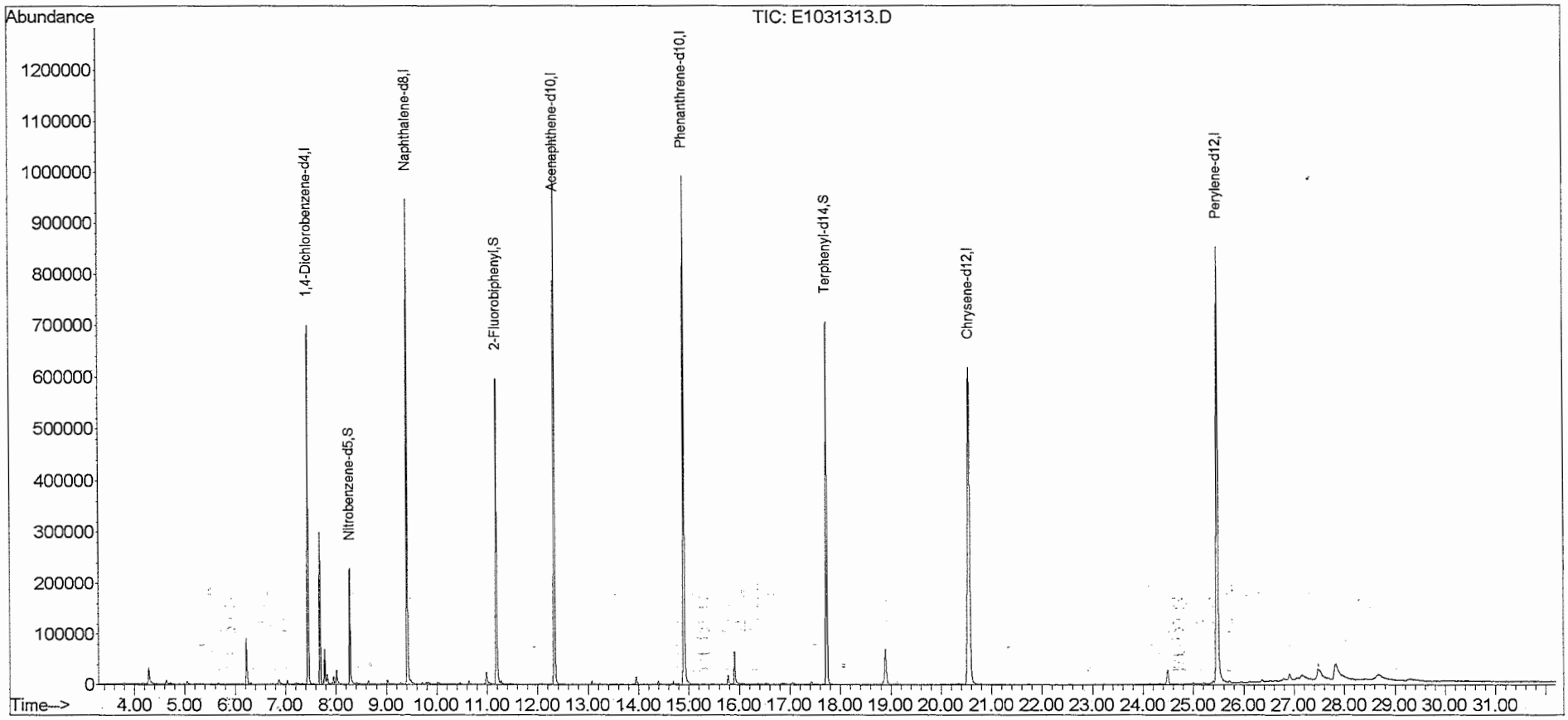
(#) = qualifier out of range (m) = manual integration (+) = signals summed

E8270316HT.M Fri Nov 01 16:25:03 2013 Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031313.D
Acq On : 31 Oct 2013 15:16
Operator : DOUG
Sample : 006557-08
Misc : AG-5 8270 B10108
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 01 16:24:58 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:25:04 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK010C | ARDL Lab No.: | 006557-09 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031314 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1128 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 71% |
| 2-Fluorobiphenyl | 30-130 | 80% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006557-09, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031314.D
Acq On : 31 Oct 2013 15:57
Operator : DOUG
Sample : 006557-09
Misc : AG-5 8270 B10108
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 01 16:25:55 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1990803 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7428307 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4366971 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7747967 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9074694 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 9640336 | 8000.00 ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1486037 | 3537.20 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 70.74% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3344166 | 3991.43 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 79.83% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4080238 | 3934.12 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.68% | |

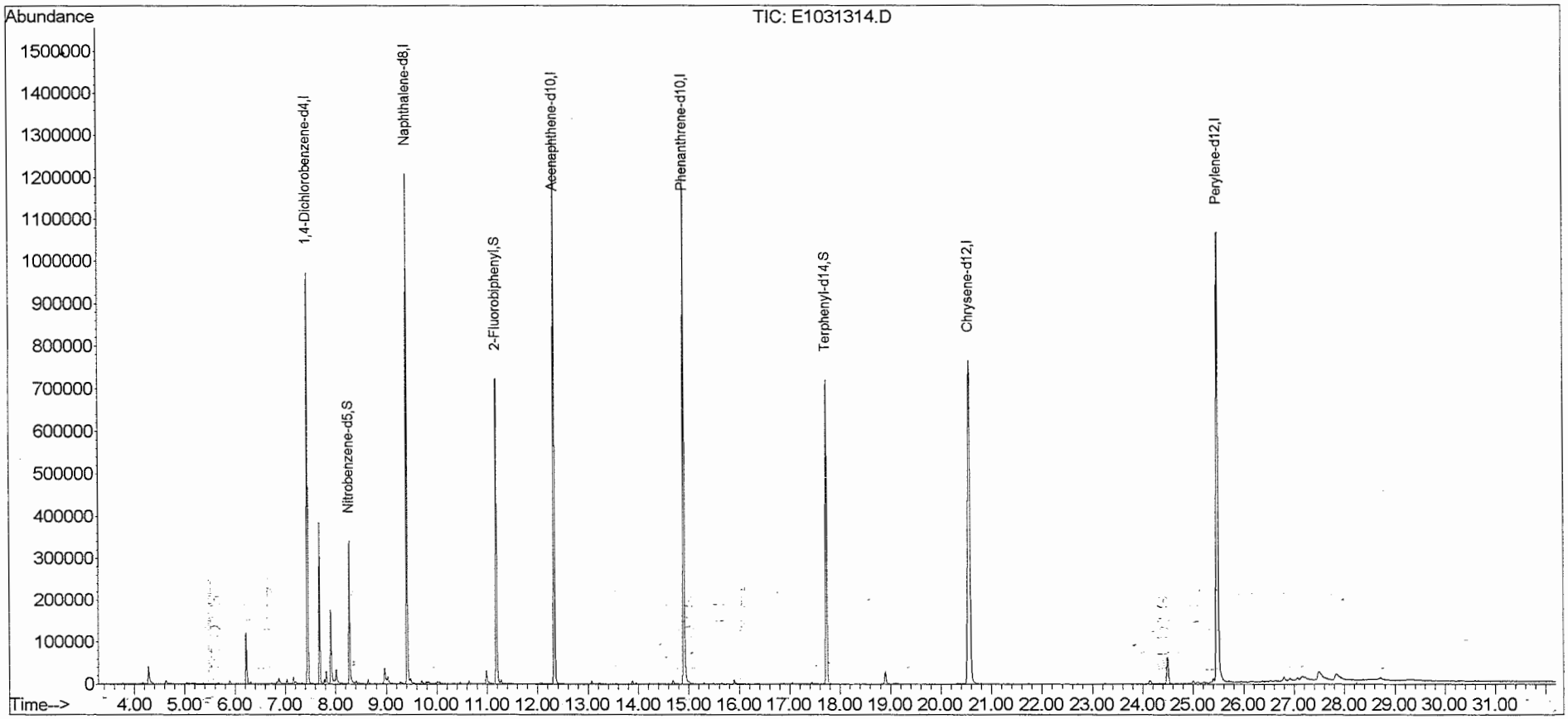
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031314.D
Acq On : 31 Oct 2013 15:57
Operator : DOUG
Sample : 006557-09
Misc : AG-5 8270 B10108
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 01 16:25:55 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:26:00 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK014C | ARDL Lab No.: | 006557-10 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031315 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1355 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 62% |
| 2-Fluorobiphenyl | 30-130 | 73% |
| Terphenyl-d14 | 30-130 | 71% |

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

Sample 006557-10, BNA'S (METHOD 8270) Page 1 of 1

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031315.D
Acq On : 31 Oct 2013 16:39
Operator : DOUG
Sample : 006557-10
Misc : AG-5 8270 B10108
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 01 16:27:04 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2126496 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7895277 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4667900 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8281406 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9868510 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 10365140 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1377914 | 3085.85 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = 61.72% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3287193 | 3670.49 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 73.41% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4007872 | 3553.50 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 71.07% | | | |

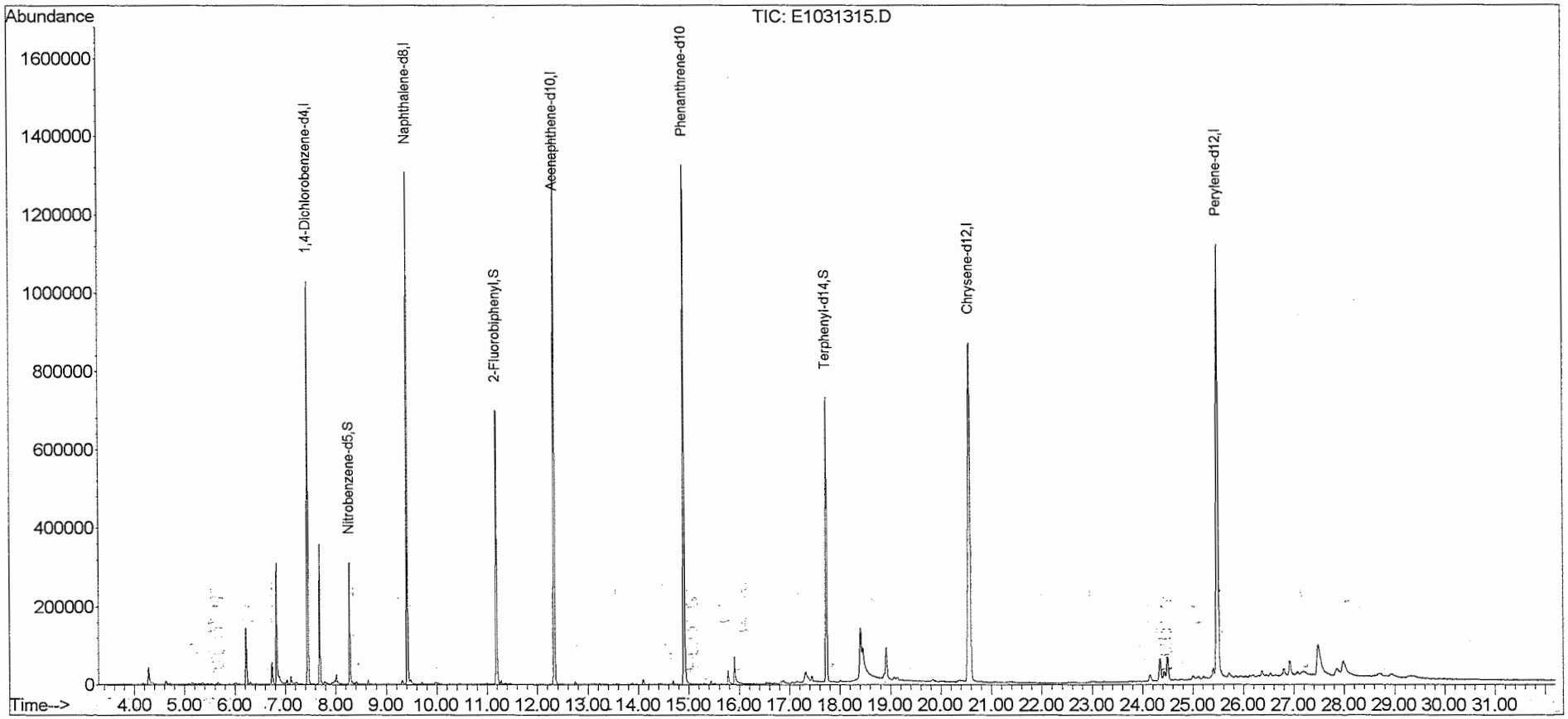
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031315.D
Acq On : 31 Oct 2013 16:39
Operator : DOUG
Sample : 006557-10
Misc : AG-5 8270 B10108
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 01 16:27:04 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:27:11 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK015C | ARDL Lab No.: | 006557-11 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031316 |
| Sample Date: | 09/13/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0958 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 70% |
| Terphenyl-d14 | 30-130 | 68% |

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

Sample 006557-11, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031316.D
Acq On : 31 Oct 2013 17:20
Operator : DOUG
Sample : 006557-11
Misc : AG-5 8270 B10108
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 01 16:28:15 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2153385 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7962416 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4700922 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8247662 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.58 | 240 | 9599442 | 8000.00 | ug/Kg | 0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 10009819 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1374534 | 3052.32 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = 61.05% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3178554 | 3524.26 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 70.49% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3747755 | 3416.01 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 68.32% | | | |

Target Compounds Qvalue

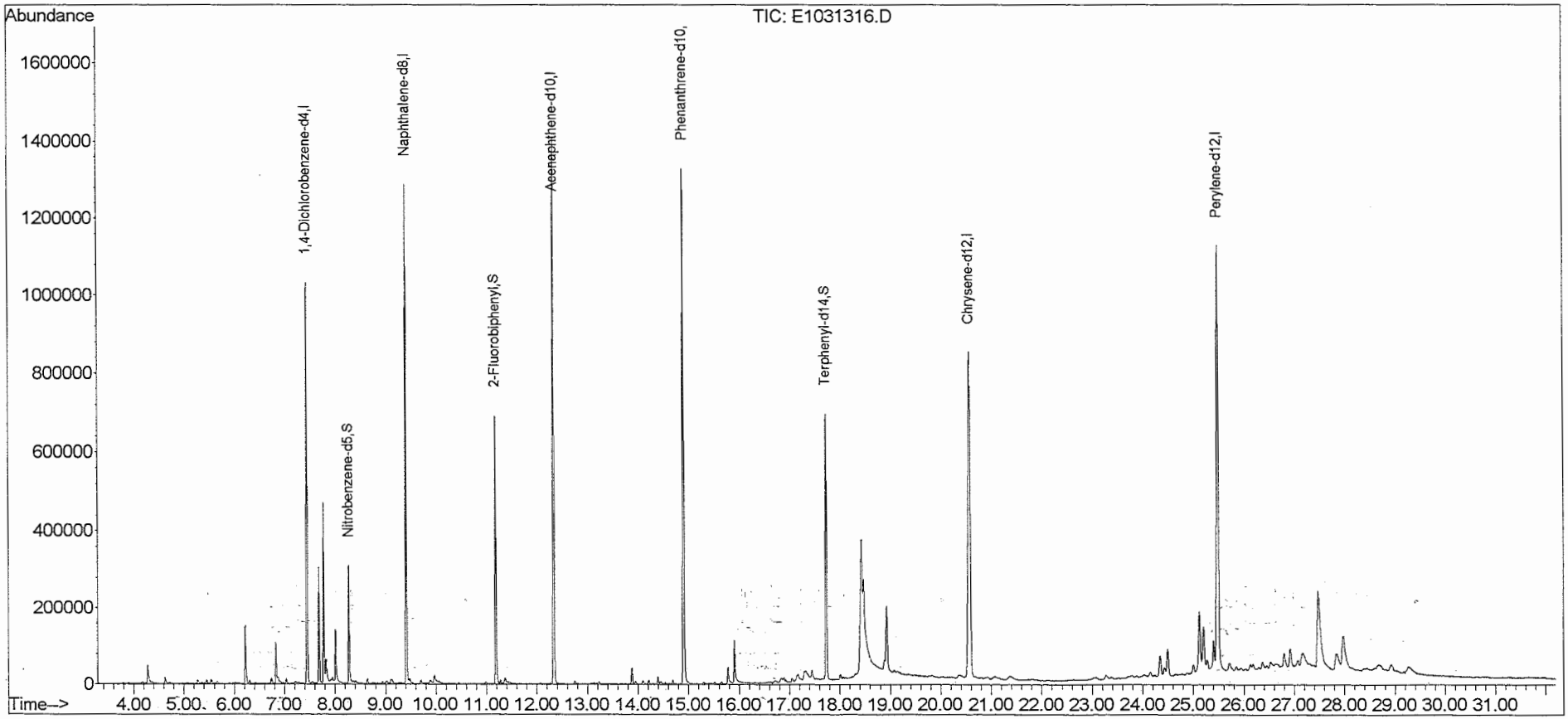
(#) = qualifier out of range (m) = manual integration (+) = signals summed

E8270316HT.M Fri Nov 01 16:28:24 2013 Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031316.D
Acq On : 31 Oct 2013 17:20
Operator : DOUG
Sample : 006557-11
Misc : AG-5 8270 B10108
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 01 16:28:15 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:28:25 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK032C | ARDL Lab No.: | 006557-20 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031317 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1210 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % 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 | 64% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-20, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031317.D
Acq On : 31 Oct 2013 18:01
Operator : DOUG
Sample : 006557-20
Misc : AG-5 8270 B10108
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 01 16:29:29 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1950119 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7747908 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4539941 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8078836 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9455957 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 9713059 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1412500 | 3223.47 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 64.47% | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3318105 | 3809.44 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 76.19% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4057033 | 3754.03 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 75.08% | | |

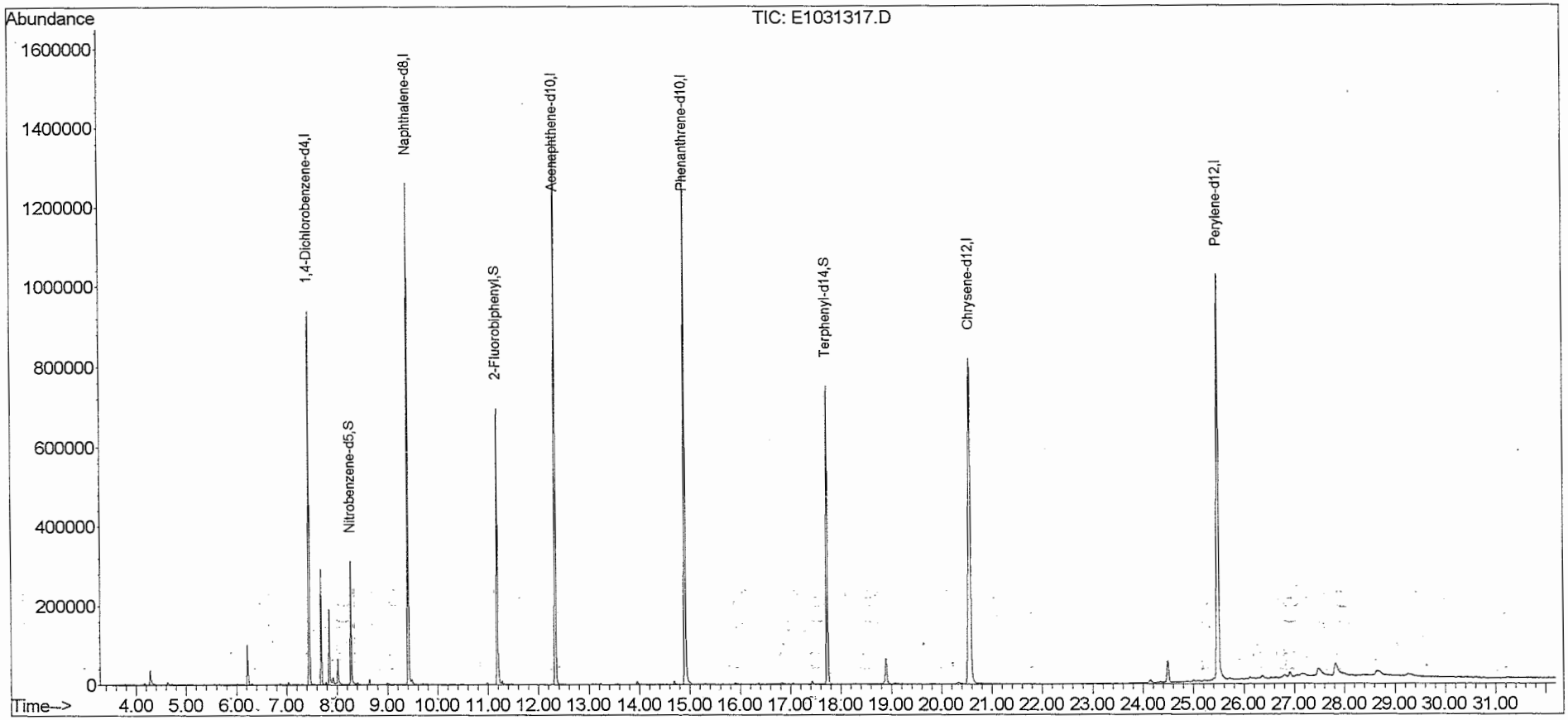
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031317.D
Acq On : 31 Oct 2013 18:01
Operator : DOUG
Sample : 006557-20
Misc : AG-5 8270 B10108
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 01 16:29:29 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:29:35 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK032C | ARDL Lab No.: | 006557-20MS |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031318 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1210 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % Moisture: | No Moisture Present | Level: | LOW |

| Parameter | Method Limit | Reporting Limit | Result | Data Flag | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| Dimethylphthalate | 200 | 1000 | 3490 | | UG/KG | 1 |
| Diethylphthalate | 200 | 1000 | 3590 | | UG/KG | 1 |
| Di-n-butylphthalate | 200 | 1000 | 3660 | | UG/KG | 1 |
| Pyrene | 200 | 1000 | 3720 | | UG/KG | 1 |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3560 | | UG/KG | 1 |
| Di-n-octylphthalate | 200 | 1000 | 3650 | | UG/KG | 1 |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 65% |
| 2-Fluorobiphenyl | 30-130 | 74% |
| Terphenyl-d14 | 30-130 | 72% |

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

Matrix Spike for 006557-20, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031318.D
Acq On : 31 Oct 2013 18:42
Operator : DOUG
Sample : 006557-20MS
Misc : AG-5 8270 B10108
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 01 14:30:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

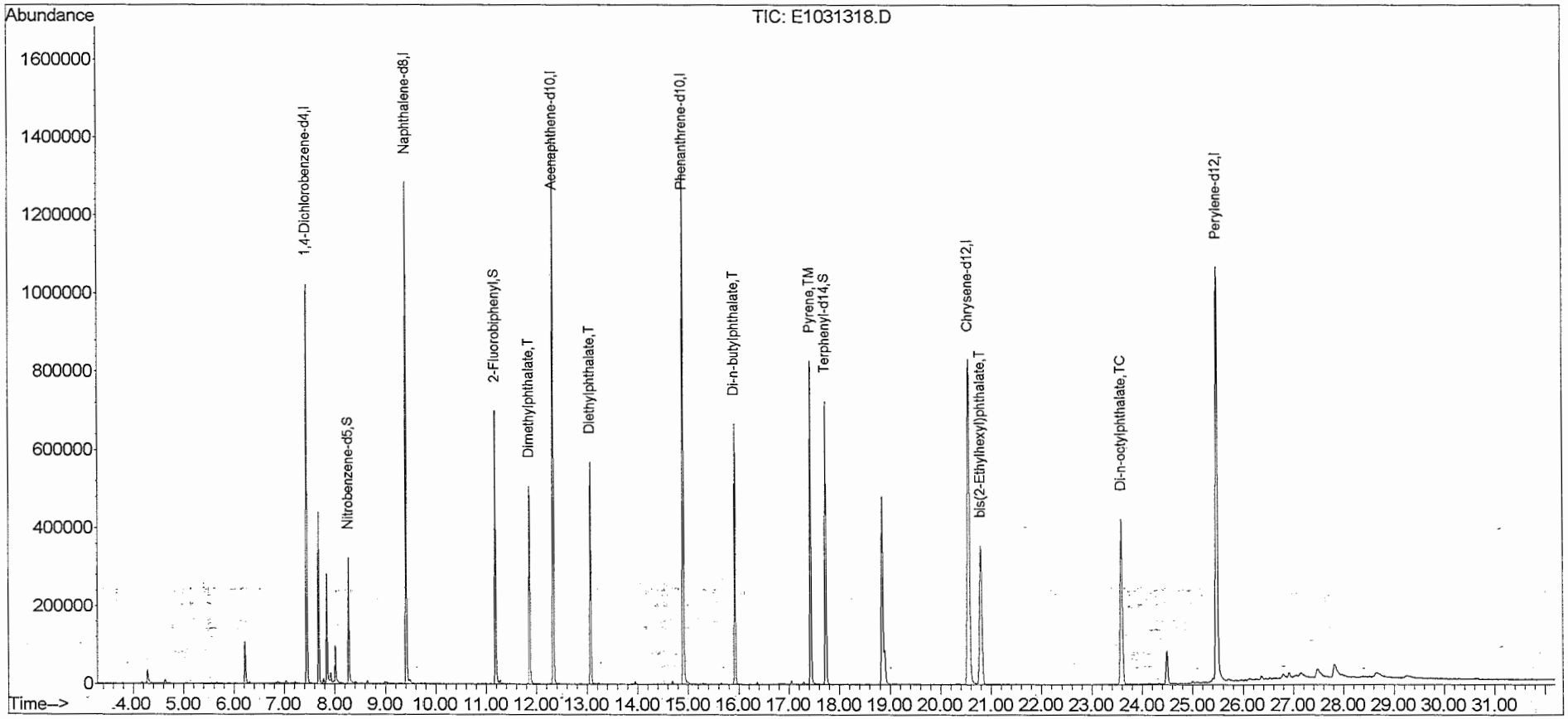
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2113522 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7874844 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4602707 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 8146519 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9660405 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 9982357 | 8000.00 ug/Kg | 0.0 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1454147 | 3265.02 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 65.30% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3249571 | 3679.88 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 73.60% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3984723 | 3609.09 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 72.18% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 3208878 | 3492.37 ug/Kg | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 3200883 | 3591.84 ug/Kg | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5449179 | 3659.37 ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 5831703 | 3718.56 ug/Kg | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3725634 | 3556.59 ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6511673 | 3651.49 ug/Kg | 100 |

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

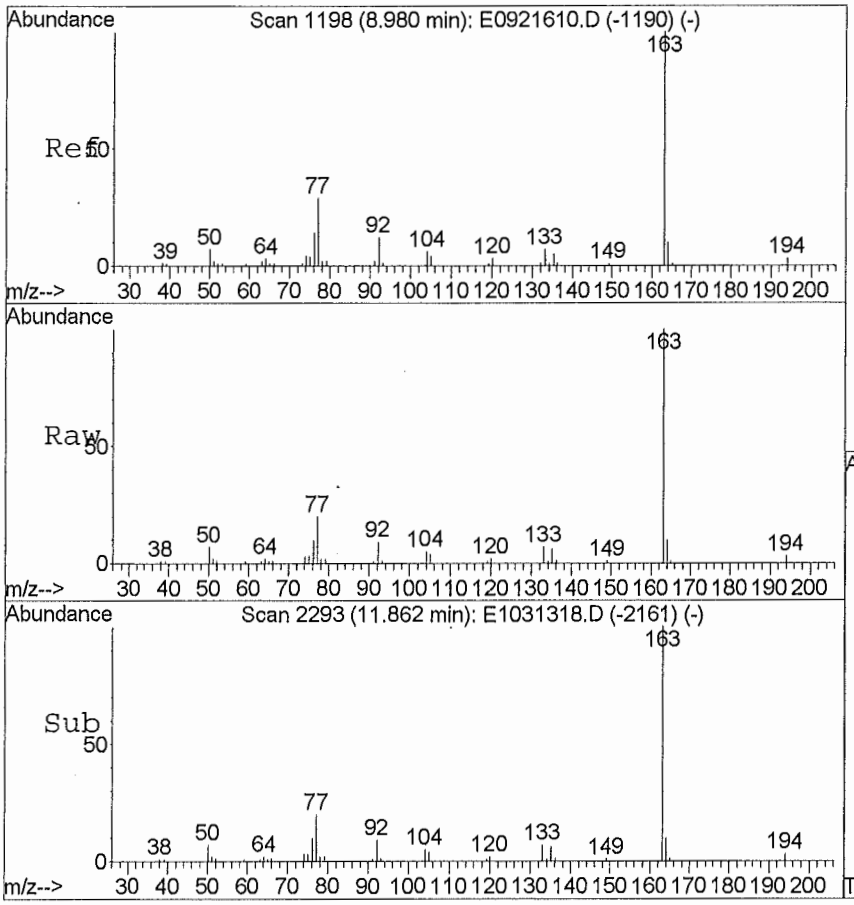
Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031318.D
Acq On : 31 Oct 2013 18:42
Operator : DOUG
Sample : 006557-20MS
Misc : AG-5 8270 B10108
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 01 14:30:37 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration



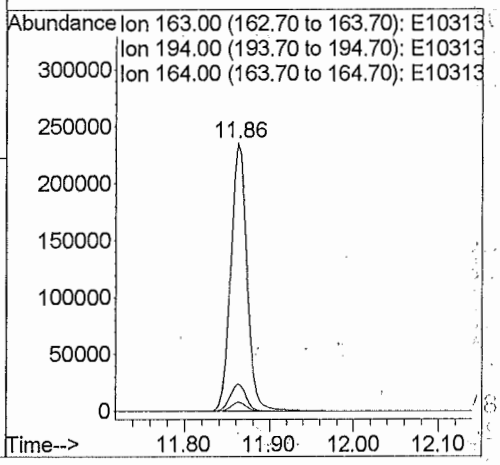

E8270316HT.M Fri Nov 01 14:30:46 2013 Page: 2

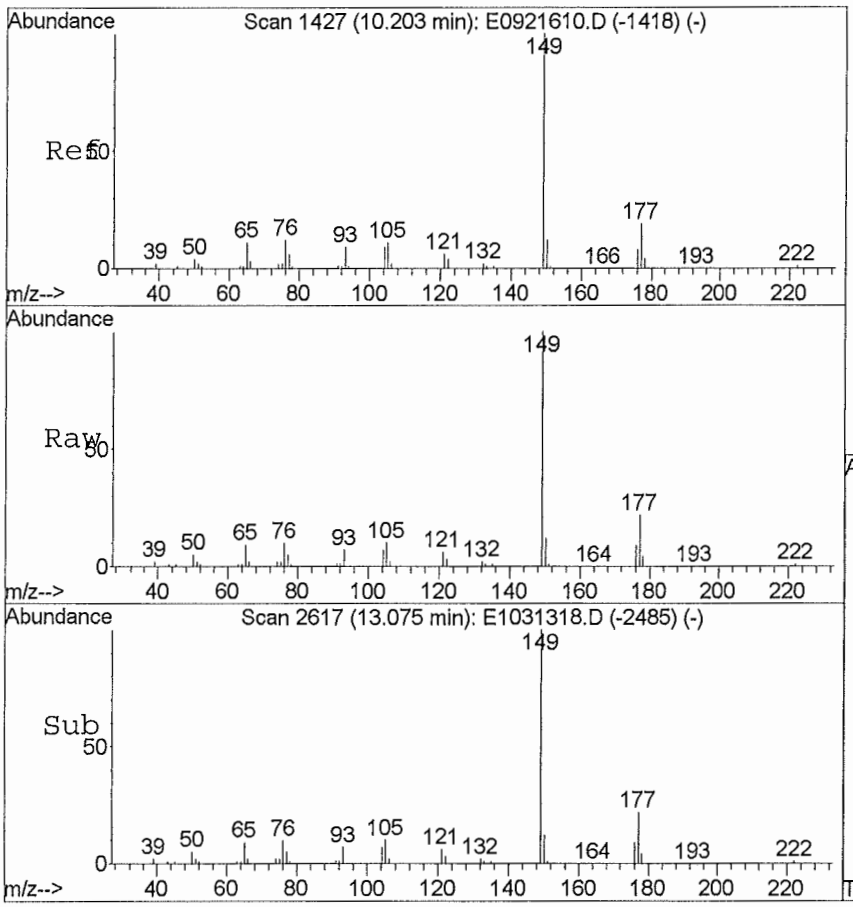



#6
Dimethylphthalate
Concen: 3492.37 ug/Kg
RT: 11.86 min Scan# 2293
Delta R.T. -0.01 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:163 Resp: 3208878

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 3.3 | 0.0 | 23.3 |
| 164 | 10.2 | 0.0 | 30.7 |

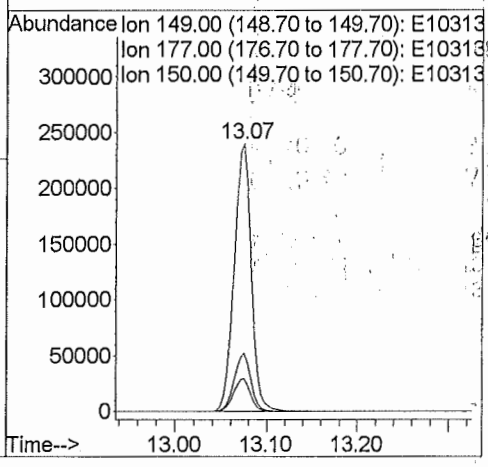


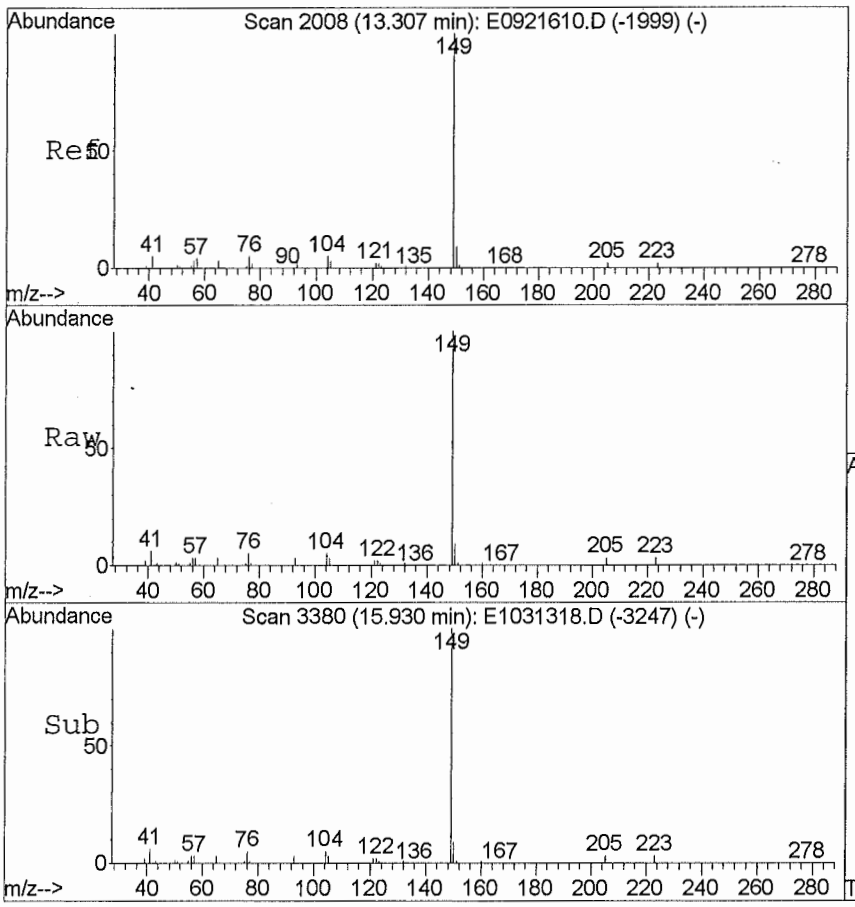




#7
Diethylphthalate
Concen: 3591.84 ug/Kg
RT: 13.07 min Scan# 2617
Delta R.T. -0.01 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:149 Resp: 3200883

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 177 | 21.2 | 0.8 | 40.8 |
| 150 | 12.2 | 0.0 | 32.3 |

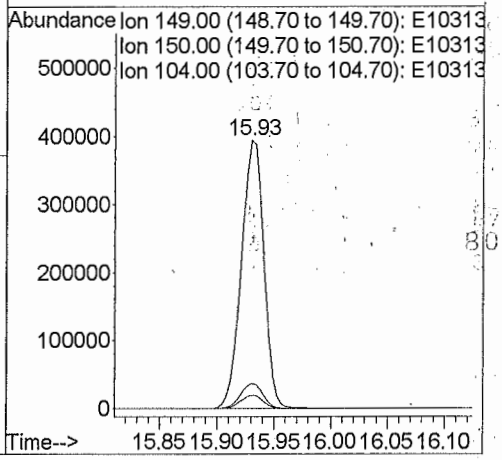


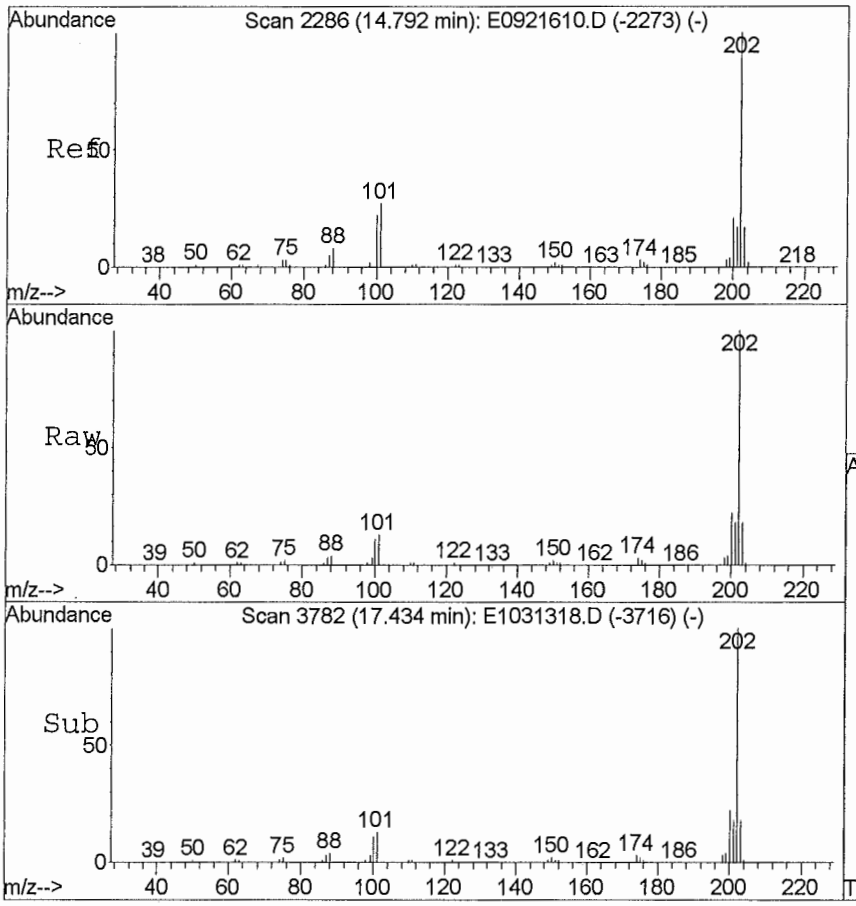



#9
Di-n-butylphthalate
Concen: 3659.37 ug/Kg
RT: 15.93 min Scan# 3380
Delta R.T. -0.00 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:149 Resp: 5449179

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.3 | 0.0 | 29.4 |
| 104 | 5.0 | 0.0 | 28.5 |

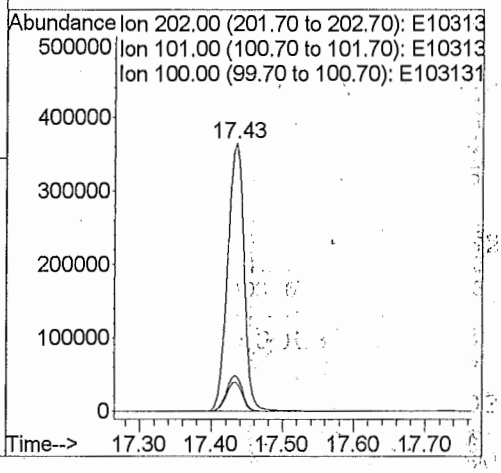


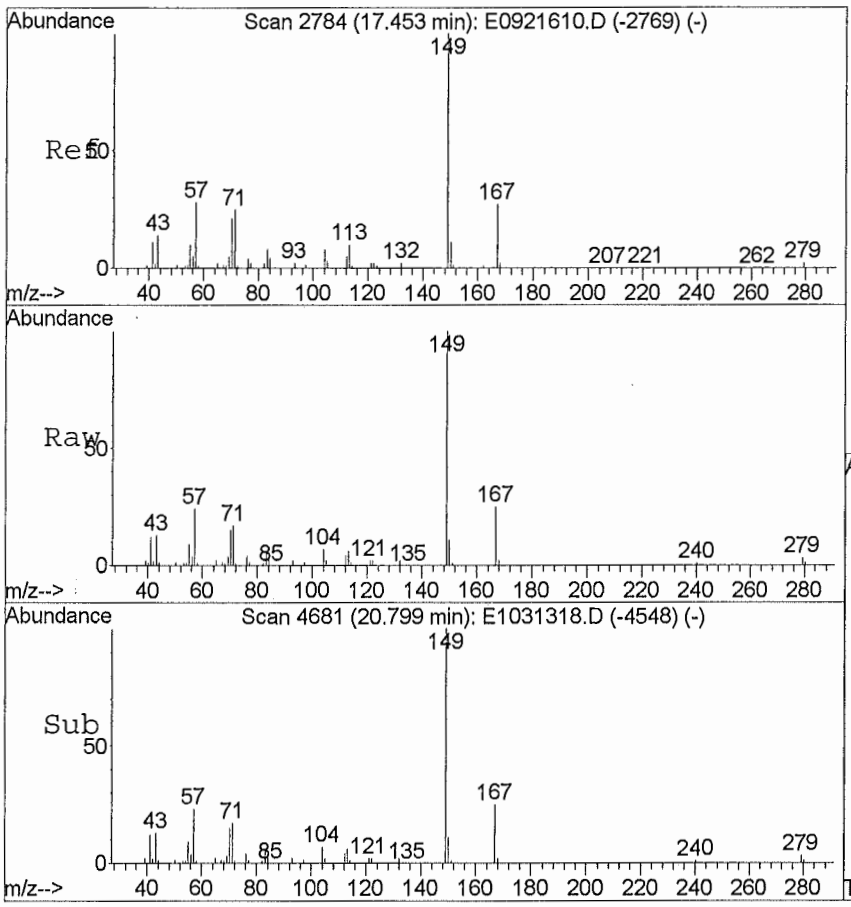




#11
Pyrene
Concen: 3718.56 ug/Kg
RT: 17.43 min Scan# 3782
Delta R.T. -0.00 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:202 Resp: 5831703

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.2 | 3.8 | 43.8 |
| 100 | 10.6 | 0.0 | 38.1 |

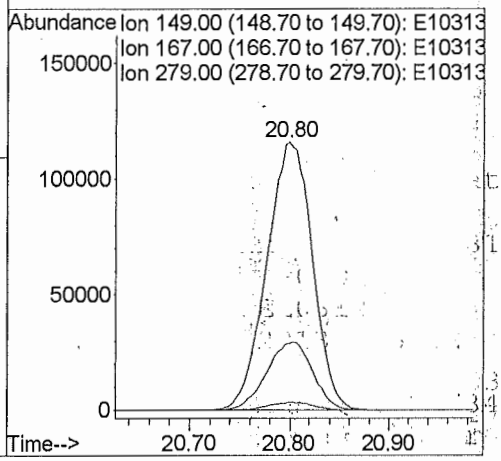


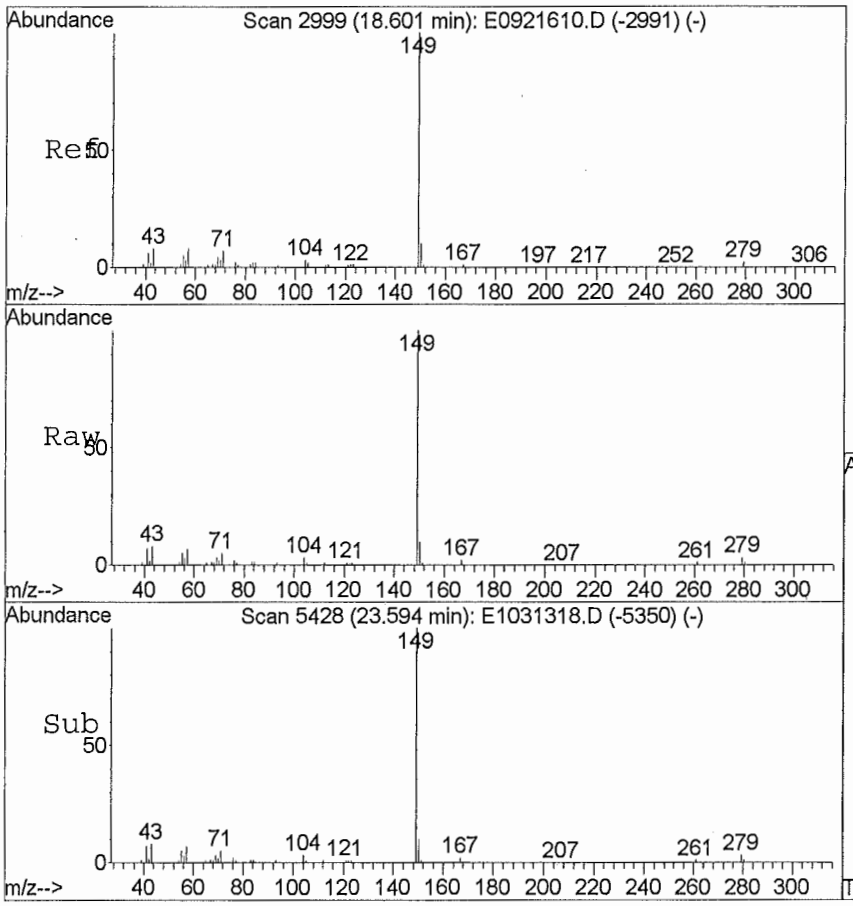



#13
bis(2-Ethylhexyl)phthalate
Concen: 3556.59 ug/Kg
RT: 20.80 min Scan# 4681
Delta R.T. -0.00 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:149 Resp: 3725634

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 25.6 | 4.9 | 44.9 |
| 279 | 2.9 | 0.0 | 22.2 |

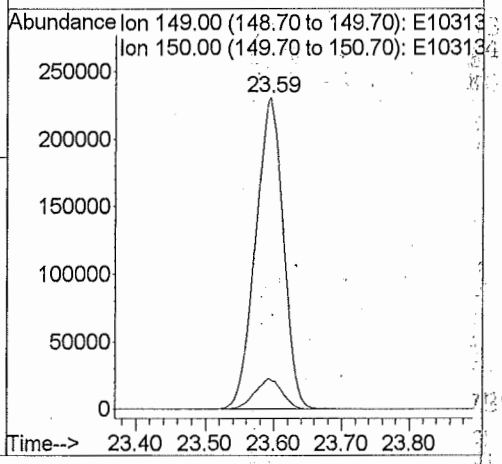



#14
Di-n-octylphthalate
Concen: 3651.49 ug/Kg
RT: 23.59 min Scan# 5428
Delta R.T. -0.01 min
Lab File: E1031318.D
Acq: 31 Oct 2013 18:42

Tgt Ion:149 Resp: 6511673

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.6 | 0.0 | 29.7 |



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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK032C | ARDL Lab No.: | 006557-20MD |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031319 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1210 | Prep. Date: | 10/28/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6634 |
| % Moisture: | No Moisture Present | Level: | LOW |

| Parameter | Method Limit | Reporting Limit | Result | Data Flag | Units | Dilution Factor |
|---|---|---|---|---|---|---|
| Dimethylphthalate | 200 | 1000 | 3310 | | UG/KG | 1 |
| Diethylphthalate | 200 | 1000 | 3460 | | UG/KG | 1 |
| Di-n-butylphthalate | 200 | 1000 | 3490 | | UG/KG | 1 |
| Pyrene | 200 | 1000 | 3550 | | UG/KG | 1 |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3200 | | UG/KG | 1 |
| Di-n-octylphthalate | 200 | 1000 | 3370 | | UG/KG | 1 |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 62% |
| 2-Fluorobiphenyl | 30-130 | 71% |
| Terphenyl-d14 | 30-130 | 72% |

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

Matrix Spike Duplicate for 006557-20, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031319.D
Acq On : 31 Oct 2013 19:23
Operator : DOUG
Sample : 006557-20MSD
Misc : AG-5 8270 B10108
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 01 14:30:55 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

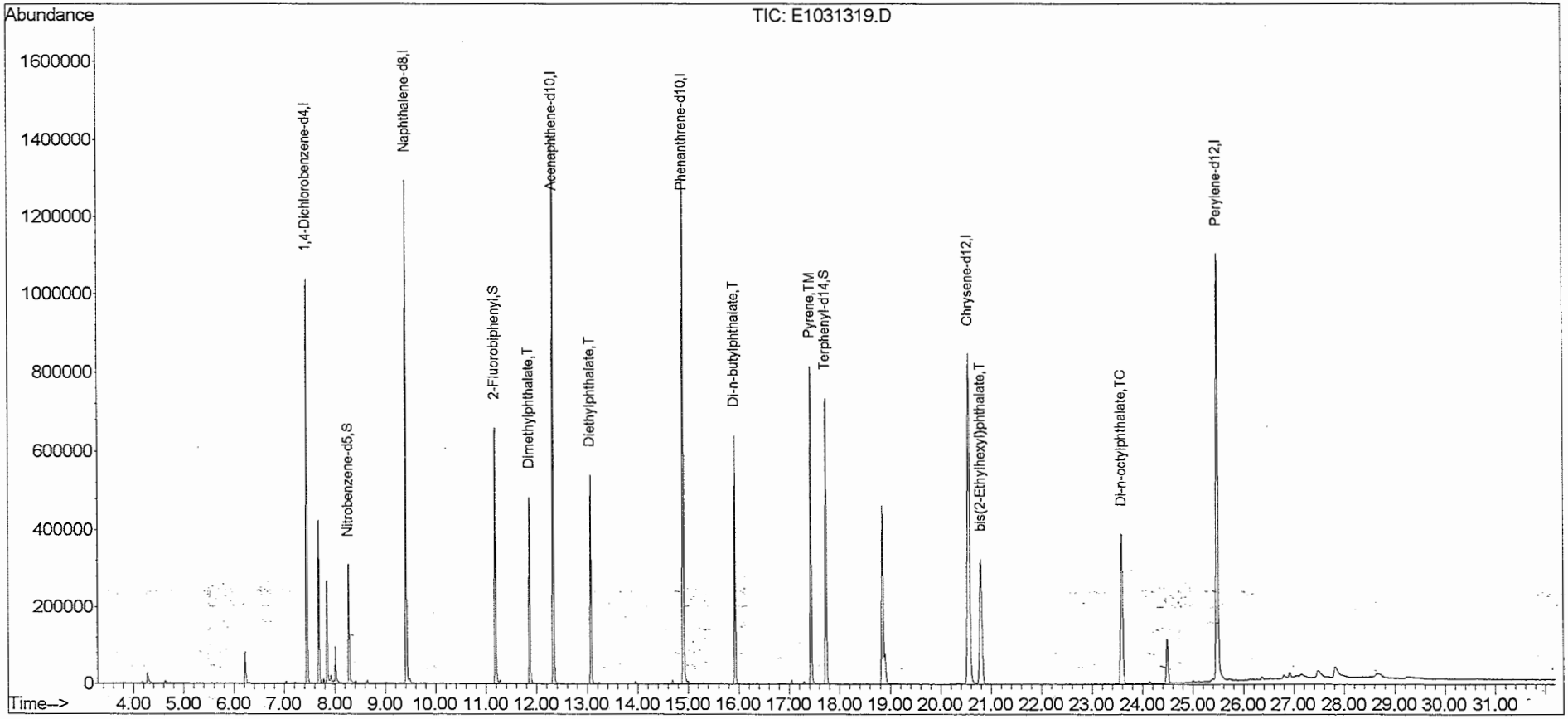
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2163305 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7994598 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4551831 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8240104 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9870549 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10131496 | 8000.00 | ug/Kg | 0.0 |
| **System Monitoring Compounds** | | | | | | |
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1410639 | 3119.89 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 62.40% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3121682 | 3574.57 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 71.49% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4052742 | 3592.54 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 71.85% | | |
| **Target Compounds** | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 3011420 | 3314.10 | ug/Kg | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 3049037 | 3459.69 | ug/Kg | 99 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5253315 | 3487.77 | ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 5693602 | 3553.20 | ug/Kg | 80 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3429430 | 3204.13 | ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6131502 | 3365.10 | ug/Kg | 100 |

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

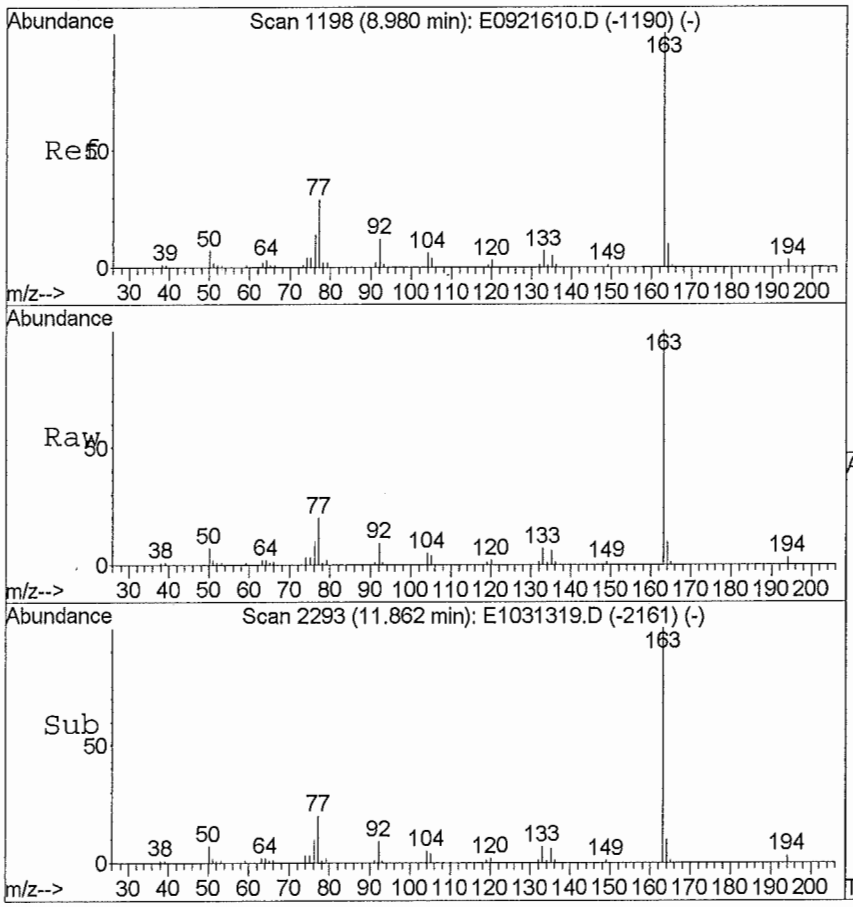
Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031319.D
Acq On : 31 Oct 2013 19:23
Operator : DOUG
Sample : 006557-20MSD
Misc : AG-5 8270 B10108
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 01 14:30:55 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration



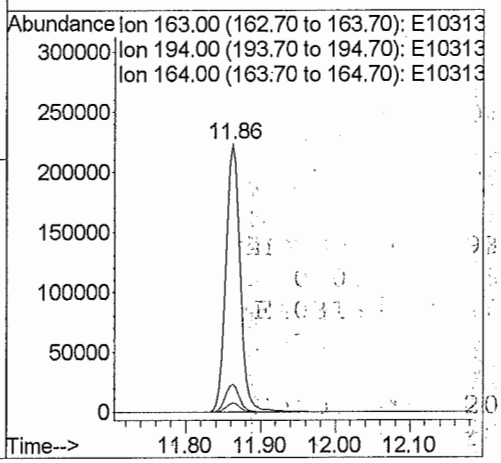

E8270316HT.M Fri Nov 01 14:31:00 2013 Page: 2

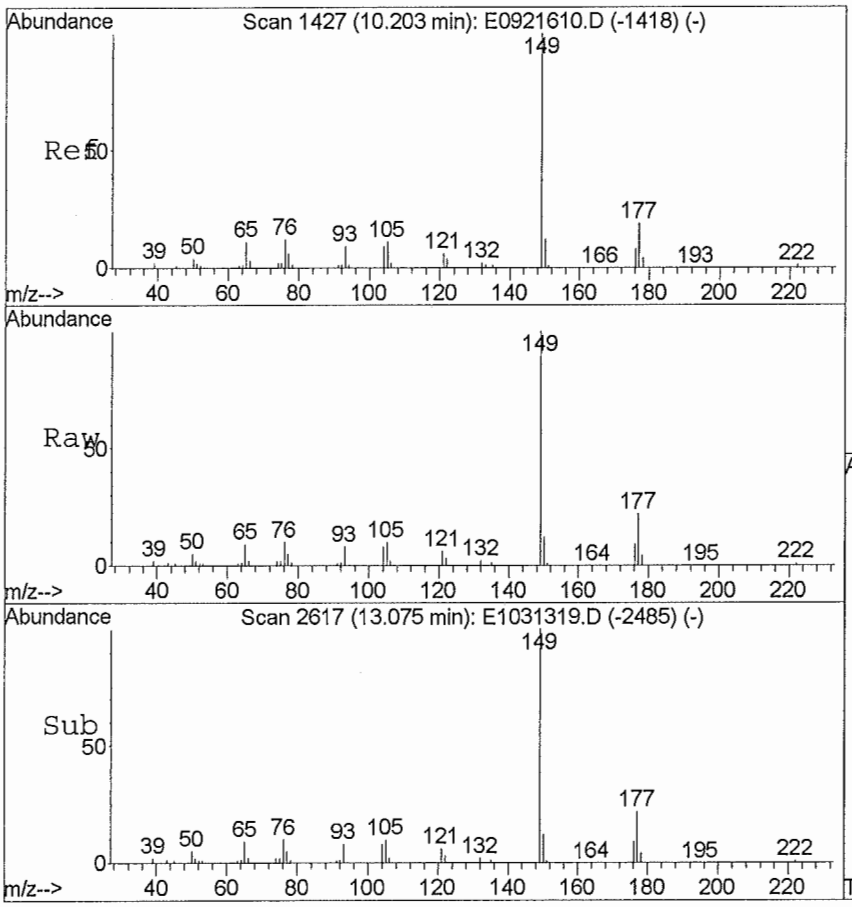



#6
Dimethylphthalate
Concen: 3314.10 ug/Kg
RT: 11.86 min Scan# 2293
Delta R.T. -0.01 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:163 Resp: 3011420

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 3.3 | 0.0 | 23.3 |
| 164 | 10.3 | 0.0 | 30.7 |

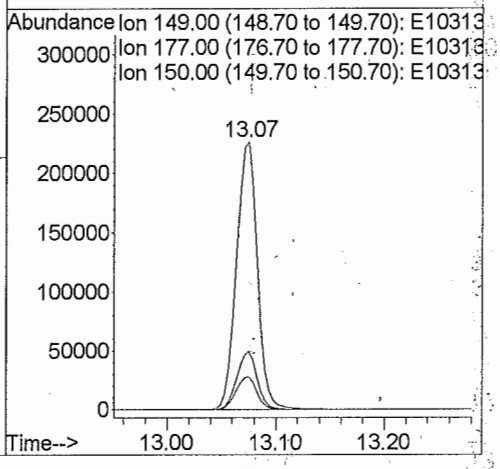


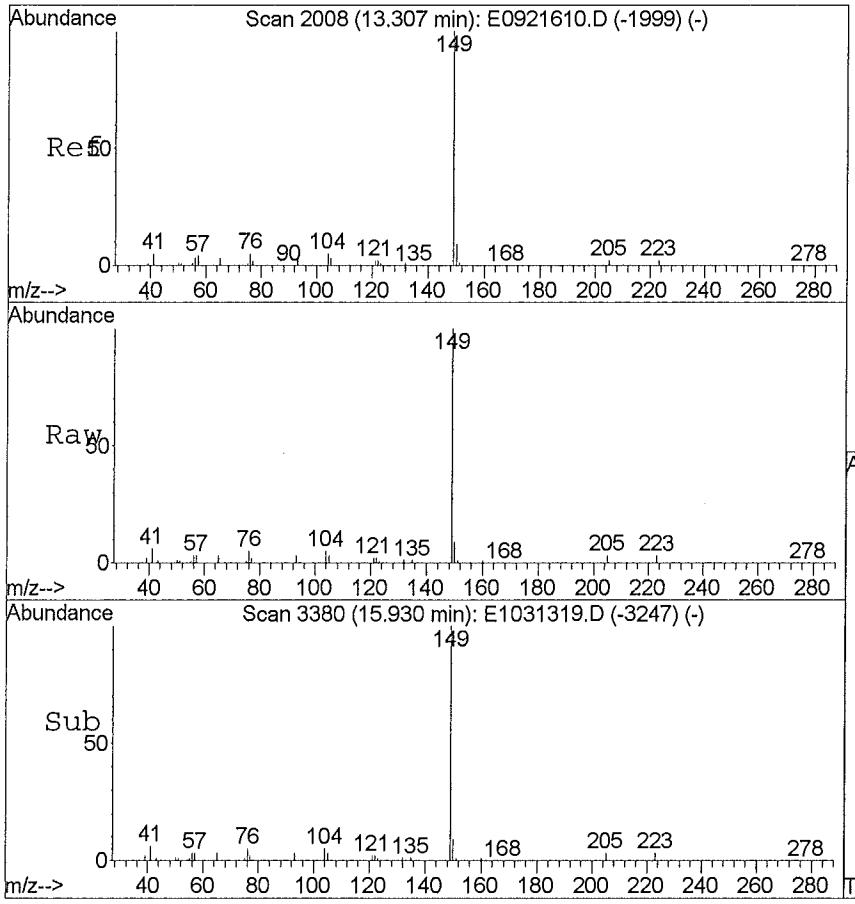




#7
Diethylphthalate
Concen: 3459.69 ug/Kg
RT: 13.07 min Scan# 2617
Delta R.T. -0.01 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:149 Resp: 3049037

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 177 | 21.2 | 0.8 | 40.8 |
| 150 | 12.3 | 0.0 | 32.3 |

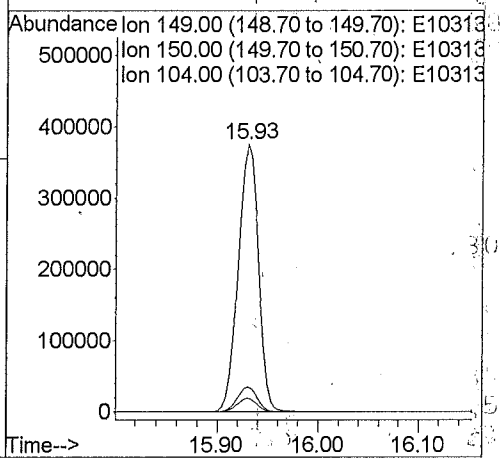


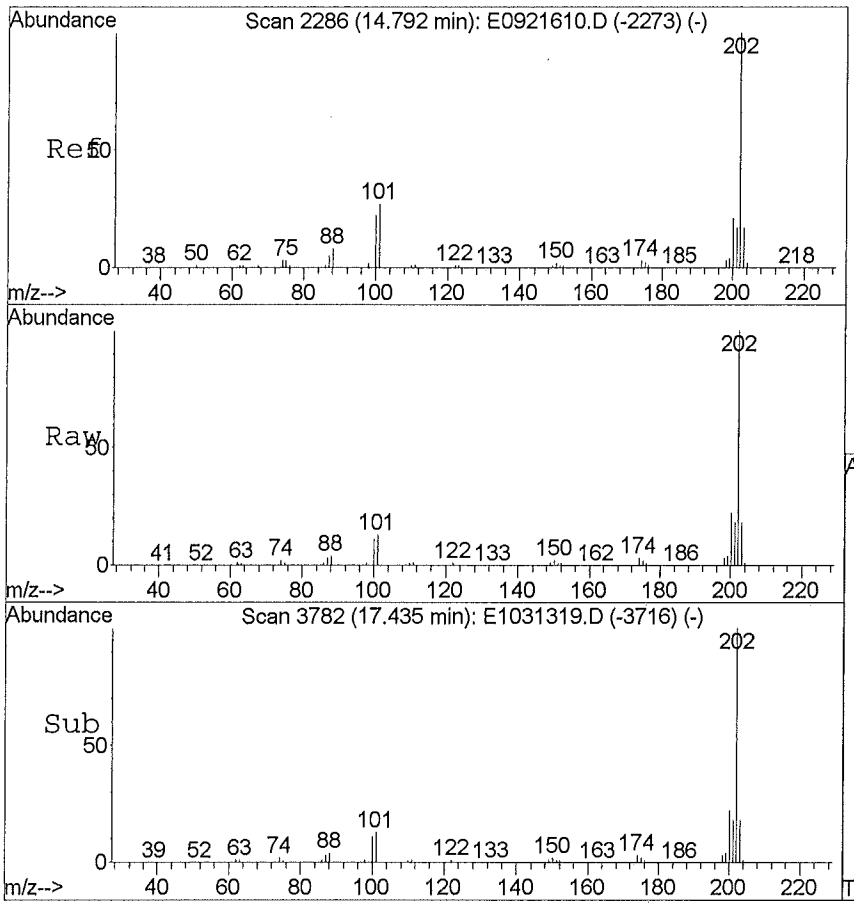



#9
Di-n-butylphthalate
Concen: 3487.77 ug/Kg
RT: 15.93 min Scan# 3380
Delta R.T. -0.00 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:149 Resp: 5253315

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.2 | 0.0 | 29.4 |
| 104 | 5.0 | 0.0 | 28.5 |

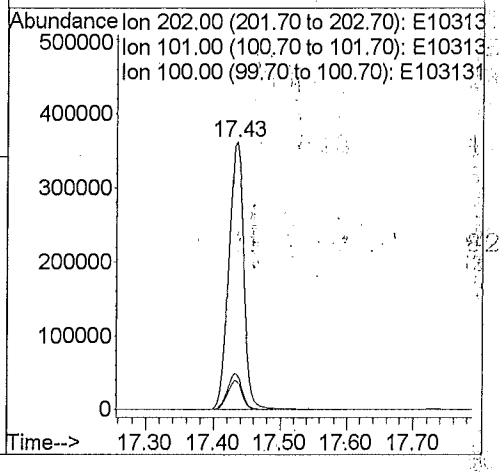


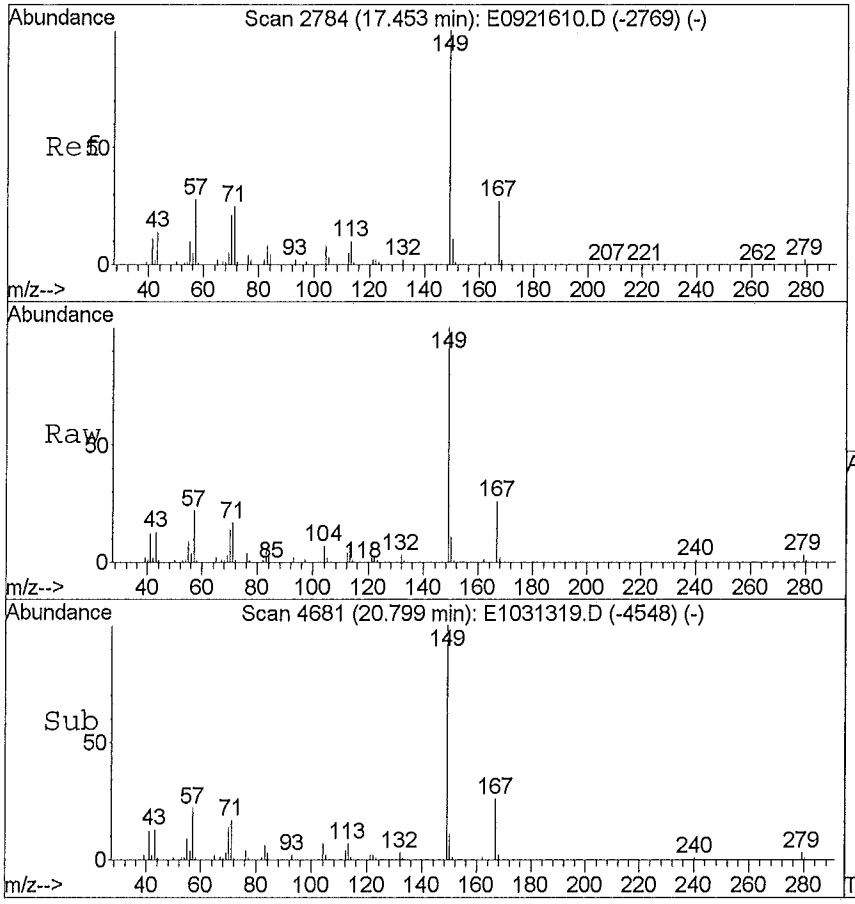




#11
Pyrene
Concen: 3553.20 ug/Kg
RT: 17.43 min Scan# 3782
Delta R.T. -0.00 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:202 Resp: 5693602

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.2 | 3.8 | 43.8 |
| 100 | 10.6 | 0.0 | 38.1 |

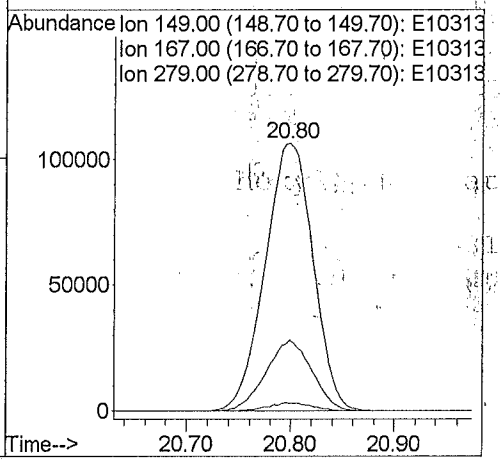


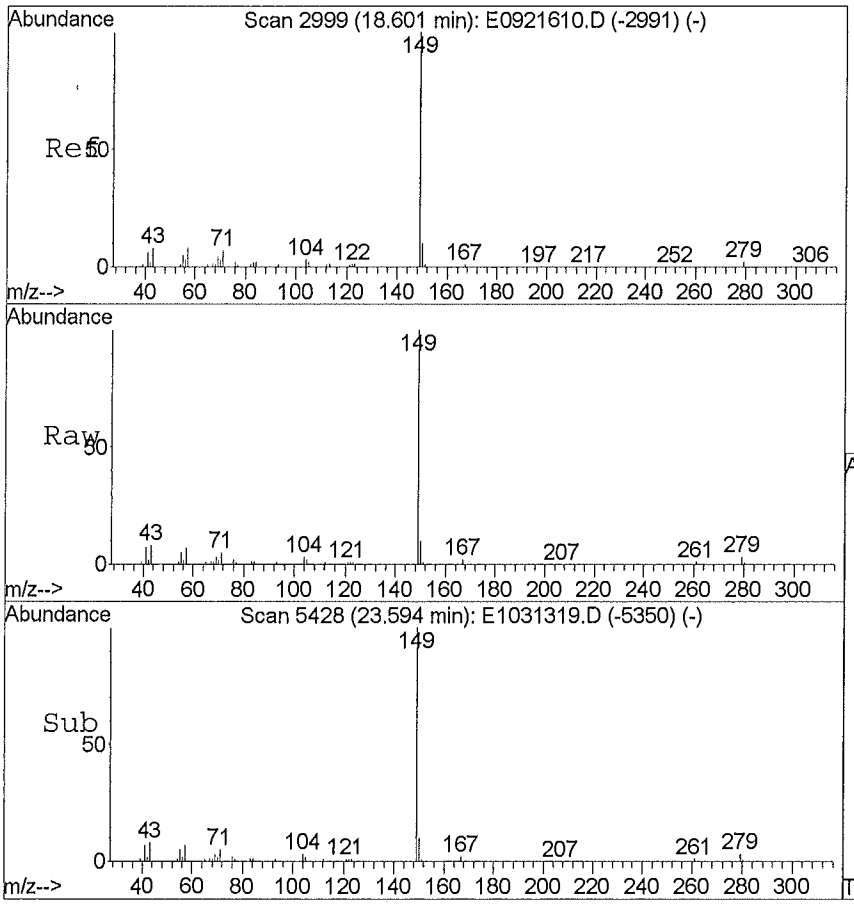



#13
bis(2-Ethylhexyl)phthalate
Concen: 3204.13 ug/Kg
RT: 20.80 min Scan# 4681
Delta R.T. -0.00 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:149 Resp: 3429430

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 25.3 | 4.9 | 44.9 |
| 279 | 2.9 | 0.0 | 22.2 |

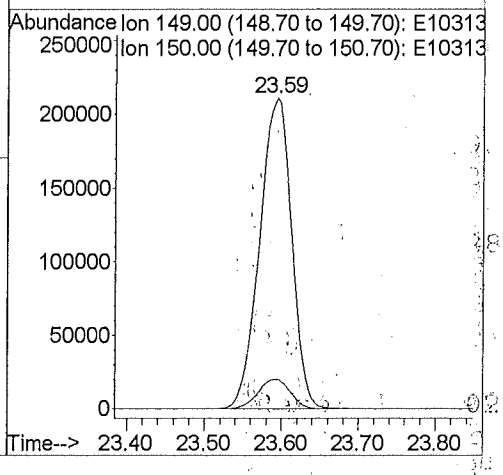



#14
Di-n-octylphthalate
Concen: 3365.10 ug/Kg
RT: 23.59 min Scan# 5428
Delta R.T. -0.01 min
Lab File: E1031319.D
Acq: 31 Oct 2013 19:23

Tgt Ion:149 Resp: 6131502

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.7 | 0.0 | 29.7 |



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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006558-02B1 |
| Desc/Location: | NA | Lab Filename: | E1031320 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/29/2013 |
| Matrix: | QC Material | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 76% |
| 2-Fluorobiphenyl | 30-130 | 83% |
| Terphenyl-d14 | 30-130 | 77% |

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

Blank for Run B6635, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031320.D
Acq On : 31 Oct 2013 20:04
Operator : DOUG
Sample : 006558-02B1
Misc : AG-5 8270 B10111
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 04 14:23:54 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2182938 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8069557 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4794322 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8592513 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10078894 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10932026 | 8000.00 | ug/Kg | 0.0 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1742774 | 3818.66 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 76.37% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3803303 | 4134.80 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 82.70% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4457660 | 3869.80 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 77.40% | | |

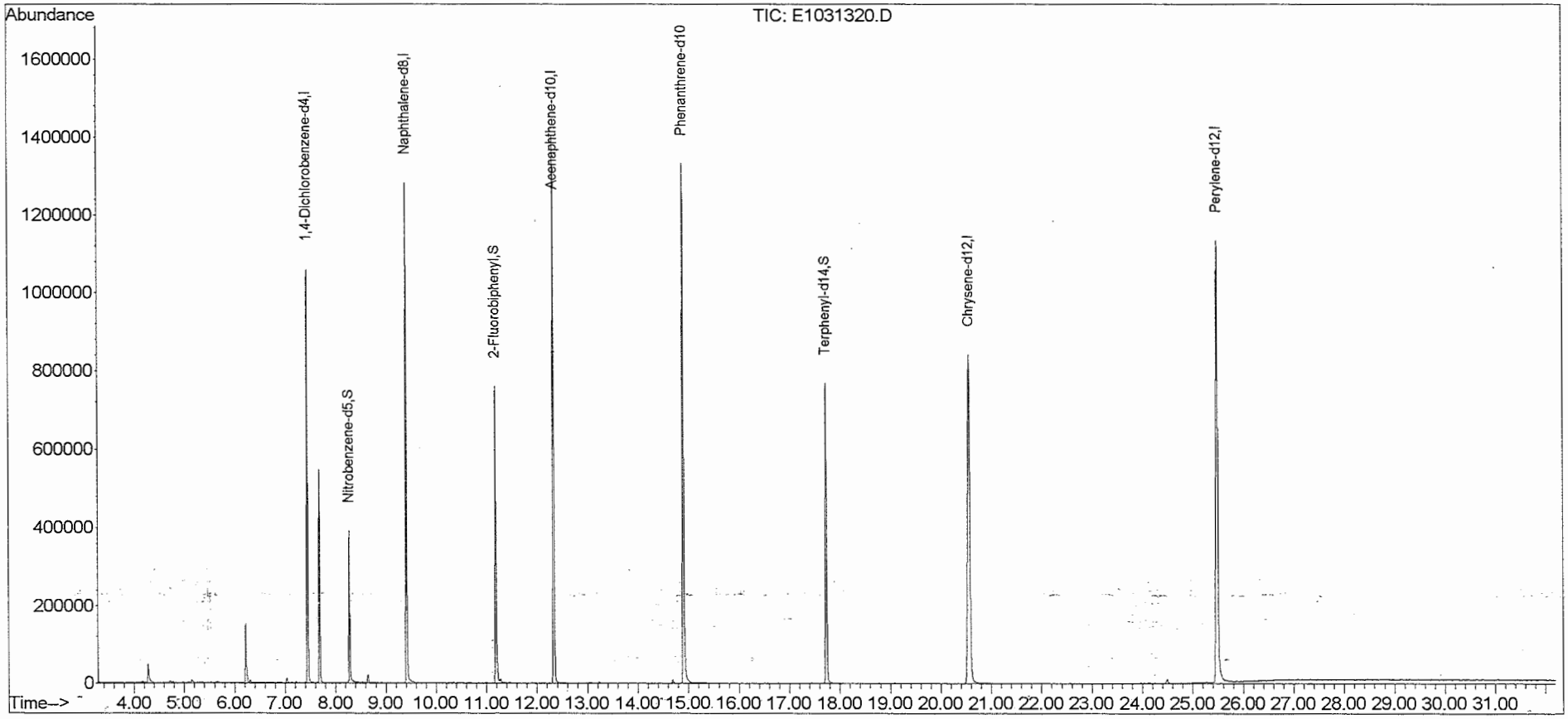
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031320.D
Acq On : 31 Oct 2013 20:04
Operator : DOUG
Sample : 006558-02B1
Misc : AG-5 8270 B10111
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 04 14:23:54 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 14:24:01 2013 Page: 2

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | NA | ARDL Lab No.: | 006558-02K1 |
| Desc/Location: | NA | Lab Filename: | E1031321 |
| Sample Date: | NA | Received Date: | NA |
| Sample Time: | NA | Prep. Date: | 10/29/2013 |
| Matrix: | QC Material | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % Moisture: | NA | Level: | LOW |

| Parameter | Method Limit | Reporting Limit | Result | Data Flag | Units |
|---|---|---|---|---|---|
| Dimethylphthalate | 200 | 1000 | 3690 | | UG/KG |
| Diethylphthalate | 200 | 1000 | 3800 | | UG/KG |
| Di-n-butylphthalate | 200 | 1000 | 3820 | | UG/KG |
| Pyrene | 200 | 1000 | 3920 | | UG/KG |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3760 | | UG/KG |
| Di-n-octylphthalate | 200 | 1000 | 3830 | | UG/KG |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 76% |
| 2-Fluorobiphenyl | 30-130 | 84% |
| Terphenyl-d14 | 30-130 | 82% |

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

Spike Blank for Run B6635, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031321.D
Acq On : 31 Oct 2013 20:46
Operator : DOUG
Sample : 006558-02K1
Misc : AG-5 8270 B10111
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 01 11:49:19 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

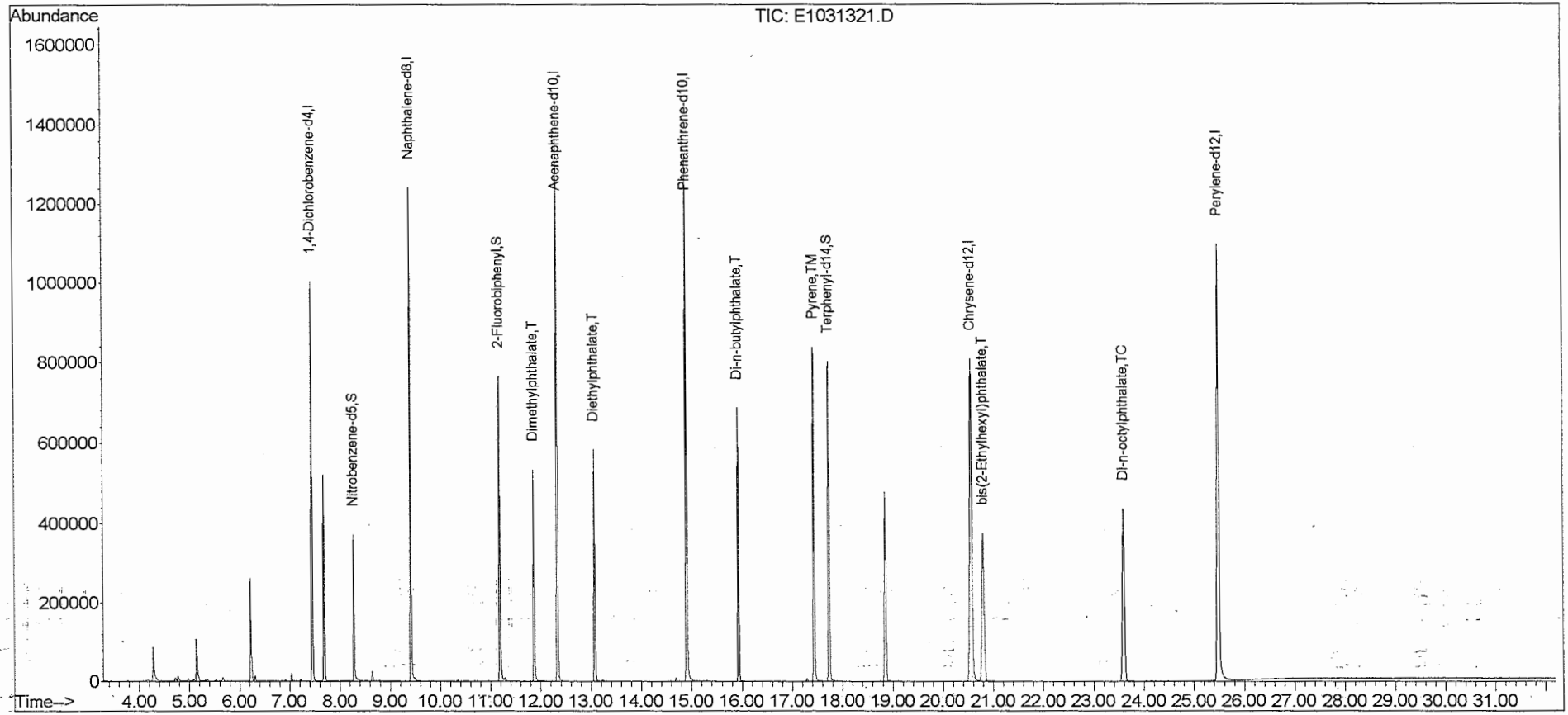
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2103397 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7737916 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4545599 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8043224 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9449063 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 10275452 | 8000.00 ug/Kg | 0.0 |
| **System Monitoring Compounds** | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1673508 | 3824.05 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 76.48% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3645588 | 4180.20 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 83.60% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4408285 | 4082.02 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 81.64% | |
| **Target Compounds** | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 3352861 | 3694.92 ug/Kg | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 3345732 | 3801.55 ug/Kg | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5623283 | 3824.78 ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 6010245 | 3918.12 ug/Kg | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3851515 | 3759.00 ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6687045 | 3833.70 ug/Kg | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031321.D
Acq On : 31 Oct 2013 20:46
Operator : DOUG
Sample : 006558-02K1
Misc : AG-5 8270 B10111
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Nov 01 11:49:19 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 11:49:19 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK018C | ARDL Lab No.: | 006557-12 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031322 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0905 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 70% |
| 2-Fluorobiphenyl | 30-130 | 76% |
| Terphenyl-d14 | 30-130 | 73% |

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

Sample 006557-12, BNA'S (METHOD 8270) Page 1 of 1

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031322.D
Acq On : 31 Oct 2013 21:27
Operator : DOUG
Sample : 006557-12
Misc : AG-5 8270 B10111
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Nov 01 16:30:50 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2053434 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7670707 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4505984 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7981685 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9594250 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 9720053 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1507959 | 3475.95 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | | 69.52% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3285091 | 3799.96 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | | 76.00% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4016333 | 3662.80 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | | 73.26% | |

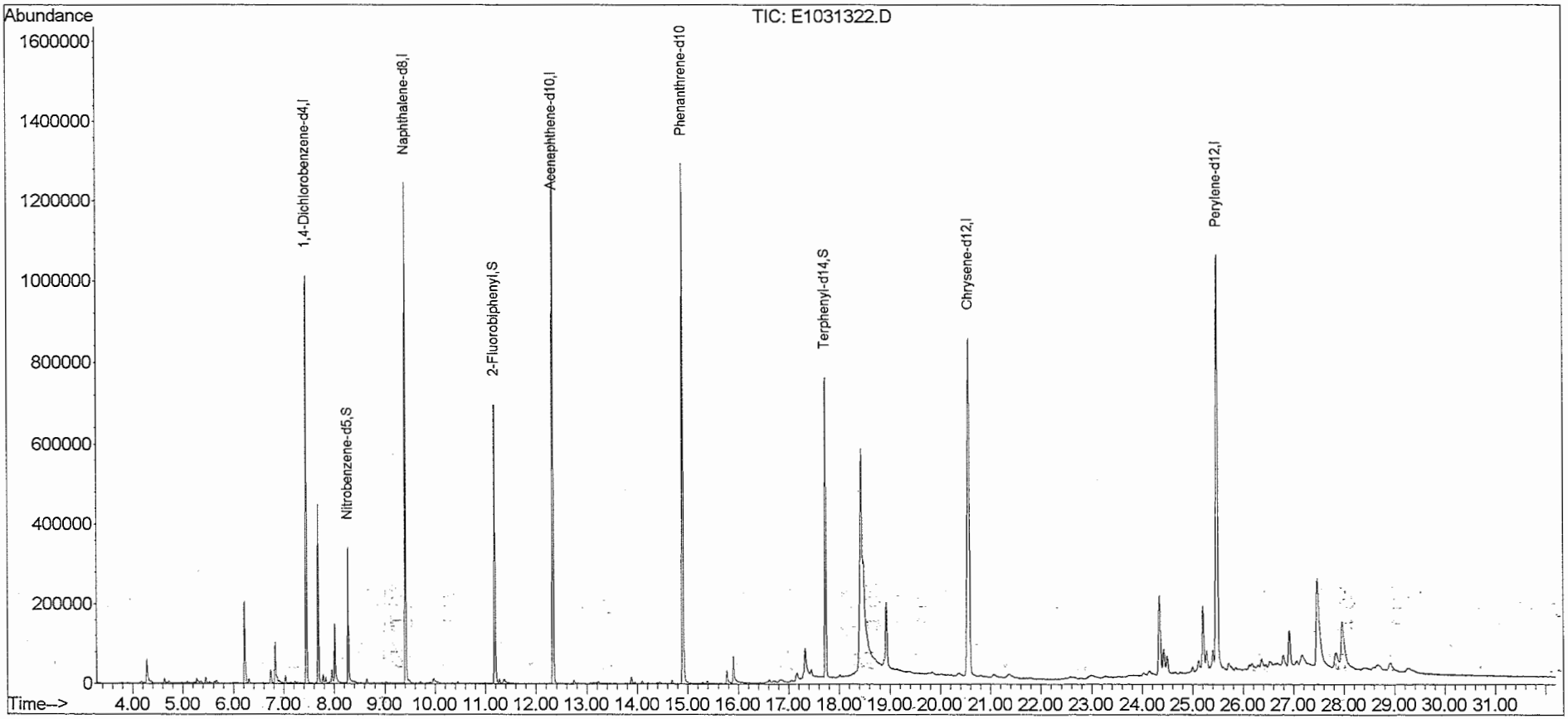
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031322.D
Acq On : 31 Oct 2013 21:27
Operator : DOUG
Sample : 006557-12
Misc : AG-5 8270 B10111
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Nov 01 16:30:50 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:30:56 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK019C | ARDL Lab No.: | 006557-13 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031323 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0915 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 69% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-13, BNA'S (METHOD 8270) Page 1 of 1

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031323.D
Acq On : 31 Oct 2013 22:09
Operator : DOUG
Sample : 006557-13
Misc : AG-5 8270 B10111
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 01 16:31:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2207753 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8170381 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4868968 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8596233 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10324610 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 10814922 | 8000.00 ug/Kg | 0.0 |

| System Monitoring Compounds | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1599719 | 3461.95 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 69.24% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3615094 | 3869.93 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 77.40% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4410789 | 3737.98 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | | Recovery = 74.76% | |

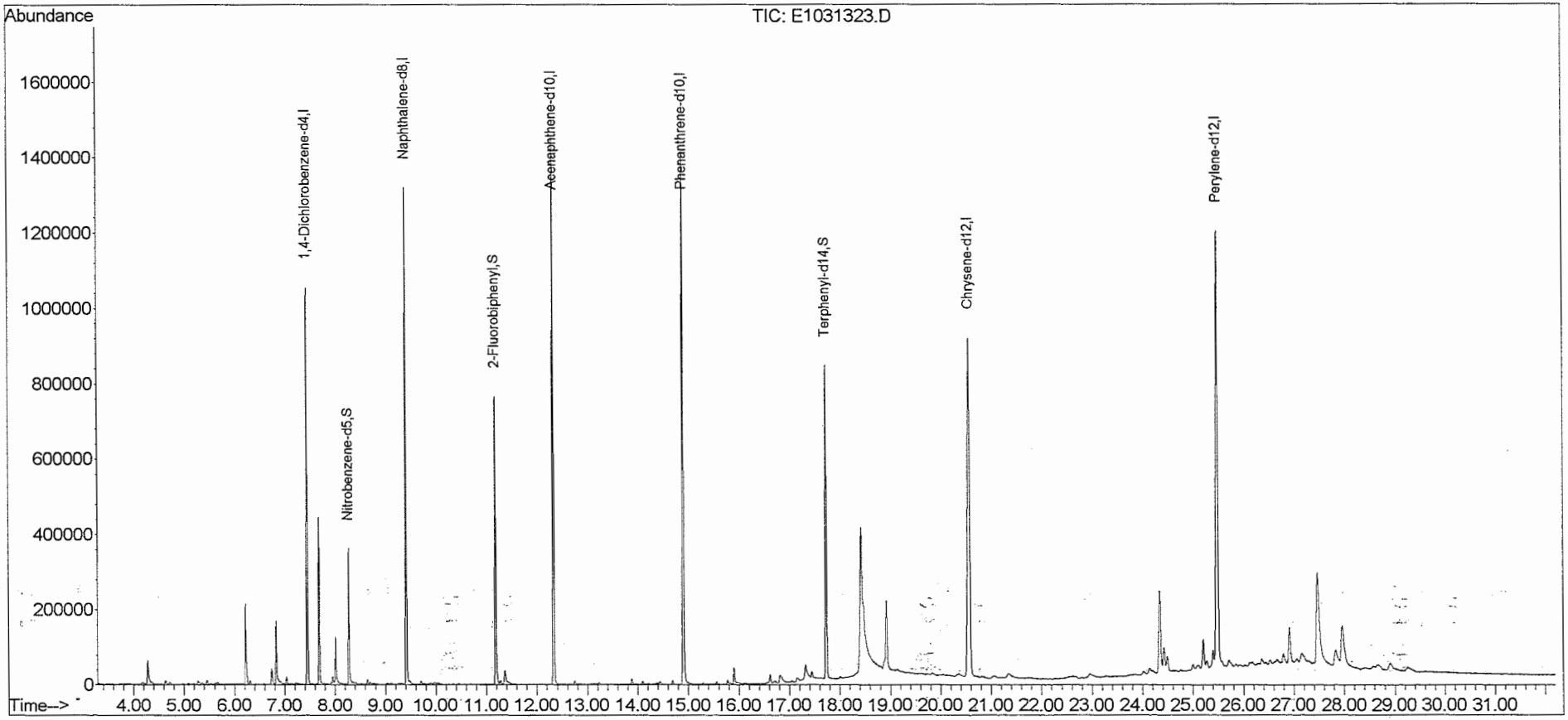
| Target Compounds | Qvalue |
|---|---|

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031323.D
Acq On : 31 Oct 2013 22:09
Operator : DOUG
Sample : 006557-13
Misc : AG-5 8270 B10111
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Nov 01 16:31:48 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:31:55 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK020C | ARDL Lab No.: | 006557-14 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1031324 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1018 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 10/31/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 78% |
| Terphenyl-d14 | 30-130 | 75% |

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

Sample 006557-14, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031324.D
Acq On : 31 Oct 2013 22:51
Operator : DOUG
Sample : 006557-14
Misc : AG-5 8270 B10111
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 01 16:32:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2032418 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7545040 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4486161 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7807237 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9376600 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 9551307 | 8000.00 | ug/Kg | 0.0 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1539877 | 3608.65 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 72.17% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3370630 | 3916.13 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 78.32% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4022545 | 3753.62 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 75.07% | | | |

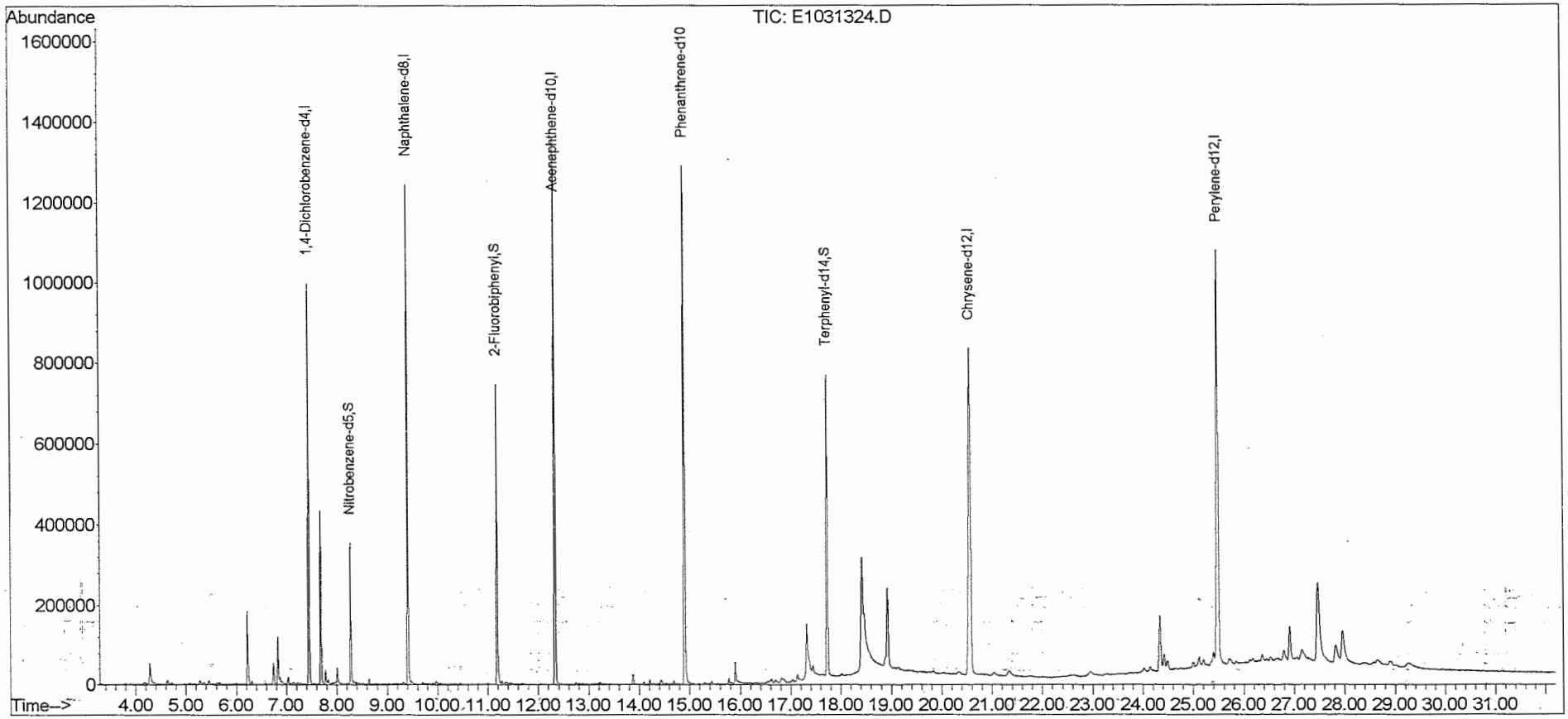
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\103113\
Data File : E1031324.D
Acq On : 31 Oct 2013 22:51
Operator : DOUG
Sample : 006557-14
Misc : AG-5 8270 B10111
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 01 16:32:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Fri Nov 01 16:32:33 2013 Page: 2

# Analytical Run Number 3

## 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

Form 1 (If required)
Chromatogram
Quant Report (If applicable)
Confirmation Analysis Quant Report / Chromatogram (If applicable)
Tentatively Identified Compounds (If required)

Rev. 1.0

# 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. 1.0

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: E1101302 DFTPP Injection Date: 11/01/13

Instrument ID: AG5 DFTPP Injection Time: 09:38

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 51 | 30 - 80% of mass 198 | 32.0 |
| 68 | Less than 2.0% of mass 69 | 0.0 (1) |
| 69 | (reference only) | 33.4 |
| 70 | Less than 2.0% of mass 69 | 0.3 (1) |
| 127 | 25 - 75% of mass 198 | 46.7 |
| 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 | 24.9 |
| 365 | Greater than 1% of mass 198 | 2.4 |
| 441 | 0 - 100% of mass 443 | 87.0 |
| 442 | 40 - 110% of mass 198 | 72.2 |
| 443 | 15 - 24% of mass 442 | 19.1 (2) |

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

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

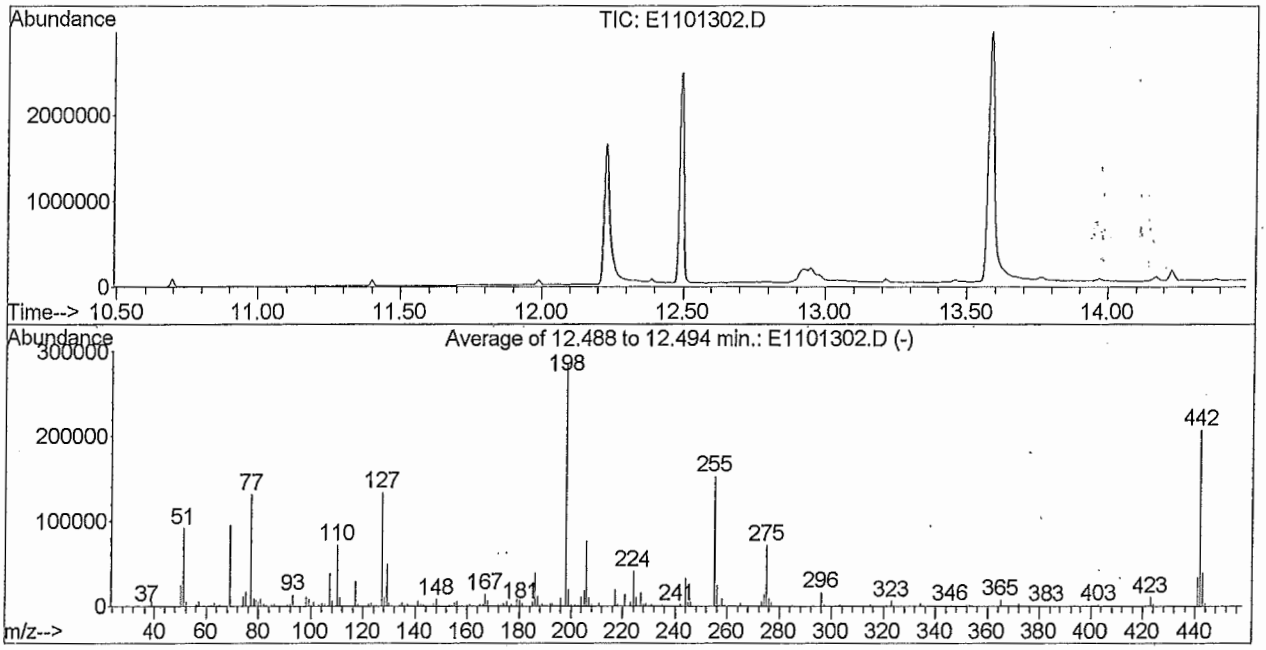
| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 1 | BNA STD | 030 PPM STD | E1101303 | 11/01/13 | 10:04 |
| 2 | MAK022C | 006557-15 | E1101305 | 11/01/13 | 11:28 |
| 3 | MAK024C | 006557-16 | E1101306 | 11/01/13 | 12:10 |
| 4 | MAK025C | 006557-17 | E1101307 | 11/01/13 | 12:53 |
| 5 | MAK026C | 006557-18 | E1101308 | 11/01/13 | 13:37 |
| 6 | MAK027C | 006557-19 | E1101309 | 11/01/13 | 14:21 |
| 7 | MAK029C | 006558-01 | E1101310 | 11/01/13 | 15:05 |
| 8 | MAK030C | 006558-02 | E1101311 | 11/01/13 | 15:49 |
| 9 | MAK030CMS | 006558-02MS | E1101312 | 11/01/13 | 16:34 |
| 10 | MAK030CMSD | 006558-02MD | E1101313 | 11/01/13 | 17:18 |
| 11 | MAK031C | 006558-03 | E1101314 | 11/01/13 | 18:02 |
| 12 | MAK028C | 006558-04 | E1101315 | 11/01/13 | 18:45 |
| 13 | | | | | |
| 14 | | | | | |
| 15 | | | | | |
| 16 | | | | | |
| 17 | | | | | |
| 18 | | | | | |
| 19 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 22 | | | | | |

DFTPP

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101302.D
Acq On : 1 Nov 2013 9:38
Operator : DOUG
Sample : 50 NG DFTPP 16093
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 Aug 28 11:55:28 2013




AutoFind: Scans 1200, 1201, 1202; Background Corrected with Scan 1189

| Target Mass | Rel. to Mass | Lower Limit% | Upper Limit% | Rel. Abn% | Raw Abn | Result Pass/Fail |
|---|---|---|---|---|---|---|
| 51 | 198 | 30 | 80 | 32.0 | 91742 | PASS |
| 68 | 69 | 0.00 | 2 | 0.0 | 0 | PASS |
| 69 | 198 | 0.01 | 100 | 33.4 | 95742 | PASS |
| 70 | 69 | 0.00 | 2 | 0.3 | 326 | PASS |
| 127 | 198 | 25 | 75 | 46.7 | 133777 | PASS |
| 197 | 198 | 0.00 | 1 | 0.0 | 0 | PASS |
| 198 | 198 | 100 | 100 | 100.0 | 286698 | PASS |
| 199 | 198 | 5 | 9 | 6.8 | 19600 | PASS |
| 275 | 198 | 10 | 30 | 24.9 | 71269 | PASS |
| 365 | 198 | 0.75 | 100 | 2.4 | 6803 | PASS |
| 441 | 443 | 0.01 | 100 | 87.0 | 34373 | PASS |
| 442 | 198 | 40 | 110 | 72.2 | 206976 | PASS |
| 443 | 442 | 15 | 24 | 19.1 | 39488 | PASS |

8270TUNPULSE.M Fri Nov 01 09:55:52 2013 Page: 1

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 37.05 | 397 | 56.10 | 2456 | 72.30 | 75 | 85.00 | 1187 |
| 38.00 | 1056 | 57.10 | 5305 | 73.00 | 454 | 86.00 | 2472 |
| 39.05 | 6162 | 58.00 | 323 | 74.05 | 11557 | 87.00 | 932 |
| 40.00 | 13 | 61.00 | 1028 | 75.05 | 16358 | 88.00 | 487 |
| 45.00 | 74 | 62.10 | 1698 | 77.05 | 131539 | 89.00 | 236 |
| 47.00 | 59 | 63.05 | 3976 | 78.10 | 9328 | 91.05 | 1344 |
| 47.95 | 95 | 64.10 | 680 | 79.05 | 7520 | 92.05 | 2487 |
| 50.05 | 25248 | 65.05 | 1868 | 80.00 | 5849 | 93.00 | 13013 |
| 51.05 | 91742 | 66.00 | 85 | 81.00 | 8566 | 94.05 | 1077 |
| 52.05 | 5032 | 69.00 | 95742 | 82.00 | 2269 | 96.05 | 319 |
| 53.05 | 117 | 70.00 | 326 | 83.10 | 1577 | 98.00 | 10733 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 98.95 | 8550 | 111.00 | 10392 | 122.00 | 2548 | 133.95 | 1363 |
| 99.95 | 692 | 112.00 | 1119 | 123.00 | 3816 | 135.00 | 4160 |
| 100.95 | 4738 | 113.00 | 505 | 124.00 | 1713 | 135.95 | 1825 |
| 101.90 | 133 | 113.80 | 60 | 125.00 | 1676 | 137.00 | 2196 |
| 102.10 | 152 | 114.90 | 156 | 127.05 | 133777 | 137.95 | 402 |
| 103.00 | 1703 | 116.10 | 1001 | 128.05 | 11045 | 138.90 | 339 |
| 104.05 | 3315 | 117.00 | 29512 | 129.00 | 49514 | 140.00 | 895 |
| 105.00 | 2917 | 118.00 | 2080 | 129.95 | 4016 | 140.95 | 6135 |
| 107.00 | 38507 | 119.00 | 200 | 130.95 | 699 | 141.95 | 2231 |
| 108.05 | 6515 | 120.00 | 413 | 132.05 | 322 | 143.00 | 1571 |
| 110.00 | 71830 | 121.00 | 43 | 132.95 | 123 | 144.00 | 474 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 145.00 | 360 | 155.05 | 3838 | 166.10 | 2569 | 176.95 | 2534 |
| 145.95 | 1341 | 156.05 | 5545 | 166.95 | 13736 | 177.95 | 303 |
| 147.00 | 3226 | 157.05 | 1272 | 167.95 | 6889 | 178.95 | 8846 |
| 148.00 | 7959 | 158.00 | 1204 | 169.00 | 1150 | 180.05 | 6875 |
| 149.00 | 1380 | 158.95 | 885 | 170.05 | 602 | 180.95 | 3347 |
| 149.95 | 598 | 160.00 | 2130 | 170.95 | 437 | 182.05 | 436 |
| 151.00 | 584 | 160.95 | 2951 | 172.00 | 1327 | 182.85 | 257 |
| 151.20 | 187 | 162.00 | 1013 | 173.00 | 1596 | 184.05 | 666 |
| 151.90 | 531 | 163.00 | 187 | 174.05 | 3199 | 185.00 | 5762 |
| 153.00 | 2004 | 164.00 | 385 | 175.05 | 5305 | 186.00 | 38666 |
| 154.00 | 1567 | 164.95 | 2312 | 175.95 | 1699 | 187.00 | 11184 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 188.10 | 1201 | 200.00 | 1549 | 211.90 | 542 | 225.00 | 10888 |
| 189.00 | 2360 | 201.50 | 1669 | 212.90 | 128 | 226.10 | 588 |
| 189.95 | 597 | 202.95 | 2030 | 214.00 | 66 | 227.00 | 15679 |
| 190.95 | 1271 | 204.00 | 10534 | 215.00 | 702 | 227.95 | 2128 |
| 192.00 | 3427 | 205.10 | 18794 | 217.00 | 19069 | 229.00 | 3217 |
| 192.95 | 3685 | 206.00 | 76482 | 218.00 | 2611 | 229.85 | 362 |
| 194.00 | 840 | 207.00 | 9903 | 218.90 | 290 | 231.00 | 1560 |
| 194.90 | 114 | 208.00 | 2212 | 219.20 | 121 | 231.85 | 223 |
| 196.00 | 9118 | 208.90 | 587 | 221.00 | 13605 | 232.95 | 276 |
| 198.00 | 286698 | 210.00 | 833 | 223.05 | 4721 | 233.95 | 870 |
| 199.00 | 19600 | 211.00 | 3027 | 224.00 | 40754 | 235.00 | 1408 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 235.95 | 897 | 246.00 | 5848 | 256.00 | 24112 | 269.10 | 82 |
| 237.00 | 1149 | 246.95 | 1132 | 257.05 | 2072 | 269.75 | 104 |
| 237.85 | 175 | 248.00 | 315 | 258.00 | 8216 | 270.95 | 434 |
| 238.20 | 61 | 248.95 | 1294 | 258.95 | 1312 | 273.00 | 5309 |
| 238.90 | 663 | 250.00 | 277 | 260.00 | 211 | 274.00 | 14072 |
| 240.05 | 555 | 250.95 | 424 | 260.90 | 244 | 275.00 | 71269 |
| 240.95 | 777 | 251.80 | 164 | 262.90 | 81 | 276.00 | 9512 |
| 242.00 | 2287 | 252.10 | 12 | 263.20 | 65 | 277.00 | 4980 |
| 243.05 | 1982 | 252.40 | 167 | 265.00 | 3266 | 277.95 | 876 |
| 244.00 | 32269 | 253.05 | 827 | 266.90 | 7 | 278.95 | 221 |
| 245.00 | 4475 | 255.00 | 152533 | 268.75 | 95 | 279.80 | 40 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 281.90 | 49 | 290.90 | 170 | 303.00 | 1953 | 316.00 | 1089 |
| 282.15 | 130 | 291.95 | 174 | 304.00 | 660 | 316.95 | 185 |
| 282.95 | 744 | 292.95 | 1182 | 304.90 | 80 | 321.05 | 633 |
| 284.00 | 454 | 294.00 | 426 | 307.90 | 337 | 322.00 | 196 |
| 285.00 | 934 | 296.00 | 16258 | 308.90 | 188 | 323.00 | 5992 |
| 285.90 | 217 | 296.95 | 2366 | 309.95 | 242 | 323.95 | 996 |
| 287.30 | 31 | 297.90 | 215 | 310.90 | 30 | 324.95 | 70 |
| 288.00 | 81 | 298.70 | 35 | 312.80 | 77 | 325.60 | 54 |
| 288.80 | 129 | 300.90 | 65 | 312.95 | 158 | 326.05 | 117 |
| 289.00 | 83 | 301.10 | 198 | 314.05 | 747 | 326.95 | 1133 |
| 289.95 | 299 | 301.80 | 313 | 314.95 | 1866 | 327.95 | 532 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 329.00 | 94 | 344.80 | 27 | 356.70 | 31 | 366.90 | 43 |
| 331.90 | 557 | 345.90 | 1116 | 358.75 | 87 | 369.95 | 248 |
| 332.95 | 557 | 346.80 | 44 | 359.10 | 61 | 370.95 | 442 |
| 334.00 | 3466 | 347.00 | 165 | 360.90 | 34 | 372.00 | 2724 |
| 334.95 | 962 | 349.50 | 31 | 361.60 | 31 | 372.95 | 666 |
| 335.90 | 139 | 349.90 | 29 | 362.00 | 34 | 373.85 | 72 |
| 339.10 | 42 | 351.00 | 68 | 362.70 | 37 | 377.05 | 57 |
| 340.00 | 29 | 352.00 | 1830 | 363.10 | 56 | 382.90 | 735 |
| 341.00 | 636 | 352.95 | 1305 | 363.45 | 63 | 383.85 | 236 |
| 341.80 | 44 | 354.00 | 1869 | 364.95 | 6803 | 384.95 | 70 |
| 341.95 | 160 | 354.95 | 326 | 365.95 | 1197 | 389.95 | 489 |

Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 390.95 | 381 | 414.75 | 118 | 429.10 | 87 | 434.95 | 160 |
| 391.95 | 232 | 415.80 | 26 | 429.40 | 56 | 435.30 | 74 |
| 392.80 | 32 | 418.20 | 34 | 430.30 | 36 | 435.80 | 67 |
| 396.00 | 32 | 419.70 | 63 | 431.35 | 120 | 436.30 | 92 |
| 400.95 | 198 | 421.00 | 1545 | 431.70 | 40 | 436.50 | 60 |
| 401.95 | 994 | 422.00 | 1496 | 432.10 | 90 | 436.80 | 59 |
| 403.00 | 1461 | 423.00 | 10430 | 432.90 | 48 | 437.10 | 109 |
| 403.95 | 540 | 423.95 | 2162 | 433.30 | 132 | 437.75 | 347 |
| 404.80 | 29 | 424.95 | 233 | 433.60 | 36 | 438.85 | 265 |
| 409.80 | 68 | 427.60 | 33 | 433.90 | 34 | 439.40 | 137 |
| 412.50 | 31 | 428.40 | 39 | 434.15 | 94 | 441.00 | 34373 |

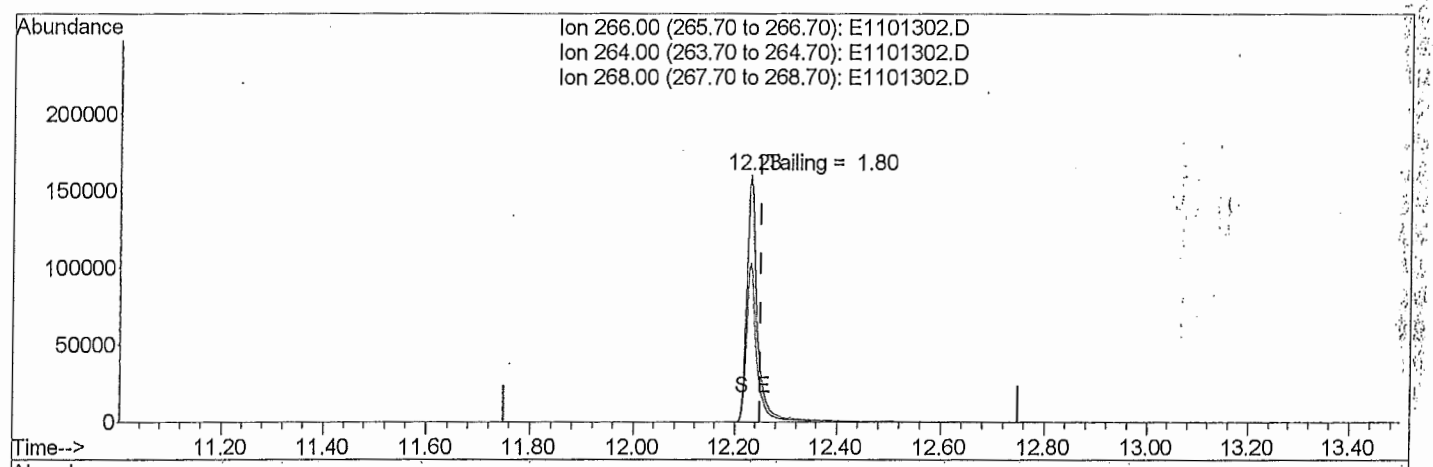
Average of 12.488 to 12.494 min.: E1101302.D
50 NG DFTPP 16093
Modified:subtracted

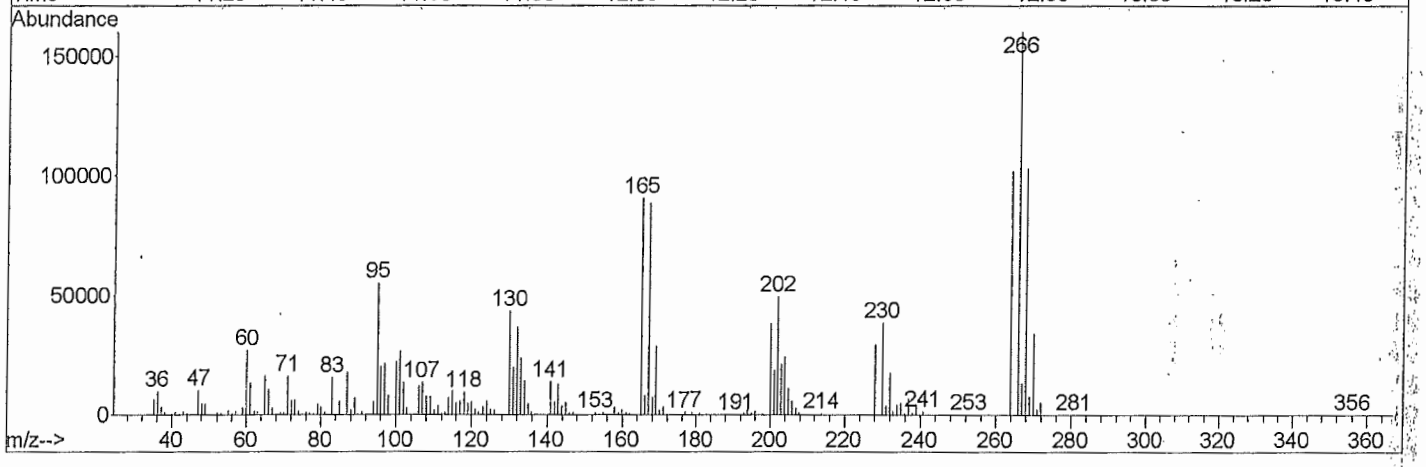
| m/z | abund. | m/z | abund. | m/z | abund. | m/z | abund. |
|---|---|---|---|---|---|---|---|
| 442.00 | 206976 | | | | | | |
| 443.00 | 39488 | | | | | | |
| 443.95 | 3353 | | | | | | |
| 444.85 | 216 | | | | | | |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101302.D
Acq On : 1 Nov 2013 9:38
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 09:56:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1101302.D

(1) Pentachlorophenol (TMC)

12.230min (-0.020) 20.97ug/L

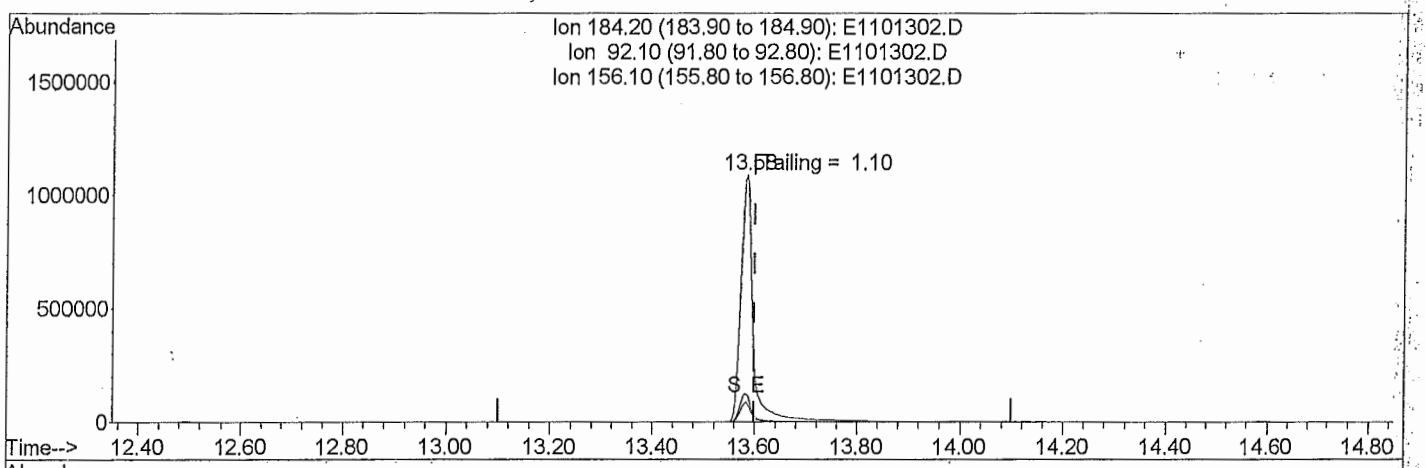
response 223517

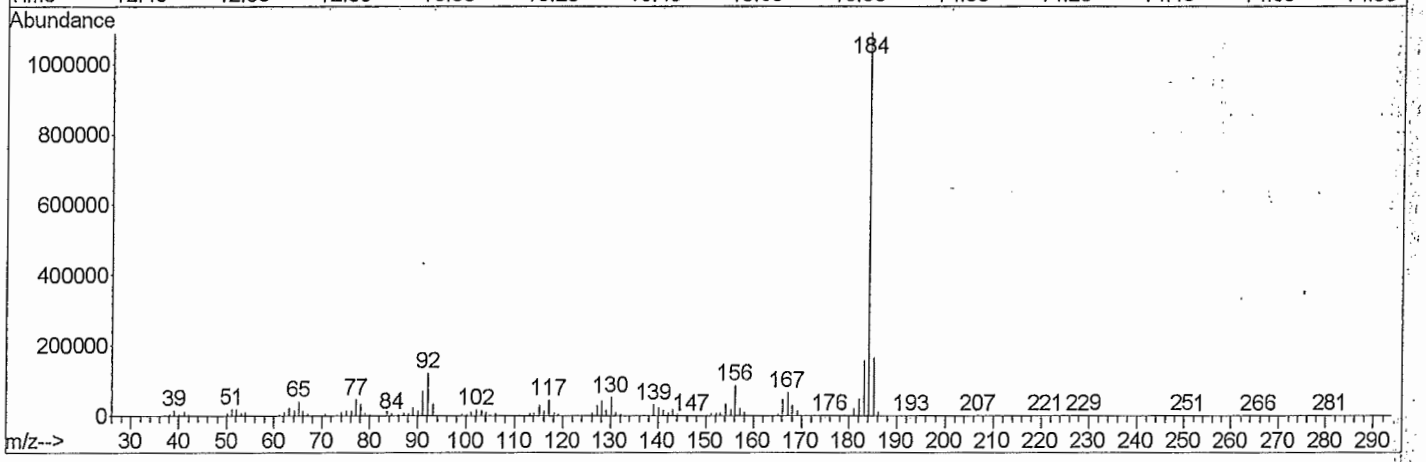
| Ion | Exp% | Act% |
|---|---|---|
| 266.00 | 100 | 100 |
| 264.00 | 63.80 | 64.67 |
| 268.00 | 63.80 | 64.46 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101302.D
Acq On : 1 Nov 2013 9:38
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 09:56:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1101302.D

(3) Benzidine (T)

13.584min (-0.016) 34.83ug/L

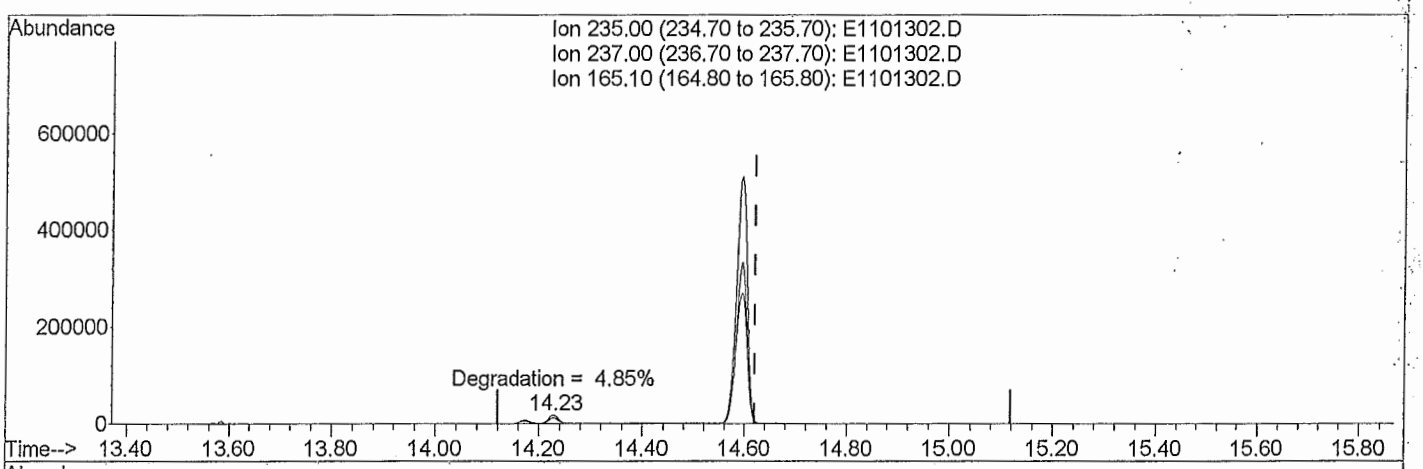
response 1795939

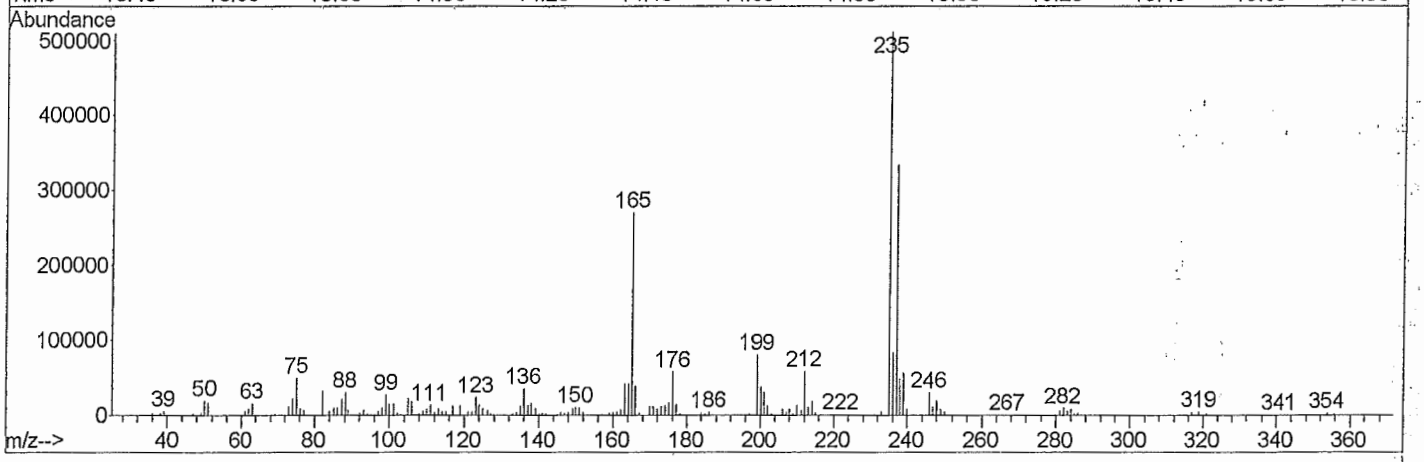
| Ion | Exp% | Act% |
|---|---|---|
| 184.20 | 100 | 100 |
| 92.10 | 13.70 | 11.10 |
| 156.10 | 8.60 | 7.30 |
| 0.00 | 0.00 | 0.00 |

# Quantitation Report (Qedit)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101302.D
Acq On : 1 Nov 2013 9:38
Operator : DOUG
Sample : 50 NG DFTPP 16093
Misc : AG-5 8270
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 01 09:56:40 2013
Quant Method : C:\MSDCHEM\1\METHODS\8270TUNPULSE.M
Quant Title : 8270 TUNE METHOD
QLast Update : Wed Aug 28 11:55:28 2013
Response via : Initial Calibration




TIC: E1101302.D

(4) DDT

14.594min (-0.026) 29.67ug/L

response 770152

| Ion | Exp% | Act% |
|---|---|---|
| 235.00 | 100 | 100 |
| 237.00 | 64.80 | 64.34 |
| 165.10 | 59.00 | 55.58 |
| 0.00 | 0.00 | 0.00 |

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101303.D
Acq On : 1 Nov 2013 10:04
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 01 10:37:57 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration

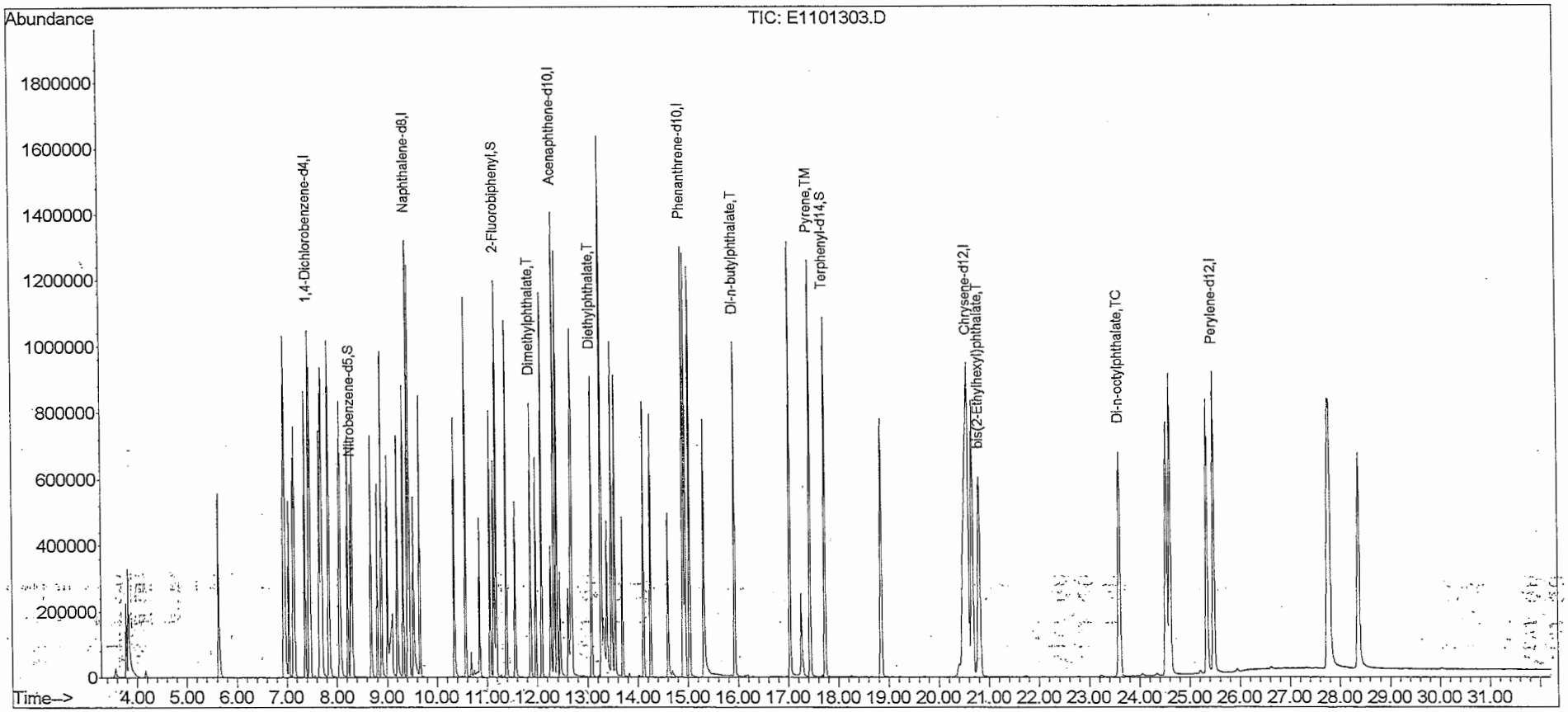
| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2105566 | 40.00 ug/L | 0.00 |
| 2) Naphthalene-d8 | 9.42 | 136 | 7872779 | 40.00 ug/L | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4579432 | 40.00 ug/L | 0.00 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 7901977 | 40.00 ug/L | 0.00 |
| 10) Chrysene-d12 | 20.59 | 240 | 9217084 | 40.00 ug/L | 0.00 |
| 15) Perylene-d12 | 25.49 | 264 | 7158246 | 40.00 ug/L | 0.00 |
| System Monitoring Compounds | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 2752784 | 30.91 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 61.82% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 5082734 | 28.93 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 57.86% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 6179703 | 29.33 ug/L | 0.00 |
| Spiked Amount 50.000 | | | Recovery = | 58.66% | |
| Target Compounds | | | | | Qvalue |
| 6) Dimethylphthalate | 11.87 | 163 | 5273492 | 28.84 ug/L | 99 |
| 7) Diethylphthalate | 13.09 | 149 | 5123681 | 28.89 ug/L | 99 |
| 9) Di-n-butylphthalate | 15.94 | 149 | 8635784 | 29.89 ug/L | 95 |
| 11) Pyrene | 17.44 | 202 | 8843228 | 29.55 ug/L | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.81 | 149 | 6327149 | 31.65 ug/L | 99 |
| 14) Di-n-octylphthalate | 23.60 | 149 | 11057814 | 32.50 ug/L | 100 |

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101303.D
Acq On : 1 Nov 2013 10:04
Operator : DOUG
Sample : 30 PPM STD 16099
Misc : AG-5 8270
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Nov 01 10:37:57 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HW.M
Quant Title : 8270 BNA Calibration
QLast Update : Wed Oct 30 16:31:12 2013
Response via : Initial Calibration




E8270316HW.M Fri Nov 01 10:37:58 2013 Page: 2

# Continuing Calibration Report AG5

Method Path : C:\MSDCHEM\1\CALFILES\8270CALS\
Method File : E8270316HW.M
Title : 8270 BNA Calibration
Last Update : Fri Nov 01 10:38:34 2013
Response Via : Initial Calibration

CC Data File: E1101303.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 | 108 |
| 3 | S | Nitrobenzene-d5 | 0.452 | 0.466 | -3.0 | 111 |
| 4 | I | Acenaphthene-d10 | 1.000 | 1.000 | 0.0 | 106 |
| 5 | S | 2-Fluorobiphenyl | 1.535 | 1.480 | 3.6 | 106 |
| 6 | T | Dimethylphthalate | 1.597 | 1.535 | 3.9 | 105 |
| 7 | T | Diethylphthalate | 1.549 | 1.492 | 3.7 | 105 |
| 8 | I | Phenanthrene-d10 | 1.000 | 1.000 | 0.0 | 106 |
| 9 | T | Di-n-butylphthalate | 1.462 | 1.457 | 0.4 | 106 |
| 10 | I | Chrysene-d12 | 1.000 | 1.000 | 0.0 | 104 |
| 11 | TM | Pyrene | 1.299 | 1.279 | 1.5 | 105 |
| 12 | S | Terphenyl-d14 | 0.914 | 0.894 | 2.2 | 103 |
| 13 | T | bis(2-Ethylhexyl)phthalate | 0.867 | 0.915 | -5.5 | 108 |
| 14 | TC | Di-n-octylphthalate | 1.477 | 1.600 | -8.3# | 109 |
| 15 | I | Perylene-d12 | 1.000 | 1.000 | 0.0 | 100 |

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

# Instrument Logs/
# Analysis Notebook Pages

Rev. 1.0

PROJECT 11/1/2013 8270

Notebook No. 3308 51

Continued from Page

## Injection Log

Directory: C:\MSDCHEM\1\DATA\110113

| Line | Vial | FileName | Multiplier | SampleName | Misc Info |
|---|---|---|---|---|---|
| 1 | 1 | E1101301.d | 1. | 50 NG DFTPP 16093 | AG-5 8270 |
| 2 | 1 | E1101302.d | 1. | 50 NG DFTPP 16093 Pass | AG-5 8270 |
| 3 | 2 | E1101303.d | 1. | 30 PPM STD 16099 Pass | AG-5 8270 |
| 4 | 3 | E1101304.d | 1. | 006558-02B1 | AG-5 8270 B10111 |
| 5 | 4 | E1101305.d | 0. | 006557-15 | AG-5 8270 B10111 |
| 6 | 5 | E1101306.d | 0. | 006557-16 | AG-5 8270 B10111 |
| 7 | 6 | E1101307.d | 0. | 006557-17 | AG-5 8270 B10111 |
| 8 | 7 | E1101308.d | 0. | 006557-18 | AG-5 8270 B10111 |
| 9 | 8 | E1101309.d | 0. | 006557-19 | AG-5 8270 B10111 |
| 10 | 9 | E1101310.d | 0. | 006558-01 | AG-5 8270 B10111 |
| 11 | 10 | E1101311.d | 0. | 006558-02 | AG-5 8270 B10111 |
| 12 | 11 | E1101312.d | 0. | 006558-02MS | AG-5 8270 B10111 |
| 13 | 12 | E1101313.d | 0. | 006558-02MSD | AG-5 8270 B10111 |
| 14 | 13 | E1101314.d | 0. | 006558-03 | AG-5 8270 B10111 |
| 15 | 14 | E1101315.d | 0. | 006558-04 | AG-5 8270 B10111 |
| 16 | 15 | E1101316.d | 0. | 006558-05 Pass | AG-5 8270 B10111 |

PEK 11/1/2013

Continued on Page

Read and Understood By

PEK — Signed — 11/4/2013 — Date

Signed — 11/4/13 — Date

# Blank / Field Sample / QC Data

Rev. 1.0

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK022C | ARDL Lab No.: | 006557-15 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101305 |
| Sample Date: | 09/16/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1150 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 73% |
| Terphenyl-d14 | 30-130 | 71% |

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

Sample 006557-15, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101305.D
Acq On : 1 Nov 2013 11:28
Operator : DOUG
Sample : 006557-15
Misc : AG-5 8270 B10111
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 04 09:51:44 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2215345 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8167249 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4873143 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8549723 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10287178 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.50 | 264 | 10908806 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1523201 | 3297.63 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 65.95% | | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3423289 | 3661.47 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 73.23% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4178047 | 3553.62 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 71.07% | | | |

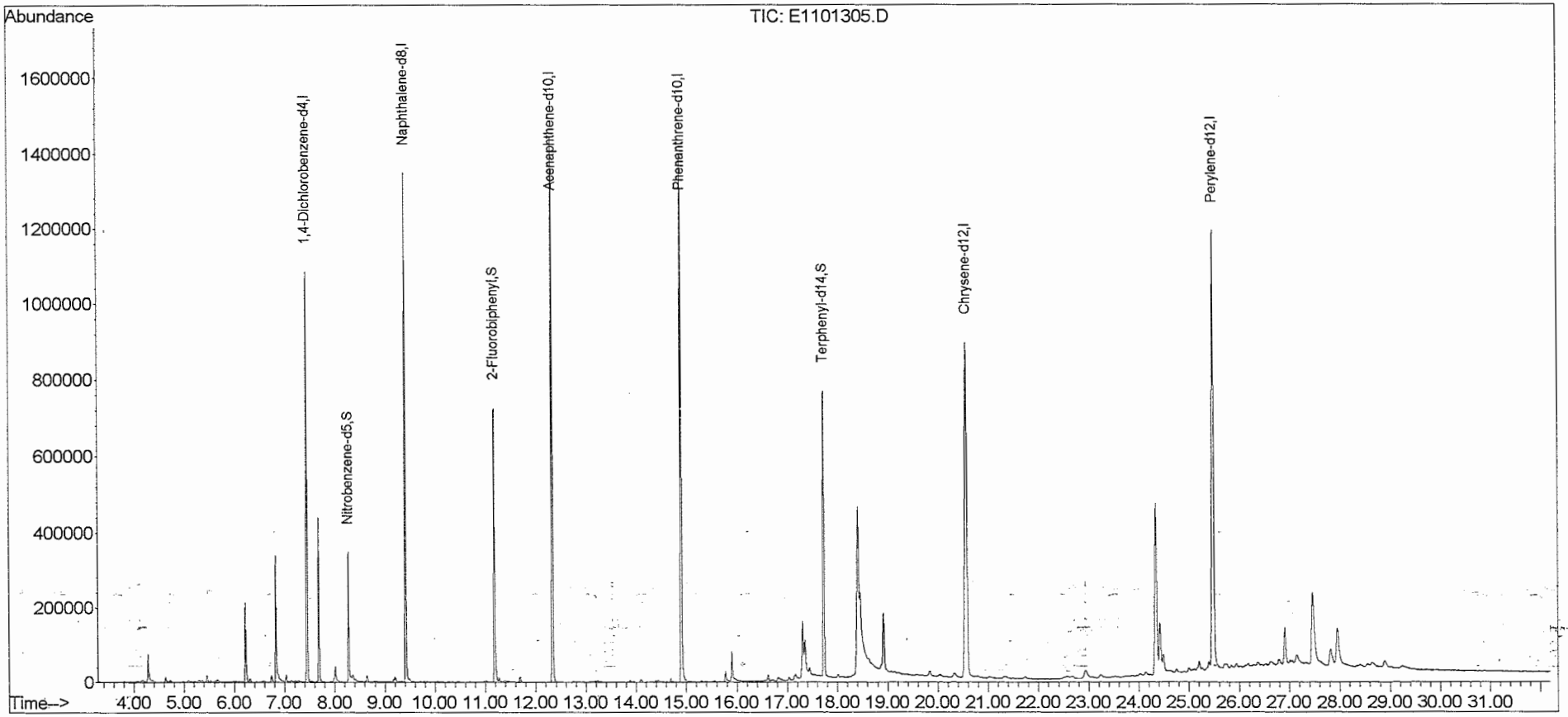
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101305.D
Acq On : 1 Nov 2013 11:28
Operator : DOUG
Sample : 006557-15
Misc : AG-5 8270 B10111
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Nov 04 09:51:44 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 09:51:50 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK024C | ARDL Lab No.: | 006557-16 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101306 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0830 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 73% |
| 2-Fluorobiphenyl | 30-130 | 82% |
| Terphenyl-d14 | 30-130 | 78% |

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

Sample 006557-16, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101306.D
Acq On : 1 Nov 2013 12:10
Operator : DOUG
Sample : 006557-16
Misc : AG-5 8270 B10111
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 04 09:52:51 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2261524 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.42 | 136 | 8360009 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4927916 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8614217 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10324411 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10862029 | 8000.00 ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1723364 | 3644.94 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 72.90% | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3865351 | 4088.33 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.77% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4622760 | 3917.69 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.35% | |

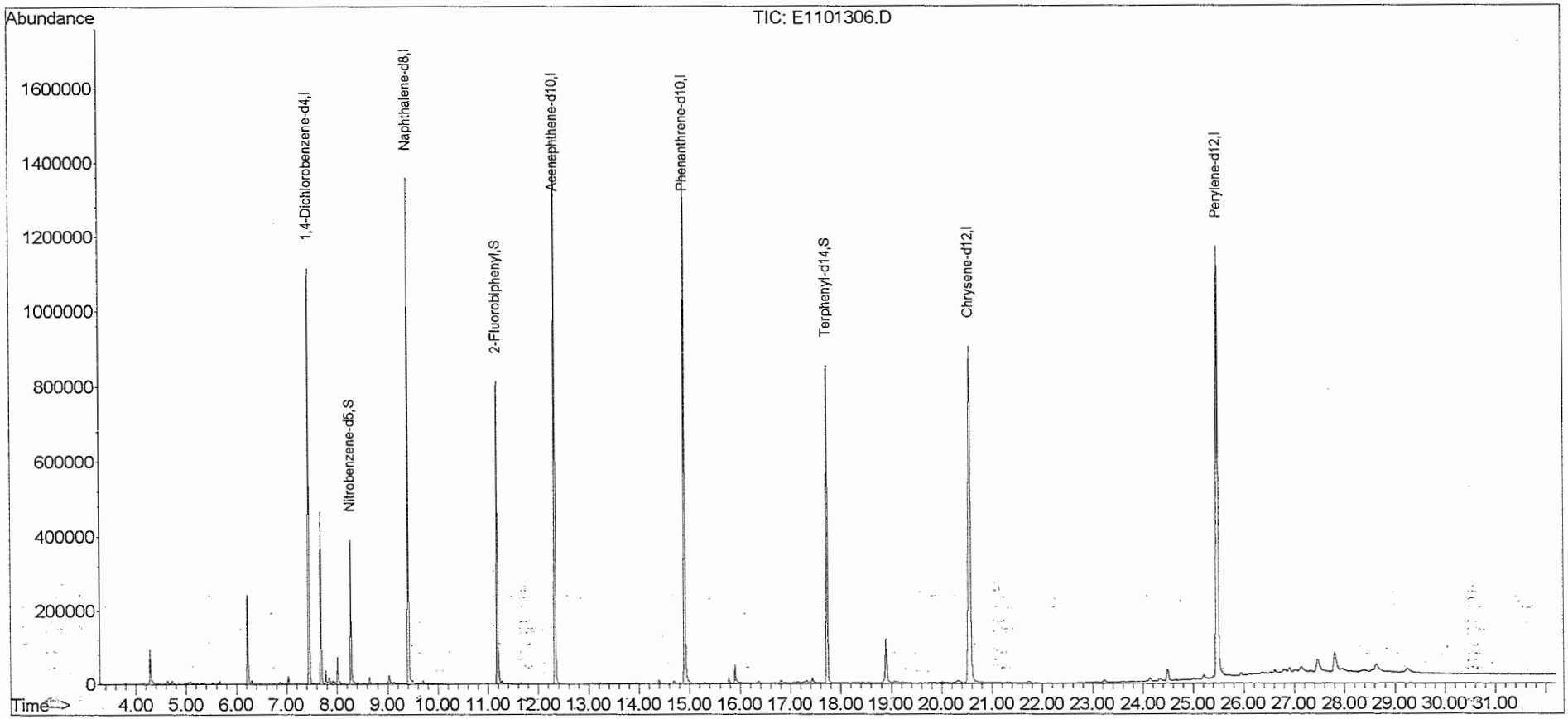
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101306.D
Acq On : 1 Nov 2013 12:10
Operator : DOUG
Sample : 006557-16
Misc : AG-5 8270 B10111
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Nov 04 09:52:51 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 09:52:59 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK025C | ARDL Lab No.: | 006557-17 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101307 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0906 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 72% |
| 2-Fluorobiphenyl | 30-130 | 83% |
| Terphenyl-d14 | 30-130 | 82% |

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

Sample 006557-17, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101307.D
Acq On : 1 Nov 2013 12:53
Operator : DOUG
Sample : 006557-17
Misc : AG-5 8270 B10111
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 04 11:03:15 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2006843 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7433749 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4343119 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7658415 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 9052095 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 9524138 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1516457 | 3606.97 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 72.14% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3456862 | 4148.60 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 82.97% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4257280 | 4115.07 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 82.30% | | | |

Target Compounds Qvalue

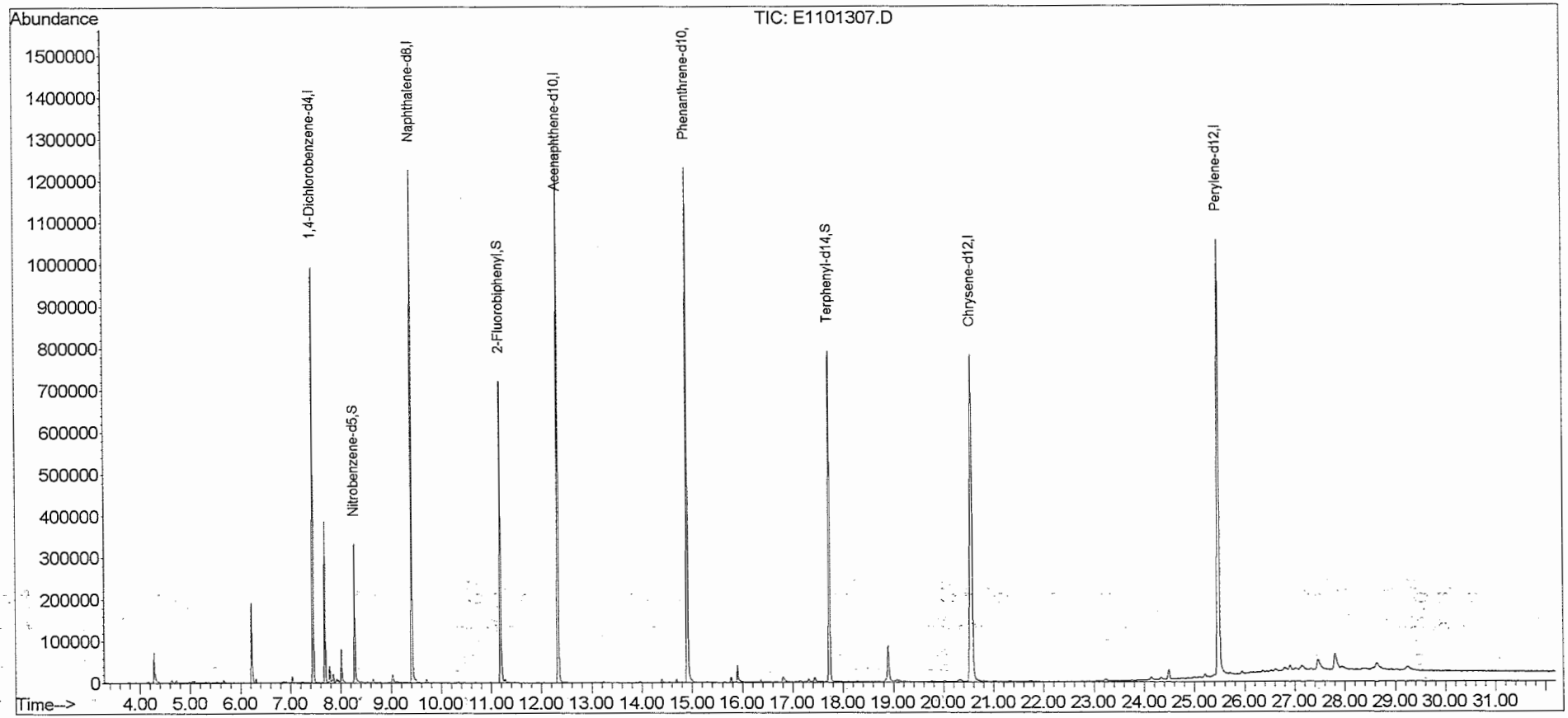
(#) = qualifier out of range (m) = manual integration (+) = signals summed

E8270316HT.M Mon Nov 04 11:03:21 2013 Page: 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101307.D
Acq On : 1 Nov 2013 12:53
Operator : DOUG
Sample : 006557-17
Misc : AG-5 8270 B10111
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Nov 04 11:03:15 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:03:22 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK026C | ARDL Lab No.: | 006557-18 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101308 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1018 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 59% |
| 2-Fluorobiphenyl | 30-130 | 70% |
| Terphenyl-d14 | 30-130 | 69% |

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

Sample 006557-18, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101308.D
Acq On : 1 Nov 2013 13:37
Operator : DOUG
Sample : 006557-18
Misc : AG-5 8270 B10111
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 04 11:20:11 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2187094 | 8000.00 | ug/Kg | 0.00 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8130655 | 8000.00 | ug/Kg | 0.00 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4787906 | 8000.00 | ug/Kg | 0.00 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8398676 | 8000.00 | ug/Kg | 0.00 |
| 10) Chrysene-d12 | 20.57 | 240 | 10040444 | 8000.00 | ug/Kg | -0.02 |
| 15) Perylene-d12 | 25.49 | 264 | 10600221 | 8000.00 | ug/Kg | 0.00 |
| System Monitoring Compounds | | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1358209 | 2953.66 | ug/Kg | 0.00 |
| Spiked Amount 5000.000 | | | Recovery | = | 59.07% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3213885 | 3498.69 | ug/Kg | 0.00 |
| Spiked Amount 5000.000 | | | Recovery | = | 69.97% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3968921 | 3458.71 | ug/Kg | 0.00 |
| Spiked Amount 5000.000 | | | Recovery | = | 69.17% | |

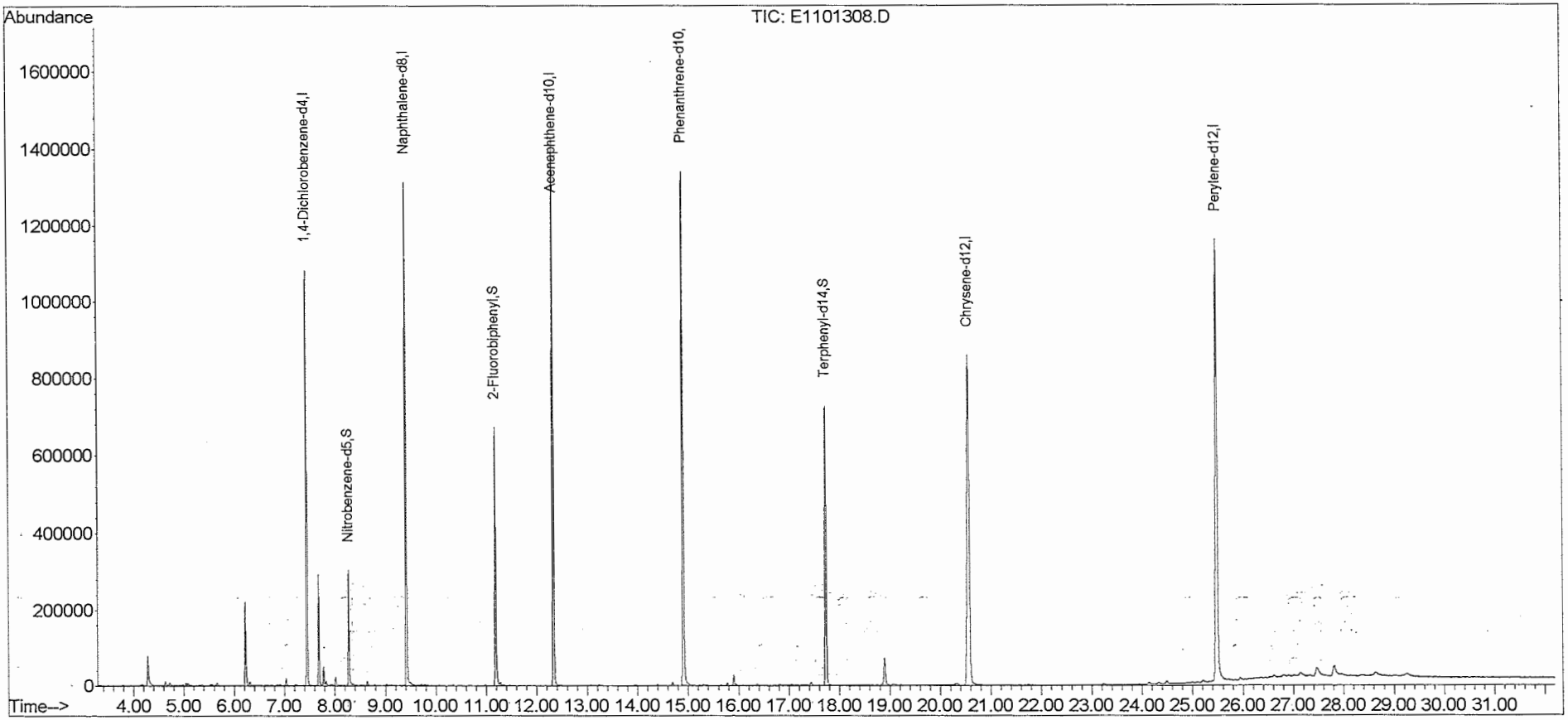
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101308.D
Acq On : 1 Nov 2013 13:37
Operator : DOUG
Sample : 006557-18
Misc : AG-5 8270 B10111
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Nov 04 11:20:11 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:20:16 2013 Page: 2

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

Lab Report No: 006557 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK027C | ARDL Lab No.: | 006557-19 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101309 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1140 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 71% |
| 2-Fluorobiphenyl | 30-130 | 80% |
| Terphenyl-d14 | 30-130 | 76% |

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

Sample 006557-19, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101309.D
Acq On : 1 Nov 2013 14:21
Operator : DOUG
Sample : 006557-19
Misc : AG-5 8270 B10111
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 04 11:21:10 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc Units | Dev(Min) |
|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2209299 | 8000.00 ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8188629 | 8000.00 ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4833893 | 8000.00 ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8605266 | 8000.00 ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10184851 | 8000.00 ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10684532 | 8000.00 ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | |
|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1636102 | 3532.80 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 70.66% | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3709236 | 3999.52 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 79.99% | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4434459 | 3809.61 ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 76.19% | |

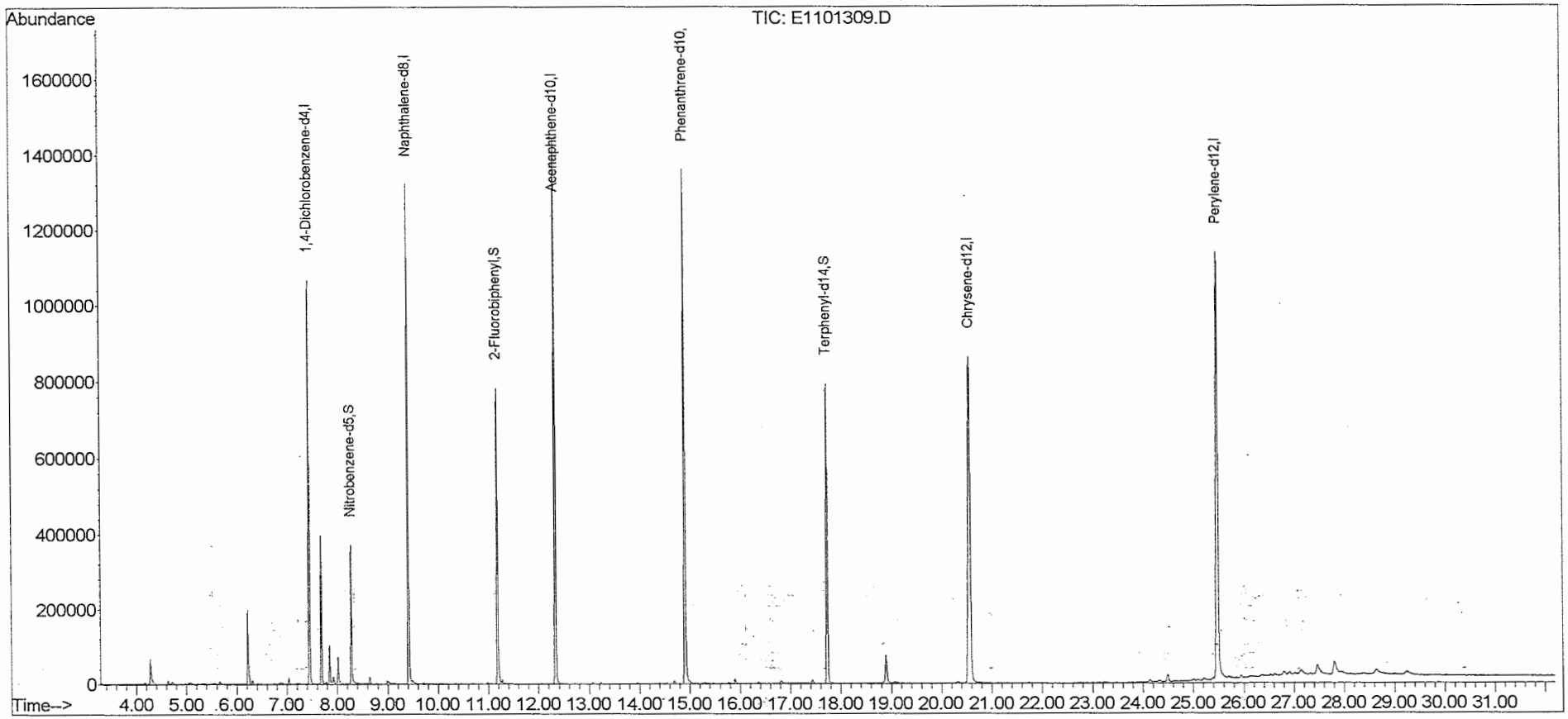
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101309.D
Acq On : 1 Nov 2013 14:21
Operator : DOUG
Sample : 006557-19
Misc : AG-5 8270 B10111
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Nov 04 11:21:10 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:21:16 2013 Page: 2

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK029C | ARDL Lab No.: | 006558-01 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101310 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0820 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 81% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006558-01, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101310.D
Acq On : 1 Nov 2013 15:05
Operator : DOUG
Sample : 006558-01
Misc : AG-5 8270 B10111
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 04 11:23:46 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2186753 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8079427 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4752064 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8351030 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9998368 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10265964 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1558434 | 3410.58 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 68.21% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3700982 | 4059.34 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 81.19% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4488879 | 3928.29 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.57% | | |

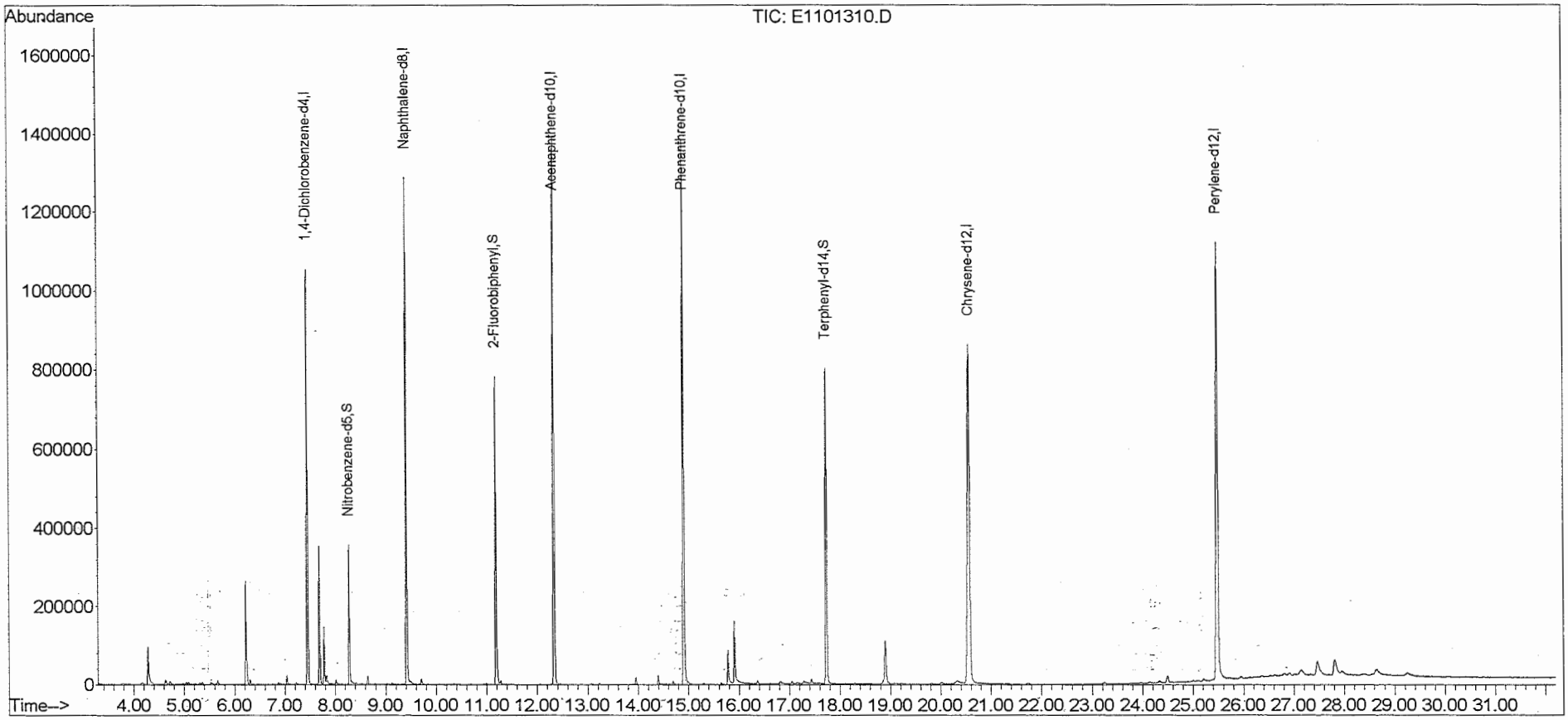
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101310.D
Acq On : 1 Nov 2013 15:05
Operator : DOUG
Sample : 006558-01
Misc : AG-5 8270 B10111
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Nov 04 11:23:46 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:23:52 2013 Page: 2

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK030C | ARDL Lab No.: | 006558-02 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101311 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0833 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 75% |
| Terphenyl-d14 | 30-130 | 73% |

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

Sample 006558-02, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101311.D
Acq On : 1 Nov 2013 15:49
Operator : DOUG
Sample : 006558-02
Misc : AG-5 8270 B10111
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 04 11:27:10 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 1938215 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7254009 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4262561 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 7569609 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.56 | 240 | 8803247 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 9117075 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1331726 | 3246.06 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 64.92% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3059850 | 3741.54 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 74.83% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 3683114 | 3660.72 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 73.21% | | | |

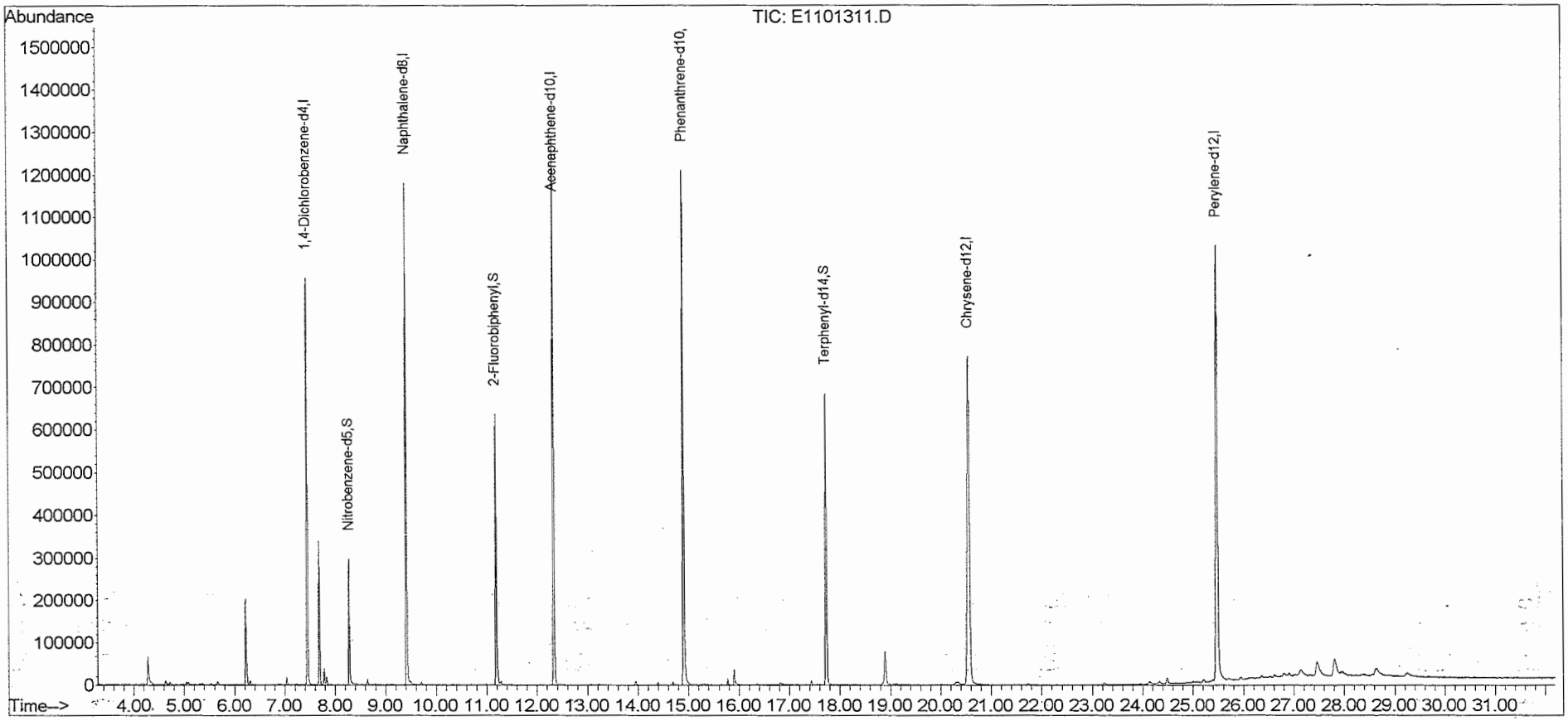
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101311.D
Acq On : 1 Nov 2013 15:49
Operator : DOUG
Sample : 006558-02
Misc : AG-5 8270 B10111
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Nov 04 11:27:10 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:27:18 2013 Page: 2

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK030C | ARDL Lab No.: | 006558-02MS |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101312 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0833 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 3490 | | UG/KG | 1 |
| Di-n-butylphthalate | 200 | 1000 | 3630 | | UG/KG | 1 |
| Pyrene | 200 | 1000 | 3650 | | UG/KG | 1 |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3550 | | UG/KG | 1 |
| Di-n-octylphthalate | 200 | 1000 | 3620 | | UG/KG | 1 |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 70% |
| 2-Fluorobiphenyl | 30-130 | 79% |
| Terphenyl-d14 | 30-130 | 77% |

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

Matrix Spike for 006558-02, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101312.D
Acq On : 1 Nov 2013 16:34
Operator : DOUG
Sample : 006558-02MS
Misc : AG-5 8270 B10111
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 04 08:57:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

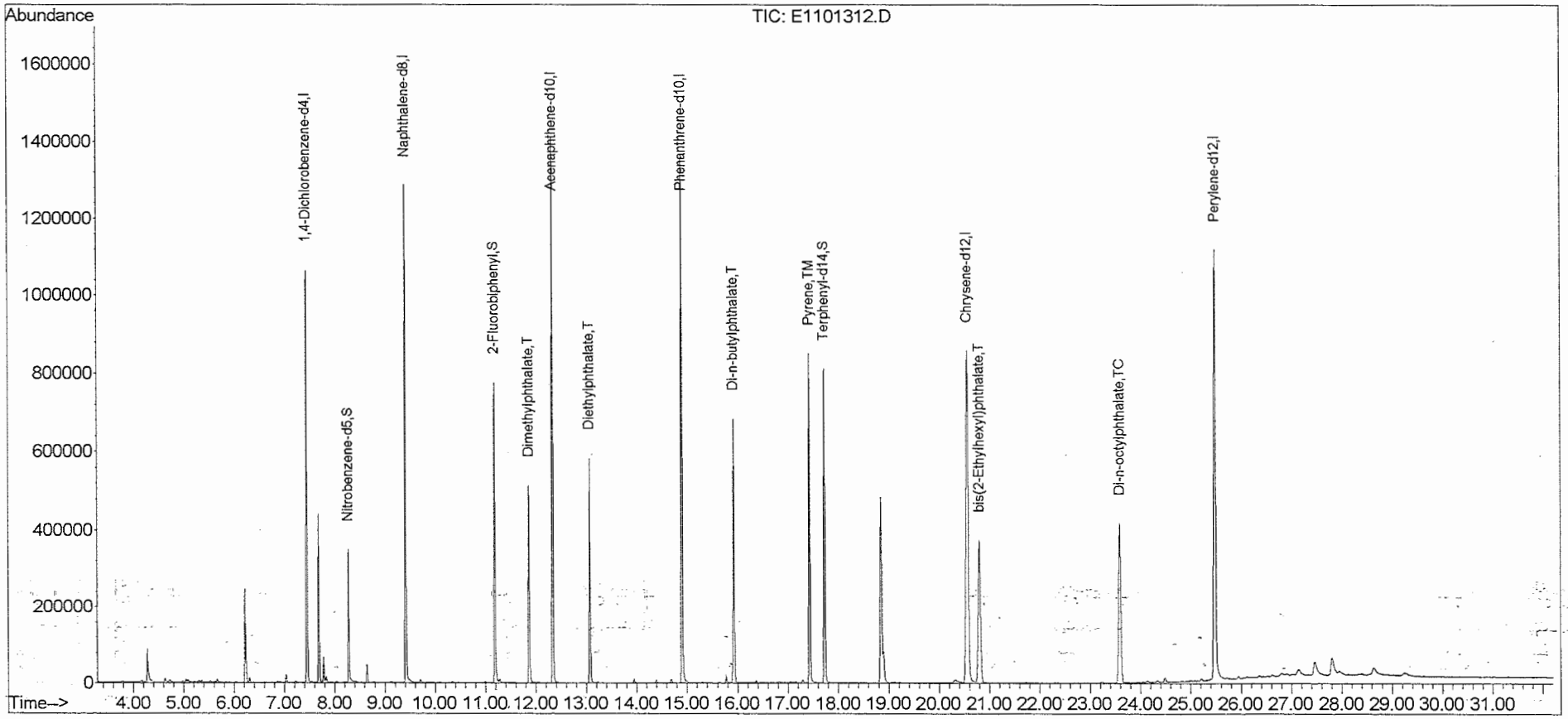
| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2158158 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8020015 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 4698427 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8213418 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9945950 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10205609 | 8000.00 | ug/Kg | 0.0 |
| **System Monitoring Compounds** | | | | | | |
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1580328 | 3484.11 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 69.68% | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3542992 | 3930.42 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 78.61% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4394826 | 3866.25 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 77.33% | | |
| **Target Compounds** | | | | | | Qvalue |
| 6) Dimethylphthalate | 11.86 | 163 | 3230381 | 3444.15 | ug/Kg | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 3171778 | 3486.67 | ug/Kg | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5445296 | 3626.98 | ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 5895631 | 3651.39 | ug/Kg | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3826560 | 3548.06 | ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6650708 | 3622.38 | ug/Kg | 100 |

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

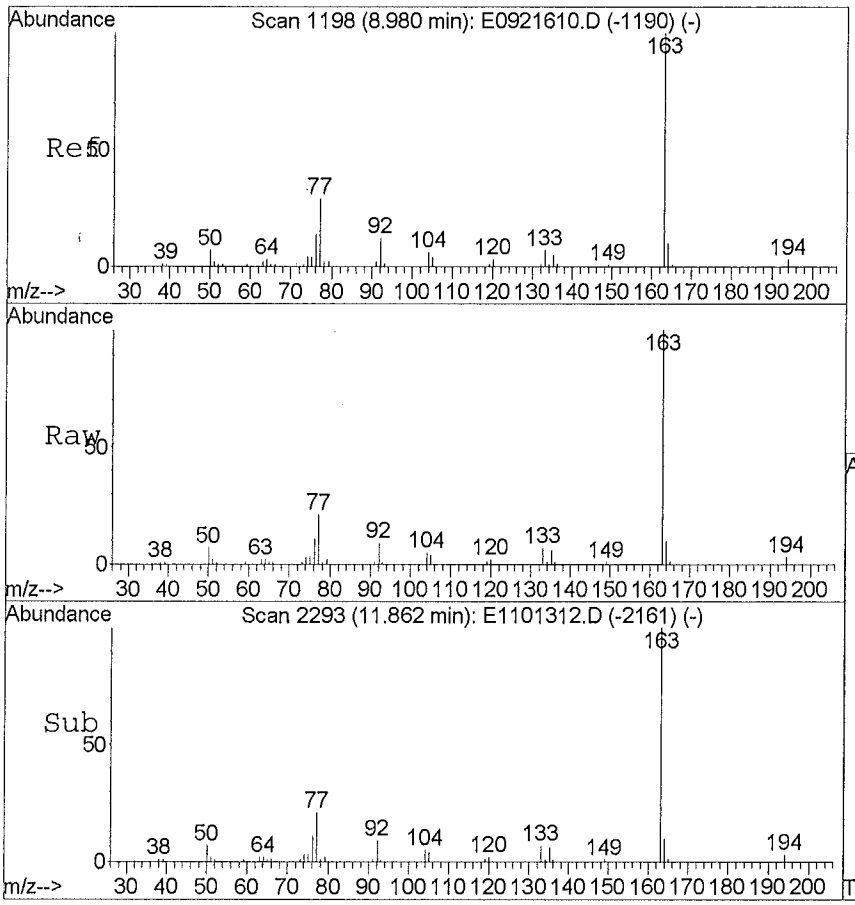
Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101312.D
Acq On : 1 Nov 2013 16:34
Operator : DOUG
Sample : 006558-02MS
Misc : AG-5 8270 B10111
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Nov 04 08:57:26 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration



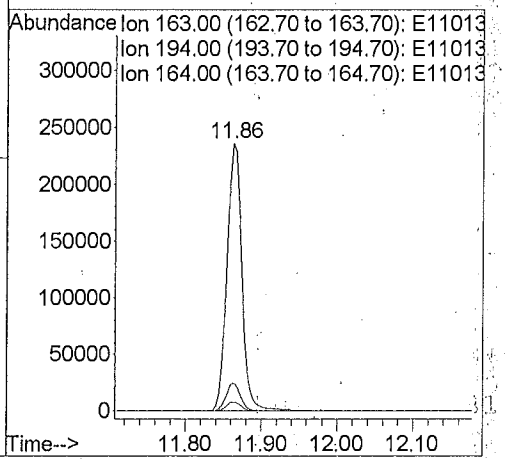

E8270316HT.M Mon Nov 04 08:57:27 2013 Page: 2

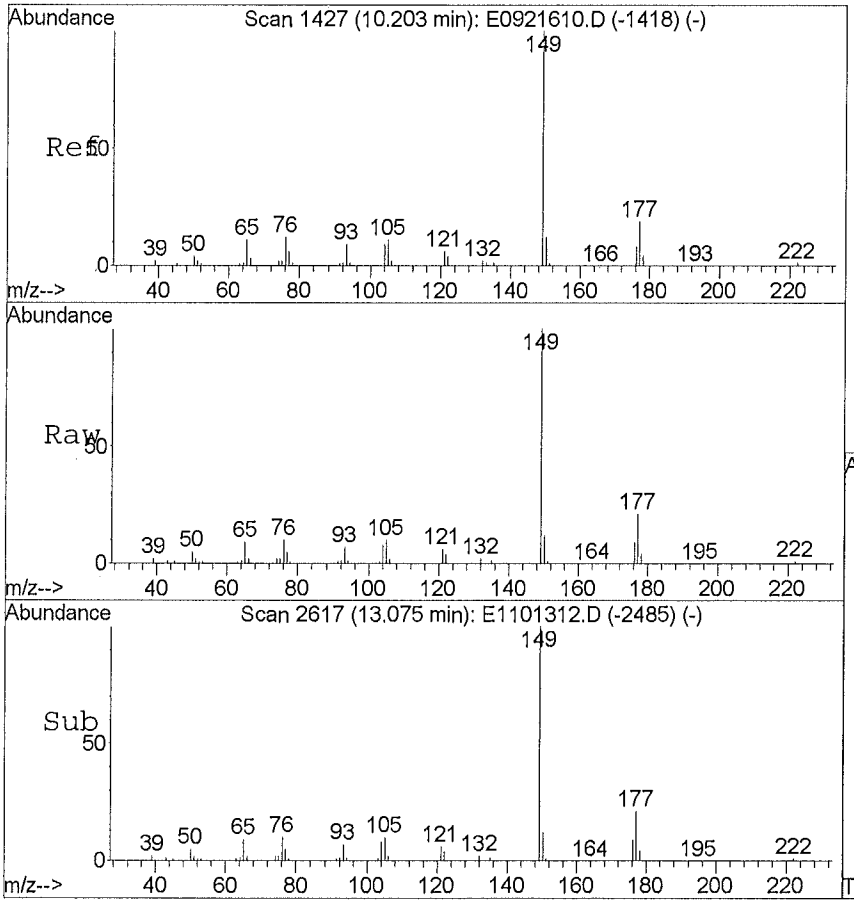



#6
Dimethylphthalate
Concen: 3444.15 ug/Kg
RT: 11.86 min Scan# 2293
Delta R.T. -0.01 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:163 Resp: 3230381

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 3.3 | 0.0 | 23.3 |
| 164 | 10.2 | 0.0 | 30.7 |

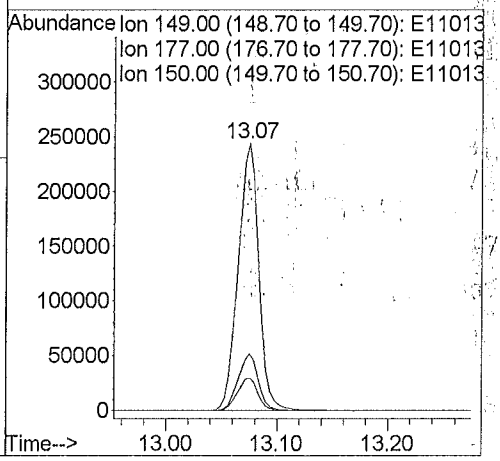


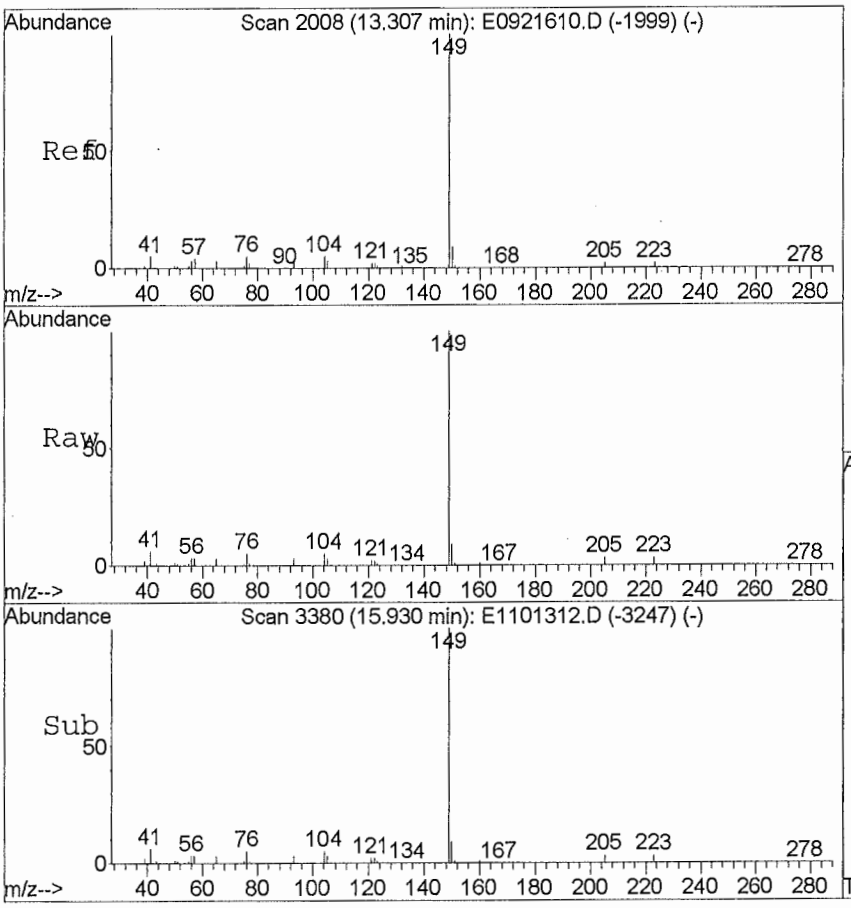




#7
Diethylphthalate
Concen: 3486.67 ug/Kg
RT: 13.07 min Scan# 2617
Delta R.T. -0.01 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:149 Resp: 3171778

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 177 | 20.9 | 0.8 | 40.8 |
| 150 | 12.4 | 0.0 | 32.3 |

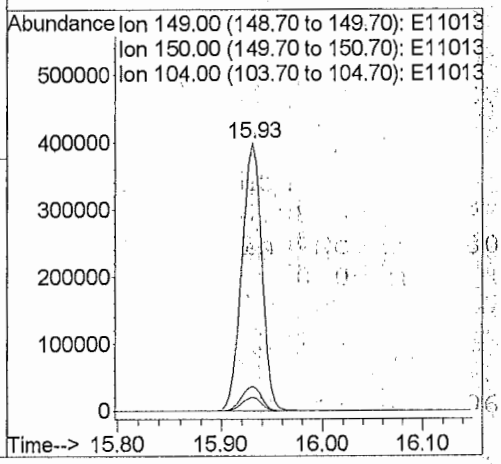


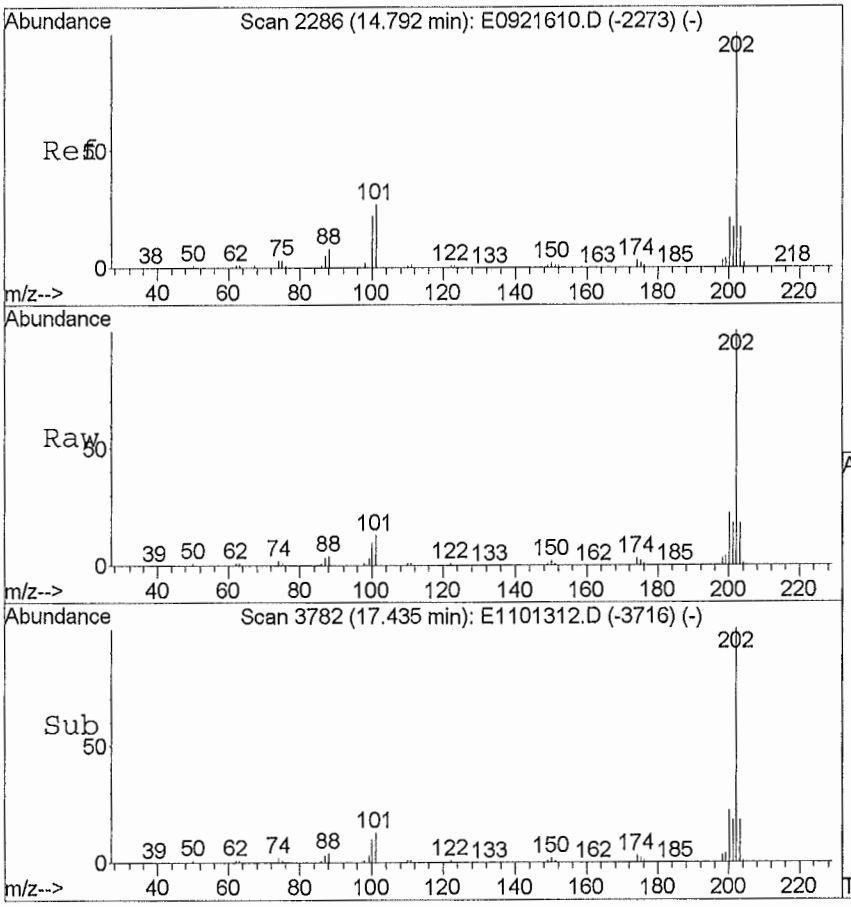



#9
Di-n-butylphthalate
Concen: 3626.98 ug/Kg
RT: 15.93 min Scan# 3380
Delta R.T. -0.00 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:149 Resp: 5445296

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.3 | 0.0 | 29.4 |
| 104 | 5.1 | 0.0 | 28.5 |

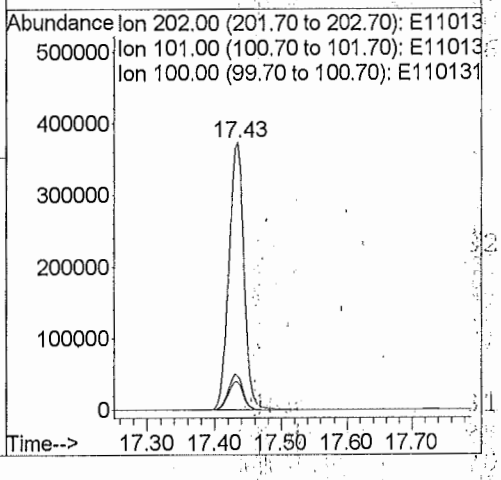


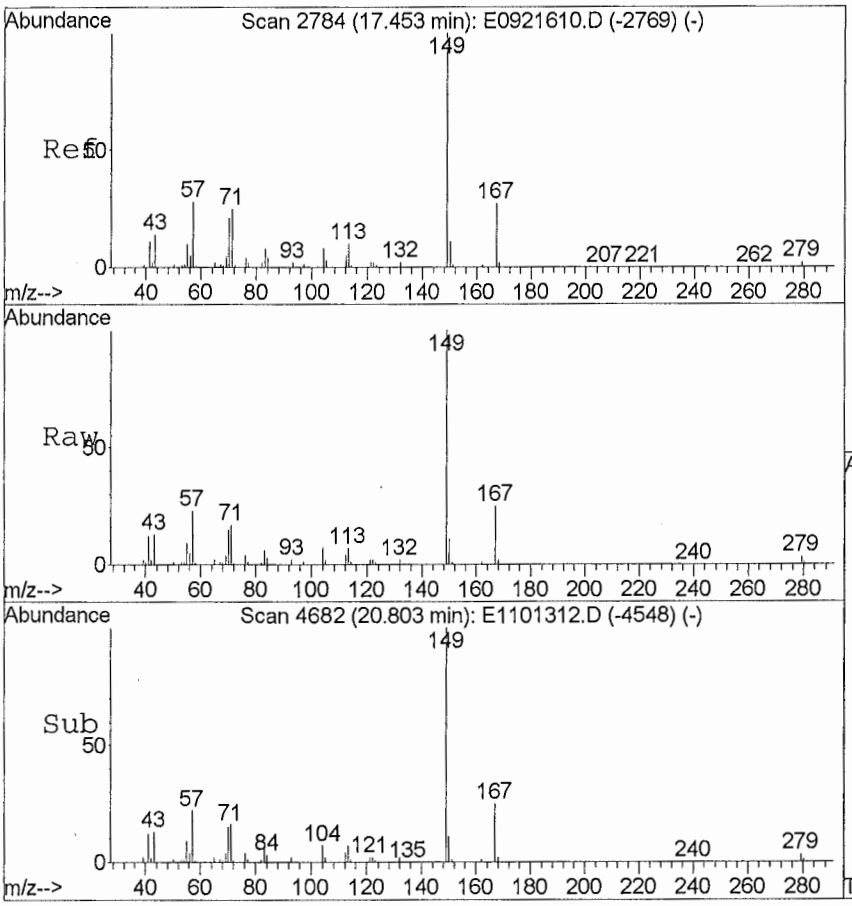




#11
Pyrene
Concen: 3651.39 ug/Kg
RT: 17.43 min Scan# 3782
Delta R.T. -0.00 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:202 Resp: 5895631

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.2 | 3.8 | 43.8 |
| 100 | 10.7 | 0.0 | 38.1 |

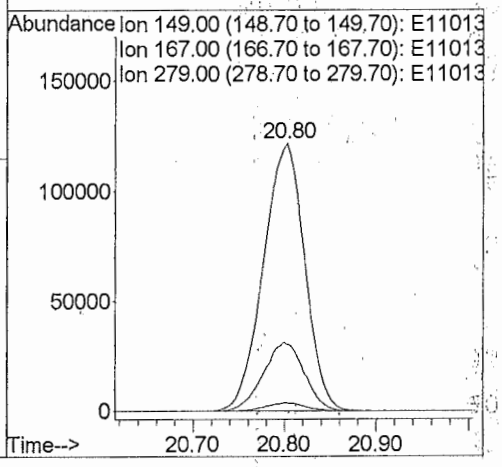


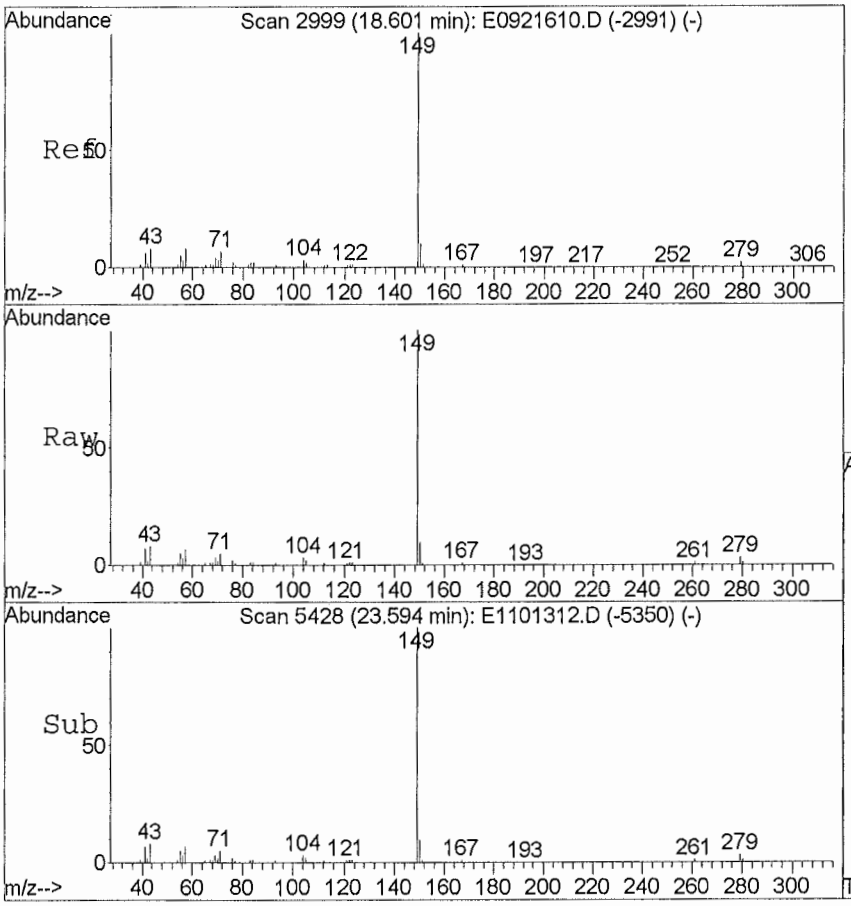



#13
bis(2-Ethylhexyl)phthalate
Concen: 3548.06 ug/Kg
RT: 20.80 min Scan# 4682
Delta R.T. 0.00 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:149 Resp: 3826560

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 25.5 | 4.9 | 44.9 |
| 279 | 3.0 | 0.0 | 22.2 |

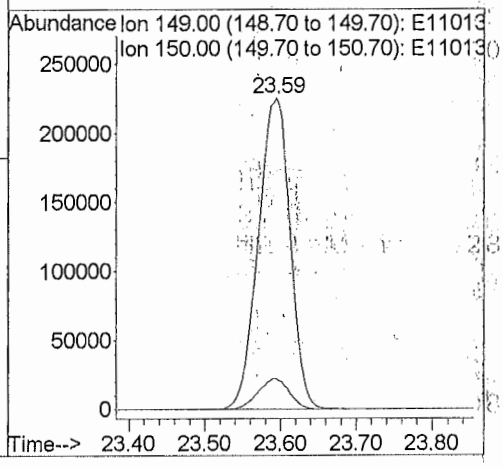



#14
Di-n-octylphthalate
Concen: 3622.38 ug/Kg
RT: 23.59 min Scan# 5428
Delta R.T. -0.01 min
Lab File: E1101312.D
Acq: 1 Nov 2013 16:34

Tgt Ion:149 Resp: 6650708

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.7 | 0.0 | 29.7 |



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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK030C | ARDL Lab No.: | 006558-02MD |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101313 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 0833 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 3460 | | UG/KG | 1 |
| Di-n-butylphthalate | 200 | 1000 | 3560 | | UG/KG | 1 |
| Pyrene | 200 | 1000 | 3620 | | UG/KG | 1 |
| bis(2-Ethylhexyl)phthalate | 200 | 1000 | 3580 | | UG/KG | 1 |
| Di-n-octylphthalate | 200 | 1000 | 3650 | | UG/KG | 1 |

| SURROGATE RECOVERIES: | Limits | Results |
|---|---|---|
| Nitrobenzene-d5 | 30-130 | 71% |
| 2-Fluorobiphenyl | 30-130 | 78% |
| Terphenyl-d14 | 30-130 | 77% |

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

Matrix Spike Duplicate for 006558-02, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101313.D
Acq On : 1 Nov 2013 17:18
Operator : DOUG
Sample : 006558-02MSD
Misc : AG-5 8270 B10111
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 04 08:57:40 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2144115 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 7933990 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4650542 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.91 | 188 | 8194234 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 9787207 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10012721 | 8000.00 | ug/Kg | 0.0 |

| System Monitoring Compounds | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1582003 | 3525.62 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 70.51% | | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3501233 | 3924.08 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 78.48% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4299251 | 3843.51 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 76.87% | | | |

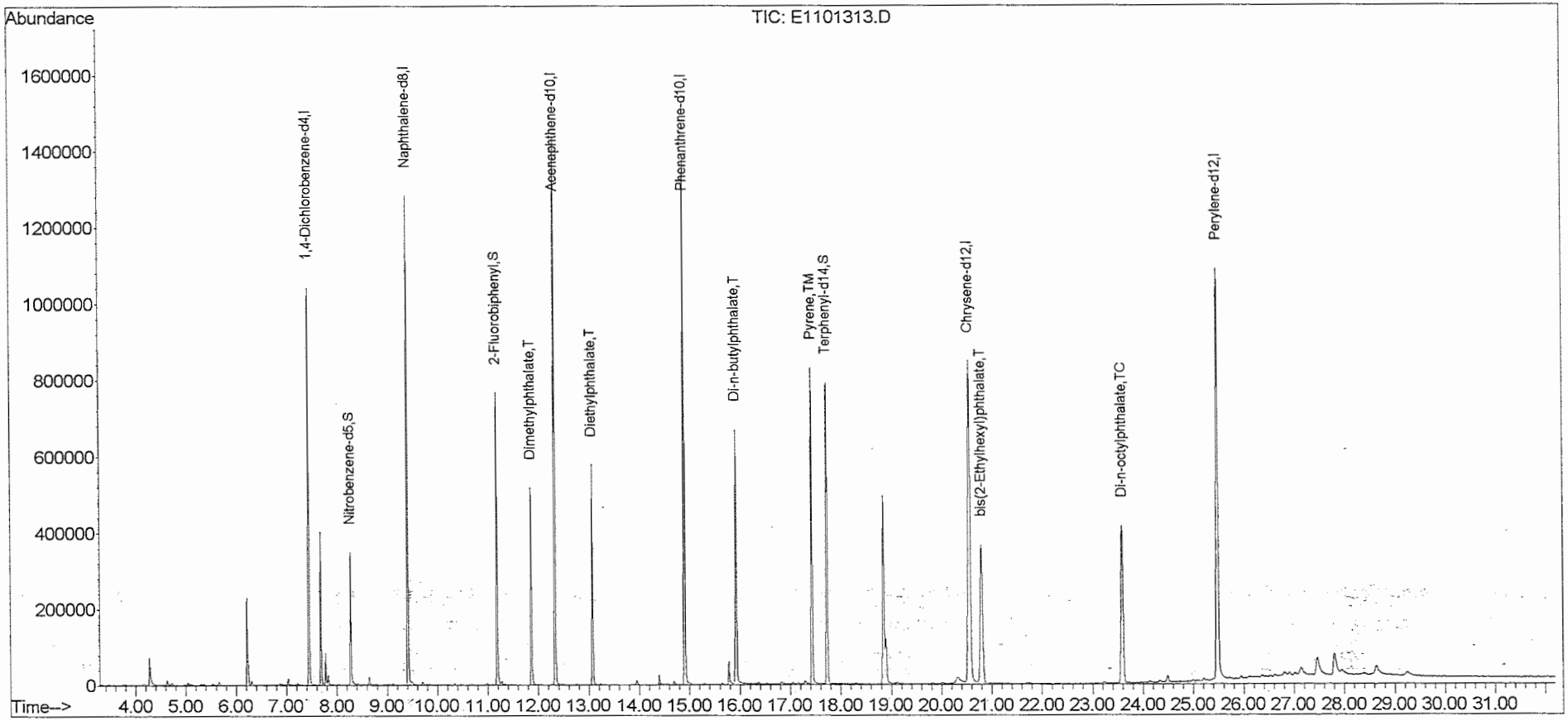
| Target Compounds | | | | | | Qvalue |
|---|---|---|---|---|---|---|
| 6) Dimethylphthalate | 11.87 | 163 | 3191827 | 3438.08 | ug/Kg | 99 |
| 7) Diethylphthalate | 13.07 | 149 | 3115208 | 3459.75 | ug/Kg | 100 |
| 9) Di-n-butylphthalate | 15.93 | 149 | 5334970 | 3561.81 | ug/Kg | 95 |
| 11) Pyrene | 17.43 | 202 | 5748676 | 3618.12 | ug/Kg | 81 |
| 13) bis(2-Ethylhexyl)phthalate | 20.80 | 149 | 3804141 | 3584.49 | ug/Kg | 99 |
| 14) Di-n-octylphthalate | 23.59 | 149 | 6601469 | 3653.88 | ug/Kg | 100 |

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

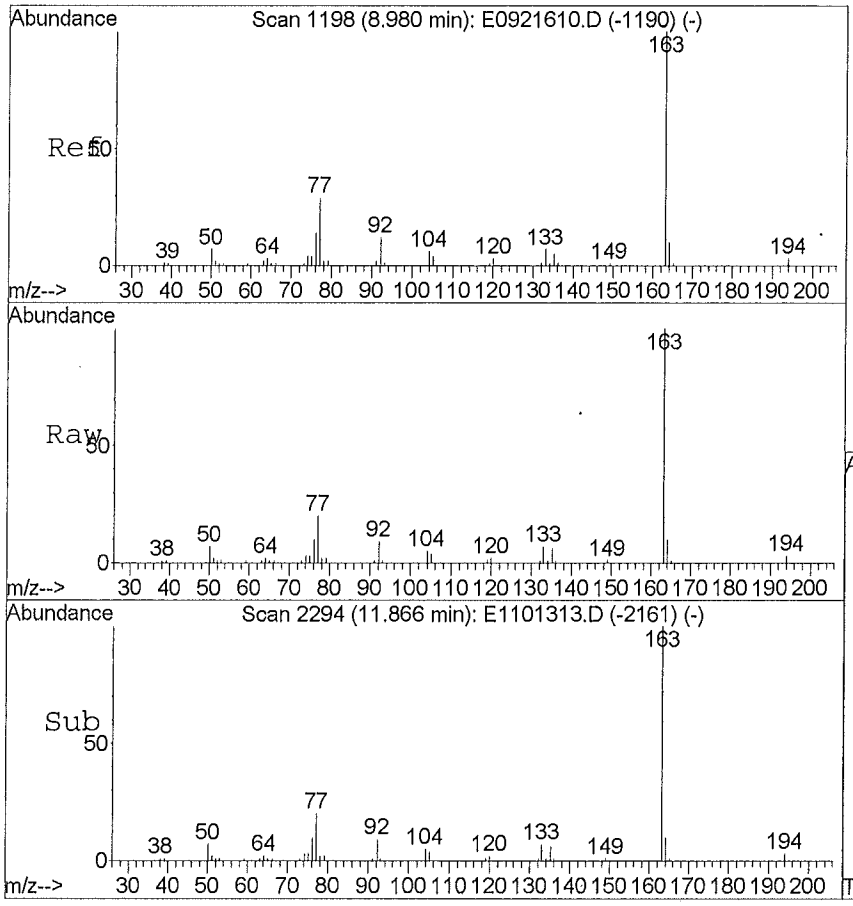
Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101313.D
Acq On : 1 Nov 2013 17:18
Operator : DOUG
Sample : 006558-02MSD
Misc : AG-5 8270 B10111
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Nov 04 08:57:40 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration



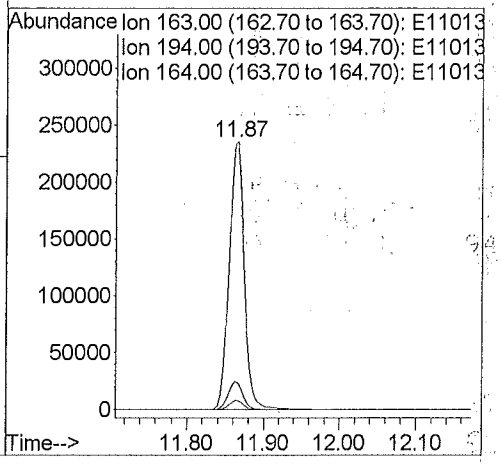

E8270316HT.M Mon Nov 04 08:57:44 2013 Page: 2

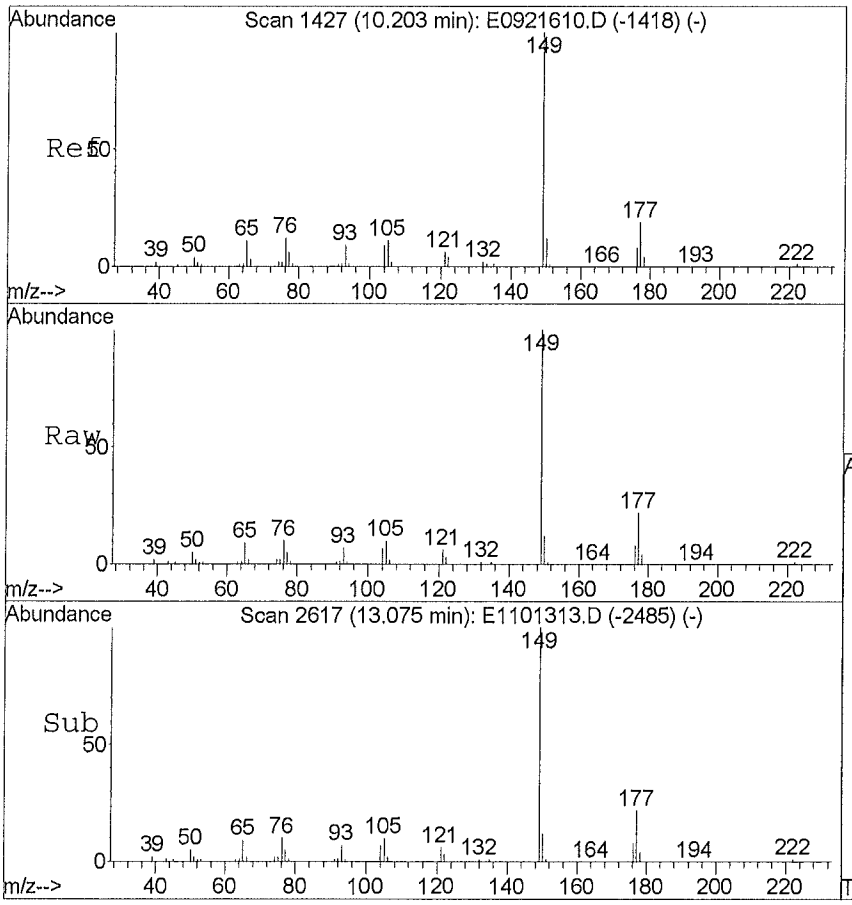



#6
Dimethylphthalate
Concen: 3438.08 ug/Kg
RT: 11.87 min Scan# 2294
Delta R.T. -0.00 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:163 Resp: 3191827

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 163 | 100 | | |
| 194 | 3.3 | 0.0 | 23.3 |
| 164 | 10.3 | 0.0 | 30.7 |

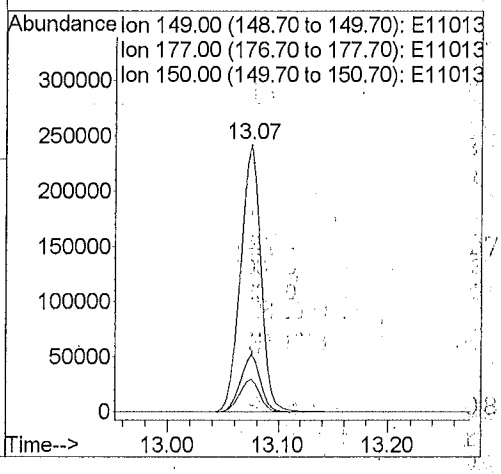


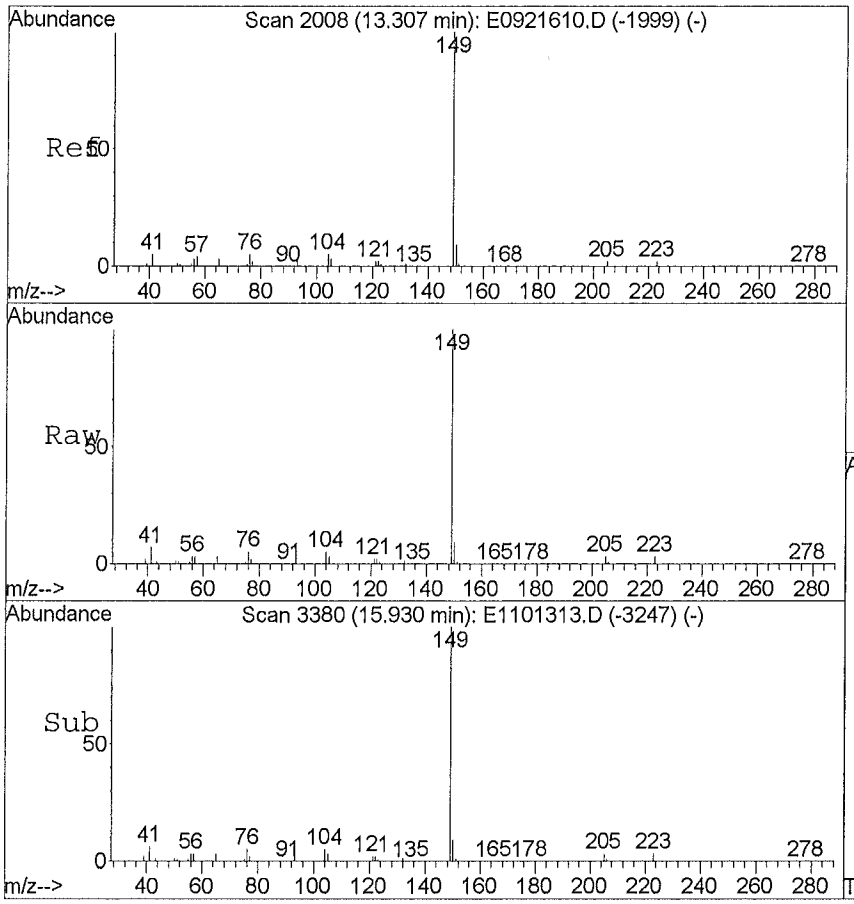




#7
Diethylphthalate
Concen: 3459.75 ug/Kg
RT: 13.07 min Scan# 2617
Delta R.T. -0.01 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:149 Resp: 3115208

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 177 | 21.0 | 0.8 | 40.8 |
| 150 | 12.3 | 0.0 | 32.3 |

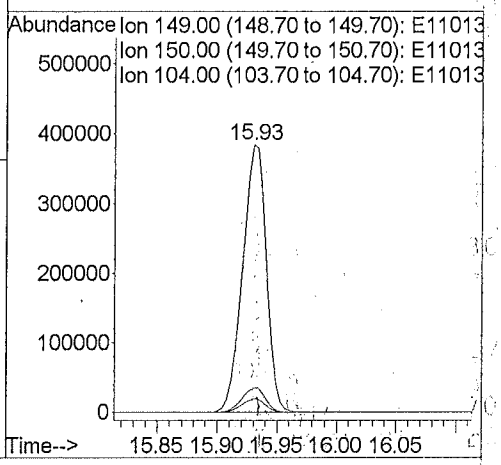


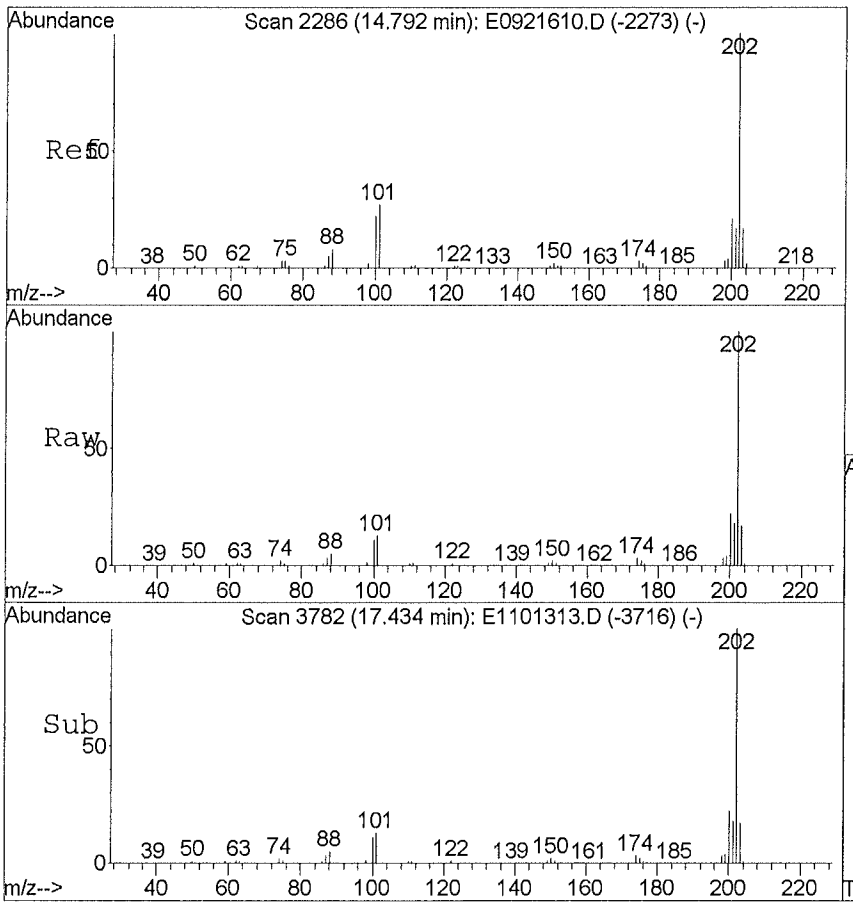



#9
Di-n-butylphthalate
Concen: 3561.81 ug/Kg
RT: 15.93 min Scan# 3380
Delta R.T. -0.00 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:149 Resp: 5334970

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.2 | 0.0 | 29.4 |
| 104 | 5.1 | 0.0 | 28.5 |

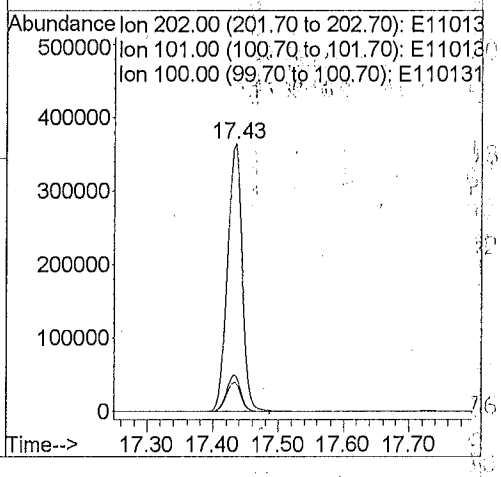


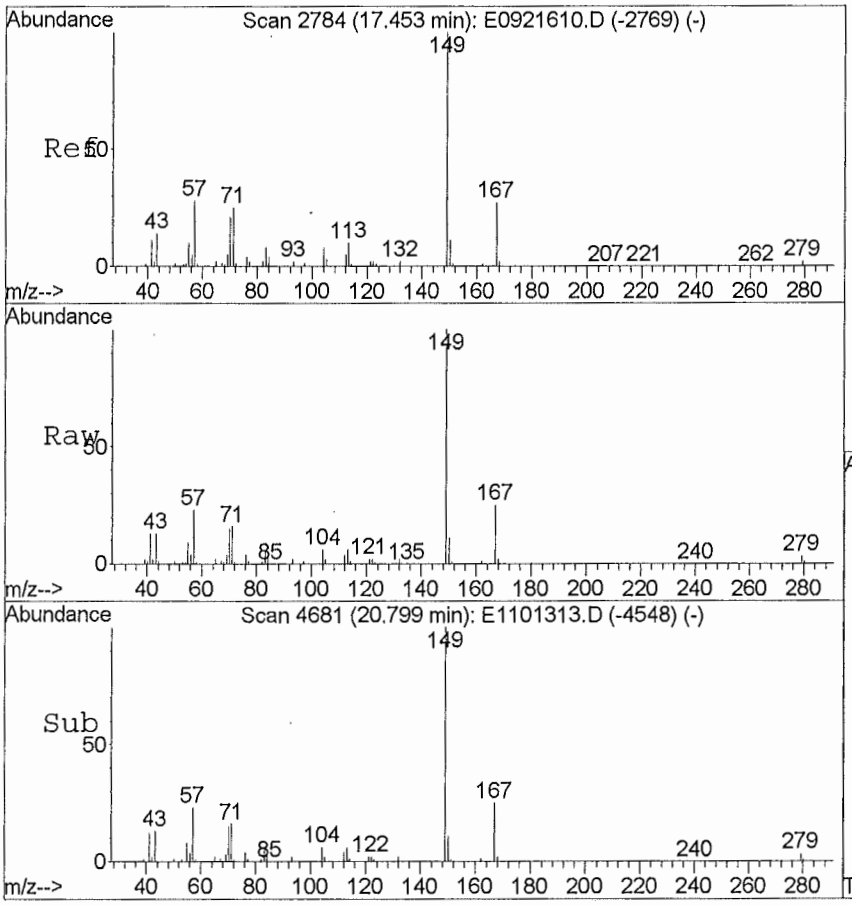




#11
Pyrene
Concen: 3618.12 ug/Kg
RT: 17.43 min Scan# 3782
Delta R.T. -0.00 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:202 Resp: 5748676

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 202 | 100 | | |
| 101 | 13.4 | 3.8 | 43.8 |
| 100 | 10.9 | 0.0 | 38.1 |

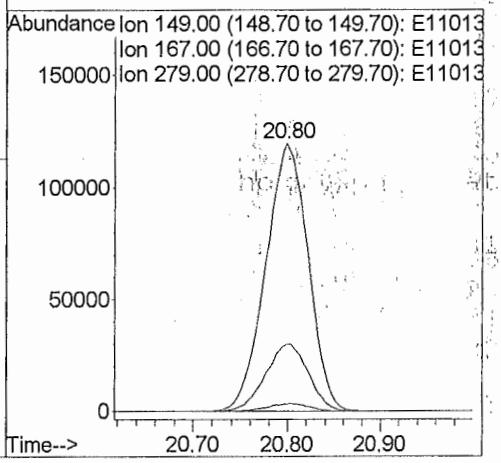


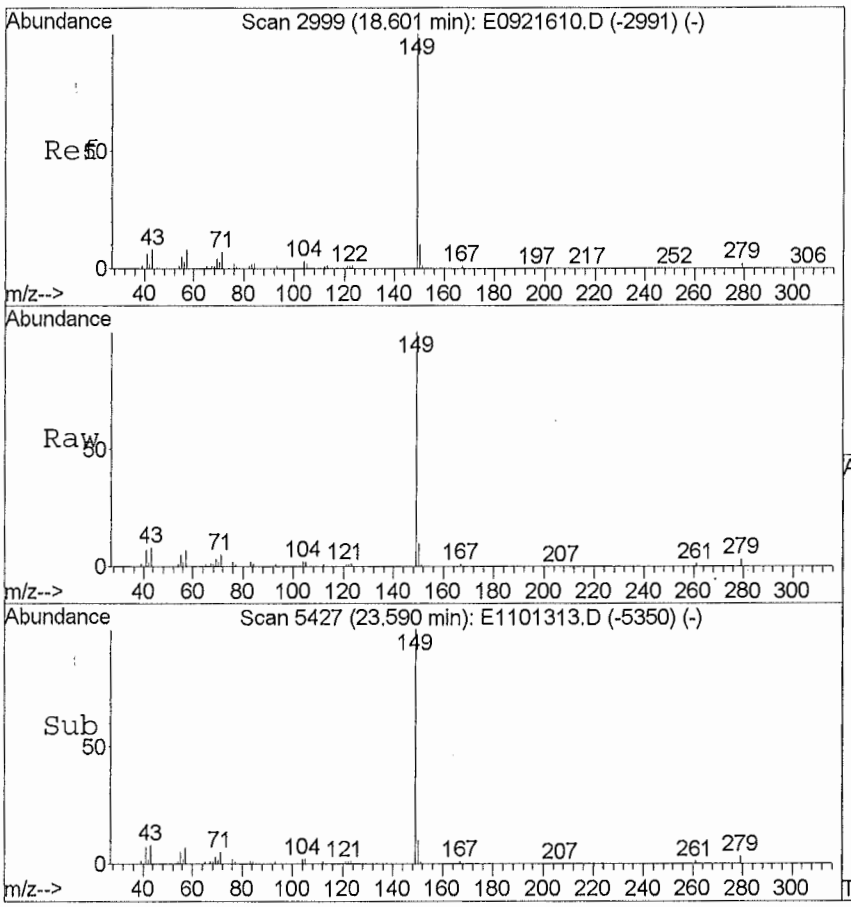



#13
bis(2-Ethylhexyl)phthalate
Concen: 3584.49 ug/Kg
RT: 20.80 min Scan# 4681
Delta R.T. -0.00 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:149 Resp: 3804141

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 167 | 25.3 | 4.9 | 44.9 |
| 279 | 2.9 | 0.0 | 22.2 |

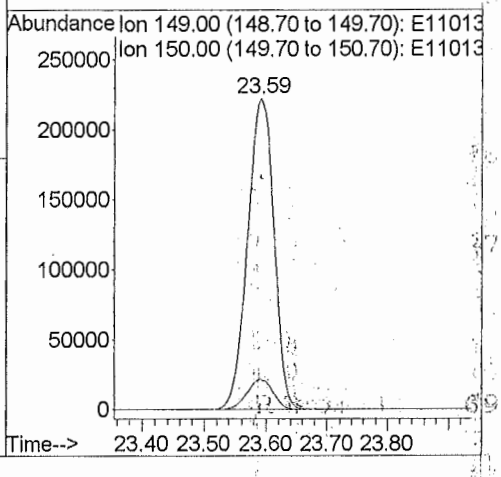



#14
Di-n-octylphthalate
Concen: 3653.88 ug/Kg
RT: 23.59 min Scan# 5427
Delta R.T. -0.01 min
Lab File: E1101313.D
Acq: 1 Nov 2013 17:18

Tgt Ion:149 Resp: 6601469

| Ion | Ratio | Lower | Upper |
|---|---|---|---|
| 149 | 100 | | |
| 150 | 9.6 | 0.0 | 29.7 |



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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK031C | ARDL Lab No.: | 006558-03 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101314 |
| Sample Date: | 09/23/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1050 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 59% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 76% |

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

Sample 006558-03, BNA'S (METHOD 8270) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101314.D
Acq On : 1 Nov 2013 18:02
Operator : DOUG
Sample : 006558-03
Misc : AG-5 8270 B10111
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 04 11:35:47 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2252072 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8300723 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.34 | 164 | 4847719 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8548551 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10294793 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 10368234 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.27 | 82 | 1386553 | 2953.52 | ug/Kg | -0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 59.07% | | |
| 5) 2-Fluorobiphenyl | 11.18 | 172 | 3601205 | 3871.96 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 77.44% | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4459855 | 3790.51 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = | 75.81% | | |

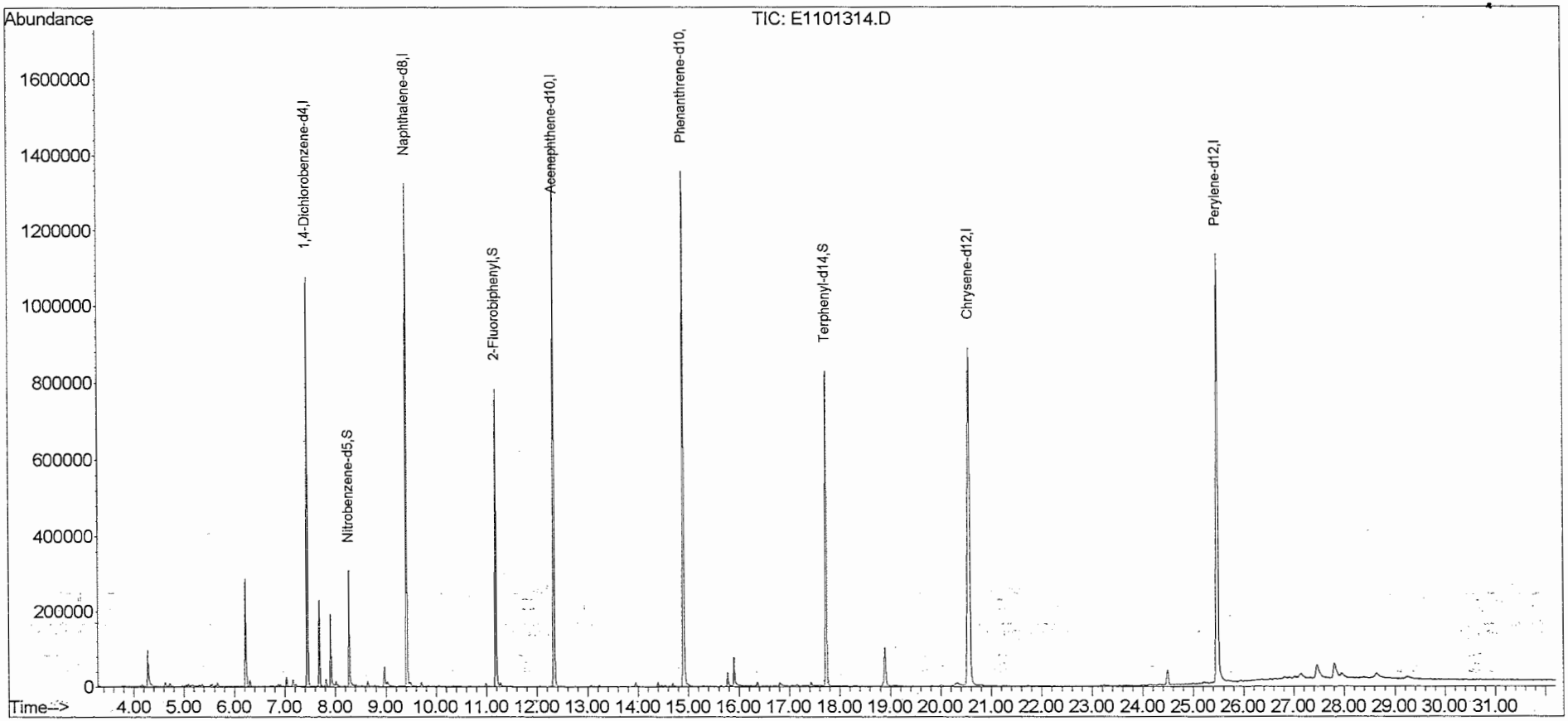
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101314.D
Acq On : 1 Nov 2013 18:02
Operator : DOUG
Sample : 006558-03
Misc : AG-5 8270 B10111
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Nov 04 11:35:47 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:35:53 2013 Page: 2

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

Lab Report No: 006558 Report Date: 11/04/2013

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

| | | | |
|---|---|---|---|
| Field ID: | MAK028C | ARDL Lab No.: | 006558-04 |
| Desc/Location: | MAKAU MILITARY RESERV OAHU | Lab Filename: | E1101315 |
| Sample Date: | 09/22/2013 | Received Date: | 10/23/2013 |
| Sample Time: | 1300 | Prep. Date: | 10/29/2013 |
| Matrix: | TISSUE | Analysis Date: | 11/01/2013 |
| Amount Used: | 5 g | Instrument ID: | AG5 |
| Final Volume: | 1 mL | QC Batch: | B6635 |
| % 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 | 56% |
| 2-Fluorobiphenyl | 30-130 | 77% |
| Terphenyl-d14 | 30-130 | 79% |

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

Sample 006558-04, BNA'S (METHOD 8270) Page 1 of 1

# Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101315.D
Acq On : 1 Nov 2013 18:45
Operator : DOUG
Sample : 006558-04
Misc : AG-5 8270 B10111
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 04 11:36:42 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration

| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|---|---|---|---|---|---|---|
| 1) 1,4-Dichlorobenzene-d4 | 7.45 | 152 | 2331969 | 8000.00 | ug/Kg | 0.0 |
| 2) Naphthalene-d8 | 9.41 | 136 | 8604658 | 8000.00 | ug/Kg | 0.0 |
| 4) Acenaphthene-d10 | 12.33 | 164 | 5039307 | 8000.00 | ug/Kg | 0.0 |
| 8) Phenanthrene-d10 | 14.90 | 188 | 8878857 | 8000.00 | ug/Kg | 0.0 |
| 10) Chrysene-d12 | 20.57 | 240 | 10699295 | 8000.00 | ug/Kg | -0.0 |
| 15) Perylene-d12 | 25.49 | 264 | 11125444 | 8000.00 | ug/Kg | 0.0 |

System Monitoring Compounds

| | | | | | | |
|---|---|---|---|---|---|---|
| 3) Nitrobenzene-d5 | 8.28 | 82 | 1354627 | 2783.60 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 55.67% | | | |
| 5) 2-Fluorobiphenyl | 11.19 | 172 | 3745795 | 3874.31 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 77.49% | | | |
| 12) Terphenyl-d14 | 17.73 | 244 | 4813131 | 3936.11 | ug/Kg | 0.0 |
| Spiked Amount 5000.000 | | | Recovery = 78.72% | | | |

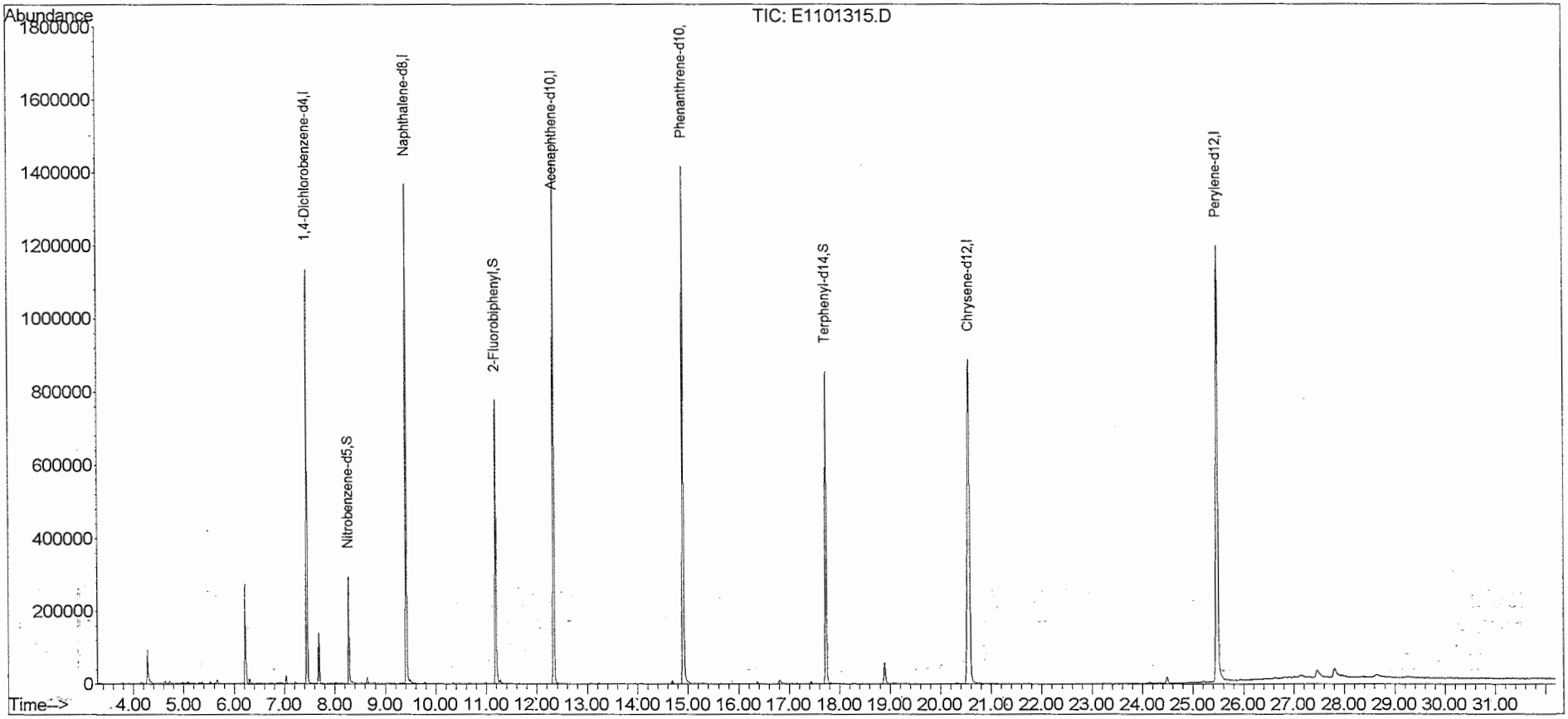
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\110113\
Data File : E1101315.D
Acq On : 1 Nov 2013 18:45
Operator : DOUG
Sample : 006558-04
Misc : AG-5 8270 B10111
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Nov 04 11:36:42 2013
Quant Method : C:\MSDCHEM\1\CALFILES\8270CALS\E8270316HT.M
Quant Title : 8270 BNA Calibration
QLast Update : Thu Oct 31 15:00:02 2013
Response via : Initial Calibration




E8270316HT.M Mon Nov 04 11:36:48 2013 Page: 2

# Example Calculation

# EXAMPLE CALCULATIONS
## Semi-Volatile

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:

$$\text{Response Factor} = \frac{(Ax)(Cis)}{(Ais)(Cx)}$$

Where:
- Ax = Area of the characteristic ion for the compound being measured.
- Ais = Area of the characteristic ion for the internal standard.
- Cis = Concentration of the specific internal standard.
- Cx = Concentration of the compound being measured.

Sample Calculations

Sample Calculations are made by the instrument software and are performed as follows;

Water:

$$\text{Concentration (ug/L)} = \frac{(Ax)(Is)(Vt)(1000mL)(1ug)}{(Ais)(RF)(Vi)(Vo)(1L)(1000ng)}$$

Where:
- Ax = Area of characteristic ion for the compound being measured.
- Is = Amount of internal standard injected (ng).
- Ais = Area of characteristic ion for the internal standard.
- RF = Response factor for the compound being measured.
- Vi = Volume of extract injected (uL).
- Vt = Volume of total extract (uL).
- Vo = Volume of water extracted (mL).

The dilution factor used, if necessary, will be submitted to the data management system.

# EXAMPLE CALCULATIONS

## Sample Calculations

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). |
| $W_s$ | = | Weight of sample extracted (g). |

## Sample Calculations

Sample No.: 6557-20MS Compound: Dimethylphthalate

Matrix: Tissue

$$\text{Concentration (ug/Kg)} = \frac{(3208878)(40ng)(1000uL)}{(4602707)(1.597)(1uL)(5.00g)} = 3492.4$$

Example Calculations Performed By: PEK Date: 11/8/2013

# Miscellaneous Additional Data
**(If applicable)**

NONE FOLLOW

Rev. 1.0