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ANALYSIS: VOA METHOD NO.: 8260B

ARDL Report(s) #: 0006555/0006556 MATRIX: Octopus

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	By:	Date:
Package Preparation	JAA	12/05/13
Analytical Review	JO	12/5/13
Final Review	BND	12/10/13
QA Review	DJD	12/10/13

Rev. 1.1

Organic Package Review Checklist

Rev. 1.1

ORGANIC PACKAGE REVIEW CHECKLIST

METHOD: 8260

	Initial	Date
Case Narrative and/or Nonconformance Reports		
Case Narrative / Analyst Comment Sheets	gm	12/5/13
Nonconformance / Noncompliance Reports (if applicable)	NA	
Sample Receipt Information		
Copies of Original Chain-of-Custody Forms	gm	12/5/13
Cooler Receipt Form and Airbills		
Phone Messages (If applicable)		
Field Sample Results	gm	12/5/13
QC Summary Forms		
Surrogate Summary, if applicable		
Spike Blank and/or MS Summary		
Blank Results & Blank Summary, if applicable		
ISTD Area Summary, if applicable		
Sample Preparation Information (if applicable)		
Total Solids Determination (If applicable)		
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		
Certificates of Analysis (Vendor)		
Analytical Run Number 1		
Calibration Information		
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 2 (if required)		
Calibration Information		
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		

Rev. 1.1

ORGANIC PACKAGE REVIEW CHECKLIST (Continued)

METHOD: 8260

	Initial	Date
Analytical Run Number 3 (if required)		
Calibration Information	JD	12/5/13
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data	✓	✓
Analytical Run Number 4 (if required)		
Calibration Information	NA	
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 5 (if required)		
Calibration Information		
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Analytical Run Number 6 (if required)		
Calibration Information		
Tune Data		
Initial Calibration		
Continuing Calibration		
Instrument Logs/Analysis Notebook Pages		
Blank/Sample/Field QC Data		
Example Calculation		
Example Calculation Sheet	JD	12/5/13
Miscellaneous Additional Data (if applicable)	NA	

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: JD 12/5/13

Rev. 1.1

Case Narrative and/or Nonconformance Reports

Rev. 1.1

ORGANIC ANALYSIS CASE NARRATIVE

Corps of Engineers – ERDC, Vicksburg **Date: 12/10/13**

ARDL Report No.: 6555, 6556 **Lab Name: ARDL, Inc.**

Project Name: MAKAU MILITARY RESERVATION OAHU (OCTOPUS)

Samples Received at ARDL: 10/23/2013

Lab ID No.	Sample ID No.	Date Collected	Date Analyzed	Analysis Requested
006555-01	MAK001O	09/09/2013	11/29/13	PURGEABLE ORGANICS
006555-02	MAK002O	09/09/2013	11/29/13	PURGEABLE ORGANICS
006555-03	MAK003O	09/09/2013	11/29/13	PURGEABLE ORGANICS
006555-04	MAK004O	09/11/2013	11/29/13	PURGEABLE ORGANICS
006555-05	MAK005O	09/11/2013	11/29/13	PURGEABLE ORGANICS
006555-06	MAK006O	09/11/2013	11/29/13	PURGEABLE ORGANICS
006555-07	MAK021O	09/23/2013	11/29/13	PURGEABLE ORGANICS
006555-08	MAK008O	09/11/2013	11/29/13	PURGEABLE ORGANICS
006555-09	MAK009O	09/13/2013	11/29/13	PURGEABLE ORGANICS
006555-10	MAK010O	09/16/2013	11/29/13	PURGEABLE ORGANICS
006555-11	MAK011O	09/16/2013	11/29/13	PURGEABLE ORGANICS
006555-12	MAK012O	09/22/2013	11/29/13	PURGEABLE ORGANICS
006555-13	MAK013O	09/22/2013	12/02/13	PURGEABLE ORGANICS
006555-14	MAK014O	09/23/2013	11/29/13	PURGEABLE ORGANICS
006555-15	MAK015O	09/22/2013	11/29/13	PURGEABLE ORGANICS
006555-16	MAK016O	09/22/2013	11/29/13	PURGEABLE ORGANICS
006555-17	MAK017O	09/22/2013	12/02/13	PURGEABLE ORGANICS
006555-18	MAK018O	09/22/2013	12/02/13	PURGEABLE ORGANICS
006555-19	MAK019O	09/23/2013	12/02/13	PURGEABLE ORGANICS
006555-20	MAK020O	09/23/2013	12/02/13	PURGEABLE ORGANICS
006556-01	MAK007O	09/11/2013	11/27/13	PURGEABLE ORGANICS
006556-02	MAK022O	09/23/2013	11/27/13	PURGEABLE ORGANICS
006556-03	MAK023O	09/23/2013	11/27/13	PURGEABLE ORGANICS
006556-04	MAK024O	09/27/2013	11/29/13	PURGEABLE ORGANICS

PURGEABLE ORGANICS – METHOD 8260B

Twenty five (25) tissue (octopus) samples were received by ARDL, Inc. on October 23, 2013, for 8260B analysis. One sample (MB-SO-HEE000-TEST) was provided for preliminary evaluation of test methods only. Due to specific project requirements and the unusual nature of the samples, some changes to standard protocol were made. The requested analyte list was limited to ethylbenzene, m & p-xylene, o-xylene, toluene, styrene and 1,2,4-trimethylbenzene. Only the two internal standards used to quantitate these analytes and their associated surrogate compounds (toluene-d8 and 4-bromofluorobenzene) were evaluated in all calibrations and sample analyses. A nominal sample weight of 2 grams was chosen to avoid problems related to the sample matrix while achieving a reporting limit of 12.5 ug/Kg. The octopus test sample exhibited a tendency to foam even in a 2 gram aliquot. Consequently, a commercial anti-foaming agent was used to alleviate this problem and all analyses of the octopi were performed using the material (Restek catalog # 31822). All associated method blanks, LCS and matrix spike/matrix spike duplicate samples were analyzed with this modification. Initial analyses also indicated a co-eluting interferent at o-xylene with a significant amount of M/Z 91, the standard quant ion for o-xylene. Therefore, initial and daily calibrations and all analyses used the secondary characteristic ion (M/Z 106) for o-xylene quantitation.

INITIAL CALIBRATION

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

ORGANIC ANALYSIS CASE NARRATIVE

Corps of Engineers – ERDC, Vicksburg **Date: 12/10/13**

ARDL Report No.: 6555, 6556 **Lab Name: ARDL, Inc.**

Project Name: MAKAU MILITARY RESERVATION OAHU (OCTOPUS)

Samples Received at ARDL: 10/23/2013

CONTINUING CALIBRATION

All daily calibration standards passed criteria.

SURROGATES

All surrogate recoveries met the default range of 50 – 150%.

INTERNAL STANDARDS

Internal standard responses were acceptable for all analyses.

LCS

All LCS analyses met the recovery criteria supplied.

MATRIX SPIKE/MATRIX SPIKE DUPLICATE

Two MS/MSD analyses were performed on samples MAK006O and MAK007O and passed recovery criteria.

METHOD BLANKS

No target analytes were detected in the method blanks 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

Sample Receipt Information

Rev. 1.1

ARDL, Inc

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

CHAIN OF CUSTODY RECORD

Project
ARDL / Makau Military Reservation Oahu, Hawaii Project

SAMPLERS (Signature)

SAMPLE NUMBER	DATE	TIME	Comp	Grab	# of Containers	Purgeable Organics 8260B	Explosives 8330	OCPs 8081	SVCOs 8270C	Containers Rec'd								Remarks or Sample Location	ICED	Specify Chemicals added and final pH if known
MAK001O	9/9/2013	1104		x	1	x	x	x	x	1								Octopus	x	
MAK002O	9/9/2013	1215		x	1	x	x	x	x	1								Octopus	x	
MAK003O	9/9/2013	1505		x	1	x	x	x	x	1								Octopus	x	
MAK004O	9/11/2013	1011		x	1	x	x	x	x	1								Octopus	x	
MAK005O	9/11/2013	1035		x	1	x	x	x	x	1								Octopus	x	
MAK006O	9/11/2013	1055		x	1	x	x	x	x	3	Extra Volume							Octopus	x	
MAK007O	9/11/2013	1125		x	1	x	x	x	x	3	↓			↓				Octopus	x	
MAK008O	9/11/2013	1210		x	1	x	x	x	x	1								Octopus	x	

Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
[signature]	10/22/13	1600	
Relinquished by: (Signature)	Date	Time	Relinquished by: (Signature)
Received for Laboratory by: (Signature)	Date	Time	Shipping Ticket No.
[signature]	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.

10/23/13 dlc

6-6555

Report Numbers 6555 & 6556 - Octopus - Volatiles 8260B

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	Contaminants 8270							ARDL, Inc Remarks or Sample Location	PRESERVATION ICED	PRESERVATION Specify Chemicals added and final pH if known
MAK009O	9/13/2013	1248		x	1	x	x	x	x	-							Octopus	x	
MAK010O	9/16/2013	1025		x	1	x	x	x	x	-							Octopus	x	
MAK011O	9/16/2013	1110		x	1	x	x	x	x	-							Octopus	x	
MAK012O	9/22/2013	1315		x	1	x	x	x	x	-							Octopus	x	
MAK013O	9/22/2013	1400		x	1	x	x	x	x	-							Octopus	x	
MAK014O	9/23/2013	820		x	1	x	x	x	x	-							Octopus	x	
MAK015O	9/22/2013	830		x	1	x	x	x	x	-							Octopus	x	
MAK016O	9/22/2013	1115		x	1	x	x	x	x	-							Octopus	x	
MAK017O	9/22/2013	1140		x	1	x	x	x	x	-							Octopus	x	
MAK018O	9/22/2013	1206		x	1	x	x	x	x	-							Octopus	x	
MAK019O	9/23/2013	833		x	1	x	x	x	x	-							Octopus	x	
MAK020O	9/23/2013	855		x	1	x	x	x	x	-							Octopus	x	
MAK021O	9/23/2013	927		x	1	x	x	x	x	-							Octopus	x	
MAK022O	9/23/2013	1020		x	1	x	x	x	x	-							Octopus	x	
MAK023O	9/23/2013	1136		x	1	x	x	x	x	-							Octopus	x	
MAK024O	9/27/2013	828		x	1	x	x	x	x	-							Octopus	x	
Trip Blank	10/8/2013			x	2	x												x	
Temp Blank																		x	

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:

Test samples - please process this group before or with the accompanying project samples.

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.

Report Numbers 6558 & 6556 Octopus Volatiles 8260B

Received in 6556
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)

SAMPLE NUMBER	DATE	TIME	Comp	Grab	# of Containers	Purgeable Organics 8260B	Explosives 8330	OCPs 8081	SVCOs 8270C	Containers Sent	Remarks or Sample Location	ICED	Specify Chemicals added and final pH if known
MAK003C - test	9/9/2013	1005		x	1	x	x	x	x	1	Sea Cucumber	x	
MB-SO-HEE000 - Test	8/29/2013	1049		x	1	x	x	x	x	1	Octopus	x	
~~MB-SO-LIMU000-test~~	~~8/29/2013~~	~~1100~~		~~x~~	~~1~~	~~x~~	~~x~~	~~x~~	~~x~~	~~1~~	~~Limu~~	~~x~~	ABF 10-18-13
Trip Blank	9/12/2013			x	1	x						x	

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:

Test samples - please process this group before or with the accompanying project samples.

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

COOLER RECEIPT REPORT
ARDL, INC.

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) [signature]

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) [signature]

10. Describe type of packing in cooler: ice / bubble pack
11. Were all bottles ~~sealed~~ dlc 10/23/13 in separate plastic bags? ..... (YES) NO N/A
12. Did all bottles arrive unbroken and were labels in good condition? ..... (YES) NO
13. Were bottle labels complete? ..... (YES) NO
14. Did all bottle labels agree with custody papers? ..... (YES) NO
15. Were correct containers used for the tests indicated? ..... (YES) NO
16. Was pH correct on preserved water samples? ..... YES NO (N/A)
17. Was a sufficient amount of sample sent for tests indicated? ..... (YES) NO
18. Were bubbles absent in VOA samples? If NO, list by sample #: _____ YES NO (N/A)
19. Was the ARDL project coordinator notified of any deficiencies? ..... YES NO (N/A)

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

Sample Transfer	
Fraction: all	Fraction:
Area #: freezer	Area #:
By: dlc	By:
On: 10-23-12	On:

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COOLER RECEIPT REPORT
ARDL, INC.

original in 6558 dls 10-23-13

ARDL #: 6555-6558

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

Project: MAKAH Military Reservation Only

Date Received: 10-23-13

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

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 7885
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 Stearns

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:

51BC1/B1B/6F03

FedEx Express

J131113052301 26

TRK# 0201 9325 1887 7914

WED - 23 OCT AA
STANDARD OVERNIGHT
ICE

NA MVNA

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

51BC1/ABIB/6F03

FedEx Express

J131113052301 26

TRK# 0201 9325 1887 7888

WED - 23 OCT AA
STANDARD OVERNIGHT
ICE

NA MVNA

62864
IL-US STL

Part # 156148-434 RIT2 03/12

Original in 6558
dlc
10-23-13

Field Sample Results

Rev. 1.1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK001O	ARDL Lab No.:	006555-01
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129307
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1104	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	95%
4-Bromofluorobenzene	50-150	90%

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

Sample 006555-01, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK002O	ARDL Lab No.:	006555-02
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129308
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1215	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	99%
4-Bromofluorobenzene	50-150	97%

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

Sample 006555-02, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK003O	ARDL Lab No.:	006555-03
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129309
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1505	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	102%
4-Bromofluorobenzene	50-150	100%

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

Sample 006555-03, VOLATILES, GC/MS (8260)

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ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK004O	ARDL Lab No.:	006555-04
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129310
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1011	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	111%
4-Bromofluorobenzene	50-150	105%

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

Sample 006555-04, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK005O	ARDL Lab No.:	006555-05
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129311
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1035	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	112%
4-Bromofluorobenzene	50-150	108%

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

Sample 006555-05, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/04/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK006O	ARDL Lab No.:	006555-06
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129312
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1055	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	121%
4-Bromofluorobenzene	50-150	121%

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

Sample 006555-06, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK021O	ARDL Lab No.:	006555-07
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129315
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0927	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	109%
4-Bromofluorobenzene	50-150	107%

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

Sample 006555-07, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK008O	ARDL Lab No.:	006555-08
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129316
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1210	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	116%
4-Bromofluorobenzene	50-150	112%

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

Sample 006555-08, VOLATILES, GC/MS (8260)

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ARDL, INC.
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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK009O	ARDL Lab No.:	006555-09
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129317
Sample Date:	09/13/2013	Received Date:	10/23/2013
Sample Time:	1248	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	120%
4-Bromofluorobenzene	50-150	123%

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

Sample 006555-09, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK010O	ARDL Lab No.:	006555-10
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129318
Sample Date:	09/16/2013	Received Date:	10/23/2013
Sample Time:	1025	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	104%
4-Bromofluorobenzene	50-150	100%

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

Sample 006555-10, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK011O	ARDL Lab No.:	006555-11
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129319
Sample Date:	09/16/2013	Received Date:	10/23/2013
Sample Time:	1110	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	115%
4-Bromofluorobenzene	50-150	123%

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

Sample 006555-11, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Mt. Vernon, Illinois 62864

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK012O	ARDL Lab No.:	006555-12
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129320
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1315	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	115%
4-Bromofluorobenzene	50-150	118%

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

Sample 006555-12, VOLATILES, GC/MS (8260) Page 1 of 1

ARDL, INC.
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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK013O	ARDL Lab No.:	006555-13
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202306
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1400	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	105%
4-Bromofluorobenzene	50-150	96%

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

Sample 006555-13, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK014O	ARDL Lab No.:	006555-14
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129322
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0820	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	111%
4-Bromofluorobenzene	50-150	113%

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

Sample 006555-14, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK015O	ARDL Lab No.:	006555-15
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129323
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	0830	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	113%
4-Bromofluorobenzene	50-150	113%

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

Sample 006555-15, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK016O	ARDL Lab No.:	006555-16
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129324
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1115	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	118%
4-Bromofluorobenzene	50-150	124%

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

Sample 006555-16, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK017O	ARDL Lab No.:	006555-17
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202307
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1140	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	113%
4-Bromofluorobenzene	50-150	105%

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

Sample 006555-17, VOLATILES, GC/MS (8260)

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK018O	ARDL Lab No.:	006555-18
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202308
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1206	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	118%
4-Bromofluorobenzene	50-150	110%

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

Sample 006555-18, VOLATILES, GC/MS (8260)

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK019O	ARDL Lab No.:	006555-19
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202309
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0833	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	110%
4-Bromofluorobenzene	50-150	108%

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

Sample 006555-19, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK020O	ARDL Lab No.:	006555-20
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202310
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0855	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	114%
4-Bromofluorobenzene	50-150	114%

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

Sample 006555-20, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK007O	ARDL Lab No.:	006556-01
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127319
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1125	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	123%
4-Bromofluorobenzene	50-150	128%

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

Sample 006556-01, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK022O	ARDL Lab No.:	006556-02
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127320
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	1020	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	132%
4-Bromofluorobenzene	50-150	131%

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

Sample 006556-02, VOLATILES, GC/MS (8260) Page 1 of 1

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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK023O	ARDL Lab No.:	006556-03
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127321
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	1136	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	124%
4-Bromofluorobenzene	50-150	121%

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

Sample 006556-03, VOLATILES, GC/MS (8260)

Page 1 of 1

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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK024O	ARDL Lab No.:	006556-04
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129306
Sample Date:	09/27/2013	Received Date:	10/23/2013
Sample Time:	0828	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1105JFSJ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.5	12.5	ND		UG/KG	1
Ethyl Benzene	2.5	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.5	12.5	ND		UG/KG	1
o-Xylene	2.5	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	97%
4-Bromofluorobenzene	50-150	95%

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

Sample 006556-04, VOLATILES, GC/MS (8260)

QC Summary Forms

Surrogate Summary, if applicable

Spike Blank and/or MS Summary

Blank Results & Blank Summary, if applicable

ISTD Area Summary, if applicable

Rev. 1.1

2B
OCTOPUS VOLATILE SURROGATE RECOVERY

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

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

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 ( ) #	S4 ( ) #			TOT OUT
01	SPBK 11/27/13	103	95					0
02	BK 11/27/13	107	103					0
03	MAK007O	123	128					0
04	MAK022O	132	131					0
05	MAK023O	124	121					0
06	MAK007OMS	127	128					0
07	MAK007OMSD	130	131					0
08	SPBK 11/29/13	101	96					0
09	BK 11/29/13	100	93					0
10	MAK0024O	97	95					0
11	MAK001O	95	90					0
12	MAK002O	99	97					0
13	MAK003O	102	100					0
14	MAK004O	111	105					0
15	MAK005O	112	108					0
16	MAK006O	121	121					0
17	MAK006OMS	117	117					0
18	MAK006OMSD	126	134					0
19	MAK021O	109	107					0
20	MAK008O	116	112					0
21	MAK009O	120	123					0
22	MAK010O	104	100					0
23	MAK011O	115	123					0
24	MAK012O	115	118					0
25	MAK014O	111	113					0
26	MAK015O	113	113					0
27	MAK016O	118	124					0
28								
29								
30								

		QC LIMITS	MATRIX LIMITS
S1	Toluene-d8	(50 - 150)	(50 - 150)
S2	4-Bromofluorobenzene	(50 - 150)	(50 - 150)
S3		(-)	(-)
S4		(-)	(-)

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

2B
OCTOPUS VOLATILE SURROGATE RECOVERY

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

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

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 ( ) #	S4 ( ) #			TOT OUT
01	SPBK 12/02/13	112	108					0
02	BK 12/02/13	104	102					0
03	MAK013O	105	96					0
04	MAK017O	113	105					0
05	MAK018O	118	110					0
06	MAK019O	110	108					0
07	MAK020O	114	114					0
08								
09								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

		QC LIMITS	MATRIX LIMITS
S1	Toluene-d8	(50 - 150)	(50 - 150)
S2	4-Bromofluorobenzene	(50 - 150)	(50 - 150)
S3		(-)	(-)
S4		(-)	(-)

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: 006558

Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O
Project No.:

Analysis: VOLATILES, GC/MS (8260)

Analytical Method: 8260B
Prep Method: 5030A

Matrix: QC Material
Amount Used: 2 g

QC Batch: 1203JFSX
Level: LOW

Prep. Date: 11/27/2013
Analysis Date: 11/27/2013

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Toluene	90.9	100	91	--	--	--	85-118	--	--
Ethyl Benzene	94.5	100	94	--	--	--	86-119	--	--
m & p-Xylene	186	200	93	--	--	--	81-121	--	--
Styrene	98.3	100	98	--	--	--	84-119	--	--
o-Xylene	94.1	100	94	--	--	--	81-121	--	--
1,2,4-Trimethylbenzene	91.4	100	91	--	--	--	83-119	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Toluene-d8	103.3	--	50-150
4-Bromofluorobenzene	95.2	--	50-150

'*' indicates a recovery outside of standard limits.
Spike Blanks for 006558-02, VOLATILES, GC/MS (8260)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006556

Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O
Project No.:

Analysis: VOLATILES, GC/MS (8260)

Analytical Method: 8260B
Prep Method: 5030A

Field ID: MAK007O
Desc/Location: MAKAU MILITARY RESERV OAH
Sample Date: 09/11/2013
Sample Time: 1125
Matrix: TISSUE

Prep. Date: 11/27/2013
Amount Used: 2 g
% Moisture: No Moisture Present
QC Batch: 1203JFSX
Level: LOW

ARDL Lab No.: 006556-01
Lab Filename:
Received Date: 10/23/2013
Analysis Date: 11/27/2013

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Toluene	ND	111	100	111.3	117	100	116.9	81-126	4.9	25
Ethyl Benzene	ND	107	100	107	120	100	119.6	82-130	11.1	25
m & p-Xylene	ND	205	200	102.6	235	200	117.7	84-129	13.7	25
Styrene	ND	104	100	103.5	119	100	119.2	79-127	14.1	25
o-Xylene	ND	100	100	100.4	118	100	118	81-128	16.1	25
1,2,4-Trimethylbenzene	ND	106	100	106.2	120	100	119.8	80-124	12	25

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Toluene-d8	127	130	50-150
4-Bromofluorobenzene	128	131	50-150

'nc' indicates sample >4X spike level.

'*' indicates a recovery outside of standard limits.

Matrix Spikes for 006556-01, VOLATILES, GC/MS (8260)

BLANK SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006555

Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O
Project No.:

Analysis: VOLATILES, GC/MS (8260)

Analytical Method: 8260B
Prep Method: 5030A

Matrix: QC Material
Amount Used: 2 g

QC Batch: 1203JFSY
Level: LOW

Prep. Date: 11/29/2013
Analysis Date: 11/29/2013

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Toluene	92.9	100	93	--	--	--	85-118	--	--
Ethyl Benzene	98.4	100	98	--	--	--	86-119	--	--
m & p-Xylene	194	200	97	--	--	--	81-121	--	--
Styrene	93.9	100	94	--	--	--	84-119	--	--
o-Xylene	95.7	100	96	--	--	--	81-121	--	--
1,2,4-Trimethylbenzene	94.8	100	95	--	--	--	83-119	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Toluene-d8	101.1	--	50-150
4-Bromofluorobenzene	95.8	--	50-150

'*' indicates a recovery outside of standard limits.
Spike Blanks for 006555-06, VOLATILES, GC/MS (8260)

MATRIX SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006555

Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O
Project No.:

Analysis: VOLATILES, GC/MS (8260)

Analytical Method: 8260B
Prep Method: 5030A

Field ID: MAK006O
Desc/Location: MAKAU MILITARY RESERV OAH
Sample Date: 09/11/2013
Sample Time: 1055
Matrix: TISSUE

Prep. Date: 11/29/2013
Amount Used: 2 g
% Moisture: No Moisture Present
QC Batch: 1203JFSY
Level: LOW

ARDL Lab No.: 006555-06
Lab Filename:
Received Date: 10/23/2013
Analysis Date: 11/29/2013

Parameter	Sample Result	MS Result	MS Level	MS % Rec	MSD Result	MSD Level	MSD % Rec	% Rec Limits	RPD	RPD Limit
Toluene	ND	91.4	100	91.4	107	100	107	81-126	15.7	25
Ethyl Benzene	ND	91.7	100	91.7	106	100	106.5	82-130	14.9	25
m & p-Xylene	ND	180	200	90.1	210	200	105.1	84-129	15.4	25
Styrene	ND	90.5	100	90.5	99.1	100	99.1	79-127	9.1	25
o-Xylene	ND	89.6	100	89.6	103	100	102.5	81-128	13.5	25
1,2,4-Trimethylbenzene	ND	91.8	100	91.8	111	100	110.7	80-124	18.7	25

SURROGATE RECOVERIES:	MS %R	MSD %R	%R Limits
Toluene-d8	117	126	50-150
4-Bromofluorobenzene	117	134	50-150

'nc' indicates sample >4X spike level.
'*' indicates a recovery outside of standard limits.
Matrix Spikes for 006555-06, VOLATILES, GC/MS (8260)

BLANK SPIKE/SPIKE DUPLICATE REPORT

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

Lab Report No: 006562

Report Date: 12/04/2013

Project Name: MAKU MILITARY RESERV
Project No.:

Analysis: VOLATILES, GC/MS (8260)

Analytical Method: 8260B
Prep Method: 5030A

Matrix: QC Material
Amount Used: 2 g

QC Batch: 1203JFSZ
Level: LOW

Prep. Date: 12/02/2013
Analysis Date: 12/02/2013

Parameter	Spike Result	Spike Level	Spike % Rec	Duplicate Result	Duplicate Level	Duplicate % Rec	Recovery Limits	RPD	RPD Limit
Toluene	97.8	100	98	--	--	--	85-118	--	--
Ethyl Benzene	103	100	103	--	--	--	86-119	--	--
m & p-Xylene	205	200	102	--	--	--	81-121	--	--
Styrene	95.8	100	96	--	--	--	84-119	--	--
o-Xylene	99.1	100	99	--	--	--	81-121	--	--
1,2,4-Trimethylbenzene	96.4	100	96	--	--	--	83-119	--	--

SURROGATE RECOVERIES:	Spike %R	Duplicate %R	%R Limits
Toluene-d8	111.9	--	50-150
4-Bromofluorobenzene	108.3	--	50-150

'*' indicates a recovery outside of standard limits.
Spike Blanks for 006562-12, VOLATILES, GC/MS (8260)

4B

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BK 11/27/13

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

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

Lab File ID: A1127305 Lab Sample ID: 006558-02B1

Date Analyzed: 11/27/13 Time Analyzed: 10:43

GC Column: RTX-VMS ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: AG1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MAK007O	006556-01	A1127319	17:36
02	MAK022O	006556-02	A1127320	18:03
03	MAK023O	006556-03	A1127321	18:31
04	MAK007OMS	006556-01MS	A1127323	19:25
05	MAK007OMSD	006556-01MD	A1127324	19:56
06				
07				
08				
09				
10				
11				
12				
13				
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COMMENTS:

METHOD BLANK REPORT

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

Lab Report No: 006558 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006558-02B1
Desc/Location:	NA	Lab Filename:	A1127305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/27/2013
Matrix:	QC Material	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	107%
4-Bromofluorobenzene	50-150	103%

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

Blank for Run 1203JFSX, VOLATILES, GC/MS (8260)

4B

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BK 11/29/13

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

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

Lab File ID: A1129305 Lab Sample ID: 006555-06B1

Date Analyzed: 11/29/13 Time Analyzed: 09:54

GC Column: J&W DB624 ID: 0.53 (mm) Heated Purge: (Y/N) Y

Instrument ID: AG1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MAK0024O	006556-04	A1129306	10:22
02	MAK001O	006555-01	A1129307	10:49
03	MAK002O	006555-02	A1129308	11:19
04	MAK003O	006555-03	A1129309	11:46
05	MAK004O	006555-04	A1129310	12:14
06	MAK005O	006555-05	A1129311	12:41
07	MAK006O	006555-06	A1129312	13:11
08	MAK006OMS	006555-06MS	A1129313	13:39
09	MAK006OMSD	006555-06MD	A1129314	14:06
10	MAK021O	006555-07	A1129315	14:36
11	MAK008O	006555-08	A1129316	15:04
12	MAK009O	006555-09	A1129317	15:31
13	MAK010O	006555-10	A1129318	15:59
14	MAK011O	006555-11	A1129319	16:30
15	MAK012O	006555-12	A1129320	17:00
16	MAK014O	006555-14	A1129322	17:57
17	MAK015O	006555-15	A1129323	18:25
18	MAK016O	006555-16	A1129324	18:54
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COMMENTS:

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006555-06B1
Desc/Location:	NA	Lab Filename:	A1129305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/29/2013
Matrix:	QC Material	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	100%
4-Bromofluorobenzene	50-150	92%

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

Blank for Run 1203JFSY, VOLATILES, GC/MS (8260) Page 1 of 1

4B

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

BK 12/02/13

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

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

Lab File ID: A1202305 Lab Sample ID: 006565-12B1

Date Analyzed: 12/02/13 Time Analyzed: 09:05

GC Column: RTX-VMS ID: 0.25 (mm) Heated Purge: (Y/N) Y

Instrument ID: AG1

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MAK013O	006555-13	A1202306	09:38
02	MAK017O	006555-17	A1202307	10:08
03	MAK018O	006555-18	A1202308	10:36
04	MAK019O	006555-19	A1202309	11:03
05	MAK020O	006555-20	A1202310	11:31
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COMMENTS: _____

METHOD BLANK REPORT

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

Lab Report No: 006562 Report Date: 12/04/2013

Project Name: MAKU MILITARY RESERV Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006562-12B1
Desc/Location:	NA	Lab Filename:	A1202305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	12/02/2013
Matrix:	QC Material	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	104%
4-Bromofluorobenzene	50-150	102%

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

Blank for Run 1203JFSZ, VOLATILES, GC/MS (8260)

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

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

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

Lab File ID (Standard):A1125308 Date Analyzed: 11/25/13

Instrument ID: AG1 Time Analyzed: 12:29

Matrix: (soil/water) OCTOPUS Level: (low/med) Low Column: (pack/cap) CAP

		IS1(CBZ) AREA #	RT #	IS2(DCB) AREA #	RT #	IS3( ) AREA #	RT #
	12 HOUR STANDARD	113737	8.54	115803	9.94		
	UPPER LIMIT	227474	9.04	231606	10.44		
	LOWER LIMIT	56869	8.04	57902	9.44		
	EPA SAMPLE NO.						
1	SPBK 11/27/13	113851	8.54	126482	9.94		
2	BK 11/27/13	104605	8.54	115206	9.94		
3	MAK007O	80080	8.53	69179	9.93		
4	MAK022O	77094	8.53	74296	9.93		
5	MAK023O	84098	8.53	84081	9.93		
6	MAK007OMS	71938	8.53	63595	9.93		
7	MAK007OMSD	73215	8.53	73554	9.93		
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IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 ( ) =

UPPER LIMIT = +100%
of internal standard area
LOWER LIMIT = - 50%
of internal standard area

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

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

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

Lab File ID (Standard):A1125308 Date Analyzed: 11/25/13

Instrument ID: AG1 Time Analyzed: 12:29

Matrix: (soil/water) OCTOPUS Level: (low/med) Low Column: (pack/cap) CAP

		IS1(FBZ) AREA #	RT #	IS2(CB) AREA #	RT #	IS3(DCB) AREA #	RT #
	12 HOUR STANDARD	113737	8.54	115803	9.94		
	UPPER LIMIT	227474	9.04	231606	10.44		
	LOWER LIMIT	56869	8.04	57902	9.44		
	EPA SAMPLE NO.						
1	SPBK 11/29/13	104523	8.54	115707	9.94		
2	BK 11/29/13	110269	8.54	119696	9.94		
3	MAK0024O	101156	8.54	107007	9.94		
4	MAK001O	104171	8.54	112164	9.94		
5	MAK002O	97734	8.54	98651	9.94		
6	MAK003O	91762	8.54	94602	9.94		
7	MAK004O	84207	8.54	89403	9.94		
8	MAK005O	83579	8.54	85148	9.94		
9	MAK006O	68401	8.54	63293	9.94		
10	MAK006OMS	79598	8.54	77012	9.94		
11	MAK006OMSD	68415	8.54	61911	9.93		
12	MAK021O	86886	8.53	89944	9.94		
13	MAK008O	77738	8.54	77089	9.94		
14	MAK009O	71336	8.54	70858	9.94		
15	MAK010O	77705	8.53	80803	9.94		
16	MAK011O	71170	8.54	62954	9.94		
17	MAK012O	74766	8.54	73558	9.94		
18	MAK014O	77184	8.54	78116	9.94		
19	MAK015O	71504	8.54	63086	9.94		
20	MAK016O	69221	8.53	62793	9.94		
21							
22							

IS1 (FBZ) = Fluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,4-Dichlorobenzene-d4

UPPER LIMIT = + 100%
of internal standard area
LOWER LIMIT = - 50%
of internal standard area

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

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

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

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

Lab File ID (Standard):A1125308 Date Analyzed: 11/25/13

Instrument ID: AG1 Time Analyzed: 12:29

Matrix: (soil/water) OCTOPUS Level: (low/med) Low Column: (pack/cap) CAP

		IS1(CBZ) AREA #	RT #	IS2(DCB) AREA #	RT #	IS3( ) AREA #	RT #
	12 HOUR STANDARD	113737	8.54	115803	9.94		
	UPPER LIMIT	227474	9.04	231606	10.44		
	LOWER LIMIT	56869	8.04	57902	9.44		
	EPA SAMPLE NO.						
1	SPBK 12/02/13	85323	8.54	94835	9.95		
2	BK 12/02/13	95674	8.55	108735	9.94		
3	MAK013O	83658	8.55	90821	9.94		
4	MAK017O	85353	8.54	92741	9.94		
5	MAK018O	80592	8.54	82276	9.94		
6	MAK019O	79922	8.54	77840	9.94		
7	MAK020O	75528	8.54	74303	9.94		
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IS1 (CBZ) = Chlorobenzene-d5
IS2 (DCB) = 1,4-Dichlorobenzene-d4
IS3 ( ) =

UPPER LIMIT = +100%
of internal standard area
LOWER LIMIT = - 50%
of internal standard area

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

Sample Preparation Information

(Not Applicable for VOA Purge and Trap Method)

Rev. 1.1

Standards Preparation Information

Rev. 1.1

X0899 IC MIX

8260 Mix (U)	MTBE (U)	RMA (CS)	Ketones (RES)	CS2 (ABS)		MEOH	Final Vol.
DWM-589N Lot Ch-3339 2000 ug/mL R4385 Exp.11/30/14	STS-440-1 Lot CG-4444 2000 ug/mL R4232 Exp. 01/31/15	SP-1022-345DSZ Lot 1181400 Varied Conc. R4422 Exp. 01/31/14	30006 Lot A090981 5000 ug/mL R4498 Exp. 12/2015	70060 Lot 011312 1000 ug/mL R4411 Exp. 01/13/15		R4488	(uL)
200	200	400	160	400		2640	4000

Ketones = 200 ug/mL
Acrylo/m&p-Xylenes = 200ug/mL
All other = 100ug/ml

Prep: 11/19/13

Exp: 12/03/13

US 11/19/13

X0900 ISTD/Surrogate - UM85

68.8uL STM-520-1 lot CH-3660 8500 ug/mL (R4311) exp. 12/31/14
68.8uL STM-530-1 lot CJ-1280 8500 ug/mL (R4233) exp. 5/31/15
3862.4uL MeOH (R4488)
4000uL 43 ug/mL US 11/20/13 Exp. 12/04/13

X0901 ISTD ONLY

80uL STM-520-1 lot CH-3660 8500 ug/mL (R4311) exp 12/31/14
3920uL MeOH (R4488)
4000uL 50 ug/mL ORC 11/22/13 EXP 11/29/13

X0902 Surrogate ONLY

80uL STM-530-1 lot CJ-1280 8500 ug/mL (R4233) exp 5/31/15
3920uL MeOH (R4488)
4000uL 50 ug/mL ORC 11/22/13 EXP 11/29/13

Continued on Page

Read and Understood By

ORC 11/22/13 GD 11/22/13
Signed Date Signed Date

X0882 IC MIX

	8260 Mix (U)	MTBE (U)	RMA (CS)	Ketones (RES)	CS2 (ABS)		MEOH	Final Vol.
	DWM-589N Lot Ch-3339 2000 ug/mL R4385 Exp.11/30/14	STS-440-1 Lot CG-4444 2000 ug/mL R4232 Exp. 01/31/15	SP-1022-345DSZ Lot 1181400 Varied Conc. R4422 Exp. 01/31/14	30006 Lot A090981 5000 ug/mL R4498 Exp. 12/2015	70060 Lot 011312 1000 ug/mL R4411 Exp. 01/13/15		R4476	(uL)
~~X0363~~	200	200	400	160	400		2640	4000

Ketones = 200 ug/mL
Acrylo/m&p-Xylenes = 200ug/mL
All other = 100ug/ml

Prep: 11/04/13

Exp: 11/18/13

TRC 11/4/13

X0883 ISTD/Sur - UM85

68.8 uL STM-530-1 lot CH-3660 2500 ug/mL (R4311) exp. 12/31/14
68.8 uL STM-530-1 lot CJ-1280 2500 ug/mL (R4333) Exp. 5/31/15
3862.4 uL MeOH (R4476)
4000 uL 43 ug/mL LS 11/05/13 Exp. 11/19/13

X0884 Gasoline Std - Restek

20 uL 30205 lot A092370 50,000 ug/mL (R4534) exp. 01/2020
3980 uL MeOH (R4473)
4000 uL 250 ug/mL LS 11/08/13 Exp. 12/08/13

X0885 BFB

STS-110N-1
Lot: CF-5373
Exp: 01/31/2014
ULTRA 1 mL
4-Bromofluorobenzene Solution
R4006
1 analyte(s) at 2000 µg/mL in methanol
250 Smith St, No Kingstown, RI 02852 USA
For Lab Use Only
11/08/13

50 uL

3950 uL MeOH (R4473)
4000 uL 25 ug/mL LS 11/08/13 Exp. ~~5/08/13~~ 1/31/14 LS 12/04/13

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
LS	11/08/13	TRC	11/8/13

X0903 IC MIX - 8260 only

100 uL DWM-589N lot CH-3339 2000ug/mL (R4385) exp 11/30/14
3900 uL MeOH (R4488)
4000 uL 50 ug/mL TRC 11/22/13 EXP 11/29/13

X0904 Hawaii Spike Solution

80 uL X0878 (BTEX) 30213 lot A094024 (R4537) 2000 ug/mL EXP 04/2020
80 uL X0866 (1,2,4-TMB) 30422 lot ~~A075101~~ A075706 (R4529) TRC 11/22/13 2000 ug/mL EXP 07/2015
80 uL X0867 (Styrene) 30410 lot A095301 (R4528) 2000 ug/mL EXP 05/2018
3760 uL MeOH (R4488)
4000 uL 40 ug/mL TRC 11/22/13 EXP 11/29/13

X0905 IIS - UM85

68.8 uL STM-520-1 Lot: CH-3660 Exp: 12/31/2014 ULTRA 1 mL Internal Standard Mixture 8 analyte(s) at 2500 µg/mL in methanol 250 Smith St, No Kingstown, RI 02852 USA For Lab Use Only R4310 11/25/13

68.8 uL STM-630-1 Lot: CJ-1280 Exp: 05/31/2015 ULTRA 1 mL Method 8260 Surrogate Standard Mixture 8 analyte(s) at 2500 µg/mL in methanol 250 Smith St, No Kingstown, RI 02852 USA For Lab Use Only R4309 11/25/13

3862.4 uL MeOH (R4488)
4000 uL 43 ug/mL 11/25/13 Exp. 12/09/13

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
	11/25/13	TRC	11/26/13

X0906 Hawaii Spike Solution

80 uL X0878 (BTEX) 30213 lot A094024 (R4537) 2000 ug/mL exp. 4/2020
80 uL X0866 (1,2,4-TMB) 30422 lot A075706 (R4539) 2000 ug/mL exp. 7/2015
80 uL X0867 (Styrene) 30410 lot A095301 (R4538) 2000 ug/mL exp. 5/2018
3760 uL MeOH (R4488)
4000 uL 40 ug/mL LS 11/25/13 Exp. 12/02/13

X0907 BFB

50 uL STS-110N-1 lot CF-5373 2000 ug/mL (R4006) exp. 1/31/14
3950 uL MeOH (R4488)
4000 uL 25 ug/mL LS 11/25/13 Exp. 1/31/14

X0908 IC MIX - 8260 Mix only

100 uL DWM-589N-1 lot CH-3339 2000 ug/mL (R4385) exp. 11/30/14
3900 uL MeOH (R4488)
4000 uL 50 ug/mL LS 11/25/13 Exp. 12/02/13

X0909 Anti-Foam Agent (Purge Water)

300 mg of RESTEK Cat. No 31822 LOT A096340 Xp 07/2018
DI Water
1,500 mL JO 11/27/13 Exp 11/27/14

Continued on Page

Read and Understood By

JO 11/27/13 LS 12/02/13
Signed Date Signed Date

BTEX Stock

X0878

RESTEK
Catalog# 30213
BTEX Standard
110 Benner Circle
Bellefonte, PA 16823
Made in USA
R4537
2000 ug/mL each in P&T Methanol
Lot# A094024 Exp. Date: 04/2020 Store: 0°C or colder
opened 10/31/13 GO

X0879 HIN. Spike Soln (40 µg/mL)

80 µL of X0878 BTEX (2,000 ppm) above)
80 µL X0866 1,2,4 TMB "
80 µL X0867 Styrene "
QS MeOH R4472
4.00 mL of 40 µg/mL each
GO 10/31/13 exp 11/14/13

X0880 8260 ISTD ONLY

80 µL ISTD Ultra R4312 2,500 µg/mL Lot CHB660 xp 12/2014
3920 µL R4472
4,000 µL of 50 µg/mL
GO 11/1/13 exp 11/15/13

X0881 8260 Surr. only

80 µL Ultra 2,500 ppm STN530-1 Lot CJ-1280 exp 05/2015
3920 µL MeOH R4472
4,000 µL 50 µg/mL GO 11/1/13 Xp 11/15/13

Continued on Page

Read and Understood By

GO 11/1/13 Date — Signed — 11/4/13 Date

X0865 ISTD / Sur - UM85

68.8 ul STM-520-1 lot CH-3660 2500 ug/ml (R4311) exp. 12/31/14
68.8 ul STM-530-1 lot CJ-1780 2500 ug/ml (R4333) exp. 5/31/15
3862.4 ul MeOH (R4476)
4000 ul 43 ug/ml LS 10/21/13 Exp. 11/04/13

1,2,4-TMB Stock

✓ 66
X0865

RESTEK Made in USA
Cat# 30422
1,2,4-Trimethylbenzene Standard
2000 ug/mL each in P&T Methanol
Lot# A075706 Exp. Date: 07/2015 Store: Freezer
Restek Corporation - 110 Benner Circle - Bellefonte, PA 16823
R4539 ✓
opened 10/25/13

✓ 67
X0866 Styrene Stock

RESTEK 110 Benner Circle Bellefonte, PA 16823 Made in USA
Catalog# 30410
Styrene Standard
2000 ug/mL each in P&T Methanol
Lot# A095301 Exp. Date: 05/2018 Store: 0°C or colder
R4538 ✓
opened 10/25/13

X0868 ✓

UST-140-1 ULTRA 1 mL
Lot: CG-0130
Exp: 02/28/2014
PVOC Mixture (California)
R3391
6 analyte(s) at 1000 µg/mL in methanol
250 Smith St, No Kingstown, RI 02852 USA
For Lab Use Only

BTEX + MTBE
* No p-Xylene
opd 10/25/13 gp

✓
X0869 MT Tissues (Spike) (Test)
10 µL of X0866 (2,000 ppm) ✓ 5 Correction
10 µL " X0867 (2,000 ") gp 10/25/13
20 µL " X0868 (1,000 µg/mL)
2,460 mL MeOH
2.50 mL Total of 8.0 µg/mL ea.
gp 10/25/13 exp 11/8/13

Continued on Page

Read and Understood By

gp 10/25/13 LS 10/28/13

Certificate of Analysis

Rec'd 1/11/13

ULTRA SCIENTIFIC
Analytical Solutions

Internal Standard Mixture

Product Number: STM-520 **Page:** 1 of 1

Lot Number: CH-3660 **Lot Issue Date:** 15-Nov-2011 **Expiration Date:** 31-Dec-2014

This Certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
chlorobenzene-d5	003114-55-4	RM01430-01	2503 ± 13 µg/mL
1,4-dichlorobenzene-d4	003855-82-1	RM01700-06	2500 ± 13 µg/mL
fluorobenzene	000462-06-6	RM03366-01	2513 ± 13 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at < 4° C

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED
ISO 17025:2005 Accredited A2LA Cert. No. 0851-01

ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrasci.com

William J. Leary
Quality Assurance Manager

Rec'd 9/18/12

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

Method 8260 Surrogate Standard Mixture

Product Number: STM-530 **Page:** 1 of 1

Lot Number: CJ-1280 **Lot Issue Date:** 17-Apr-2012 **Expiration Date:** 31-May-2015

This certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
4-bromofluorobenzene	000460-00-4	RM03908-	2512 ± 13 µg/mL
dibromofluoromethane	001868-53-7	RM04871-01	2512 ± 13 µg/mL
1,2-dichloroethane-d4	017060-07-0	RM04304-	2512 ± 13 µg/mL
toluene-d8	002037-26-5	RM04138-	2512 ± 13 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at < 4° C

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

A2LA ACCREDITED
ISO 17025:2005 Accredited A2LA Cert. No. 0851-01
ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrascl.com

William J. Leary
Quality Assurance Manager

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

Rec'd 12/28/11

4-Bromofluorobenzene Solution

Product Number: STS-110N

Page: 1 of 1

Lot Number: CF-5373 **Lot Issue Date:** Jan-2010 **Expiration Date:** Jan-2014

This Certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
4-bromofluorobenzene	000460-00-4	20401KO	2010 ± 10 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at < 4° C

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED

ISO 17025:2005 Accredited A2LA Cert. No. 0851-01

ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
www.ultrasci.com

William J. Leary
Quality Assurance Manager

Rec'd 9/18/12

ULTRA SCIENTIFIC
Analytical Solutions

Certificate of Analysis

VOC Mixture

Product Number: DWM-589N **Page:** 1 of 3

Lot Number: CH-3339 **Lot Issue Date:** 19-Oct-2011 **Expiration Date:** 30-Nov-2014

This Certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
bromochloromethane	000074-97-5	RM00009	2006 ± 10 µg/mL
bromodichloromethane	000075-27-4	10529HD	2006 ± 10 µg/mL
bromoform	000075-25-2	RM01801	2006 ± 10 µg/mL
carbon tetrachloride	000056-23-5	RM00012	2006 ± 10 µg/mL
chloroform	000067-66-3	RM01693	2006 ± 10 µg/mL
dibromochloromethane	000124-48-1	07705AN	2006 ± 10 µg/mL
dibromomethane	000074-95-3	RM02090	2006 ± 10 µg/mL
methylene chloride	000075-09-2	RM01647	2006 ± 10 µg/mL
1,2-dibromoethane	000106-93-4	RM00018	2006 ± 10 µg/mL
1,1-dichloroethane	000075-34-3	RM00019	2006 ± 10 µg/mL
1,2-dichloroethane	000107-06-2	RM02111	2006 ± 10 µg/mL
1,1-dichloroethene	000075-35-4	RM01356	2006 ± 10 µg/mL
cis-1,2-dichloroethene	000156-59-2	RM01500	2006 ± 10 µg/mL
trans-1,2-dichloroethene	000156-60-5	01306HD	2006 ± 10 µg/mL
1,1,1,2-tetrachloroethane	000630-20-6	RM02567	2006 ± 10 µg/mL
1,1,2,2-tetrachloroethane	000079-34-5	RM02540	2006 ± 10 µg/mL
tetrachloroethene	000127-18-4	RM00026	2006 ± 10 µg/mL
1,1,1-trichloroethane	000071-55-6	RM00027	2006 ± 10 µg/mL
1,1,2-trichloroethane	000079-00-5	RM02575	2006 ± 10 µg/mL

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED
ISO 17025:2005 Accredited A2LA Cert. No. 0851-01
ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

250 Smith Street, North Kingstown, RI 02852 USA
401-294-9400 Fax: 295-2330
wwww.ultrasci.com

William J. Leary
Quality Assurance Manager

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

VOC Mixture

Product Number: DWM-589N **Page:** 2 of 3

Lot Number: CH-3339 **Lot Issue Date:** 19-Oct-2011 **Expiration Date:** 30-Nov-2014

This Certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

trichloroethene	000079-01-6	RM00029	2006 ± 10 µg/mL
1,2-dibromo-3-chloropropane	000096-12-8	RM02088	2006 ± 10 µg/mL
1,2-dichloropropane	000078-87-5	RM02091	2006 ± 10 µg/mL
1,3-dichloropropane	000142-28-9	RM02080	2006 ± 10 µg/mL
2,2-dichloropropane	000594-20-7	01104EE	2006 ± 10 µg/mL
1,1-dichloropropene	000563-58-6	RM01234	2006 ± 10 µg/mL
cis-1,3-dichloropropene	010061-01-5	RM01442	2006 ± 10 µg/mL
trans-1,3-dichloropropene	010061-02-6	RM01443	2006 ± 10 µg/mL
hexachlorobutadiene	000087-68-3	RM02247	2004 ± 10 µg/mL
1,2,3-trichloropropane	000096-18-4	RM02562	2006 ± 10 µg/mL
benzene	000071-43-2	RM03830	2006 ± 10 µg/mL
n-butylbenzene	000104-51-8	RM01802	2006 ± 10 µg/mL
sec-butylbenzene	000135-98-8	RM01800	2006 ± 10 µg/mL
tert-butylbenzene	000098-06-6	RM01814	2006 ± 10 µg/mL
ethylbenzene	000100-41-4	RM00783	2006 ± 10 µg/mL
isopropylbenzene	000098-82-8	RM02285	2006 ± 10 µg/mL
4-isopropyltoluene	000099-87-6	RM00046	2006 ± 10 µg/mL
naphthalene	000091-20-3	RM02406	2006 ± 10 µg/mL
n-propylbenzene	000103-65-1	RM02468	2006 ± 10 µg/mL

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

A2LA ACCREDITED
ISO 17025:2005 Accredited A2LA Cert. No. 0851-01

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William J. Leary
Quality Assurance Manager

Certificate of Analysis

ULTRA SCIENTIFIC
Analytical Solutions

VOC Mixture

Product Number: DWM-589N **Page:** 3 of 3

Lot Number: CH-3339 **Lot Issue Date:** 19-Oct-2011 **Expiration Date:** 30-Nov-2014

This Certified Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

styrene	000100-42-5	LR-11228MQ	2006 ± 10 µg/mL
toluene	000108-88-3	RM02555	2006 ± 10 µg/mL
1,2,4-trimethylbenzene	000095-63-6	RM00050	2006 ± 10 µg/mL
1,3,5-trimethylbenzene	000108-67-8	RM02563	2006 ± 10 µg/mL
o-xylene	000095-47-6	RM00052	2006 ± 10 µg/mL
m-xylene	000108-38-3	RM00053	2006 ± 10 µg/mL
p-xylene	000106-42-3	RM02647	2006 ± 10 µg/mL
bromobenzene	000108-86-1	RM00056	2006 ± 10 µg/mL
chlorobenzene	000108-90-7	RM01874	2006 ± 10 µg/mL
2-chlorotoluene	000095-49-8	NT00290	2006 ± 10 µg/mL
4-chlorotoluene	000106-43-4	RM01866	2006 ± 10 µg/mL
1,2-dichlorobenzene	000095-50-1	RM00060	2006 ± 10 µg/mL
1,3-dichlorobenzene	000541-73-1	RM00061	2006 ± 10 µg/mL
1,4-dichlorobenzene	000106-46-7	RM01501	2006 ± 10 µg/mL
1,2,3-trichlorobenzene	000087-61-6	RM02563	2006 ± 10 µg/mL
1,2,4-trichlorobenzene	000120-82-1	RM00063	2006 ± 10 µg/mL

Matrix: methanol (methyl alcohol)

Storage: Store at < 4° C

ULTRA uses balances calibrated with weights traceable to NIST in compliance with ANSI/NCSL Z-540-1 and ISO 9001, and calibrated Class A glassware in the manufacturing of these standards.

ACCREDITED
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ISO 9001:2008 Registered TUV USA, Inc. Cert. No. 09-1009

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401-294-9400 Fax: 295-2330
wwww.ultrascl.com

William J. Leary
Quality Assurance Manager

Rec'd 10/30/13

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. : 30213 **Lot No.:** A094024

Description : BTEX Standard

BTEX Std 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : April 2020 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Benzene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 71-43-2		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed
2	Toluene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 108-88-3		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed
3	Ethylbenzene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 100-41-4		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed
4	p-Xylene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 106-42-3		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed
5	m-Xylene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 108-38-3		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed
6	o-Xylene	2,000.0 µg/mL	+/- 11.6282	µg/mL	Gravimetric
	CAS # 95-47-6		+/- 24.1076	µg/mL	Unstressed
	Purity 99%		+/- 27.2017	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rec'd 10/07/13

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. : 30422 Lot No.: A075706

Description : 1,2,4-Trimethylbenzene Standard

Expiration Date[1] : July 2015 Storage: Freezer

Elution Order	Compound	CAS #	Percent Purity 2	Concentration (weight/volume) 3	% Uncertainty (95% C.L.; K=2) 4
1	1,2,4-Trimethylbenzene	95-63-6	99%	2,000.000 ug/ml	+/-0.59 %
Solvent:	P&T Methanol	67-56-1	99%		

Column:
105m x .53mm x 3.0um
Rtx-502.2 (cat.#10910)

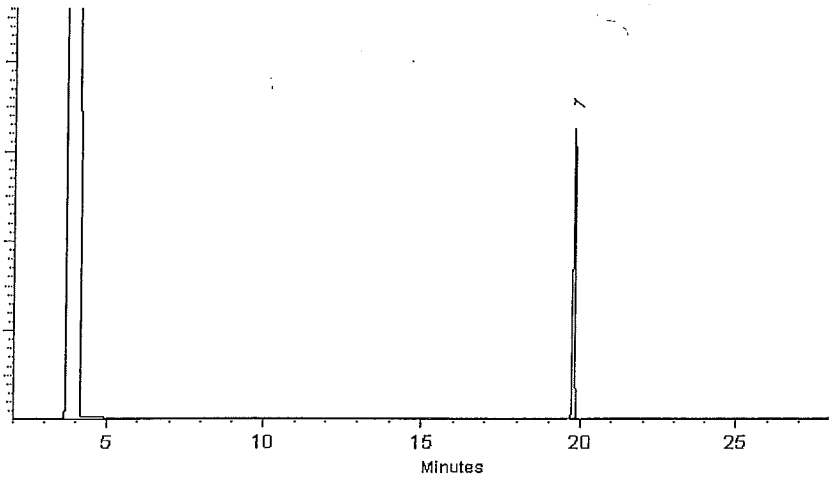
Carrier Gas:
hydrogen-constant pressure 11.0 psi.

Temp. Program:
40°C (hold 2 min.) to 240°C
@ 8°C/min. (hold 5 min.)

Inj. Temp:
200°C

Det. Temp:
250°C

Det. Type:



Diane Shaffer
Diane Shaffer - QA Analyst

Date Passed: 15-Jul-2010 **Balance:** 1128342314

Manufactured under Restek's ISO 9001:2008
Registered Quality System
Certificate #FM 80397

1 Expiration date of the unopened ampule stored at the recommended storage condition.

2A Purity is determined by one or more of the following techniques: GC/FID, HPLC, GC/ECD, GC/MS. Value is rounded to the nearest whole number. Chemical identity is confirmed using GC/MS. See data pack or contact provider for further details.

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

2C The following types of compounds will have a listed purity of less than 99%: Aldehyde/Ketone-DNPH compounds, Bromides, Chlorides, HCL salts, HBR salts, sulfates, hydrates, and other compounds as necessary. The listed purity is a correction factor that is equivalent to the percentage of parent compound in the molecule. This correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution. The concentration listed on the certificate is the concentration of the parent compound in the solution.

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) and/or class A glassware used for dilutions.

4 Uncertainties determined using data for balances and glassware from measurement systems analysis methodology, raw material purity, and, when significant, equipment tolerances or calibration results.

Rec'd 10/28/13

RESTEK CERTIFIED REFERENCE MATERIAL

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

www.restek.com

Certificate of Analysis

ACCREDITED ISO Guide 34 Accredited Reference Material Producer Certificate #3222.01

ilac-MRA

ACCREDITED ISO/IEC 17025 Accredited Testing Laboratory Certificate #3222.02

FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. : 30410 **Lot No.:** A095301

Description : Styrene Standard

Styrene 2000µg/mL, P&T Methanol, 1mL/ampul

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

Expiration Date : May 31, 2018 **Storage:** 0°C or colder

CERTIFIED VALUES

Elution Order	Compound	Grav. Conc. (weight/volume)	Expanded Uncertainty (95% C.L.; K=2)		
1	Styrene	2,004.0 µg/mL	+/- 11.9032	µg/mL	Gravimetric
	CAS # 100-42-5 (Lot 10174567)		+/- 24.2782	µg/mL	Unstressed
	Purity 99%		+/- 27.3647	µg/mL	Stressed

Solvent: P&T Methanol
CAS # 67-56-1
Purity 99%

Rec'd 6/13/13

Methanol
ULTRA RESI-ANALYZED
For Purge and Trap Analysis

J.T.Baker

Part of AVANTOR™ PERFORMANCE MATERIALS

Material No.: 9077-02
Batch No.: 0000038701
Manufactured Date: 2013/02/20
Retest Date: 2018/02/19

Certificate of Analysis

Test	Specification	Result
Assay (CH_3OH) (by GC, corrected for water)	>= 99.9 %	100.0
Residue after Evaporation	<= 1.0000 ppm	< 0.1000
Titrable Acid (µeq/g)	<= 0.3	<0.1
Titrable Base (µeq/g)	<= 0.1	<0.01
Water (by KF, coulometric)	<= 0.08 %	<0.01
Photoionization Detection (PID) Below CRQL	Passes Test	PT
Electroconductivity Detection (ELCD) Below CRQL	Passes Test	PT

For Laboratory, Research or Manufacturing Use
Performance Tested for Use in EPA Methods
500 Series for Drinking Water
600 Series for Wastewater
846 for Solid Waste

Country of Origin: US
Packaging Site: Phillipsburg Mfg Ctr & DC

ISO

Richard W. Siberski
Global Director of Quality Assurance

For questions on this Certificate of Analysis please contact Technical Services at 855.282.6867 or +1.610.573.2600
Avantor ™ Performance Materials Inc.
3477 Corporate Parkway, Suite #200, Center Valley, PA 18034, U.S.A. Phone: 610.573.2600 . Fax: 610.573.2610

X0910 ISTD Only

80uL STM-520-1 lot CH-3100 2500 ug/mL (R4313) exp 12/31/14
3920uL MeOH (R4477)
4000uL 50 ug/mL ORC 12/2/13 EXP 12/9/13

X0911 Surrogate Only

80uL STM-530-1 lot CJ-1280 2500 ug/mL (R4239) exp 5/31/15
3920uL MeOH (R4477)
4000uL 50 ug/mL ORC 12/2/13 EXP 12/9/13

X0912 MIX for Archon - UM85

40uL 8260D Mix(W) DWM-589N-1 lot CH-3339 2000 ug/mL (R4355) exp. 11/30/14
16uL DBCP(W) EPA-1021 lot CH-1351 5000 ug/mL (R4374) exp. 5/31/15
40uL CS_2 (Acc) APP-9-035-20X lot 212071234 2.0 ug/mL (R4435) exp. 7/18/22
80uL RMA (CS) SP-1022345DSZ lot 1181400 Varied Conc. (R4429) exp. 1/31/14
1824uL MeOH (R4477)
2000uL Acrylo/DBCP = 80 ug/mL
Other = 40 ug/mL LS 12/02/13 Exp. 12/16/13

X0913 DL MIX for Archon - UM85

1290uL X0912 exp. 12/14/13
210uL MeOH (R4477)
1500uL Acrylo/DBCP = 68.8 ug/mL
Other = 34.4 ug/mL LS 12/02/13 Exp. 12/16/13

Continued on Page

Read and Understood By

LS 12/02/13 [illegible] 12/5/13
Signed Date Signed Date

Analytical Run Number _____1_____

Calibration Information

Tune Data (If applicable)

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

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

Instrument Logs/Analysis Notebook Pages

Blank / Field Sample / QC Data

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

Rev. 1.1

Calibration Information

Tune Data (If applicable)

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

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

Rev. 1.1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

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

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

Lab File ID: A1125303 BFB Injection Date: 11/25/13

Instrument ID: AG1 BFB Injection Time: 09:43

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	14.5	
75	30.0 - 66.0% of mass 95	48.1	
95	Base Peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.6	
173	Less than 2.0% of mass 174	0.0	(1)
174	Greater than 50.0% of mass 95	86.5	
175	4.0 - 9.0% of mass 174	7.9	(1)
176	Greater than 93.0%, but less that 101.0% of mass 174	100.9	(1)
177	5.0 - 9.0% of mass 176	6.1	(2)

(1)-Value is % mass 174 2-Value is % mass 176

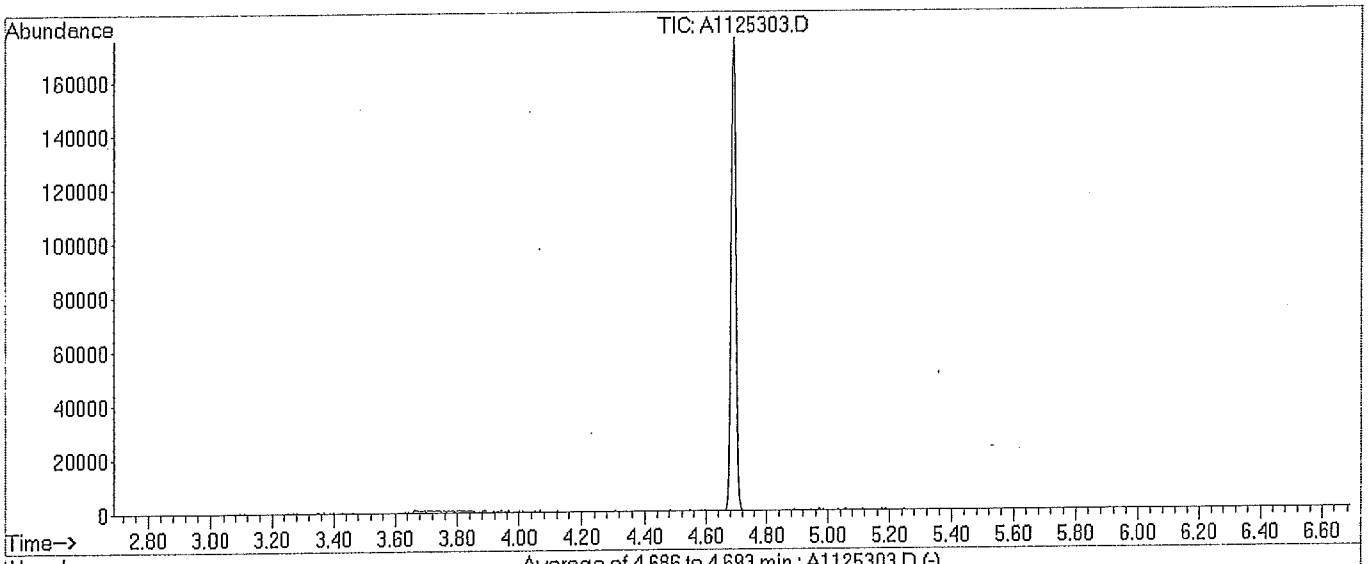
THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

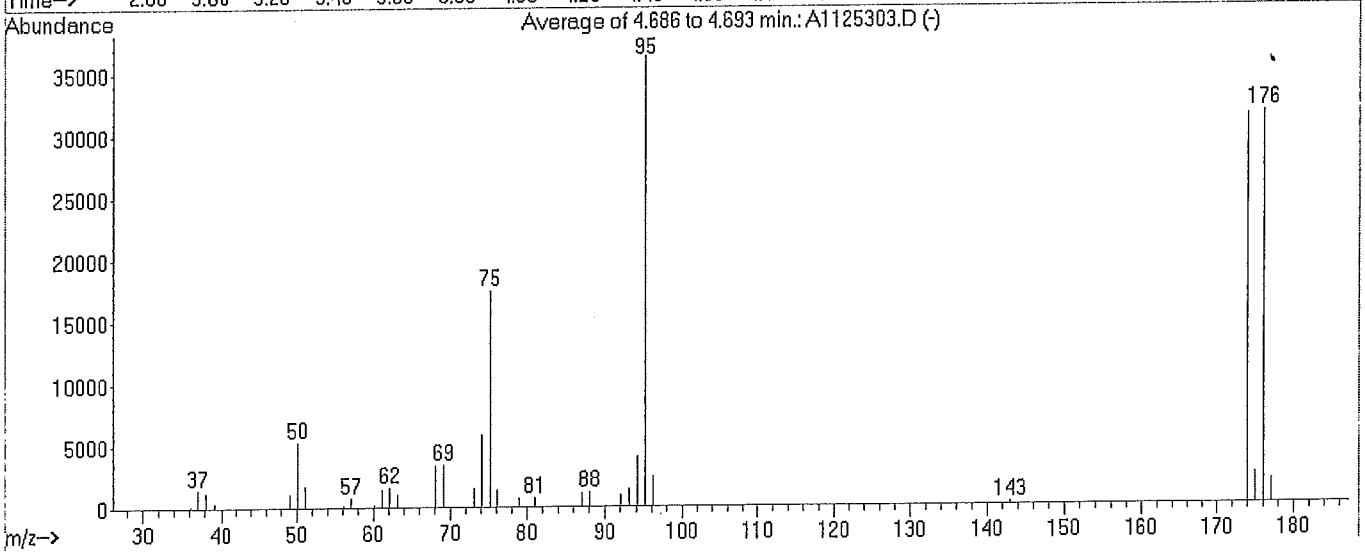
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	BLK STD	000 STD	A1125304	11/25/13	10:08
2	VOA STD	12.5 STD	A1125305	11/25/13	10:46
3	VOA STD	025 STD	A1125306	11/25/13	11:22
4	VOA STD	050 STD	A1125307	11/25/13	11:57
5	VOA STD	100 STD	A1125308	11/25/13	12:29
6	VOA STD	150 STD	A1125309	11/25/13	13:00
7	VOA STD	200 STD	A1125310	11/25/13	13:37
8	ICV	100 STD	A1125312	11/25/13	14:40
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125303.D
Acq On : 25 Nov 2013 9:43 am
Operator :
Sample : 50 NG BFB
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFBSOIL.M
Title :
Last Update :





AutoFind: Scans 500, 501, 502; Background Corrected with Scan 491

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.5	5285	PASS
75	95	30	66	48.1	17482	PASS
95	95	100	100	100.0	36352	PASS
96	95	5	9	6.6	2395	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	86.5	31434	PASS
175	174	4	9	7.9	2468	PASS
176	174	93	101	100.9	31704	PASS
177	176	5	9	6.1	1922	PASS

Average of 4.686 to 4.693 min.: A1125303.D
50 NG BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.20	166	62.10	1592	88.05	1164		
37.10	1445	63.15	1039	92.05	927		
38.15	1184	68.10	3358	93.10	1407		
39.20	362	69.10	3414	94.10	4041		
49.10	1091	73.10	1508	95.10	36352		
50.10	5285	74.10	5875	96.10	2395		
51.10	1740	75.10	17482	143.00	201		
56.10	176	76.10	1389	174.00	31434		
57.05	775	79.00	723	175.00	2468		
60.10	200	81.00	721	176.00	31704		
61.15	1435	87.10	1082	177.05	1922		

Response Factor Report AG1

Method Path : C:\MSDCHEM\1\METHODS\
Method File : SOIL_27.M
Title : 8260 VOLATILES
Last Update : Mon Nov 25 13:59:03 2013
Response Via : Initial Calibration

Calibration Files
12.5=A1125305.D 25 =A1125306.D 50 =A1125307.D
100 =A1125308.D 150 =A1125309.D 200 =A1125310.D

		Compound	12.5	25	50	100	150	200	Avg	%RSD
1)	I	Chlorobenzene-d5	----------ISTD----------							
2)	S	Toluene-d8	2.450	2.299	2.202	2.159	2.120	2.298	2.255	5.33
3)	MCT	Toluene	3.148	3.121	2.907	2.865	2.794	2.799	2.939	5.37
4)	CT	Ethylbenzene	3.633	3.691	3.470	3.393	3.364	3.264	3.469	4.74
5)	T	m & p-Xylene	3.031	2.973	2.814	2.762	2.701	2.615	2.816	5.67
6)	T	Styrene	2.188	2.181	2.102	2.156	2.051	1.921	2.100	4.84
7)	T	o-Xylene	1.446	1.382	1.291	1.291	1.277	1.230	1.320	6.00
8)	I	1,4-Dichlorobenzene-d	----------ISTD----------							
9)	S	4-Bromofluorobenz	0.993	0.895	0.876	0.889	0.876	0.945	0.912	5.16
10)	T	1,2,4-Trimethylbe	3.382	3.209	3.183	3.132	3.086	3.115	3.184	3.35

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125304.D
Acq On : 25 Nov 2013 10:08 am
Operator :
Sample : VSTD000
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:05:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	125488	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	131981	125.00 ug/Kg	0.00

System Monitoring Compounds					
2) Toluene-d8	0.00	98	0	0.00 ug/Kg	
Spiked Amount 100.000			Recovery	= 0.00%	
9) 4-Bromofluorobenzene	0.00	95	0	0.00 ug/Kg	
Spiked Amount 100.000			Recovery	= 0.00%	

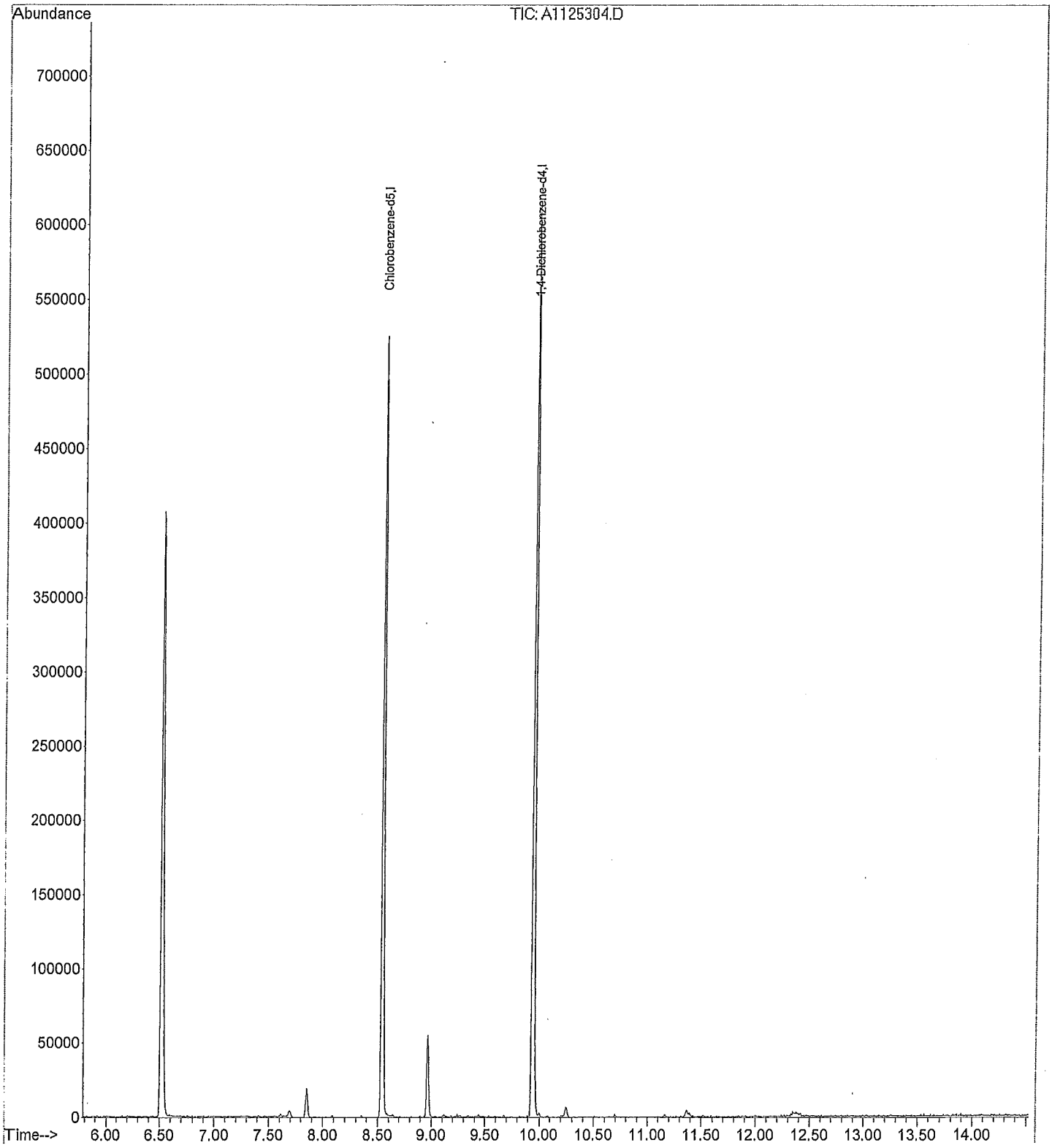
Target Compounds	Qvalue

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125304.D
Acq On : 25 Nov 2013 10:08 am
Operator :
Sample : VSTD000
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:05:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125305.D
Acq On : 25 Nov 2013 10:46 am
Operator :
Sample : VSTD12.5
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:07:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

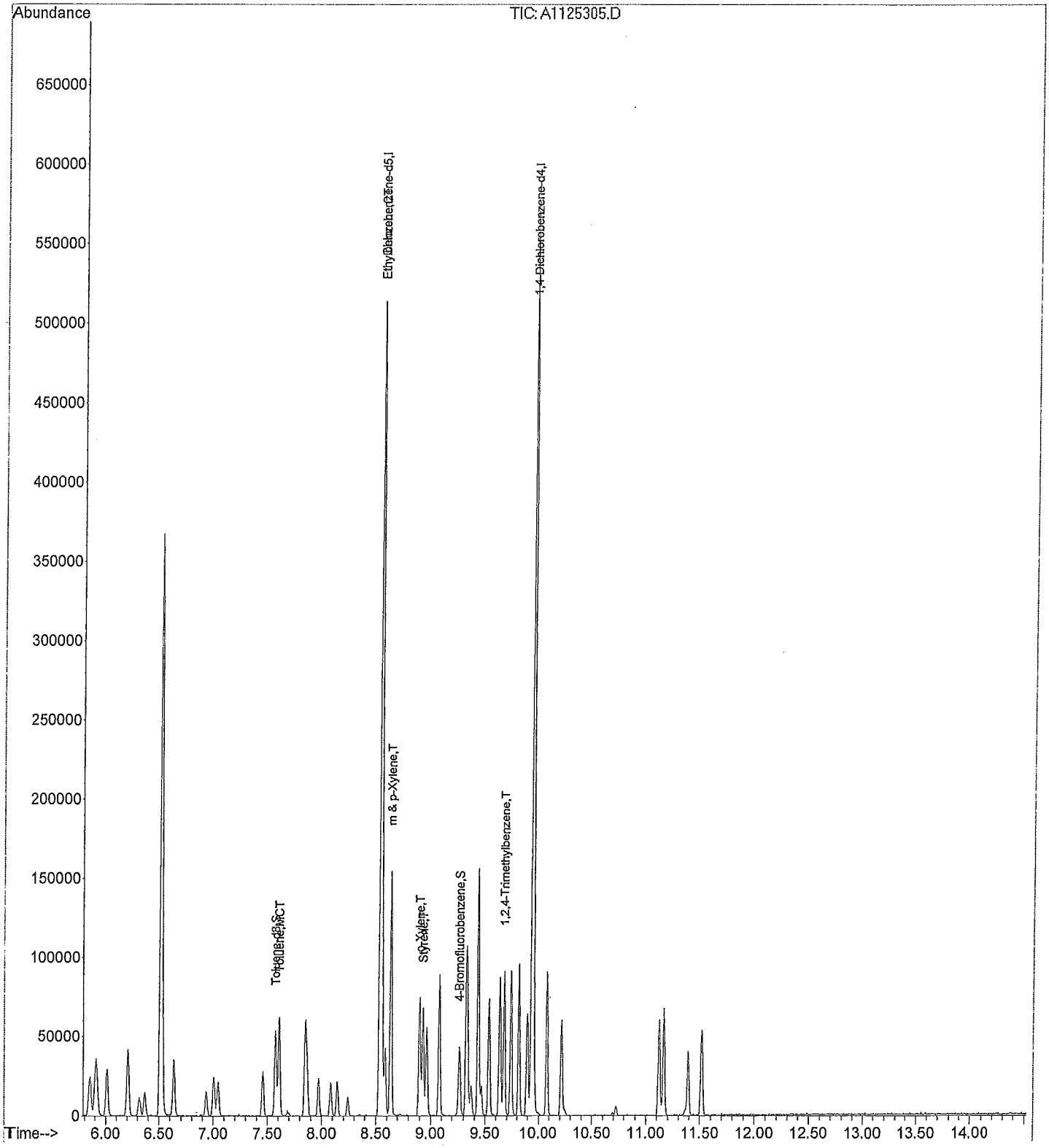
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	112887	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	116353	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	27658	12.72 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 12.72%	
9) 4-Bromofluorobenzene	9.26	95	11553	12.47 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 12.47%	
Target Compounds					Qvalue
3) Toluene	7.61	91	35542	13.08 ug/Kg	99
4) Ethylbenzene	8.55	91	41013	13.11 ug/Kg	99
5) m & p-Xylene	8.63	91	68441	27.27 ug/Kg	94
6) Styrene	8.93	104	24700	13.01 ug/Kg#	85
7) o-Xylene	8.90	106	16327	6.36 ug/Kg	93
10) 1,2,4-Trimethylbenzene	9.67	105	39345	13.48 ug/Kg	98

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125305.D
Acq On : 25 Nov 2013 10:46 am
Operator :
Sample : VSTD12.5
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:07:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125306.D
Acq On : 25 Nov 2013 11:22 am
Operator :
Sample : VSTD025
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:08:20 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

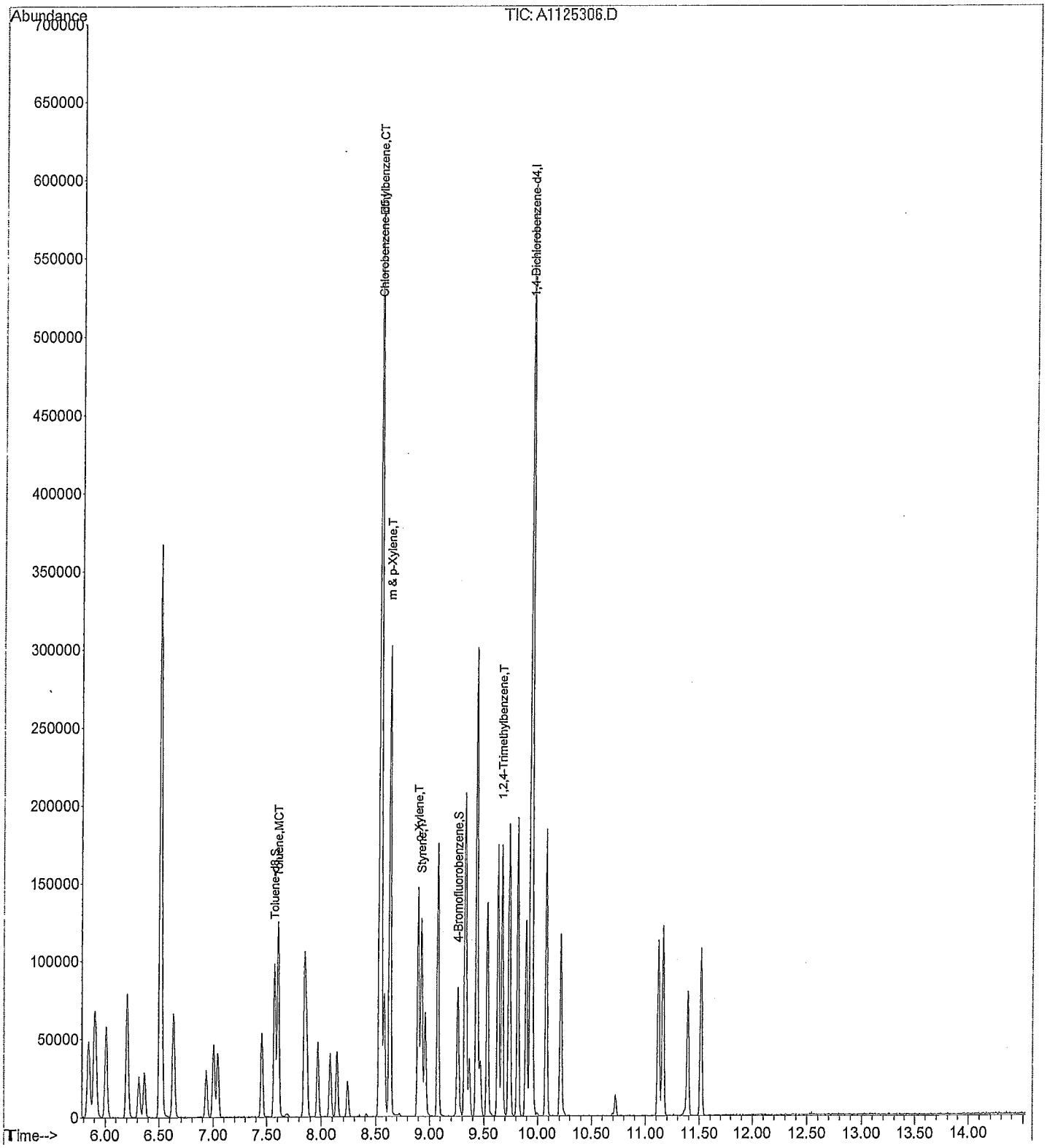
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	111254	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	116803	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	51165	23.87 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 23.87%	
9) 4-Bromofluorobenzene	9.26	95	20909	22.48 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 22.48%	
Target Compounds					Qvalue
3) Toluene	7.61	91	69452	25.94 ug/Kg	99
4) Ethylbenzene	8.55	91	82122	26.63 ug/Kg	99
5) m & p-Xylene	8.63	91	132287	53.49 ug/Kg	95
6) Styrene	8.93	104	48524	25.92 ug/Kg	88
7) o-Xylene	8.90	106	30753	12.16 ug/Kg	89
10) 1,2,4-Trimethylbenzene	9.67	105	74961	25.58 ug/Kg	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125306.D
Acq On : 25 Nov 2013 11:22 am
Operator :
Sample : VSTD025
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:08:20 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125307.D
Acq On : 25 Nov 2013 11:57 am
Operator :
Sample : VSTD050
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:12:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

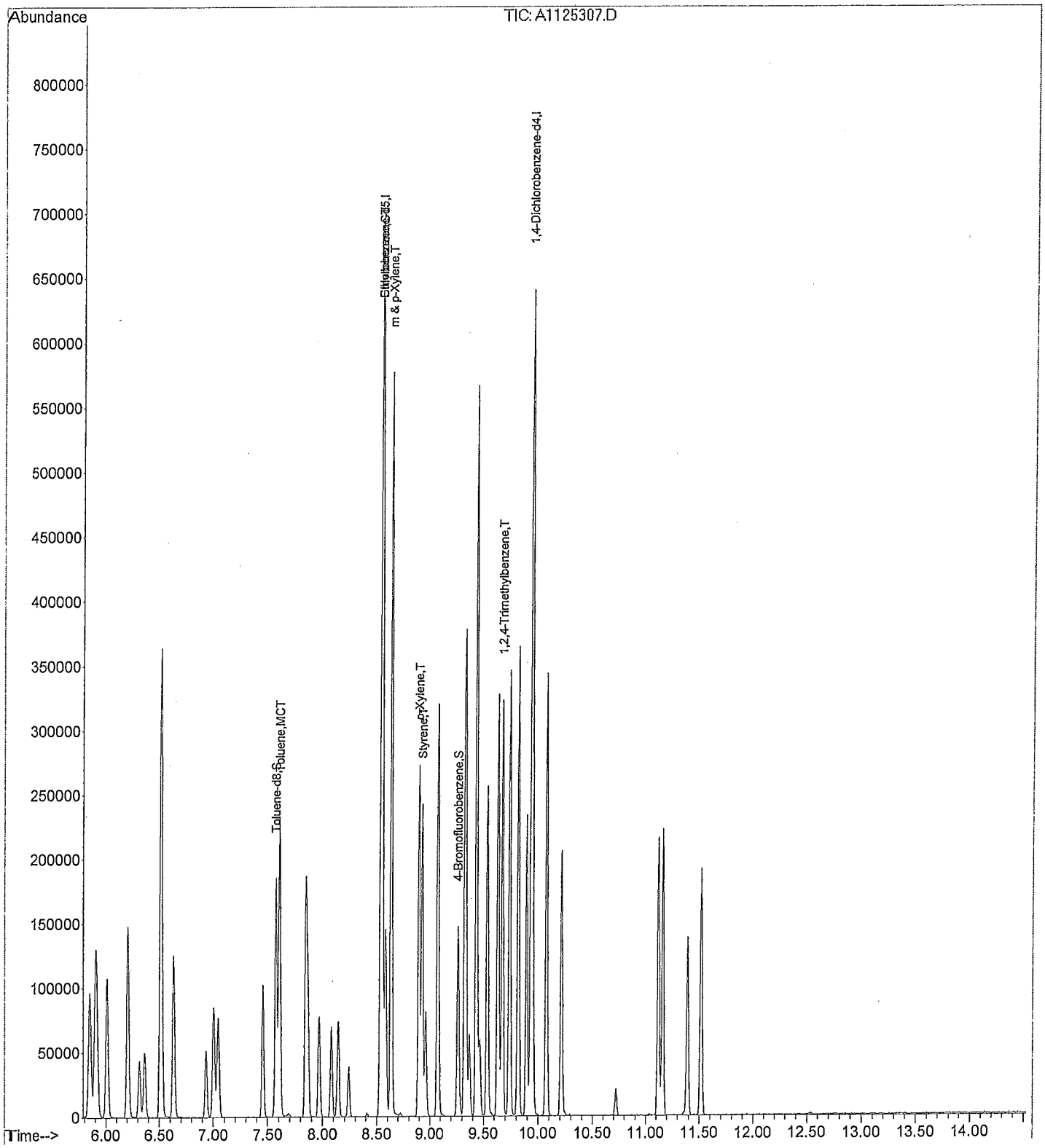
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	110281	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	109882	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	97144	45.71 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 45.71%	
9) 4-Bromofluorobenzene	9.26	95	38490	43.98 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 43.98%	
Target Compounds					Qvalue
3) Toluene	7.61	91	128237	48.32 ug/Kg	100
4) Ethylbenzene	8.55	91	153066	50.08 ug/Kg	99
5) m & p-Xylene	8.63	91	248247	101.26 ug/Kg	96
6) Styrene	8.93	104	92715	49.97 ug/Kg#	86
7) o-Xylene	8.90	106	56939	22.72 ug/Kg	89
10) 1,2,4-Trimethylbenzene	9.67	105	139880	50.75 ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125307.D
Acq On : 25 Nov 2013 11:57 am
Operator :
Sample : VSTD050
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:12:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125308.D
Acq On : 25 Nov 2013 12:29 pm
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:47:11 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

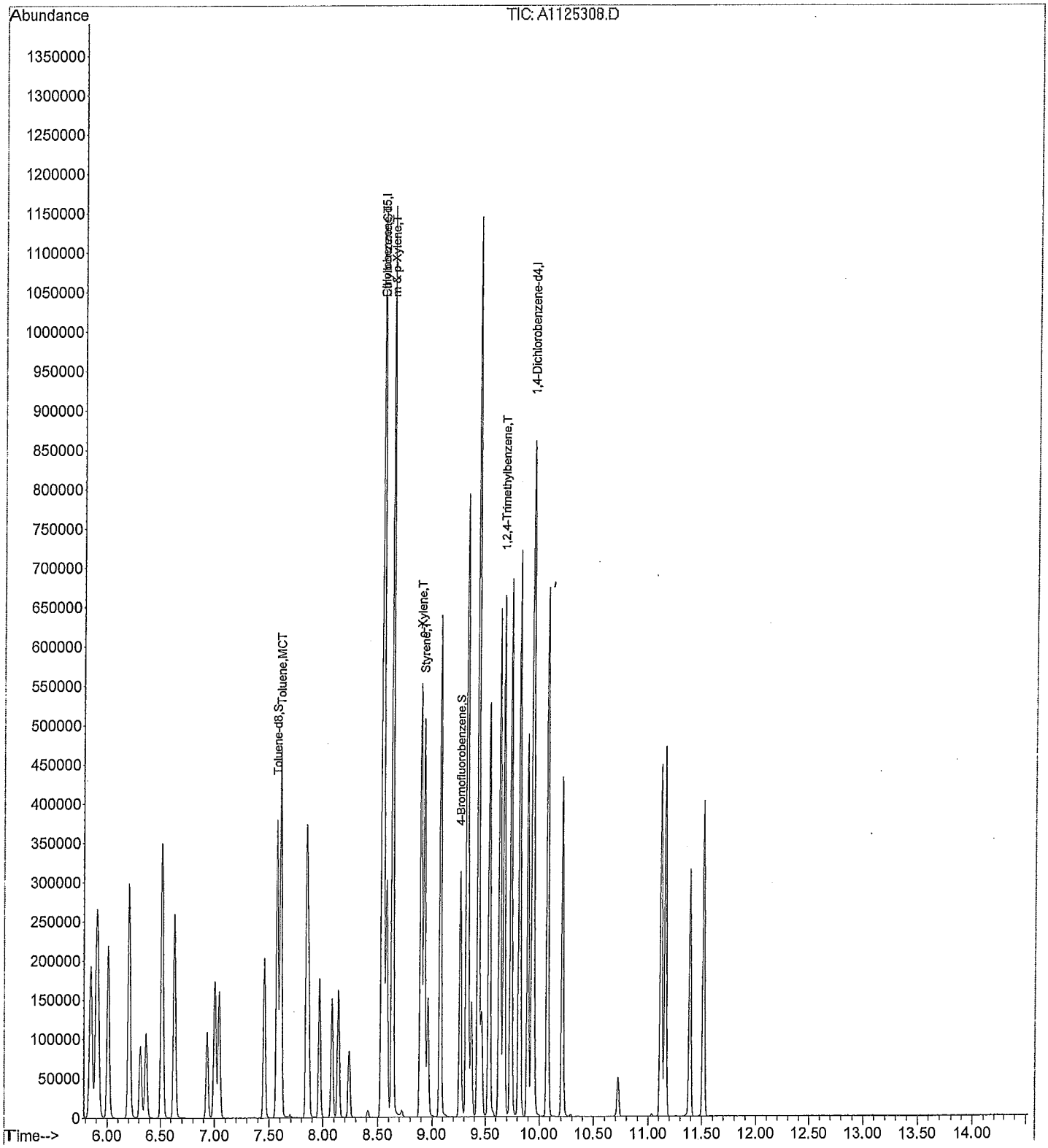
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	113737	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	115803	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.57	98	196489	89.66	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	89.66%	
9) 4-Bromofluorobenzene	9.26	95	82386	89.32	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	89.32%	
Target Compounds						Qvalue
3) Toluene	7.61	91	260644	95.23	ug/Kg	100
4) Ethylbenzene	8.55	91	308722	97.94	ug/Kg	100
5) m & p-Xylene	8.63	91	502704	198.82	ug/Kg	96
6) Styrene	8.93	104	196151	102.51	ug/Kg	89
7) o-Xylene	8.90	106	117442	45.44	ug/Kg	88
10) 1,2,4-Trimethylbenzene	9.67	105	290119	99.87	ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125308.D
Acq On : 25 Nov 2013 12:29 pm
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 12:47:11 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125309.D
Acq On : 25 Nov 2013 1:00 pm
Operator :
Sample : VSTD150
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 13:21:26 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

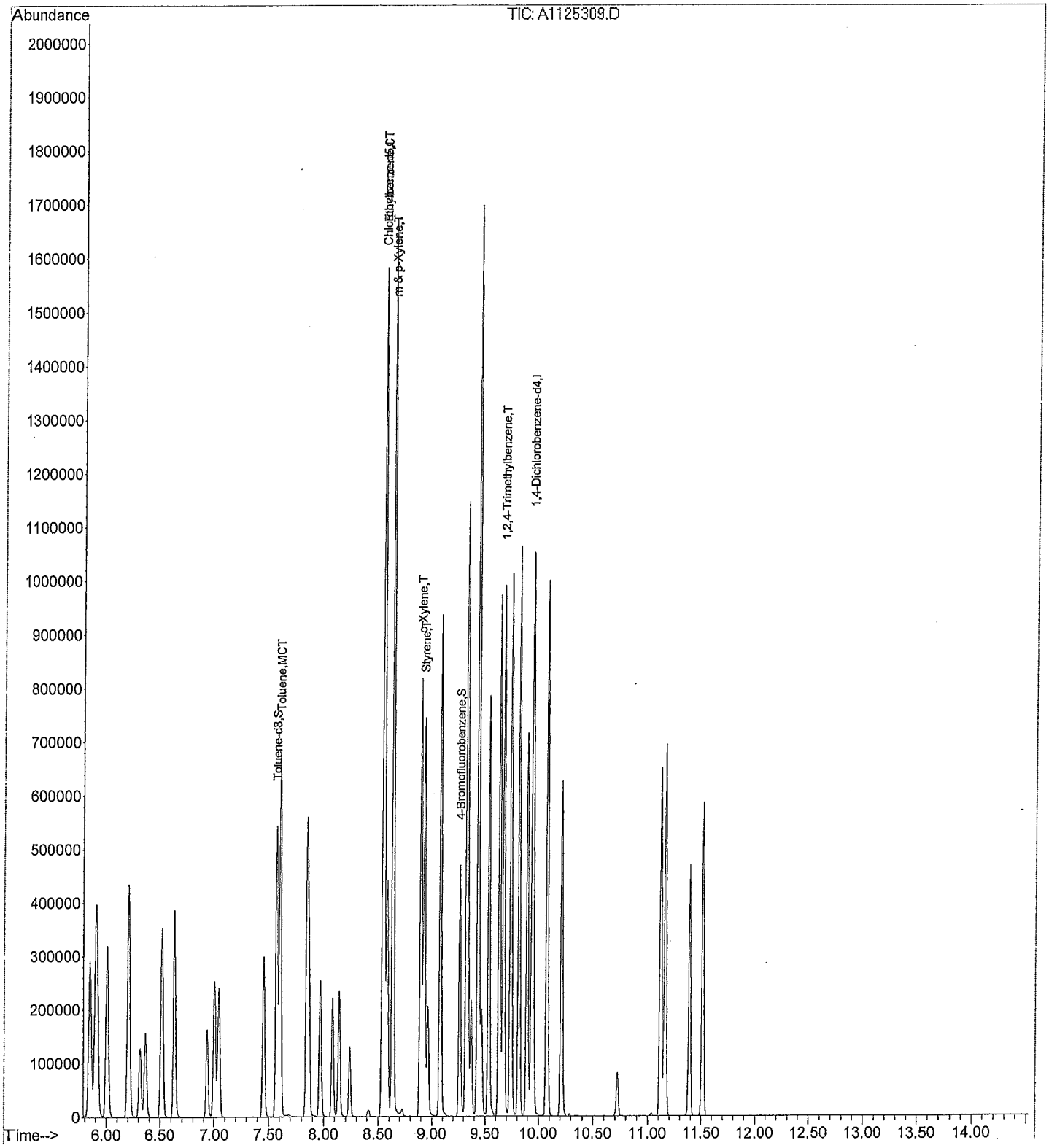
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	113274	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	115282	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	288103	132.00 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 132.00%	
9) 4-Bromofluorobenzene	9.26	95	121150	131.94 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 131.94%	
Target Compounds					Qvalue
3) Toluene	7.61	91	379743	139.31 ug/Kg	98
4) Ethylbenzene	8.55	91	457270	145.66 ug/Kg	99
5) m & p-Xylene	8.63	91	734316	291.61 ug/Kg	96
6) Styrene	8.93	104	278778	146.28 ug/Kg#	86
7) o-Xylene	8.90	106	173643	67.45 ug/Kg	89
10) 1,2,4-Trimethylbenzene	9.67	105	426884	147.61 ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125309.D
Acq On : 25 Nov 2013 1:00 pm
Operator :
Sample : VSTD150
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 13:21:26 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125310.D
Acq On : 25 Nov 2013 1:37 pm
Operator :
Sample : VSTD200
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 13:55:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration

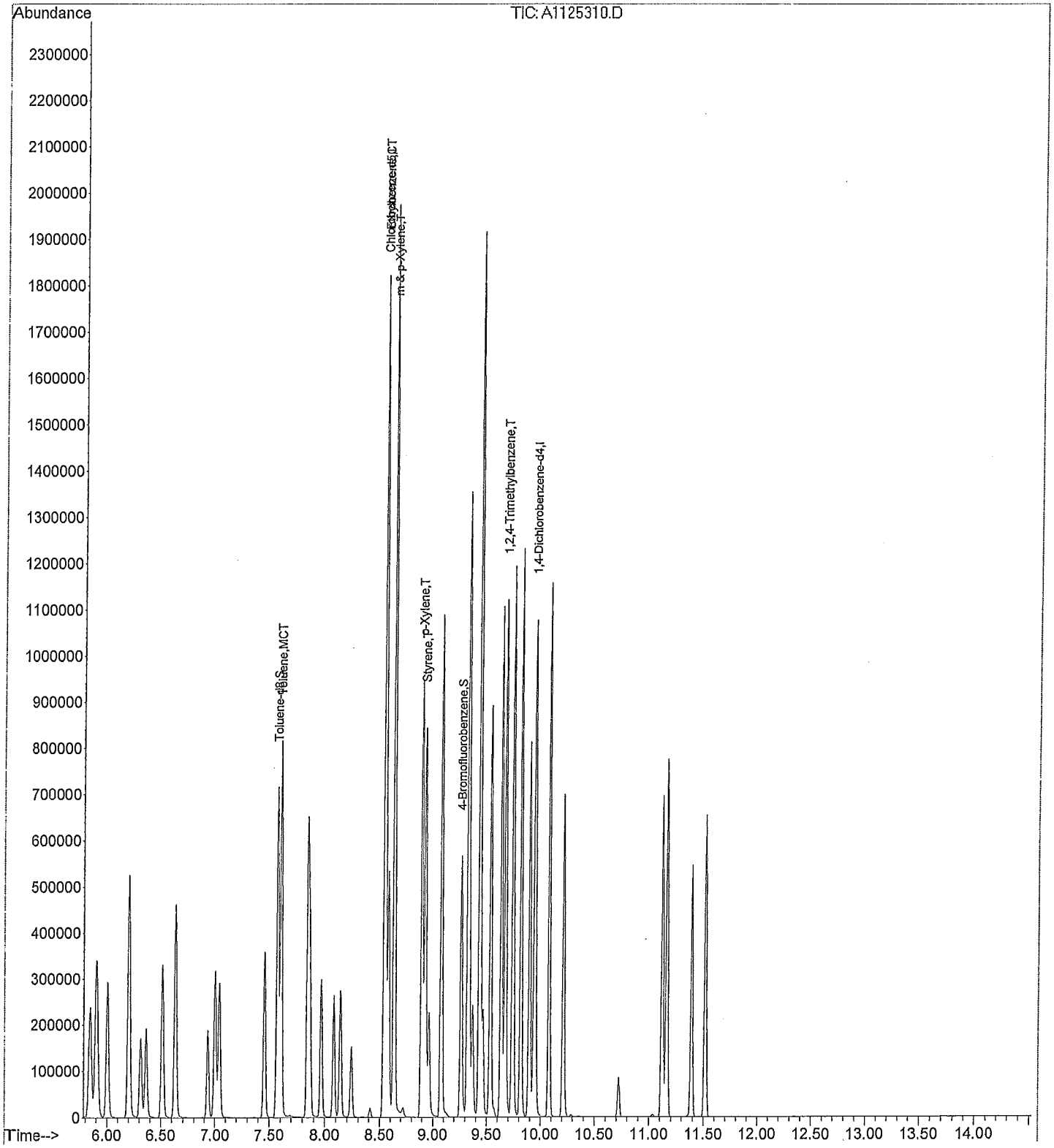
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	103849	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	99740	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	381758	190.78 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 190.78%	
9) 4-Bromofluorobenzene	9.26	95	150825	189.86 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 189.86%	
Target Compounds					Qvalue
3) Toluene	7.60	91	465020	186.08 ug/Kg	100
4) Ethylbenzene	8.55	91	542325	188.43 ug/Kg	99
5) m & p-Xylene	8.63	91	868903	376.37 ug/Kg	97
6) Styrene	8.93	104	319238	182.71 ug/Kg#	84
7) o-Xylene	8.90	106	204410	86.61 ug/Kg	88
10) 1,2,4-Trimethylbenzene	9.67	105	497118	198.69 ug/Kg	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125310.D
Acq On : 25 Nov 2013 1:37 pm
Operator :
Sample : VSTD200
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 13:55:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_26.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 12:05:47 2013
Response via : Initial Calibration



ARSL Inc Report Numbers 6555 & 6556 - Octopus - Votalites 8260B Page 95 of 236

Continuing Calibration Report AG1

Method Path : C:\MSDCHEM\1\METHODS\
Method File : SOIL_27.M
Title : 8260 VOLATILES
Last Update : Mon Nov 25 15:07:55 2013
Response Via : Initial Calibration

CC Data File: A1125312.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Chlorobenzene-d5	1.000	1.000	0.0	92
2	S	Toluene-d8	2.255	2.480	-10.0	105
3	MCT	Toluene	2.939	2.742	6.7	88
4	CT	Ethylbenzene	3.469	3.311	4.5	90
5	T	m & p-Xylene	2.816	2.648	6.0	88
6	T	Styrene	2.100	1.906	9.2	81
7	T	o-Xylene	1.320	1.228	6.9	87
8	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	95
9	S	4-Bromofluorobenzene	0.912	0.921	-1.0	98
10	T	1,2,4-Trimethylbenzene	3.184	2.950	7.4	89

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125312.D
Acq On : 25 Nov 2013 2:40 pm
Operator :
Sample : VSTD100/ICV
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 15:07:46 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 13:59:03 2013
Response via : Initial Calibration

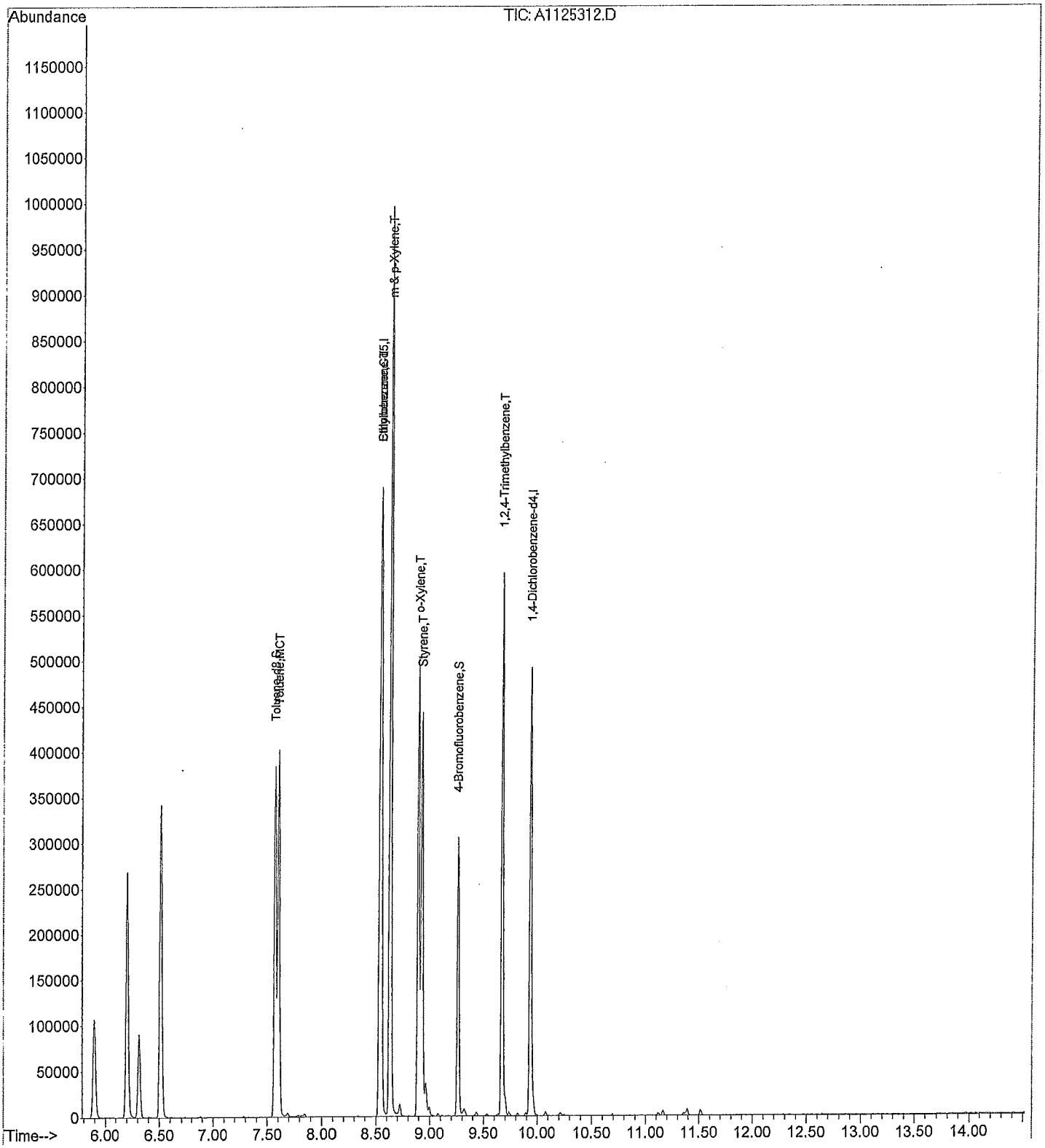
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	104377	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	109452	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.57	98	207119	110.01	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	110.01%	
9) 4-Bromofluorobenzene	9.26	95	80665	100.98	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	100.98%	
Target Compounds						Qvalue
3) Toluene	7.60	91	228969	93.30	ug/Kg	100
4) Ethylbenzene	8.55	91	276500	95.45	ug/Kg	99
5) m & p-Xylene	8.63	91	442154	188.04	ug/Kg	97
6) Styrene	8.93	104	159164	90.78	ug/Kg#	86
7) o-Xylene	8.90	106	102569	93.09	ug/Kg	88
10) 1,2,4-Trimethylbenzene	9.67	105	258321	92.65	ug/Kg	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112513\
Data File : A1125312.D
Acq On : 25 Nov 2013 2:40 pm
Operator :
Sample : VSTD100/ICV
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 25 15:07:46 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Nov 25 13:59:03 2013
Response via : Initial Calibration



5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

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

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

Lab File ID: A1127302 BFB Injection Date: 11/27/13

Instrument ID: AG1 BFB Injection Time: 09:05

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	13.4	
75	30.0 - 66.0% of mass 95	46.0	
95	Base Peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.1	
173	Less than 2.0% of mass 174	0.0	(1)
174	Greater than 50.0% of mass 95	85.0	
175	4.0 - 9.0% of mass 174	8.0	(1)
176	Greater than 93.0%, but less that 101.0% of mass 174	96.8	(1)
177	5.0 - 9.0% of mass 176	6.7	(2)

(1)-Value is % mass 174 2-Value is % mass 176

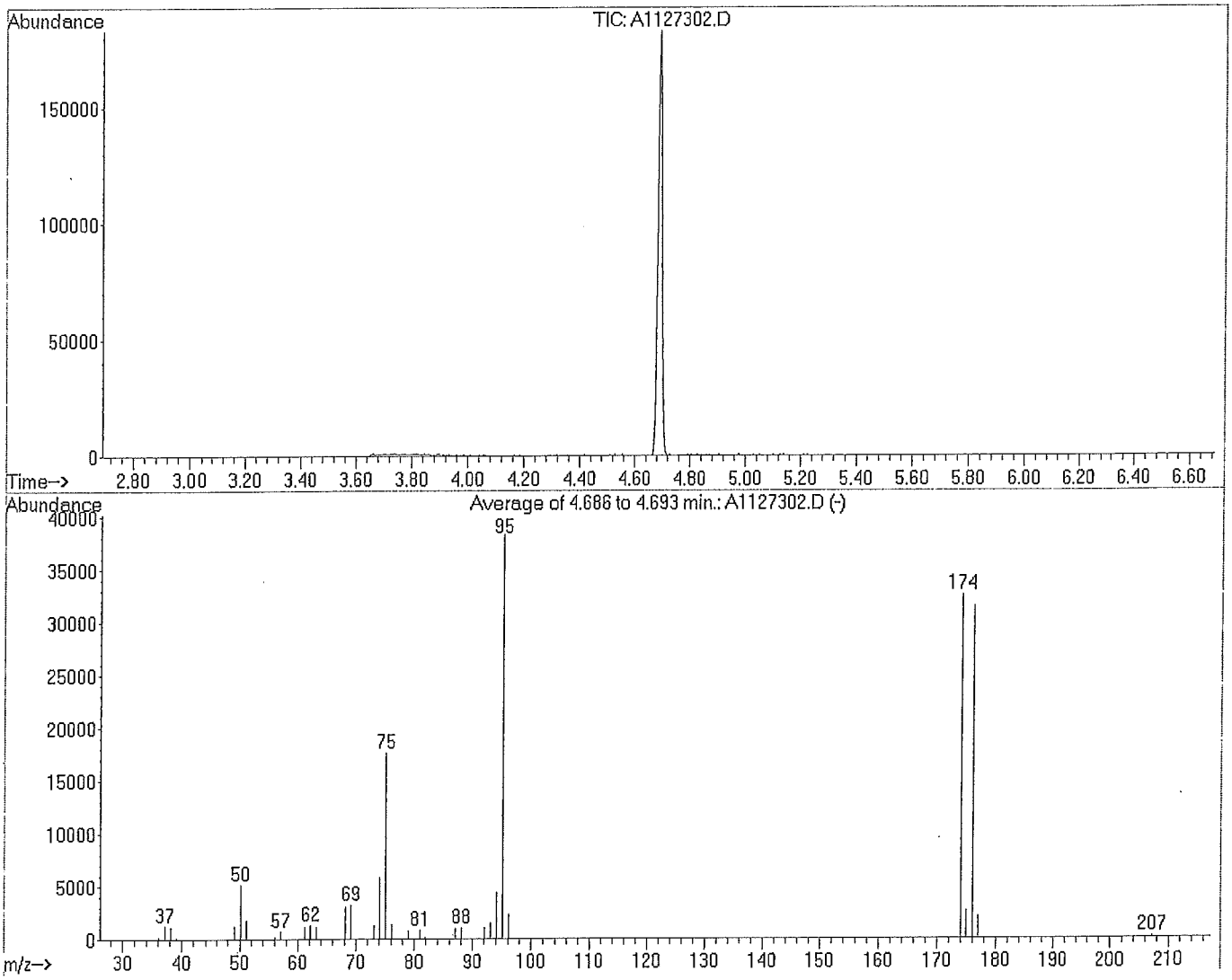
THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VOA STD	100 STD	A1127303	11/27/13	09:31
2	SPBK 11/27/13	006558-02K1	A1127304	11/27/13	10:02
3	BK 11/27/13	006558-02B1	A1127305	11/27/13	10:43
4	MAK007O	006556-01	A1127319	11/27/13	17:36
5	MAK022O	006556-02	A1127320	11/27/13	18:03
6	MAK023O	006556-03	A1127321	11/27/13	18:31
7	MAK007OMS	006556-01MS	A1127323	11/27/13	19:25
8	MAK007OMSD	006556-01MD	A1127324	11/27/13	19:56
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127302.D
Acq On : 27 Nov 2013 9:05 am
Operator :
Sample : 50 NG BFB
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFBSOIL.M
Title :
Last Update :



AutoFind: Scans 500, 501, 502; Background Corrected with Scan 491

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	13.4	5147	PASS
75	95	30	66	46.0	17614	PASS
95	95	100	100	100.0	38290	PASS
96	95	5	9	6.1	2344	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	85.0	32560	PASS
175	174	4	9	8.0	2616	PASS
176	174	93	101	96.8	31504	PASS
177	176	5	9	6.7	2098	PASS

Average of 4.686 to 4.693 min.: A1127302.D
50 NG BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	199	63.15	1146	88.05	1037		
37.15	1248	68.10	3072	92.10	1056		
38.15	1116	69.10	3247	93.05	1533		
39.10	168	73.10	1277	94.10	4447		
49.05	1225	74.10	5909	95.10	38290		
50.10	5147	75.10	17614	96.10	2344		
51.15	1794	76.10	1372	174.00	32560		
56.10	206	79.00	783	175.00	2616		
57.05	724	81.00	839	176.00	31504		
61.15	1178	81.90	172	177.00	2098		
62.15	1310	87.05	1008	207.20	167		

Continuing Calibration Report AG1

Method Path : C:\MSDCHEM\1\METHODS\
Method File : SOIL_27.M
Title : 8260 VOLATILES
Last Update : Wed Nov 27 09:47:20 2013
Response Via : Initial Calibration

CC Data File: A1127303.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Chlorobenzene-d5	1.000	1.000	0.0	107
2	S	Toluene-d8	2.255	2.126	5.7	106
3	MCT	Toluene	2.939	2.514	14.4	94
4	CT	Ethylbenzene	3.469	3.021	12.9	96
5	T	m & p-Xylene	2.816	2.447	13.1	95
6	T	Styrene	2.100	1.885	10.2	94
7	T	o-Xylene	1.320	1.148	13.0	95
8	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	109
9	S	4-Bromofluorobenzene	0.912	0.828	9.2	102
10	T	1,2,4-Trimethylbenzene	3.184	2.712	14.8	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127303.D
Acq On : 27 Nov 2013 9:31 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 27 09:47:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:41:26 2013
Response via : Initial Calibration

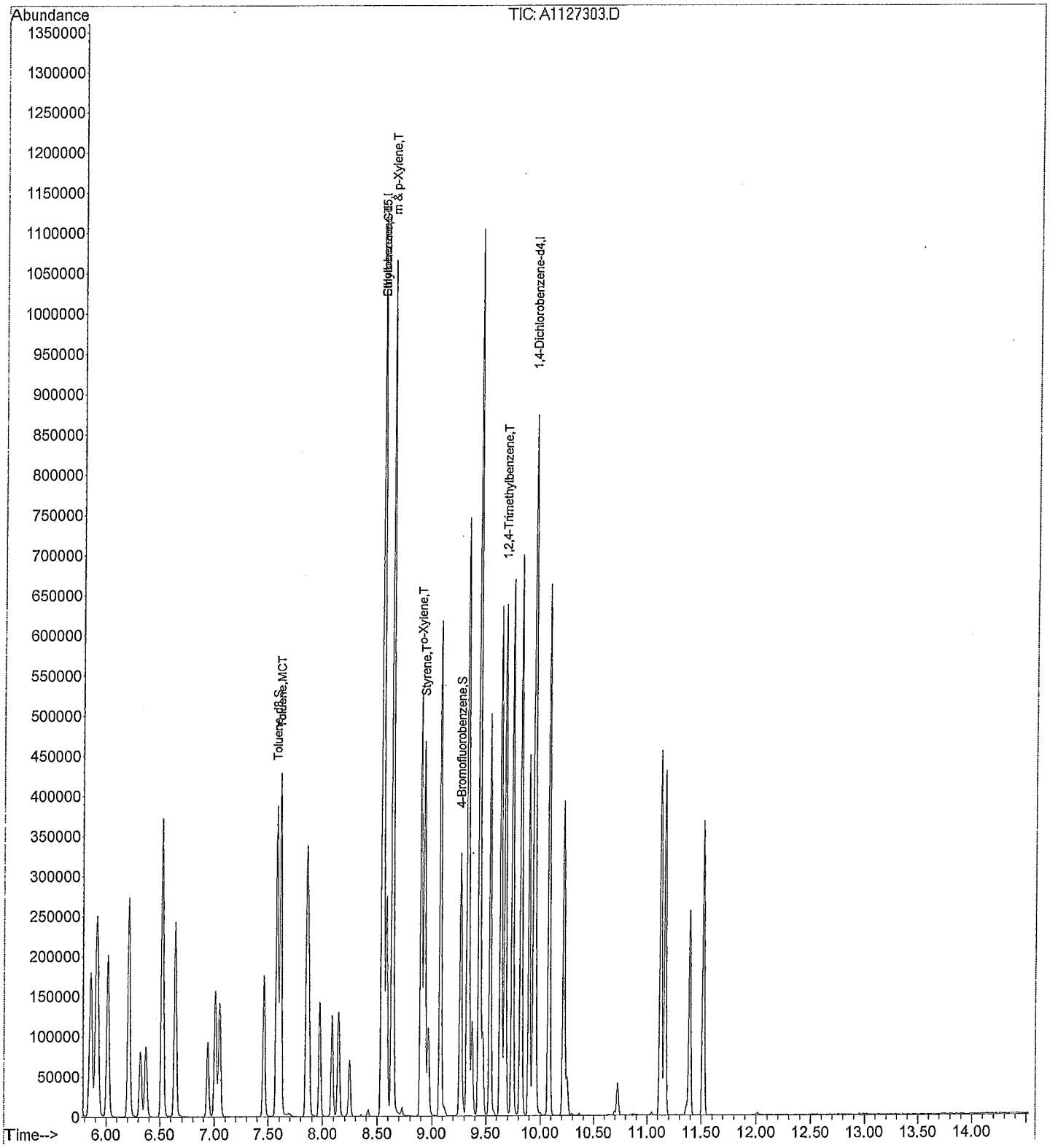
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	122064	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	126753	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.58	98	207575	94.28	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 94.28%			
9) 4-Bromofluorobenzene	9.27	95	83956	90.75	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 90.75%			
Target Compounds						Qvalue
3) Toluene	7.61	91	245529	85.55	ug/Kg	100
4) Ethylbenzene	8.55	91	294990	87.08	ug/Kg	99
5) m & p-Xylene	8.64	91	477964	173.81	ug/Kg	96
6) Styrene	8.93	104	184104	89.79	ug/Kg	90
7) o-Xylene	8.90	106	112135	87.02	ug/Kg	91
10) 1,2,4-Trimethylbenzene	9.68	105	275052	85.18	ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127303.D
Acq On : 27 Nov 2013 9:31 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 27 09:47:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:41:26 2013
Response via : Initial Calibration



Instrument Logs/
Analysis Notebook Pages

Rev. 1.1

Run Method = SOIL.m 5uL-ISTD = X0901
Tune = BFBSOIL.u EM = 1718
Tekmar = NB 3167 pg. 34
Quant Method = SOIL_26

1	1	A1125301.d	0.	FLUSH
2	1	A1125302.d	0.	50 NG BFB (2uL-X0885) - Fail
3	1	A1125303.d	0.	50 NG BFB ⊥ - Pass 9:43am
4	1	A1125304.d	0.	VSTD000 Pass
5	1	A1125305.d	0.	VSTD12.5
6	1	A1125306.d	0.	VSTD025
7	1	A1125307.d	0.	VSTD050
8	1	A1125308.d	0.	VSTD100
9	1	A1125309.d	0.	VSTD150
10	1	A1125310.d	0.	VSTD200
11	1	A1125311.d	0.	FLUSH
12	1	A1125312.d	0.	VSTD100/ICV - Pass

IC Passes SOIL_27

US 11/26/13

	ISTD X0901	Sur X0902	IC MIX X0903
VSTD12.5	5uL	0.5uL	0.5uL
025		1	1
050		2	2
100		4	4
150		6	6
200		8	8

ICV = 5uL-X0901; 4uL-X0902; 5uL-X0906

Only target compounds Toluene, Ethylbenzene, m+p-Xylene, Styrene, o-Xylene + 1,2,4-Trimethylbenzene were evaluated.

Continued on Page

Read and Understood By

US — Signed — 11/26/13 Date — TRC Signed — 12/4/13 Date

6
PROJECT 11/27/13 AGI 8260

Notebook No. _____
Continued from Page _____

Run Method = SOIL.M
Tune = BFBSOIL.U EM = 1718
Tekmar = NB 3167 pg. 34
Quant Method = SOIL_27

5ul-ISTD-X0901
4ul-Surr-X0902

A1127301.d	0.	FLUSH		8260
A1127302.d	0.	50 NG BFB (2ul-X0907) Pass (9:05am)		8260
A1127303.d	0.	VSTD100 (4ul-X0908) Pass		8260
A1127304.d	0.	LCS (5ul-X0906) Pass		8260
A1127305.d	0.	VSTD000 - Pass		8260
A1127306.d	0.	006557-06		8260 MAK007C 2.0G
A1127307.d	0.	006557-10		8260 MAK014C 2.0G
A1127308.d	0.	006557-11		8260 MAK015C 2.0G
A1127309.d	0.	006557-12		8260 MAK018C 2.0G
A1127310.d	0.	006557-14		8260 MAK020C 2.0G
A1127311.d	0.	006557-20MS (5ul-X0906) Pass	(B)	8260 MAK032CMS 2.0G
A1127312.d	0.	006557-20MD Pass	(C)	8260 MAK032CMSD 2.0G
A1127313.d	0.	006558-01 Pass		8260 MAK029C 2.0G
A1127314.d	0.	006558-02	(A)	8260 MAK030C 2.0G
A1127315.d	0.	006558-02MS (5ul-X0906) Pass	(B)	8260 MAK030CMS 2.0G
A1127316.d	0.	006558-02MD Pass	(C)	8260 MAK030CMSD 2.0G
A1127317.d	0.	006558-03 Pass		8260 MAK031C 2.0G
A1127318.d	0.	006558-04		8260 MAK028C 2.0G
A1127319.d	0.	006556-01	(A)	8260 MAK007O 2.0G
A1127320.d	0.	006556-02		8260 MAK022O 2.0G
A1127321.d	0.	006556-03		8260 MAK023O 2.0G
A1127322.d	0.	006556-04 IZ↓-RE		8260 MAK024O 2.0G
A1127323.d	0.	006556-01MS (5ul-X0906) Pass	(B)	8260 MAK007OMS 2.0G
A1127324.d	0.	006556-01MD Pass	(C)	8260 MAK007OMSD 2.0G
A1127325.d	0.	VSTD100 (4ul-X0908) Pass 8:26pm		8260
A1127326.d	0.	VSTD100 Not evaluated		8260

LS 11/29/13

LS 11/29/13

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
LS	11/29/13	TRC	12/4/13

Blank / Field Sample / QC Data

Sample Results

Chromatogram

Quant Report (If applicable)

Confirmation Analysis Quant Report / Chromatogram (If applicable)

Tentatively Identified Compounds (If required)

Rev. 1.1

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

Lab Report No: 006558 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006558-02K1
Desc/Location:	NA	Lab Filename:	A1127304
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/27/2013
Matrix:	QC Material	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	90.9		UG/KG
Ethyl Benzene	2.5	12.5	94.5		UG/KG
m & p-Xylene	5	25	186		UG/KG
Styrene	2.5	12.5	98.3		UG/KG
o-Xylene	2.5	12.5	94.1		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	91.4		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	103%
4-Bromofluorobenzene	50-150	95%

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

Spike Blank for Run 1203JFSX, VOLATILES, GC/MS (8260)

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127304.D
Acq On : 27 Nov 2013 10:02 am
Operator :
Sample : ~~Les~~ QQ6558-02K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JR 12/02/13

Quant Time: Nov 27 10:19:47 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:47:20 2013
Response via : Initial Calibration

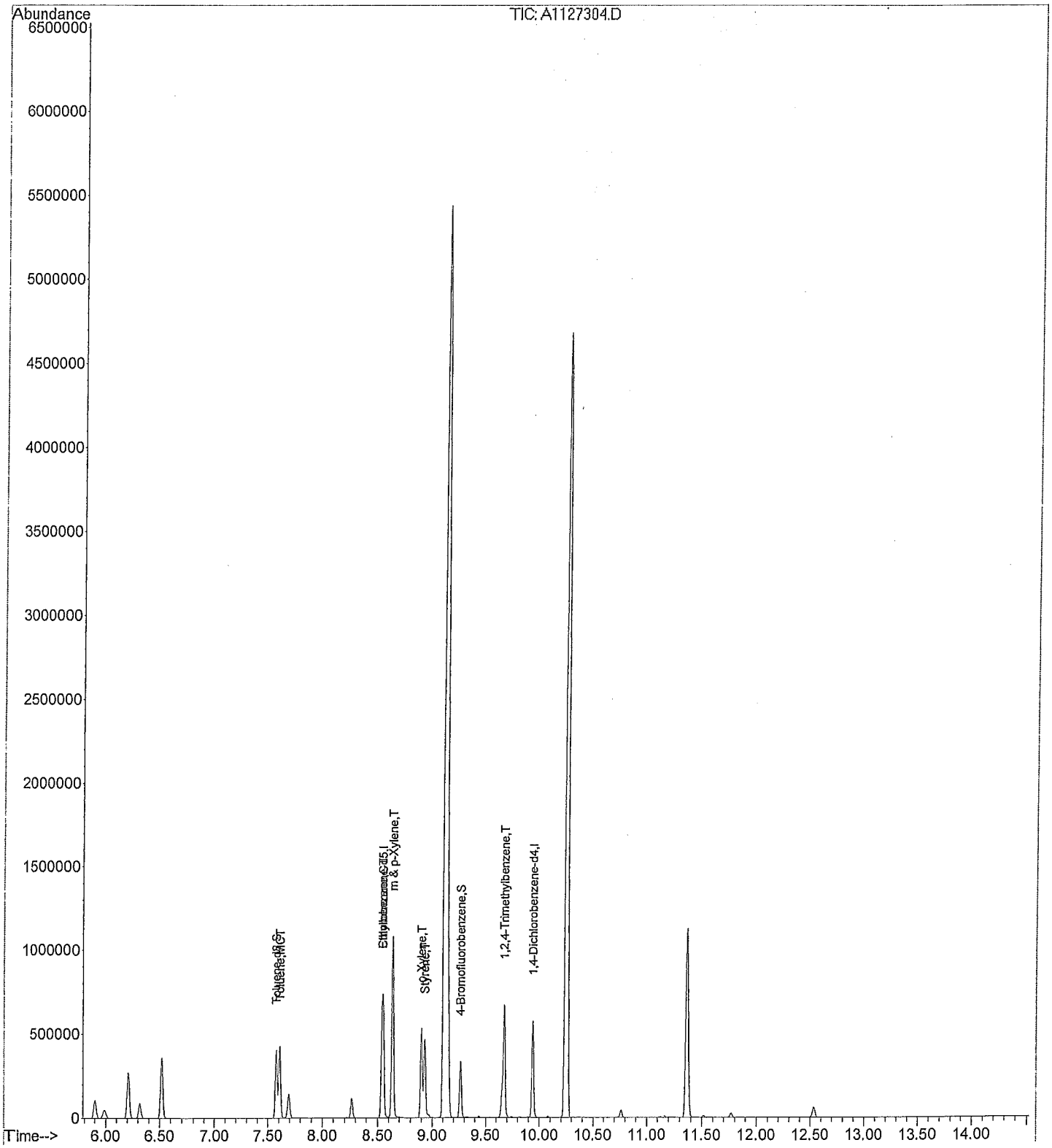
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	113851	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	126482	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.58	98	212146	103.30 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 103.30%	
9) 4-Bromofluorobenzene	9.26	95	87851	95.17 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 95.17%	
Target Compounds					Qvalue
3) Toluene	7.61	91	243228	90.86 ug/Kg	99
4) Ethylbenzene	8.55	91	298435	94.45 ug/Kg	100
5) m & p-Xylene	8.64	91	477113	186.02 ug/Kg	97
6) Styrene	8.93	104	187983	98.29 ug/Kg	91
7) o-Xylene	8.90	106	113059	94.07 ug/Kg	90
10) 1,2,4-Trimethylbenzene	9.67	105	294318	91.35 ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127304.D
Acq On : 27 Nov 2013 10:02 am
Operator :
Sample : ~~LCS~~ 006558-02K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JB 12/02/13

Quant Time: Nov 27 10:19:47 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:47:20 2013
Response via : Initial Calibration



METHOD BLANK REPORT

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

Lab Report No: 006558 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006558-02B1
Desc/Location:	NA	Lab Filename:	A1127305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/27/2013
Matrix:	QC Material	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	107%
4-Bromofluorobenzene	50-150	103%

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

Blank for Run 1203JFSX, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127305.D
Acq On : 27 Nov 2013 10:43 am
Operator :
Sample : V~~STD000~~ 006558-02B1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JJB 12/02/13

Quant Time: Dec 02 14:57:28 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:47:20 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	104605	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	115206	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.57	98	202518	107.33	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	107.33%	
9) 4-Bromofluorobenzene	9.26	95	86692	103.10	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	103.10%	

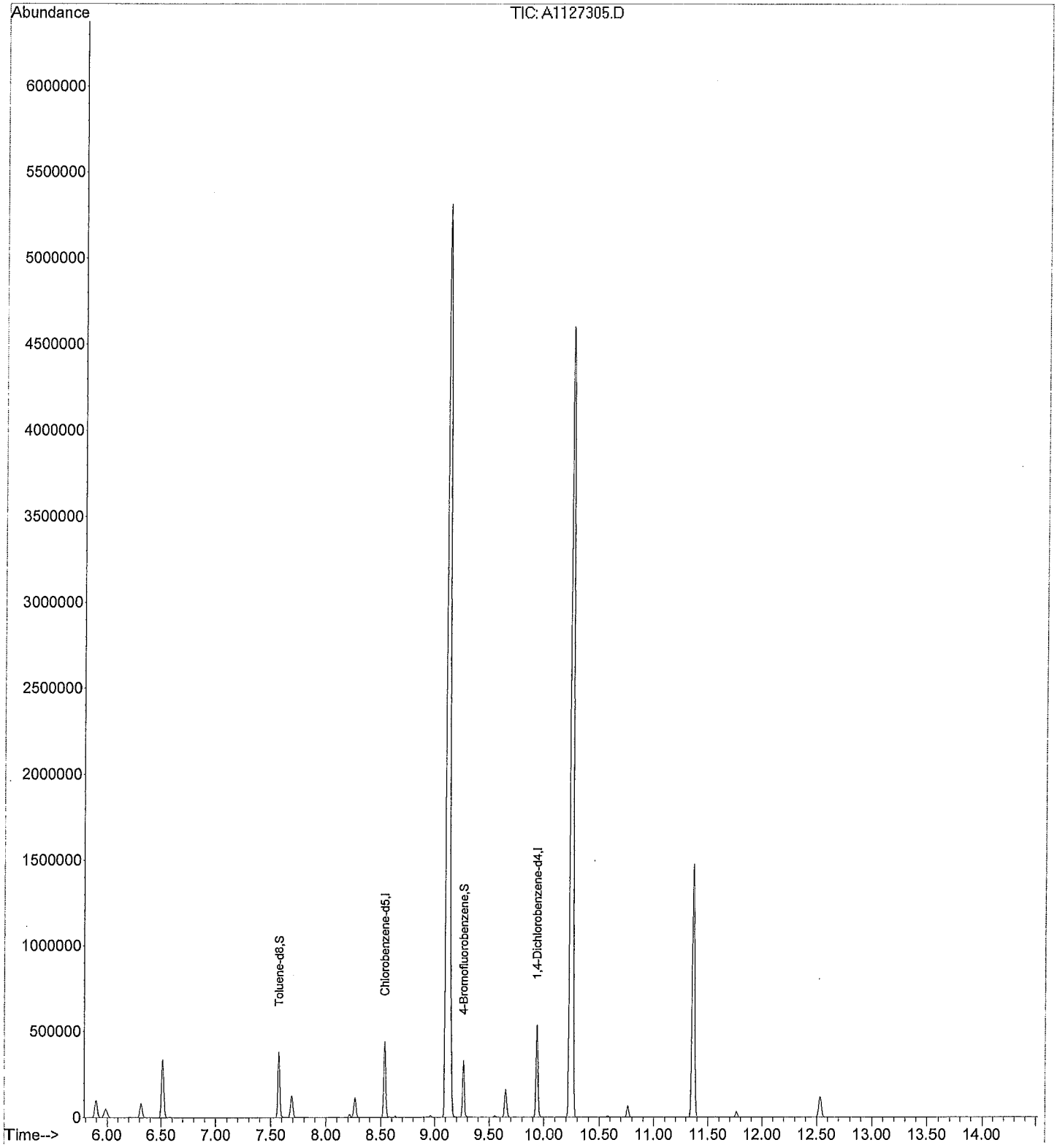
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127305.D
Acq On : 27 Nov 2013 10:43 am
Operator :
Sample : ~~VSTD000~~ 006658-02B1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JB 12/02/13

Quant Time: Dec 02 14:57:28 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 09:47:20 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK007O	ARDL Lab No.:	006556-01
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127319
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1125	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	123%
4-Bromofluorobenzene	50-150	128%

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

Sample 006556-01, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127319.D
Acq On : 27 Nov 2013 5:36 pm
Operator :
Sample : 006556-01
Misc : 8260 MAK007O 2.0G
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 02 15:01:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	80080	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.93	152	69179	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	177339	122.77 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 122.77%	
9) 4-Bromofluorobenzene	9.26	95	64565	127.88 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 127.88%	

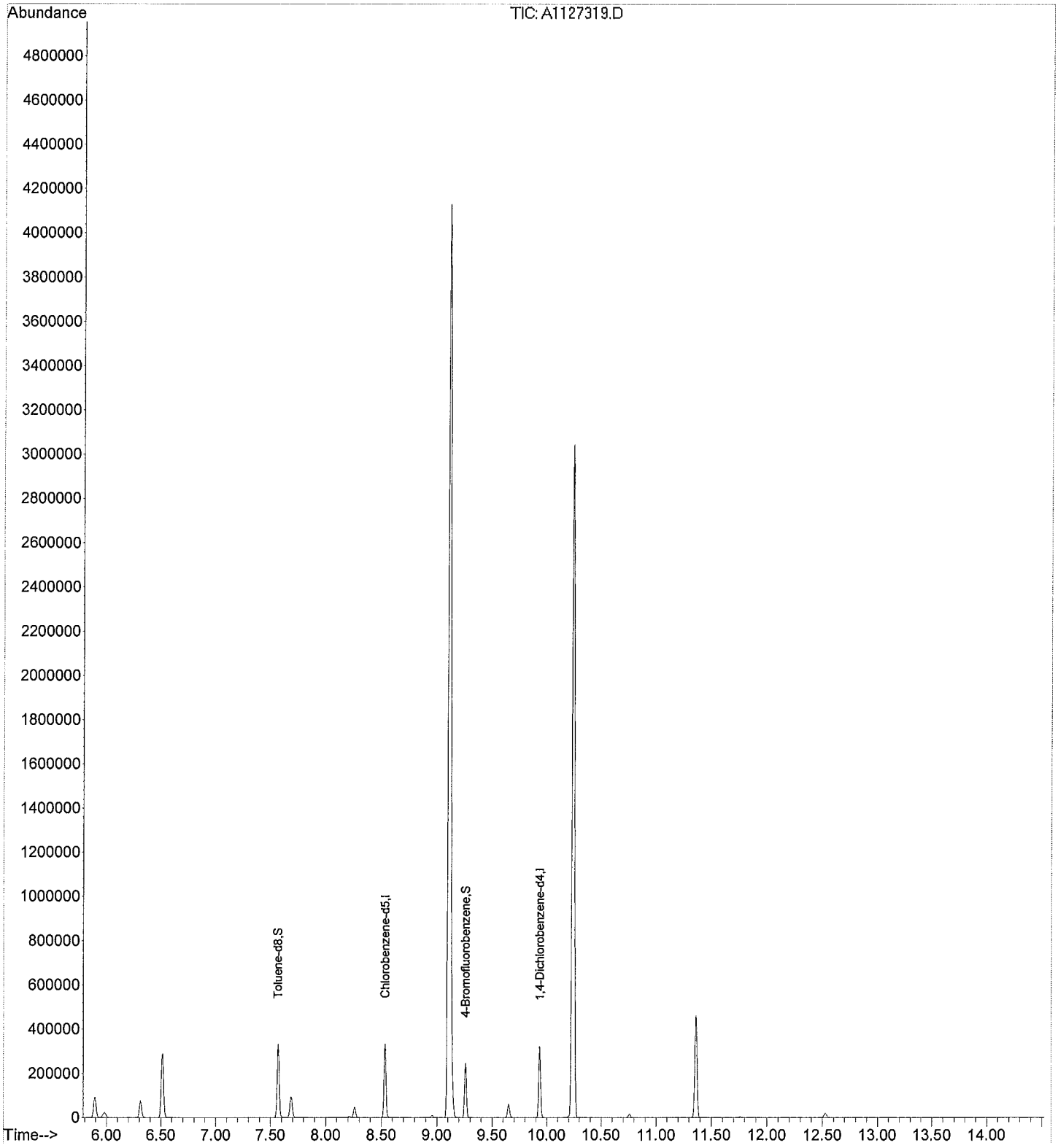
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127319.D
Acq On : 27 Nov 2013 5:36 pm
Operator :
Sample : 006556-01
Misc : 8260 MAK007O 2.0G
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 02 15:01:55 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK022O	ARDL Lab No.:	006556-02
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127320
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	1020	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	132%
4-Bromofluorobenzene	50-150	131%

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

Sample 006556-02, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127320.D
Acq On : 27 Nov 2013 6:03 pm
Operator :
Sample : 006556-02
Misc : 8260 MAK022O 2.0G
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 02 15:02:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	77094	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.93	152	74296	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	183610	132.04 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 132.04%	
9) 4-Bromofluorobenzene	9.26	95	71131	131.18 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 131.18%	

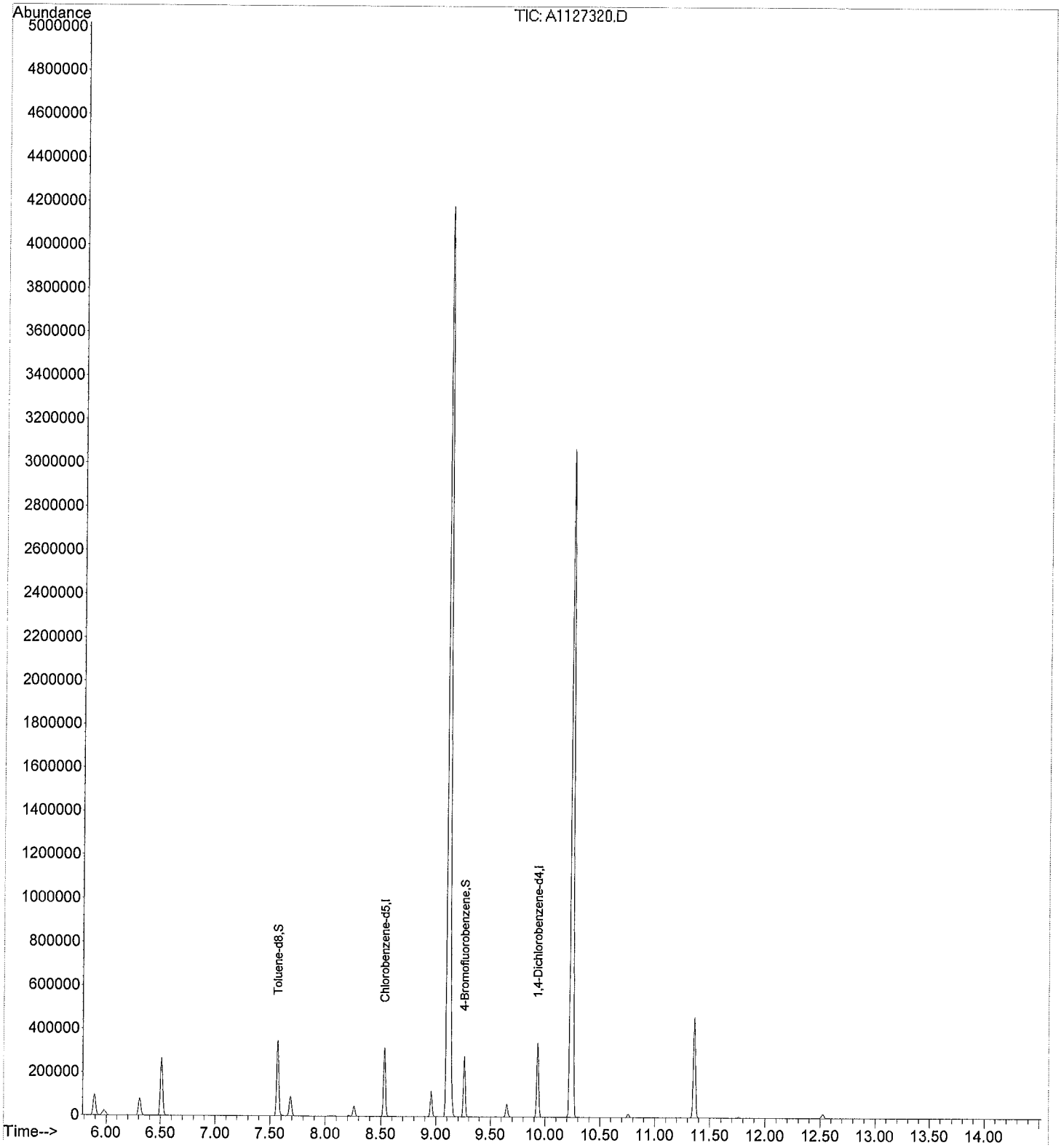
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127320.D
Acq On : 27 Nov 2013 6:03 pm
Operator :
Sample : 006556-02
Misc : 8260 MAK022O 2.0G
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 02 15:02:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK023O	ARDL Lab No.:	006556-03
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127321
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	1136	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	124%
4-Bromofluorobenzene	50-150	121%

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

Sample 006556-03, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127321.D
Acq On : 27 Nov 2013 6:31 pm
Operator :
Sample : 006556-03
Misc : 8260 MAK023O 2.0G
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Dec 02 15:02:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	84098	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.93	152	84081	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	188685	124.39 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 124.39%	
9) 4-Bromofluorobenzene	9.26	95	74429	121.29 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 121.29%	

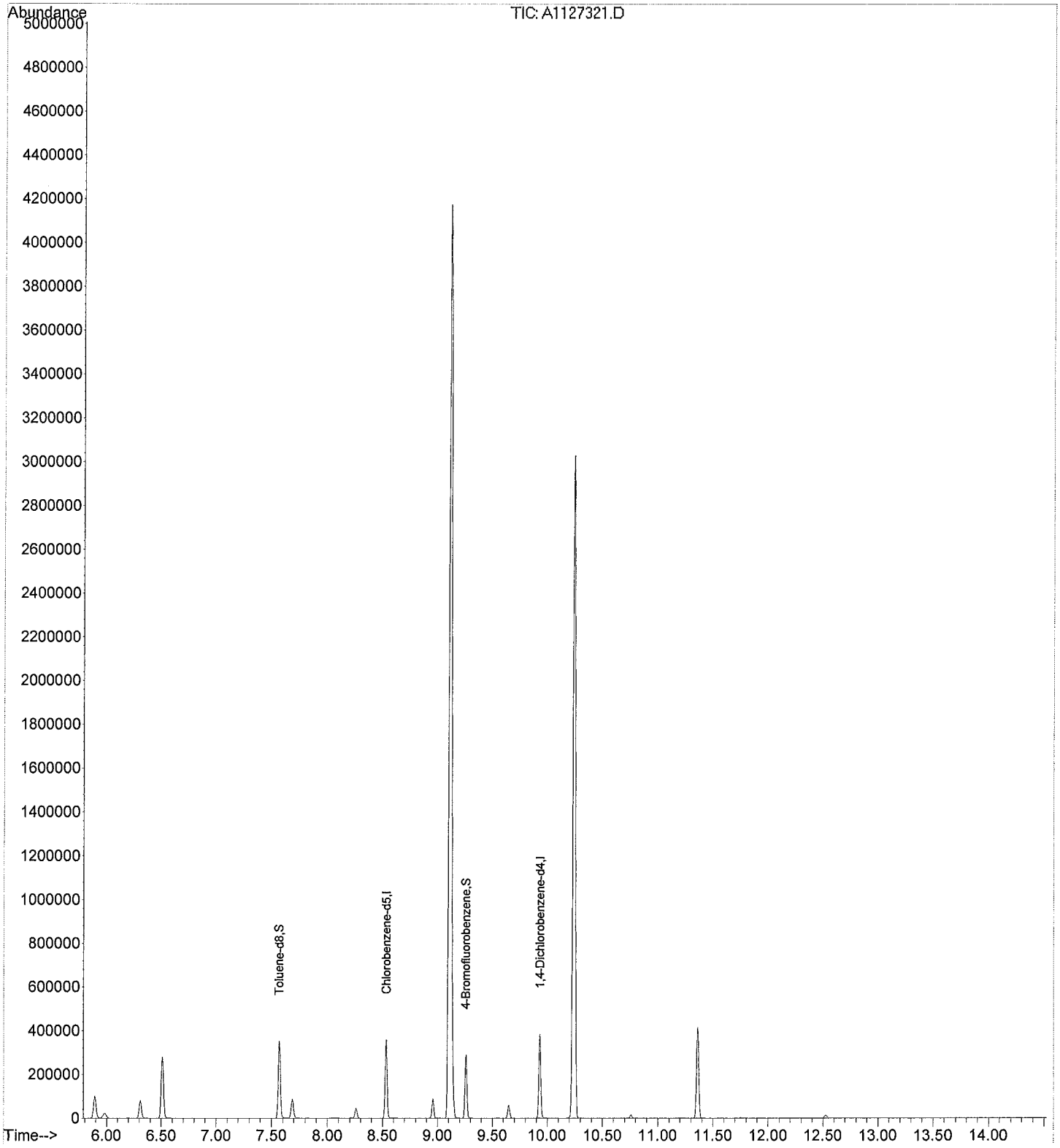
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127321.D
Acq On : 27 Nov 2013 6:31 pm
Operator :
Sample : 006556-03
Misc : 8260 MAK023O 2.0G
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Dec 02 15:02:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK007O	ARDL Lab No.:	006556-01MS
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127323
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1125	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	111		UG/KG	1
Ethyl Benzene	2.50	12.5	107		UG/KG	1
m & p-Xylene	5.0	25.0	205		UG/KG	1
Styrene	2.50	12.5	104		UG/KG	1
o-Xylene	2.50	12.5	100		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	106		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	127%
4-Bromofluorobenzene	50-150	128%

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

Matrix Spike for 006556-01, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127323.D
Acq On : 27 Nov 2013 7:25 pm
Operator :
Sample : 006556-01MS
Misc : 8260 MAK007OMS 2.0G
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 29 07:59:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration

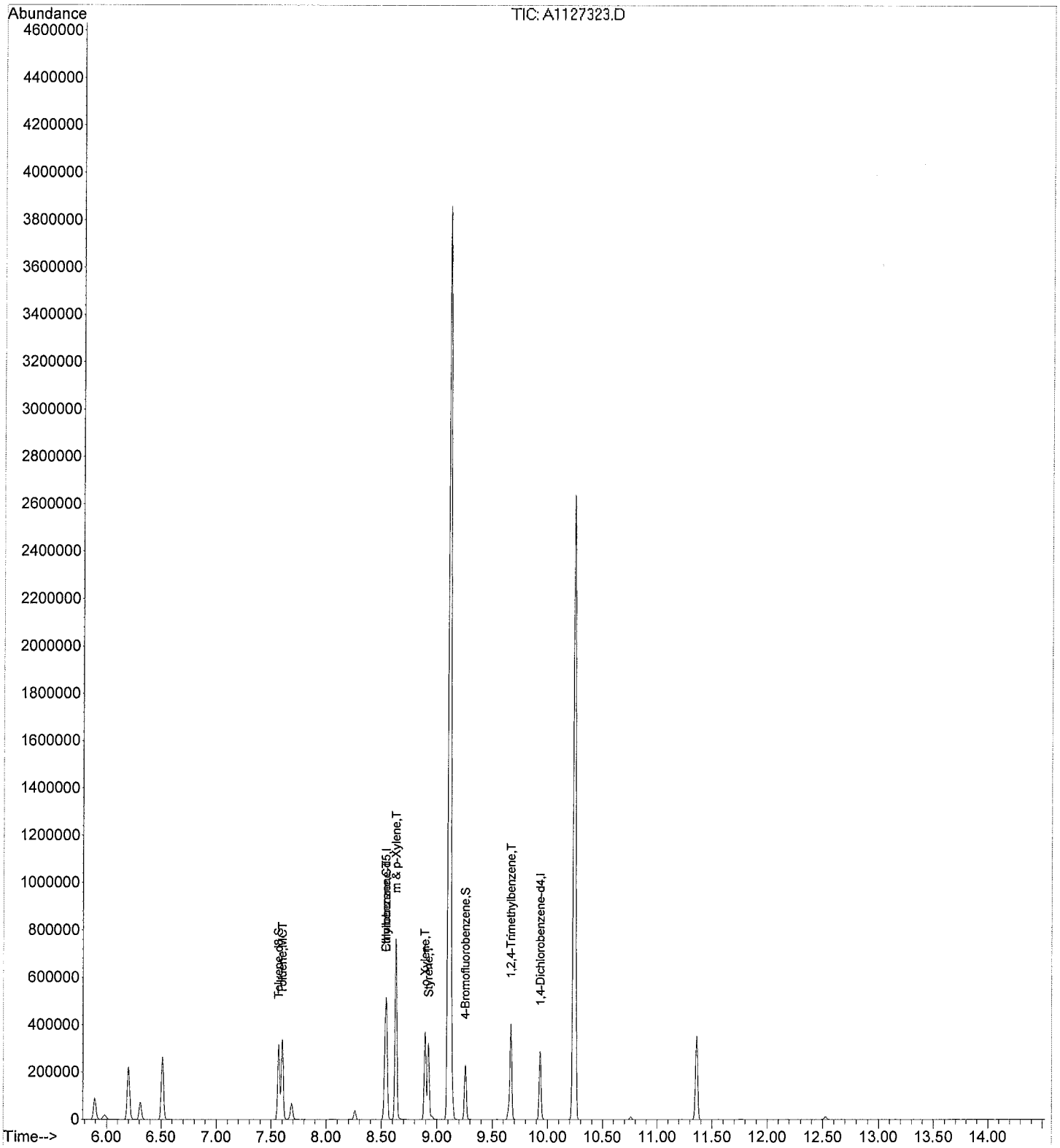
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	71938	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.93	152	63595	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	164147	126.50 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 126.50%	
9) 4-Bromofluorobenzene	9.26	95	59430	128.04 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 128.04%	
Target Compounds					Qvalue
3) Toluene	7.60	91	188174	111.25 ug/Kg	100
4) Ethylbenzene	8.55	91	213605	106.99 ug/Kg	99
5) m & p-Xylene	8.63	91	332473	205.15 ug/Kg	97
6) Styrene	8.92	104	125093	103.52 ug/Kg	90
7) o-Xylene	8.89	106	76279	100.44 ug/Kg	84
10) 1,2,4-Trimethylbenzene	9.67	105	172087	106.23 ug/Kg	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127323.D
Acq On : 27 Nov 2013 7:25 pm
Operator :
Sample : 006556-01MS
Misc : 8260 MAK007OMS 2.0G
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Nov 29 07:59:44 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK007O	ARDL Lab No.:	006556-01MD
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1127324
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1125	Prep. Date:	11/27/2013
Matrix:	TISSUE	Analysis Date:	11/27/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSX
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	117		UG/KG	1
Ethyl Benzene	2.50	12.5	120		UG/KG	1
m & p-Xylene	5.0	25.0	235		UG/KG	1
Styrene	2.50	12.5	119		UG/KG	1
o-Xylene	2.50	12.5	118		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	120		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	130%
4-Bromofluorobenzene	50-150	131%

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

Matrix Spike Duplicate for 006556-01, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127324.D
Acq On : 27 Nov 2013 7:56 pm
Operator :
Sample : 006556-01MD
Misc : 8260 MAK007OMSD 2.0G
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 29 07:59:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration

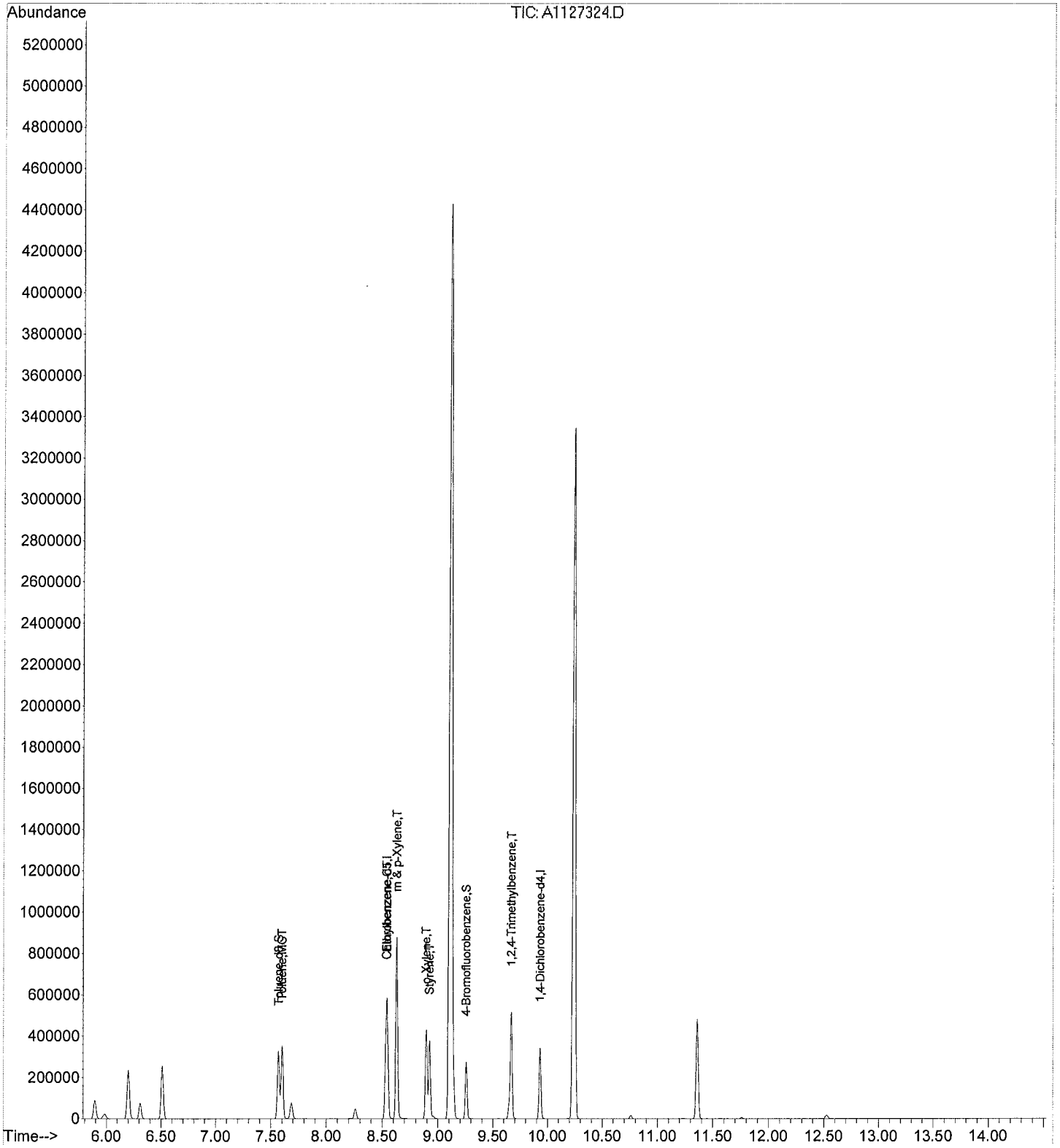
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	73215	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.93	152	73554	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.57	98	171972	130.22 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 130.22%	
9) 4-Bromofluorobenzene	9.26	95	70098	130.58 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 130.58%	
Target Compounds					Qvalue
3) Toluene	7.60	91	201167	116.86 ug/Kg	100
4) Ethylbenzene	8.55	91	242939	119.56 ug/Kg	100
5) m & p-Xylene	8.63	91	388130	235.32 ug/Kg	97
6) Styrene	8.92	104	146566	119.17 ug/Kg	90
7) o-Xylene	8.89	106	91201	118.00 ug/Kg	90
10) 1,2,4-Trimethylbenzene	9.67	105	224532	119.83 ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112713\
Data File : A1127324.D
Acq On : 27 Nov 2013 7:56 pm
Operator :
Sample : 006556-01MD
Misc : 8260 MAK007OMSD 2.0G
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Nov 29 07:59:45 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Wed Nov 27 13:49:17 2013
Response via : Initial Calibration



Analytical Run Number 2

Calibration Information

Tune Data (If applicable)

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

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

Instrument Logs/Analysis Notebook Pages

Blank / Field Sample / QC Data

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

Rev. 1.1

Calibration Information

Tune Data (If applicable)

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

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

Rev. 1.1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

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

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

Lab File ID: A1129302 BFB Injection Date: 11/29/13

Instrument ID: AG1 BFB Injection Time: 08:30

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	15.0 - 40.0% of mass 95	14.9	
75	30.0 - 60.0% of mass 95	48.3	
95	Base Peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	7.1	
173	Less than 2.0% of mass 174	0.0	(1)
174	Greater than 50.0% of mass 95	88.6	
175	5.0 - 9.0% of mass 174	8.7	(1)
176	Greater than 95.0%, but less that 101.0% of mass 174	97.5	(1)
177	5.0 - 9.0% of mass 176	6.8	(2)

(1)-Value is % mass 174 2-Value is % mass 176

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

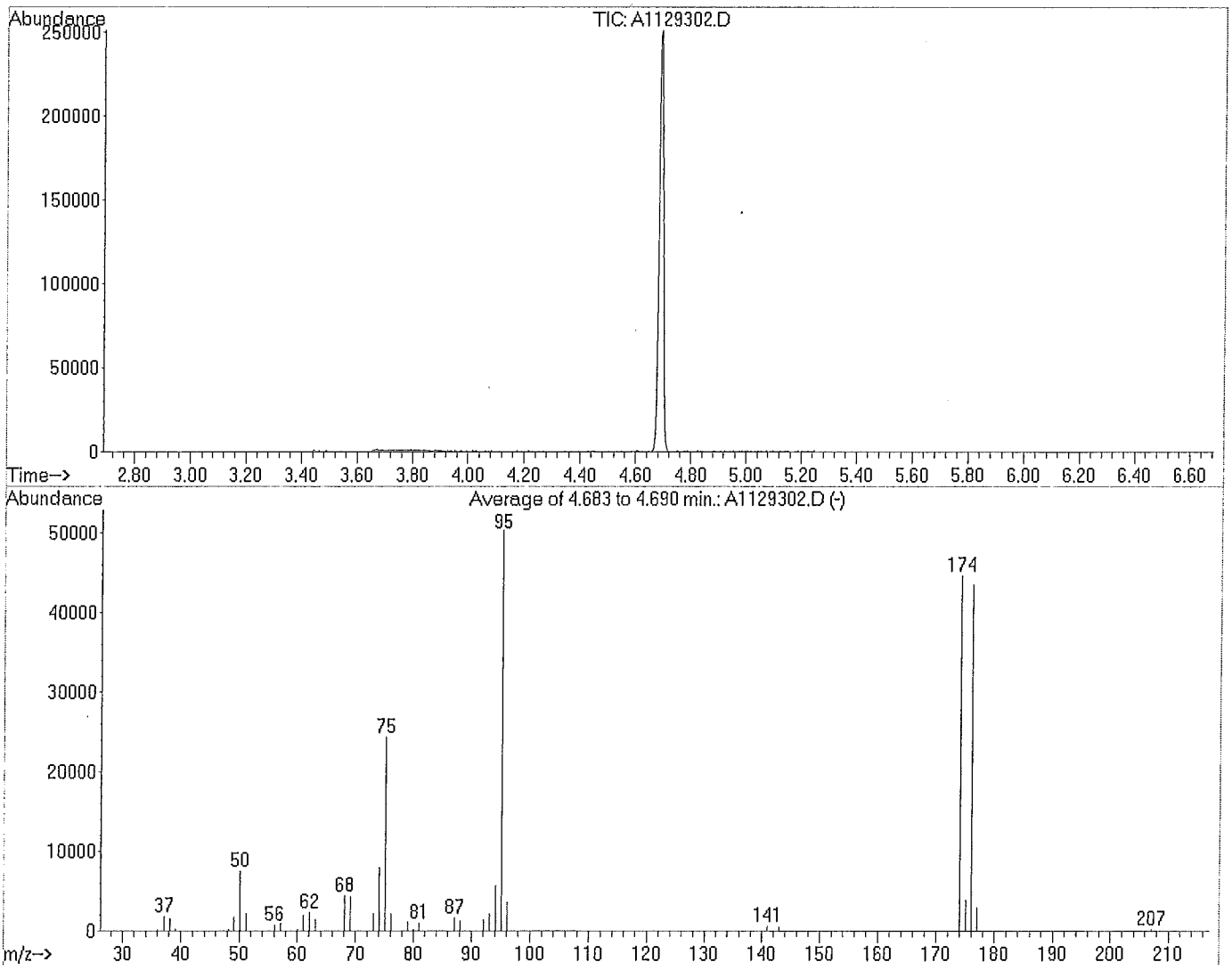
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VOA STD	100 STD	A1129303	11/29/13	08:53
2	SPBK 11/29/13	006555-06K1	A1129304	11/29/13	09:23
3	BK 11/29/13	006555-06B1	A1129305	11/29/13	09:54
4	MAK0024O	006556-04	A1129306	11/29/13	10:22
5	MAK001O	006555-01	A1129307	11/29/13	10:49
6	MAK002O	006555-02	A1129308	11/29/13	11:19
7	MAK003O	006555-03	A1129309	11/29/13	11:46
8	MAK004O	006555-04	A1129310	11/29/13	12:14
9	MAK005O	006555-05	A1129311	11/29/13	12:41
10	MAK006O	006555-06	A1129312	11/29/13	13:11
11	MAK006OMS	006555-06MS	A1129313	11/29/13	13:39
12	MAK006OMSD	006555-06MD	A1129314	11/29/13	14:06
13	MAK021O	006555-07	A1129315	11/29/13	14:36
14	MAK008O	006555-08	A1129316	11/29/13	15:04
15	MAK009O	006555-09	A1129317	11/29/13	15:31
16	MAK010O	006555-10	A1129318	11/29/13	15:59
17	MAK011O	006555-11	A1129319	11/29/13	16:30
18	MAK012O	006555-12	A1129320	11/29/13	17:00
19	MAK014O	006555-14	A1129322	11/29/13	17:57
20	MAK015O	006555-15	A1129323	11/29/13	18:25
21	MAK016O	006555-16	A1129324	11/29/13	18:54
22					

BFB

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129302.D
Acq On : 29 Nov 2013 8:30 am
Operator :
Sample : 50 NG BFB
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFBSOIL.M
Title :
Last Update :



AutoFind: Scans 499, 500, 501; Background Corrected with Scan 491

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.9	7521	PASS
75	95	30	66	48.3	24352	PASS
95	95	100	100	100.0	50381	PASS
96	95	5	9	7.1	3570	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.6	44640	PASS
175	174	4	9	8.7	3903	PASS
176	174	93	101	97.5	43512	PASS
177	176	5	9	6.8	2971	PASS

Average of 4.683 to 4.690 min.: A1129302.D
50 NG BFB
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
36.10	173	61.10	1983	81.00	978	175.05	3903
37.15	1799	62.10	2276	87.10	1646	176.00	43512
38.15	1536	63.10	1417	88.05	1255	177.00	2971
39.10	202	68.10	4393	92.05	1407	207.10	206
48.20	193	69.10	4314	93.05	2185		
49.10	1754	73.10	2173	94.10	5700		
50.10	7521	74.10	7947	95.10	50381		
51.15	2164	75.10	24352	96.10	3570		
56.05	723	76.10	2158	140.95	588		
57.15	964	79.00	1143	142.95	463		
60.10	177	80.00	196	174.00	44640		

Continuing Calibration Report AG1

Method Path : C:\MSDCHEM\1\METHODS\
Method File : SOIL_27.M
Title : 8260 VOLATILES
Last Update : Fri Nov 29 09:12:41 2013
Response Via : Initial Calibration

CC Data File: A1129303.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Chlorobenzene-d5	1.000	1.000	0.0	101
2	S	Toluene-d8	2.255	2.188	2.9	103
3	MCT	Toluene	2.939	2.707	7.9	96
4	CT	Ethylbenzene	3.469	3.309	4.6	99
5	T	m & p-Xylene	2.816	2.699	4.2	99
6	T	Styrene	2.100	1.988	5.3	94
7	T	o-Xylene	1.320	1.217	7.8	96
8	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	105
9	S	4-Bromofluorobenzene	0.912	0.838	8.1	99
10	T	1,2,4-Trimethylbenzene	3.184	2.910	8.6	97

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129303.D
Acq On : 29 Nov 2013 8:53 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 29 09:12:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 08:04:56 2013
Response via : Initial Calibration

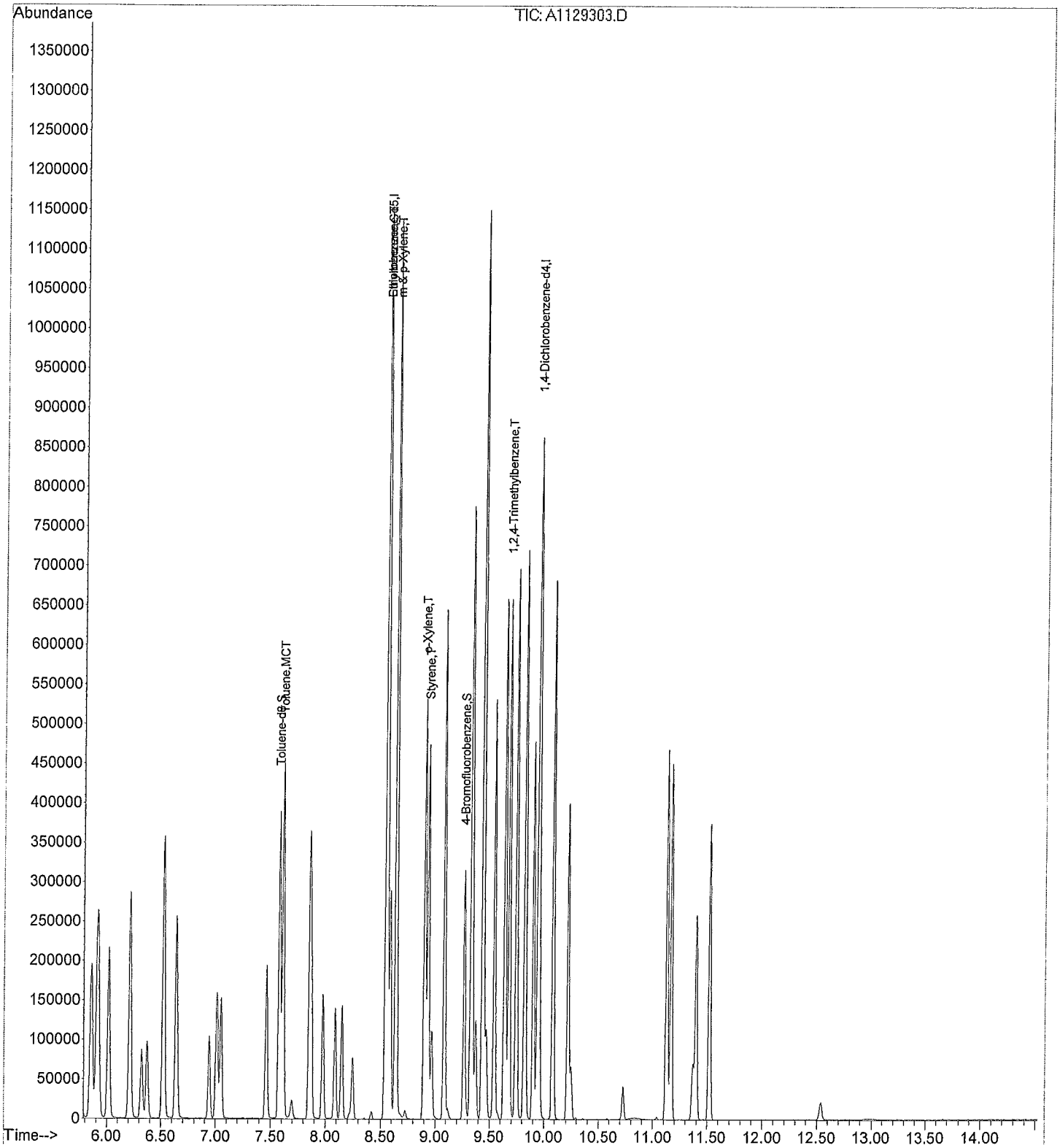
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	115428	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	121374	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.58	98	202069	97.05 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 97.05%	
9) 4-Bromofluorobenzene	9.27	95	81382	91.87 ug/Kg	0.01
Spiked Amount 100.000			Recovery	= 91.87%	
Target Compounds					Qvalue
3) Toluene	7.61	91	249930	92.09 ug/Kg	100
4) Ethylbenzene	8.56	91	305588	95.39 ug/Kg	98
5) m & p-Xylene	8.64	91	498433	191.68 ug/Kg	95
6) Styrene	8.93	104	183612	94.70 ug/Kg#	87
7) o-Xylene	8.90	106	112405	92.25 ug/Kg	86
10) 1,2,4-Trimethylbenzene	9.68	105	282531	91.38 ug/Kg	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129303.D
Acq On : 29 Nov 2013 8:53 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 29 09:12:35 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 08:04:56 2013
Response via : Initial Calibration



Instrument Logs/
Analysis Notebook Pages

Rev. 1.1

PROJECT 11/29/13 AGI 8260

Notebook No. 3317 7

Continued from Page

Run Method = SOIL.M
Tune = BFBSOIL.U EM = 1718
Telemar = NB 3167 pg. 34
Quant Method = SOIL_27

5ul - ISTD = X0901
4ul - Sur = X0902

A1129301.d	0.	FLUSH		8260
A1129302.d	0.	50 NG BFB (2ul-X0907) Pass	8:30am	8260
A1129303.d	0.	VSTD100 (4ul-X0908) Pass		8260
A1129304.d	0.	LCS (5ul-X0906) Pass		8260
A1129305.d	0.	VSTD000 Pass		8260
A1129306.d	0.	006556-04 Pass		8260 MAK024O 1.0G
A1129307.d	0.	006555-01		8260 MAK001O 2.0G
A1129308.d	0.	006555-02		8260 MAK002O 2.0G
A1129309.d	0.	006555-03		8260 MAK003O 2.0G
A1129310.d	0.	006555-04		8260 MAK004O 2.0G
A1129311.d	0.	006555-05		8260 MAK005O 2.0G
A1129312.d	0.	006555-06		8260 MAK006O 2.0G
A1129313.d	0.	006555-06MS (5ul-X0906) Pass		8260 MAK006OMS 2.0G
A1129314.d	0.	006555-06MD	Pass	8260 MAK006OMSD 2.0G
A1129315.d	0.	006555-07 Pass		8260 MAK021O 2.0G
A1129316.d	0.	006555-08		8260 MAK008O 2.0G
A1129317.d	0.	006555-09		8260 MAK009O 2.0G
A1129318.d	0.	006555-10		8260 MAK010O 2.0G
A1129319.d	0.	006555-11		8260 MAK011O 2.0G
A1129320.d	0.	006555-12		8260 MAK012O 2.0G
A1129321.d	0.	006555-13 I2↓-RE		8260 MAK013O 2.0G
A1129322.d	0.	006555-14 Pass		8260 MAK014O 2.0G
A1129323.d	0.	006555-15		8260 MAK015O 2.0G
A1129324.d	0.	006555-16		8260 MAK016O 2.0G
A1129325.d	0.	006555-17 I2↓-RE		8260 MAK017O 2.0G
A1129326.d	0.	006555-18 I2↓-RE		8260 MAK018O 2.0G
A1129327.d	0.	006555-19 I2↓-RE		8260 MAK019O 2.0G
A1129328.d	0.	006555-20 I2↓-RE	out of tune	8260 MAK020O 2.0G
A1129329.d	0.	VSTD100 (4ul-X0908) Pass		8260
A1129330.d	0.	VSTD100	Not evaluated	8260

US 12/02/13

US 12/02/13

Continued on Page

Read and Understood By

US Signed 12/02/13 Date

DRC Signed 12/4/13 Date

Blank / Field Sample / QC Data

Sample Results

Chromatogram

Quant Report (If applicable)

Confirmation Analysis Quant Report / Chromatogram (If applicable)

Tentatively Identified Compounds (If required)

Rev. 1.1

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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006555-06K1
Desc/Location:	NA	Lab Filename:	A1129304
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/29/2013
Matrix:	QC Material	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	92.9		UG/KG
Ethyl Benzene	2.5	12.5	98.4		UG/KG
m & p-Xylene	5	25	194		UG/KG
Styrene	2.5	12.5	93.9		UG/KG
o-Xylene	2.5	12.5	95.7		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	94.8		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	101%
4-Bromofluorobenzene	50-150	96%

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

Spike Blank for Run 1203JFSY, VOLATILES, GC/MS (8260)

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129304.D
Acq On : 29 Nov 2013 9:23 am
Operator :
Sample : ~~LCS~~ QQ6555-06K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JAB 12/03/13

Quant Time: Nov 29 10:00:26 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 09:12:41 2013
Response via : Initial Calibration

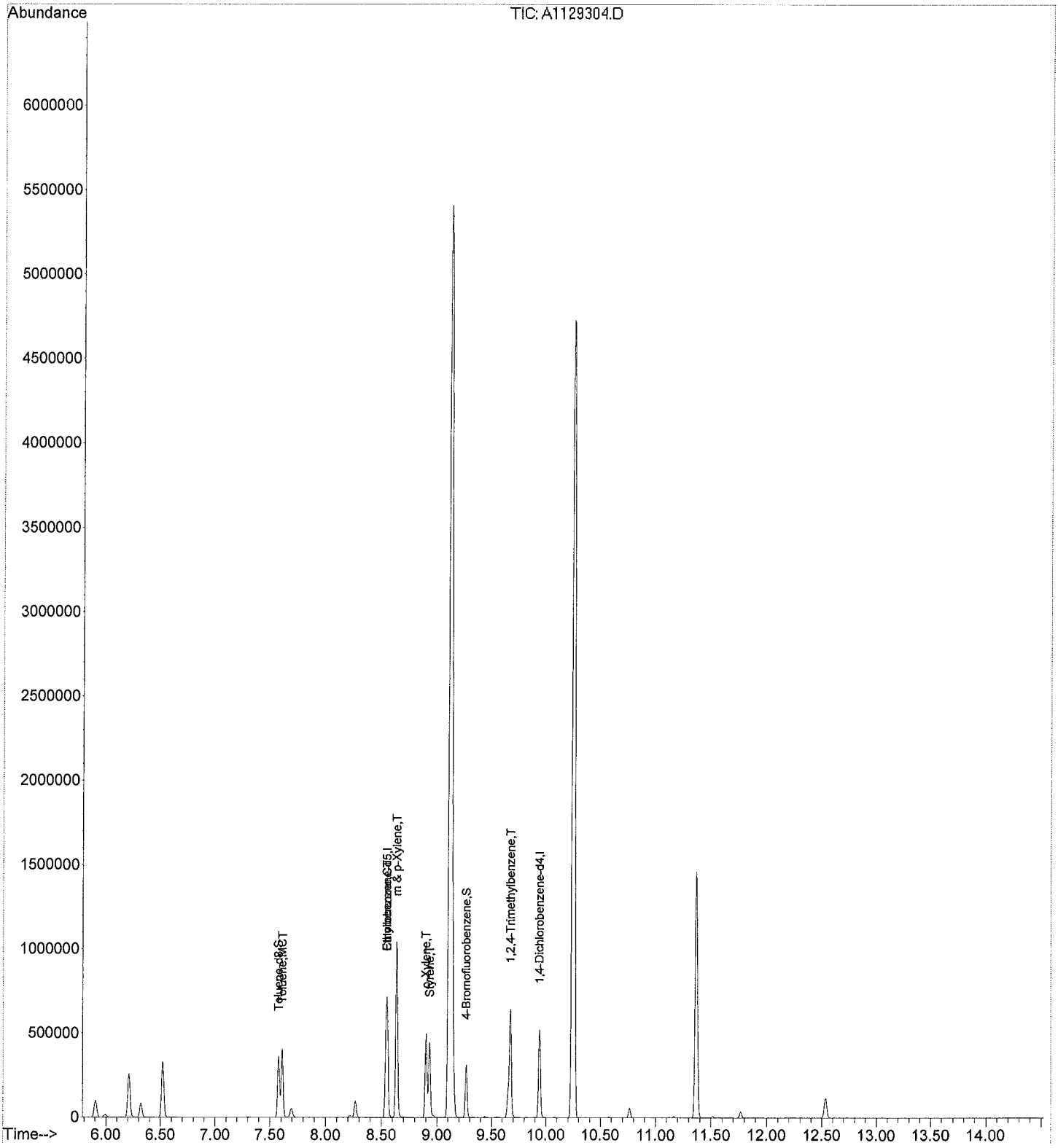
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	104523	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	115707	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.58	98	190528	101.06	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 101.06%			
9) 4-Bromofluorobenzene	9.27	95	80881	95.78	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 95.78%			
Target Compounds						Qvalue
3) Toluene	7.61	91	228362	92.92	ug/Kg	99
4) Ethylbenzene	8.55	91	285405	98.39	ug/Kg	98
5) m & p-Xylene	8.64	91	456054	193.68	ug/Kg	95
6) Styrene	8.93	104	164944	93.94	ug/Kg#	83
7) o-Xylene	8.90	106	105628	95.73	ug/Kg	86
10) 1,2,4-Trimethylbenzene	9.67	105	279456	94.81	ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129304.D
Acq On : 29 Nov 2013 9:23 am
Operator :
Sample : ~~LCS~~ 006555-06K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 12/03/13

Quant Time: Nov 29 10:00:26 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 09:12:41 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006555-06B1
Desc/Location:	NA	Lab Filename:	A1129305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	11/29/2013
Matrix:	QC Material	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	100%
4-Bromofluorobenzene	50-150	92%

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

Blank for Run 1203JFSY, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129305.D
Acq On : 29 Nov 2013 9:54 am
Operator :
Sample : ~~VSTD000~~ 006555-06B1
Misc : 8260
ALS Vial : 2 Sample Multiplier: 1 12/03/13

Quant Time: Dec 03 14:30:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Tue Dec 03 11:02:01 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	110269	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	119696	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.58	98	198125	99.61 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 99.61%	
9) 4-Bromofluorobenzene	9.26	95	80643	92.31 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 92.31%	

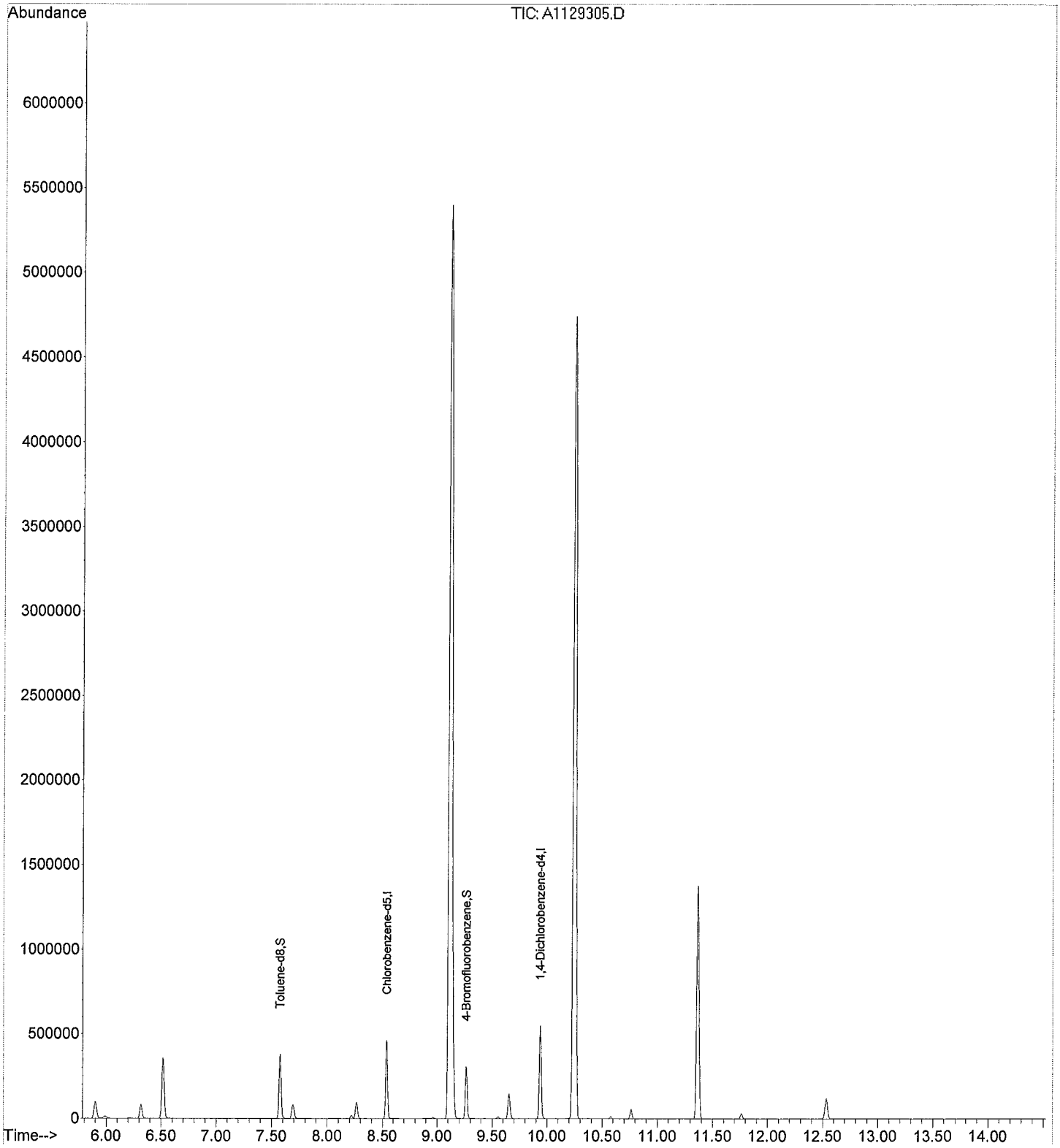
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129305.D
Acq On : 29 Nov 2013 9:54 am
Operator :
Sample : ~~VSTD000~~ 006555-06B1
Misc : 8260
ALS Vial : 2 Sample Multiplier: 1 12/03/13

Quant Time: Dec 03 14:30:03 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Tue Dec 03 11:02:01 2013
Response via : Initial Calibration



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

Lab Report No: 006556 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK024O	ARDL Lab No.:	006556-04
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129306
Sample Date:	09/27/2013	Received Date:	10/23/2013
Sample Time:	0828	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1105JFSJ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.5	12.5	ND		UG/KG	1
Ethyl Benzene	2.5	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.5	12.5	ND		UG/KG	1
o-Xylene	2.5	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	97%
4-Bromofluorobenzene	50-150	95%

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

Sample 006556-04, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129306.D
Acq On : 29 Nov 2013 10:22 am
Operator :
Sample : 006556-04
Misc : 8260 MAK024O 1.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 02 15:04:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	101156	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	107007	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.58	98	177579	97.32 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 97.32%	
9) 4-Bromofluorobenzene	9.27	95	74109	94.89 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 94.89%	

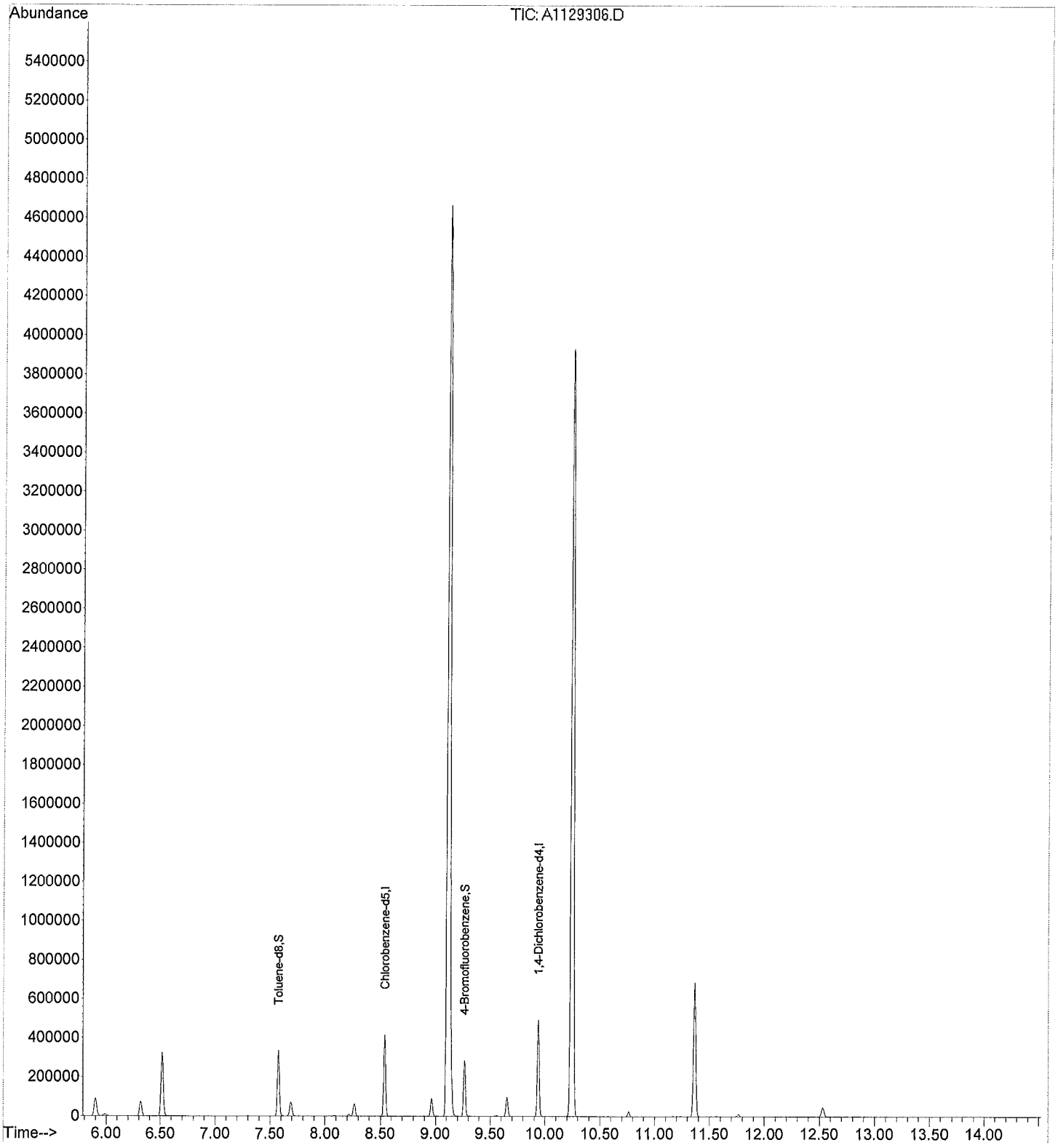
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129306.D
Acq On : 29 Nov 2013 10:22 am
Operator :
Sample : 006556-04
Misc : 8260 MAK024O 1.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 02 15:04:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK001O	ARDL Lab No.:	006555-01
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129307
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1104	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	95%
4-Bromofluorobenzene	50-150	90%

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

Sample 006555-01, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129307.D
Acq On : 29 Nov 2013 10:49 am
Operator :
Sample : 006555-01
Misc : 8260 MAK001O 2.0G
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 02 15:04:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	104171	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	112164	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.57	98	178000	94.73	ug/Kg	-0.01
Spiked Amount 100.000			Recovery = 94.73%			
9) 4-Bromofluorobenzene	9.26	95	73349	89.60	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 89.60%			

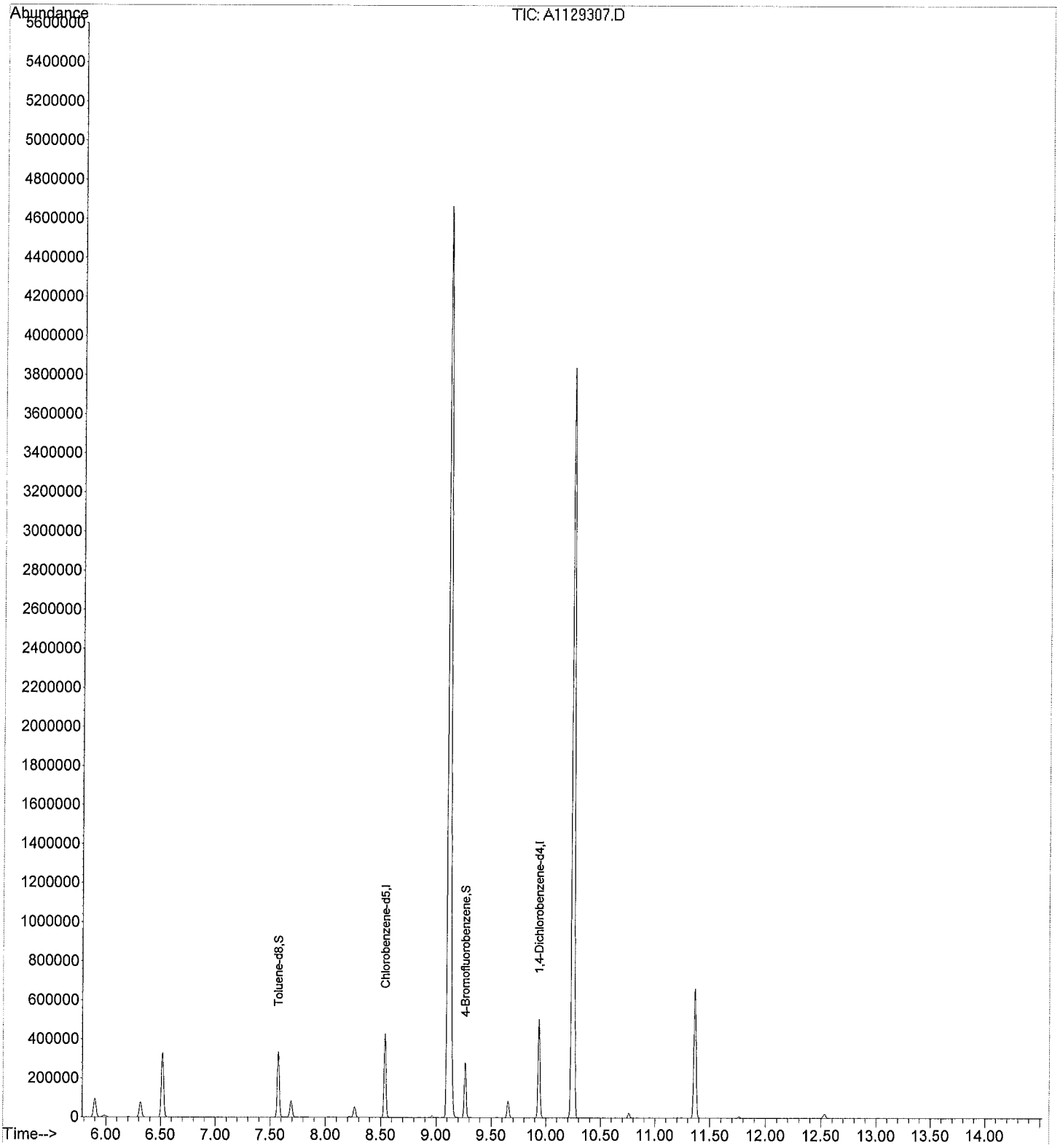
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129307.D
Acq On : 29 Nov 2013 10:49 am
Operator :
Sample : 006555-01
Misc : 8260 MAK001O 2.0G
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 02 15:04:56 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK002O	ARDL Lab No.:	006555-02
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129308
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1215	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	99%
4-Bromofluorobenzene	50-150	97%

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

Sample 006555-02, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129308.D
Acq On : 29 Nov 2013 11:19 am
Operator :
Sample : 006555-02
Misc : 8260 MAK002O 2.0G
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 02 15:05:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	97734	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	98651	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	175276	99.43 ug/Kg	-0.01
Spiked Amount 100.000			Recovery = 99.43%		
9) 4-Bromofluorobenzene	9.26	95	69581	96.64 ug/Kg	0.00
Spiked Amount 100.000			Recovery = 96.64%		

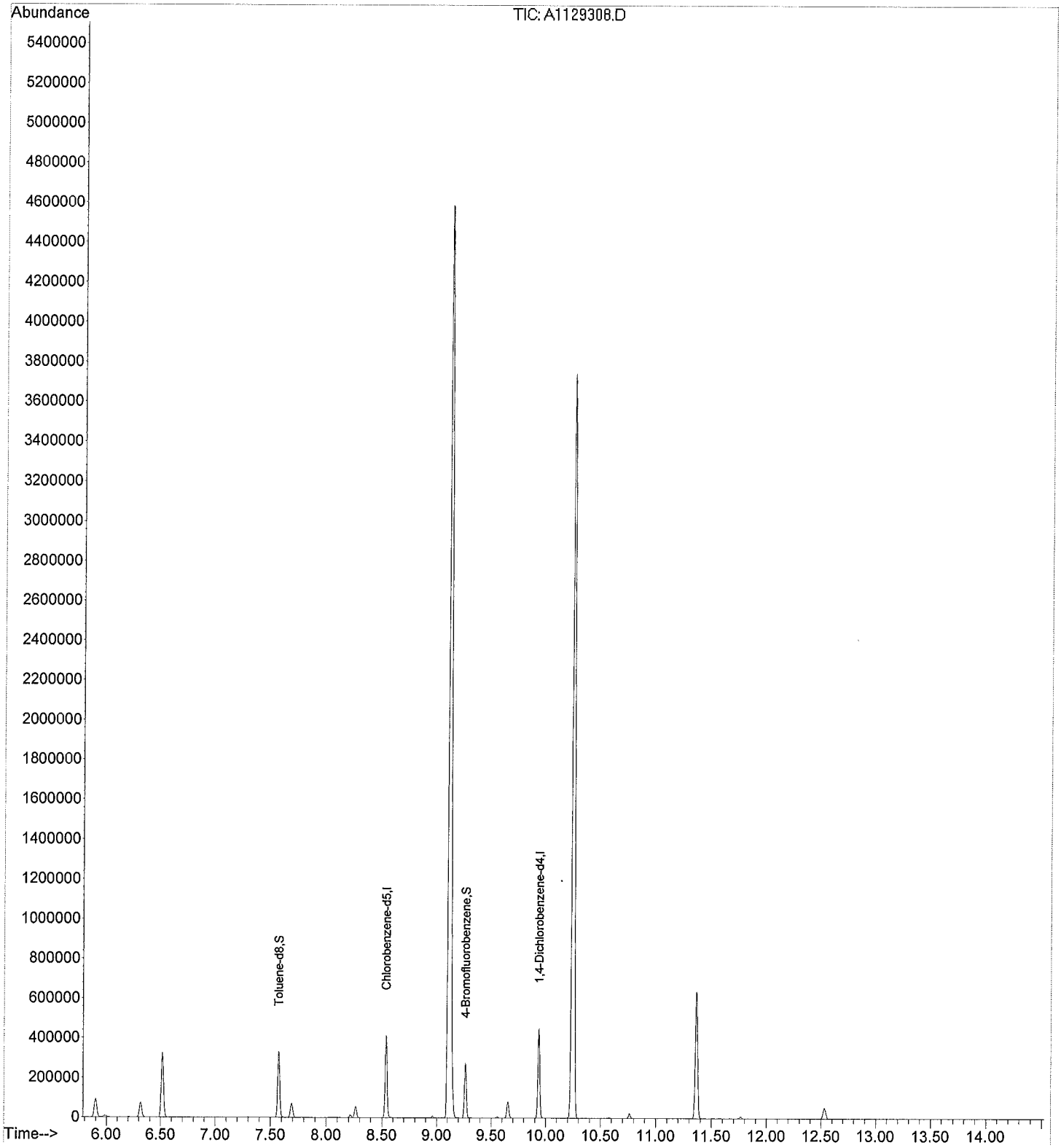
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129308.D
Acq On : 29 Nov 2013 11:19 am
Operator :
Sample : 006555-02
Misc : 8260 MAK002O 2.0G
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 02 15:05:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK003O	ARDL Lab No.:	006555-03
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129309
Sample Date:	09/09/2013	Received Date:	10/23/2013
Sample Time:	1505	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	102%
4-Bromofluorobenzene	50-150	100%

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

Sample 006555-03, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129309.D
Acq On : 29 Nov 2013 11:46 am
Operator :
Sample : 006555-03
Misc : 8260 MAK003O 2.0G
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 02 15:05:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	91762	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	94602	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	169412	102.35 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 102.35%	
9) 4-Bromofluorobenzene	9.26	95	68866	99.74 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 99.74%	

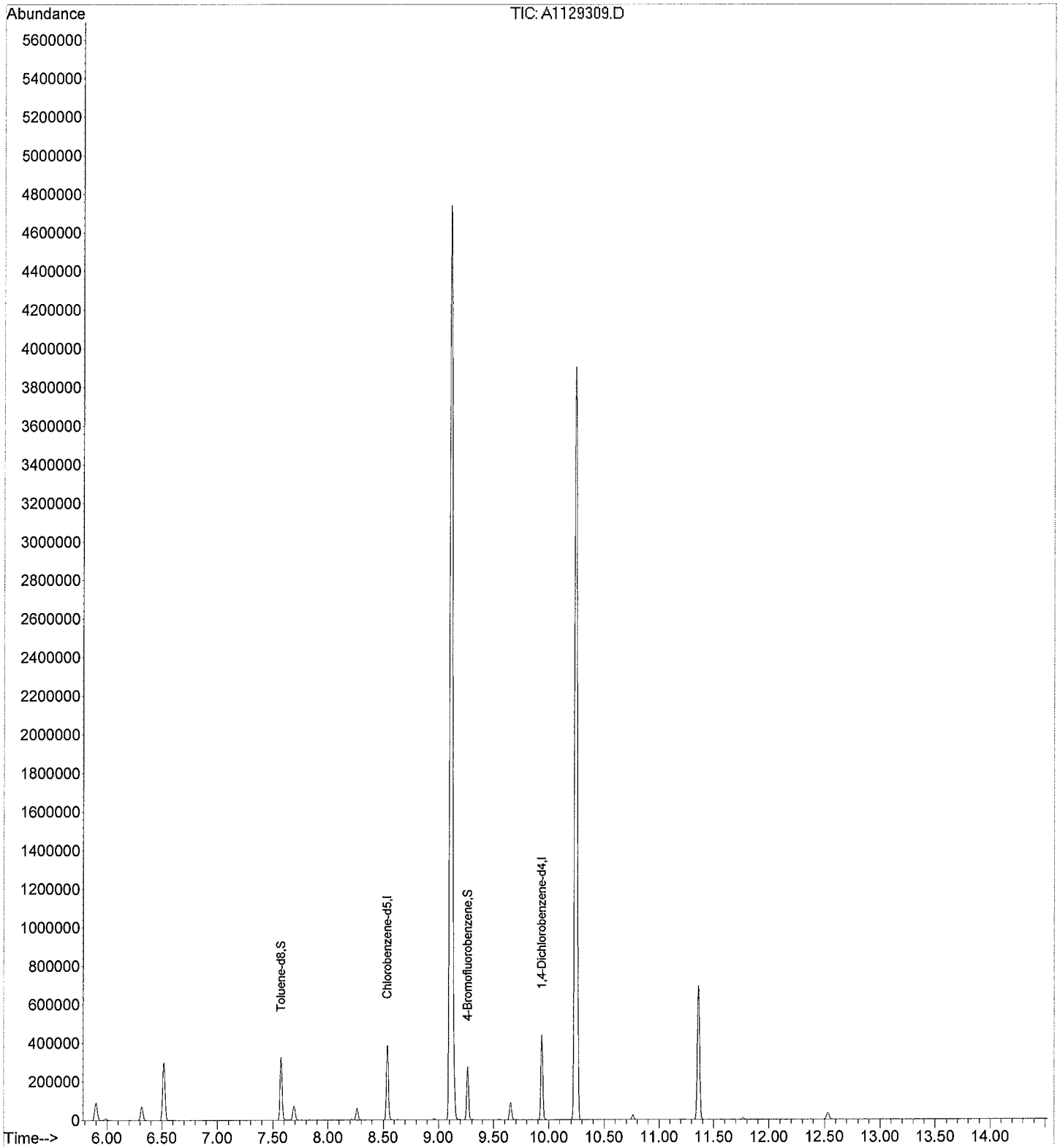
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129309.D
Acq On : 29 Nov 2013 11:46 am
Operator :
Sample : 006555-03
Misc : 8260 MAK003O 2.0G
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 02 15:05:37 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK004O	ARDL Lab No.:	006555-04
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129310
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1011	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	111%
4-Bromofluorobenzene	50-150	105%

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

Sample 006555-04, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129310.D
Acq On : 29 Nov 2013 12:14 pm
Operator :
Sample : 006555-04
Misc : 8260 MAK004O 2.0G
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 02 15:05:58 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	84207	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	89403	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	167933	110.56 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 110.56%	
9) 4-Bromofluorobenzene	9.26	95	68689	105.27 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 105.27%	

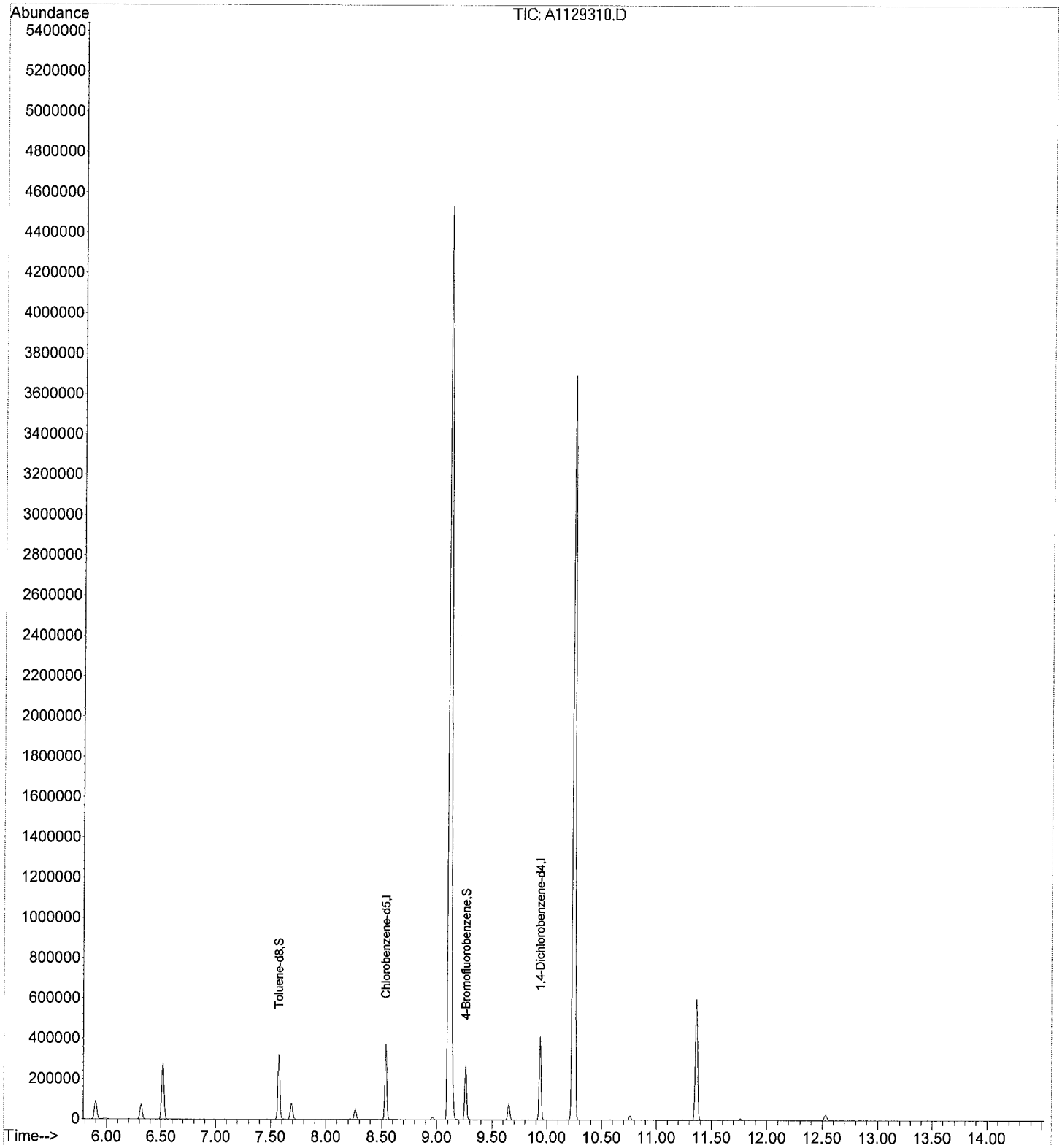
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129310.D
Acq On : 29 Nov 2013 12:14 pm
Operator :
Sample : 006555-04
Misc : 8260 MAK004O 2.0G
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Dec 02 15:05:58 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK005O	ARDL Lab No.:	006555-05
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129311
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1035	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	112%
4-Bromofluorobenzene	50-150	108%

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129311.D
Acq On : 29 Nov 2013 12:41 pm
Operator :
Sample : 006555-05
Misc : 8260 MAK005O 2.0G
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 02 15:06:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	83579	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	85148	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	168170	111.55 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 111.55%	
9) 4-Bromofluorobenzene	9.26	95	66821	107.52 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 107.52%	

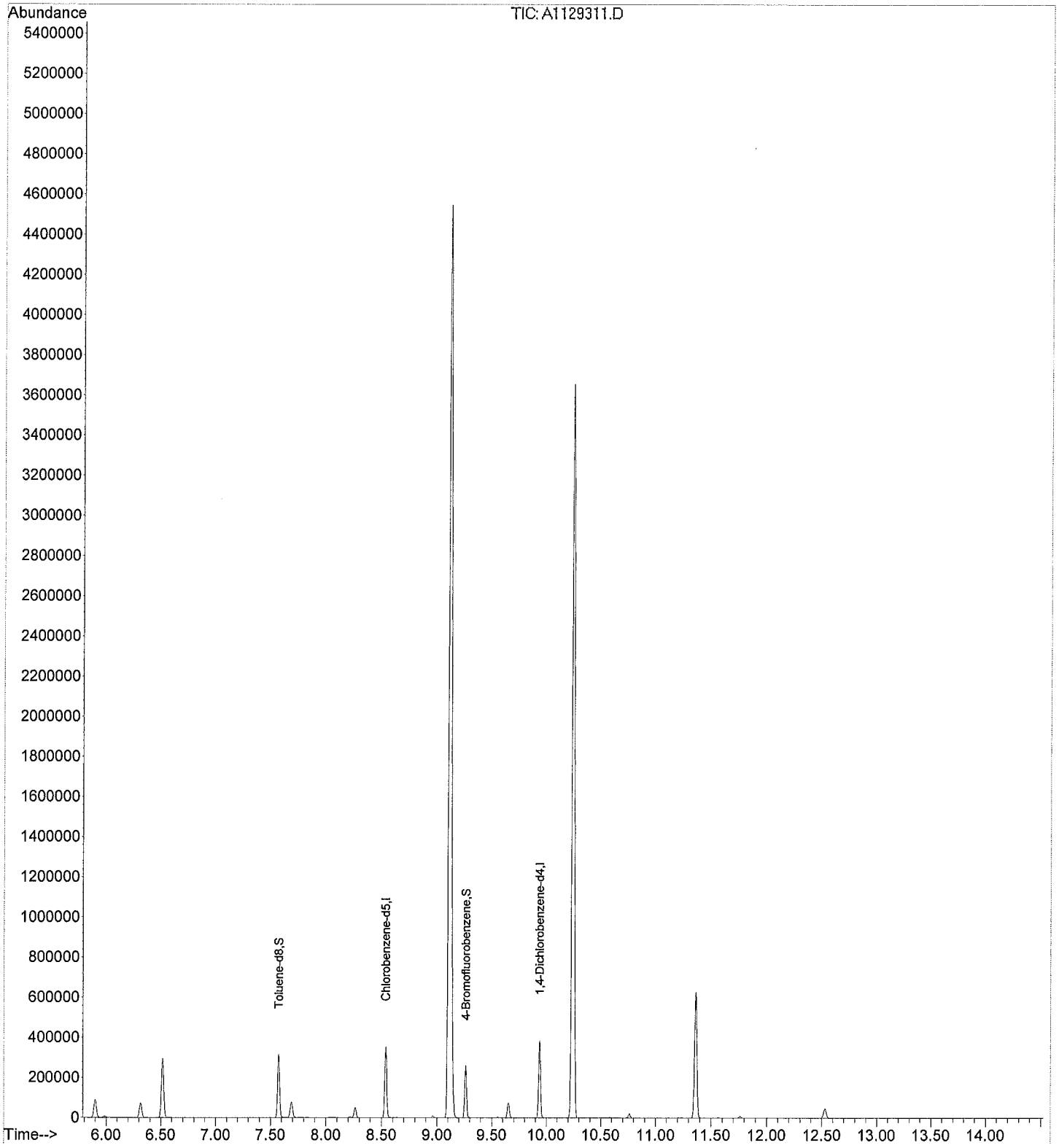
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129311.D
Acq On : 29 Nov 2013 12:41 pm
Operator :
Sample : 006555-05
Misc : 8260 MAK005O 2.0G
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Dec 02 15:06:21 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK006O	ARDL Lab No.:	006555-06
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129312
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1055	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	121%
4-Bromofluorobenzene	50-150	121%

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

Sample 006555-06, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129312.D
Acq On : 29 Nov 2013 1:11 pm
Operator :
Sample : 006555-06
Misc : 8260 MAK006O 2.0G
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 02 15:20:32 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	68401	125.00	ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	63293	125.00	ug/Kg	-0.01
System Monitoring Compounds						
2) Toluene-d8	7.57	98	148912	120.69	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	120.69%	
9) 4-Bromofluorobenzene	9.26	95	56065	121.37	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	121.37%	

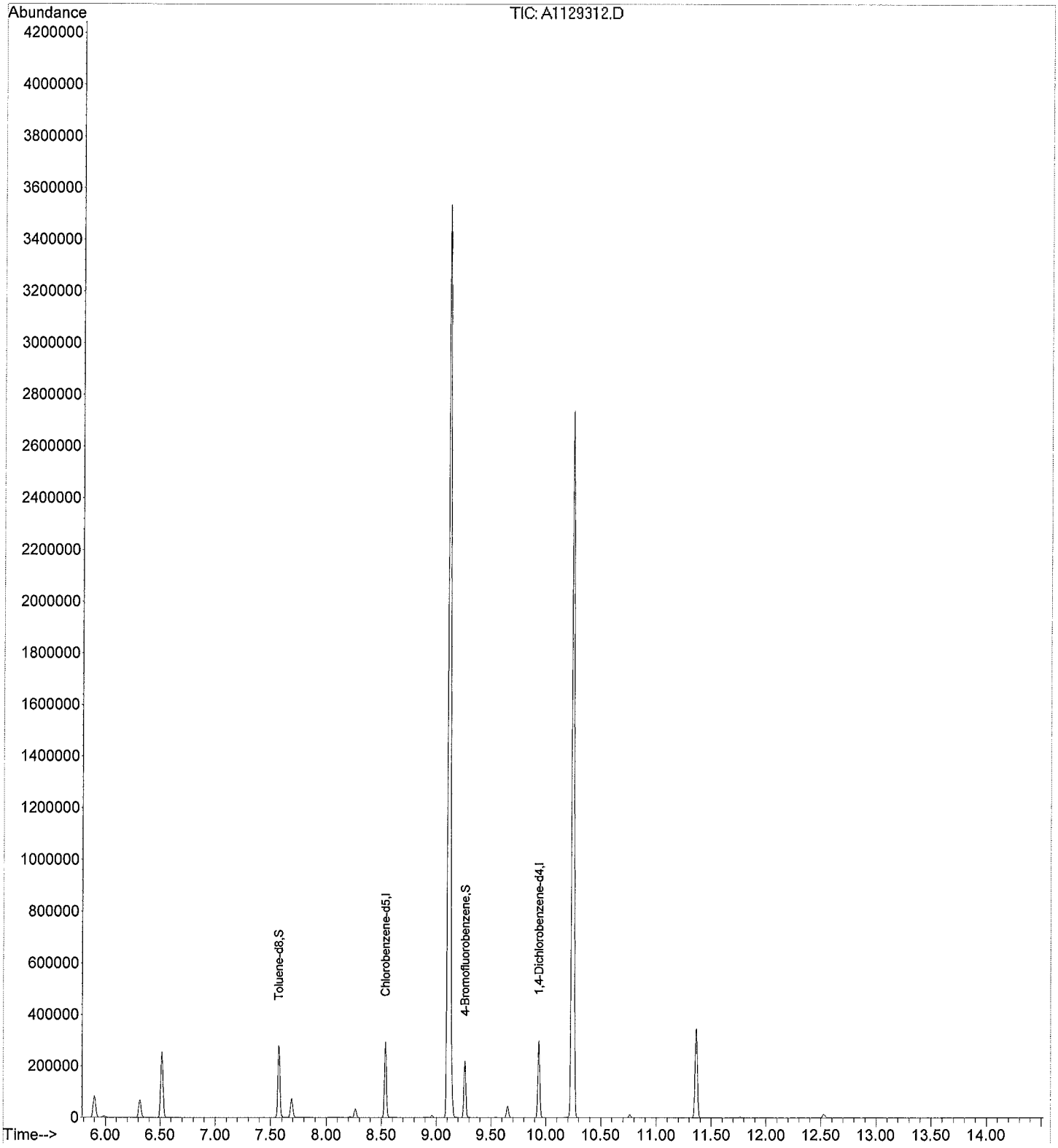
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129312.D
Acq On : 29 Nov 2013 1:11 pm
Operator :
Sample : 006555-06
Misc : 8260 MAK006O 2.0G
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Dec 02 15:20:32 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK006O	ARDL Lab No.:	006555-06MS
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129313
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1055	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	91.4		UG/KG	1
Ethyl Benzene	2.50	12.5	91.7		UG/KG	1
m & p-Xylene	5.0	25.0	180		UG/KG	1
Styrene	2.50	12.5	90.5		UG/KG	1
o-Xylene	2.50	12.5	89.6		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	91.8		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	117%
4-Bromofluorobenzene	50-150	117%

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

Matrix Spike for 006555-06, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129313.D
Acq On : 29 Nov 2013 1:39 pm
Operator :
Sample : 006555-06MS
Misc : 8260 MAK006OMS 2.0G
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 02 08:17:05 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

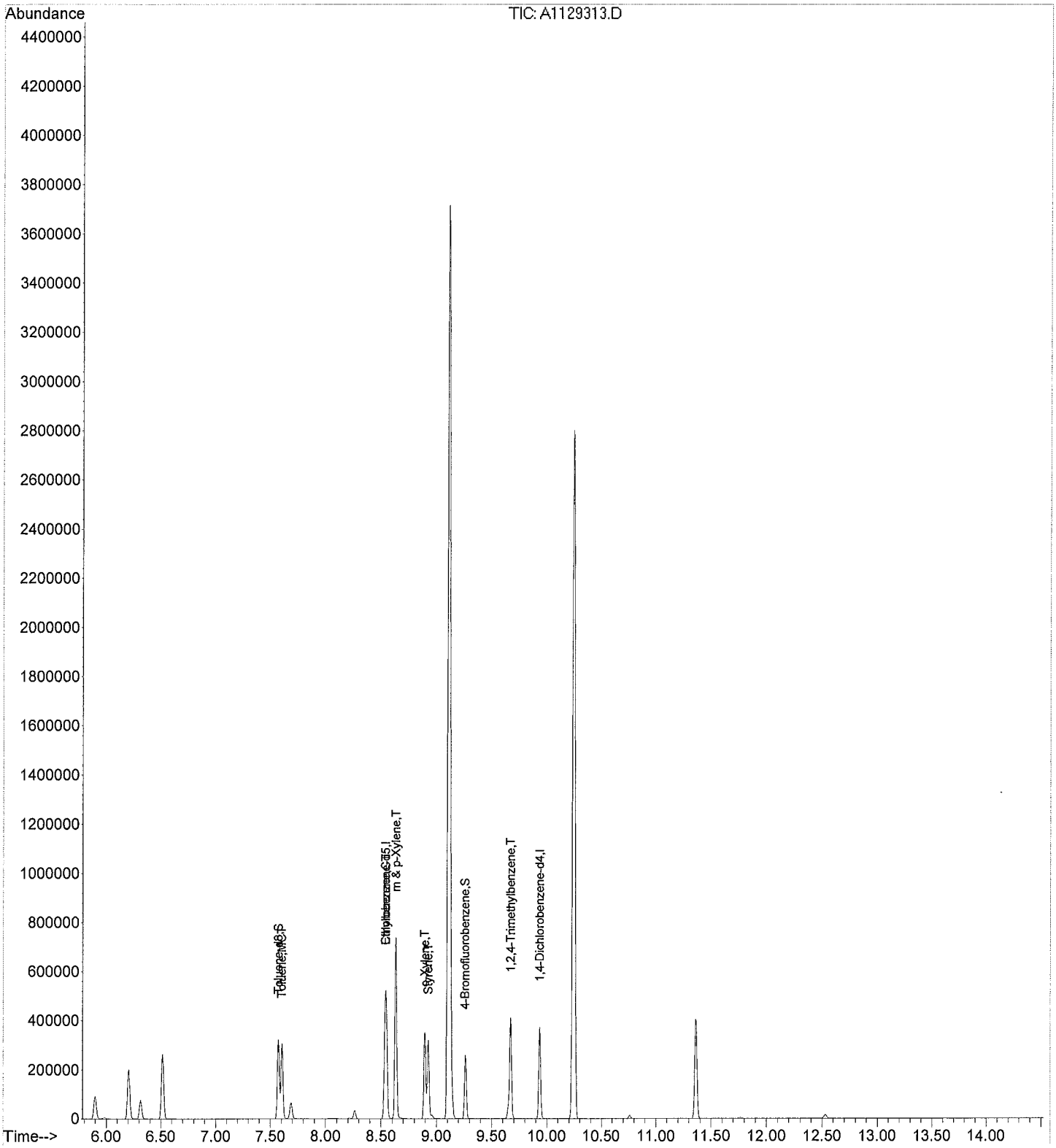
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	79598	125.00	ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	77012	125.00	ug/Kg	-0.01
System Monitoring Compounds						
2) Toluene-d8	7.57	98	167261	116.50	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	116.50%	
9) 4-Bromofluorobenzene	9.26	95	65852	117.16	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	117.16%	
Target Compounds						Qvalue
3) Toluene	7.61	91	171089	91.42	ug/Kg	99
4) Ethylbenzene	8.55	91	202566	91.70	ug/Kg	98
5) m & p-Xylene	8.63	91	322962	180.10	ug/Kg	96
6) Styrene	8.93	104	121017	90.51	ug/Kg#	87
7) o-Xylene	8.90	106	75280	89.59	ug/Kg	87
10) 1,2,4-Trimethylbenzene	9.67	105	180006	91.76	ug/Kg	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129313.D
Acq On : 29 Nov 2013 1:39 pm
Operator :
Sample : 006555-06MS
Misc : 8260 MAK006OMS 2.0G
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Dec 02 08:17:05 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK006O	ARDL Lab No.:	006555-06MD
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129314
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1055	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	107		UG/KG	1
Ethyl Benzene	2.50	12.5	106		UG/KG	1
m & p-Xylene	5.0	25.0	210		UG/KG	1
Styrene	2.50	12.5	99.1		UG/KG	1
o-Xylene	2.50	12.5	103		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	111		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	126%
4-Bromofluorobenzene	50-150	134%

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

Matrix Spike Duplicate for 006555-06, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129314.D
Acq On : 29 Nov 2013 2:06 pm
Operator :
Sample : 006555-06MD
Misc : 8260 MAK006OMSD 2.0G
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 02 08:17:06 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

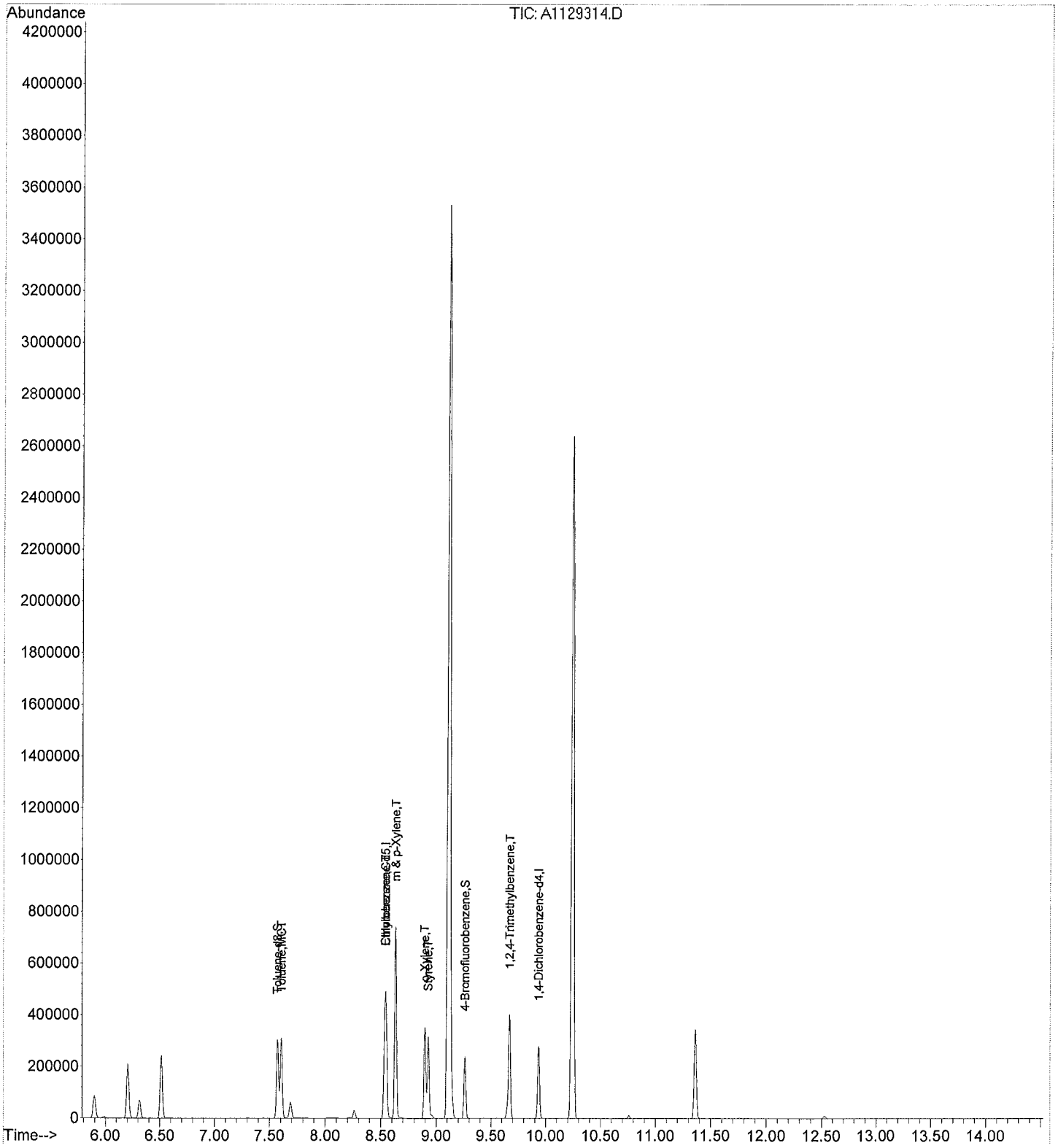
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	68415	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.93	152	61911	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	155224	125.78 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 125.78%	
9) 4-Bromofluorobenzene	9.26	95	60667	134.26 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 134.26%	
Target Compounds					Qvalue
3) Toluene	7.61	91	172045	106.96 ug/Kg	100
4) Ethylbenzene	8.55	91	202173	106.48 ug/Kg	99
5) m & p-Xylene	8.63	91	323942	210.18 ug/Kg	95
6) Styrene	8.93	104	113922	99.13 ug/Kg#	83
7) o-Xylene	8.89	106	74043	102.52 ug/Kg	86
10) 1,2,4-Trimethylbenzene	9.67	105	174537	110.67 ug/Kg	96

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129314.D
Acq On : 29 Nov 2013 2:06 pm
Operator :
Sample : 006555-06MD
Misc : 8260 MAK006OMSD 2.0G
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Dec 02 08:17:06 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK021O	ARDL Lab No.:	006555-07
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129315
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0927	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	109%
4-Bromofluorobenzene	50-150	107%

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

Sample 006555-07, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129315.D
Acq On : 29 Nov 2013 2:36 pm
Operator :
Sample : 006555-07
Misc : 8260 MAK021O 2.0G
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 02 15:22:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	86886	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	89944	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	170059	108.51 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 108.51%	
9) 4-Bromofluorobenzene	9.26	95	70528	107.44 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 107.44%	

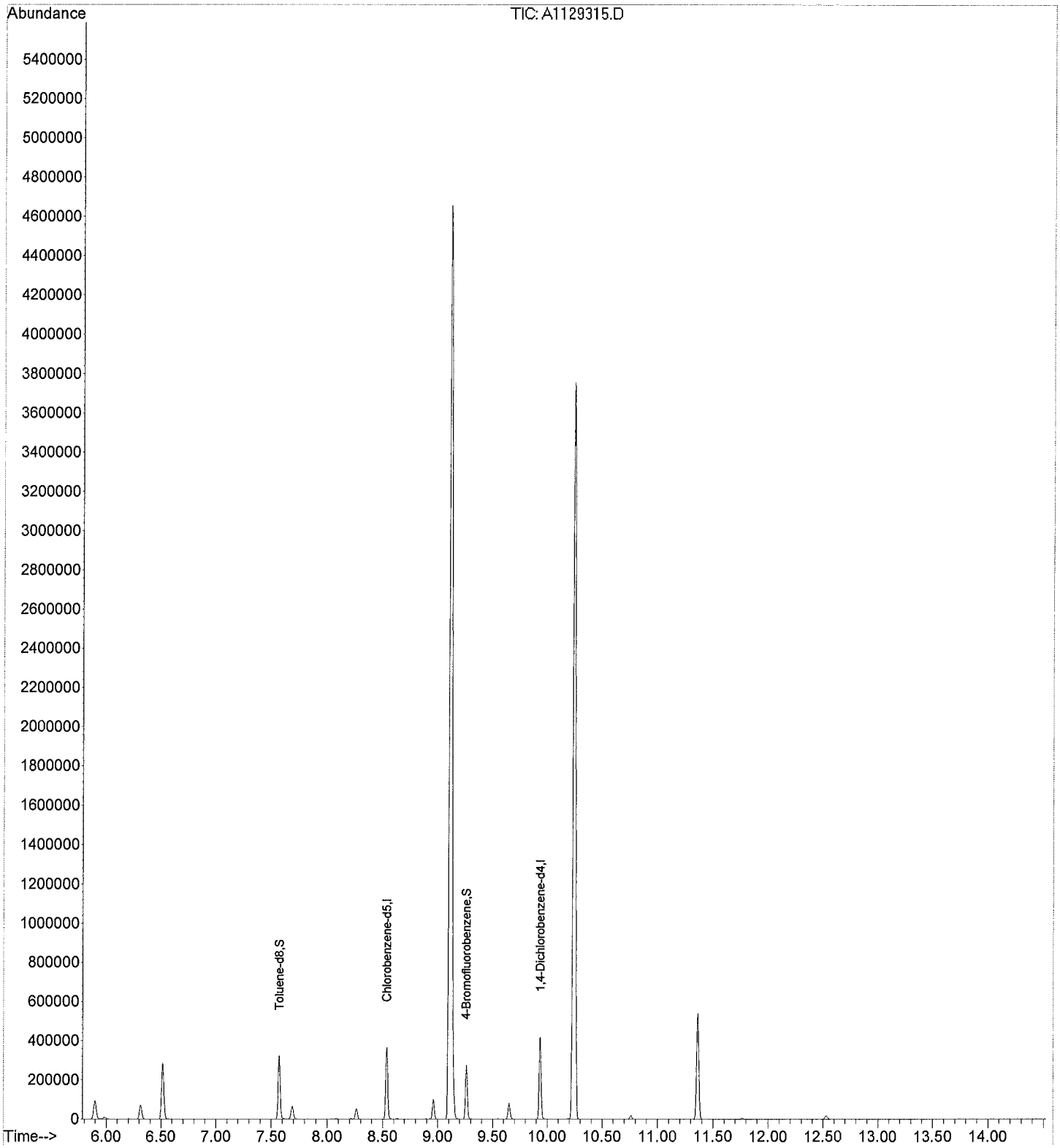
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129315.D
Acq On : 29 Nov 2013 2:36 pm
Operator :
Sample : 006555-07
Misc : 8260 MAK021O 2.0G
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Dec 02 15:22:16 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK008O	ARDL Lab No.:	006555-08
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129316
Sample Date:	09/11/2013	Received Date:	10/23/2013
Sample Time:	1210	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	116%
4-Bromofluorobenzene	50-150	112%

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

Sample 006555-08, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129316.D
Acq On : 29 Nov 2013 3:04 pm
Operator :
Sample : 006555-08
Misc : 8260 MAK008O 2.0G
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 02 15:22:41 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	77738	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	77089	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	162230	115.70 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 115.70%	
9) 4-Bromofluorobenzene	9.26	95	63099	112.15 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 112.15%	

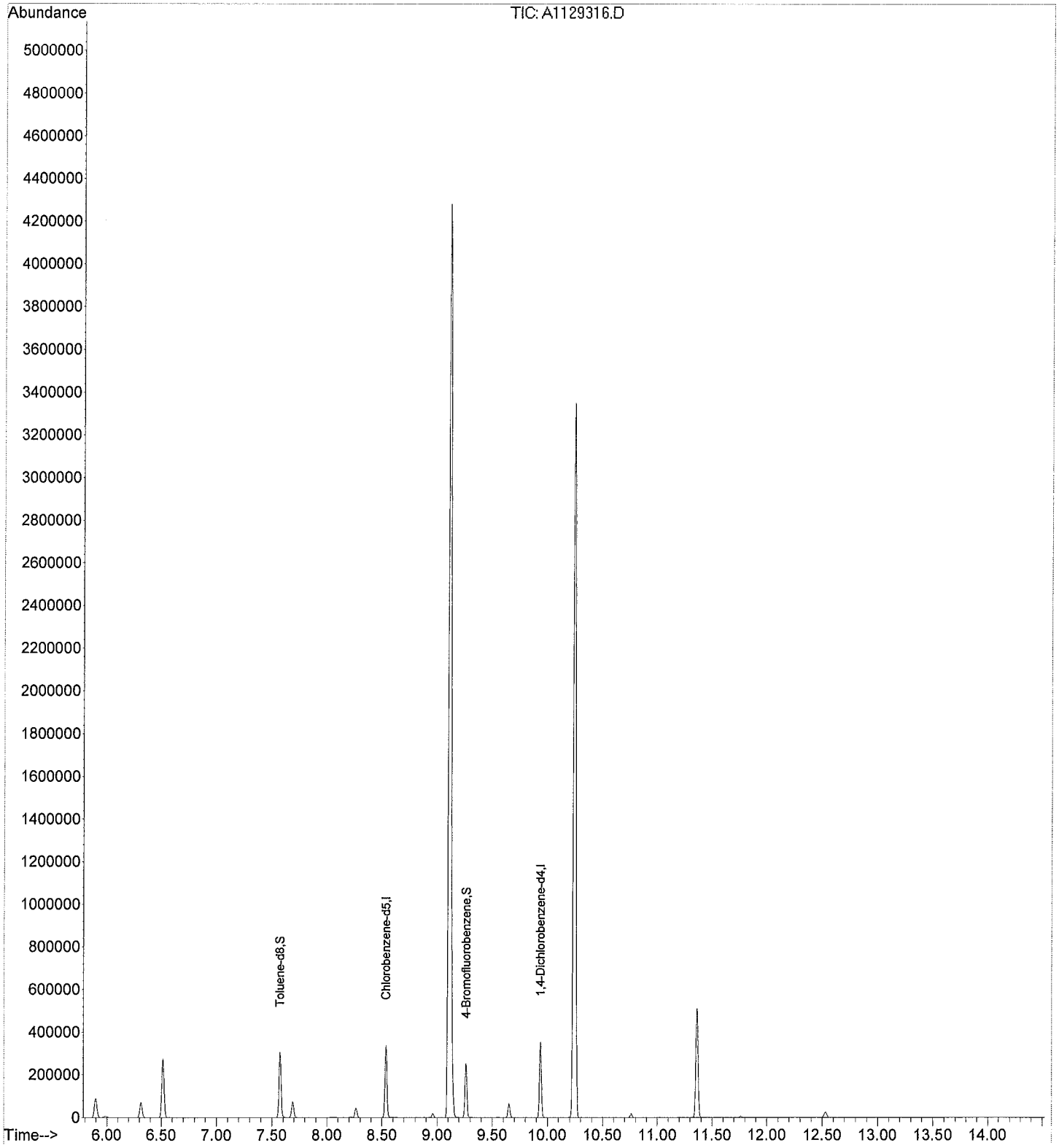
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129316.D
Acq On : 29 Nov 2013 3:04 pm
Operator :
Sample : 006555-08
Misc : 8260 MAK008O 2.0G
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Dec 02 15:22:41 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK009O	ARDL Lab No.:	006555-09
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129317
Sample Date:	09/13/2013	Received Date:	10/23/2013
Sample Time:	1248	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	120%
4-Bromofluorobenzene	50-150	123%

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

Sample 006555-09, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129317.D
Acq On : 29 Nov 2013 3:31 pm
Operator :
Sample : 006555-09
Misc : 8260 MAK009O 2.0G
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 02 15:22:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	71336	125.00	ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	70858	125.00	ug/Kg	-0.01
System Monitoring Compounds						
2) Toluene-d8	7.57	98	154440	120.02	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	120.02%	
9) 4-Bromofluorobenzene	9.26	95	63570	122.92	ug/Kg	-0.01
Spiked Amount 100.000			Recovery	=	122.92%	

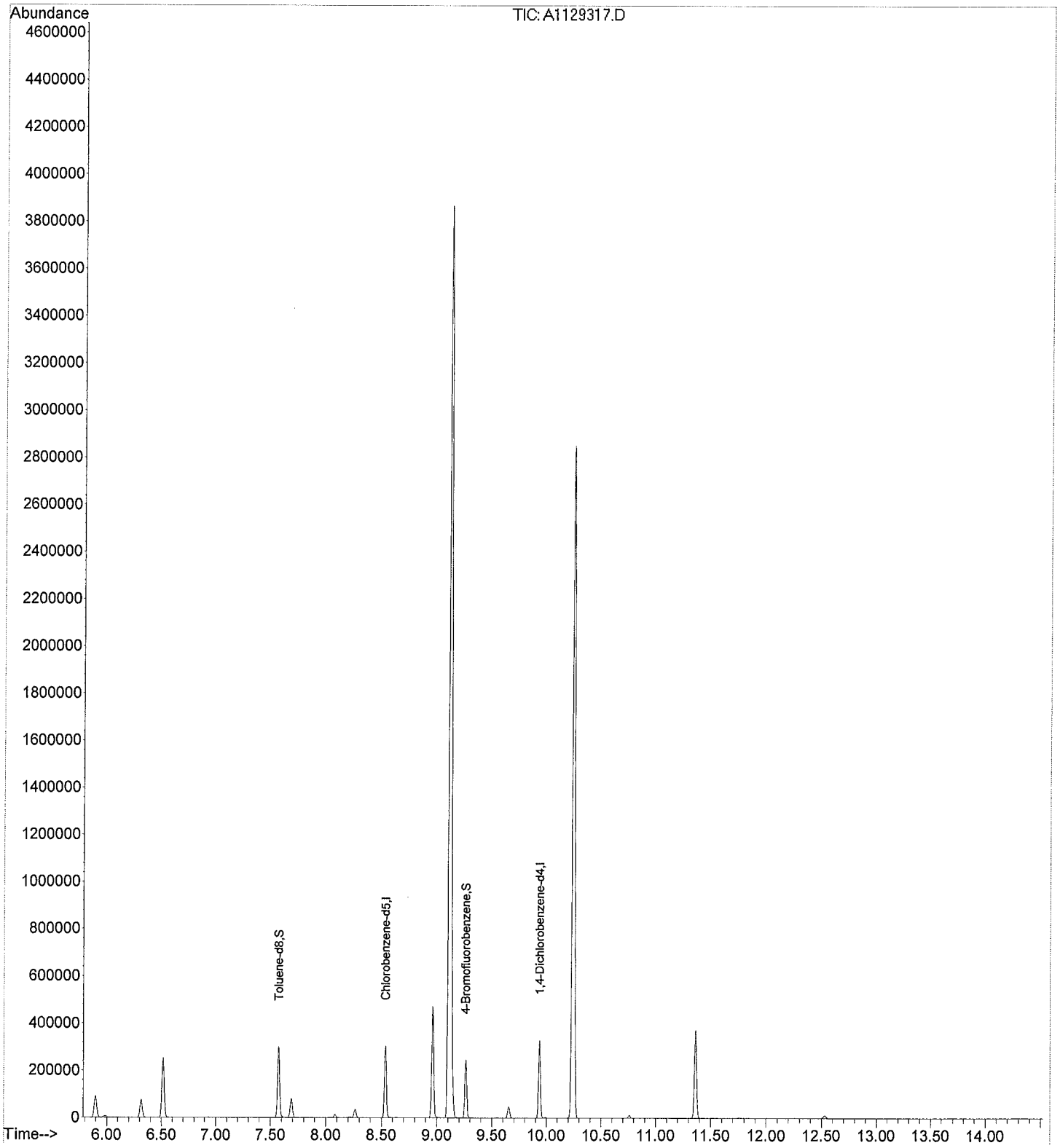
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129317.D
Acq On : 29 Nov 2013 3:31 pm
Operator :
Sample : 006555-09
Misc : 8260 MAK009O 2.0G
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Dec 02 15:22:59 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK010O	ARDL Lab No.:	006555-10
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129318
Sample Date:	09/16/2013	Received Date:	10/23/2013
Sample Time:	1025	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	104%
4-Bromofluorobenzene	50-150	100%

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

Sample 006555-10, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129318.D
Acq On : 29 Nov 2013 3:59 pm
Operator :
Sample : 006555-10
Misc : 8260 MAK010O 2.0G
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 02 15:23:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	77705	125.00	ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	80803	125.00	ug/Kg	-0.01
System Monitoring Compounds						
2) Toluene-d8	7.57	98	146153	104.27	ug/Kg	-0.01
Spiked Amount 100.000			Recovery = 104.27%			
9) 4-Bromofluorobenzene	9.26	95	58846	99.78	ug/Kg	0.00
Spiked Amount 100.000			Recovery = 99.78%			

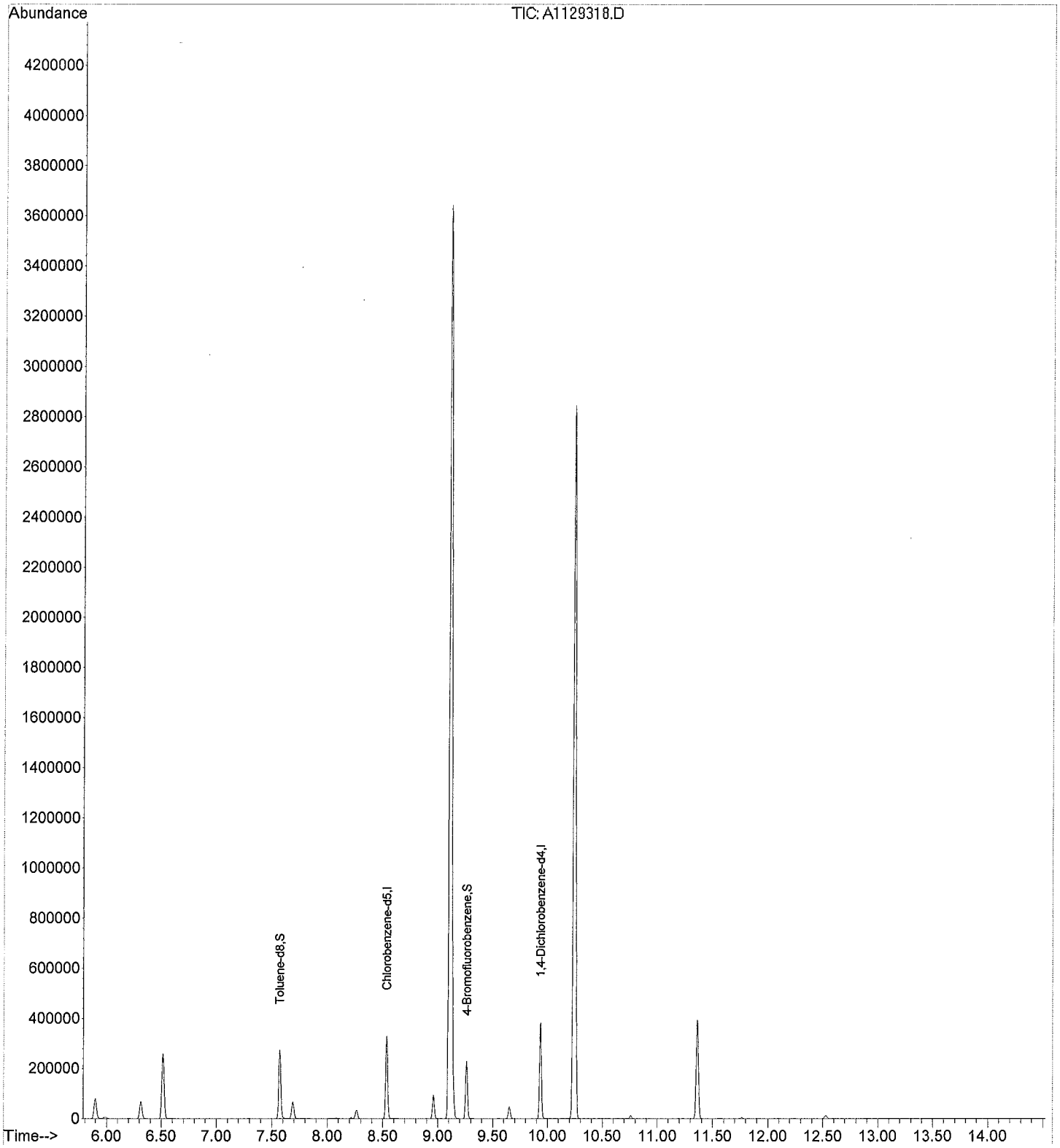
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129318.D
Acq On : 29 Nov 2013 3:59 pm
Operator :
Sample : 006555-10
Misc : 8260 MAK010O 2.0G
ALS Vial : 15 Sample Multiplier: 1

Quant Time: Dec 02 15:23:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK011O	ARDL Lab No.:	006555-11
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129319
Sample Date:	09/16/2013	Received Date:	10/23/2013
Sample Time:	1110	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	115%
4-Bromofluorobenzene	50-150	123%

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

Sample 006555-11, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129319.D
Acq On : 29 Nov 2013 4:30 pm
Operator :
Sample : 006555-11
Misc : 8260 MAK011O 2.0G
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Dec 02 15:24:00 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	71170	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	62954	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	147714	115.07 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 115.07%	
9) 4-Bromofluorobenzene	9.26	95	56671	123.34 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 123.34%	

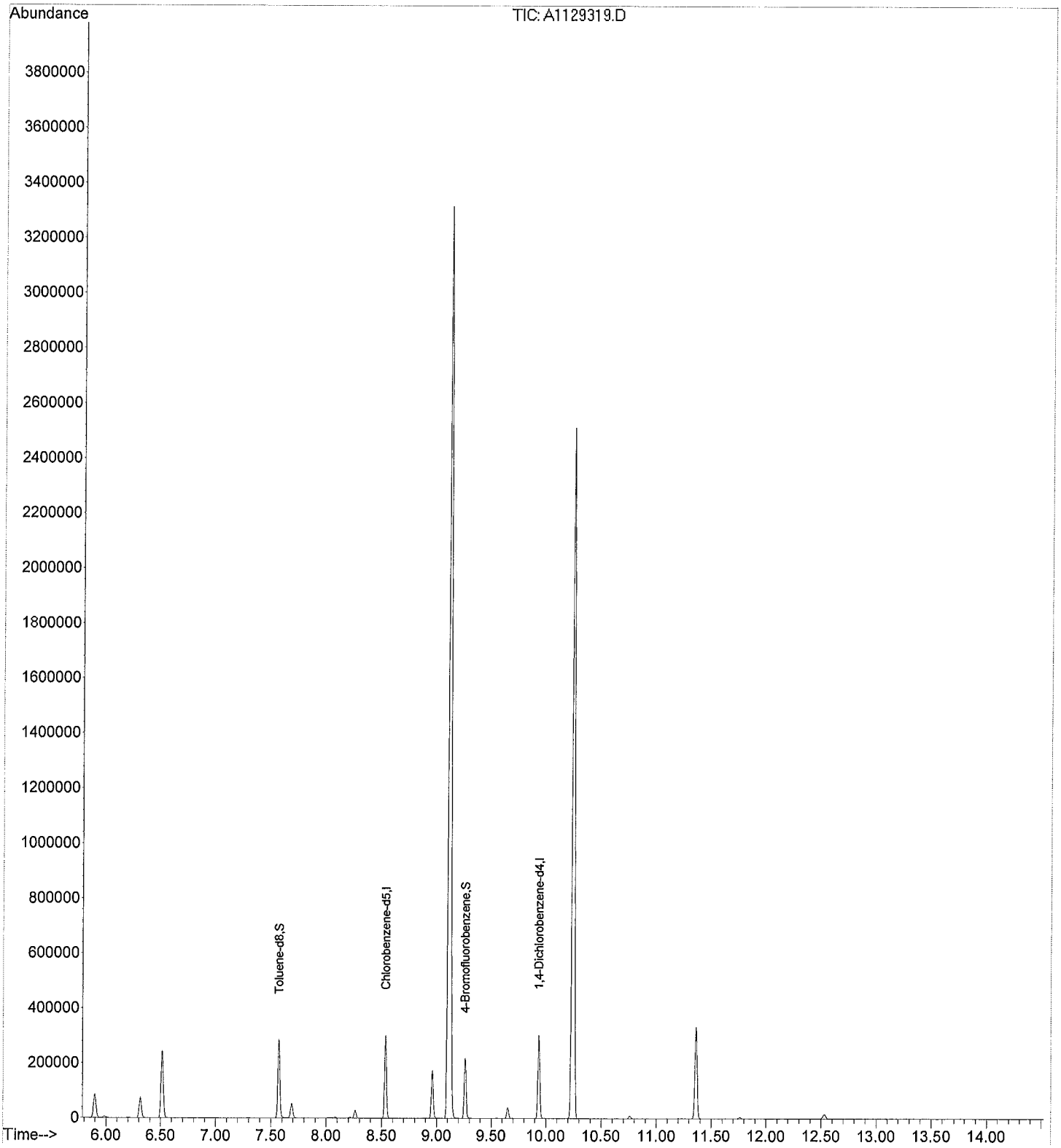
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129319.D
Acq On : 29 Nov 2013 4:30 pm
Operator :
Sample : 006555-11
Misc : 8260 MAK011O 2.0G
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Dec 02 15:24:00 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK012O	ARDL Lab No.:	006555-12
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129320
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1315	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	115%
4-Bromofluorobenzene	50-150	118%

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129320.D
Acq On : 29 Nov 2013 5:00 pm
Operator :
Sample : 006555-12
Misc : 8260 MAK012O 2.0G
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 02 15:24:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	74766	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	73558	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	155157	115.05 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 115.05%	
9) 4-Bromofluorobenzene	9.26	95	63347	118.00 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 118.00%	

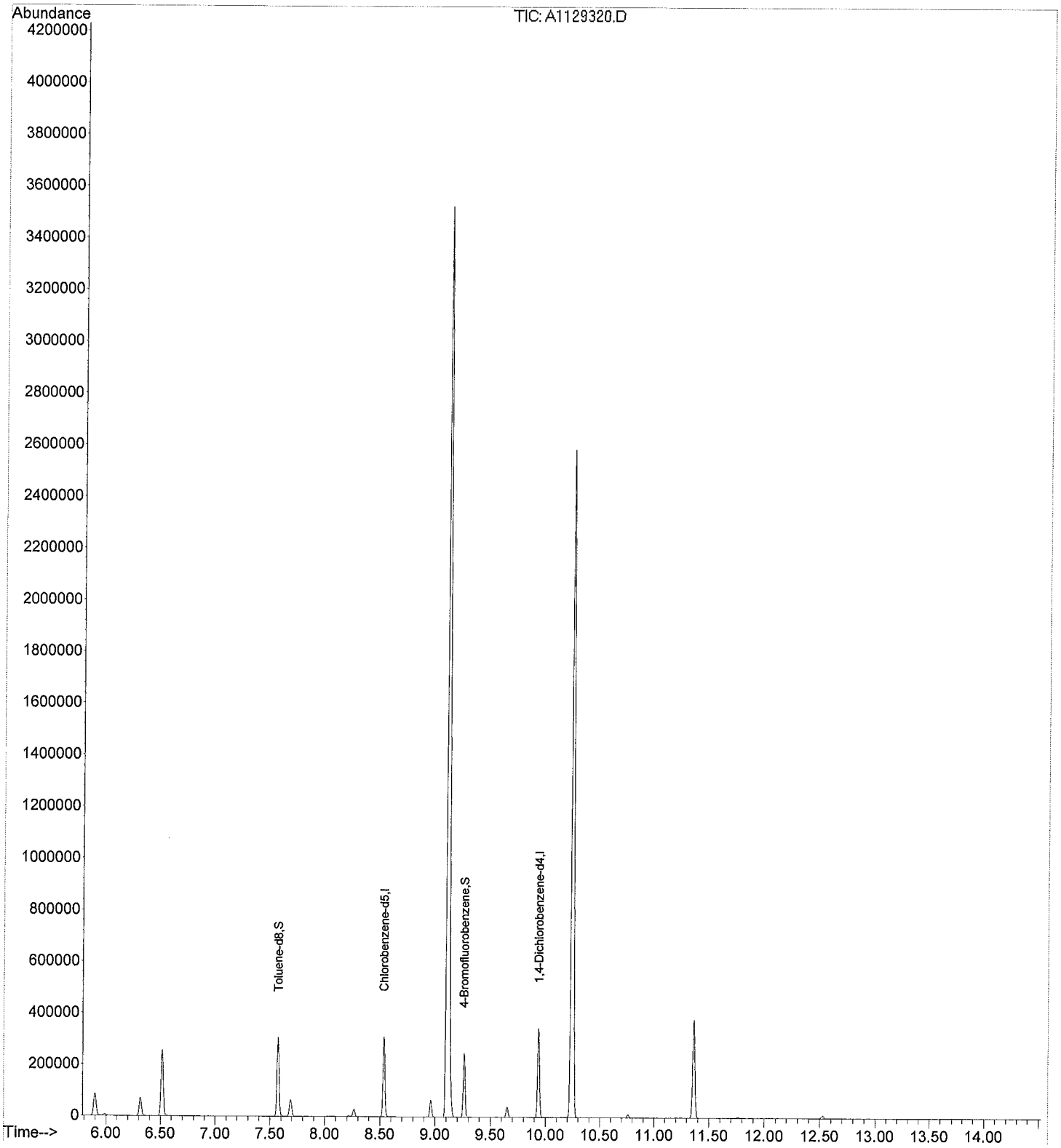
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129320.D
Acq On : 29 Nov 2013 5:00 pm
Operator :
Sample : 006555-12
Misc : 8260 MAK012O 2.0G
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Dec 02 15:24:17 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK014O	ARDL Lab No.:	006555-14
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129322
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0820	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	111%
4-Bromofluorobenzene	50-150	113%

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

Sample 006555-14, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129322.D
Acq On : 29 Nov 2013 5:57 pm
Operator :
Sample : 006555-14
Misc : 8260 MAK014O 2.0G
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Dec 02 15:24:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	77184	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	78116	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	154891	111.25 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 111.25%	
9) 4-Bromofluorobenzene	9.26	95	64412	112.98 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 112.98%	

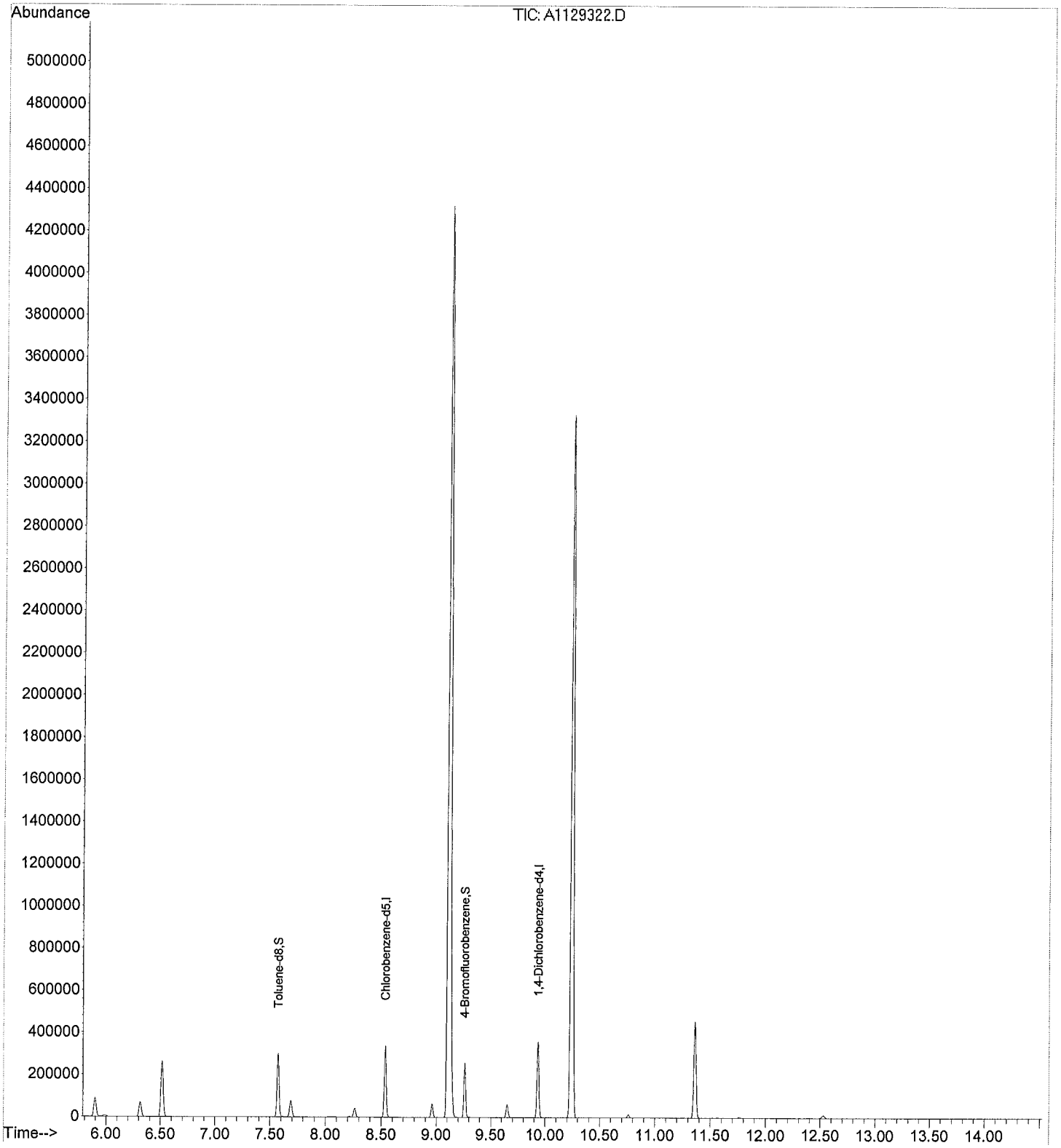
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129322.D
Acq On : 29 Nov 2013 5:57 pm
Operator :
Sample : 006555-14
Misc : 8260 MAK014O 2.0G
ALS Vial : 19 Sample Multiplier: 1

Quant Time: Dec 02 15:24:43 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK015O	ARDL Lab No.:	006555-15
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129323
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	0830	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	113%
4-Bromofluorobenzene	50-150	113%

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129323.D
Acq On : 29 Nov 2013 6:25 pm
Operator :
Sample : 006555-15
Misc : 8260 MAK015O 2.0G
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 02 15:25:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	71504	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	63086	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	145492	112.80 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 112.80%	
9) 4-Bromofluorobenzene	9.26	95	52025	112.99 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 112.99%	

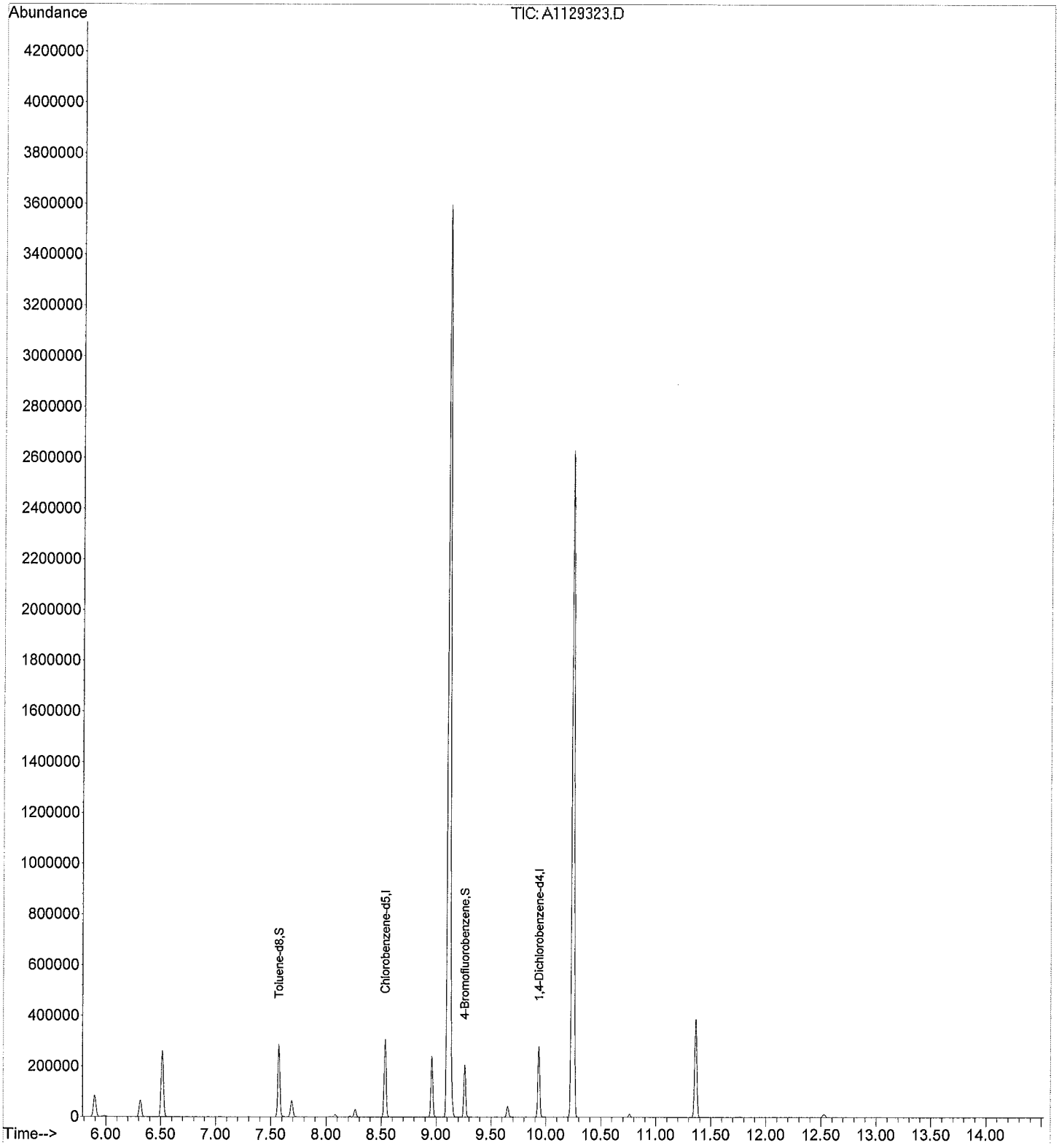
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129323.D
Acq On : 29 Nov 2013 6:25 pm
Operator :
Sample : 006555-15
Misc : 8260 MAK015O 2.0G
ALS Vial : 20 Sample Multiplier: 1

Quant Time: Dec 02 15:25:09 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK016O	ARDL Lab No.:	006555-16
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1129324
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1115	Prep. Date:	11/29/2013
Matrix:	TISSUE	Analysis Date:	11/29/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSY
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	118%
4-Bromofluorobenzene	50-150	124%

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

Sample 006555-16, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129324.D
Acq On : 29 Nov 2013 6:54 pm
Operator :
Sample : 006555-16
Misc : 8260 MAK016O 2.0G
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Dec 02 15:25:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.53	82	69221	125.00 ug/Kg	-0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	62793	125.00 ug/Kg	-0.01
System Monitoring Compounds					
2) Toluene-d8	7.57	98	146705	117.50 ug/Kg	-0.01
Spiked Amount 100.000			Recovery	= 117.50%	
9) 4-Bromofluorobenzene	9.26	95	56664	123.64 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 123.64%	

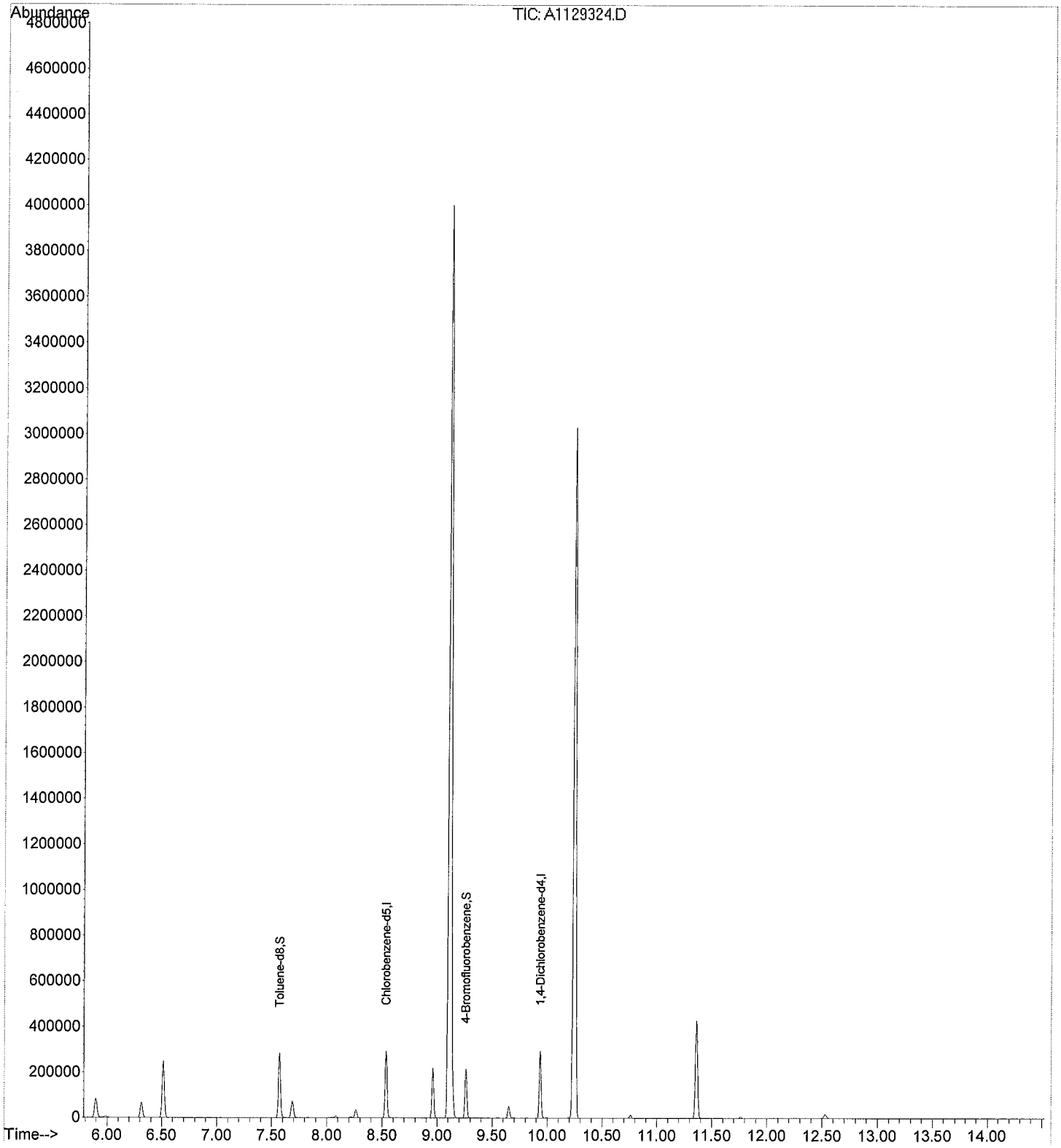
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\112913\
Data File : A1129324.D
Acq On : 29 Nov 2013 6:54 pm
Operator :
Sample : 006555-16
Misc : 8260 MAK016O 2.0G
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Dec 02 15:25:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:13:56 2013
Response via : Initial Calibration



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

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

Rev. 1.1

Calibration Information

Tune Data (If applicable)

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

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

Rev. 1.1

5A

VOLATILE ORGANIC GC/MS TUNING AND MASS CALIBRATION - BROMOFLUOROBENZENE (BFB)

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

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

Lab File ID: A1202302 BFB Injection Date: 12/02/13

Instrument ID: AG1 BFB Injection Time: 07:32

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
50	8.0 - 40.0% of mass 95	14.9	
75	30.0 - 66.0% of mass 95	46.7	
95	Base Peak, 100% relative abundance	100.	
96	5.0 - 9.0% of mass 95	6.2	
173	Less than 2.0% of mass 174	0.0	(1)
174	Greater than 50.0% of mass 95	88.7	
175	4.0 - 9.0% of mass 174	7.5	(1)
176	Greater than 93.0%, but less that 101.0% of mass 174	94.4	(1)
177	5.0 - 9.0% of mass 176	6.4	(2)

(1)-Value is % mass 174 2-Value is % mass 176

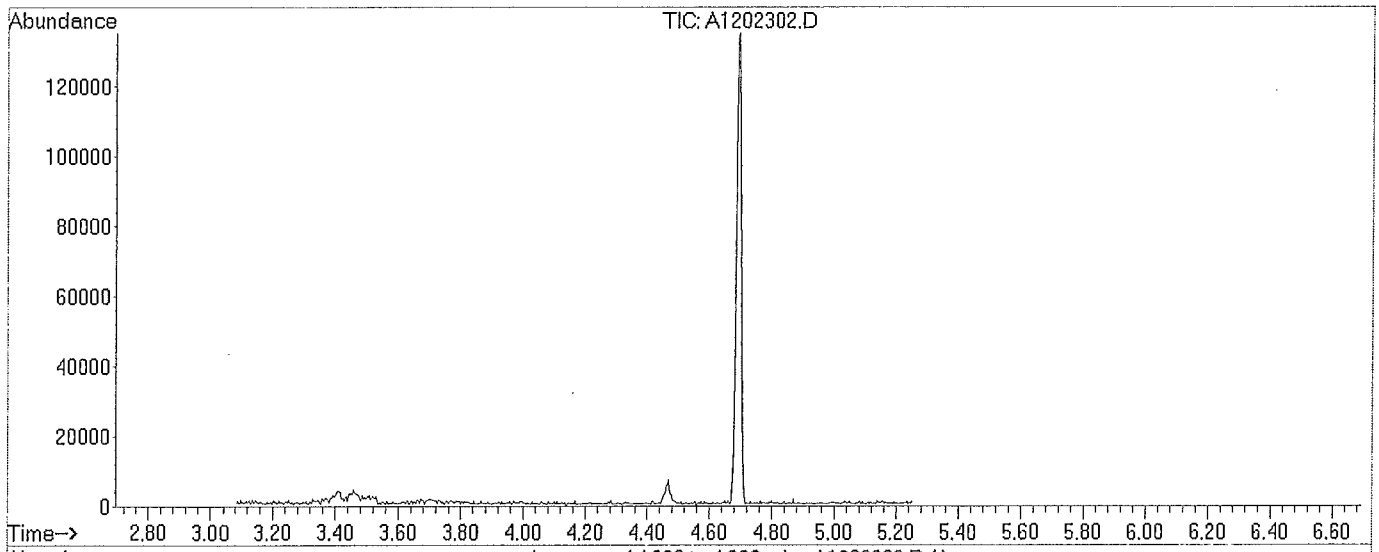
THIS TUNE APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS, AND STANDARDS:

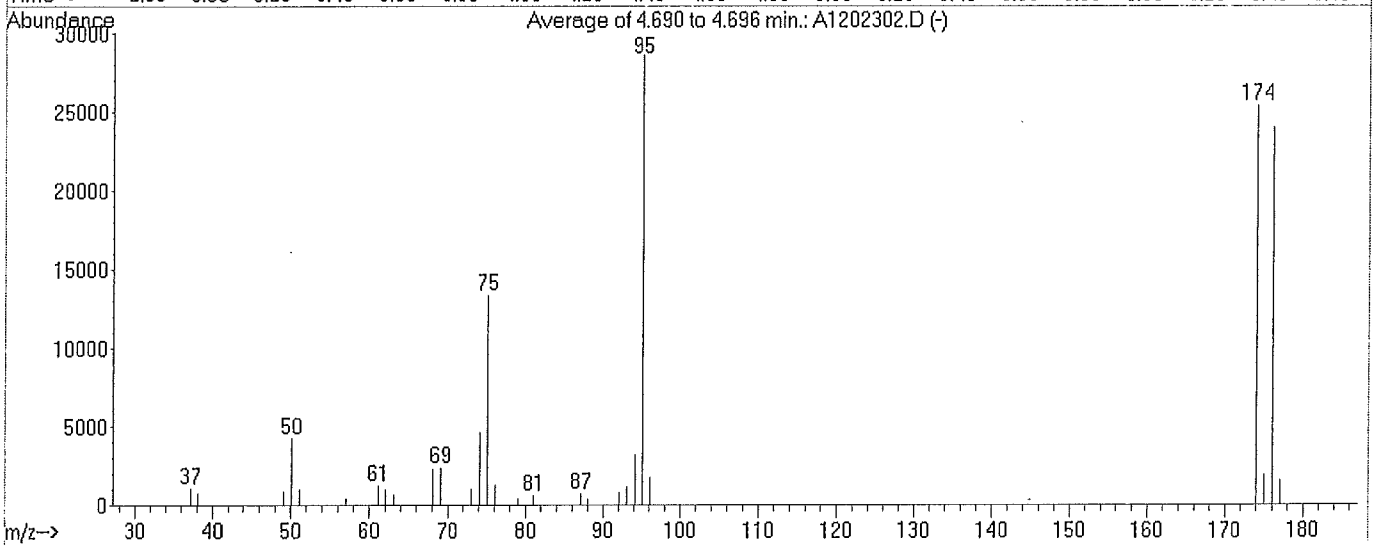
	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VOA STD	100 STD	A1202303	12/02/13	07:59
2	SPBK 12/02/13	006565-12K1	A1202304	12/02/13	08:34
3	BK 12/02/13	006565-12B1	A1202305	12/02/13	09:05
4	MAK0130	006555-13	A1202306	12/02/13	09:38
5	MAK0170	006555-17	A1202307	12/02/13	10:08
6	MAK0180	006555-18	A1202308	12/02/13	10:36
7	MAK0190	006555-19	A1202309	12/02/13	11:03
8	MAK0200	006555-20	A1202310	12/02/13	11:31
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202302.D
Acq On : 2 Dec 2013 7:32 am
Operator :
Sample : 50 NG BFB
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\MSDCHEM\1\METHODS\BFBSOIL.M
Title :
Last Update :





AutoFind: Scans 501, 502, 503; Background Corrected with Scan 492

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	8	40	14.9	4259	PASS
75	95	30	66	46.7	13379	PASS
95	95	100	100	100.0	28629	PASS
96	95	5	9	6.2	1780	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	120	88.7	25402	PASS
175	174	4	9	7.5	1894	PASS
176	174	93	101	94.4	23989	PASS
177	176	5	9	6.4	1541	PASS

Average of 4.690 to 4.696 min.: A1202302.D
50 NG BFB,
Modified:subtracted

m/z	abund.	m/z	abund.	m/z	abund.	m/z	abund.
37.15	1082	69.05	2392	94.10	3186		
38.15	770	73.10	1019	95.10	28629		
40.05	32	74.10	4616	96.10	1780		
49.10	880	75.10	13379	174.00	25402		
50.10	4259	76.10	1311	175.00	1894		
51.10	1008	79.00	357	176.00	23989		
57.05	427	81.00	607	177.00	1541		
61.10	1223	87.10	726				
62.05	999	88.00	379				
63.10	640	92.05	796				
68.10	2298	93.05	1145				

Continuing Calibration Report AG1

Method Path : C:\MSDCHEM\1\METHODS\
Method File : SOIL_27.M
Title : 8260 VOLATILES
Last Update : Mon Dec 02 08:13:56 2013
Response Via : Initial Calibration

CC Data File: A1202303.D

Min. RRF : 0.000 Min. Rel. Area : 50%
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%
1	I	Chlorobenzene-d5	1.000	1.000	0.0	83
2	S	Toluene-d8	2.255	2.371	-5.2	91
3	MCT	Toluene	2.939	2.625	10.7	76
4	CT	Ethylbenzene	3.469	3.346	3.5	82
5	T	m & p-Xylene	2.816	2.700	4.1	81
6	T	Styrene	2.100	2.025	3.6	78
7	T	o-Xylene	1.320	1.232	6.6	79
8	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	88
9	S	4-Bromofluorobenzene	0.912	0.982	-7.6	97
10	T	1,2,4-Trimethylbenzene	3.184	2.993	6.0	84

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202303.D
Acq On : 2 Dec 2013 7:59 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 02 08:13:49 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 09:12:41 2013
Response via : Initial Calibration

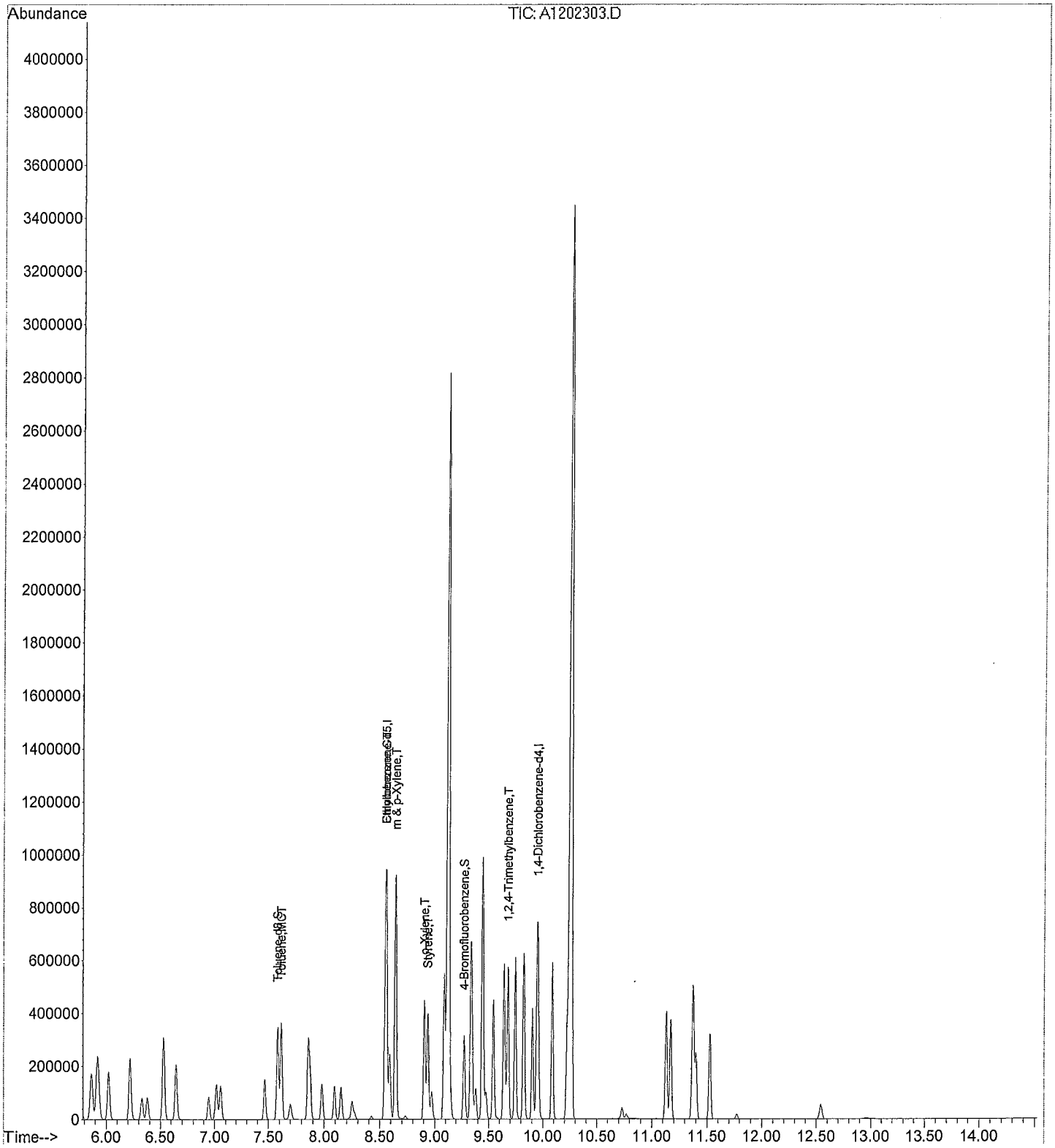
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.55	82	94287	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.95	152	101707	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.59	98	178847	105.16	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	105.16%	
9) 4-Bromofluorobenzene	9.27	95	79902	107.64	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	107.64%	
Target Compounds						Qvalue
3) Toluene	7.62	91	197971	89.30	ug/Kg	100
4) Ethylbenzene	8.56	91	252394	96.45	ug/Kg	98
5) m & p-Xylene	8.65	91	407388	191.79	ug/Kg	96
6) Styrene	8.94	104	152709	96.42	ug/Kg	89
7) o-Xylene	8.91	106	92932	93.36	ug/Kg	85
10) 1,2,4-Trimethylbenzene	9.68	105	243530	94.00	ug/Kg	94

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202303.D
Acq On : 2 Dec 2013 7:59 am
Operator :
Sample : VSTD100
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Dec 02 08:13:49 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Fri Nov 29 09:12:41 2013
Response via : Initial Calibration



Instrument Logs/
Analysis Notebook Pages

Rev. 1.1

PROJECT 12/02/13 AG1 8260

Notebook No. 3317

Continued from Page

Run Method = SOIL.M
Tune = BFBSOIL.U EM = 1718
Telkmar = NB 3167 pg. 34
Quant Method = SOIL_27

5ul-ISTD = X0910
4ul-Sur = X0911

A1202301.d	0.	FLUSH	8260
A1202302.d	0.	50 NG BFB(2ul-X0907)Pass 7:32am	8260
A1202303.d	0.	VSTD100 (4ul-X0908) Pass	8260
A1202304.d	0.	LCS (5ul-X0906) Pass	8260
A1202305.d	0.	VSTD000 Pass	8260
A1202306.d	0.	006555-13	8260 MAK013O 2.0G
A1202307.d	0.	006555-17	8260 MAK017O 2.0G
A1202308.d	0.	006555-18	8260 MAK018O 2.0G
A1202309.d	0.	006555-19	8260 MAK019O 2.0G
A1202310.d	0.	006555-20	8260 MAK020O 2.0G
A1202311.d	0.	006562-01 I2↓-RE @1g	8260 MAK001L/2L/2...
A1202312.d	0.	006562-02 Pass	8260 MAK007L 2.0G
A1202313.d	0.	006562-03 I2↓-RE@1g	8260 MAK009L 2.0G
A1202314.d	0.	006562-04 I2↓-RE@1g	8260 MAK010L(COMP...
A1202315.d	0.	006562-05 Pass	8260 MAK011L 2.0G
A1202316.d	0.	006562-06 I2↓-RE@1g	8260 MAK013L 2.0G
A1202317.d	0.	006562-07 Pass	8260 MAK016L/21L/...
A1202318.d	0.	006562-08 I2↓-RE@1g	8260 MAK022L 2.0G
A1202319.d	0.	006562-09 I2↓-RE@1g	8260 MAK023L 2.0G
A1202320.d	0.	006562-10 Pass	8260 MAK024L/25L ...
A1202321.d	0.	006562-11 Pass	8260 MAK025L 2.0G
A1202322.d	0.	006562-12 Pass	8260 MAK047L 2.0G
A1202323.d	0.	006562-12MS (5ul-X0906)	8260 MAK047LMS 2.0G
A1202324.d	0.	006562-12MD ↓	8260 MAK047LMSD 2.0G
A1202325.d	0.	006563-01 I2↓-RE 1g	8260 MAK029L 2.0G
A1202326.d	0.	006563-02 Pass	8260 MAK030L 2.0G
A1202327.d	0.	006563-03 Pass - out of Tune - RE	8260 MAK033L 2.0G

LS 12/03/13

LS 12/03/13

Continued on Page

Read and Understood By

Signed	Date	Signed	Date
LS	12/03/13	[illegible]	12/4/13

Blank / Field Sample / QC Data

Sample Results

Chromatogram

Quant Report (If applicable)

Confirmation Analysis Quant Report / Chromatogram (If applicable)

Tentatively Identified Compounds (If required)

Rev. 1.1

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

Lab Report No: 006562 Report Date: 12/04/2013

Project Name: MAKU MILITARY RESERV Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006562-12K1
Desc/Location:	NA	Lab Filename:	A1202304
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	12/02/2013
Matrix:	QC Material	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	97.8		UG/KG
Ethyl Benzene	2.5	12.5	103		UG/KG
m & p-Xylene	5	25	205		UG/KG
Styrene	2.5	12.5	95.8		UG/KG
o-Xylene	2.5	12.5	99.1		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	96.4		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	112%
4-Bromofluorobenzene	50-150	108%

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

Spike Blank for Run 1203JFSZ, VOLATILES, GC/MS (8260)

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202304.D
Acq On : 2 Dec 2013 8:34 am
Operator :
Sample : ~~LCS~~ 006562-12K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JAB 12/03/13

Quant Time: Dec 03 08:49:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

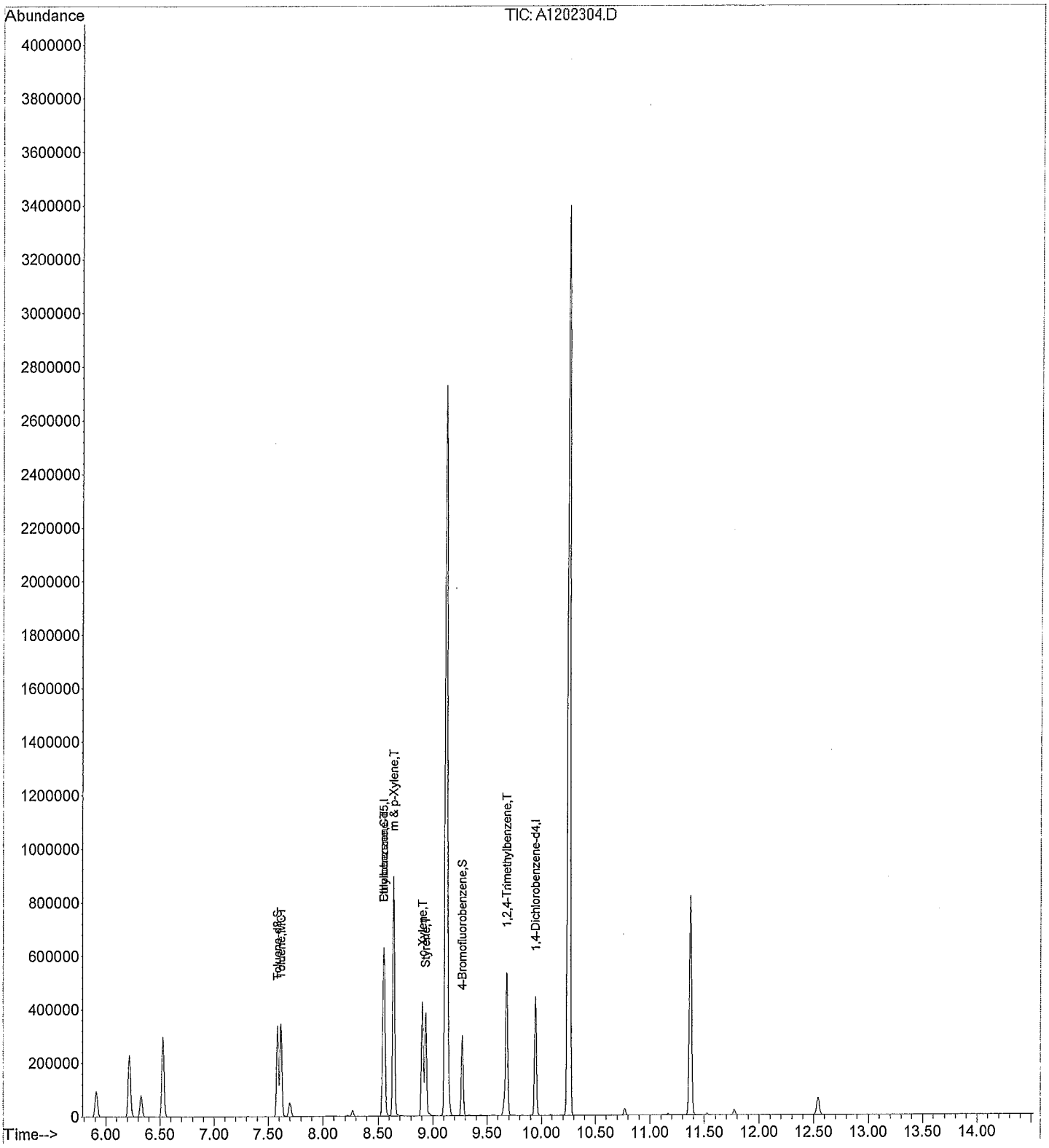
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	85323	125.00	ug/Kg	0.01
8) 1,4-Dichlorobenzene-d4	9.95	152	94835	125.00	ug/Kg	0.01
System Monitoring Compounds						
2) Toluene-d8	7.59	98	172258	111.93	ug/Kg	0.01
Spiked Amount 100.000			Recovery	=	111.93%	
9) 4-Bromofluorobenzene	9.27	95	74967	108.31	ug/Kg	0.01
Spiked Amount 100.000			Recovery	=	108.31%	
Target Compounds						Qvalue
3) Toluene	7.62	91	196159	97.78	ug/Kg	100
4) Ethylbenzene	8.56	91	244438	103.23	ug/Kg	98
5) m & p-Xylene	8.64	91	393923	204.94	ug/Kg	94
6) Styrene	8.94	104	137327	95.81	ug/Kg#	83
7) o-Xylene	8.91	106	89234	99.07	ug/Kg	85
10) 1,2,4-Trimethylbenzene	9.68	105	232940	96.42	ug/Kg	95

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

Quantitation Report (Not Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202304.D
Acq On : 2 Dec 2013 8:34 am
Operator :
Sample : ~~LCS~~ 006562-12K1
Misc : 8260
ALS Vial : 1 Sample Multiplier: 1 JAS 12/03/13

Quant Time: Dec 03 08:49:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



METHOD BLANK REPORT

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

Lab Report No: 006562 Report Date: 12/04/2013

Project Name: MAKU MILITARY RESERV Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	NA	ARDL Lab No.:	006562-12B1
Desc/Location:	NA	Lab Filename:	A1202305
Sample Date:	NA	Received Date:	NA
Sample Time:	NA	Prep. Date:	12/02/2013
Matrix:	QC Material	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	NA	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units
Toluene	2.5	12.5	ND		UG/KG
Ethyl Benzene	2.5	12.5	ND		UG/KG
m & p-Xylene	5.0	25.0	ND		UG/KG
Styrene	2.5	12.5	ND		UG/KG
o-Xylene	2.5	12.5	ND		UG/KG
1,2,4-Trimethylbenzene	2.5	12.5	ND		UG/KG

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	104%
4-Bromofluorobenzene	50-150	102%

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

Blank for Run 1203JFSZ, VOLATILES, GC/MS (8260)

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202305.D
Acq On : 2 Dec 2013 9:05 am
Operator :
Sample : ~~VSTD000~~ 006562-12B1
Misc : 8260
ALS Vial : 2 Sample Multiplier: 1 12/03/13

Quant Time: Dec 03 14:55:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.55	82	95674	125.00	ug/Kg	0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	108735	125.00	ug/Kg	0.01
System Monitoring Compounds						
2) Toluene-d8	7.58	98	179284	103.89	ug/Kg	0.01
Spiked Amount 100.000			Recovery	=	103.89%	
9) 4-Bromofluorobenzene	9.27	95	80727	101.72	ug/Kg	0.01
Spiked Amount 100.000			Recovery	=	101.72%	

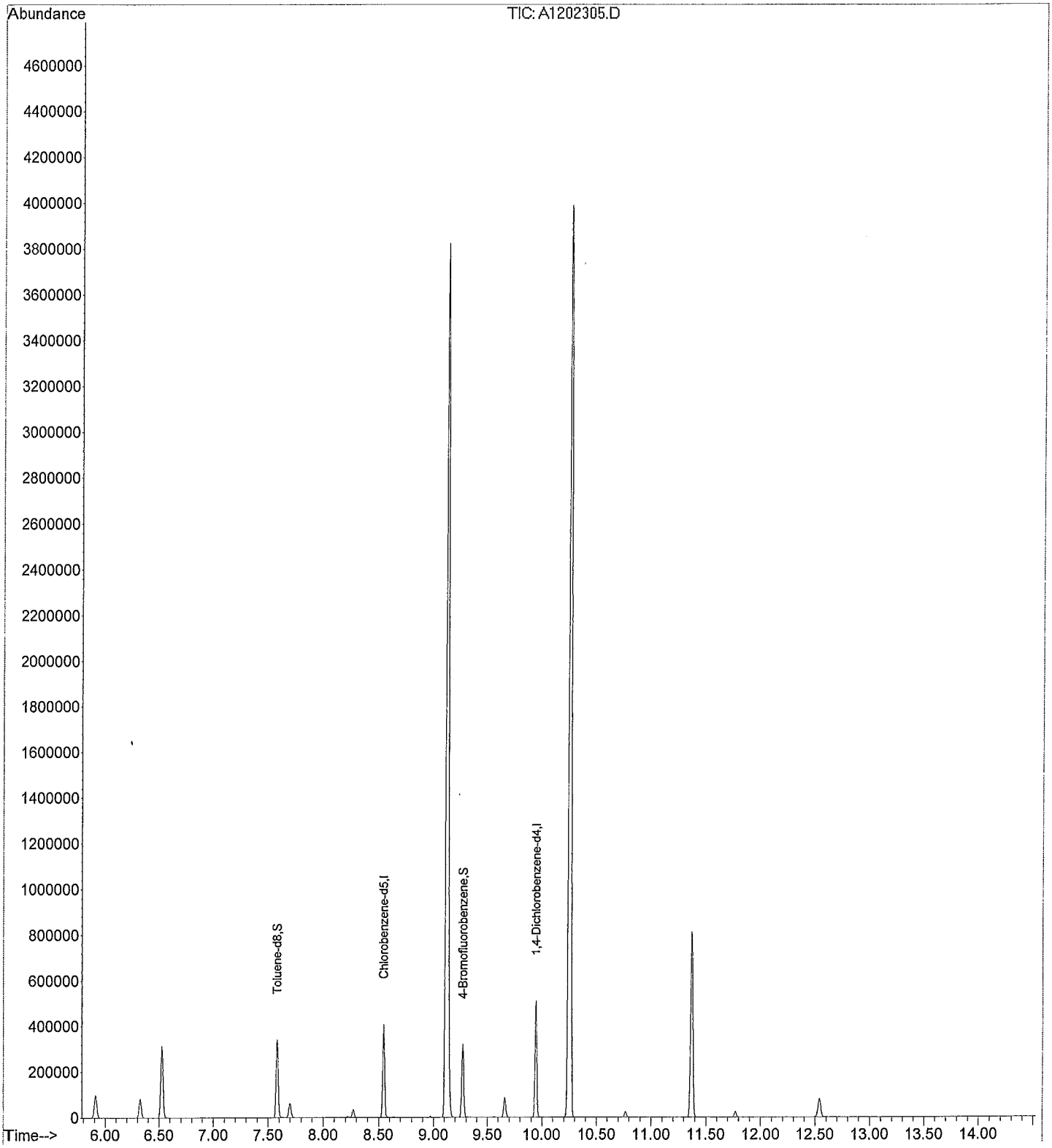
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202305.D
Acq On : 2 Dec 2013 9:05 am
Operator :
Sample : ~~VSTD000~~ 006562-12B1
Misc : 8260
ALS Vial : 2 Sample Multiplier: 1 JJB 12/03/13

Quant Time: Dec 03 14:55:57 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK013O	ARDL Lab No.:	006555-13
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202306
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1400	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	105%
4-Bromofluorobenzene	50-150	96%

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

Sample 006555-13, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202306.D
Acq On : 2 Dec 2013 9:38 am
Operator :
Sample : 006555-13
Misc : 8260 MAK013O 2.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 03 14:56:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.55	82	83658	125.00 ug/Kg	0.01
8) 1,4-Dichlorobenzene-d4	9.94	152	90821	125.00 ug/Kg	0.01
System Monitoring Compounds					
2) Toluene-d8	7.58	98	159057	105.41 ug/Kg	0.01
Spiked Amount 100.000			Recovery	= 105.41%	
9) 4-Bromofluorobenzene	9.27	95	63516	95.82 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 95.82%	

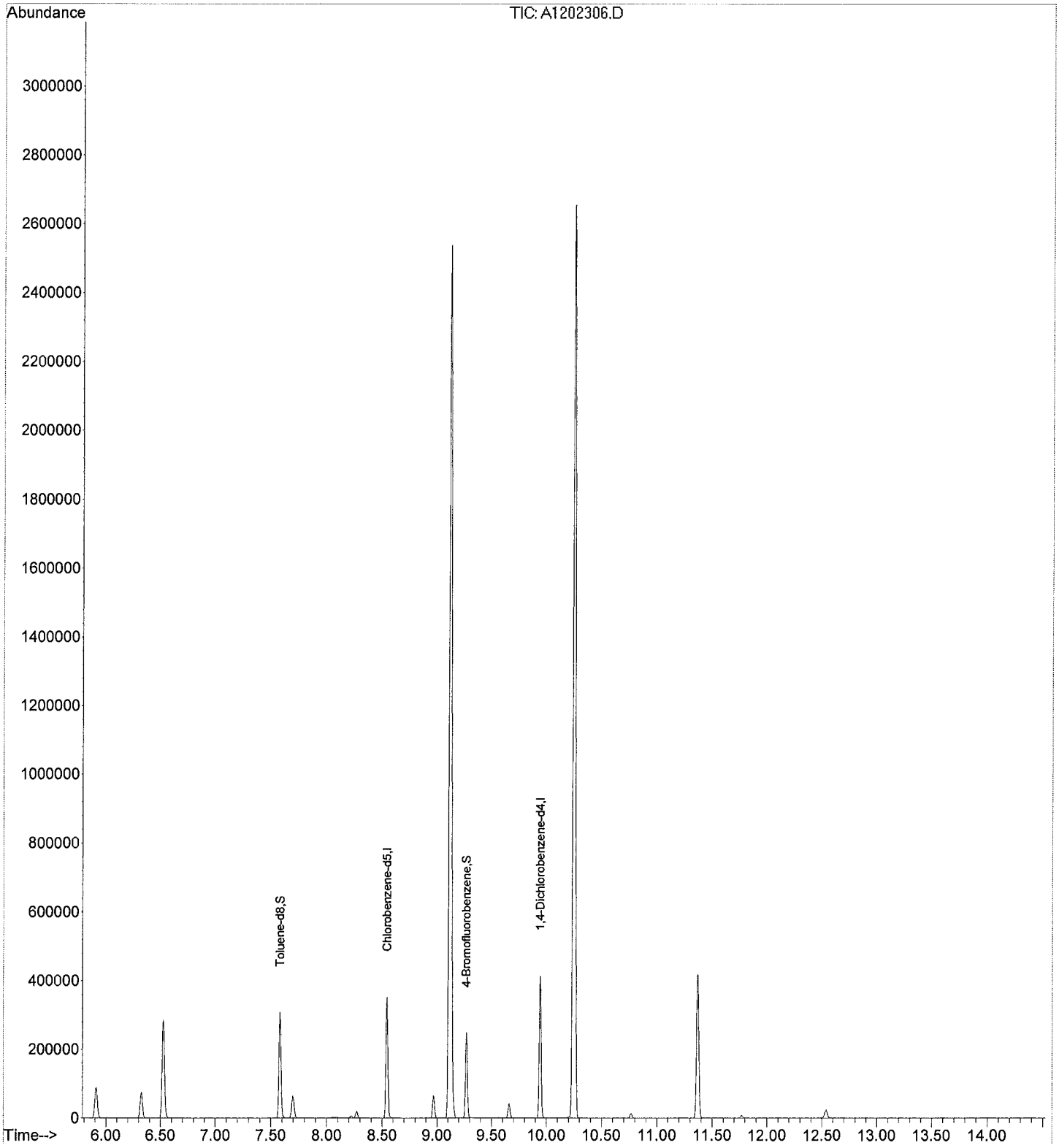
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202306.D
Acq On : 2 Dec 2013 9:38 am
Operator :
Sample : 006555-13
Misc : 8260 MAK013O 2.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 03 14:56:31 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



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

Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK017O	ARDL Lab No.:	006555-17
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202307
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1140	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	113%
4-Bromofluorobenzene	50-150	105%

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202307.D
Acq On : 2 Dec 2013 10:08 am
Operator :
Sample : 006555-17
Misc : 8260 MAK017O 2.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 03 14:56:49 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	85353	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	92741	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.58	98	173544	112.72 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 112.72%	
9) 4-Bromofluorobenzene	9.27	95	70999	104.89 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 104.89%	

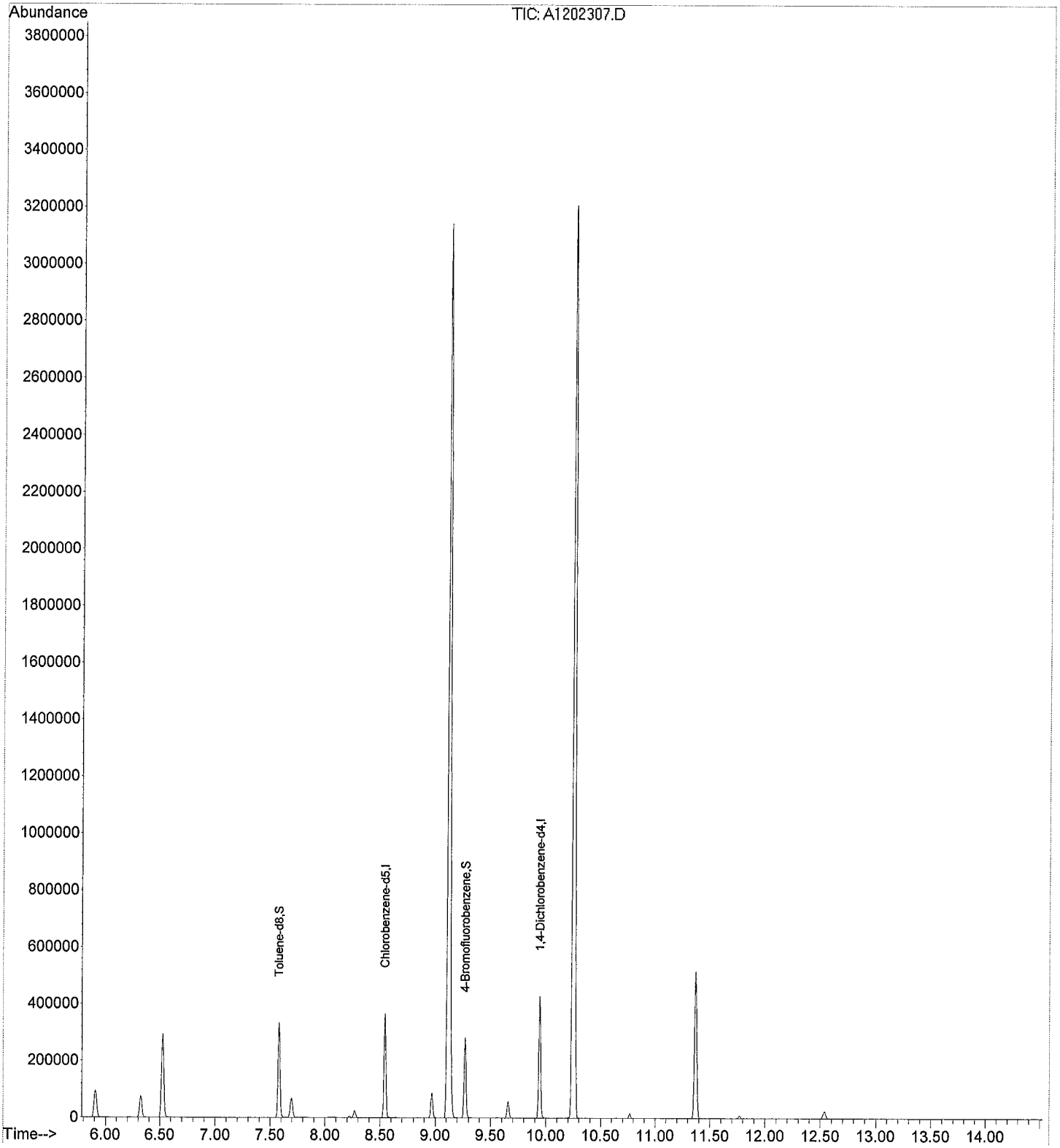
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202307.D
Acq On : 2 Dec 2013 10:08 am
Operator :
Sample : 006555-17
Misc : 8260 MAK017O 2.0G
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Dec 03 14:56:49 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK018O	ARDL Lab No.:	006555-18
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202308
Sample Date:	09/22/2013	Received Date:	10/23/2013
Sample Time:	1206	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	118%
4-Bromofluorobenzene	50-150	110%

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

Sample 006555-18, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202308.D
Acq On : 2 Dec 2013 10:36 am
Operator :
Sample : 006555-18
Misc : 8260 MAK018O 2.0G
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 03 14:57:14 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	80592	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	82276	125.00 ug/Kg	0.01
System Monitoring Compounds					
2) Toluene-d8	7.58	98	170933	117.59 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 117.59%	
9) 4-Bromofluorobenzene	9.27	95	66191	110.23 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 110.23%	

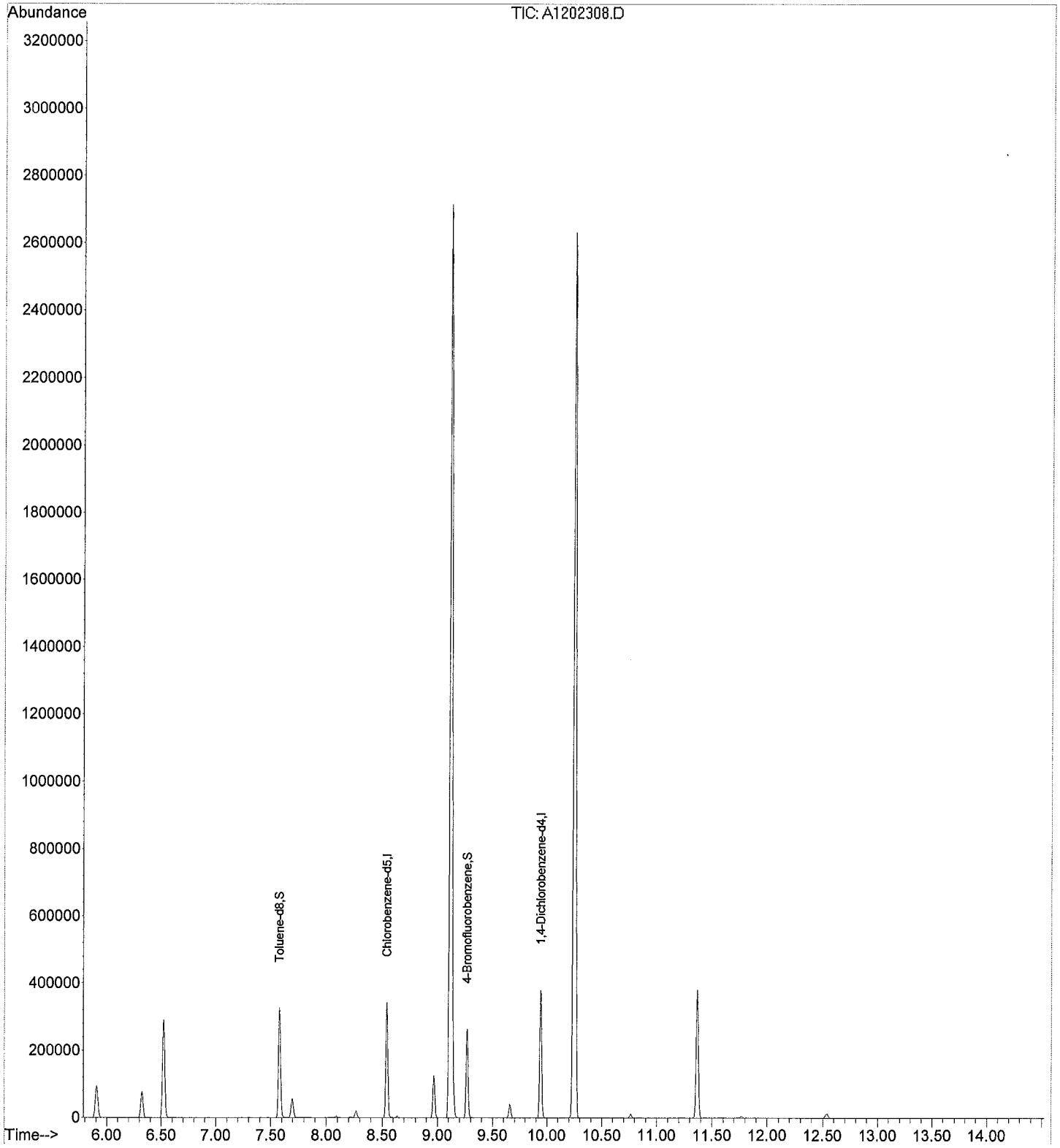
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202308.D
Acq On : 2 Dec 2013 10:36 am
Operator :
Sample : 006555-18
Misc : 8260 MAK018O 2.0G
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Dec 03 14:57:14 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK019O	ARDL Lab No.:	006555-19
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202309
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0833	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	110%
4-Bromofluorobenzene	50-150	108%

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

Sample 006555-19, VOLATILES, GC/MS (8260) Page 1 of 1

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202309.D
Acq On : 2 Dec 2013 11:03 am
Operator :
Sample : 006555-19
Misc : 8260 MAK019O 2.0G
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 03 14:57:38 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	79922	125.00	ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	77840	125.00	ug/Kg	0.00
System Monitoring Compounds						
2) Toluene-d8	7.58	98	159018	110.31	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	110.31%	
9) 4-Bromofluorobenzene	9.27	95	61392	108.06	ug/Kg	0.00
Spiked Amount 100.000			Recovery	=	108.06%	

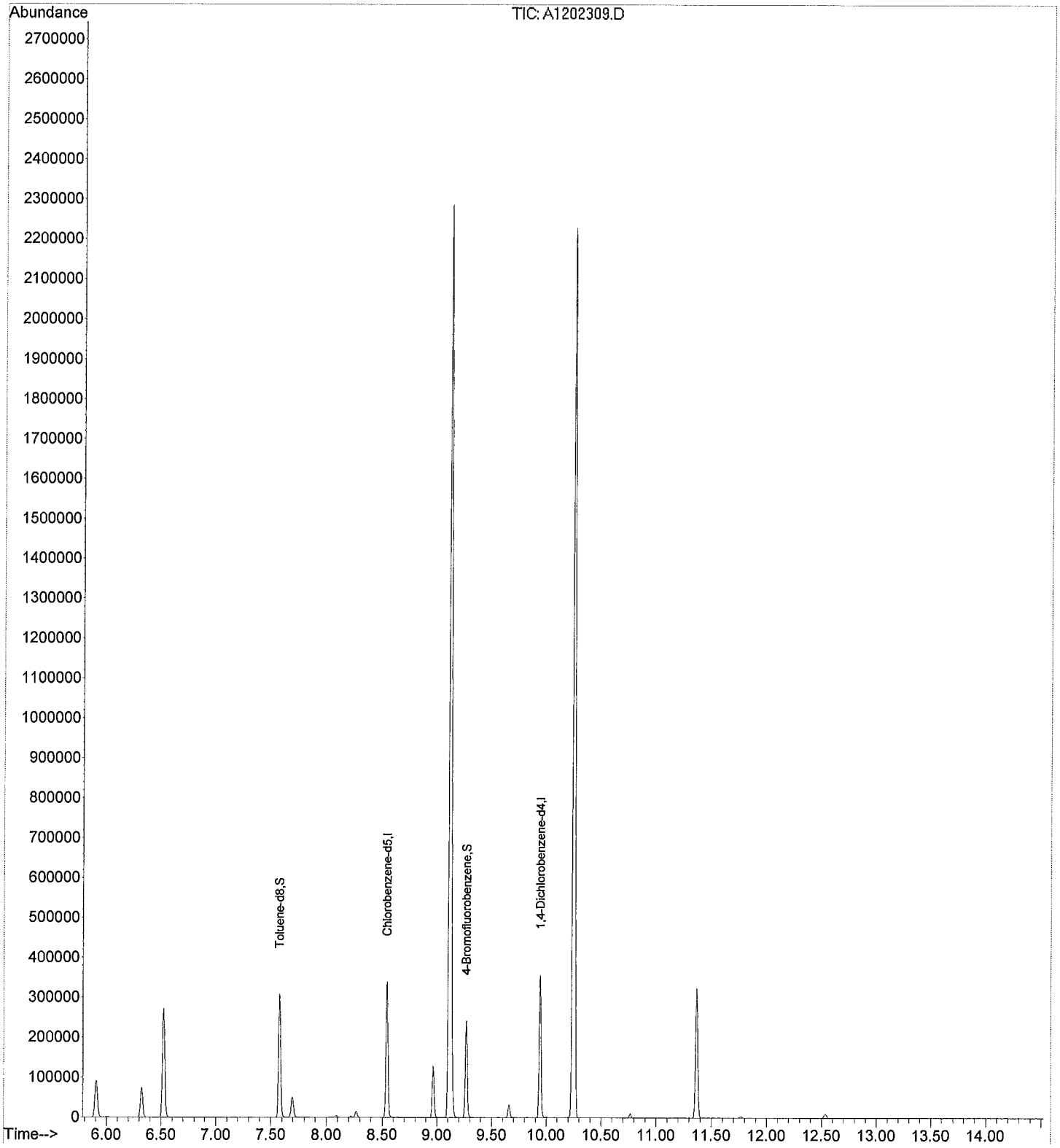
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202309.D
Acq On : 2 Dec 2013 11:03 am
Operator :
Sample : 006555-19
Misc : 8260 MAK019O 2.0G
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Dec 03 14:57:38 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



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Lab Report No: 006555 Report Date: 12/03/2013

Project Name: MAKAU MILITARY RES O Analysis: VOLATILES, GC/MS (8260)
Project No.: Analytical Method: 8260B
NELAC Certified - IL100308 Prep Method: 5030A

Field ID:	MAK020O	ARDL Lab No.:	006555-20
Desc/Location:	MAKAU MILITARY RESERV OAHU	Lab Filename:	A1202310
Sample Date:	09/23/2013	Received Date:	10/23/2013
Sample Time:	0855	Prep. Date:	12/02/2013
Matrix:	TISSUE	Analysis Date:	12/02/2013
Amount Used:	2 g	Instrument ID:	AG1
Final Volume:	5 mL	QC Batch:	1203JFSZ
% Moisture:	No Moisture Present	Level:	LOW

Parameter	Method Limit	Reporting Limit	Result	Data Flag	Units	Dilution Factor
Toluene	2.50	12.5	ND		UG/KG	1
Ethyl Benzene	2.50	12.5	ND		UG/KG	1
m & p-Xylene	5.0	25.0	ND		UG/KG	1
Styrene	2.50	12.5	ND		UG/KG	1
o-Xylene	2.50	12.5	ND		UG/KG	1
1,2,4-Trimethylbenzene	2.50	12.5	ND		UG/KG	1

SURROGATE RECOVERIES:	Limits	Results
Toluene-d8	50-150	114%
4-Bromofluorobenzene	50-150	114%

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202310.D
Acq On : 2 Dec 2013 11:31 am
Operator :
Sample : 006555-20
Misc : 8260 MAK020O 2.0G
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 03 14:58:01 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) Chlorobenzene-d5	8.54	82	75528	125.00 ug/Kg	0.00
8) 1,4-Dichlorobenzene-d4	9.94	152	74303	125.00 ug/Kg	0.00
System Monitoring Compounds					
2) Toluene-d8	7.58	98	154688	113.55 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 113.55%	
9) 4-Bromofluorobenzene	9.27	95	62057	114.43 ug/Kg	0.00
Spiked Amount 100.000			Recovery	= 114.43%	

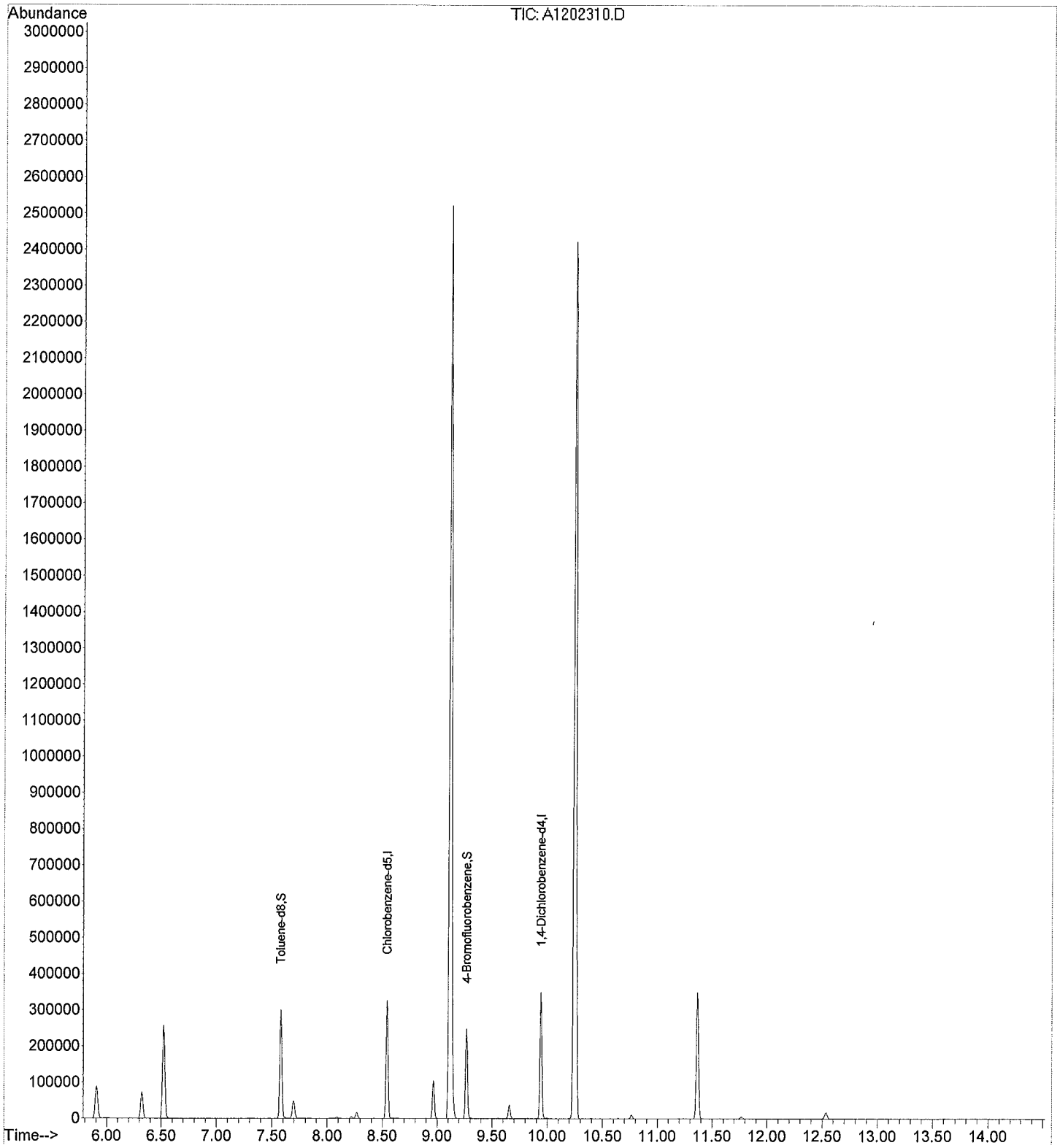
Target Compounds	Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\MSDCHEM\1\DATA\120213\
Data File : A1202310.D
Acq On : 2 Dec 2013 11:31 am
Operator :
Sample : 006555-20
Misc : 8260 MAK020O 2.0G
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Dec 03 14:58:01 2013
Quant Method : C:\MSDCHEM\1\METHODS\SOIL_27.M
Quant Title : 8260 VOLATILES
QLast Update : Mon Dec 02 08:34:23 2013
Response via : Initial Calibration



Example Calculation

EXAMPLE CALCULATIONS

Response Factor Calculations

The data system tabulates the area response of the characteristic ions against the concentration for each compound and each internal standard. Response factors (RF) are calculated for each compound relative to the internal standard assignments. The RF is calculated as follows:

$$RF = (A_X C_{is})/A_{is} C_X)$$

where:

A_X = Area of the characteristic ion for the compound being measured.
A_{is} = Area of the characteristic ion for the specific internal standard.
C_{is} = Concentration of the specific internal standard.
C_X = Concentration of the compound being measured.

The RF is calculated for each standard concentration level in the initial calibration curve. The average RF is then calculated off these points.

Sample Calculations

Sample calculations are made by the instrument software and are performed as follows:

Water

$$\text{Concentration (ug/L)} = \frac{(Ax)\,(Is)}{(Ais)\,(RF)(V_o)}$$

where:

A_X = Area of characteristic ion for 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 compound being measured.
V_o = Volume of water purged (mL).

Soil: (low level)

$$\text{concentration (ug/Kg)} = \frac{(A_X)(Is)}{(A_{is})(RF)(W_g)}$$

where:

A_X = Area of characteristic ion for 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 compound being measured.
W_g = Weight of sample purged (g).

EXAMPLE CALCULATIONS

Sample Calculations

Sediment/Soil, Sludge, and Waste: (medium level)

$$\text{Concentration (ug/kg)} = \frac{(A_x)(Is)(V_t)}{(A_{is})(RF)(V_i)(W_g)}$$

where:

A_x, Is, A_{is}, RF = same as for soil above.
V_t = Volume of total extract (uL) (use 10,000 uL or a factor of this when dilutions are made).
V_i = Volume of extract added (uL) for purging.
W_g = Weight of sample extracted (g).

Instrument software is not set up to account for the medium level extraction procedure. Concentrations appearing on the quantitation report must be multiplied by a factor of 125 to correct for sample weight and extract volumes.

Sample Calculations A1129313

Sample No.: 6555-06MS MAK006 O Compound: 1,2,4-Trimethylbenzene

Matrix: Octopus

$$\text{Concentration (ug/Kg)} = \frac{(180006)(250\ ng)(___)}{(77012)(3,184)(2\ g)(___)} = 91.8\ ng/g$$

Example Calculations Performed By: [signature] Date: 12/5/13

Miscellaneous Additional Data

(If applicable)

☑ **None** DSD 12/10/13

Rev. 1.1