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DEPARTMENT OF THE AIR FORCE
27TH SPECIAL OPERATIONS MISSION SUPPORT GROUP (AFSOC)
CANNON AIR FORCE BASE NEW MEXICO

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Colonel Douglas W. Gilpin
Commander, 27 SOMSG
110 E Alison Avenue Suite 1098
Cannon AFB NM 88103

Mr. John E. Kieling
Chief, Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East Bldg 1
Santa Fe NM 87505-6063

Dear Mr. Kieling

Cannon AFB is pleased to submit the "*SWMU 34 Status Report*". If you have any questions regarding this submittal, please contact Mr. Ronald Lancaster, Chief, Installation Management at (575) 784-1146.

Sincerely

DOUGLAS W. GILPIN, Colonel, USAF

Attachments:
SWMU 34 Status Report Aug 16

cc:
NMED, Dave Cobrain
NMED, Gabriel Acevedo
NMED, Neelam Dhawan

AIR COMMANDOS

SWMU 34 STATUS REPORT

CANNON AIR FORCE BASE
NEW MEXICO
RCRA PERMIT No. NM7572124454

Performance Based Remediation
Contract Number: FA8903-13-C-0008

Prepared for

AIR FORCE CIVIL ENGINEER CENTER
2261 Hughes Ave., Suite 155
JBSA – Lackland, Texas 78236-9853

September 2016

Prepared by:

FPM Remediations, Inc.

584 Phoenix Drive
Rome, NY 13441

URS **Group, Inc.**
7720 N 16th Street, Suite 100
Phoenix, AZ 85020-4493

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Acronyms and Abbreviations

AFB	Air Force Base
AGE	Aerospace Ground Equipment
bgs	below ground surface
BRA	Baseline Risk Assessment
CAC	Corrective Action Complete
DRO	diesel range organics
GRO	gasoline range organics
IRP	Installation Restoration Program
mg/kg	milligrams per kilogram
NMED	New Mexico Environment Department
No.	Number
ORO	oil range organics
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RI	Remedial Investigation
SWMU	Solid Waste Management Unit
SSL	soil screening level
SVOC	semivolatile organic compounds
TAL	target analyte list
TPH	total petroleum hydrocarbons
VOC	volatile organic compounds

This document presents the status report for Solid Waste Management Unit (SWMU) 34 at Cannon Air Force Base (AFB). SWMU 34 is addressed under the Environmental Restoration Program at Cannon AFB, New Mexico. SWMU 34 is currently listed on Table 1 of Cannon AFB's Resource Conservation Recovery Act (RCRA) permit which is administered by the New Mexico Environment Department (NMED). Table 1 contains sites that require corrective action to achieve Corrective Action Complete (CAC) without Controls.

1.1 AUTHORITY

URS Group Inc., as a subcontractor to FPM Remediations, Inc., has been contracted by the Air Force Civil Engineer Center under Contract Number FA8903-13-C-0008, Delivery Order 0001, to achieve CAC without Controls at SWMU 34 at Cannon AFB. This status report documents the soil sampling completed to determine if corrective action is required at SWMU 34 to achieve CAC without Controls.

1.2 PURPOSE AND SCOPE

Previous investigations at SWMU 34 indicated the presence of lead contamination in subsurface soils above NMED residential soil screening levels (SSLs). Lead was reported above residential SSLs in soil boring 2 from 0 to 1 feet below ground surface (bgs) and soil boring C34-SS01 from 0.5 to 1 feet bgs. The purpose of this investigation was to confirm the presence of lead in the near surface soils at SWMU 34 and delineate the extent of lead contamination present.

The scope of work for this investigation was submitted to NMED on February 22, 2016 for review and approval. The preliminary sampling plan included resampling the soils at historic soil boring 2 and C34-SS01 for lead. Additionally, samples would be completed from 0 to 5 feet bgs in the area surrounding C34-SS01 to delineate the extent of lead contamination in the near surface soils. NMED approved the sampling plan on March 11, 2016. A copy of the preliminary sampling plan and the approval letter are included in **Appendix A**. This status report presents the results of the sampling and recommends a path forward for SWMU 34.

1.3 REPORT ORGANIZATION

This report is organized as follows:

- **Section 1** describes the authority, purpose and scope, and report organization.
- **Section 2** summarizes the site background and conditions, previous investigations, and remedial activities.
- **Section 3** summarizes the May 2016 field sampling and analytical results.
- **Section 4** provides recommendations for each site addressed in this status report.
- **Section 5** lists the references used to develop this report.
- **Appendix A** contains the preliminary sampling plan and the NMED approval letter.

- **Appendix B** contains the sample collection field sheets and boring logs.
- **Appendix C** contains the laboratory data reports.
- **Appendix D** contains historical site figures for comparison to the current site conditions.

This section provides a site description, as well as a summary of the historical use and investigations completed at SWMU 34.

2.1 SITE DESCRIPTION

SWMU 34, also referred to as the Aerospace Ground Equipment (AGE) Drainage Ditch and Air Force site SD015, originates on the flightline side of the AGE Building Number (No.) 186, runs parallel to Building No. 191 and No. 193 in a northeast direction, and terminates at a culvert inlet near Argentia Avenue (**Figures 2-1 and 2-2**). Stormwater runoff from the AGE Drainage Ditch flows under Argentia Avenue via this culvert to a second drainage ditch that then routes the water to the northeast Storm Water Drainage Area (SWMU 95).

SWMU 34 is the former location of railroad tracks that were removed in the 1960s. The drainage ditch was formed when the soils settled following the removal of the railroad tracks. The drainage ditch is approximately 1,200 feet long, 12 feet wide and 1 foot deep. Vegetation (grass) is currently present in the drainage ditch.

An excavation at adjoining property to the northwest, SWMU 31, resulted in modifications to the west end of SWMU 34 due to regrading of the surface in this area. This area was also impacted by the grading of the surface completed during the repaving of the area. While the excavation did not have a significant impact to the majority of the area, the regrading of the surface areas following the excavation did have an impact on the portions of SWMU 34 that were identified with historical TPH and lead concentrations. The extent of the excavation and the boundaries of SWMU 34 and SWMU 31 are depicted on **Figure 2-2**.

2.2 HISTORICAL INVESTIGATIONS AND REMEDIAL ACTIONS

2.2.1 Installation Restoration Program Records Search (CH2M Hill 1983)

An Installation Restoration Program (IRP) records search was completed for Cannon AFB in 1983. SWMU 34 was identified as a ditch that received runoff from the maintenance pad adjacent to the AGE shop. Fuel or oil spills and leaks that occurred on the pad could potentially be washed into the drainage ditch by rainfall. Black soil with a hydrocarbon odor was observed in the bottom of the ditch over a 50 to 75-foot long area.

2.2.2 Installation Restoration Program, Phase II Confirmation Quantification, Stage 1 (Radian 1986)

A Phase II investigation was completed to determine if environmental contamination had resulted from the runoff into the AGE drainage ditch. Two deep soil borings (Borings 15A and 15B) were completed at SWMU 34 to evaluate the local hydrogeologic setting as well as the extent of potential contamination. The soil borings extended to 50 feet below ground surface. Soil samples were collected and analyzed for oil and gas, lead, and purgeable organic compounds. Low concentrations of lead (a maximum of 69 milligrams per kilogram [mg/kg]) were identified in the near surface samples. The analytical results did not reveal elevated levels

of hazardous materials with the exception of lead. The analytical results from the 1986 IRP are included in **Table 2-1**.

2.2.3 Soil Removal Investigation Report (Radian 1987)

A soil removal investigation was completed to determine whether toxic soils existed at SWMU 34. A total of 22 soil samples (21 samples from SWMU 34 and one background sample) were collected from 0- to 1-foot and 1- to 2-foot depth intervals and analyzed for total petroleum hydrocarbons (TPH), lead, and purgeable organic compounds as part of a soil removal investigation. Lead was identified in soil boring 2 at a concentration of 500 mg/kg which exceeded the NMED residential SSL of 400 mg/kg. All remaining lead samples were below the NMED residential SSL with concentrations ranging from 5.6 to 110 mg/kg. Petroleum hydrocarbons were identified in the surface soils with concentrations ranging from 15 to 910 mg/kg. No purgeable organic hydrocarbons were identified beyond methylene chloride which was attributed to laboratory contaminants. The analytical results from the 1987 soil investigation are included in **Table 2-2** and the sample locations are depicted on **Figure 2-3**.

The report recommended tilling the soil and planting grass in the visually impacted portion of the site (Radian 1987). The drainage ditch soil was tilled in October 1988 to provide aeration and aid in microbial degradation of contaminants (W-C 1992); this tilling would have mixed the site's former surface and subsurface soils.

2.2.4 RI Report for 18 SWMUs (W-C 1992)

The purpose of the Remedial Investigation (RI) was to evaluate the nature and extent of potential contamination at 18 SWMUs at Cannon AFB. Two soil borings were drilled and samples were collected and analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), target analyte list (TAL) metals, and TPH as part of the evaluation for SWMU 34 (W-C 1992). Two additional borings were drilled and sampled because the laboratory missed the holding times for the VOC analyses. The analytical results are included in **Table 2-3** and the sample locations are depicted on **Figure 2-3**.

A Baseline Risk Assessment (BRA) was included in the RI. The BRA assessed potential adverse human health and ecological effects by comparing analytical data to risk-based RCRA Facility Investigation (RFI) criteria and proposed RCRA action levels, and by calculating site-specific health risks, where appropriate. The BRA concluded that potential impacts to human health and to the environment were insignificant at SWMU 34. The RI report recommended that no further investigation or action was required at SWMU 34.

2.2.5 RCRA Facility Investigation for 21 SWMUs (URS 2007)

The 2007 RFI reevaluated the results of the 1987 Soil Removal Investigation Report (Radian 1987) and the RI Report for 18 SWMUs (W-C 1992) for SWMU 34. No new analytical data was collected. All existing data was reevaluated using the current methods and screening criteria (current to 2007). A summary of the reevaluation of the historical data in the RFI is as follows.

With the exception of TPH and lead, which both exceed residential screening levels in near surface soils, no chemicals of potential concern were identified for the general site worker and construction worker land use scenarios applicable to this site. No unacceptable ecological risks were identified during previous investigations or associated risk evaluations. A work plan addendum was prepared and additional near surface soil samples (0 to 2 feet) were collected from SWMU 34 to further characterize the lateral extent of elevated TPH and lead concentrations. The results of the sampling are discussed in the addendum completed to the RFI report.

2.2.6 RCRA Facility Investigation for SWMUs 34, 78, 85, 91, 95, and 107 Addendum Report (URS 2010)

The 2010 RFI addendum presented the results of the sampling completed to delineate the TPH and lead identified at SWMU 34 in the near surface soils. Six surface soil samples were collected from 0 to 0.5 feet bgs intervals and two near surface soil samples were collected from 0.5 to 1 feet bgs intervals. Surface samples were analyzed for lead, TPH-gasoline range organics (GRO), and TPH-diesel range organics (DRO). The analytical results for detected analytes are included in **Table 2-4** and the sample locations are depicted on **Figure 2-3**.

Lead was identified in one near surface soil sample (C34-SS01 from 0.5 to 1 feet bgs) with a concentration of 6.82E+02 mg/kg which exceeded the current NMED residential SSL for lead of 4.00E+02 mg/kg. TPH-GRO was not detected in any of the samples analyzed. TPH-DRO was identified at concentrations below the NMED residential SSL (1.00E+03 mg/kg) with a maximum concentration of 6.20E+01 mg/kg.

Based on the analytical results, the TPH formerly identified at SWMU 34 was no longer observed. The decrease in the TPH concentrations was attributed to natural attenuation in the soils. The lead concentrations identified exceeded the NMED residential SSL, but were below the NMED industrial SSL. SWMU 34 was recommended for CAC with Controls.

2.2.7 Corrective Action Complete Proposals – Eight Solid Waste Management Units (CAFB 2013)

Elevated lead concentrations (500 and 682 mg/kg) above the NMED residential SSL (400 mg/kg) were observed in two samples but did not exceed the industrial/occupational SSL (800 mg/kg). Based on the depth of the maximum lead concentration (the 0.5 to 1 foot interval), as well as the site's configuration and location in a depression, exposure of future residents was considered an incomplete pathway. The average lead concentration (calculated from all analytical results from samples taken at the site) at SWMU 34 was 66 mg/kg, which was below the 2012 residential SSL for lead (4.00E+02 mg/kg), and none of the soil samples exceeded the NMED industrial SSL (8.00E+02 mg/kg).

An elevated TPH concentration (1.18E+03 mg/kg) in one near-surface soil sample exceeded the residential SSL for kerosene and jet fuel (1.00E+03 mg/kg) but not the industrial SSL (2.4E+03 mg/kg), but when compared with unknown oil, the soil sample exceeded both the

residential and industrial soil screening guideline (1.00E+03 mg/kg). Elevated TPH concentrations were not detected in the RFI addendum sampling event. In addition, a residential scenario was considered highly unlikely given the industrial nature of this portion of Cannon AFB.

Based on the available data regarding lead and TPH concentrations, SWMU 34 was recommended for CAC with Controls. The controls were identified as limiting land use to industrial purposes.

TABLE 2-1
1986 IRP PHASE II CONFIRMATION/QUANTIFICATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION DATE COLLECTED	Maximum	2015 NMED Residential SSL	15A-1 January 26, 1985 Result	15A-2 January 26, 1985 Result	15A-3 January 26, 1985 Result	15B-1 January 27, 1985 Result	15B-1a* January 27, 1985 Result	15B-2 January 27, 1985 Result	15B-3 January 27, 1985 Result
Oil and Gas (mg/kg)	9.90E+01	1.00E+03	< 1.00E+01	< 1.00E+01	< 1.00E+01	9.90E+01	< 1.00E+01	< 1.00E+01	< 1.00E+01
Lead (mg/kg)	6.90E+01	4.00E+02	5.80E+00	2.40E+00	9.30E-01	3.50E+01	6.90E+01	2.70E+00	1.20E+00
Purgeable Organic Compounds (µg/kg)	N/A	N/A	ND	ND	ND	ND	ND	ND	ND

Notes:
* = Duplicate sample for 15B-1.
< = less than
µg/kg = micrograms per kilogram
IRP = Installation Restoration Program
mg/kg = milligram per kilogram
N/A = Not Applicable
ND = Not Detected
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-2
1987 SOIL REMOVAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION		2015 NMED Residential	1-1		1-2		2-1		2-2		3-1	
DATE COLLECTED			March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987	
	Maximum	SSL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Total Petroleum Hydrocarbons (mg/kg)	9.10E+02	1.00E+03	2.00E+02	5.00E+00	<	5.00E+00	1.20E+02	5.00E+00	<	4.00E+00	5.40E+02	5.00E+00
Lead (mg/kg)	5.00E+02	4.00E+02	1.10E+02	3.00E-01	8.60E+00	3.00E-01	**5.00E+02**	3.00E-01	6.60E+00	3.00E-01	1.20E+02	3.00E-01

Notes:
* An initial result of 300 mg/kg was determined to be a false positive due to acetone contamination in the bottle.
5.00E+02 = Concentration exceeds NMED residential SSL
< = Nondetect
DL = detection limit
mg/kg = milligram per kilogram
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-2
1987 SOIL REMOVAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION		2015 NMED Residential SSL	4-1		5-1		5-2		6-1		6-2	
DATE COLLECTED			March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987	
	Maximum		Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Total Petroleum Hydrocarbons (mg/kg)	9.10E+02	1.00E+03	2.80E+02	5.00E+00	5.70E+01	5.00E+00	<	4.00E+00	1.50E+01	5.00E+00	<	4.00E+00
Lead (mg/kg)	5.00E+02	4.00E+02	2.60E+01	3.00E-01	6.70E+01	3.00E-01	5.60E+00	3.00E-01	2.50E+01	3.00E-01	8.20E+00	3.00E-01

Notes:
* An initial result of 300 mg/kg was determined to be a false positive due to acetone contamination in the bottle.
5.00E+02 = Concentration exceeds NMED residential SSL
< = Nondetect
DL = detection limit
mg/kg = milligram per kilogram
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-2
1987 SOIL REMOVAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION		2015	7-1		8-1		9-1		9-2		10-1	
DATE COLLECTED		NMED Residential	March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987	
	Maximum	SSL	Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Total Petroleum Hydrocarbons (mg/kg)	9.10E+02	1.00E+03	<	5.00E+00	1.20E+02	5.00E+00	1.20E+02	5.00E+00	<	5.00E+00	9.10E+02	5.00E+00
Lead (mg/kg)	5.00E+02	4.00E+02	6.20E+01	3.00E-01	3.20E+01	3.00E-01	3.20E+01	3.00E-01	7.60E+00	3.00E-01	6.20E+01	3.00E-01

Notes:
* An initial result of 300 mg/kg was determined to be a false positive due to acetone contamination in the bottle.
5.00E+02 = Concentration exceeds NMED residential SSL
< = Nondetect
DL = detection limit
mg/kg = milligram per kilogram
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-2
1987 SOIL REMOVAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION		2015 NMED Residential SSL	11-1		12-1		13-1		13-2		15-1	
DATE COLLECTED			March 12, 1987		March 12, 1987		March 12, 1987		March 12, 1987		March 13, 1987	
	Maximum		Result	DL	Result	DL	Result	DL	Result	DL	Result	DL
Total Petroleum Hydrocarbons (mg/kg)	9.10E+02	1.00E+03	2.80E+02	5.00E+00	3.20E+02	5.00E+00	1.50E+02	5.00E+00	<	5.00E+00	1.20E+02	5.00E+00
Lead (mg/kg)	5.00E+02	4.00E+02	8.00E+01	3.00E-01	9.00E+01	3.00E-01	3.50E+01	3.00E-01	1.60E+01	3.00E-01	5.50E+01	3.00E-01

Notes:
* An initial result of 300 mg/kg was determined to be a false positive due to acetone contamination in the bottle.
5.00E+02 = Concentration exceeds NMED residential SSL
< = Nondetect
DL = detection limit
mg/kg = milligram per kilogram
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-2
1987 SOIL REMOVAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION		2015 NMED Residential	20-1		Background	
DATE COLLECTED			March 13, 1987		March 13, 1987	
	Maximum	SSL	Result	DL	Result	DL
Total Petroleum Hydrocarbons (mg/kg)	9.10E+02	1.00E+03	7.50E+01	5.00E+00	<*	5.00E+00
Lead (mg/kg)	5.00E+02	4.00E+02	4.50E+01	3.00E-01	1.39E+01	3.00E-01

Notes:
* An initial result of 300 mg/kg was determined to be a false positive due to acetone contamination in the bottle.
5.00E+02 = Concentration exceeds NMED residential SSL
< = Nondetect
DL = detection limit
mg/kg = milligram per kilogram
NMED = New Mexico Environment Department
SSL = soil screening level

TABLE 2-3
1992 REMEDIAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION	2015 NMED Residential SSL	Maximum Concentration Identified	CAN034-0341-0000		CAN034-0344-0000		CAN034-0341-0001		CAN034-0342-0001		CAN034-0342-0005		CAN034-0342-0009		CAN034-0343-0008	
DATE COLLECTED			October 24, 1991		December 8, 1991		December 8, 1991		October 22, 1991		October 22, 1991		October 22, 1991		December 8, 1991	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
TOTAL PETROLEUM HYDROCARBONS (mg/kg)																
Total Petroleum Hydrocarbons	1.00E+03	1.18E+03	**1.18E+03**		NS		3.97E+02		<	U	<	U	<	U	NS	
VOLATILE ORGANIC HYDROCARBONS (mg/kg)																
Acetone	6.63E+04	4.00E+00	R		<	U	<	U	6.00E-03	J	4.00E+00	J	R		<	U
Toluene	5.23E+03	1.00E-03	R		1.00E-03	J	<	U	<	U	<	U	R		<	U
SEMIVOLATILE ORGANIC COMPOUNDS (mg/kg)																
Phenanthrene	1.74E+03	3.70E-01	2.00E-01	J	NS		3.70E-01	J	<	U	<	U	<	U	NS	
Fluoroanthene	2.32E+03	8.40E-01	4.00E-01	J	NS		8.40E-01		<	U	<	U	<	U	NS	
Pyrene	1.74E+03	6.00E-01	2.70E-01	J	NS		6.00E-01		<	U	<	U	<	U	NS	
Anthracene	1.74E+04	1.00E-01	<	U	NS		1.00E-01	J	<	U	<	U	<	U	NS	
Chrysene	1.53E+02	3.70E-01	2.00E-01	J	NS		3.70E-01	J	<	U	<	U	<	U	NS	
Benzo(a)anthracene	1.53E+00	3.40E-01	1.60E-01	J	NS		3.40E-01	J	<	U	<	U	<	U	NS	
Benzo(a)pyrene	1.53E-01	3.10E-01	**2.00E-01**	J	NS		**3.10E-01**	J	<	U	<	U	<	U	NS	
Benzo(b)fluoranthene	1.53E+00	5.20E-01	4.00E-01	J	NS		5.20E-01		<	U	<	U	<	U	NS	
Benzo(k)fluoranthene	1.53E+01	2.00E-01	<	U	NS		2.00E-01	J	<	U	<	U	<	U	NS	
Dibenzo(a,h)anthracene	1.53E-01	5.30E-02	<	U	NS		5.30E-02	J	<	U	<	U	<	U	NS	
Benzo(g,h,i)perylene	--	3.00E-01	3.00E-01	J	NS		<	U	<	U	<	U	<	U	NS	
Indeno(1,2,3-cd)pyrene	1.53E+00	2.50E-01	2.40E-01	J	NS		2.50E-01	J	<	U	<	U	<	U	NS	

TABLE 2-3
1992 REMEDIAL INVESTIGATION ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION	2015 NMED Residential SSL	Maximum Concentration Identified	CAN034-0341-0000		CAN034-0344-0000		CAN034-0341-0001		CAN034-0342-0001		CAN034-0342-0005		CAN034-0342-0009		CAN034-0343-0008	
DATE COLLECTED			October 24, 1991		December 8, 1991		December 8, 1991		October 22, 1991		October 22, 1991		October 22, 1991		December 8, 1991	
			Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual	Result	Qual
METALS (mg/kg)																
Aluminum	7.80E+04	1.25E+04	4.04E+03		NS		8.23E+03		1.25E+04		9.17E+03		NS		NS	
Arsenic	4.25E+00	2.80E+00	1.60E+00	J	NS		2.80E+00	J	2.00E+00	J	2.00E+00	J	NS		NS	
Barium	1.56E+04	1.63E+02	1.48E+02	J	NS		1.61E+02	J	9.48E+01		1.63E+02	J	NS		NS	
Beryllium	1.56E+02	5.50E-01	<	U	NS		<	U	5.50E-01	J	4.90E-01	J	NS		NS	
Cadmium	7.05E+01	1.30E+00	1.30E+00		NS		<	U	<	U	<	U	NS		NS	
Calcium	--	1.22E+05	3.92E+04		NS		4.91E+04		6.97E+04		1.22E+05		NS		NS	
Chromium	9.66E+01	1.23E+01	1.23E+01		NS		1.04E+01		1.05E+01		8.10E+00		NS		NS	
Cobalt	--	4.20E+00	2.80E+00	J	NS		2.80E+00	J	4.20E+00	J	3.50E+00	J	NS		NS	
Copper	3.13E+02	2.07E+01	1.50E+01		NS		2.07E+01		<	U	<	U	NS		NS	
Iron	5.48E+04	8.92E+03	4.68E+03	J	NS		6.71E+03	J	8.92E+03		6.45E+03		NS		NS	
Lead	4.00E+02	4.07E+01	4.07E+01		NS		3.81E+01		6.50E+00		5.10E+00		NS		NS	
Magnesium	--	3.32E+03	1.53E+03		NS		2.33E+03		2.81E+03		3.32E+03		NS		NS	
Manganese	1.05E+04	1.73E+02	8.39E+01		NS		1.73E+02	J	1.20E+02		8.34E+01	J	NS		NS	
Nickel	1.56E+03	9.20E+00	<	U	NS		7.10E+00	J	9.20E+00		7.10E+00	J	NS		NS	
Potassium	--	2.14E+03	8.60E+02		NS		1.57E+03		2.14E+03		1.52E+03		NS		NS	
Selenium	3.91E+02	2.20E+00	2.20E+00	J	NS		R		R		R		NS		NS	
Sodium	--	3.19E+02	3.19E+02	J	NS		<	U	<	U	<	U	NS		NS	
Vanadium	3.94E+02	1.91E+01	1.18E+01		NS		1.60E+01		1.81E+01		1.91E+01		NS		NS	
Zinc	2.35E+04	2.37E+02	2.37E+02	J	NS		6.03E+01	J	2.20E+01		1.68E+01	J	NS		NS	

Notes:

1.18E+03 = Concentration exceeds NMED residential SSL

< = analytical results is below the limit of detection

-- = no screening level exists for this analyte

J = Estimated

mg/kg = milligram per kilogram

NMED = New Mexico Environment Department

NS = Not Sampled for this analyte

Qual = qualifier

R = rejected

SSL = soil screening level

U = Nondetect

TABLE 2-4
2010 RCRA FACILITY INVESTIGATION ADDENDUM ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION	2015 NMED Residential SSL	Maximum Concentration Identified	C34-SS01-000				C34-SS01-006				C34-SS02-000				C34-SS03-000			
DATE COLLECTED			October 18, 2008				October 18, 2008				October 18, 2008				October 18, 2008			
			Result	MDL	RL	Qual	Result	MDL	RL	Qual	Result	MDL	RL	Qual	Result	MDL	RL	Qual
TOTAL PETROLEUM HYDROCARBONS (mg/kg)																		
Diesel Range Organics	1.00E+03	6.20E+01	6.20E+01	1.00E+00	1.00E+01		NS				5.40E+01	1.00E+00	1.00E+01		4.30E+01	1.00E+00	1.00E+01	
METALS (mg/kg)																		
Lead	4.00E+02	6.82E+02	NS				**6.82E+02**	4.50E-01	2.50E+01		1.02E+02	9.00E-02	5.00E+00		9.24E+01	9.00E-02	5.00E+00	J

Notes:

6.82E+02 = Concentration exceeds NMED residential SSL

J = Estimated

mg/kg = milligram per kilogram

NS = Not Sampled

RCRA = Resource Conservation and Recovery Act

TABLE 2-4
2010 RCRA FACILITY INVESTIGATION ADDENDUM ANALYTICAL RESULTS
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION	2015 NMED Residential SSL	Maximum Concentration Identified	C34-SS04-000				C34-SS05-000				C34-SS05-006				C34-SS06-000			
DATE COLLECTED			October 18, 2008				October 18, 2008				October 18, 2008				October 18, 2008			
			Result	MDL	RL	Qual	Result	MDL	RL	Qual	Result	MDL	RL	Qual	Result	MDL	RL	Qual
TOTAL PETROLEUM HYDROCARBONS (mg/kg)																		
Diesel Range Organics	1.00E+03	6.20E+01	3.80E+01	1.00E+00	1.00E+01		1.50E+01	1.00E+00	1.00E+01		NS				1.40E+01	1.00E+00	1.00E+01	
METALS (mg/kg)																		
Lead	4.00E+02	6.82E+02	4.70E+01	9.00E-02	5.00E+00		2.18E+01	9.00E-02	5.00E+00		2.57E+01	9.00E-02	5.00E+00		2.31E+01	9.00E-02	5.00E+00	

Notes:

6.82E+02 = Concentration exceeds NMED residential SSL

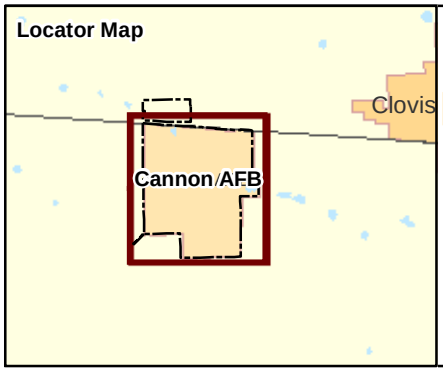
J = Estimated

mg/kg = milligram per kilogram

NS = Not Sampled

RCRA = Resource Conservation and Recovery Act

Locator Map



Legend

Base Boundary

Site Boundary

Site ID	Site Name
SWMU 34	AGE Drainage Ditch

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N

2,000 1,000 0 2,000 Feet

Site Location Map
Cannon Air Force Base, New Mexico

Drawn By:	Date:	Project No.	
DPG	7/19/2016	23446539	Figure 2-1
Checked By: MS	Revision: 0		

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Legend

- Site Boundary
- Base Boundary
- Area Excavated for Remedial Action at SWMU 31

SWMU = Solid Waste Management Unit

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N

20 10 0 20 Feet

SWMU 34 Site Plan
Cannon Air Force Base,
New Mexico

Drawn By: DPG	Date: 9/6/2016	Project No: 23446539	Figure 2-2
Checked By: MS	Revision: 0		

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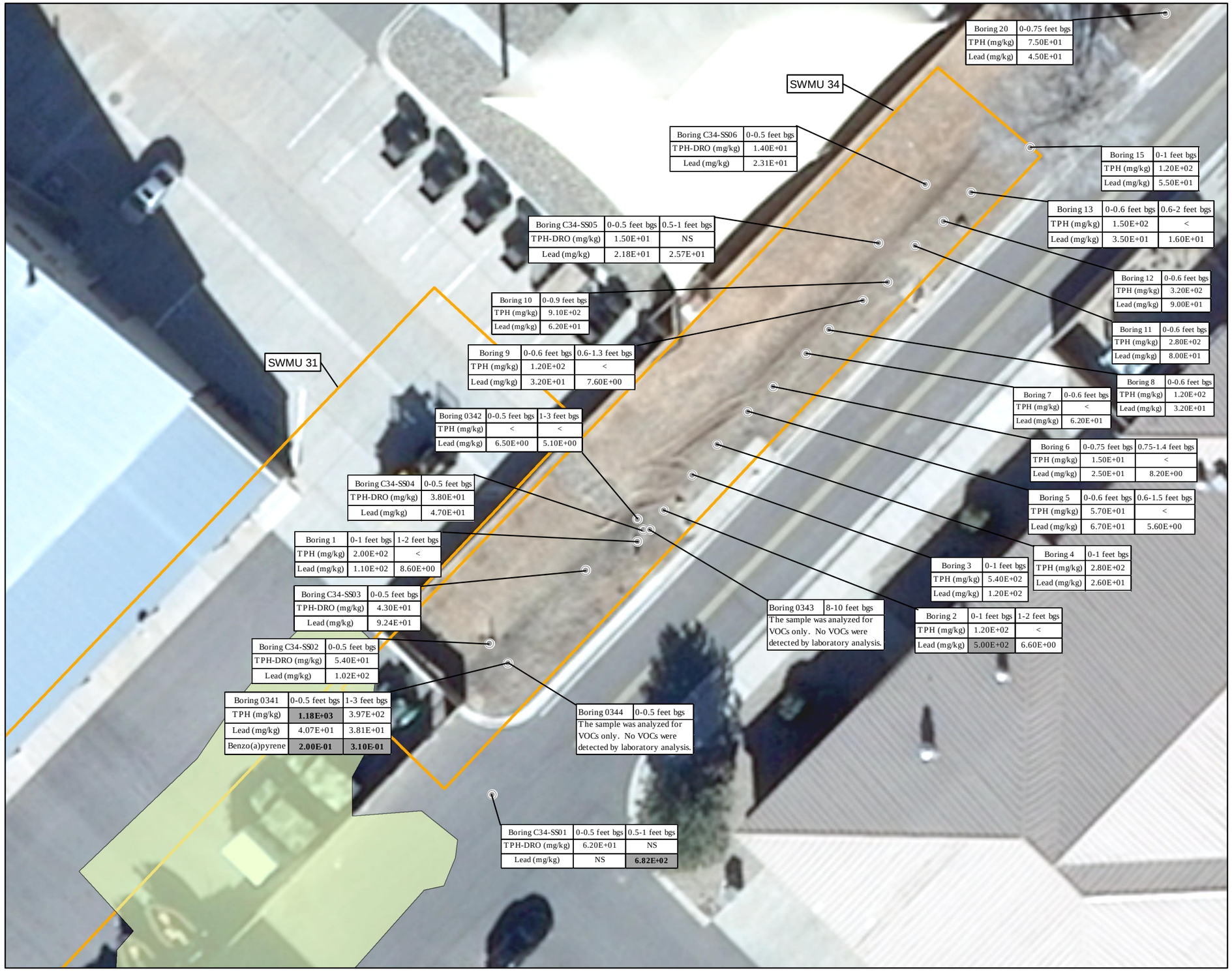

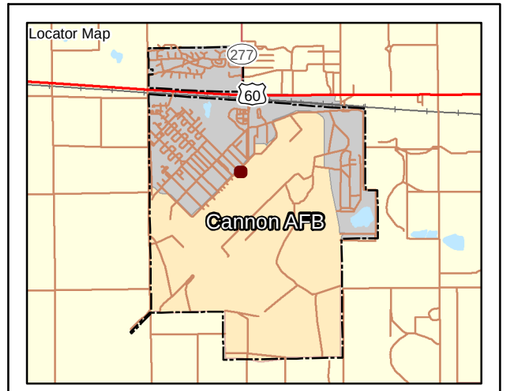

Legend

- Previous Soil Sample Location
- Site Boundary
- Area Excavated for Remedial Action at SWMU 31
- Base Boundary

< = not detected
bgs = below ground surface
DRO = diesel range organics
mg/kg = milligrams per kilogram
SSL = soil screening level
SWMU = Solid Waste Management Unit
TPH = total petroleum hydrocarbons
VOC = volatile organic compounds

Note:
Gray shading indicates concentration exceeds New Mexico Environment Deprtment (NMED) soil screening levels.
NMED 2015 Residential SSL for TPH is 1,000 mg/kg.
NMED 2015 Residential SSL for lead is 400 mg/kg.

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N
20 10 0 20
Feet

Historical Soil Sampling Results at SWMU 34
Cannon Air Force Base, New Mexico

Drawn By: DPG	Date: 9/7/2016	Project No: 23446539	Figure 2-3
Checked By: MS	Revision: 0		

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This section describes the May 2016 field sampling activities and analytical results.

3.1 SWMU 34 SAMPLING ACTIVITIES

The May 2016 sampling event included 6 boring locations and one discrete surface soil sample location at SWMU 34. The sample identifications, depths, and analyses are provided in **Table 3-1** and the sample locations are depicted on **Figure 3-1**. The purpose of the sampling was to confirm the presence or absence of lead in historical soil boring 2 and C34-SS01, and delineate the nature and extent of lead contamination at C34-SS01.

The preliminary sampling plan indicated that the excavation activities at MY031 and the repaving of the area including borings SBC34a, SB01, SB02, SB03, and SB04 may have impacted the subsurface. During the completion of the field work, samples were collected immediately beneath the asphalt paving and gravel underlying the asphalt. Due to the depth of the asphalt and gravel, the near surface soil samples were collected at depths exceeding the depths previously identified in the approved preliminary sampling plan (as indicated in **Table 3-1**). However, the analytical sampling completed is considered adequate to address the potential for lead in the near surface soils.

In addition to the lead samples collected, one surface soil sample was collected and analyzed at the location of historical boring 0341a. Soils collected from this location were analyzed for TPH-GRO, TPH-DRO, and TPH-oil range organics (ORO). Although this sampling location was not identified in the approved preliminary sampling plan, this location was resampled to confirm or refute the presence of TPH identified at the location by a former investigation (W-C 1992).

3.2 SWMU 34 SAMPLING RESULTS

Analytical results indicated all concentrations of lead in the soils at SWMU 34 were below the 2015 NMED screening levels. Additionally, TPH-GRO, TPH-DRO, and TPH-ORO concentrations identified at 0341a were below 2015 NMED residential SSLs (**Table 3-2**) (**Figure 3-2**).

TABLE 3-1
CONFIRMATION AND DELINEATION SAMPLING LOCATIONS
CANNON AIR FORCE BASE, NEW MEXICO

Soil Boring Location	Soil Sample Number	Sample Depth Interval (feet bgs)	Analytical				Technical Rationale
			Lead[1]	TPH-GRO/DRO/ORO[2]	Field Duplicate Samples[3]	MS/MSD Samples[4]	
C34-SB01a	CA015-SBC34a-001.5	1.0-1.5*	X				Confirm or refute the presence of lead in the soil in historical soil boring C34-SS01.
	CA015-SBC34a-003	2.5-3.0	X				
	CA015-SBC34a-005	4.5-5.0	X				
SB01	CA015-SB01-001.5	1.0-1.5*	X				Delineate the extent of lead contamination at C34-SS01.
	CA015-SB01-003	2.5-3.0	X				
	CA015-SB01-005	4.5-5.0	X		X		
SB02	CA015-SB02-002	1.5-2.0*	X				
	CA015-SB02-003	2.5-3.0	X				
	CA015-SB02-005	4.0-5.0	X			X	
SB03	CA015-SB03-001.5	1.0-1.5*	X				
	CA015-SB03-003	2.5-3.0	X				
	CA015-SB03-005	4.5-5.0	X				
SB04	CA015-SB04-001.5	1.0-1.5*	X				
	CA015-SB04-003	2.5-3.0	X				
	CA015-SB04-005	4.5-5.0	X		X		
2a	CA015-SB2a-001	0.5-1.0	X				Confirm or refute the presence of lead in the soil in historical soil boring 2.
	CA015-SB2a-003	2.5-3.0	X				
	CA015-SB2a-005	4.0-5.0	X		X		
0341A	CA015-0341a-000.5	0-0.5		X			Confirm or refute the presence of TPH.
		Totals	**18**	**1**	**3**	**1**	

Notes:

* = Sample depth exceeded the planned depth (0-0.5 feet bgs) due to depth of asphalt and underlying gravel encountered during the field work.

[1]Lead analysis via USEPA Method 6020A

[2]TPH-GRO/TPH-DRO/TPH-ORO analysis via USEPA Method 8015C

[3]Field duplicate samples were collected at a rate of 10% (1 per 10 samples collected) for laboratory analysis.

[4]MS/MSD samples were collected at a rate of 5% (1 per 20 samples collected) for laboratory analysis.

bgs = below ground surface

MS/MSD = matrix spike/matrix spike duplicate

TPH-DRO = total petroleum hydrocarbons-diesel range organics

TPH-GRO = total petroleum hydrocarbons-gasoline range organics

TPH-ORO = total petroleum hydrocarbons-oil range organics

USEPA = United States Environmental Protection Agency

X = sample collected

TABLE 3-2
SUMMARY OF ANALYTICAL DATA
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION			NMED Residential SSLs		CA015-SB01-001.5				CA015-SB01-003				CA015-SB01-005				CA015-SB01-205**				CA015-SB02-002			
DATE COLLECTED					May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016			
	Maximum	Frequency	(mg/kg)[1]	Source	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual
Metals (mg/kg)																								
Lead	3.34E+02	21 / 21	4.00E+02	NMED	7.33E+00	1.10E-01	5.52E-01		2.86E+00	1.18E-01	5.91E-01		1.39E+00	1.04E-01	5.19E-01		1.10E+00	1.04E-01	5.19E-01		1.94E+01	1.12E-01	5.60E-01	
Total Petroleum Hydrocarbons (mg/kg)																								
TPH-GRO[2]	7.70E-01	1 / 1	--	NMED	NS				NS				NS				NS				NS			
TPH-DRO	1.00E+01	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			
TPH-ORO	1.00E+02	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			

Notes:
[1]NMED value from New Mexico Environment Department, Risk Assessment Guidance for Site Investigations and Remediation, Soil Screening Levels, Tables 6-2 and A-1, July 2015
[2]Current NMED guidance does not include a screening level for TPH-GRO
* DL value is shown if the detection is less than the LOQ
** = Sample is a duplicate sample of the preceding sample in the table.
DL = Detection Limit
J = Estimated
LOD = Limit of Detection
LOQ = Limit of Quantitation
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
NS = Sample was not sampled for this analyte
Qual = Qualifier
SSL = soil screening levels
TPH-DRO = total petroleum hydrocarbons-diesel range organics
TPH-GRO = total petroleum hydrocarbons-gasoline range organics
TPH-ORO = total petroleum hydrocarbons-oil range organics

TABLE 3-2
SUMMARY OF ANALYTICAL DATA
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION			NMED Residential SSLs		CA015-SB02-003				CA015-SB02-005				CA015-SB03-001.5				CA015-SB03-003				CA015-SB03-005			
DATE COLLECTED					May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016			
	Maximum	Frequency	(mg/kg)[1]	Source	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual
Metals (mg/kg)																								
Lead	3.34E+02	21 / 21	4.00E+02	NMED	1.04E+01	1.12E-01	5.61E-01		4.33E+00	1.16E-01	5.82E-01		9.38E+00	1.11E-01	5.57E-01		3.03E+00	1.15E-01	5.73E-01		3.78E+00	1.17E-01	5.86E-01	
Total Petroleum Hydrocarbons (mg/kg)																								
TPH-GRO[2]	7.70E-01	1 / 1	--	NMED	NS				NS				NS				NS				NS			
TPH-DRO	1.00E+01	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			
TPH-ORO	1.00E+02	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			

Notes:
[1]NMED value from New Mexico Environment Department, Risk Assessment Guidance for Site Investigations and Remediation, Soil Screening Levels, Tables 6-2 and A-1, July 2015
[2]Current NMED guidance does not include a screening level for TPH-GRO
* DL value is shown if the detection is less than the LOQ
** = Sample is a duplicate sample of the preceding sample in the table.
DL = Detection Limit
J = Estimated
LOD = Limit of Detection
LOQ = Limit of Quantitation
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
NS = Sample was not sampled for this analyte
Qual = Qualifier
SSL = soil screening levels
TPH-DRO = total petroleum hydrocarbons-diesel range organics
TPH-GRO = total petroleum hydrocarbons-gasoline range organics
TPH-ORO = total petroleum hydrocarbons-oil range organics

TABLE 3-2
SUMMARY OF ANALYTICAL DATA
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION			NMED Residential SSLs		CA015-SB04-001.5				CA015-SB04-003				CA015-SB04-005				CA015-SB04-205**				CA015-SB2A-001			
DATE COLLECTED					May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016			
	Maximum	Frequency	(mg/kg)[1]	Source	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual
Metals (mg/kg)																								
Lead	3.34E+02	21 / 21	4.00E+02	NMED	3.22E+01	1.10E-01	5.52E-01		2.27E+00	1.15E-01	5.76E-01		2.01E+00	1.21E-01	6.04E-01		1.78E+00	1.22E-01	6.09E-01		6.89E+01	1.04E-01	5.22E-01	
Total Petroleum Hydrocarbons (mg/kg)																								
TPH-GRO[2]	7.70E-01	1 / 1	--	NMED	NS				NS				NS				NS				NS			
TPH-DRO	1.00E+01	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			
TPH-ORO	1.00E+02	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			

Notes:
[1]NMED value from New Mexico Environment Department, Risk Assessment Guidance for Site Investigations and Remediation, Soil Screening Levels, Tables 6-2 and A-1, July 2015
[2]Current NMED guidance does not include a screening level for TPH-GRO
* DL value is shown if the detection is less than the LOQ
** = Sample is a duplicate sample of the preceding sample in the table.
DL = Detection Limit
J = Estimated
LOD = Limit of Detection
LOQ = Limit of Quantitation
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
NS = Sample was not sampled for this analyte
Qual = Qualifier
SSL = soil screening levels
TPH-DRO = total petroleum hydrocarbons-diesel range organics
TPH-GRO = total petroleum hydrocarbons-gasoline range organics
TPH-ORO = total petroleum hydrocarbons-oil range organics

TABLE 3-2
SUMMARY OF ANALYTICAL DATA
CANNON AIR FORCE BASE, NEW MEXICO

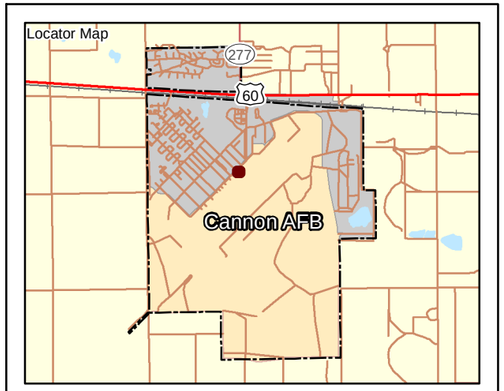
FIELD IDENTIFICATION			NMED Residential SSLs		CA015-SB2A-003				CA015-SB2A-005				CA015-SB2A-205**				CA015-SBC34A-001.5				CA015-SBC34A-003			
DATE COLLECTED					May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016				May 6, 2016			
	Maximum	Frequency	(mg/kg)[1]	Source	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual
Metals (mg/kg)																								
Lead	3.34E+02	21 / 21	4.00E+02	NMED	5.71E+00	1.16E-01	5.81E-01		5.52E+00	1.12E-01	5.62E-01		5.20E+00	1.11E-01	5.54E-01		1.45E+01	1.07E-01	5.35E-01		3.34E+02	5.43E-01	2.71E+00	
Total Petroleum Hydrocarbons (mg/kg)																								
TPH-GRO[2]	7.70E-01	1 / 1	--	NMED	NS				NS				NS				NS				NS			
TPH-DRO	1.00E+01	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			
TPH-ORO	1.00E+02	1 / 1	1.00E+03	NMED	NS				NS				NS				NS				NS			

Notes:
[1]NMED value from New Mexico Environment Department, Risk Assessment Guidance for Site Investigations and Remediation, Soil Screening Levels, Tables 6-2 and A-1, July 2015
[2]Current NMED guidance does not include a screening level for TPH-GRO
* DL value is shown if the detection is less than the LOQ
** = Sample is a duplicate sample of the preceding sample in the table.
DL = Detection Limit
J = Estimated
LOD = Limit of Detection
LOQ = Limit of Quantitation
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
NS = Sample was not sampled for this analyte
Qual = Qualifier
SSL = soil screening levels
TPH-DRO = total petroleum hydrocarbons-diesel range organics
TPH-GRO = total petroleum hydrocarbons-gasoline range organics
TPH-ORO = total petroleum hydrocarbons-oil range organics

TABLE 3-2
SUMMARY OF ANALYTICAL DATA
CANNON AIR FORCE BASE, NEW MEXICO

FIELD IDENTIFICATION			NMED Residential SSLs		CA015-SBC34A-005				CA015-0341A-000.5			
DATE COLLECTED					May 6, 2016				May 13, 2016			
	Maximum	Frequency	(mg/kg)[1]	Source	Result	DL/LOD*	LOQ	Qual	Result	DL/LOD*	LOQ	Qual
Metals (mg/kg)												
Lead	3.34E+02	21 / 21	4.00E+02	NMED	2.37E+00	1.01E-01	5.06E-01		NS			
Total Petroleum Hydrocarbons (mg/kg)												
TPH-GRO[2]	7.70E-01	1 / 1	--	NMED	NS				7.70E-01	4.70E-01	9.40E-01	J
TPH-DRO	1.00E+01	1 / 1	1.00E+03	NMED	NS				1.00E+01	2.70E+00	1.10E+01	J
TPH-ORO	1.00E+02	1 / 1	1.00E+03	NMED	NS				1.00E+02	2.70E+00	5.30E+00	

Notes:
[1]NMED value from New Mexico Environment Department, Risk Assessment Guidance for Site Investigations and Remediation, Soil Screening Levels, Tables 6-2 and A-1, July 2015
[2]Current NMED guidance does not include a screening level for TPH-GRO
* DL value is shown if the detection is less than the LOQ
** = Sample is a duplicate sample of the preceding sample in the table.
DL = Detection Limit
J = Estimated
LOD = Limit of Detection
LOQ = Limit of Quantitation
mg/kg = milligrams per kilogram
NMED = New Mexico Environment Department
NS = Sample was not sampled for this analyte
Qual = Qualifier
SSL = soil screening levels
TPH-DRO = total petroleum hydrocarbons-diesel range organics
TPH-GRO = total petroleum hydrocarbons-gasoline range organics
TPH-ORO = total petroleum hydrocarbons-oil range organics



Legend

- 2016 Soil Boring Location
- 2016 Surface Sample Location
- Previous Soil Sample Location
- Area Excavated for Remedial Action at SWMU 31
- Site Boundary
- Base Boundary

SWMU = Solid Waste Management Unit

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N

20 10 0 20 Feet

2016 Soil Sampling Locations at SWMU 34
Cannon Air Force Base, New Mexico

Drawn By: DPG	Date: 9/7/2016	Project No: 23446539	Figure 3-1
Checked By: MS	Revision: 0		

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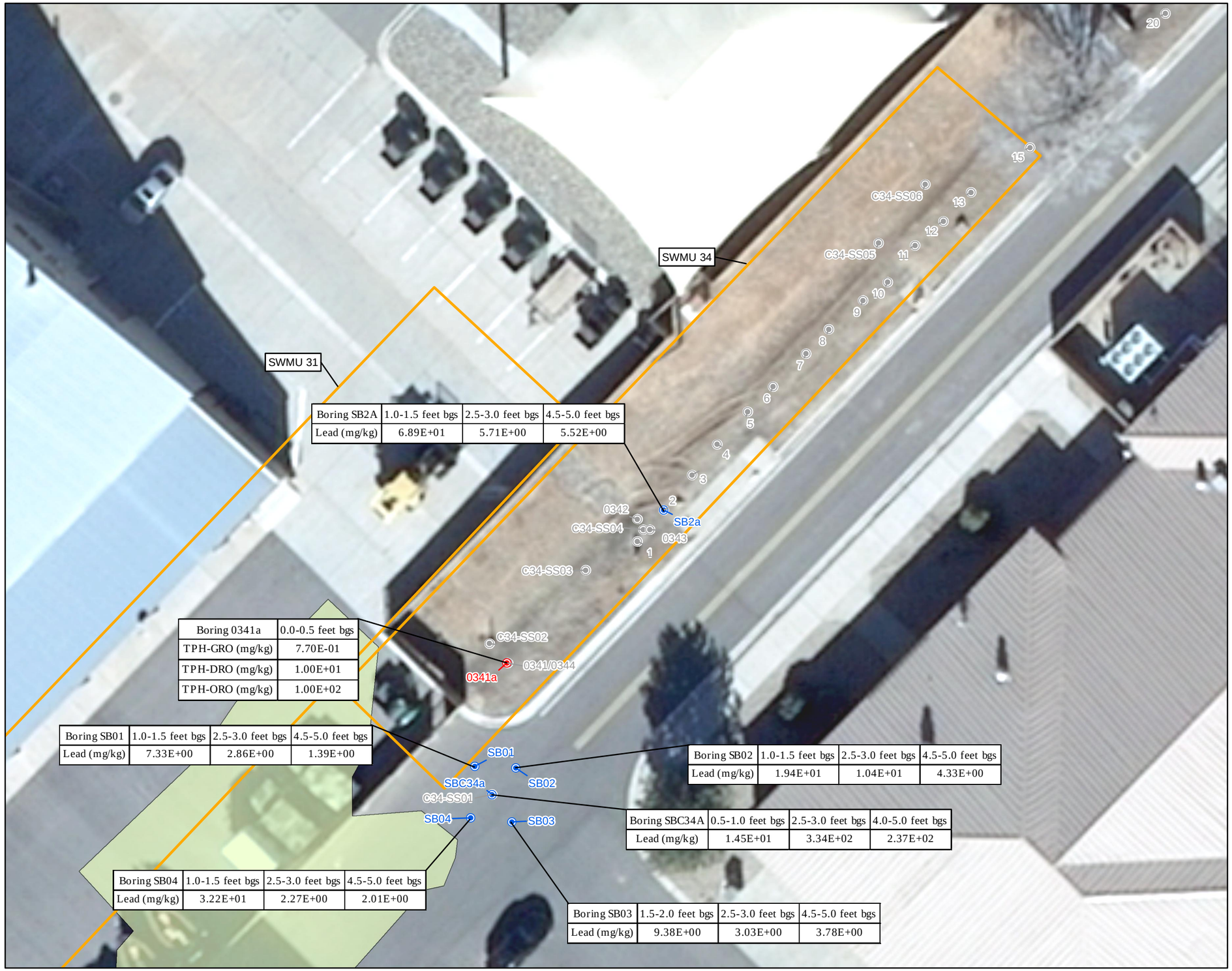


Boring SB2A	1.0-1.5 feet bgs	2.5-3.0 feet bgs	4.5-5.0 feet bgs
Lead (mg/kg)	6.89E+01	5.71E+00	5.52E+00

Boring 0341a	0.0-0.5 feet bgs
TPH-GRO (mg/kg)	7.70E-01
TPH-DRO (mg/kg)	1.00E+01
TPH-ORO (mg/kg)	1.00E+02

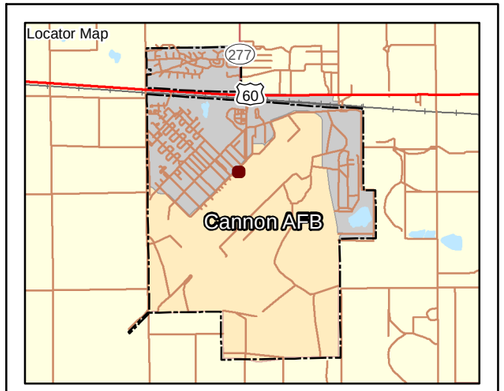
Boring SB01	1.0-1.5 feet bgs	2.5-3.0 feet bgs	4.5-5.0 feet bgs
Lead (mg/kg)	7.33E+00	2.86E+00	1.39E+00

Boring SB02	1.0-1.5 feet bgs	2.5-3.0 feet bgs	4.5-5.0 feet bgs
Lead (mg/kg)	1.94E+01	1.04E+01	4.33E+00

Boring SBC34A	0.5-1.0 feet bgs	2.5-3.0 feet bgs	4.0-5.0 feet bgs
Lead (mg/kg)	1.45E+01	3.34E+02	2.37E+02

Boring SB04	1.0-1.5 feet bgs	2.5-3.0 feet bgs	4.5-5.0 feet bgs
Lead (mg/kg)	3.22E+01	2.27E+00	2.01E+00

Boring SB03	1.5-2.0 feet bgs	2.5-3.0 feet bgs	4.5-5.0 feet bgs
Lead (mg/kg)	9.38E+00	3.03E+00	3.78E+00



Legend

- 2016 Soil Boring Location
- 2016 Surface Sample Location
- Previous Soil Sample Location
- Site Boundary
- Area Excavated for Remedial Action at SWMU 31
- Base Boundary

bgs = below ground surface
DRO = diesel range organics
GRO = gasoline range organics
mg/kg = milligrams per kilogram
ORO = oil range organics
SWMU = Solid Waste Management Unit
TPH = total petroleum hydrocarbons
VOC = volatile organic compounds

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N 20 10 0 20 Feet

2016 Soil Sampling Results at SWMU 34
Cannon Air Force Base, New Mexico

Drawn By: DPG	Date: 9/8/2016	Project No: 23446539	Figure 3-2
Checked By: MS	Revision: 0		

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Previous RFIs completed for SWMU 34 identified lead as the contaminant of concern (COC). Samples were collected at SWMU 34 to confirm or refute the presence of lead in the soils. The results of the lead sampling at SWMU 34 indicate all concentrations of lead in the soils at SWMU 34 are below 2015 NMED residential SSLs.

In addition to lead sampling, a surface soil sample was collected to confirm or refute the presence of TPHs in the soil at historical boring location 0341a. The results of the TPH sampling indicate all concentrations of TPH-GRO, TPH-DRO, and TPH-ORO were below 2015 NMED residential SSLs.

Benzo(a)pyrene was identified in the surface soils and near surface soils (1 foot bgs) at boring 0341a by sampling completed in 1991 (W-C 1992). Benzo(a)pyrene was not identified as a COC by prior investigations due to the NMED residential SSLs in effect at the time of the sampling (6.21E-01 mg/kg). Due to the reduction in NMED SSLs from 1991 to the present, the historical benzo(a)pyrene concentrations at boring 0341a exceed the current (2015) NMED residential SSL (1.53E-01 mg/kg). The reported benzo(a)pyrene concentrations were reported as estimated concentrations. The surface and near surface soils located in this portion of SWMU 34 have been affected by the adjoining excavation activities at SWMU 31 and the repaving of the area within SWMU 34. The changes at SWMU are evident when comparing the historical site figure (included in **Appendix D**) to the current site conditions as shown on **Figure 3-1**.

TPH was historically identified in the surface soils at boring 0341a. However, natural attenuation and/or the regrading of the area as a function of the paving activities and alterations to the site have resulted in the reduction of TPH concentrations from 1.18E+03 mg/kg to the current maximum concentration of 1.00E+02 mg/kg for TPH-ORO. Benzo(a)pyrene concentrations in the soils are anticipated to have experienced similar reductions due to grading and development activities at the site. Therefore, the benzo(a)pyrene historically identified was not considered to represent current site conditions and was not considered in the evaluation of current site risks.

Based on the absence of the exceedances of NMED residential standards, no human health risks are evident and SWMU 34 meets the requirements of CAC without Controls. No additional remedial activities will be completed at SWMU 34. Following NMED concurrence with this status report, a CAC without Controls Proposal will be prepared for NMED approval.

Cannon Air Force Base (CAFB). 2013. Corrective Action Complete Proposals, Eight Solid Waste Management Units, Cannon Air Force Base, New Mexico. April.

CH2M Hill. 1983. Installation Restoration Program Records Search, Cannon Air Force Base, New Mexico. August.

Radian Corporation (Radian). 1986. Installation Restoration Program Phase II Remedial Investigation, Cannon Air Force Base, New Mexico.

Radian. 1987. Soil Removal Investigation Report, AGE Drainage Ditch – Site 15, Cannon Air Force Base, New Mexico. June.

URS Group, Inc. (URS). 2007. RCRA Facility Investigation for 21 SWMUs, Cannon Air Force Base, New Mexico. October.

URS. 2010. RCRA Facility Investigation for SWMUs 34, 78, 85, 91, 95, and 107 Addendum Report, Cannon Air Force Base, New Mexico. May.

Woodward-Clyde (W-C). 1992. Remedial Investigation Report for 18 Solid Waste Management Units, Cannon Air Force Base, New Mexico. October.

NEW MEXICO ENVIRONMENT DEPARTMENT

SUSANA MARTINEZ
Governor
JOHN A. SANCHEZ
Lieutenant Governor

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.env.nm.gov

RYAN FLYNN
Secretary
BUTCH TONGATE
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 11, 2016

Colonel Douglas W. Gilpin
Commander, 27th Special Operations
Mission Support Group
110 E. Alison Avenue, Suite 1098
Cannon Air Force Base

RE: APPROVAL
PRELIMINARY SAMPLING PLAN, SWMU 34
CANNON AIR FORCE BASE, NEW MEXICO
EPA ID #NM7572124454
HWB-CAFB-16-001

Dear Colonel Gilpin:

The New Mexico Environment Department (NMED) has received Cannon Air Force Base's (Permittee) *Preliminary Sampling Plan, SWMU 34* (Sampling Plan), dated February 2016 and received February 22, 2016. Based on information provided in the Sampling Plan and additional information provided in the conference call with NMED, the Permittee, and URS/FMP conducted on February 11, 2016, NMED herby approves the Sampling Plan. The findings of sampling activities at SWMU 34 must be submitted to NMED in a Status Report no later than **July 31, 2016.**

If you have any questions regarding this letter, please contact Gabriel Acevedo at (505) 476-6043.

Sincerely,

John E. Kieling
Chief
Hazardous Waste Bureau

cc: D. Cobrain, NMED HWB
G. Acevedo, NMED HWB
B. Wear, NMED HWB
N. Dhawan, NMED HWB
B. Chavez, CAFB
R. Lancaster, CAFB
S. Kottkamp, CAFB
L. King, EPA-6PD-N

File: CAFB 2016 and Reading, CAFB-16-001

RE: Preliminary Sampling at SD015 (Solid Waste Management Unit [SWMU] 34)
Cannon Air Force Base (AFB), New Mexico

The purpose of this memo is to provide the scope of the preliminary sampling proposed to be completed at SD015 prior to the submission of the Accelerated Corrective Measure Work Plan (ACMWP) for SD015.

Site Description

SD015, also referred to as the Aerospace Ground Equipment (AGE) Drainage Ditch, originates on the flightline side of the AGE Building No. 186, runs parallel to Buildings Nos. 191 and 193 in a northeast direction, and terminates at a culvert inlet near Argentia Avenue. Stormwater runoff from the AGE Drainage Ditch flows under Argentia Avenue via this culvert to a second drainage ditch that then routes the water to the northeast Storm Water Drainage Area (SWMU 95).

SD015 is the former location of railroad tracks that were removed in the 1960s. The drainage ditch was formed when the soils settled following the removal of the railroad tracks. The drainage ditch is approximately 1,200 feet long, 12 feet wide and 1 foot deep. Vegetation is currently present throughout the majority of the drainage ditch (grass). However, the southwestern end of SD015 has been regraded and is currently located under asphalt paving. This area is the general location of one of two boring (S34-SS01) with reported elevated lead concentrations.

Contamination Identified and Proposed Sampling

Previous investigations at SD015 indicated the presence of lead contamination in subsurface soils (upper 1 foot) above New Mexico Environment Department (NMED) residential soil screening levels (SSLs). Lead was reported above residential SSLs in soil boring 2 from 0 – 1 foot below ground surface (bgs) and soil boring C34-SS01 from 0.5 – 1 foot bgs. Surface soil is defined as 0 to 0.5 feet bgs. The current Performance Based Remediation contract requires an ACMWP to be completed to address the lead contaminated soils at SD015. However, the extent of lead contamination is not delineated by the current analytical data. Furthermore, changes to the soils in the area surrounding (and possibly including) boring C34-SS01 may have occurred during the remedial activities at the adjoining site, MY031 (SWMU 31). Based on the work completed to excavate soils at MY031 and repave the adjoining parking area, the potential exists for the lead contaminated soils at SD015 to have been impacted. This may have resulted in a change in conditions that is not reflected by the current analytical data.

The scope of work proposed includes resampling the soils at historic soil boring 2 and C34-SS01 for lead. Based on the historic sampling completed in the area surrounding soil boring 2, no further delineation samples are required. Based on the absence of soil sampling in the area surrounding, further sampling is required to delineate the extent of lead identified in the surface soils at C34-SS01. Additional delineation samples will be collected from four borings located approximately five feet to the north, south, east, and west of C34-SS01 to delineate the extent of lead contamination in the near surface soils at C34-SS01.

The analytical results will be utilized to confirm or refute the indicated presence of lead contaminated soils at SD015 in excess of the current NMED residential SSLs. If the analytical results confirm the

presence of lead, they will be utilized to design the excavation and be presented to NMED in the ACMWP. If the analytical results refute the presence of lead, the results will be presented to NMED in a status report. The status report will outline the site description, historical uses, historical investigations, and recommend a change in status to Corrective Action Complete (CAC) without Controls.

The delineation/confirmation sampling is requested to be completed prior to the completion of the ACMWP in order to facilitate a greater understanding of the extent of lead contamination at SD015. This will allow for a more accurate ACMWP, and will help determine what additional safety measures (i.e. traffic control and possible temporary lane closures) may be required to remediate the lead contamination at SD015. Preliminary consideration had been given to excavating the area and screening the soils using an x-ray fluorescence (XRF) followed by submission of confirmation soil samples for laboratory samples. These activities were recently completed at site FT006 in accordance with the NMED approved work plan for that site. However, the presence of the paving over the site area introduces significant complications to any excavation effort. Another primary consideration is the need to provide an accurate scope of work for bids from subcontractors to complete the excavation work if required. Completion of the sampling would allow the current conditions to be characterized and allow for clarity regarding the actions necessary to achieve the goal of achieving CAC without controls at SD015.

Attachments

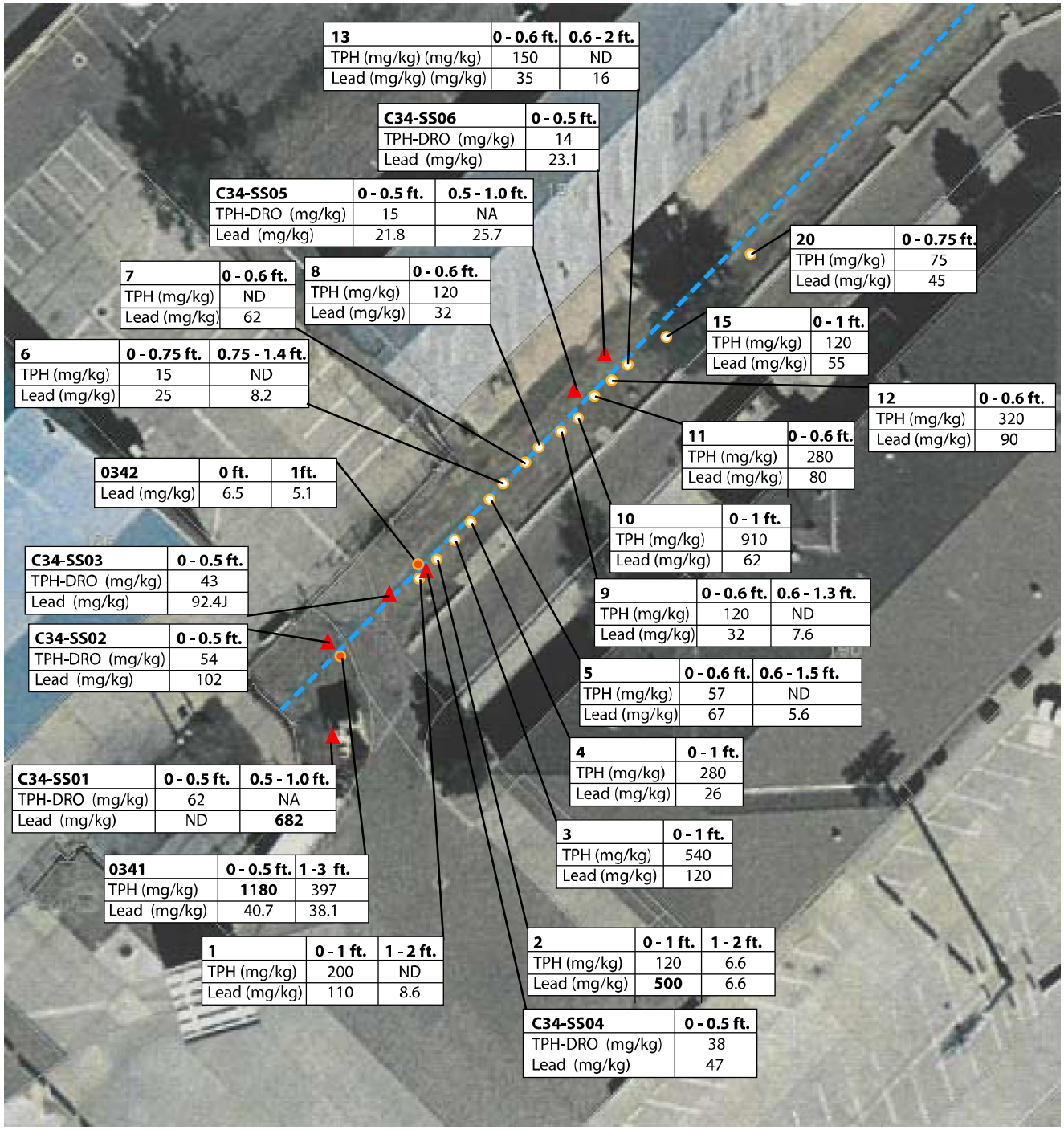
Tables
Summary of Soil Samples Proposed for Chemical Analysis at SD015

Figures
Field Investigation Results at SWMU 34 (figure from previous report)
Proposed Soil Sampling Locations at SD015

SUMMARY OF SOIL SAMPLES PROPOSED FOR CHEMICAL ANALYSIS AT SD015
CANNON AIR FORCE BASE, NEW MEXICO

Soil Boring Location	Soil Sample Number	Sample Depth Interval (feet bgs)	Sample Coordinates (Northing, Easting)[1]		Analytical Parameters			Technical Rationale
					Lead[2]	Field Duplicate Samples[3]	MS/MSD Samples[4]	
SBC34a	CA015-SBC34a-01	0.5-1.0	TBD	TBD	X			Confirm or refute the presence of lead in the soil identified by a historical surface soil sample from C34-SS01.
	CA015-SBC34a-03	2.0-3.0	TBD	TBD	X			
	CA015-SBC34a-05	4.0-5.0	TBD	TBD	X			
SB01	CA015-SB01-01	0.5-1.0	TBD	TBD	X			Delineate the extent of lead contamination identified by a historical surface soil sample from C34-SS01.
	CA015-SB01-03	2.0-3.0	TBD	TBD	X			
	CA015-SB01-05	4.0-5.0	TBD	TBD	X	X		
SB02	CA015-SB02-01	0.5-1.0	TBD	TBD	X			
	CA015-SB02-03	2.0-3.0	TBD	TBD	X			
	CA015-SB02-05	4.0-5.0	TBD	TBD	X		X	
SB03	CA015-SB03-01	0.5-1.0	TBD	TBD	X			
	CA015-SB03-03	2.0-3.0	TBD	TBD	X			
	CA015-SB03-05	4.0-5.0	TBD	TBD	X			
SB04	CA015-SB04-01	0.5-1.0	TBD	TBD	X			
	CA015-SB04-03	2.0-3.0	TBD	TBD	X			
	CA015-SB04-05	4.0-5.0	TBD	TBD	X	X		
2a	CA015-SB2a-01	0.5-1.0	TBD	TBD	X			Confirm or refute the presence of lead in the soil by a historic surface soil sample from boring 2.
	CA015-SB2a-03	2.0-3.0	TBD	TBD	X			
	CA015-SB2a-05	4.0-5.0	TBD	TBD	X			
				Totals	**18**	**2**	**1**	

Notes:
[1]Horizontal coordinates will be included in New Mexico East State Plane, North American Datum of 1983.
[2]Lead analysis via USEPA Method 6020A
[3]Field duplicate samples collected at a rate of 10% (1 per 10 samples collected) for laboratory analysis.
[4]MS/MSD samples collected at a rate of 5% (1 per 20 samples collected) for laboratory analysis.
bgs = below ground surface
MS/MSD = matrix spike/matrix spike duplicate
USEPA = United States Environmental Protection Agency
X = sample to be collected



LEGEND

- Soil Boring Locations (Radian, 1987)
- Soil Boring Location (Woodward-Clyde, 1991)
- Soil Locations (URS, 2009)
- Ditch

NOTE: **Bold** Indicates an Exceedance

DRO	=	Diesel Range Organics
ft.	=	Feet
J	=	Estimated
(mg/kg)	=	milligram per kilogram
NA	=	Not Applicable
ND	=	Nondetect
RCRA	=	Resource Conservation and Recovery Act
SWMU	=	Solid Waste Management Unit
TPH	=	Total Petroleum Hydrocarbons

SITE LOCATION

Revision Date: 03/15/12

N

0 50 100
Feet

0 25
Meters

CANNON AIR FORCE BASE, NEW MEXICO

CORRECTIVE ACTION COMPLETE PROPOSAL
EIGHT SOLID WASTE MANAGEMENT UNITS

FIGURE I-8

FIELD INVESTIGATION RESULTS AT SWMU 34 (AGE DRAINAGE DITCH)

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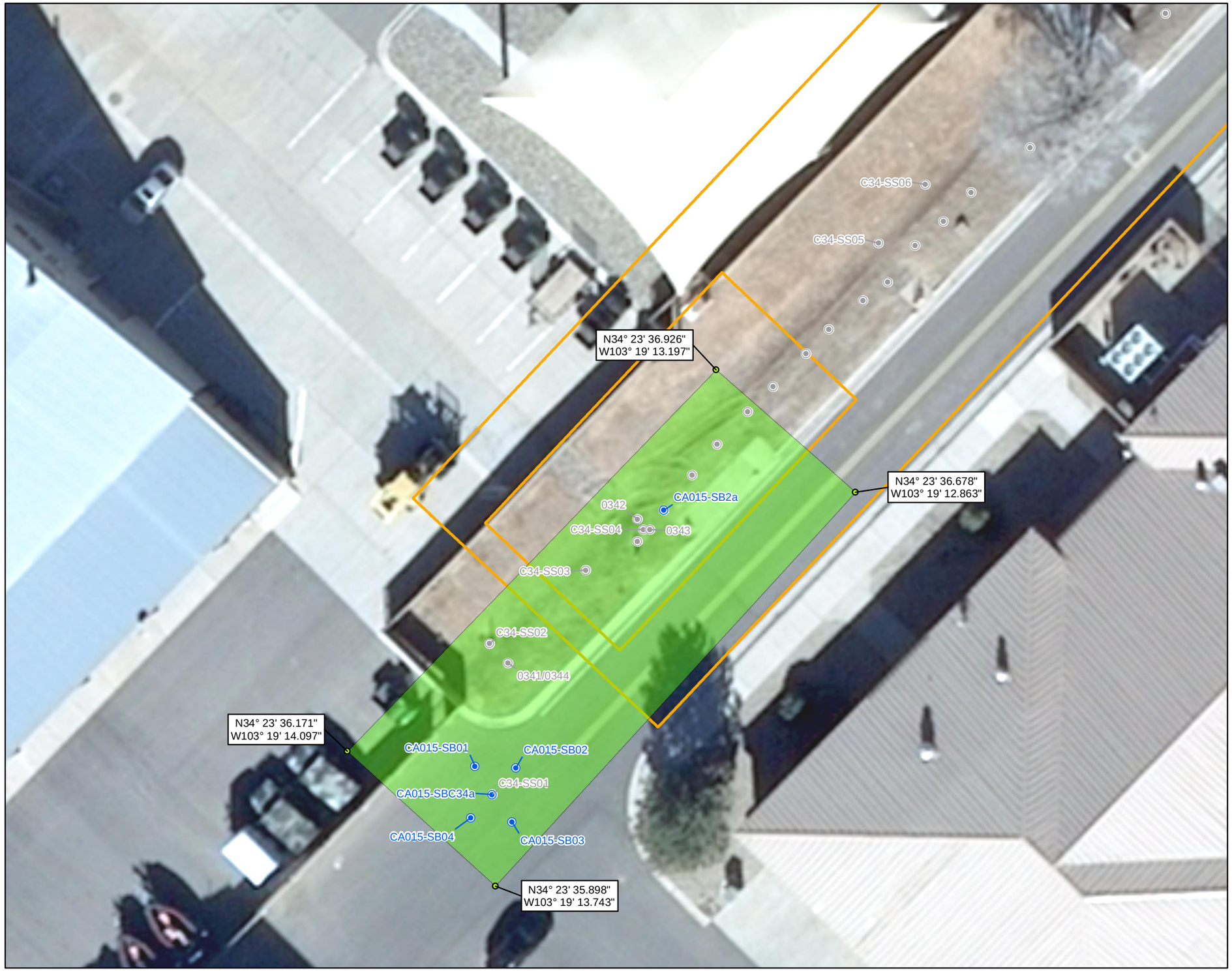

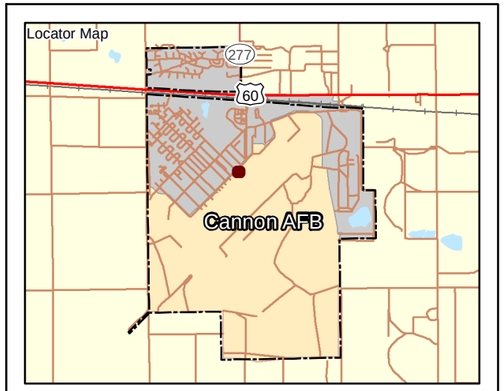

Legend

- Planned Soil Sample Location
- Previous Soil Sample Location
- Utility Clearance Area
- Site Boundary
- Base Boundary

Map projection: NAD83 State Plane Feet New Mexico East (FIPS 3001)

N

20 10 0 20 Feet

Planned Soil Sampling Locations at SD015
Cannon Air Force Base, New Mexico

Drawn By: DPG	Date: 1/21/2016	Project No: 23446539	Figure 1
Checked By: MS	Revision: 0		

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SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB01-001.5 BORING NO. CA015-SB01

DATE/TIME COLLECTED: 5/6/16 / 11:15 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macro core / 1.5' J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4 oz glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: 1-1.5" DESCRIPTION: Silty Clay (CL) - Soft, moist, Dark Brown to Dark Red, trace sand, caliche nodules up to 1/4"

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015 - SB01 - 003 BORING NO. CA015 - SB01

DATE/TIME COLLECTED: 5/6/16 / 11:32 PERSONNEL: K. Kloewer, J. Carritt

SAMPLE METHOD / DEPTH: Geoprobe Macrocore / 3'

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz Glass Jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: 2-3' DESCRIPTION: Clayey Silt (ML) Medium Stiff, Dry, white to very light orange, trace Sand, abundant Caliche nodules

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015 - SB01 - 005 BORING NO. CA015 - SB01

DATE/TIME COLLECTED: 5/6/16 / 1145 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore / 4.5-5' J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. CA015 - SB01 - 205 @ 1155

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
1 4 oz. glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: 4.5-5' DESCRIPTION: Caliche horizon with silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB02-002 BORING NO. CA015-SB02-002

DATE/TIME COLLECTED: 5/6/16 / 1228 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore / 1.5-2" J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT / SOIL GAS

SAMPLE QA SPLIT: YES ~~NO~~ SPLIT SAMPLE NO. **NA**

SAMPLE QC DUPLICATE: YES ~~NO~~ DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES ~~NO~~

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4 oz. glass jar	4° C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: 1.5-2' DESCRIPTION: Silty Clay (CL) Very Stiff, moist, light brown with black mottling, medium plastic, some gravel up to 1/4"

GENERAL COMMENTS

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB02-003 BORING NO. CA015-SB02-~~003~~ JC

DATE/TIME COLLECTED: 5/6/16 / 1232 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe, Macrocore / 2.5-3' J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES ~~NO~~ SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES ~~NO~~ DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES ~~NO~~

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4 oz glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	~~NA~~ ND JC
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: 2.5-3' DESCRIPTION: Silty Clay (CL) Very Stiff, moist, light brown with black mottling, Medium plastic,

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB02-005 BORING NO. CA015-SB02

DATE/TIME COLLECTED: 5/6/16 / 1236, 4-5, JC PERSONNEL: K. Kloewer, J. Carritt

SAMPLE METHOD / DEPTH: Geoprobe Macrocore / ~~2-3~~, JC

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. ~~CA015-SB02-205~~ JC

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(2) 4 oz. glass jars	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	ND

SAMPLE DESCRIPTION

DEPTH: ~~2-3~~, JC 4-5 DESCRIPTION: Silty Clay (CL) Very stiff, Moist to wet, light brown with black Mottling, high plasticity

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB03-001.5 BORING NO. CA015-SB03

DATE/TIME COLLECTED: 5/6/2016 / 1250 PERSONNEL: K. Kloewer, J. Carritt

SAMPLE METHOD / DEPTH: Geoprobe macrocore 1.0-1.5 Feet Bgs

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 1.0-1.5 Feet Bgs DESCRIPTION: Silty CLAY (CL) - Hard, moist, Dark Brown with trace Black mottling, Some Silt, medium plastic

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB03-003 BORING NO. CA015-SB03

DATE/TIME COLLECTED: 5/6/2016 / 1300 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe macrocore 2.5-3.0 Feet BGS J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	—

SAMPLE DESCRIPTION

DEPTH: 2.5-3.0 Feet BGS DESCRIPTION: Silty CLAY (CL) - Hard, moist, Dark Brown with trace Black mottling, Some Silt, medium plastic

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB03-005 BORING NO. CA015-SB03

DATE/TIME COLLECTED: 5/6/2016 / ~~1330~~ 1305 PERSONNEL: K. Kloewer, J. Carritt

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 4.5-5.0 Feet BGS

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: ~~YES~~ NO DUPLICATE SAMPLE NO. ~~CA015-SB03-005 @ 1332~~

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	LEAD ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 4.5-5.0 Feet BGS DESCRIPTION: Caliche layer

GENERAL COMMENTS

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB04-001.5 BORING NO. CA015-SB04

DATE/TIME COLLECTED: 6coprobe Macrocore 1.0-1.5 Feet BGS PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: 5/6/2016/1320 J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 1.0-1.5 Feet BGS DESCRIPTION: Silty CLAY (Hard, moist, Dark Brown with trace Black mottling, medium plastic, some silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB04-003 BORING NO. CA015-SB04

DATE/TIME COLLECTED: 5/6/2016 / 1325 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 2.5-3.0 Feet Bgs J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	-

SAMPLE DESCRIPTION

DEPTH: 2.5-3.0 Feet Bgs DESCRIPTION: Silty CLAY (CL) - ~~Hard~~ soft, moist to wet, tan, medium to High plastic, some silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB04-005 BORING NO. CA015-SB04

DATE/TIME COLLECTED: Geoprobe Macrocore 4.5-5.0 Feet BGS PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: 5/6/2016/ 1330 J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. CA015-SB04-205 @ 1332

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
2x (1) 4 oz glass jar	4°C	Lead KL ~~Arsenic~~ (6020A)

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 4.5-5.0 Feet BGS DESCRIPTION: Caliche layer

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB2A-001 BORING NO. CA015-SB2A

DATE/TIME COLLECTED: 5/6/2016/1415 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 0.5-1.0 Feet BGS J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	—

SAMPLE DESCRIPTION

DEPTH: 0.5-1.0 Feet BGS DESCRIPTION: Silty CLAY (CL)- ~~Soft, moist~~ Very stiff, moist, Dark Brown with tan mottling, medium plastic, Some silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB2A-003 BORING NO. CA015-SB2A

DATE/TIME COLLECTED: 5/6/2016/1420 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 2.5-3.0 Feet Bgs J. Carritt

SAMPLE MEDIA: (SOIL) SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES (NO) SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES (NO) DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES (NO)

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	—

SAMPLE DESCRIPTION

DEPTH: 2.5-3.0 Feet BGS DESCRIPTION: Silty CLAY (CL)- Very stiff, moist, Dark Brown, with tan mottling, medium plastic, Some Silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SB2A-005 BORING NO. CA015-SB2A

DATE/TIME COLLECTED: 5/6/2016 1/1425 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 4.0-5.0 Feet Bgs J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES ~~NO~~ DUPLICATE SAMPLE NO. CA015-SB2A-205@1430

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(2) 4oz glass jars	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 4.0-5.0 Feet Bgs DESCRIPTION: Silty CLAY (CL)- soft, moist to wet, medium plastic, tan, trace caliche nodules

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SBC34A-001.5 BORING NO. CA015-SBC34A

DATE/TIME COLLECTED: 5/6/2016 / 1345 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 1.0-1.5 Feet BGS J. Carritt

SAMPLE MEDIA: (SOIL) SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES (NO) SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES (NO) DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES (NO)

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	—

SAMPLE DESCRIPTION

DEPTH: 1.0-1.5 Feet BGS DESCRIPTION: Silty CLAY (CL)- Hard, moist, Dark Brown with trace Black mottling, medium plastic, Some silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SBC34A-003 BORING NO. CA015-SBC34A

DATE/TIME COLLECTED: 5/6/2016 / 1352 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe microcore 2.5-30 Feet BGS J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead ~~Arsenic~~ 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	—

SAMPLE DESCRIPTION

DEPTH: 2.5-3.0 Feet BGS DESCRIPTION: Silty CLAY (CL) - Hard, moist, Dark Brown with trace Black Mottling, medium plastic, Some silt

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-SBC34A-005 BORING NO. CA015-SBC34A

DATE/TIME COLLECTED: 5/6/2016 / 1355 PERSONNEL: K. Kloewer

SAMPLE METHOD / DEPTH: Geoprobe Macrocore 4.5-5.0 Feet BGS J. Carritt

SAMPLE MEDIA: SOIL SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES NO SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES NO DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES NO

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
(1) 4oz glass jar	4°C	Lead 6020A

PID MEASUREMENTS

Background	ND
Breathing zone	ND
Boring	ND
Headspace	–

SAMPLE DESCRIPTION

DEPTH: 4.5-5.0 Feet BGS DESCRIPTION: Caliche layer

GENERAL COMMENTS

NA

SOIL SAMPLE COLLECTION FIELD SHEET

GENERAL INFORMATION

SITE NAME: **Cannon AFB PBR** PROJECT NO. **23446540**

SAMPLE NO. CA015-0341A-000.5 BORING NO. CA015-0341A

DATE/TIME COLLECTED: 5/13/2016/0945 PERSONNEL: K. Klocow, J. Garritt

SAMPLE METHOD / DEPTH: Shovel / 0-6"

SAMPLE MEDIA: (SOIL) SEDIMENT SOIL GAS

SAMPLE QA SPLIT: YES (NO) SPLIT SAMPLE NO. NA

SAMPLE QC DUPLICATE: YES (NO) DUPLICATE SAMPLE NO. NA

MS/MSD REQUESTED: YES (NO)

SAMPLE CONTAINERS, PRESERVATIVES, ANALYSIS

Sample Container	Preservative	Analysis Requested
~~(2) 8 oz glass jars~~	None	~~TCLP Soil (8260B, 8270D, 8081B, 8151A, 6010C, 7470A, 9095B, TPH-DRO/ORO-8015C)~~ KK
(2) 40 mL VOAs	MeOH	TPH-GRO 8015C
(1) 4oz glass jar	—	TPH DRO/ORO 8015C

PID MEASUREMENTS

Background

Breathing zone

Boring ND

Headspace

SAMPLE DESCRIPTION

DEPTH: 0-6" DESCRIPTION: Sandy SILT (ML) - medium stiff, Dry, Low plastic, Dark Brown, Gravel up to 1/4", Root traces

GENERAL COMMENTS

NA

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015 - SB01	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF SHEETS 2
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4306 Feet Above Mean Sea Level	
	10. DATE STARTED: 05/06/16	11. DATE COMPLETED: 05/06/16
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

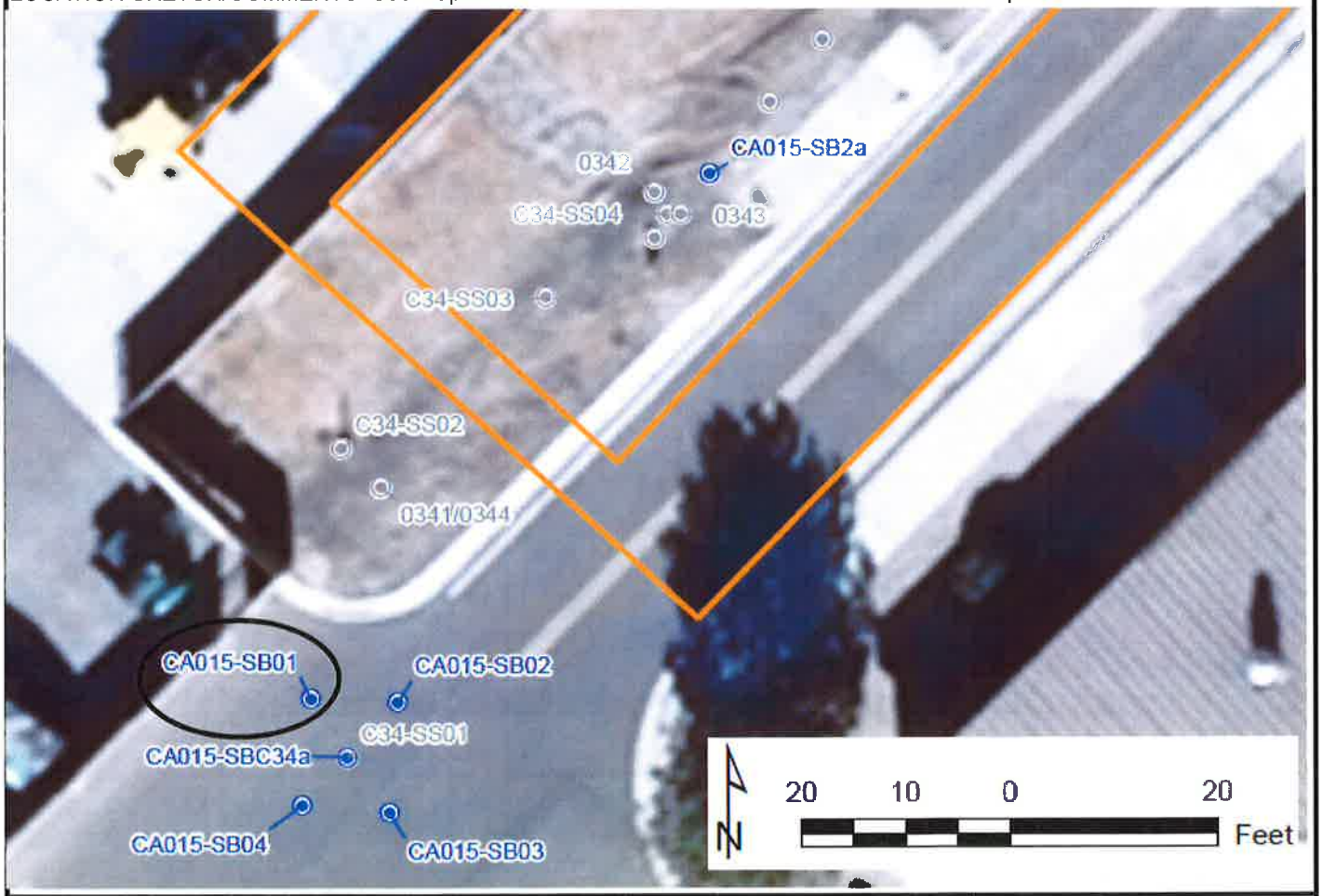
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
	X (6020A)	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	X ~~Bentonite~~ Chips	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below



PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SB01

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SB01

PROJECT: Cannon AFB PBR

Inspector: ~~Kyle Kloewer~~ Jeff Carrigan

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g.	REMARKS h.
	0	Asphalt, Gravel		N/A		PP=Pocket Pen (Tons/FT²)	BKG = Background BGS = Below Ground Surface FS=Field Screening HS = Head Space Screening PPM=Parts Per Million ND=Non Detect R=Run (feet)/Recovery (feet)
	1	Silty Clay (CL) - Soft, Moist, Dark Brown, Trace Sand, Caliche nodules up to ½" Dark to Red	FS = ND HS = ND		CA015-SB01-001	Time = 1115	R = 5'/5'
	2	Clayey Silt (ML) - Medium Stiff, Dry, White to very light orange, Trace Sand, abundant Caliche nodules	FS = ND HS = ND		CA015-SB01-003	Time = 1132	Gradational Contact Ogallala Formation?
	3	Increasing Clay, Increasing moisture and Plasticity					Possible Root Base?
	4	Caliche with Silt	FS = ND HS = ND		CA015-SB01-005	Time = 1145	
	5	Bottom of Boring @ 5 ft. BGS					

Project: Cannon AFB PBR

HOLE NO. CA015-SB01

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015-SB02	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF 2 SHEETS
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4305 Feet Above Mean Sea level	
	10. DATE STARTED: 5-6-2016	11. DATE COMPLETED: 5-6-2016
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.0 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
3 Samples	X 6020A	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	Bentonite Chips X	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below

PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SB02

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SB02

PROJECT: Cannon AFB PBR

Inspector: Kyle Kloewer

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g.	REMARKS h.
	0			N/A		PP=Pocket Pen (Tons/FT^2)	BKG = Background BGS = Below Ground Surface FS=Field Screening HS = Head Space Screening PPM=Parts Per Million ND=Non Detect R=Run (feet)/Recovery (feet)
	1	Asphalt, GRAVEL					Mawo core R=5 Feet / 5 Feet
	2	Silty CLAY (CL) - Very stiff, moist, Light Brown with Black mottling, medium plastic Some gravel up to 1/4 inch	FS=ND		CA015-SB02-002	Time= 1228	Ogallala Formation?
	3		FS=ND		CA015-SB02-003	Time= 1232	
		Caliche layer					
	4	Becoming tan, moist to wet, High plastic	FS=ND		CA015-SB02-005	Time= 1236	plus MS/MSD
		Bottom of Boring @ 5.0 Feet BGS					Road Base?
	5						
	6						
	7						
	8						
	9						
	10						

Project: Cannon AFB PBR

HOLE NO. CA015-SB02

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015-SB03	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF 2 SHEETS
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4305 Feet Above Mean Sea level	
	10. DATE STARTED: 5-6-2016	11. DATE COMPLETED: 5-6-2016
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.0 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

18. GEOTECHNICAL SAMPLES	DISTRIBUTED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
3 Samples	X 6020A	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	Bentonite Chips X	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below

PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SB03

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SB03

PROJECT: Cannon AFB PBR

Inspector: Kyle Kloewer

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g.	REMARKS h.
	0			N/A		PP=Pocket Pen (Tons/FT^2)	BKG = Background BGS = Below Ground Surface FS=Field Screening HS = Head Space Screening PPM=Parts Per Million ND=Non Detect R=Run (feet)/Recovery (feet)
	1	Asphalt, GRAVEL					Macocom
		Silty CLAY (CL) - Hard, moist, Dark Brown with trace Black mottling, Some Silt medium plastic	FS=ND		CA015-SB03-001.5	Time = 1250	R=5 Feet / 5 Feet+
	2						Ogallala Formation?
			FS=ND		CA015-SB03-003		Time = 1300
	3	Caliche layer					
	4	Tan, moist to wet, medium to High plastic, trace 1/8 caliche nodules					Road Base?
			FS=ND		CA015-SB03-005		Time = 1305
	5	Bottom of Boring @ 5.0 Feet BGS					
	6						
	7						
	8						
	9						
	10						

Project: Cannon AFB PBR

HOLE NO. CA015-SB03

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015-SB04	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF 2 SHEETS
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4305 Feet Above Mean Sea level	
	10. DATE STARTED: 5-6-2016	11. DATE COMPLETED: 5-6-2016
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.0 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

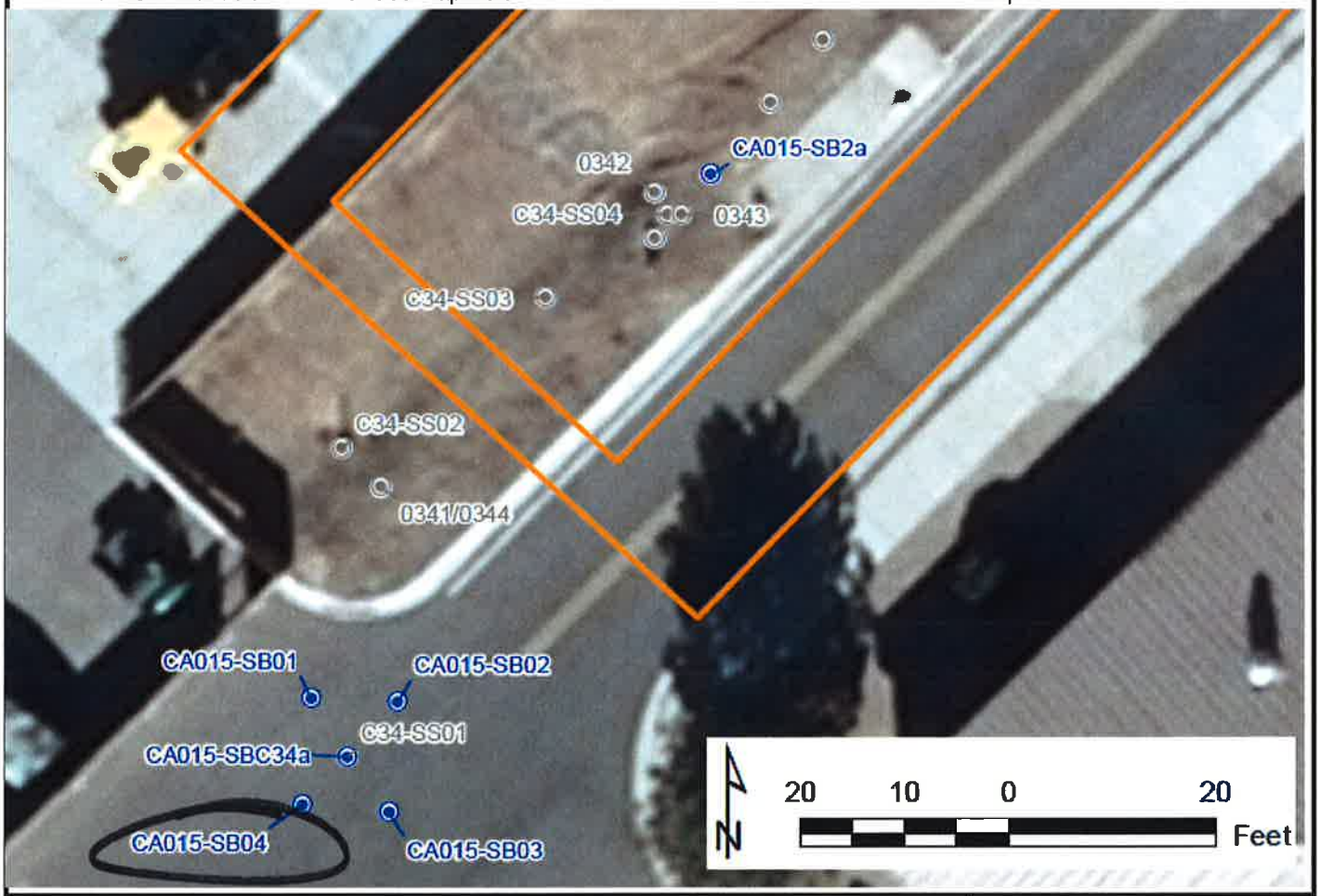
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
3 Samples	6020A X	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	Bentonite Chips X	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below



PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SB04

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SB04

PROJECT: Cannon AFB PBR

Inspector: Kyle Kloewer

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g. (PP=Pocket Pen (Tons/FT²))	REMARKS h. (BKG = Background; BGS = Below Ground Surface; FS=Field Screening; HS = Head Space Screening; PPM=Parts Per Million; ND=Non Detect; R=Run (feet)/Recovery (feet))
	0			N/A			
	1	Asphalt, GRAVEL					MACROCORE
		Silty CLAY (CL) - Hard, moist, Dark Brown, with trace Black mottling, medium plastic some silt	FS=ND		CA015-SB04-001.5	Time = 1320	R=5 Feet / 5 Feet Ogallala Formation?
	2	Caliche layer					
		Tan, moist to Wet, medium to High plastic, Soft	FS=ND		CA015-SB04-003		Time=1325 Road Base?
	3						
	4						
		Caliche layer	FS=ND		CA015-SB04-005		Time = 1330 plus duplicat CA015-SB04-205 @1332
	5						
	6						
	7						
	8						
	9						
	10						

Project: Cannon AFB PBR

HOLE NO. CA015-SB03

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015-SB2A	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF 2 SHEETS
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4305 Feet Above Mean Sea level	
	10. DATE STARTED: 5-6-2016	11. DATE COMPLETED: 5-6-2016
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.0 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

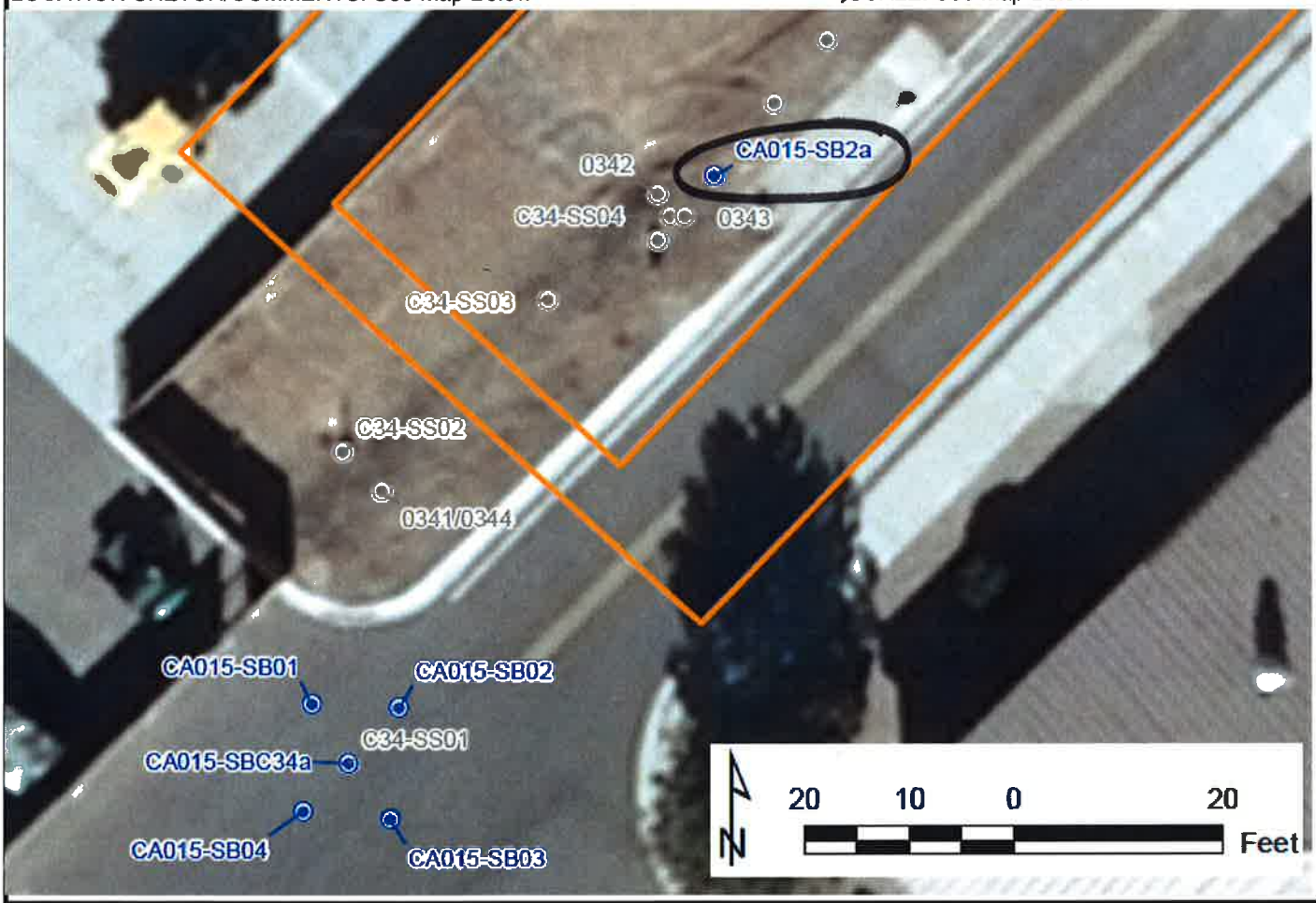
18. GEOTECHNICAL SAMPLES	DISTURBED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
3 Samples	X 6020A	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	Bentonite Chips X	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below



PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SB2A

ENG FORM 5056-R, AUG 94

(Proponent: CECW-EG)

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SB2A

PROJECT: Cannon AFB PBR

Inspector: Kyle Kloewer

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g.	REMARKS h.
	0	GRASS, GRAVEL		N/A		PP=Pocket Pen (Tons/FT^2)	BKG = Background BGS = Below Ground Surface FS=Field Screening HS = Head Space Screening PPM=Parts Per Million ND=Non Detect R=Run (feet)/Recovery (feet)
	1	Silty CLAY (CL)-Very Stiff, moist, Dark Brown with tan mottling, Medium plastic, Some silt	FS=ND		CA015-SB2A-001	Time = 1415	Macrocore R = 5 Feet / 5 Feet Ogallala Formation?
	2		FS=ND		CA015-SB2A-003		Time = 1420
	3	Becoming tan, moist to wet Increasing plasticity, trace caliche nodules, soft					Road Base?
	4		FS=ND		~~CA015-SB2A-005~~		Time = 1425 plus duplicate CA015-SB2A-205 @ 1430
	5	Bottom of Boring @ 5.0 Feet BGS					
	6						
	7						
	8						
	9						
	10						

Project: Cannon AFB PBR

HOLE NO. CA015-SB2A

HTRW DRILLING LOG

DISTRICT: FPM. Remediations, Inc./ 60425210.23446540.0011AA	HOLE NUMBER: CA015-SBC34A	
1. COMPANY NAME: URS Group, Inc.	2. DRILLING SUBCONTRACTOR: Plains Environmental Services	SHEET 1 OF 2 SHEETS
3. PROJECT: Cannon AFB PBR	4. LOCATION: Cannon AFB, Clovis, New Mexico	
5. NAME OF DRILLER: Jesse Kalvig	6. MANUFACTURER'S DESIGNATION OF DRILL: Geoprobe 7720 DT	
7. SIZES AND TYPES OF DRILLING AND SAMPLING EQUIPMENT: 5 Foot, Geoprobe MC5 Macrocore Sampler; 5 Foot, Geoprobe 2.25 inch OD Rods	8. HOLE LOCATION: Site SD015	
	9. SURFACE ELEVATION: 4305 Feet Above Mean Sea level	
	10. DATE STARTED: 5-6-2016	11. DATE COMPLETED: 5-6-2016
12. OVERBURDEN THICKNESS: N/A	15. DEPTH GROUNDWATER ENCOUNTERED: Not Encountered	
13. DEPTH DRILLED INTO ROCK: N/A	16. DEPTH TO WATER AND ELAPSED TIME AFTER DRILLING COMPLETED: N/A	
14. TOTAL DEPTH OF HOLE: 5.0 Feet Below Ground Surface	17. OTHER WATER LEVEL MEASUREMENTS (SPECIFY): N/A	

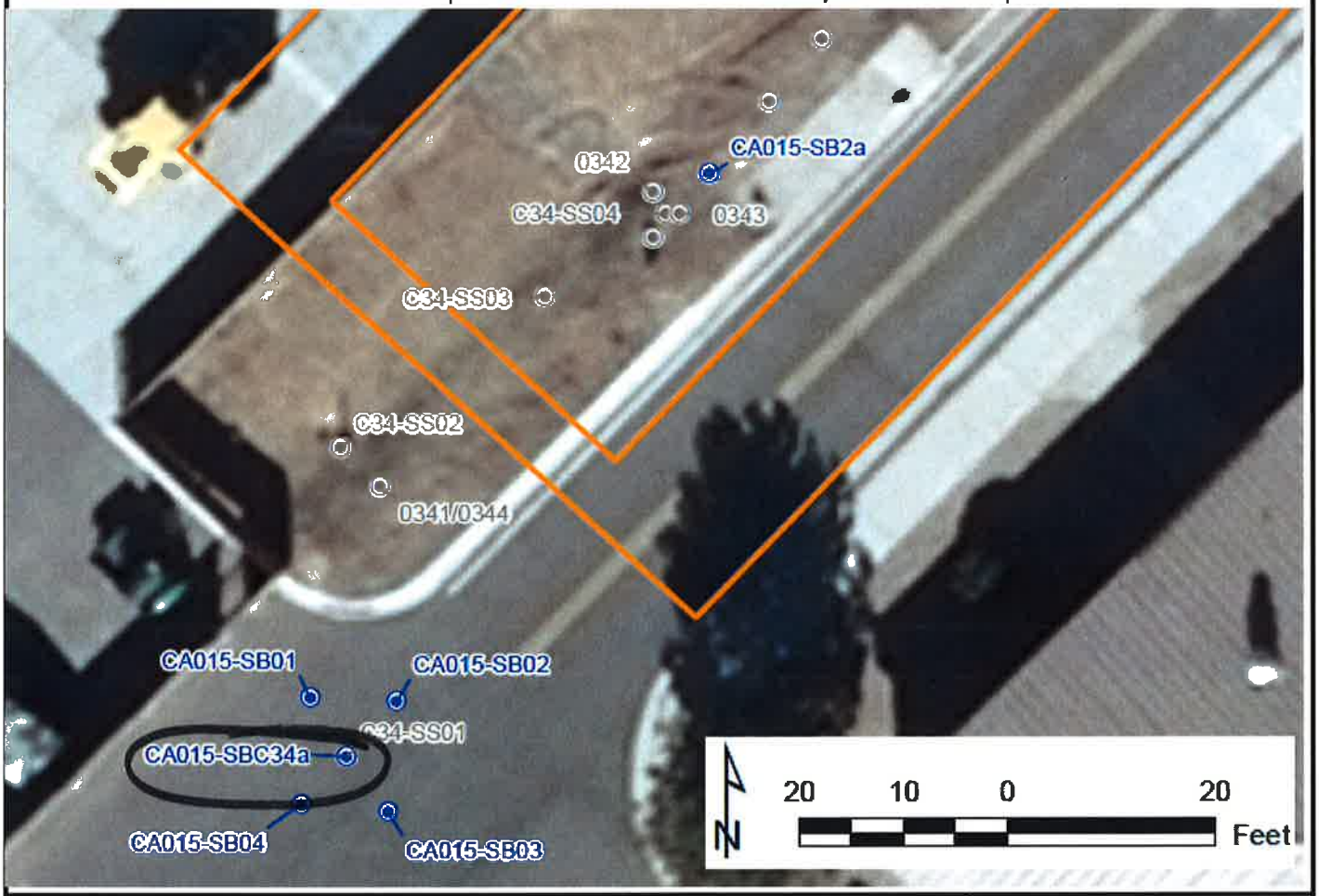
18. GEOTECHNICAL SAMPLES	DISTRIBUTED	UNDISTURBED	19. TOTAL NUMBER OF CORE BOXES
N/A	–	–	N/A

20. SAMPLES FOR CHEMICAL	Lead	Thallium	SVOCs	TAL Metals/PCBs	PAHs	21. TOTAL CORE RECOVERY
3 Samples	X 6020A	–	–	–	–	100 %

22. DISPOSITION OF HOLE	BACKFILLED	MONITORING WELL	OTHER (SPECIFY)	23. SIGNATURE OF INSPECTOR
Soil Boring	Bentonite Chips X	N/A	N/A	[signature]

LOCATION SKETCH/COMMENTS: See Map Below

SCALE: See Map Below



PROJECT	HOLE NO.
Cannon AFB PBR	CA015-SBC34A

HTRW DRILLING LOG (CONTINUATION SHEET)

HOLE NO. CA015-SBC34A

PROJECT: Cannon AFB PBR

Inspector: Kyle Kloewer

SHEET 2 OF 2 SHEETS

ELEV. a.	DEPTH b.	DESCRIPTION OF MATERIALS c.	FIELD SCREENING RESULTS d.	GEOTECH SAMPLE OR CORE BOX NO. e.	ANALYTICAL SAMPLE NO. f.	BLOW COUNTS g.	REMARKS h.
	0			N/A		PP=Pocket Pen (Tons/FT^2)	BKG = Background BGS = Below Ground Surface FS=Field Screening HS = Head Space Screening PPM=Parts Per Million ND=Non Detect R=Run (feet)/Recovery (feet)
		Asphalt, GRAVEL					Macrocore
	1	Silty CLAY (CL) - Hard, moist, Dark Brown with trace Black mottling, medium plastic, some silt	FS=ND		CA015-SBC34A-001.5	Time = 1345	R = 5 Feet / 5 Feet Ogallala Formation?
	2				CA015-SBC34A-003		Time = 1352
	3	Tan, moist to wet, medium to High plastic, soft	FS=ND				Road Base?
	4						
		Caliche layer	FS=ND		CA015-SBC34A-005		Time = 1355
	5	Bottom of Boring @ 5.0 Feet BGS					
	6						
	7						
	8						
	9						
	10						

Project: Cannon AFB PBR

HOLE NO. CA015-SBC34A

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E066 **URS Chemist: Jennifer Zorinsky**
Date Verified: 5/25/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 6020A

Sample Identification #	Date Collected	Date Received	Matrix	Analysis
CA015-SB01-001.5	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB01-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB01-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB01-205	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB02-002	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB02-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB02-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB03-001.5	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB03-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB03-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB04-001.5	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB04-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB04-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB04-205	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SBC34A-001.5	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SBC34A-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SBC34A-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB2A-001	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB2A-003	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB2A-005	5/6/2016	5/7/2016	Soil	Lead (6020A)
CA015-SB2A-205	5/6/2016	5/7/2016	Soil	Lead (6020A)

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD-QSM deviations noted in the laboratory case narrative?		X	
Were DoD-QSM corrective actions followed if deviations were noted?			X
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated no problems or discrepancies were encountered.

The cooler receipt form indicated corrections were made to the sample labels; however, the corrections were not initialed and dated. The sample ID on several sample labels did not match the COC. The sample time on one sample label did not match the sample time on the COCO. These issues are discussed further in Section 2.0.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?	X	
Were all sample identifications (IDs) documented correctly on sample labels?	X	
Did samples listed on COCs match the sample labels?	X	

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E066 **URS Chemist: Jennifer Zorinsky**
Date Verified: 5/25/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 6020A

Verification Criteria	Yes	No
Were samples relinquished properly on the COC?	X	

The cooler receipt form indicated corrections were made to the sample labels; however, the corrections were not initialed and dated. The sample ID on several sample labels did not match the COC. The sample ID on the labels began with the prefix CA105. The sample ID on the COC began with the prefix CA015. Per the URS chemist, the correct sample ID prefix was CA015. The time on the sample label for CA015-SB03-005 was 13:05; the time on the COC was 13:10. Per the URS chemist, the correct sample time was 13:10. No qualification of data was required.

3.0 Holding Time

Verification Criteria	Yes	No	N/A
Were all samples extracted/analyzed within holding time?	X		
Were samples outside holding time extracted/analyzed < 2x holding time?			X
Were samples outside holding time extracted/analyzed > 2x holding time?			X

4.0 Instrument Performance Check (Tuning)

Method 6020A Instrument Tuning Criteria (Filename)	98E02001.D	
Instrument:	**98**	
Date of Tuning:	**5/9/2016**	
	Yes	**No**
Was instrument tuning completed prior to calibration?	X	
Was mass calibration ≤ 0.1 amu from true value?	X	
Was resolution < 0.9 amu full width at 10% peak height?	X	
For stability, was the RSD ≤ 5% for at least four replicate analytes?	X	

5.0 Initial Calibration

Method 6020A Initial Calibration Criteria			
Instrument:	**98**		
Date of Calibration:	**5/9/2016**		
	Yes	**No**	**N/A**
Was a minimum of two standards and a calibration blank used for ICAL?	X		
Was r ≥ 0.995?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E066 **URS Chemist: Jennifer Zorinsky**
Date Verified: 5/25/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 6020A

6.0 Initial Calibration Verification [(ICV) Second Source]

Method 6020A ICV Criteria (Filename)	**98E02009.D**		
Instrument:	**98**		
Date of Initial Calibration Verification	**5/9/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Was the ICV %recovery (%R) for all analytes within 90-110%?	X		

7.0 Continuing Calibration Verification (CCV)

Method 6020A CCV Criteria (Date)	**All CCVs on 5/9/2016**		
Instrument:	**98**		
	Yes	**No**	**N/A**
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the CCV %Rs for all analytes within 90-110%?	X		

8.0 Blank Samples

Blank Criteria	**Yes**	**No**	**N/A**
Was a method blank analyzed with every preparatory batch?	X		
Were analytes detected > ½ the LOQ and > 1/10 the amount measured in any sample or 1/10 the regulatory limit?		X	
Were target analytes detected in method, trip or calibration blanks?		X	

9.0 Laboratory Control Sample (LCS)

LCS Criteria	**Yes**	**No**	**N/A**
Was an LCS analyzed with every preparatory batch?	X		
Were LCS recoveries within acceptance criteria listed in the UFP-QAPP?	X		

10.0 Internal Standards (IS)

Methods 6020A Criteria	**Yes**	**No**	**N/A**
For Method 6020A, were internal standards spiked for all samples and standards?	X		
For Method 6020A, were internal standard areas within 30% to 120% of the ICAL midpoint standard area?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E066 **URS Chemist: Jennifer Zorinsky**
Date Verified: 5/25/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 6020A

11.0 Interference Check Sample (6020A Metals only)

Interference Check Sample Criteria	Yes	No	N/A
Were ICS-A and ICSAB samples analyzed at the beginning of the analytical run and every 12 hours?	X		
Was the ICS-A absolute value concentration for all non-spiked metals < LOD (unless they are a verified trace impurity form one of the spiked metals)	X		
Were the ICS-AB recoveries within ± 20%?	X		

12.0 Matrix Spike/Matrix Spike Duplicate

MS/MSD Criteria	Yes	No	N/A
Was a MS/MSD sample analyzed with every preparatory batch?	X		
Was a MS/MSD sample collected for this SDG?	X		
Were MS/MSD recoveries/RPDs within acceptance criteria listed in the UFP-QAPP?	X		

Samples CA015-SB02-005 and CA015-SB2A-205 were spiked and analyzed for lead.

13.0 Matrix Duplicate

Matrix Duplicate (MD) Criteria	Yes	No	N/A
Were MD samples analyzed with every preparatory batch?	X		
Were MD samples collected for this SDG?	X		
Were MD RPDs within acceptance criteria listed in the UFP-QAPP?	X		

Samples CA015-SB02-005 and CA015-SB2A-205 were duplicated and analyzed for lead.

14.0 Dilution Test

Method 6020A Dilution Test Criteria	Yes	No	N/A
Was a dilution test sample analyzed with every preparatory batch?	X		
Was a dilution test sample analyzed from this SDG?	X		
Were metals concentrations > 50x the LOQ?		X	
Did the five-fold dilution agree within ± 10% of the original measurement?	X		
If the five-fold dilution did not agree within ± 10% of the original measurement, was a post digestion spike sample analyzed?	X		

Samples CA015-SB02-005 and CA015-SB2A-205 were diluted and analyzed for lead.

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E066 **URS Chemist: Jennifer Zorinsky**
Date Verified: 5/25/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 6020A

15.0 Post Digestion Spike (PDS)

Method 6020A PDS Criteria	Yes	No	N/A
Was a PDS sample analyzed from this SDG?	X		
Was a PDS sample analyzed if the dilution test failed or metals concentrations were < 50 x the LOD?	X		
Were the PDS recoveries within 75-125%?	X		

Samples CA015-SB02-005 and CA015-SB2A-205 were spiked and analyzed for lead.

16.0 Field Duplicate Samples

Field Duplicate Criteria	Yes	No	N/A
Were field duplicate samples collected for this SDG? (if yes, list below)	X		
Were parent sample / field duplicate RPDs ≤ 50% for soil analytes that had concentrations > 5x the LOQ.	X		
Were the differences between the parent sample / field duplicate < 2x the LOQ for analytes that had concentrations < 5x the LOQ	X		

Parent Sample ID	Field Duplicate Sample ID
CA015-SB01-005	CA015-SB01-205
CA015-SB04-005	CA015-SB04-205
CA015-SB2A-005	CA015-SB2A-205

17.0 Sensitivity

Sensitivity Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

18.0 Additional Qualifications

Additional Qualification Criteria	Yes	No	N/A
Were common laboratory contaminants detected?		X	
Were common laboratory contaminant concentrations < 2x the LOQ?			X
Was professional judgment used to qualify data (if yes, list below)?		X	

CLIENT: **URS CORPORATION**

PROJECT: **CANNON AFB PBR**

SDG: **16E066**

I certify this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than that the conditions detailed in the report. Release of the data contained in this hardcopy data package and in the computer-readable data submitted in CD ROM has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Caspar J. Pang
Laboratory Director

LABORATORY REPORT

CLIENT: **URS CORPORATION**

PROJECT: **CANNON AFB PBR**

SDG: **16E066**

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Revised Report

EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 06-08-2016
EMAX Batch No.: 16E066

Attn: Jeff Aust

URS Corporation
12120 Shamrock Plaza, Suite 300
Omaha, NE 68154

Subject: Revised Report
Project: CANNON AFB PBR

Enclosed is the Laboratory report for samples received on 05/07/16.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
CA015-SB01-001.5	E066-01	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB01-003	E066-02	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB01-005	E066-03	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB01-205	E066-04	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB02-002	E066-05	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB02-003	E066-06	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB02-005	E066-07	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB02-005MS	E066-07M	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB02-005MSD	E066-07S	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB03-001.5	E066-08	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB03-003	E066-09	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB03-005	E066-10	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB04-001.5	E066-11	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB04-003	E066-12	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB04-005	E066-13	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB04-205	E066-14	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SBC34A-001.5	E066-15	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SBC34A-003	E066-16	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SBC34A-005	E066-17	05/06/16	SOIL	LEAD BY ICP-MS

Revised Report

Sample ID	Control #	Col Date	Matrix	Analysis
CA015-SB2A-001	E066-18	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB2A-003	E066-19	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB2A-005	E066-20	05/06/16	SOIL	LEAD BY ICP-MS
CA015-SB2A-205	E066-21	05/06/16	SOIL	LEAD BY ICP-MS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number E871112
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E066

METHOD SW6020A
LEAD BY ICP-MS

A total of twenty-one (21) soil samples were received on 05/07/16 to be analyzed for Lead by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
Samples were digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. IME012SB and IME013SB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two (2) LCSs were analyzed. Lead was within LCS QC limits in IME012SL. Lead was within LCS QC limits in IME013SL. Refer to LCS summary forms for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, two (2) MSs were analyzed. In addition, analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RECEIPT FORM 1 Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 16E0640
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7830 0977 4140	Recipient Shen Tang
☐ EMAX Courier ☐ Client Delivery		Date 05/02/16 Time 1015

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☑ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note: Changes made to the COC TAT are in-house - but not added (100)

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☐ _____
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 2.7 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	A - S/N 130638505 Secondary	B - S/N 140252070	C - S/N 140252067	D - S/N 150555630	FM 2/8/16

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note: _____

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
7, 10, 17	7, 11, 18	D10		R1
10	11	D7	per label: 1305 (COC 1310)	R1
11	12	D3	per label: CA105-SB04-001.5	R1
12	13	D3	per label: CA105-SB04-003	↓
13	14	D3	per label: CA105-SB04-005	↓
14	15	D3	per label: CA105-SB04-205	↓
15	16	D3	per label: CA015-SBC34A-001.5	↓
16	17	D3	per label: CA015-SBC34A-003	↓
17	18	D3	per label: CA015-SBC34A-005	↓
			5/9/16	

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS:

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
D1	Analysis is not indicated in _____	D13	Out of Holding Time	R1	Proceed as indicated in ☐ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	_____
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	_____
D10	No initial/date on corrections in COC/label	D22	_____	R10	_____
D11	Container count mismatch COC vs received	D23	_____	R11	_____
D12	Container size mismatch COC vs received	D24	_____	R12	_____

REVIEWS:

Sample Labeling [signature] **Date** 5/09/16 5/9/16 **SRF** [signature] **Date** 5/9/16 **PM** [signature] **Date** 5/9/16

Andy Mai

From: Gragert, Steve [steve.gragert@aecom.com]
Sent: Monday, May 09, 2016 11:20 AM
To: Andy Mai; Zorinsky, Jennifer
Cc: Paula McCartney (pmccartney@applinc.com); Kloewer, Kyle
Subject: RE: Cannon COC; 16E065 and 16E066 discrepancies

Sorry about that. The lead samples need to be 24 hour TAT. Jennifer's email is correct.

The COC is correct. IDs should begin with CA015.

Steve Gragert, CHMM
Senior Chemist, SH&E Representative, Environment, Central Midwest
D +1-402-952-2534
M +1-402-880-9047
steve.gragert@aecom.com

AECOM
12120 Shamrock Plaza Suite 100
Omaha, NE 68154, United States
T +1-402-334-8181
aecom.com

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From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Monday, May 09, 2016 1:03 PM
To: Zorinsky, Jennifer
Cc: Gragert, Steve
Subject: RE: Cannon COC; 16E065 and 16E066 discrepancies

Hi Steve,

Can you please confirm the TAT needed? The email below and the COCs are conflicting. Can we assume the email is correct? Lead=24 hour TAT and Arsenic= standard TAT

Also, can you please confirm the sample IDs for SDG 16E066. The suffix on the COCs show "CA015" but the many of the labels show "CA105"

Thanks,
Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

From: Zorinsky, Jennifer [mailto:jennifer.zorinsky@aecom.com]

Sent: Friday, May 06, 2016 3:08 PM
To: Andy Mai
Cc: Gragert, Steve
Subject: Cannon COC

Hi Andy,

Please see attached for sampling done today at Cannon AFB. You will receive these samples tomorrow, Saturday delivery. The samples for arsenic only should be analyzed on a standard TAT. The samples for lead only should be analyzed on a 24 hour TAT (results Tuesday). We will be sampling for arsenic only over the weekend and shipping those samples on Monday. You will receive a lot of samples on Tuesday, but they will be for standard TAT.

Thanks
Jennifer

Jennifer Zorinsky
Chemist, Environment
D +1-402-952-2563
M +1-832-545-1583
jennifer.zorinsky@aecom.com

AECOM
12120 Shamrock Plaza, Suite 100
Omaha, NE 68154, USA
T +1-402-334-8181
aecom.com

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Andy Mai

From: Zorinsky, Jennifer [jennifer.zorinsky@aecom.com]
Sent: Monday, June 06, 2016 7:32 AM
To: Andy Mai
Subject: FW: Cannon AFB COC Update
Follow Up Flag: FollowUp
Flag Status: Red

Hi Andy,

Kyle has three sample IDs that need to be changed for SDG 16E066. The changes are:

CA015-SBCA-001.5 to CA015-SBC**34**A-001.5 — 15
CA015-SBCA-003 to CA015-SBC**34**A-003 — 16
CA015-SBCA-005 to CA015-SBC**34**A-005 — 17

Please update the data package. I do not need a new ERPIMS file. Sorry for the inconvenience.

Thanks
Jennifer

From: Kloewer, Kyle
Sent: Monday, June 06, 2016 7:49 AM
To: Zorinsky, Jennifer
Cc: Wilson, Paul (Omaha)
Subject: Cannon AFB COC Update

Jen,

A few changes to the COC after detail checking all the paperwork. Attached is a copy of the COC with ID's to be changed highlighted in yellow.
Borings "CA015-SBCA-..." should be changed to "CA015-SBC34A-..."

Thanks,

Kyle Kloewer, GIT
Geologist, Environment, Central Midwest
D +1-402-952-2675
M +1-402-321-0977
kyle.kloewer@aecom.com

AECOM
12120 Shamrock Plaza Suite 100
Omaha, Nebraska, 68154, United States
T +1-402-334-8181
aecom.com

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URS Corporation
12120 Shamrock Plaza, Suite 100, Omaha, NE 68154 (402) 334-8181 Fax (402) 334-1984

CHAIN OF CUSTODY RECORD

Project Name: Cannon AFB PBR
Project No.: 60425210
Project Location: CAFB, Clovis, NM
Project Manager: Mike Sonderman
Sampler(s): K. Klouwer and J. Carrita

Analytical Parameters: ~~Lead ONLY Arsenic (6020A)~~ KeEC06

	Sample Date	Sample Time	Type Comp.	Type Grab	Sample Identification	Matrix	Containers No.	Containers Type	~~Lead ONLY Arsenic (6020A)~~	Preservative / Remarks
1	5/6/16	1115		X	CA015-SB01-001.5	Soil	1	4oz glass jar	X	4°C
2	5/6/16	1132		X	CA015-SB01-003	Soil	1	4oz glass jar	X	4°C
3	5/6/16	1145		X	CA015-SB01-005	Soil	1	4oz glass jar	X	4°C
4	5/6/16	1155		X	CA015-SB01-205	Soil	1	4oz glass jar	X	4°C
5		1228		X	CA015-SB02-002	Soil	1	4oz glass jar	X	4°C
6		1232		X	CA015-SB02-003	Soil	1	4oz glass jar	X	4°C
7		1236		X	CA015-SB02-005		2	4oz glass jar	X	MS/MSD
8		1250		X	CA015-SB03-001.5		1		X	4°C
9		1300		X	CA015-SB03-003		1		X	4°C
10		1310		X	CA015-SB03-005		1		X	4°C
11		1320		X	CA015-SB04-001.5		1		X	4°C
12		1325		X	CA015-SB04-003		1		X	4°C
13		1330		X	CA015-SB04-005		1		X	4°C
14		1332		X	CA015-SB04-205		1		X	4°C

Signatures	Date	Time	Shipping Details	Special Instructions
Relinquished by: Jeffrey Carrita	5/6/16	15:00	Method of Shipment: FedEx	~~24 Hour TAT~~ (JC)
Received by:			Airbill No.:	
Relinquished by:			Lab Address: Emax Laboratories 1835 West 205th St. Torrance, CA 90510	
Received for Laboratory by: [illegible]	050716	1015		Temp = 2.7°C

P Drive/Office Administration/Chain of Custody Form (Nov 2012) White copy - Laboratory Yellow copy - Laboratory Pink copy - URS

130388

URS Corporation
12120 Shamrock Plaza, Suite 100, Omaha, NE 68154 (402) 334-8181 Fax (402) 334-1984

CHAIN OF CUSTODY RECORD

Project Name: CANNON AFB PBR
Project No.: 60425210
Project Location: CAFB, Clovis, NM
Project Manager: Mike Sunderman
Sampler(s): K. Kloewer and J. Carritt

KeEX06

	Sample Date	Sample Time	Type Comp.	Type Grab	Sample Identification	Matrix	Containers No.	Containers Type	Analytical Parameters: Lead 6020A									Preservative / Remarks
15	5/6/16	1345		X	CA015-SBCA-001.5	Soil	1	4 oz glass jar	X									4°C
16		1352		X	CA015-SBCA-003				X									
17		1355		X	CA015-SBCA-005				X									
18		1415		X	CA015-SB2A-001				X									
19		1420		X	CA015-SB2A-003				X									
20		1425		X	CA015-SB2A-005				X									
21		1430		X	CA015-SB2A-205				X									

Signatures	Date	Time	Shipping Details	Special Instructions
Relinquished by: [signature]	5/6/16	15:00	Method of Shipment: Fed Ex	
Received by:			Airbill No.:	
Relinquished by:			Lab Address: Emax Laboratories 1835 West 205th St. Torrance, CA 90501	
Received for Laboratory by: [signature]	050716	1015		Temp = 2.7°C

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LAB CHRONICLE
LEAD BY ICP-MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E066
Instrument ID : T-198

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	IME012SB	1	NA	05/09/1617:32	05/09/1611:28	98E02018	98E02016	IME012S	Method Blank
LCS1S	IME012SL	1	NA	05/09/1617:37	05/09/1611:28	98E02019	98E02016	IME012S	Lab Control Sample (LCS)
CA015-SB01-001.5	E066-01	0.971	12.1	05/09/1617:41	05/09/1611:28	98E02020	98E02016	IME012S	Field Sample
CA015-SB01-003	E066-02	0.966	18.3	05/09/1617:46	05/09/1611:28	98E02021	98E02016	IME012S	Field Sample
CA015-SB01-005	E066-03	0.976	5.9	05/09/1617:50	05/09/1611:28	98E02022	98E02016	IME012S	Field Sample
CA015-SB01-205	E066-04	0.980	5.5	05/09/1617:55	05/09/1611:28	98E02023	98E02016	IME012S	Field Sample
CA015-SB02-002	E066-05	0.976	12.8	05/09/1617:59	05/09/1611:28	98E02024	98E02016	IME012S	Field Sample
CA015-SB02-003	E066-06	0.976	13.0	05/09/1618:04	05/09/1611:28	98E02025	98E02016	IME012S	Field Sample
CA015-SB02-005MS	E066-07M	0.980	15.8	05/09/1618:08	05/09/1611:28	98E02026	98E02016	IME012S	Matrix Spike Sample (MS)
CA015-SB02-005AS	E066-07A	0.980	15.8	05/09/1618:26	05/09/1611:28	98E02030	98E02028	IME012S	Analytical Spike Sample
CA015-SB02-005	E066-07	0.980	15.8	05/09/1618:30	05/09/1611:28	98E02031	98E02028	IME012S	Field Sample
CA015-SB02-005DL	E066-07J	4.90	15.8	05/09/1618:35	05/09/1611:28	98E02032	98E02028	IME012S	Diluted Sample
CA015-SB02-005DUP	E066-07D	0.966	15.8	05/09/1618:39	05/09/1611:28	98E02033	98E02028	IME012S	Duplicate Sample
CA015-SB03-001.5	E066-08	0.990	11.1	05/09/1618:44	05/09/1611:28	98E02034	98E02028	IME012S	Field Sample
CA015-SB03-003	E066-09	0.962	16.1	05/09/1618:48	05/09/1611:28	98E02035	98E02028	IME012S	Field Sample
CA015-SB03-005	E066-10	0.976	16.7	05/09/1618:52	05/09/1611:28	98E02036	98E02028	IME012S	Field Sample
MBLK2S	IME013SB	1	NA	05/09/1619:10	05/09/1611:44	98E02040	98E02038	IME013S	Method Blank
LCS2S	IME013SL	1	NA	05/09/1619:15	05/09/1611:44	98E02041	98E02038	IME013S	Lab Control Sample (LCS)
CA015-SB04-001.5	E066-11	0.985	10.7	05/09/1619:19	05/09/1611:44	98E02042	98E02038	IME013S	Field Sample
CA015-SB04-003	E066-12	0.980	15.0	05/09/1619:24	05/09/1611:44	98E02043	98E02038	IME013S	Field Sample
CA015-SB04-005	E066-13	0.980	18.9	05/09/1619:28	05/09/1611:44	98E02044	98E02038	IME013S	Field Sample
CA015-SB04-205	E066-14	0.980	19.5	05/09/1619:32	05/09/1611:44	98E02045	98E02038	IME013S	Field Sample
CA015-SBC34A-001.5	E066-15	0.957	10.5	05/09/1619:37	05/09/1611:44	98E02046	98E02038	IME013S	Field Sample
CA015-SBC34A-005	E066-17	0.962	4.9	05/09/1619:46	05/09/1611:44	98E02048	98E02038	IME013S	Field Sample
CA015-SB2A-001	E066-18	0.971	7.0	05/09/1620:03	05/09/1611:44	98E02052	98E02050	IME013S	Field Sample
CA015-SB2A-003	E066-19	0.971	16.4	05/09/1620:08	05/09/1611:44	98E02053	98E02050	IME013S	Field Sample
CA015-SB2A-005	E066-20	0.990	12.0	05/09/1620:12	05/09/1611:44	98E02054	98E02050	IME013S	Field Sample
CA015-SB2A-205MS	E066-21M	0.962	11.9	05/09/1620:17	05/09/1611:44	98E02055	98E02050	IME013S	Matrix Spike Sample (MS)
CA015-SB2A-205AS	E066-21A	0.976	11.9	05/09/1620:21	05/09/1611:44	98E02056	98E02050	IME013S	Analytical Spike Sample
CA015-SB2A-205	E066-21	0.976	11.9	05/09/1620:26	05/09/1611:44	98E02057	98E02050	IME013S	Field Sample
CA015-SB2A-205DL	E066-21J	4.88	11.9	05/09/1620:30	05/09/1611:44	98E02058	98E02050	IME013S	Diluted Sample
CA015-SB2A-205DUP	E066-21D	0.990	11.9	05/09/1620:35	05/09/1611:44	98E02059	98E02050	IME013S	Duplicate Sample
CA015-SBC34A-003	E066-16I	4.88	10.1	05/09/1620:39	05/09/1611:44	98E02060	98E02050	IME013S	Diluted Sample

FN - Filename
% Moist - Percent Moisture

Revised Report

RESULTS SUMMARIES

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-001.5	Date Analyzed:	05/09/16 17:41
Lab Samp ID:	E066-01	Dilution Factor:	0.971
Lab File ID:	98E02020	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	12.1
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	7.33	0.552	0.0552	0.110

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-003	Date Analyzed:	05/09/16 17:46
Lab Samp ID:	E066-02	Dilution Factor:	0.966
Lab File ID:	98E02021	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	18.3
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.86	0.591	0.0591	0.118

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-005	Date Analyzed:	05/09/16 17:50
Lab Samp ID:	E066-03	Dilution Factor:	0.976
Lab File ID:	98E02022	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	5.9
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.39	0.519	0.0519	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-205	Date Analyzed:	05/09/16 17:55
Lab Samp ID:	E066-04	Dilution Factor:	0.980
Lab File ID:	98E02023	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	5.5
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.10	0.519	0.0519	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-002	Date Analyzed:	05/09/16 17:59
Lab Samp ID:	E066-05	Dilution Factor:	0.976
Lab File ID:	98E02024	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	12.8
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	19.4	0.560	0.0560	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-003	Date Analyzed:	05/09/16 18:04
Lab Samp ID:	E066-06	Dilution Factor:	0.976
Lab File ID:	98E02025	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	13.0
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	10.4	0.561	0.0561	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-005	Date Analyzed:	05/09/16 18:30
Lab Samp ID:	E066-07	Dilution Factor:	0.980
Lab File ID:	98E02031	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	15.8
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	4.33	0.582	0.0582	0.116

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-001.5	Date Analyzed:	05/09/16 18:44
Lab Samp ID:	E066-08	Dilution Factor:	0.990
Lab File ID:	98E02034	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	11.1
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	9.38	D.557	0.0557	0.111

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-003	Date Analyzed:	05/09/16 18:48
Lab Samp ID:	E066-09	Dilution Factor:	0.962
Lab File ID:	98E02035	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	16.1
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	3.03	0.573	0.0573	0.115

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-005	Date Analyzed:	05/09/16 18:52
Lab Samp ID:	E066-10	Dilution Factor:	0.976
Lab File ID:	98E02036	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	16.7
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	3.78	0.586	0.0586	0.117

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-001.5	Date Analyzed:	05/09/16 19:19
Lab Samp ID:	E066-11	Dilution Factor:	0.985
Lab File ID:	98E02042	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.7
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	32.2	0.552	0.0552	0.110

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-003	Date Analyzed:	05/09/16 19:24
Lab Samp ID:	E066-12	Dilution Factor:	0.980
Lab File ID:	98E02043	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	15.0
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.27	0.576	0.0576	0.115

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-005	Date Analyzed:	05/09/16 19:28
Lab Samp ID:	E066-13	Dilution Factor:	0.980
Lab File ID:	98E02044	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	18.9
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.01	0.604	0.0604	0.121

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-205	Date Analyzed:	05/09/16 19:32
Lab Samp ID:	E066-14	Dilution Factor:	0.980
Lab File ID:	98E02045	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	19.5
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.78	0.609	0.0609	0.122

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-001.5	Date Analyzed:	05/09/16 19:37
Lab Samp ID:	E066-15	Dilution Factor:	0.957
Lab File ID:	98E02046	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.5
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	14.5	0.535	0.0535	0.107

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-003	Date Analyzed:	05/09/16 20:39
Lab Samp ID:	E066-16I	Dilution Factor:	4.88
Lab File ID:	98E02060	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.1
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	334	2.71	0.271	0.543

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-005	Date Analyzed:	05/09/16 19:46
Lab Samp ID:	E066-17	Dilution Factor:	0.962
Lab File ID:	98E02048	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	4.9
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.37	0.506	0.0506	0.101

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-001	Date Analyzed:	05/09/16 20:03
Lab Samp ID:	E066-18	Dilution Factor:	0.971
Lab File ID:	98E02052	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	7.0
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	68.9	0.522	0.0522	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-003	Date Analyzed:	05/09/16 20:08
Lab Samp ID:	E066-19	Dilution Factor:	0.971
Lab File ID:	98E02053	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	16.4
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.71	0.581	0.0581	0.116

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-005	Date Analyzed:	05/09/16 20:12
Lab Samp ID:	E066-20	Dilution Factor:	0.990
Lab File ID:	98E02054	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	12.0
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.52	0.562	0.0563	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-205	Date Analyzed:	05/09/16 20:26
Lab Samp ID:	E066-21	Dilution Factor:	0.976
Lab File ID:	98E02057	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	11.9
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.20	0.554	0.0554	0.111

QC SUMMARIES

METHOD BLANK

Method: 6020A

QC Measure: IME012SB

Associated Samples:
- CA015-SB01-001.5
- CA015-SB01-003
- CA015-SB01-005
- CA015-SB01-205
- CA015-SB02-002
- CA015-SB02-003
- CA015-SB02-005
- CA015-SB03-001.5
- CA015-SB03-003
- CA015-SB03-005

QC Measure: IME013SB

Associated Samples:
- CA015-SB04-001.5
- CA015-SB04-003
- CA015-SB04-005
- CA015-SB04-205
- CA015-SBC34A-001.5
- CA015-SBC34A-005
- CA015-SB2A-001
- CA015-SB2A-003
- CA015-SB2A-005
- CA015-SB2A-205
- CA015-SBC34A-003

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/09/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	MBLK1S	Date Analyzed:	05/09/16 17:32
Lab Samp ID:	IME012SB	Dilution Factor:	1
Lab File ID:	98E02018	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	NA
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	ND	0.500	0.0500	0.100

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/09/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	MBLK2S	Date Analyzed:	05/09/16 19:10
Lab Samp ID:	IME013SB	Dilution Factor:	1
Lab File ID:	98E02040	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	NA
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	ND	0.500	0.0500	0.100

LCS/LCSD

Method: 6020A

QC Measure: IME012SL

Associated Samples:
- CA015-SB01-001.5
- CA015-SB01-003
- CA015-SB01-005
- CA015-SB01-205
- CA015-SB02-002
- CA015-SB02-003
- CA015-SB02-005
- CA015-SB03-001.5
- CA015-SB03-003
- CA015-SB03-005

QC Measure: IME013SL

Associated Samples:
- CA015-SB04-001.5
- CA015-SB04-003
- CA015-SB04-005
- CA015-SB04-205
- CA015-SBC34A-001.5
- CA015-SBC34A-005
- CA015-SB2A-001
- CA015-SB2A-003
- CA015-SB2A-005
- CA015-SB2A-205
- CA015-SBC34A-003

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1S			
CONTROL NO.:	IME012SB	IME012SL		
LAB FILE ID:	98E02018	98E02019		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	NA
DATIME ANALYZD:	05/09/1617:32	05/09/1617:37	DATE RECEIVED:	05/09/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02016	98E02016		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Lead	ND	20.0	20.0	100	80-120

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK2S			
CONTROL NO.:	IME013SB	IME013SL		
LAB FILE ID:	98E02040	98E02041		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	NA
DATIME ANALYZD:	05/09/1619:10	05/09/1619:15	DATE RECEIVED:	05/09/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02038	98E02038		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Lead	ND	20.0	19.6	98	80-120

MS/MSD / DUPLICATE / SERIAL DILUTION / ANALYTICAL SPIKE

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILTN FACTR:	0.980	0.980		
SAMPLE ID:	CA015-SB02-005			
CONTROL NO.:	E066-07	E066-07M		
LAB FILE ID:	98E02031	98E02026		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1618:30	05/09/1618:08	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02016		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Lead	4.33	23.3	26.2	94	80-120

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILTN FACTR:	0.976	0.962		
SAMPLE ID:	CA015-SB2A-205			
CONTROL NO.:	E066-21	E066-21M		
LAB FILE ID:	98E02057	98E02055		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1620:26	05/09/1620:17	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Lead	5.20	21.8	25.4	92	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILUTION FACTOR:	0.980	4.90		
SAMPLE ID:	CA015-SB02-005	CA015-SB02-005		
EMAX SAMP ID:	E066-07	E066-07J		
LAB FILE ID:	98E02031	98E02032		
DATE EXTRACTED:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1618:30	05/09/1618:35	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Lead	4.33	4.55	5	10

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILUTION FACTOR:	0.976	4.88		
SAMPLE ID:	CA015-SB2A-205	CA015-SB2A-205		
EMAX SAMP ID:	E066-21	E066-21J		
LAB FILE ID:	98E02057	98E02058		
DATE EXTRACTED:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1620:26	05/09/1620:30	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Lead	5.2	5.53	6	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILTN FACTR:	0.980	0.980		
SAMPLE ID:	CA015-SB02-005			
CONTROL NO.:	E066-07	E066-07A		
LAB FILE ID:	98E02031	98E02030		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1618:30	05/09/1618:26	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Lead	4.33	23.3	27.2	98	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILTN FACTR:	0.976	0.976		
SAMPLE ID:	CA015-SB2A-205			
CONTROL NO.:	E066-21	E066-21A		
LAB FILE ID:	98E02057	98E02056		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1620:26	05/09/1620:21	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Lead	5.20	22.2	26.5	96	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILUTION FACTOR:	0.980	0.966		
SAMPLE ID:	CA015-SB02-005	CA015-SB02-005		
EMAX SAMP ID:	E066-07	E066-07D		
LAB FILE ID:	98E02031	98E02033		
DATE EXTRACTED:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1618:30	05/09/1618:39	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S.	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Lead	4.33	4.08	6	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILUTION FACTOR:	0.976	0.990		
SAMPLE ID:	CA015-SB2A-205	CA015-SB2A-205		
EMAX SAMP ID:	E066-21	E066-21D		
LAB FILE ID:	98E02057	98E02059		
DATE EXTRACTED:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1620:26	05/09/1620:35	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Lead	5.2	5.56	7	20

RAW DATA

LEAD

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-001.5	Date Analyzed:	05/09/16 17:41
Lab Samp ID:	E066-01	Dilution Factor:	0.971
Lab File ID:	98E02020	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	12.1
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	7.33	0.552	0.0552	0.110

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-003	Date Analyzed:	05/09/16 17:46
Lab Samp ID:	E066-02	Dilution Factor:	0.966
Lab File ID:	98E02021	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	18.3
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.86	0.591	0.0591	0.118

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-005	Date Analyzed:	05/09/16 17:50
Lab Samp ID:	E066-03	Dilution Factor:	0.976
Lab File ID:	98E02022	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	5.9
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.39	0.519	0.0519	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB01-205	Date Analyzed:	05/09/16 17:55
Lab Samp ID:	E066-04	Dilution Factor:	0.980
Lab File ID:	98E02023	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	5.5
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.10	0.519	0.0519	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-002	Date Analyzed:	05/09/16 17:59
Lab Samp ID:	E066-05	Dilution Factor:	0.976
Lab File ID:	98E02024	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	12.8
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	19.4	0.560	0.0560	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-003	Date Analyzed:	05/09/16 18:04
Lab Samp ID:	E066-06	Dilution Factor:	0.976
Lab File ID:	98E02025	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	13.0
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	10.4	0.561	0.0561	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB02-005	Date Analyzed:	05/09/16 18:30
Lab Samp ID:	E066-07	Dilution Factor:	0.980
Lab File ID:	98E02031	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	15.8
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	4.33	0.582	0.0582	0.116

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-001.5	Date Analyzed:	05/09/16 18:44
Lab Samp ID:	E066-08	Dilution Factor:	0.990
Lab File ID:	98E02034	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	11.1
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	9.38	0.557	0.0557	0.111

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-003	Date Analyzed:	05/09/16 18:48
Lab Samp ID:	E066-09	Dilution Factor:	0.962
Lab File ID:	98E02035	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	16.1
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	3.03	0.573	0.0573	0.115

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	CA015-SB03-005	Date Analyzed:	05/09/16 18:52
Lab Samp ID:	E066-10	Dilution Factor:	0.976
Lab File ID:	98E02036	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	16.7
Calib. Ref.:	98E02028	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	3.78	0.586	0.0586	0.117

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-001.5	Date Analyzed:	05/09/16 19:19
Lab Samp ID:	E066-11	Dilution Factor:	0.985
Lab File ID:	98E02042	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.7
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	32.2	0.552	0.0552	0.110

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-003	Date Analyzed:	05/09/16 19:24
Lab Samp ID:	E066-12	Dilution Factor:	0.980
Lab File ID:	98E02043	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	15.0
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.27	0.576	0.0576	0.115

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-005	Date Analyzed:	05/09/16 19:28
Lab Samp ID:	E066-13	Dilution Factor:	0.980
Lab File ID:	98E02044	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	18.9
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.01	0.604	0.0604	0.121

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB04-205	Date Analyzed:	05/09/16 19:32
Lab Samp ID:	E066-14	Dilution Factor:	0.980
Lab File ID:	98E02045	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	19.5
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	1.78	0.609	0.0609	0.122

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-001.5	Date Analyzed:	05/09/16 19:37
Lab Samp ID:	E066-15	Dilution Factor:	0.957
Lab File ID:	98E02046	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.5
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	14.5	0.535	0.0535	0.107

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-003	Date Analyzed:	05/09/16 20:39
Lab Samp ID:	E066-16I	Dilution Factor:	4.88
Lab File ID:	98E02060	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	10.1
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	334	2.71	0.271	0.543

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SBC34A-005	Date Analyzed:	05/09/16 19:46
Lab Samp ID:	E066-17	Dilution Factor:	0.962
Lab File ID:	98E02048	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	4.9
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	2.37	0.506	0.0506	0.101

Revised Report

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-001	Date Analyzed:	05/09/16 20:03
Lab Samp ID:	E066-18	Dilution Factor:	0.971
Lab File ID:	98E02052	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	7.0
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	68.9	0.522	0.0522	0.104

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-003	Date Analyzed:	05/09/16 20:08
Lab Samp ID:	E066-19	Dilution Factor:	0.971
Lab File ID:	98E02053	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	16.4
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.71	0.581	0.0581	0.116

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-005	Date Analyzed:	05/09/16 20:12
Lab Samp ID:	E066-20	Dilution Factor:	0.990
Lab File ID:	98E02054	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	12.0
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.52	0.562	0.0563	0.112

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/06/16
Project	: CANNON AFB PBR	Date Received:	05/07/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	CA015-SB2A-205	Date Analyzed:	05/09/16 20:26
Lab Samp ID:	E066-21	Dilution Factor:	0.976
Lab-File ID:	98E02057	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	11.9
Calib. Ref.:	98E02050	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	5.20	0.554	0.0554	0.111

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/09/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:28
Sample ID:	MBLK1S	Date Analyzed:	05/09/16 17:32
Lab Samp ID:	IME012SB	Dilution Factor:	1
Lab File ID:	98E02018	Matrix :	SOIL
Ext Btch ID:	IME012S	% Moisture :	NA
Calib. Ref.:	98E02016	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	ND	0.500	0.0500	0.100

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1S			
CONTROL NO.:	IME012SB	IME012SL		
LAB FILE ID:	98E02018	98E02019		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	NA
DATIME ANALYZD:	05/09/1617:32	05/09/1617:37	DATE RECEIVED:	05/09/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02016	98E02016		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Lead	ND	20.0	20.0	100	80-120

METHOD SW6020A
LEAD BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/09/16
SDG NO.	: 16E066	Date Extracted:	05/09/16 11:44
Sample ID:	MBLK2S	Date Analyzed:	05/09/16 19:10
Lab Samp ID:	IME013SB	Dilution Factor:	1
Lab File ID:	98E02040	Matrix :	SOIL
Ext Btch ID:	IME013S	% Moisture :	NA
Calib. Ref.:	98E02038	Instrument ID :	T-I98

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
Lead	ND	0.500	0.0500	0.100

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK2S			
CONTROL NO.:	IME013SB	IME013SL		
LAB FILE ID:	98E02040	98E02041		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	NA
DATIME ANALYZD:	05/09/1619:10	05/09/1619:15	DATE RECEIVED:	05/09/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02038	98E02038		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	QC LIMIT (%)
Lead	ND	20.0	19.6	98	80-120

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILTN FACTR:	0.980	0.980		
SAMPLE ID:	CA015-SB02-005			
CONTROL NO.:	E066-07	E066-07M		
LAB FILE ID:	98E02031	98E02026		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1618:30	05/09/1618:08	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02016		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Lead	4.33	23.3	26.2	94	80-120

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILTN FACTR:	0.976	0.962		
SAMPLE ID:	CA015-SB2A-205			
CONTROL NO.:	E066-21	E066-21M		
LAB FILE ID:	98E02057	98E02055		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1620:26	05/09/1620:17	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	MS RSLT (mg/kg)	MS % REC	QC LIMIT (%)
Lead	5.20	21.8	25.4	92	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILUTION FACTOR:	0.980	4.90		
SAMPLE ID:	CA015-SB02-005	CA015-SB02-005		
EMAX SAMP ID:	E066-07	E066-07J		
LAB FILE ID:	98E02031	98E02032		
DATE EXTRACTED:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1618:30	05/09/1618:35	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Lead	4.33	4.55	5	10

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILUTION FACTOR:	0.976	4.88		
SAMPLE ID:	CA015-SB2A-205	CA015-SB2A-205		
EMAX SAMP ID:	E066-21	E066-21J		
LAB FILE ID:	98E02057	98E02058		
DATE EXTRACTED:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1620:26	05/09/1620:30	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SERIAL DIL RSLT (mg/kg)	DIF RSLT %	QC LIMIT (%)
Lead	5.2	5.53	6	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILTN FACTR:	0.980	0.980		
SAMPLE ID:	CA015-SB02-005			
CONTROL NO.:	E066-07	E066-07A		
LAB FILE ID:	98E02031	98E02030		
DATIME EXTRCTD:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1618:30	05/09/1618:26	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Lead	4.33	23.3	27.2	98	75-125

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILTN FACTR:	0.976	0.976		
SAMPLE ID:	CA015-SB2A-205			
CONTROL NO.:	E066-21	E066-21A		
LAB FILE ID:	98E02057	98E02056		
DATIME EXTRCTD:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATIME ANALYZD:	05/09/1620:26	05/09/1620:21	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	SPIKE AMT (mg/kg)	AS RSLT (mg/kg)	AS % REC	QC LIMIT (%)
Lead	5.20	22.2	26.5	96	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	15.8
DILUTION FACTOR:	0.980	0.966		
SAMPLE ID:	CA015-SB02-005	CA015-SB02-005		
EMAX SAMP ID:	E066-07	E066-07D		
LAB FILE ID:	98E02031	98E02033		
DATE EXTRACTED:	05/09/1611:28	05/09/1611:28	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1618:30	05/09/1618:39	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME012S	IME012S		
CALIB. REF:	98E02028	98E02028		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Lead	4.33	4.08	6	20

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E066
METHOD: SW6020A

MATRIX:	SOIL		% MOISTURE:	11.9
DILUTION FACTOR:	0.976	0.990		
SAMPLE ID:	CA015-SB2A-205	CA015-SB2A-205		
EMAX SAMP ID:	E066-21	E066-21D		
LAB FILE ID:	98E02057	98E02059		
DATE EXTRACTED:	05/09/1611:44	05/09/1611:44	DATE COLLECTED:	05/06/16
DATE ANALYZED:	05/09/1620:26	05/09/1620:35	DATE RECEIVED:	05/07/16
PREP. BATCH:	IME013S	IME013S		
CALIB. REF:	98E02050	98E02050		

ACCESSION:

PARAMETER	SMPL RSLT (mg/kg)	DUPL RSLT (mg/kg)	RPD RSLT %	QC LIMIT (%)
Lead	5.2	5.56	7	20

ICP-MS QC CHECK TABLE

QC	CCV HIGH	ICV	CCV	ICSAB	ICSA
Limit%	95-105	90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	30000	25000	100000	100000
Sb	500	300	250	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	30	25	20	0
B	100	30	50	20	0
Cd	500	300	250	20	0
Ca	50000	30000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	30000	25000	100000	100000
Li	50	30	25	20	0
Pb	500	300	250	20	0
Mg	50000	30000	25000	100000	100000
Mn	3000	2000	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
P	500	300	250	100000	100000
K	50000	30000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	200	0
Ag	50	30	25	20	0
Na	50000	30000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 5/9/16 16:22

End Date: 5/10/16 01:15

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: LA

• CLN6, CLN7 Dic failed

Book #: A98-040

Instrument No.: 98

Analytical Batch: 198E02

Analytical Sequence: 98E02

Method File: 04X6020H

Micropipette ID: ☐ ~~142781004~~

Micropipette ID: ☑ ICP-06

Micropipette ID: ☑ 339362028

Micropipette ID: ☑ GFAA-07

Micropipette ID: ☐

SOP #	Rev. #
☑ EMAX-6020	9
☑ EMAX-200.8	5
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SALB009.76.09	MRL1 (0.1)	SALB009.78.04
S1	76.10	MRL2 (0.5)	78-05
S2	77.01	MRL3 (0.A)	78-06
S3	77-02	MRL4	LA
S4	77-03	MRL5	
S5	LA	MRL6	
S6		Internal Standard	SALB009.68-07
S7		Post-Spike 1	SALA007.03-05
ICV	SALB009.71-03	Post-Spike 2	03 02
CCV	78-01	Post-Spike 3	LA
ICSA	78-02	Post-Spike 4	
ICSAB	78-03		
6020 TUNE SOLN.	67-04		
200.8 TUNE SOLN.	67-05		

Analyzed By: [signature]

Date: 5/10/16

SEQUENCE FILE : I98E02

4-18	19-33	34-43	44-53	54-63
LFID	LSID	TIME	DATE	DF
98E02003	BLNK	16:22	05/09/16	1.00
98E02004	S0	16:27	05/09/16	1.00
98E02005	S1 0.5	16:31	05/09/16	1.00
98E02006	S2 50	16:36	05/09/16	1.00
98E02007	S3 250	16:40	05/09/16	1.00
98E02008	S4 500	16:45	05/09/16	1.00
98E02009	ICV	16:52	05/09/16	1.00
98E02010	ICB	16:56	05/09/16	1.00
98E02011	MRLE0901	17:01	05/09/16	1.00
98E02012	ICSA	17:05	05/09/16	1.00
98E02013	ICSAB	17:10	05/09/16	1.00
98E02014	MRLE0902	17:15	05/09/16	1.00
98E02015	MRLE0903	17:19	05/09/16	1.00
98E02016	CCV1	17:24	05/09/16	1.00
98E02017	CCB1	17:28	05/09/16	1.00
98E02018	IME012SB	17:32	05/09/16	1.00
98E02019	IME012SL	17:37	05/09/16	1.00
98E02020	E066-01	17:41	05/09/16	1.00
98E02021	E066-02	17:46	05/09/16	1.00
98E02022	E066-03	17:50	05/09/16	1.00
98E02023	E066-04	17:55	05/09/16	1.00
98E02024	E066-05	17:59	05/09/16	1.00
98E02025	E066-06	18:04	05/09/16	1.00
98E02026	E066-07M	18:08	05/09/16	1.00
98E02027	BLANK	18:13	05/09/16	1.00
98E02028	CCV2	18:17	05/09/16	1.00
98E02029	CCB2	18:21	05/09/16	1.00
98E02030	E066-07A	18:26	05/09/16	1.00
98E02031	E066-07	18:30	05/09/16	1.00
98E02032	E066-07J	18:35	05/09/16	5.00
98E02033	E066-07D	18:39	05/09/16	1.00
98E02034	E066-08	18:44	05/09/16	1.00
98E02035	E066-09	18:48	05/09/16	1.00
98E02036	E066-10	18:52	05/09/16	1.00
98E02037	BLANK	18:57	05/09/16	1.00
98E02038	CCV3	19:01	05/09/16	1.00
98E02039	CCB3	19:06	05/09/16	1.00
98E02040	IME013SB	19:10	05/09/16	1.00
98E02041	IME013SL	19:15	05/09/16	1.00
98E02042	E066-11	19:19	05/09/16	1.00
98E02043	E066-12	19:24	05/09/16	1.00
98E02044	E066-13	19:28	05/09/16	1.00
98E02045	E066-14	19:32	05/09/16	1.00
98E02046	E066-15	19:37	05/09/16	1.00
98E02047	E066-16	19:41	05/09/16	1.00
98E02048	E066-17	19:46	05/09/16	1.00
98E02049	BLANK	19:50	05/09/16	1.00
98E02050	CCV4	19:55	05/09/16	1.00
98E02051	CCB4	19:59	05/09/16	1.00
98E02052	E066-18	20:03	05/09/16	1.00
98E02053	E066-19	20:08	05/09/16	1.00

98E02054	E066-20	20:12	05/09/16	1.00
98E02055	E066-21M	20:17	05/09/16	1.00
98E02056	E066-21A	20:21	05/09/16	1.00
98E02057	E066-21	20:26	05/09/16	1.00
98E02058	E066-21J	20:30	05/09/16	5.00
98E02059	E066-21D	20:35	05/09/16	1.00
98E02060	E066-16I	20:39	05/09/16	5.00
98E02061	BLANK	20:44	05/09/16	1.00
98E02062	CCV5	20:48	05/09/16	1.00
98E02063	CCB5	20:52	05/09/16	1.00
98E02064	IMD034SB	20:57	05/09/16	1.00
98E02065	IMD034SL	21:01	05/09/16	1.00
98E02066	IMD034SC	21:06	05/09/16	1.00
98E02067	D176-01M	21:10	05/09/16	1.00
98E02068	D176-01S	21:14	05/09/16	1.00
98E02069	D176-01A	21:19	05/09/16	1.00
98E02070	D176-01	21:23	05/09/16	1.00
98E02071	D176-01J	21:28	05/09/16	5.00
98E02072	D176-02	21:32	05/09/16	1.00
98E02073	BLANK	21:36	05/09/16	1.00
98E02074	CCV6	21:41	05/09/16	1.00
98E02075	CCB6	21:45	05/09/16	1.00
98E02076	D176-03	21:50	05/09/16	1.00
98E02077	D176-04	21:54	05/09/16	1.00
98E02078	BLANK	21:58	05/09/16	1.00
98E02079	BLANK	22:03	05/09/16	1.00
98E02080	MRLE0904	22:07	05/09/16	1.00
98E02081	MRLE0905	22:12	05/09/16	1.00
98E02082	CCV7	22:17	05/09/16	1.00
98E02083	CCB7	22:21	05/09/16	1.00
98E02084	IME001WB	22:25	05/09/16	1.00
98E02085	IME001WL	22:30	05/09/16	1.00
98E02086	IME001WC	22:34	05/09/16	1.00
98E02087	D948-01I	22:39	05/09/16	10.00
98E02088	D948-01	22:43	05/09/16	1.00
98E02089	BLANK	22:48	05/09/16	1.00
98E02090	CCV8	22:52	05/09/16	1.00
98E02091	CCB8	22:56	05/09/16	1.00
98E02092	D894-01I	23:01	05/09/16	10.00
98E02093	D894-02I	23:05	05/09/16	10.00
98E02094	D894-03I	23:10	05/09/16	10.00
98E02095	D894-04I	23:14	05/09/16	10.00
98E02096	D894-05I	23:19	05/09/16	10.00
98E02097	BLANK	23:23	05/09/16	1.00
98E02098	CCV9	23:28	05/09/16	1.00
98E02099	CCB9	23:32	05/09/16	1.00
98E02100	IMD029WB	23:37	05/09/16	1.00
98E02101	IMD029WL	23:41	05/09/16	1.00
98E02102	IMD029WC	23:46	05/09/16	1.00
98E02103	D144-01M	23:50	05/09/16	1.00
98E02104	D144-01S	23:55	05/09/16	1.00
98E02105	D144-01A	23:59	05/09/16	1.00
98E02106	D144-01	00:04	05/10/16	1.00
98E02107	D144-01J	00:08	05/10/16	5.00

98E02108	D144-02	00:13	05/10/16	1.00
98E02109	BLANK	00:17	05/10/16	1.00
98E02110	CCV10	00:22	05/10/16	1.00
98E02111	CCB10	00:26	05/10/16	1.00
98E02112	D144-03	00:31	05/10/16	1.00
98E02113	D144-01M	00:35	05/10/16	10.00
98E02114	D144-01S	00:40	05/10/16	10.00
98E02115	D144-01A	00:44	05/10/16	10.00
98E02116	D144-01I	00:49	05/10/16	10.00
98E02117	D144-01J	00:53	05/10/16	50.00
98E02118	D144-02I	00:58	05/10/16	10.00
98E02119	D144-03I	01:02	05/10/16	10.00
98E02120	BLANK	01:06	05/10/16	1.00
98E02121	CCV11	01:11	05/10/16	1.00
98E02122	CCB11	01:15	05/10/16	1.00

SDG : 16E066 UNIT : % ICPMS CHECK : I98E02 DATE : 05/09/16 INST : EMAXTI98

ANALYTE	Li	Be	B	Na	Mg	Al	Si	P	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sr	Zr	Mo	Ag	Cd	Sn	Sb	Ba	W	Tl	Pb	U
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S1 0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S2 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S3 250	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S4 500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	107	109	107	101	97	100	106	100	102	105	100	98	99	96	96	93	98	93	99	100	97	101	95	99	104	100	101	102	102	110	95	97	99
ICB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0901	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA	----	----	----	99	95	97	----	102	100	98	107	----	----	----	94	----	----	----	----	----	----	----	----	99	----	----	----	----	----	----	----	----	----
ICSAB	104	104	103	99	95	97	100	102	100	99	110	99	102	98	96	97	101	98	105	102	105	100	59*	101	95	101	98	102	101	119	97	97	100
MRLE0902	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0903	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	102	102	104	97	96	97	98	99	99	98	99	100	100	98	97	101	105	101	98	100	97	100	110	103	99	100	100	102	100	122*	101	104	99
CCB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME012SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME012SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	99	100	102	98	94	96	98	98	99	99	98	100	99	96	97	100	102	100	98	101	98	101	110	102	98	100	99	99	99	121*	101	104	99
CCB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	99	95	98	97	97	98	99	100	100	99	98	99	98	96	97	98	102	99	98	100	99	101	111*	101	99	100	100	101	101	119*	99	102	99
CCB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME013SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME013SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-14	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-17	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	99	93	94	96	98	99	99	101	99	98	98	99	98	95	97	93	99	96	95	99	96	100	104	101	97	99	100	98	100	116*	93	96	96
CCB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E066-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-16I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	97	90	92	97	99	100	100	102	101	100	99	98	97	95	98	98	100	98	97	100	97	101	114*	101	97	99	99	98	100	118*	99	102	98
CCB5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD034S8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD034SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD034SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	97	89*	92	95	101	101	101	103	101	100	100	99	97	97	97	100	99	97	97	100	96	102	118*	103	97	99	99	100	101	117*	98	100	95
CCB6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0904	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0905	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	96	88*	90	96	99	99	100	103	101	100	99	98	97	95	97	98	99	97	96	101	96	103	115*	101	95	98	99	100	98	117*	98	101	95
CCB7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME001WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME001WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME001WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D948-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D948-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	95	87*	89*	94	99	101	99	102	102	99	99	97	95	95	96	93	95	94	94	99	94	100	103	102	97	98	99	98	99	114*	92	94	93
CCB8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-04I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-05I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	94	87*	88*	95	99	99	100	103	102	100	98	97	96	95	98	92	95	93	94	99	95	101	103	102	98	98	99	98	99	114*	93	95	94
CCB9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD029WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD029WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD029WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

D144-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	93	83*	91	93	100	100	101	104	102	99	97	96	94	94	96	92	93	92	94	98	93	101	101	101	95	96	98	97	100	113*	91	94	92	----
CCB10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	93	83*	86*	93	100	101	101	105	102	99	98	96	94	94	96	91	93	92	96	99	93	103	104	101	96	99	98	97	98	114*	92	94	92	----
CCB11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

SDG : W0066 UNIT : UG/L SUMMARY of CALIBRATION BLANKS : I98E02 (SOIL) DATE : 05/09/16 INST : EMAXTI98

ANALYTE	Li	Be	B	Na	Mg	Al	Si	P	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sr	Zr	Mo	Ag	Cd	Sn	Sb	Ba	W	Tl	Pb	U
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S1 0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S2 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S3 250	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S4 500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	-.092	.002	.236	.584	.357	.284	1.60	-.329	.439	.706	.007	-.000	.006	.021	3.05	.002	.006	.010	-.011	.023	.054	.002	.026	.174	.002	.002	.118	.147	.003	.032	.025	.008	.032
MRLE0901	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA	.250	.004	.879	----	----	----	2.50	----	----	----	----	.029	.651	.156	----	.109	.091	.174	1.48	.080	.088	.326	1.67	----	.016	.117	.042	.075	.061	.079	.000	.101	.002
ICSAB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0902	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0903	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	.138	-.001	.276	-1.52	.380	.255	.229	-1.89	.043	.619	.004	-.003	-.001	.013	2.38	.002	-.000	.000	-.003	.012	.019	.002	.008	.124	.000	.006	.039	.081	.005	.012	.012	.004	.018
IME012SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME012SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	.120	-.000	-.685	-3.78	.253	.322	.660	-2.04	-2.80	1.16	.008	-.009	-.008	.007	2.57	.003	.005	-.000	-.025	.010	.010	.004	.012	.103	-.000	.003	.039	.201	.008	.011	.011	.002	.017
E066-07A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-07D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	-.042	-.000	-.779	-6.03	.239	.322	1.64	1.36	-3.57	1.18	.001	.011	-.008	.010	2.45	.002	.001	-.006	-.021	.012	.017	.003	.013	.088	-.000	.006	.041	.237	.012	.011	.011	.001	.017
IME013SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME013SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-12	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-13	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-14	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-15	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-16	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-17	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	-.175	-.003	-.933	-7.65	.069	.153	1.10	-1.52	-5.57	1.36	.009	.000	-.010	-.002	2.23	-.000	-.003	-.017	.029	.007	.014	.001	.013	.078	-.000	.000	.036	.459	.013	.007	.002	.003	.016
E066-18	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-19	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E066-20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-21D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E066-16I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB5	-.296	-.001	-.921	-9.31	.114	-.150	1.23	-1.99	-6.82	1.20	.016	-.004	-.014	-.004	2.18	-.000	-.005	-.019	.014	.004	.015	.002	.011	.069	-.000	.003	.043	.181	.007	.006	-.008	.000	.015
IMD034SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD034SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD034SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	-.144	.000	-.936	-9.38	.250	.226	3.33	-2.16	-4.87	1.23	.009	-.013	-.011	.002	2.34	.001	-.004	-.014	.034	.005	.017	.002	.010	.077	-.000	.002	.046	.123	.006	.009	.008	-.000	.014
D176-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D176-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0904	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE0905	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	-.197	-.000	-.943	-9.79	.228	.241	2.45	-2.45	-3.63	1.25	.008	-.006	-.011	.002	2.27	.000	-.003	-.023	.018	.005	.018	.004	.007	.075	-.000	.005	.043	.088	.008	.007	.006	-.000	.016
IME001WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME001WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME001WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D948-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D948-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	-.221	-.002	-.412	-8.45	.267	.267	1.26	-1.42	-3.37	1.46	.010	.005	-.013	.003	2.31	.000	-.004	-.019	.018	.004	.016	.003	.010	.079	-.000	.003	.040	.286	.009	.008	.003	-.001	.015
D894-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-04I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D894-05I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	-.259	-.002	-.811	-6.71	.294	.295	.924	-1.44	-3.19	1.17	-.000	.005	-.013	.007	2.28	.002	-.005	-.021	.028	.011	.015	.003	.010	.081	-.000	.002	.038	.205	.007	.006	.003	-.002	.017
IMD029WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD029WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IMD029WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

D144-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB10	-.164	-.000	1.23	15.4	.951	.484	1.89	-1.19	-2.59	1.94	.005	.013	-.012	.054	3.29	.006	-.003	-.013	.038	.021	.027	.009	.012	.110	-.000	.007	.047	.352	.018	.012	.004	-.000	.019
D144-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
D144-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB11	-.149	-.000	-.183	3.24	.915	.631	.860	-.812	-1.88	2.13	-.003	.005	-.009	.048	3.33	.005	.004	-.020	.030	.013	.029	.010	.012	.098	.000	.008	.043	.291	.016	.010	.007	.000	.020

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		TUNBEG	Start of TUNE									
2	C:\ICPCHEM\1\METHODS\TN6020_C.M	Tun6	1301	98E02001	6020tunchk		1.000							
3	C:\ICPCHEM\1\METHODS\TN200_8C.M	Tun2	1302	98E02002	2008tunchk		1.000							
4		Keyword		TUNEND	End of TUNE									
5		Keyword		CALBEG	Start of CALIB									
6	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalBlk	1101	98E02003	BLNK		Level 1							
7	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalBlk	1202	98E02004	S0		Level 1							
8	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1104	98E02005	S1 0.5		Level 2							
9	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1105	98E02006	S2 50		Level 3							
10	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1106	98E02007	S3 250		Level 4							
11	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1107	98E02008	S4 500		Level 5							
12	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICV1	1204	98E02009	ICV		1.000							
13	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICB	1202	98E02010	ICB		1.000							
14	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1306	98E02011	MRLE0901	0.5/50/4 ppb	1.000							
15	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1303	98E02012	ICSA		1.000							
16	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1304	98E02013	ICSAB		1.000							
17	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1207	98E02014	MRLE0902	500 ppb CAT	1.000							
18	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1305	98E02015	MRLE0903	1/100/10 ppb	1.000							
19	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02016	CCV1		1.000							
20	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02017	CCB1		1.000							
21		Keyword		CALEND	End of CALIB									
22		Keyword		SMPLBEG	Start of SMPL									
23	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBS	2101	98E02018	IME012SB		1.000							
24	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2102	98E02019	IME012SL		1.000							
25	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2103	98E02020	E066-01		1.000							
26	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2104	98E02021	E066-02		1.000							
27	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2105	98E02022	E066-03		1.000							
28	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2106	98E02023	E066-04		1.000							
29	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2107	98E02024	E066-05		1.000							
30	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2108	98E02025	E066-06		1.000							
31	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2109	98E02026	E066-07M		1.000							
32	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02027	BLANK		1.000							
33	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02028	CCV2		1.000							
34	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02029	CCB2		1.000							
35	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2110	98E02030	E066-07A		1.000							
36	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2111	98E02031	E066-07		1.000							
37	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2112	98E02032	E066-07J		5.000							
38	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2201	98E02033	E066-07D		1.000							
39	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2202	98E02034	E066-08		1.000							
40	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2203	98E02035	E066-09		1.000							
41	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2204	98E02036	E066-10		1.000							
42	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02037	BLANK		1.000							
43	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02038	CCV3		1.000							
44	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02039	CCB3		1.000							
45	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBS	2205	98E02040	IME013SB		1.000							
46	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2206	98E02041	IME013SL		1.000							
47	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2207	98E02042	E066-11		1.000							
48	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2208	98E02043	E066-12		1.000							
49	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2209	98E02044	E066-13		1.000							
50	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2210	98E02045	E066-14		1.000							
51	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2211	98E02046	E066-15		1.000							

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
52	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2212	98E02047	E066-16		1.000							
53	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2301	98E02048	E066-17		1.000							
54	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02049	BLANK		1.000							
55	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02050	CCV4		1.000							
56	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02051	CCB4		1.000							
57	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2302	98E02052	E066-18		1.000							
58	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2303	98E02053	E066-19		1.000							
59	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2304	98E02054	E066-20		1.000							
60	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2305	98E02055	E066-21M		1.000							
61	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2306	98E02056	E066-21A		1.000							
62	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2307	98E02057	E066-21		1.000							
63	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2308	98E02058	E066-21J		5.000							
64	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2309	98E02059	E066-21D		1.000							
65	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3112	98E02060	E066-16I		5.000							
66	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02061	BLANK		1.000							
67	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1205	98E02062	CCV5		1.000							
68	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02063	CCB5		1.000							
69	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBS	2310	98E02064	IMD034SB		1.000							
70	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2311	98E02065	IMD034SL		1.000							
71	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2312	98E02066	IMD034SC		1.000							
72	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2401	98E02067	D176-01M		1.000							
73	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2402	98E02068	D176-01S		1.000							
74	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2403	98E02069	D176-01A		1.000							
75	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2404	98E02070	D176-01		1.000							
76	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2405	98E02071	D176-01J		5.000							
77	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2406	98E02072	D176-02		1.000							
78	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02073	BLANK		1.000							
79	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1205	98E02074	CCV6	Re fails	1.000							
80	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02075	CCB6		1.000							
81	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2407	98E02076	D176-03		1.000							
82	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2408	98E02077	D176-04		1.000							
83	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02078	BLANK		1.000							
84	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02079	BLANK		1.000							
85	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1306	98E02080	MRLE0904	0.5/50/4 ppb	1.000							
86	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1305	98E02081	MRLE0905	1/100/10 ppb	1.000							
87	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1205	98E02082	CCV7	Re fails	1.000							
88	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02083	CCB7		1.000							
89	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBW	2409	98E02084	IME001WB		1.000							
90	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2410	98E02085	IME001WL		1.000							
91	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2411	98E02086	IME001WC		1.000							
92	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2412	98E02087	D948-01I		10.00							
93	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2501	98E02088	D948-01		1.000							
94	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02089	BLANK		1.000							
95	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02090	CCV8		1.000							
96	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02091	CCB8		1.000							
97	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2502	98E02092	D894-01I		10.00							
98	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2503	98E02093	D894-02I		10.00							
99	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2504	98E02094	D894-03I		10.00							
100	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2505	98E02095	D894-04I		10.00							
101	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2506	98E02096	D894-05I		10.00							
102	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02097	BLANK		1.000							

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	Final WT or Vol	Sample WT or Vol	Dil Multiplier	ISTD Conc	Action on Failure	Skip	Result
103	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02098	CCV9		1.000							
104	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02099	CCB9		1.000							
105	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBW	2507	98E02100	IMD029WB		1.000							
106	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2508	98E02101	IMD029WL		1.000							
107	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2509	98E02102	IMD029WC		1.000							
108	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2510	98E02103	D144-01M	Mn>LDR	1.000							
109	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2511	98E02104	D144-01S		1.000							
110	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2512	98E02105	D144-01A		1.000							
111	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3101	98E02106	D144-01		1.000							
112	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3102	98E02107	D144-01J		5.000							
113	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3103	98E02108	D144-02		1.000							
114	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02109	BLANK		1.000							
115	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02110	CCV10		1.000							
116	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02111	CCB10		1.000							
117	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3104	98E02112	D144-03	Mn>LDR	1.000							
118	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3105	98E02113	D144-01M		10.00							
119	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3106	98E02114	D144-01S		10.00							
120	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3107	98E02115	D144-01A		10.00							
121	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3108	98E02116	D144-01I		10.00							
122	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3109	98E02117	D144-01J		50.00							
123	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3110	98E02118	D144-02I		10.00							
124	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3111	98E02119	D144-03I		10.00							
125	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	98E02120	BLANK		1.000							
126	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	98E02121	CCV11		1.000							
127	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1202	98E02122	CCB11		1.000							
128		Keyword		StandBy										
129		Keyword		SMPLEND	End of SMPL									
130		Keyword		End	End of Sequence									
131		Keyword		CCVBEG	Start of CCV									
132		Keyword		CCVEND	End of CCV									
133		Keyword		BLKBEG	Start of BLANK									
134		Keyword		BLKEND	End of BLANK									
135		Keyword		ERRBEG	Start of ERRTERM									
136		Keyword		ERREND	End of ERRTERM									

Last Calib: May 09, 2016 04:47 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Multi Tune: #1 h2.u
#2 he.u
#3 norm.u

=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

	Data File	Sample Name	Date Acquired
1	d:\data\i982016\e\i98e02.b\98e02004.d\98e02004.d#	S0	May 9 2016 04:27 pm
2	d:\data\i982016\e\i98e02.b\98e02005.d\98e02005.d#	S1 0.5	May 9 2016 04:31 pm
3	d:\data\i982016\e\i98e02.b\98e02006.d\98e02006.d#	S2 50	May 9 2016 04:36 pm
4	d:\data\i982016\e\i98e02.b\98e02007.d\98e02007.d#	S3 250	May 9 2016 04:40 pm
5	d:\data\i982016\e\i98e02.b\98e02008.d\98e02008.d#	S4 500	May 9 2016 04:45 pm
6	---		
7	---		
8	---		
9	---		
10	---		
11	---		
12	---		
13	---		
14	---		
15	---		
16	---		
17	---		
18	---		
19	---		
20	---		

Calibration - d:\DATA\I982016\E\I98E02.B\EMX6020H.C

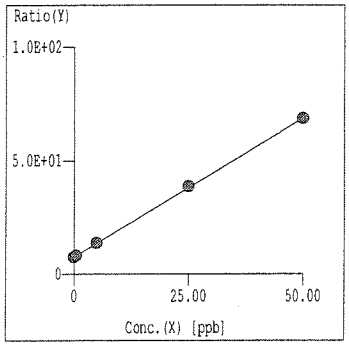
=== ISTD Table ===

Fix ISTD Conc: ON

	Step	Mass	Element	VIS	Units	All Levels
1	3	6	Li		ppb	100.0
2	1	45	Sc		ppb	100.0
3	2	45	Sc		ppb	100.0
4	3	45	Sc		ppb	100.0
5	1	72	Ge		ppb	100.0
6	2	72	Ge		ppb	100.0
7	3	72	Ge		ppb	100.0
8	3	115	In		ppb	100.0
9	3	159	Tb		ppb	100.0
10	3	209	Bi		ppb	100.0

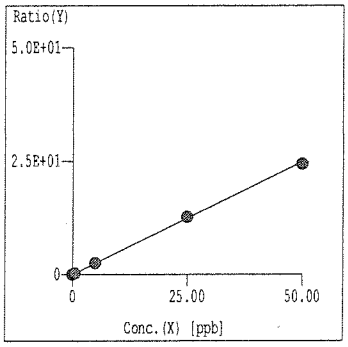
=== Graph Detail ===

Step Mass Element ISTD Unit
(3) 7 Li 6 ppb



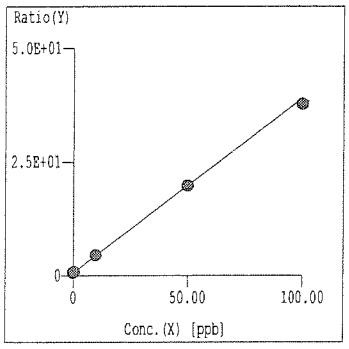
Curve Fit: Y=aX+b
r = 0.9999
Y = 1.224E+000*X +7.557E+000
X = 8.167E-001*Y -6.172E+000
DL = 2.173E-01 ppb
BEC = 6.172 ppb

Step Mass Element ISTD Unit
(3) 9 Be 6 ppb



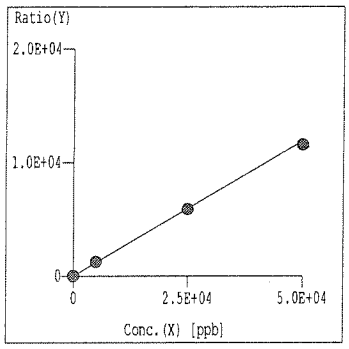
Curve Fit: Y=aX+b
r = 0.9998
Y = 4.977E-001*X +3.305E-003
X = 2.009E+000*Y -6.641E-003
DL = 9.823E-03 ppb
BEC = 6.641E-03 ppb

Step Mass Element ISTD Unit
(3) 11 B 6 ppb



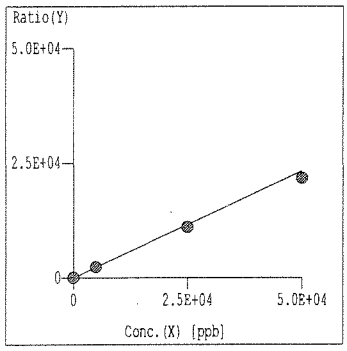
Curve Fit: Y=aX+b
r = 0.9999
Y = 3.844E-001*X +6.667E-001
X = 2.601E+000*Y -1.734E+000
DL = 1.148E-01 ppb
BEC = 1.734 ppb

Step Mass Element ISTD Unit
(1) 23 Na 45 ppb



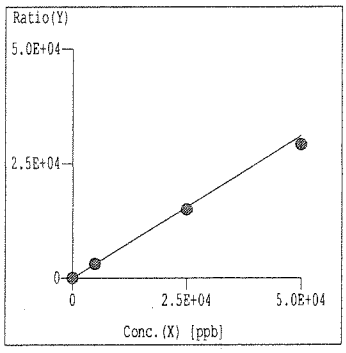
Curve Fit: Y=aX+b
r = 0.9999
Y = 2.380E-001*X +5.751E+000
X = 4.202E+000*Y -2.417E+001
DL = 4.069E-01 ppb
BEC = 24.17 ppb

Step Mass Element ISTD Unit
(3) 24 Mg 45 ppb



Curve Fit: Y=aX+b
r = 0.9999
Y = 4.661E-001*X +1.335E-001
X = 2.146E+000*Y -2.865E-001
DL = 3.791E-03 ppb
BEC = 2.865E-01 ppb

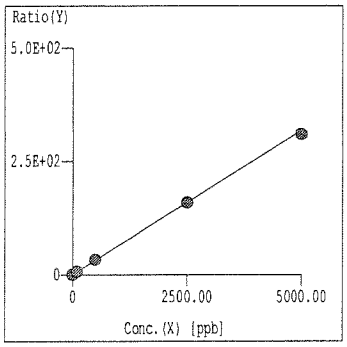
Step Mass Element ISTD Unit
(3) 27 Al 45 ppb



Curve Fit: Y=aX+b
r = 0.9999
Y = 6.215E-001*X +7.977E-002
X = 1.609E+000*Y -1.284E-001
DL = 5.962E-03 ppb
BEC = 1.284E-01 ppb

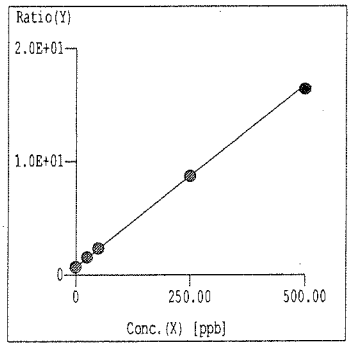
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(1) 28 Si	45	ppb



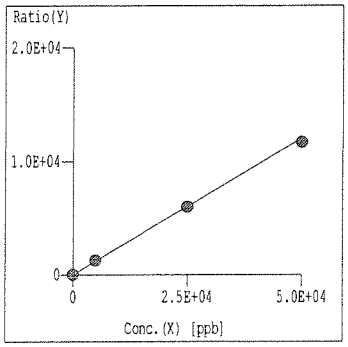
Curve Fit: Y=aX+b
r = 0.9999
Y = 6.370E-002*X +1.162E-001
X = 1.570E+001*Y -1.824E+000
DL = 1.705E-01 ppb
BEC = 1.824 ppb

Step Mass Element	ISTD	Unit
(3) 31 P	45	ppb



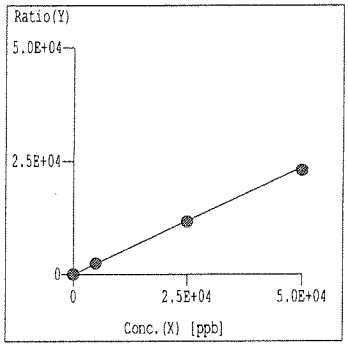
Curve Fit: Y=aX+b
r = 0.9999
Y = 3.218E-002*X +6.842E-001
X = 3.108E+001*Y -2.126E+001
DL = 9.065E-01 ppb
BEC = 21.26 ppb

Step Mass Element	ISTD	Unit
(2) 39 K	45	ppb



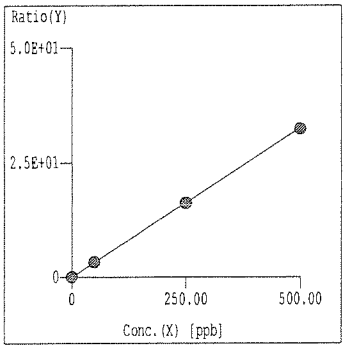
Curve Fit: Y=aX+b
r = 0.9999
Y = 2.413E-001*X +1.252E+001
X = 4.144E+000*Y -5.190E+001
DL = 1.855 ppb
BEC = 51.90 ppb

Step Mass Element	ISTD	Unit
(1) 40 Ca	45	ppb



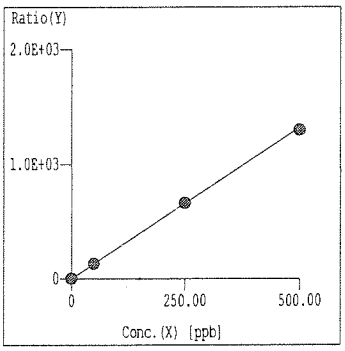
Curve Fit: Y=aX+b
r = 1.0000
Y = 4.732E-001*X +6.625E-001
X = 2.113E+000*Y -1.400E+000
DL = 6.480E-02 ppb
BEC = 1.400 ppb

Step Mass Element	ISTD	Unit
(3) 47 Ti	45	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 6.529E-002*X +3.228E-003
X = 1.532E+001*Y -4.944E-002
DL = 3.218E-02 ppb
BEC = 4.944E-02 ppb

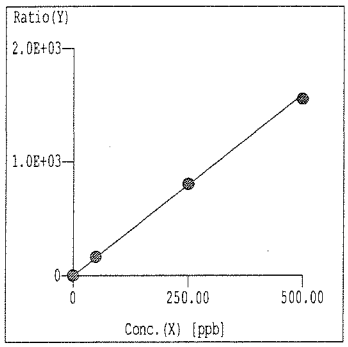
Step Mass Element	ISTD	Unit
(2) 51 V	45	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 2.644E+000*X +6.512E-001
X = 3.783E-001*Y -2.463E-001
DL = 2.588E-02 ppb
BEC = 2.463E-01 ppb

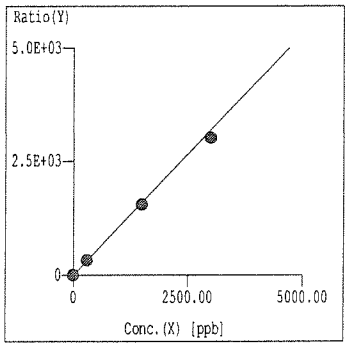
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(2) 52 Cr	45	ppb



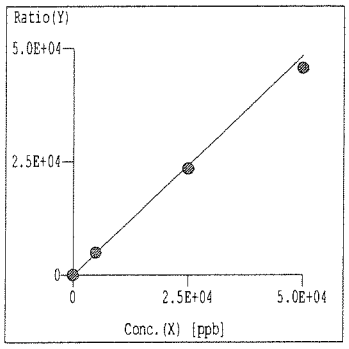
Curve Fit: Y=aX+b
r = 0.9999
Y = 3.184E+000*X +1.376E-001
X = 3.141E-001*Y -4.323E-002
DL = 7.048E-03 ppb
BEC = 4.323E-02 ppb

Step Mass Element	ISTD	Unit
(3) 55 Mn	45	ppb



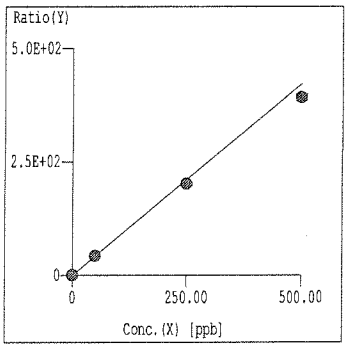
Curve Fit: Y=aX+b
r = 0.9999
Y = 1.062E+000*X +6.965E-002
X = 9.417E-001*Y -6.559E-002
DL = 6.037E-03 ppb
BEC = 6.559E-02 ppb

Step Mass Element	ISTD	Unit
(1) 56 Fe	45	ppb



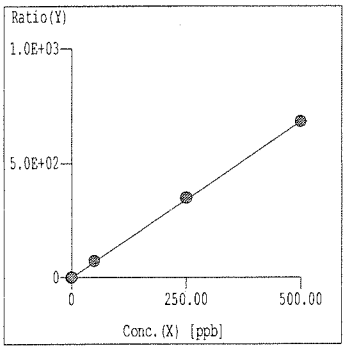
Curve Fit: Y=aX+b
r = 0.9999
Y = 9.671E-001*X +3.290E-001
X = 1.034E+000*Y -3.401E-001
DL = 2.208E-02 ppb
BEC = 3.401E-01 ppb

Step Mass Element	ISTD	Unit
(3) 59 Co	45	ppb



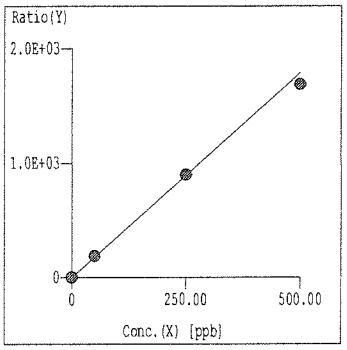
Curve Fit: Y=aX+b
r = 0.9999
Y = 8.433E-001*X +5.416E-003
X = 1.186E+000*Y -6.423E-003
DL = 2.384E-03 ppb
BEC = 6.423E-03 ppb

Step Mass Element	ISTD	Unit
(2) 60 Ni	45	ppb



Curve Fit: Y=aX+b
r = 0.9999
Y = 1.366E+000*X +2.891E-002
X = 7.322E-001*Y -2.117E-002
DL = 2.997E-03 ppb
BEC = 2.117E-02 ppb

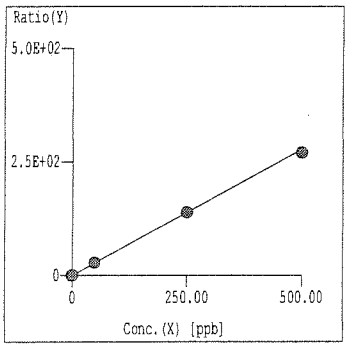
Step Mass Element	ISTD	Unit
(2) 63 Cu	45	ppb



Curve Fit: Y=aX+b
r = 0.9995
Y = 3.577E+000*X +6.891E-001
X = 2.795E-001*Y -1.926E-001
DL = 4.362E-03 ppb
BEC = 1.926E-01 ppb

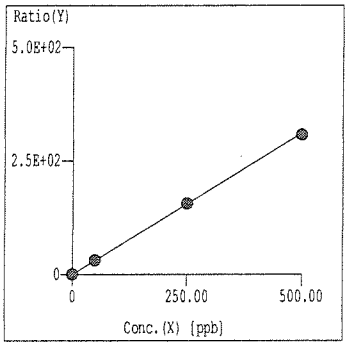
=== Graph Detail ===

Step Mass Element (3) 66 Zn — ISTD 72 — Unit ppb



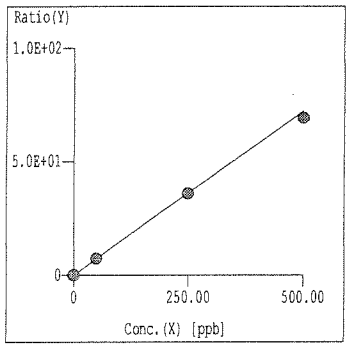
Curve Fit: Y=aX+b
r = 0.9999
Y = 5.549E-001*X +9.180E-002
X = 1.802E+000*Y -1.654E-001
DL = 1.176E-02 ppb
BEC = 1.654E-01 ppb

Step Mass Element (2) 75 As — ISTD 72 — Unit ppb



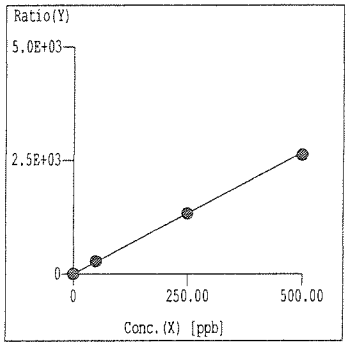
Curve Fit: Y=aX+b
r = 1.0000
Y = 6.221E-001*X +3.209E-002
X = 1.607E+000*Y -5.158E-002
DL = 1.808E-02 ppb
BEC = 5.158E-02 ppb

Step Mass Element (1) 78 Se — ISTD 72 — Unit ppb



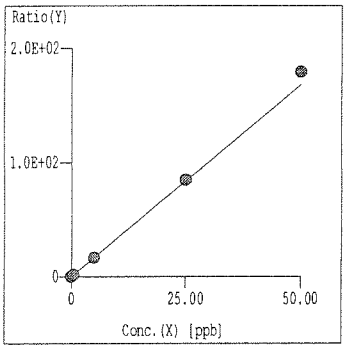
Curve Fit: Y=aX+b
r = 0.9998
Y = 1.443E-001*X +3.833E-003
X = 6.931E+000*Y -2.657E-002
DL = 7.598E-03 ppb
BEC = 2.657E-02 ppb

Step Mass Element (3) 88 Sr — ISTD 72 — Unit ppb



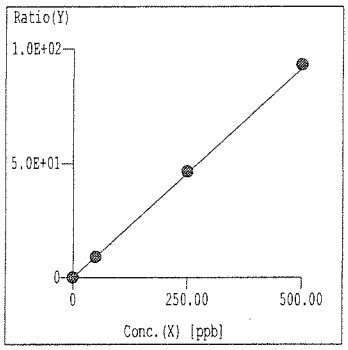
Curve Fit: Y=aX+b
r = 1.0000
Y = 5.328E+000*X +6.601E-002
X = 1.877E-001*Y -1.239E-002
DL = 3.291E-03 ppb
BEC = 1.239E-02 ppb

Step Mass Element (3) 90 Zr — ISTD 72 — Unit ppb



Curve Fit: Y=aX+b
r = 0.9996
Y = 3.357E+000*X +2.783E-002
X = 2.979E-001*Y -8.290E-003
DL = 6.973E-03 ppb
BEC = 8.290E-03 ppb

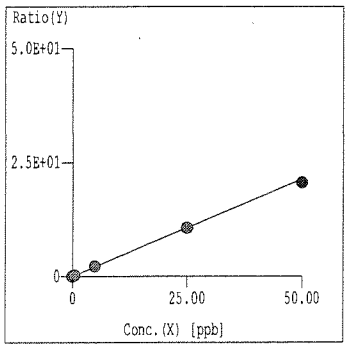
Step Mass Element (3) 95 Mo — ISTD 115 — Unit ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 1.828E-001*X +6.865E-003
X = 5.471E+000*Y -3.756E-002
DL = 1.507E-02 ppb
BEC = 3.756E-02 ppb

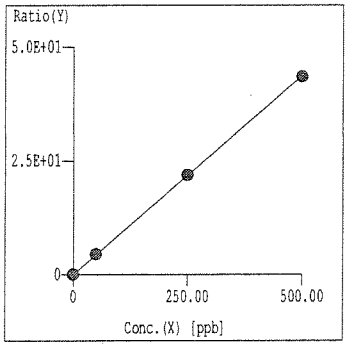
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(3) 107 Ag	115	ppb



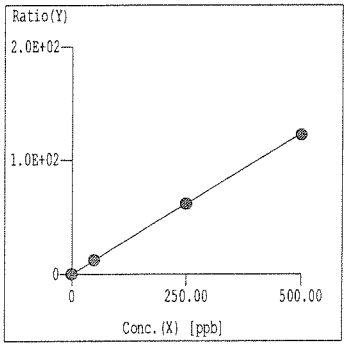
Curve Fit: Y=aX+b
r = 0.9999
Y = 4.276E-001*X +1.034E-003
X = 2.338E+000*Y -2.419E-003
DL = 6.816E-04 ppb
BEC = 2.419E-03 ppb

Step Mass Element	ISTD	Unit
(3) 111 Cd	115	ppb



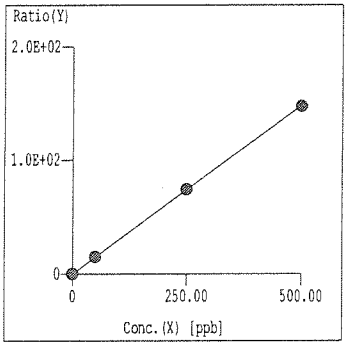
Curve Fit: Y=aX+b
r = 1.0000
Y = 8.736E-002*X +8.780E-004
X = 1.145E+001*Y -1.005E-002
DL = 1.346E-02 ppb
BEC = 1.005E-02 ppb

Step Mass Element	ISTD	Unit
(3) 118 Sn	115	ppb



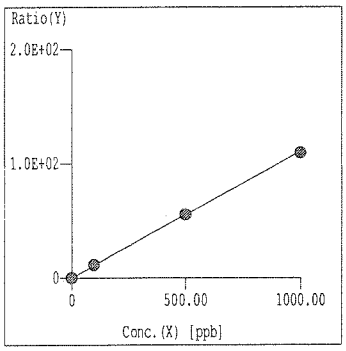
Curve Fit: Y=aX+b
r = 1.0000
Y = 2.468E-001*X +8.584E-003
X = 4.052E+000*Y -3.478E-002
DL = 8.792E-03 ppb
BEC = 3.478E-02 ppb

Step Mass Element	ISTD	Unit
(3) 121 Sb	115	ppb



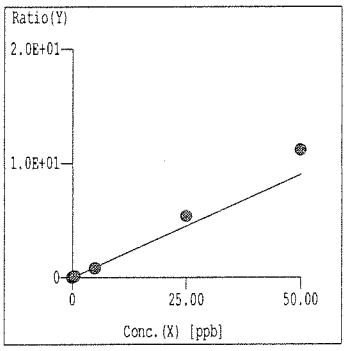
Curve Fit: Y=aX+b
r = 1.0000
Y = 2.962E-001*X +3.502E-002
X = 3.376E+000*Y -1.182E-001
DL = 2.780E-02 ppb
BEC = 1.182E-01 ppb

Step Mass Element	ISTD	Unit
(3) 137 Ba	115	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 1.108E-001*X +1.042E-003
X = 9.027E+000*Y -9.402E-003
DL = 5.761E-03 ppb
BEC = 9.402E-03 ppb

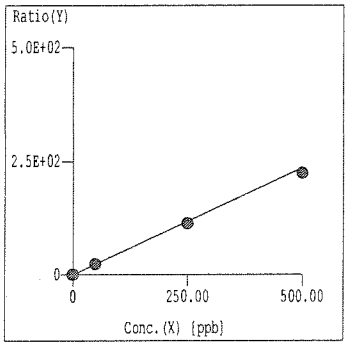
Step Mass Element	ISTD	Unit
(3) 182 W	159	ppb



Curve Fit: Y=aX+b
r = 0.9996
Y = 1.804E-001*X +2.821E-003
X = 5.544E+000*Y -1.564E-002
DL = 5.755E-03 ppb
BEC = 1.564E-02 ppb

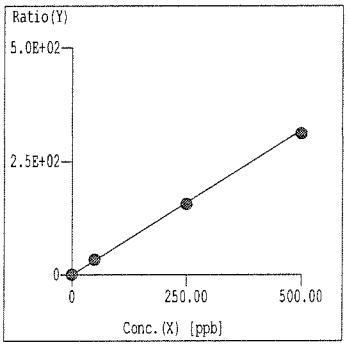
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(3) 205 Tl	159	ppb



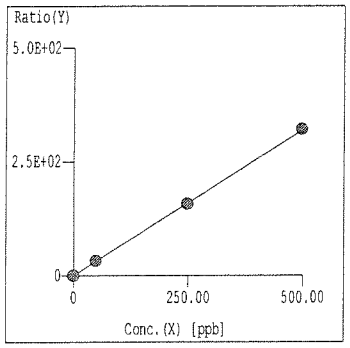
Curve Fit: Y=aX+b
r = 1.0000
Y = 4.713E-001*X +6.395E-003
X = 2.122E+000*Y -1.357E-002
DL = 4.030E-03 ppb
BEC = 1.357E-02 ppb

Step Mass Element	ISTD	Unit
(3) 208 Pb	159	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 6.377E-001*X +1.053E-002
X = 1.568E+000*Y -1.651E-002
DL = 5.745E-03 ppb
BEC = 1.651E-02 ppb

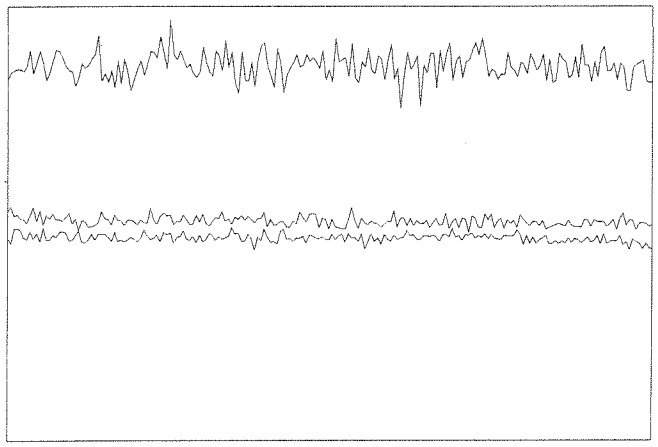
Step Mass Element	ISTD	Unit
(3) 238 U	159	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 6.401E-001*X +4.200E-003
X = 1.562E+000*Y -6.561E-003
DL = 2.799E-03 ppb
BEC = 6.561E-03 ppb

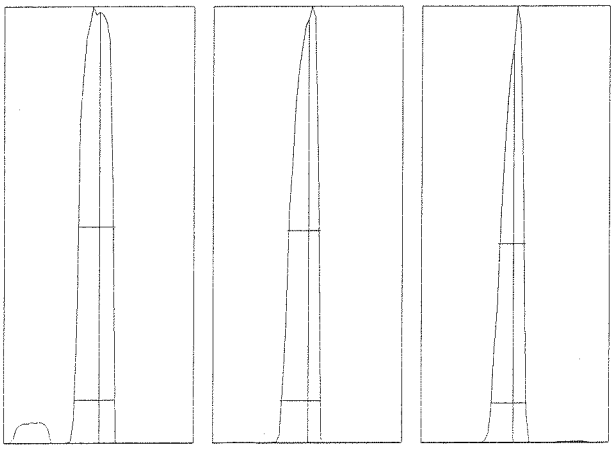
Tune Report

Tune File : NORM.U
Comment : I98E02



Integration Time:	0.1000 sec	
Sampling Period:	0.6200 sec	
n:	200	
Oxide:	156/140	1.819%
Doubly Charged:	70/140	1.471%

m/z	Range	Count	Mean	RSD%	Background
7	10,000	8254.0	8628.6	3.59	6.60
89	100,000	49661.0	50495.6	2.31	8.30
205	50,000	22023.0	23319.4	2.16	15.10
156/140	5	1.866%	1.973%	5.62	
70/140	2	1.692%	1.554%	5.42	



m/z:	7	89	205
Height:	8,518	49,643	21,993
Axis:	7.05	89.05	205.00
W-50%:	0.60	0.55	0.45
W-10%:	0.6500	0.6500	0.5500

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec

Y axis : Linear

Generated : May 09, 2016 15:21:45
Printed : May 09, 2016 15:21:48

Tune Report

Tune File : NORM.U
Comment : I98E02

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	:	1500 W	Extract 1	:	0 V	AMU Gain	:	135
RF Matching	:	1.78 V	Extract 2	:	-110 V	AMU Offset	:	129
Smpl Depth	:	8 mm	Omega Bias-ce	:	-32 V	Axis Gain	:	1.0006
Torch-H	:	-0.3 mm	Omega Lens-ce	:	-2 V	Axis Offset	:	-0.01
Torch-V	:	-0.2 mm	Cell Entrance	:	-26 V	QP Bias	:	-3 V
Carrier Gas	:	0.9 L/min	QP Focus	:	2 V			
Makeup Gas	:	0.12 L/min	Cell Exit	:	-30 V	===Detector Parameters===		
Optional Gas	:	--- %				Discriminator	:	8 mV
Nebulizer Pump	:	0.1 rps	===Octopole Parameters===			Analog HV	:	2330 V
Sample Pump	:	--- rps	OctP RF	:	170 V	Pulse HV	:	1760 V
S/C Temp	:	2 degC	OctP Bias	:	-6 V			

===Reaction Cell===								
Reaction Mode	:	OFF						
H2 Gas	:	0 mL/min	He Gas	:	0 mL/min	Optional Gas	:	--- %

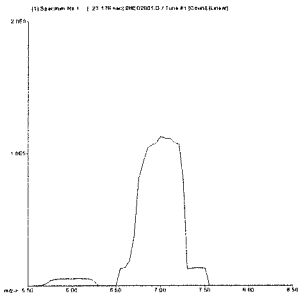
Generated : May 09, 2016 15:21:45
Printed : May 09, 2016 15:21:50

6020 QC Tune Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02001.D
Date Acquired:	May 9 2016 03:39 pm
Acq. Method:	TN6020_C.M
Operator:	CCapul
Sample Name:	6020tunchk
Misc Info:	
Vial Number:	1301
Current Method:	C:\ICPCHEM\1\METHODS\TN6020_C.M

RSD (%)

Element	Actual	Required	Flag
7 Li	0.80	5.00	
59 Co	2.48	5.00	
115 In	2.87	5.00	
205 Tl	1.32	5.00	



7 Li

Mass Calib.

Actual: 7.05

Required: 6.90 - 7.10

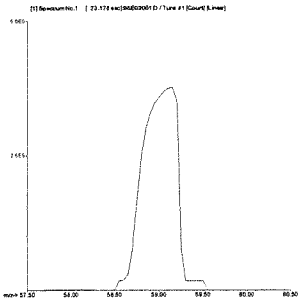
Flag:

Peak Width-10%

Actual: 0.55

Limit 0.90

Flag:



59 Co

Mass Calib.

Actual: 59.10

Required: 58.90 - 59.10

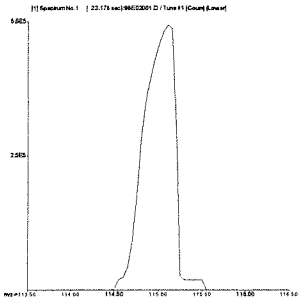
Flag:

Peak Width-10%

Actual: 0.55

Limit 0.90

Flag:



115 In

Mass Calib.

Actual: 115.05

Required: 114.90 - 115.10

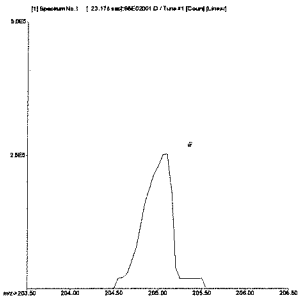
Flag:

Peak Width-10%

Actual: 0.50

Limit 0.90

Flag:



205 Tl

Mass Calib.

Actual: 205.00

Required: 204.90 - 205.10

Flag:

Peak Width-10%

Actual: 0.45

Limit 0.90

Flag:

Calibration Blank QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02003.D\98E02003.D#
Date Acquired: May 9 2016 04:22 pm
Operator: CCapul
Sample Name: BLNK
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:13 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	CPS RSD(%)
6	Li	916529.81	A	13940.00	1.52
7	Li	71221.66	P	763.30	1.07
9	Be	37.78	P	13.47	35.65
11	B	8027.22	P	379.60	4.73
23	Na	137189.80	P	1011.00	0.74
24	Mg	24066.39	P	355.70	1.48
27	Al	30712.78	P	324.20	1.06
28	Si	11127.38	P	430.80	3.87
31	P	31196.40	P	1971.00	6.32
39	K	28172.48	P	1039.00	3.69
40	Ca	164014.70	P	3183.00	1.94
45	Sc	2286420.00	A	17200.00	0.75
45	Sc	239697.50	P	4489.00	1.87
45	Sc	4627866.00	A	80470.00	1.74
47	Ti	185.57	P	41.68	22.46
51	V	1337.64	P	17.05	1.27
52	Cr	374.67	P	21.46	5.73
55	Mn	4835.54	P	69.41	1.44
56	Fe	43102.29	P	366.00	0.85
59	Co	365.58	P	29.12	7.97
60	Ni	121.78	P	2.69	2.21
63	Cu	3297.33	P	59.86	1.82
66	Zn	4384.26	P	112.00	2.55
72	Ge	559950.19	P	5741.00	1.03
72	Ge	132323.41	P	2947.00	2.23
72	Ge	911447.81	A	14800.00	1.62
75	As	42.89	P	5.67	13.22
78	Se	26.22	P	7.43	28.35
88	Sr	1221.22	P	63.02	5.16
90	Zr	586.70	P	25.17	4.29
95	Mo	802.28	P	99.47	12.40
107	Ag	81.11	P	10.18	12.55
111	Cd	83.83	P	35.14	41.92
115	In	5124683.00	A	131000.00	2.56
118	Sn	867.84	P	43.38	5.00
121	Sb	2674.84	P	66.79	2.50
137	Ba	177.79	P	25.89	14.56
159	Tb	5429240.00	A	74760.00	1.38
182	W	225.57	P	15.40	6.83
205	Tl	502.26	P	22.20	4.42
208	Pb	806.71	P	51.75	6.41
209	Bi	3022958.00	A	12270.00	0.41
235	U	15.56	P	10.18	65.44
238	U	457.81	P	60.49	13.21

Calibration Blank QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#
Date Acquired: May 9 2016 04:27 pm
Operator: CCapul
Sample Name: S0
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:25 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	CPS RSD(%)
6	Li	946489.50	A	18430.00	1.95
7	Li	71388.12	P	1826.00	2.56
9	Be	32.22	P	15.75	48.88
11	B	6323.97	P	148.30	2.35
23	Na	147012.41	P	1919.00	1.31
24	Mg	6236.17	P	22.20	0.36
27	Al	3725.12	P	66.71	1.79
28	Si	2963.78	P	38.44	1.30
31	P	31511.88	P	656.50	2.08
39	K	34119.10	P	409.80	1.20
40	Ca	16933.99	P	199.30	1.18
45	Sc	2561561.00	A	46840.00	1.83
45	Sc	273035.00	P	345.80	0.13
45	Sc	4670495.00	A	36300.00	0.78
47	Ti	134.45	P	32.72	24.34
51	V	1779.03	P	64.52	3.63
52	Cr	370.67	P	20.83	5.62
55	Mn	3167.18	P	87.45	2.76
56	Fe	8379.73	P	40.42	0.48
59	Co	244.46	P	32.89	13.45
60	Ni	77.78	P	3.67	4.72
63	Cu	1892.60	P	13.62	0.72
66	Zn	774.50	P	22.20	2.87
72	Ge	617197.63	P	6017.00	0.97
72	Ge	149699.20	P	3074.00	2.05
72	Ge	907582.81	A	9070.00	1.00
75	As	48.22	P	5.43	11.26
78	Se	23.11	P	2.04	8.81
88	Sr	576.70	P	47.26	8.19
90	Zr	482.25	P	68.51	14.21
95	Mo	407.80	P	46.23	11.34
107	Ag	52.22	P	5.09	9.75
111	Cd	43.20	P	19.90	46.07
115	In	5063765.00	A	18650.00	0.37
118	Sn	456.70	P	37.56	8.22
121	Sb	1760.20	P	132.30	7.52
137	Ba	52.22	P	10.71	20.51
159	Tb	5455991.00	A	62380.00	1.14
182	W	141.12	P	19.25	13.64
205	Tl	286.68	P	31.80	11.09
208	Pb	486.69	P	64.38	13.23
209	Bi	3038108.00	A	20200.00	0.66
235	U	18.89	P	15.40	81.53
238	U	224.46	P	35.02	15.60

Calibration Standard QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02005.D\98E02005.D#
Date Acquired: May 9 2016 04:31 pm
Operator: CCapul
Sample Name: S1 0.5
Misc Info:
Vial Number: 1104
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:30 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	923530.69	A	14260.00	1.54
7 Li	75384.78	P	349.50	0.46
9 Be	2219.17	P	153.20	6.90
11 B	7785.95	P	68.12	0.87
23 Na	474526.69	P	4556.00	0.96
24 Mg	1165680.00	A	16100.00	1.38
27 Al	1541910.00	A	17510.00	1.14
28 Si	174935.00	P	1220.00	0.70
31 P	71942.56	P	1718.00	2.39
39 K	69426.99	P	855.30	1.23
40 Ca	675051.88	P	5160.00	0.76
45 Sc	2594321.00	A	53620.00	2.07
45 Sc	280754.50	P	2951.00	1.05
45 Sc	4720755.00	A	19410.00	0.41
47 Ti	1916.89	P	140.00	7.30
51 V	5539.23	P	70.38	1.27
52 Cr	4954.31	P	102.40	2.07
55 Mn	29588.38	P	342.30	1.16
56 Fe	1349530.00	A	20560.00	1.52
59 Co	21399.69	P	353.40	1.65
60 Ni	2225.10	P	47.74	2.15
63 Cu	6125.51	P	81.24	1.33
66 Zn	6338.49	P	14.51	0.23
72 Ge	620005.69	P	5608.00	0.90
72 Ge	153733.41	P	1136.00	0.74
72 Ge	914692.00	A	6986.00	0.76
75 As	524.46	P	22.33	4.26
78 Se	479.35	P	9.82	2.05
88 Sr	26130.17	P	543.30	2.08
90 Zr	14593.49	P	46.67	0.32
95 Mo	4774.41	P	145.20	3.04
107 Ag	11390.13	P	278.30	2.44
111 Cd	2306.72	P	119.20	5.17
115 In	5117861.00	A	49130.00	0.96
118 Sn	6672.08	P	52.09	0.78
121 Sb	9381.68	P	161.50	1.72
137 Ba	2980.48	P	172.90	5.80
159 Tb	5419629.00	A	117700.00	2.17
182 W	5891.69	P	179.90	3.05
205 Tl	13650.67	P	343.00	2.51
208 Pb	18852.19	P	229.70	1.22
209 Bi	2991011.00	A	24050.00	0.80
235 U	150.01	P	23.33	15.55
238 U	17660.84	P	180.30	1.02

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	923530.69	1.54	946489.44	97.6	60 - 125	
45 Sc	2594320.80	2.07	2561560.50	101.3	60 - 125	
45 Sc	280754.47	1.05	273035.03	102.8	60 - 125	
45 Sc	4720754.50	0.41	4670495.50	101.1	60 - 125	
72 Ge	620005.75	0.90	617197.63	100.5	60 - 125	
72 Ge	153733.42	0.74	149699.25	102.7	60 - 125	
72 Ge	914691.94	0.76	907582.81	100.8	60 - 125	
115 In	5117861.00	0.96	5063765.50	101.1	60 - 125	
159 Tb	5419628.50	2.17	5455991.00	99.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

--- :Element Failures
0 :ISTD Failures

--- :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02006.D\98E02006.D#
Date Acquired: May 9 2016 04:36 pm
Operator: CCapul
Sample Name: S2 50
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:34 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	884587.69	A	11530.00	1.30
7 Li	121791.20	P	594.00	0.49
9 Be	22052.61	P	61.25	0.28
11 B	40105.41	P	377.50	0.94
23 Na	32339490.00	A	846800.00	2.62
24 Mg	110017800.00	A	514700.00	0.47
27 Al	146479700.00	A	703600.00	0.48
28 Si	851200.00	A	15630.00	1.84
31 P	108884.10	P	1108.00	1.02
39 K	3554852.00	A	76830.00	2.16
40 Ca	62649680.00	A	468800.00	0.75
45 Sc	2602031.00	A	32280.00	1.24
45 Sc	281283.69	P	3924.00	1.40
45 Sc	4706671.00	A	39860.00	0.85
47 Ti	154660.59	P	846.90	0.55
51 V	369567.59	P	2026.00	0.55
52 Cr	457786.31	P	1457.00	0.32
55 Mn	15229600.00	A	257500.00	1.69
56 Fe	127855600.00	A	1661000.00	1.30
59 Co	2005993.00	A	3850.00	0.19
60 Ni	205248.30	P	401.80	0.20
63 Cu	531182.31	P	284.60	0.05
66 Zn	253764.41	P	430.40	0.17
72 Ge	619043.31	P	4003.00	0.65
72 Ge	153015.09	P	1560.00	1.02
72 Ge	901872.50	A	1577.00	0.17
75 As	47679.86	P	241.50	0.51
78 Se	44981.28	P	400.30	0.89
88 Sr	2498940.00	A	18610.00	0.74
90 Zr	149724.59	P	1432.00	0.96
95 Mo	435409.31	P	2796.00	0.64
107 Ag	106519.60	P	113.20	0.11
111 Cd	217326.50	P	1206.00	0.55
115 In	4843335.00	A	39020.00	0.81
118 Sn	598148.63	P	4690.00	0.78
121 Sb	725653.63	P	5505.00	0.76
137 Ba	555142.19	P	1788.00	0.32
159 Tb	5365600.00	A	6487.00	0.12
182 W	43375.59	P	208.10	0.48
205 Tl	1259149.00	A	12060.00	0.96
208 Pb	1791730.00	A	7684.00	0.43
209 Bi	2919265.00	A	16420.00	0.56
235 U	12737.47	P	319.00	2.50
238 U	1741620.00	A	26450.00	1.52

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	884587.69	1.30	946489.44	93.5	60 - 125	
45 Sc	2602030.80	1.24	2561560.50	101.6	60 - 125	
45 Sc	281283.69	1.40	273035.03	103.0	60 - 125	
45 Sc	4706671.00	0.85	4670495.50	100.8	60 - 125	
72 Ge	619043.25	0.65	617197.63	100.3	60 - 125	
72 Ge	153015.11	1.02	149699.25	102.2	60 - 125	
72 Ge	901872.50	0.17	907582.81	99.4	60 - 125	
115 In	4843334.50	0.81	5063765.50	95.6	60 - 125	
159 Tb	5365600.50	0.12	5455991.00	98.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

--- :Element Failures
0 :ISTD Failures

--- :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02007.D\98E02007.D#
Date Acquired: May 9 2016 04:40 pm
Operator: CCapul
Sample Name: S3 250
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:39 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	825843.19	A	1650.00	0.20
7 Li	320365.19	P	5592.00	1.75
9 Be	104766.90	P	1905.00	1.82
11 B	163450.00	P	2369.00	1.45
23 Na	152057600.00	A	1098000.00	0.72
24 Mg	507908990.00	A	8206000.00	1.62
27 Al	688855870.00	A	13330000.00	1.94
28 Si	4099088.00	A	45510.00	1.11
31 P	399235.09	P	2142.00	0.54
39 K	16172510.00	A	166000.00	1.03
40 Ca	300189090.00	A	3813000.00	1.27
45 Sc	2589336.00	A	40100.00	1.55
45 Sc	269940.59	P	1343.00	0.50
45 Sc	4598775.00	A	43550.00	0.95
47 Ti	744604.19	P	4835.00	0.65
51 V	1787593.00	A	12160.00	0.68
52 Cr	2158984.00	A	23280.00	1.08
55 Mn	70937480.00	A	881000.00	1.24
56 Fe	605866180.00	A	5225000.00	0.86
59 Co	9249671.00	A	93240.00	1.01
60 Ni	942456.63	A	6748.00	0.72
63 Cu	2429480.00	A	17160.00	0.71
66 Zn	1202168.00	A	6737.00	0.56
72 Ge	584459.50	P	1323.00	0.23
72 Ge	144197.00	P	604.70	0.42
72 Ge	867458.00	M	12800.00	1.48
75 As	224628.70	P	1459.00	0.65
78 Se	209033.91	P	1485.00	0.71
88 Sr	11468120.00	A	206800.00	1.80
90 Zr	734924.31	P	5146.00	0.70
95 Mo	2127170.00	A	46030.00	2.16
107 Ag	486195.69	P	5272.00	1.08
111 Cd	1002482.00	A	536.90	0.05
115 In	4584774.00	A	48430.00	1.06
118 Sn	2820235.00	A	47700.00	1.69
121 Sb	3402108.00	A	54810.00	1.61
137 Ba	2535423.00	A	24530.00	0.97
159 Tb	5211348.00	A	44550.00	0.85
182 W	280604.09	P	2446.00	0.87
205 Tl	5899442.00	A	79510.00	1.35
208 Pb	8117095.00	A	60600.00	0.75
209 Bi	2696367.00	A	16340.00	0.61
235 U	61095.68	P	834.50	1.37
238 U	8212674.00	A	93440.00	1.14

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	825843.19	0.20	946489.44	87.3	60 - 125	
45 Sc	2589336.50	1.55	2561560.50	101.1	60 - 125	
45 Sc	269940.63	0.50	273035.03	98.9	60 - 125	
45 Sc	4598774.50	0.95	4670495.50	98.5	60 - 125	
72 Ge	584459.50	0.23	617197.63	94.7	60 - 125	
72 Ge	144196.98	0.42	149699.25	96.3	60 - 125	
72 Ge	867458.00	1.48	907582.81	95.6	60 - 125	
115 In	4584774.00	1.06	5063765.50	90.5	60 - 125	
159 Tb	5211348.50	0.85	5455991.00	95.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

--- :Element Failures
0 :ISTD Failures

--- :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02008.D\98E02008.D#
Date Acquired: May 9 2016 04:45 pm
Operator: CCapul
Sample Name: S4 500
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:43 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	CPS RSD(%)
6 Li	813458.81	A	8793.00	1.08
7 Li	558739.81	P	3824.00	0.68
9 Be	198090.80	P	1907.00	0.96
11 B	306621.31	P	2490.00	0.81
23 Na	298212190.00	A	5264000.00	1.77
24 Mg	997448580.00	A	12900000.00	1.29
27 Al	1337746900.00	A	18170000.00	1.36
28 Si	7993179.00	A	125500.00	1.57
31 P	752506.38	M	5319.00	0.71
39 K	31482470.00	A	465900.00	1.48
40 Ca	592809410.00	A	9519000.00	1.61
45 Sc	2584562.00	A	50090.00	1.94
45 Sc	269334.69	P	1284.00	0.48
45 Sc	4599628.00	A	41380.00	0.90
47 Ti	1488940.00	A	4110.00	0.28
51 V	3497713.00	A	49820.00	1.42
52 Cr	4172606.00	A	58010.00	1.39
55 Mn	138476100.00	A	1666000.00	1.20
56 Fe	1177865000.00	A	19200000.00	1.63
59 Co	18003450.00	A	185400.00	1.03
60 Ni	1837218.00	A	9070.00	0.49
63 Cu	4545418.00	A	53820.00	1.18
66 Zn	2299815.00	A	23250.00	1.01
72 Ge	579097.00	P	2780.00	0.48
72 Ge	141033.09	P	3033.00	2.15
72 Ge	853742.38	P	5650.00	0.66
75 As	432387.81	P	2650.00	0.61
78 Se	399938.59	P	4987.00	1.25
88 Sr	22302160.00	A	185700.00	0.83
90 Zr	1528862.00	A	16800.00	1.10
95 Mo	4158523.00	A	32490.00	0.78
107 Ag	917801.50	M	15650.00	1.71
111 Cd	1940432.00	A	13350.00	0.69
115 In	4469207.00	A	45340.00	1.01
118 Sn	5451041.00	A	62060.00	1.14
121 Sb	6580667.00	A	40540.00	0.62
137 Ba	4882524.00	A	18790.00	0.38
159 Tb	5087192.00	A	25580.00	0.50
182 W	567926.13	P	3590.00	0.63
205 Tl	11383000.00	A	160600.00	1.41
208 Pb	15812430.00	A	143100.00	0.90
209 Bi	2622633.00	A	7326.00	0.28
235 U	120380.90	P	1925.00	1.60
238 U	16320920.00	A	98860.00	0.61

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	813458.81	1.08	946489.44	85.9	60 - 125	
45 Sc	2584562.00	1.94	2561560.50	100.9	60 - 125	
45 Sc	269334.69	0.48	273035.03	98.6	60 - 125	
45 Sc	4599628.50	0.90	4670495.50	98.5	60 - 125	
72 Ge	579097.00	0.48	617197.63	93.8	60 - 125	
72 Ge	141033.08	2.15	149699.25	94.2	60 - 125	
72 Ge	853742.44	0.66	907582.81	94.1	60 - 125	
115 In	4469206.50	1.01	5063765.50	88.3	60 - 125	
159 Tb	5087192.00	0.50	5455991.00	93.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

--- :Element Failures
0 :ISTD Failures

--- :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02009.D\98E02009.D#
Date Acquired:	May 9 2016 04:52 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	ICV
Misc Info:	
Vial Number:	1204
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	ICV1
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc. RSD(%)	Expected	QC Range(%)	Flag
7 Li	32.16	ppb	392720.6	1.81	30.00	90 - 110	
9 Be	32.60	ppb	135812.8	0.83	30.00	90 - 110	
11 B	32.24	ppb	109277.8	1.90	30.00	90 - 110	
23 Na	30410.00	ppb	202399700.0	0.74	30000.00	90 - 110	
24 Mg	29200.00	ppb	633590270.0	1.50	30000.00	90 - 110	
27 Al	30150.00	ppb	872468100.0	0.51	30000.00	90 - 110	
28 Si	3186.00	ppb	5673805.0	0.83	3000.00	90 - 110	
31 P	298.90	ppb	479561.2	0.92	300.00	90 - 110	
39 K	30490.00	ppb	21443670.0	0.38	30000.00	90 - 110	
40 Ca	31380.00	ppb	414953310.0	0.80	30000.00	90 - 110	
47 Ti	299.40	ppb	910191.0	1.55	300.00	90 - 110	
51 V	294.60	ppb	2268245.0	0.65	300.00	90 - 110	
52 Cr	296.20	ppb	2744108.0	1.42	300.00	90 - 110	
55 Mn	1919.00	ppb	94871288.0	1.08	2000.00	90 - 110	
56 Fe	28810.00	ppb	778488830.0	0.88	30000.00	90 - 110	
59 Co	277.80	ppb	10908130.0	1.47	300.00	90 - 110	
60 Ni	294.50	ppb	1170346.0	1.02	300.00	90 - 110	
63 Cu	280.30	ppb	2919775.0	0.44	300.00	90 - 110	
66 Zn	296.50	ppb	1438240.0	0.83	300.00	90 - 110	
75 As	300.00	ppb	284944.4	0.97	300.00	90 - 110	
78 Se	291.70	ppb	262601.1	0.46	300.00	90 - 110	
88 Sr	302.50	ppb	14082100.0	0.19	300.00	90 - 110	
90 Zr	28.43	ppb	834133.1	1.34	30.00	90 - 110	
95 Mo	296.20	ppb	2510364.0	0.53	300.00	90 - 110	
107 Ag	31.12	ppb	616856.0	0.61	30.00	90 - 110	
111 Cd	301.00	ppb	1218795.0	1.64	300.00	90 - 110	
118 Sn	301.60	ppb	3450770.0	0.51	300.00	90 - 110	
121 Sb	305.30	ppb	4192315.0	0.60	300.00	90 - 110	
137 Ba	305.10	ppb	1566653.0	0.70	300.00	90 - 110	
182 W	32.88	ppb	309895.3	1.21	30.00	90 - 110	
205 Tl	285.80	ppb	7036092.0	1.39	300.00	90 - 110	
208 Pb	290.70	ppb	9684349.0	1.49	300.00	90 - 110	
235 U	1.90	ppb	72674.8	0.91	0.22	90 - 110	Fail
238 U	295.80	ppb	9890916.0	0.52	300.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	836846.5	0.67	946489.44	88.4	60 - 125	
45 Sc	2794253.8	0.76	2561560.50	109.1	60 - 125	
45 Sc	290976.9	0.39	273035.03	106.6	60 - 125	
45 Sc	4655949.0	0.49	4670495.50	99.7	60 - 125	
72 Ge	623833.8	0.64	617197.63	101.1	60 - 125	
72 Ge	152652.1	1.02	149699.25	102.0	60 - 125	
72 Ge	873731.2	0.20	907582.81	96.3	60 - 125	
115 In	4635216.0	0.77	5063765.50	91.5	60 - 125	
159 Tb	5223333.5	0.88	5455991.00	95.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

ICB QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02010.D\98E02010.D#
Date Acquired:	May 9 2016 04:56 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	ICB
Misc Info:	
Vial Number:	1202
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	ICB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.0924	ppb	72338.1	198.66	0.20	
9 Be	0.0019	ppb	41.1	137.02	0.10	
11 B	0.2356	ppb	7356.8	21.65	5.00	
23 Na	0.5837	ppb	155377.8	24.74	40.00	
24 Mg	0.3566	ppb	14412.9	13.79	10.00	
27 Al	0.2838	ppb	12316.3	13.59	20.00	
28 Si	1.5960	ppb	5745.9	4.72	20.00	
31 P	-0.3288	ppb	32404.2	242.21	10.00	
39 K	0.4389	ppb	35934.0	53.54	20.00	
40 Ca	0.7057	ppb	26286.4	4.19	25.00	
47 Ti	0.0075	ppb	178.9	104.29	0.50	
51 V	-0.0002	ppb	1851.3	1559.60	0.50	
52 Cr	0.0065	ppb	450.2	18.58	0.20	
55 Mn	0.0214	ppb	4442.0	15.83	0.20	
56 Fe	3.0480	ppb	86419.5	6.78	10.00	
59 Co	0.0021	ppb	346.7	29.93	0.20	
60 Ni	0.0057	ppb	104.4	46.55	0.20	
63 Cu	0.0097	ppb	2059.3	46.50	0.40	
66 Zn	-0.0109	ppb	803.4	73.27	2.00	
75 As	0.0234	ppb	72.9	25.94	0.20	
78 Se	0.0536	ppb	74.0	20.04	0.20	
88 Sr	0.0016	ppb	697.8	85.91	0.20	
90 Zr	0.0261	ppb	1082.3	13.54	2.00	
95 Mo	0.1741	ppb	2000.2	13.74	0.40	
107 Ag	0.0019	ppb	94.4	59.36	0.20	
111 Cd	0.0021	ppb	54.7	199.51	0.20	
118 Sn	0.1183	ppb	1953.6	10.04	0.20	
121 Sb	0.1472	ppb	4067.5	7.17	0.40	
137 Ba	0.0026	ppb	68.9	24.23	0.20	
182 W	0.0316	ppb	477.8	19.11	1.00	
205 Tl	0.0247	ppb	1011.2	9.53	0.20	
208 Pb	0.0082	ppb	883.4	17.40	0.10	
235 U	0.0002	ppb	23.3	148.16	1.00	
238 U	0.0315	ppb	1365.7	2.90	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	971865.4	2.06	946489.44	102.7	60 - 125	
45 Sc	2637886.8	0.55	2561560.50	103.0	60 - 125	
45 Sc	284507.5	1.02	273035.03	104.2	60 - 125	
45 Sc	4809761.0	0.88	4670495.50	103.0	60 - 125	
72 Ge	639462.0	0.20	617197.63	103.6	60 - 125	
72 Ge	156228.4	1.30	149699.25	104.4	60 - 125	
72 Ge	936983.0	0.90	907582.81	103.2	60 - 125	
115 In	5172902.5	0.78	5063765.50	102.2	60 - 125	
159 Tb	5601822.5	0.65	5455991.00	102.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02011.D\98E02011.D#
Date Acquired:	May 9 2016 05:01 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	MRLE0901
Misc Info:	0.5/50/4 ppb
Vial Number:	1306
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	76963.0	0.0000	0.4269	ppb	19.97	50.00	
9 Be	# 3	6	2398.1	0.0000	0.4994	ppb	5.56	50.00	
11 B	# 3	6	9369.3	0.0000	0.8245	ppb	3.73	100.00	
23 Na	# 1	45	485403.2	0.0000	49.9200	ppb	0.76	50000.00	
24 Mg	# 3	45	1207394.0	0.0000	52.3600	ppb	1.50	50000.00	
27 Al	# 3	45	1585291.0	0.0000	51.7200	ppb	2.60	50000.00	
28 Si	# 1	45	4334.2	0.0000	0.6493	ppb	20.15	10000.00	
31 P	# 3	45	31976.0	0.0000	-1.0680	ppb	54.61	400000.00	
39 K	# 2	45	72313.0	0.0000	49.9400	ppb	1.29	50000.00	
40 Ca	# 1	45	677570.5	0.0000	50.6200	ppb	0.68	50000.00	
47 Ti	# 3	45	1792.4	0.0000	0.5086	ppb	5.18	500.00	
51 V	# 2	45	5636.4	0.0000	0.4783	ppb	3.16	500.00	
52 Cr	# 2	45	5236.2	0.0000	0.5158	ppb	2.49	500.00	
55 Mn	# 3	45	30702.1	0.0000	0.5220	ppb	1.07	3000.00	
56 Fe	# 1	45	1391707.0	0.0000	51.9400	ppb	0.68	50000.00	
59 Co	# 3	45	21534.4	0.0000	0.5125	ppb	2.16	500.00	
60 Ni	# 2	45	2249.5	0.0000	0.5387	ppb	2.95	500.00	
63 Cu	# 2	45	6554.6	0.0000	0.4301	ppb	2.61	500.00	
66 Zn	# 3	72	23476.7	0.0000	4.2810	ppb	1.88	500.00	
75 As	# 2	72	564.7	0.0000	0.5147	ppb	3.14	500.00	
78 Se	# 1	72	493.6	0.0000	0.4974	ppb	4.62	500.00	
88 Sr	# 3	72	26571.2	0.0000	0.5117	ppb	0.93	500.00	
90 Zr	# 3	72	755.6	0.0000	0.0154	ppb	8.30	1000.00	
95 Mo	# 3	115	5204.6	0.0000	0.5014	ppb	1.73	500.00	
107 Ag	# 3	115	11429.0	0.0000	0.5036	ppb	3.12	50.00	
111 Cd	# 3	115	2427.2	0.0000	0.5160	ppb	6.33	500.00	
118 Sn	# 3	115	7143.4	0.0000	0.5131	ppb	1.43	500.00	
121 Sb	# 3	115	10562.7	0.0000	0.5568	ppb	2.86	500.00	
137 Ba	# 3	115	2934.9	0.0000	0.4919	ppb	5.51	1000.00	
182 W	# 3	159	243.3	0.0000	0.0082	ppb	45.60	1000.00	
205 Tl	# 3	159	13846.4	0.0000	0.5061	ppb	1.02	500.00	
208 Pb	# 3	159	19552.7	0.0000	0.5258	ppb	2.03	500.00	
235 U	# 3	159	156.7	0.0000	0.0034	ppb	18.76	5.00	
238 U	# 3	159	18300.7	0.0000	0.4992	ppb	0.66	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	952443.81	1.14	946489.44	100.6	60 - 125	
45 Sc # 1	2752739.00	1.75	2561560.50	107.5	60 - 125	
45 Sc # 2	294281.94	2.05	273035.03	107.8	60 - 125	
45 Sc # 3	4920731.50	0.80	4670495.50	105.4	60 - 125	
72 Ge # 1	652679.81	1.04	617197.63	105.7	60 - 125	
72 Ge # 2	160326.28	1.77	149699.25	107.1	60 - 125	
72 Ge # 3	951577.56	1.57	907582.81	104.8	60 - 125	
115 In # 3	5283265.50	1.04	5063765.50	104.3	60 - 125	
159 Tb # 3	5653255.50	0.89	5455991.00	103.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02012.D\98E02012.D#
Date Acquired:	May 9 2016 05:05 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	ICSA
Misc Info:	
Vial Number:	1303
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	63523.7	0.0000	0.2495	ppb	14.66	50.00	
9 Be	# 3	6	44.4	0.0000	0.0044	ppb	124.03	50.00	
11 B	# 3	6	8117.2	0.0000	0.8792	ppb	2.28	100.00	
23 Na	# 1	45	309778110.0	0.0000	49320.0000	ppb	0.76	50000.00	
24 Mg	# 3	45	1011336000.0	0.0000	47370.0000	ppb	1.15	50000.00	
27 Al	# 3	45	1387426000.0	0.0000	48740.0000	ppb	1.80	50000.00	
28 Si	# 1	45	7266.7	0.0000	2.5010	ppb	5.30	10000.00	
31 P	# 3	45	75002416.0	0.0000	50870.0000	ppb	1.34	400000.00	
39 K	# 2	45	32816210.0	0.0000	49900.0000	ppb	0.27	50000.00	
40 Ca	# 1	45	610286530.0	0.0000	48880.0000	ppb	0.89	50000.00	
47 Ti	# 3	45	3212851.0	0.0000	1074.0000	ppb	1.14	500.00	~~>LRS~~
51 V	# 2	45	1979.3	0.0000	0.0286	ppb	36.02	500.00	
52 Cr	# 2	45	6018.8	0.0000	0.6511	ppb	0.60	500.00	
55 Mn	# 3	45	10784.9	0.0000	0.1562	ppb	2.40	3000.00	
56 Fe	# 1	45	1202842000.0	0.0000	47140.0000	ppb	0.41	50000.00	
59 Co	# 3	45	4472.1	0.0000	0.1093	ppb	1.68	500.00	
60 Ni	# 2	45	417.3	0.0000	0.0911	ppb	8.54	500.00	
63 Cu	# 2	45	3565.6	0.0000	0.1735	ppb	0.85	500.00	
66 Zn	# 3	72	7976.1	0.0000	1.4830	ppb	1.75	500.00	
75 As	# 2	72	119.3	0.0000	0.0802	ppb	25.42	500.00	
78 Se	# 1	72	97.8	0.0000	0.0884	ppb	6.81	500.00	
88 Sr	# 3	72	15741.5	0.0000	0.3264	ppb	0.39	500.00	
90 Zr	# 3	72	49041.0	0.0000	1.6670	ppb	1.20	1000.00	
95 Mo	# 3	115	8273515.0	0.0000	985.1000	ppb	0.49	500.00	~~>LRS~~
107 Ag	# 3	115	358.9	0.0000	0.0159	ppb	11.37	50.00	
111 Cd	# 3	115	512.5	0.0000	0.1172	ppb	54.63	500.00	
118 Sn	# 3	115	865.6	0.0000	0.0415	ppb	14.62	500.00	
121 Sb	# 3	115	2629.3	0.0000	0.0750	ppb	3.65	500.00	
137 Ba	# 3	115	357.8	0.0000	0.0609	ppb	6.34	1000.00	
182 W	# 3	159	879.0	0.0000	0.0787	ppb	6.95	1000.00	
205 Tl	# 3	159	334.5	0.0000	0.0002	ppb	403.18	500.00	
208 Pb	# 3	159	3881.5	0.0000	0.1014	ppb	2.22	500.00	
235 U	# 3	159	15.6	0.0000	0.0000	ppb	690.33	5.00	
238 U	# 3	159	272.2	0.0000	0.0017	ppb	42.42	500.00	

aw 5/10/16

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	807966.06	1.93	946489.44	85.4	60 - 125	
45 Sc # 1	2638381.30	2.07	2561560.50	103.0	60 - 125	
45 Sc # 2	272258.34	1.50	273035.03	99.7	60 - 125	
45 Sc # 3	4580612.50	1.32	4670495.50	98.1	60 - 125	
72 Ge # 1	589214.94	0.67	617197.63	95.5	60 - 125	
72 Ge # 2	145486.52	0.72	149699.25	97.2	60 - 125	
72 Ge # 3	872082.25	0.70	907582.81	96.1	60 - 125	
115 In # 3	4594530.50	1.19	5063765.50	90.7	60 - 125	
159 Tb # 3	5163828.50	1.59	5455991.00	94.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02013.D\98E02013.D#
Date Acquired:	May 9 2016 05:10 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	ICSAB
Misc Info:	
Vial Number:	1304
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	261493.8	0.0000	20.7500	ppb	1.22	50.00	
9 Be	# 3	6	81844.7	0.0000	20.7200	ppb	0.71	50.00	
11 B	# 3	6	68380.6	0.0000	20.6900	ppb	0.69	100.00	
23 Na	# 1	45	307880800.0	0.0000	49490.0000	ppb	1.37	50000.00	
24 Mg	# 3	45	1022361000.0	0.0000	47450.0000	ppb	0.27	50000.00	
27 Al	# 3	45	1398781100.0	0.0000	48680.0000	ppb	1.00	50000.00	
28 Si	# 1	45	335873.6	0.0000	200.0000	ppb	0.91	10000.00	
31 P	# 3	45	75664224.0	0.0000	50840.0000	ppb	0.37	400000.00	
39 K	# 2	45	32626140.0	0.0000	49830.0000	ppb	1.27	50000.00	
40 Ca	# 1	45	611878210.0	0.0000	49490.0000	ppb	0.74	50000.00	
47 Ti	# 3	45	3310548.0	0.0000	1097.0000	ppb	0.59	500.00	>LRS
51 V	# 2	45	143649.9	0.0000	19.8000	ppb	1.17	500.00	
52 Cr	# 2	45	175722.1	0.0000	20.3200	ppb	0.89	500.00	
55 Mn	# 3	45	969565.5	0.0000	19.6800	ppb	0.55	3000.00	
56 Fe	# 1	45	1212220000.0	0.0000	47970.0000	ppb	1.18	50000.00	
59 Co	# 3	45	758924.9	0.0000	19.4600	ppb	0.60	500.00	
60 Ni	# 2	45	74963.7	0.0000	20.2300	ppb	0.97	500.00	
63 Cu	# 2	45	192940.7	0.0000	19.7000	ppb	0.86	500.00	
66 Zn	# 3	72	102971.7	0.0000	20.9100	ppb	1.07	500.00	
75 As	# 2	72	18487.2	0.0000	20.3700	ppb	0.20	500.00	
78 Se	# 1	72	17765.8	0.0000	20.9400	ppb	0.93	500.00	
88 Sr	# 3	72	937898.8	0.0000	19.9800	ppb	1.57	500.00	
90 Zr	# 3	72	348737.8	0.0000	11.7900	ppb	0.79	1000.00	
95 Mo	# 3	115	8562176.0	0.0000	1013.0000	ppb	0.76	500.00	>LRS
107 Ag	# 3	115	374460.2	0.0000	18.9300	ppb	0.32	50.00	
111 Cd	# 3	115	81369.2	0.0000	20.1300	ppb	1.14	500.00	
118 Sn	# 3	115	223186.9	0.0000	19.5200	ppb	0.75	500.00	
121 Sb	# 3	115	281304.7	0.0000	20.4200	ppb	1.59	500.00	
137 Ba	# 3	115	103532.4	0.0000	20.2000	ppb	2.65	1000.00	
182 W	# 3	159	225764.9	0.0000	23.8800	ppb	0.12	1000.00	
205 Tl	# 3	159	477980.5	0.0000	19.3400	ppb	1.12	500.00	
208 Pb	# 3	159	650223.8	0.0000	19.4400	ppb	0.57	500.00	
235 U	# 3	159	5081.3	0.0000	0.1323	ppb	1.76	5.00	
238 U	# 3	159	670942.6	0.0000	20.0000	ppb	0.70	500.00	

gc 5/10/16

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	793365.19	1.69	946489.44	83.8	60 - 125	
45 Sc # 1	2612582.30	0.72	2561560.50	102.0	60 - 125	
45 Sc # 2	271070.38	0.60	273035.03	99.3	60 - 125	
45 Sc # 3	4623273.00	0.83	4670495.50	99.0	60 - 125	
72 Ge # 1	587178.81	0.36	617197.63	95.1	60 - 125	
72 Ge # 2	145498.30	1.45	149699.25	97.2	60 - 125	
72 Ge # 3	880445.19	0.09	907582.81	97.0	60 - 125	
115 In # 3	4625138.50	1.79	5063765.50	91.3	60 - 125	
159 Tb # 3	5238949.00	0.11	5455991.00	96.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02014.D\98E02014.D#
Date Acquired:	May 9 2016 05:15 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	MRLE0902
Misc Info:	500 ppb CAT
Vial Number:	1207
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	76183.1	0.0000	0.3292	ppb	58.41	50.00	
9 Be	# 3	6	22.2	0.0000	-0.0019	ppb	145.49	50.00	
11 B	# 3	6	9873.0	0.0000	0.9492	ppb	10.17	100.00	
23 Na	# 1	45	3713103.0	0.0000	528.7000	ppb	0.68	50000.00	
24 Mg	# 3	45	12372820.0	0.0000	520.1000	ppb	2.26	50000.00	
27 Al	# 3	45	16558190.0	0.0000	522.1000	ppb	1.18	50000.00	
28 Si	# 1	45	4004.1	0.0000	0.4034	ppb	24.50	10000.00	
31 P	# 3	45	33779.6	0.0000	-0.6857	ppb	44.55	400000.00	
39 K	# 2	45	406946.4	0.0000	511.2000	ppb	0.52	50000.00	
40 Ca	# 1	45	6991028.0	0.0000	522.1000	ppb	0.29	50000.00	
47 Ti	# 3	45	398.9	0.0000	0.0704	ppb	12.78	500.00	
51 V	# 2	45	1964.8	0.0000	0.0019	ppb	472.63	500.00	
52 Cr	# 2	45	424.5	0.0000	0.0013	ppb	93.11	500.00	
55 Mn	# 3	45	4646.6	0.0000	0.0202	ppb	4.07	3000.00	
56 Fe	# 1	45	14625730.0	0.0000	535.5000	ppb	0.93	50000.00	
59 Co	# 3	45	694.5	0.0000	0.0097	ppb	15.93	500.00	
60 Ni	# 2	45	118.4	0.0000	0.0078	ppb	24.12	500.00	
63 Cu	# 2	45	8049.0	0.0000	0.5589	ppb	2.32	500.00	
66 Zn	# 3	72	2281.4	0.0000	0.2457	ppb	6.18	500.00	
75 As	# 2	72	54.9	0.0000	0.0020	ppb	148.30	500.00	
78 Se	# 1	72	23.1	0.0000	-0.0027	ppb	223.22	500.00	
88 Sr	# 3	72	1095.7	0.0000	0.0082	ppb	17.69	500.00	
90 Zr	# 3	72	867.8	0.0000	0.0176	ppb	12.08	1000.00	
95 Mo	# 3	115	5836.0	0.0000	0.5379	ppb	12.49	500.00	
107 Ag	# 3	115	74.4	0.0000	0.0007	ppb	60.19	50.00	
111 Cd	# 3	115	82.1	0.0000	0.0069	ppb	60.57	500.00	
118 Sn	# 3	115	537.8	0.0000	0.0045	ppb	7.93	500.00	
121 Sb	# 3	115	1893.6	0.0000	-0.0030	ppb	168.16	500.00	
137 Ba	# 3	115	106.7	0.0000	0.0080	ppb	26.66	1000.00	
182 W	# 3	159	324.5	0.0000	0.0147	ppb	30.63	1000.00	
205 Tl	# 3	159	435.6	0.0000	0.0020	ppb	94.15	500.00	
208 Pb	# 3	159	717.8	0.0000	0.0025	ppb	50.24	500.00	
235 U	# 3	159	18.9	0.0000	0.0001	ppb	72.67	5.00	
238 U	# 3	159	233.3	0.0000	-0.0004	ppb	173.83	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	957515.31	2.61	946489.44	101.2	60 - 125	
45 Sc # 1	2822280.50	0.41	2561560.50	110.2	60 - 125	
45 Sc # 2	299481.16	2.20	273035.03	109.7	60 - 125	
45 Sc # 3	5102247.50	1.42	4670495.50	109.2	60 - 125	
72 Ge # 1	671607.31	0.95	617197.63	108.8	60 - 125	
72 Ge # 2	164500.00	1.48	149699.25	109.9	60 - 125	
72 Ge # 3	1000172.20	0.89	907582.81	110.2	60 - 125	
115 In # 3	5544940.50	0.94	5063765.50	109.5	60 - 125	
159 Tb # 3	5927167.50	0.85	5455991.00	108.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02015.D\98E02015.D#
Date Acquired:	May 9 2016 05:19 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	MRLE0903
Misc Info:	1/100/10 ppb
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	76939.0	0.0000	1.0520	ppb	5.74	50.00	
9 Be	# 3	6	4358.7	0.0000	1.0000	ppb	2.23	50.00	
11 B	# 3	6	40995.3	0.0000	10.5300	ppb	2.06	100.00	
23 Na	# 1	45	823873.9	0.0000	104.2000	ppb	1.93	50000.00	
24 Mg	# 3	45	2332305.0	0.0000	103.5000	ppb	0.40	50000.00	
27 Al	# 3	45	3090199.0	0.0000	103.0000	ppb	0.26	50000.00	
28 Si	# 1	45	3166.1	0.0000	0.0197	ppb	285.13	10000.00	
31 P	# 3	45	31104.4	0.0000	-1.2060	ppb	26.63	400000.00	
39 K	# 2	45	108053.8	0.0000	102.7000	ppb	0.42	50000.00	
40 Ca	# 1	45	1357046.0	0.0000	105.0000	ppb	1.54	50000.00	
47 Ti	# 3	45	3297.2	0.0000	0.9978	ppb	4.92	500.00	
51 V	# 2	45	9386.6	0.0000	0.9799	ppb	0.50	500.00	
52 Cr	# 2	45	9767.7	0.0000	1.0160	ppb	1.02	500.00	
55 Mn	# 3	45	55420.8	0.0000	1.0170	ppb	2.01	3000.00	
56 Fe	# 1	45	2755990.0	0.0000	105.4000	ppb	1.58	50000.00	
59 Co	# 3	45	42253.0	0.0000	1.0330	ppb	2.67	500.00	
60 Ni	# 2	45	4359.9	0.0000	1.0810	ppb	2.70	500.00	
63 Cu	# 2	45	11997.0	0.0000	0.9656	ppb	0.46	500.00	
66 Zn	# 3	72	55315.2	0.0000	10.4300	ppb	0.56	500.00	
75 As	# 2	72	1029.6	0.0000	0.9991	ppb	3.06	500.00	
78 Se	# 1	72	943.8	0.0000	0.9857	ppb	2.83	500.00	
88 Sr	# 3	72	105176.7	0.0000	2.0860	ppb	1.24	500.00	
90 Zr	# 3	72	1086.8	0.0000	0.0261	ppb	11.89	1000.00	
95 Mo	# 3	115	10790.6	0.0000	1.0940	ppb	3.43	500.00	
107 Ag	# 3	115	22828.4	0.0000	1.0210	ppb	0.94	50.00	
111 Cd	# 3	115	4559.0	0.0000	0.9905	ppb	0.68	500.00	
118 Sn	# 3	115	12771.5	0.0000	0.9576	ppb	2.46	500.00	
121 Sb	# 3	115	16855.4	0.0000	0.9731	ppb	2.78	500.00	
137 Ba	# 3	115	5749.3	0.0000	0.9859	ppb	3.34	1000.00	
182 W	# 3	159	167.8	0.0000	0.0011	ppb	401.92	1000.00	
205 Tl	# 3	159	27232.4	0.0000	1.0270	ppb	1.80	500.00	
208 Pb	# 3	159	37365.8	0.0000	1.0390	ppb	0.82	500.00	
235 U	# 3	159	304.5	0.0000	0.0071	ppb	26.55	5.00	
238 U	# 3	159	35427.6	0.0000	0.9906	ppb	2.59	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	869942.38	1.71	946489.44	91.9	60 - 125	
45 Sc	# 1	2696268.80	1.23	2561560.50	105.3	60 - 125	
45 Sc	# 2	289550.38	1.23	273035.03	106.0	60 - 125	
45 Sc	# 3	4820364.00	1.93	4670495.50	103.2	60 - 125	
72 Ge	# 1	646241.63	0.76	617197.63	104.7	60 - 125	
72 Ge	# 2	157503.14	0.58	149699.25	105.2	60 - 125	
72 Ge	# 3	940841.25	1.32	907582.81	103.7	60 - 125	
115 In	# 3	5215992.50	1.68	5063765.50	103.0	60 - 125	
159 Tb	# 3	5551574.50	1.26	5455991.00	101.8	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02016.D\98E02016.D#
Date Acquired:	May 9 2016 05:24 pm
Operator:	CCapul
Sample Name:	CCV1
Misc Info:	
Vial Number:	1206
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update:	May 09 2016 04:47 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	25.56 ppb	326212.50	0.37	25.00	90 - 110	
9 Be	25.52 ppb	106661.10	1.62	25.00	90 - 110	
11 B	52.19 ppb	174019.09	1.71	50.00	90 - 110	
23 Na	24280.00 ppb	164783300.00	0.46	25000.00	90 - 110	
24 Mg	23890.00 ppb	537072700.00	0.86	25000.00	90 - 110	
27 Al	24290.00 ppb	728304190.00	0.92	25000.00	90 - 110	
28 Si	2456.00 ppb	4461578.00	1.52	2500.00	90 - 110	
31 P	247.20 ppb	416659.91	0.73	250.00	90 - 110	
39 K	24770.00 ppb	17471500.00	0.86	25000.00	90 - 110	
40 Ca	24530.00 ppb	330839490.00	1.15	25000.00	90 - 110	
47 Ti	248.30 ppb	782235.38	1.26	250.00	90 - 110	
51 V	249.60 ppb	1927426.00	0.45	250.00	90 - 110	
52 Cr	250.30 ppb	2325638.00	0.53	250.00	90 - 110	
55 Mn	1465.00 ppb	75065744.00	1.55	1500.00	90 - 110	
56 Fe	24130.00 ppb	664865090.00	1.70	25000.00	90 - 110	
59 Co	251.90 ppb	10247800.00	1.15	250.00	90 - 110	
60 Ni	262.00 ppb	1044271.00	0.31	250.00	90 - 110	
63 Cu	251.70 ppb	2629133.00	0.36	250.00	90 - 110	
66 Zn	245.60 ppb	1264385.00	0.66	250.00	90 - 110	
75 As	250.40 ppb	243359.70	1.36	250.00	90 - 110	
78 Se	243.70 ppb	227834.80	0.61	250.00	90 - 110	
88 Sr	249.40 ppb	12319440.00	0.81	250.00	90 - 110	
90 Zr	27.59 ppb	858765.38	2.17	25.00	90 - 110	Fail
95 Mo	256.80 ppb	2283431.00	0.46	250.00	90 - 110	
107 Ag	24.80 ppb	515829.00	0.57	25.00	90 - 110	
111 Cd	251.10 ppb	1066814.00	0.53	250.00	90 - 110	
118 Sn	249.60 ppb	2996233.00	0.42	250.00	90 - 110	
121 Sb	255.70 ppb	3684690.00	0.25	250.00	90 - 110	
137 Ba	499.90 ppb	2693776.00	1.12	500.00	90 - 110	
182 W	30.41 ppb	303230.00	0.41	25.00	90 - 110	Fail
205 Tl	251.50 ppb	6550995.00	1.16	250.00	90 - 110	
208 Pb	260.40 ppb	9176485.00	2.13	250.00	90 - 110	
235 U	1.61 ppb	65025.60	1.25	1.80	90 - 110	Fail
238 U	248.20 ppb	8777686.00	1.15	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	839520.56	0.20	946489.44	88.7	60 - 125	
45 Sc	2849558.00	0.52	2561560.50	111.2	60 - 125	
45 Sc	291760.03	0.11	273035.03	106.9	60 - 125	
45 Sc	4824253.50	0.70	4670495.50	103.3	60 - 125	
72 Ge	647889.81	0.23	617197.63	105.0	60 - 125	
72 Ge	156195.84	0.78	149699.25	104.3	60 - 125	
72 Ge	927191.00	0.55	907582.81	102.2	60 - 125	
115 In	4864020.50	0.55	5063765.50	96.1	60 - 125	
159 Tb	5525563.50	1.21	5455991.00	101.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

CCB QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02017.D\98E02017.D#
Date Acquired:	May 9 2016 05:28 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	CCB1
Misc Info:	
Vial Number:	1202
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.1382	ppb	69727.4	75.25	0.20	
9 Be	-0.0015	ppb	23.3	80.95	0.10	
11 B	0.2765	ppb	6975.5	14.30	5.00	
23 Na	-1.5250	ppb	144323.7	23.04	40.00	
24 Mg	0.3796	ppb	14863.4	4.56	10.00	
27 Al	0.2546	ppb	11392.1	7.73	20.00	
28 Si	0.2292	ppb	3501.7	36.48	20.00	
31 P	-1.8910	ppb	29850.7	19.49	10.00	
39 K	0.0432	ppb	35987.4	2143.40	20.00	
40 Ca	0.6193	ppb	25590.4	8.16	25.00	
47 Ti	0.0039	ppb	166.7	83.90	0.50	
51 V	-0.0030	ppb	1846.8	24.10	0.50	
52 Cr	-0.0013	ppb	383.6	85.99	0.20	
55 Mn	0.0126	ppb	3971.9	52.42	0.20	
56 Fe	2.3830	ppb	70479.9	8.32	10.00	
59 Co	0.0020	ppb	338.9	36.78	0.20	
60 Ni	-0.0003	ppb	81.8	526.28	0.20	
63 Cu	0.0008	ppb	1986.6	678.37	0.40	
66 Zn	-0.0030	ppb	849.0	344.69	2.00	
75 As	0.0124	ppb	63.1	60.72	0.20	
78 Se	0.0187	ppb	42.4	26.68	0.20	
88 Sr	0.0020	ppb	720.1	31.61	0.20	
90 Zr	0.0083	ppb	524.5	14.98	2.00	
95 Mo	0.1236	ppb	1567.9	8.49	0.40	
107 Ag	0.0007	ppb	70.0	14.70	0.20	
111 Cd	0.0062	ppb	75.5	125.59	0.20	
118 Sn	0.0386	ppb	964.5	3.70	0.20	
121 Sb	0.0813	ppb	3146.1	9.46	0.40	
137 Ba	0.0051	ppb	85.6	20.77	0.20	
182 W	0.0117	ppb	274.5	26.90	1.00	
205 Tl	0.0118	ppb	664.5	6.56	0.20	
208 Pb	0.0035	ppb	710.0	48.64	0.10	
235 U	0.0001	ppb	20.0	251.99	1.00	
238 U	0.0181	ppb	876.7	14.52	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	902611.9	2.65	946489.44	95.4	60 - 125	
45 Sc	2678971.0	2.08	2561560.50	104.6	60 - 125	
45 Sc	287162.9	1.74	273035.03	105.2	60 - 125	
45 Sc	4788852.5	0.99	4670495.50	102.5	60 - 125	
72 Ge	650642.9	0.61	617197.63	105.4	60 - 125	
72 Ge	158616.5	1.48	149699.25	106.0	60 - 125	
72 Ge	941924.7	1.10	907582.81	103.8	60 - 125	
115 In	5325033.0	1.82	5063765.50	105.2	60 - 125	
159 Tb	5567166.0	0.81	5455991.00	102.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02018.D\98E02018.D#
Date Acquired: May 9 2016 05:32 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: IME012SB
Misc Info:
Vial Number: 2101
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: MBS
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.0987	ppb	69319.8	30.22	0.50	
9 Be	-0.0019	ppb	21.1	80.33	0.50	
11 B	0.1167	ppb	6422.9	40.40	10.00	
23 Na	-1.2670	ppb	152124.8	4.81	100.00	
24 Mg	1.7860	ppb	47581.5	16.17	100.00	
27 Al	10.6100	ppb	328753.0	3.66	100.00	
28 Si	0.5943	ppb	4299.8	15.07	50.00	
31 P	4.7730	ppb	41262.2	18.52	10.00	
39 K	1.9630	ppb	39132.0	22.24	100.00	
40 Ca	12.0100	ppb	177193.1	1.60	100.00	
47 Ti	0.0387	ppb	283.3	12.47	0.50	
51 V	0.0605	ppb	2442.5	12.37	0.50	
52 Cr	0.0448	ppb	844.0	4.16	0.50	
55 Mn	0.0500	ppb	6046.1	32.81	0.50	
56 Fe	1.5070	ppb	49867.7	0.81	100.00	
59 Co	0.0045	ppb	454.5	58.59	0.50	
60 Ni	0.0385	ppb	245.3	5.25	0.50	
63 Cu	0.0677	ppb	2803.4	10.36	0.50	
66 Zn	1.0490	ppb	6535.3	2.22	2.00	
75 As	0.0117	ppb	64.7	54.27	0.50	
78 Se	-0.0027	ppb	23.1	87.90	0.50	
88 Sr	0.0173	ppb	1536.8	12.28	0.50	
90 Zr	0.0233	ppb	1030.1	15.39	5.00	
95 Mo	0.0720	ppb	1061.2	8.72	0.50	
107 Ag	0.0017	ppb	93.3	42.78	0.50	
111 Cd	0.0067	ppb	77.4	33.50	0.50	
118 Sn	3.2620	ppb	43142.1	1.70	20.00	
121 Sb	0.0176	ppb	2132.5	3.76	0.50	
137 Ba	0.0386	ppb	282.2	22.35	0.50	
182 W	0.0075	ppb	241.1	33.00	2.00	
205 Tl	0.0054	ppb	515.6	12.75	0.50	
208 Pb	0.0087	ppb	925.6	35.33	0.50	
235 U	0.0002	ppb	25.6	105.36	---	
238 U	0.0046	ppb	411.1	41.28	0.50	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	902801.3	0.87	946489.44	95.4	60 - 125	
45 Sc	2791349.0	0.73	2561560.50	109.0	60 - 125	
45 Sc	301064.7	0.59	273035.03	110.3	60 - 125	
45 Sc	4925084.5	0.10	4670495.50	105.5	60 - 125	
72 Ge	670437.4	1.37	617197.63	108.6	60 - 125	
72 Ge	164367.4	1.03	149699.25	109.8	60 - 125	
72 Ge	970148.0	0.66	907582.81	106.9	60 - 125	
115 In	5301966.5	0.90	5063765.50	104.7	60 - 125	
159 Tb	5765595.0	0.88	5455991.00	105.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

LCS QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02019.D\98E02019.D#
Date Acquired: May 9 2016 05:37 pm
Operator: CCapul
Sample Name: IME012SL
Misc Info:
Vial Number: 2102
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: LCSS
Final Dil Factor: 1.00

Analyte Elements

Element	CPS Mean	Conc.		RSD(%)	Expected	QC Range(%)	Flag
7 Li	505958.00	41.04	ppb	2.26	40.00	80 - 120.0	
9 Be	178893.00	41.08	ppb	3.44	40.00	80 - 120.0	
11 B	144732.41	41.30	ppb	3.16	40.00	80 - 120.0	
23 Na	27300870.00	4078.00	ppb	0.88	4000.00	80 - 120.0	
24 Mg	92126576.00	4008.00	ppb	0.92	4000.00	80 - 120.0	
27 Al	124621000.00	4066.00	ppb	0.73	4000.00	80 - 120.0	
28 Si	5688.15	1.37	ppb	4.90	4000.00	80 - 120.0	Fail
31 P	41769.55	5.06	ppb	6.26	400.00	80 - 120.0	Fail
39 K	3061937.00	4228.00	ppb	0.66	4000.00	80 - 120.0	
40 Ca	54647300.00	4128.00	ppb	0.86	4000.00	80 - 120.0	
47 Ti	128918.90	40.00	ppb	1.37	40.00	80 - 120.0	
51 V	315580.91	40.01	ppb	0.33	40.00	80 - 120.0	
52 Cr	386445.69	40.89	ppb	0.54	40.00	80 - 120.0	
55 Mn	2175887.00	41.49	ppb	0.74	40.00	80 - 120.0	
56 Fe	110579100.00	4088.00	ppb	0.43	4000.00	80 - 120.0	
59 Co	1694552.00	40.75	ppb	1.61	40.00	80 - 120.0	
60 Ni	174833.50	43.16	ppb	0.67	40.00	80 - 120.0	
63 Cu	449596.09	42.20	ppb	0.53	40.00	80 - 120.0	
66 Zn	425931.09	80.38	ppb	0.11	80.00	80 - 120.0	
75 As	40039.21	39.64	ppb	0.77	40.00	80 - 120.0	
78 Se	37354.92	39.32	ppb	0.65	40.00	80 - 120.0	
88 Sr	2159286.00	42.51	ppb	0.90	40.00	80 - 120.0	
90 Zr	4505.43	0.13	ppb	3.92	30.00	80 - 120.0	Fail
95 Mo	368642.19	38.84	ppb	1.34	40.00	80 - 120.0	
107 Ag	892649.00	40.24	ppb	2.01	40.00	80 - 120.0	
111 Cd	183466.91	40.47	ppb	0.88	40.00	80 - 120.0	
118 Sn	553520.31	43.20	ppb	0.36	40.00	80 - 120.0	
121 Sb	619665.88	40.21	ppb	0.55	40.00	80 - 120.0	
137 Ba	235883.00	41.04	ppb	1.47	40.00	80 - 120.0	
182 W	346.69	0.02	ppb	14.26	40.00	80 - 120.0	Fail
205 Tl	1074248.00	39.34	ppb	1.48	40.00	80 - 120.0	
208 Pb	1480688.00	40.08	ppb	1.24	40.00	80 - 120.0	
235 U	10569.67	0.25	ppb	0.65	0.28	80 - 120.0	
238 U	1489521.00	40.18	ppb	2.06	40.00	80 - 120.0	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	875556.00	3.21	946489.44	92.5	60 - 125	
45 Sc	2796712.50	1.06	2561560.50	109.2	60 - 125	
45 Sc	296496.97	0.72	273035.03	108.6	60 - 125	
45 Sc	4930817.00	1.00	4670495.50	105.6	60 - 125	
72 Ge	658038.25	0.94	617197.63	106.6	60 - 125	
72 Ge	162141.94	1.34	149699.25	108.3	60 - 125	
72 Ge	953016.44	0.49	907582.81	105.0	60 - 125	
115 In	5187988.50	0.71	5063765.50	102.5	60 - 125	
159 Tb	5792000.50	1.39	5455991.00	106.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

4 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02020.D\98E02020.D#
Date Acquired:	May 9 2016 05:41 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-01
Misc Info:	
Vial Number:	2103
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	249570.7	0.0000	16.9000	ppb	2.21	50.00	
9 Be	# 3	6	4821.1	0.0000	1.0910	ppb	5.58	50.00	
11 B	# 3	6	33977.9	0.0000	8.2740	ppb	2.77	100.00	
23 Na	# 1	45	779048.8	0.0000	86.5600	ppb	1.23	50000.00	
24 Mg	# 3	45	71926816.0	0.0000	2989.0000	ppb	2.32	50000.00	
27 Al	# 3	45	664931330.0	0.0000	20730.0000	ppb	1.76	50000.00	
28 Si	# 1	45	3770901.0	0.0000	2001.0000	ppb	1.58	10000.00	
31 P	# 3	45	362296.6	0.0000	196.8000	ppb	0.92	400000.00	
39 K	# 2	45	2580126.0	0.0000	3362.0000	ppb	0.46	50000.00	
40 Ca	# 1	45	55712980.0	0.0000	3981.0000	ppb	0.39	50000.00	
47 Ti	# 3	45	1152815.0	0.0000	342.0000	ppb	1.42	500.00	
51 V	# 2	45	318392.9	0.0000	38.2000	ppb	0.15	500.00	
52 Cr	# 2	45	207300.5	0.0000	20.7400	ppb	0.52	500.00	
55 Mn	# 3	45	16222490.0	0.0000	295.9000	ppb	0.72	3000.00	
56 Fe	# 1	45	553750400.0	0.0000	19370.0000	ppb	1.46	50000.00	
59 Co	# 3	45	292312.5	0.0000	6.7080	ppb	1.00	500.00	
60 Ni	# 2	45	72305.5	0.0000	16.8800	ppb	0.77	500.00	
63 Cu	# 2	45	149799.2	0.0000	13.1800	ppb	0.79	500.00	
66 Zn	# 3	72	237147.7	0.0000	43.3300	ppb	0.69	500.00	
75 As	# 2	72	6853.9	0.0000	6.5110	ppb	1.09	500.00	
78 Se	# 1	72	266.7	0.0000	0.2502	ppb	3.21	500.00	
88 Sr	# 3	72	1868222.0	0.0000	35.6800	ppb	0.97	500.00	
90 Zr	# 3	72	143051.0	0.0000	4.3290	ppb	1.18	1000.00	
95 Mo	# 3	115	7937.2	0.0000	0.7895	ppb	1.90	500.00	
107 Ag	# 3	115	1910.2	0.0000	0.0827	ppb	3.23	50.00	
111 Cd	# 3	115	2041.6	0.0000	0.4351	ppb	1.54	500.00	
118 Sn	# 3	115	48329.0	0.0000	3.6950	ppb	1.05	500.00	
121 Sb	# 3	115	7444.7	0.0000	0.3605	ppb	0.39	500.00	
137 Ba	# 3	115	744652.6	0.0000	128.0000	ppb	0.38	1000.00	
182 W	# 3	159	1300.1	0.0000	0.1088	ppb	2.23	1000.00	
205 Tl	# 3	159	7255.9	0.0000	0.2522	ppb	2.74	500.00	
208 Pb	# 3	159	490622.3	0.0000	13.2700	ppb	1.66	500.00	
235 U	# 3	159	165.6	0.0000	0.0035	ppb	13.43	5.00	
238 U	# 3	159	20451.0	0.0000	0.5452	ppb	1.45	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	883297.38	1.25	946489.44	93.3	60 - 125	
45 Sc	# 1	2956142.80	1.09	2561560.50	115.4	60 - 125	
45 Sc	# 2	313240.66	0.65	273035.03	114.7	60 - 125	
45 Sc	# 3	5162242.00	0.36	4670495.50	110.5	60 - 125	
72 Ge	# 1	667704.88	0.63	617197.63	108.2	60 - 125	
72 Ge	# 2	167876.13	1.98	149699.25	112.1	60 - 125	
72 Ge	# 3	982464.13	1.18	907582.81	108.3	60 - 125	
115 In	# 3	5250318.50	0.11	5063765.50	103.7	60 - 125	
159 Tb	# 3	5790994.50	1.35	5455991.00	106.1	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02021.D\98E02021.D#
Date Acquired:	May 9 2016 05:46 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-02
Misc Info:	
Vial Number:	2104
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	146987.6	0.0000	12.2900	ppb	4.27	50.00	
9 Be	# 3	6	1700.2	0.0000	0.5193	ppb	6.86	50.00	
11 B	# 3	6	21488.6	0.0000	6.8670	ppb	5.92	100.00	
23 Na	# 1	45	1186972.0	0.0000	165.2000	ppb	0.67	50000.00	
24 Mg	# 3	45	139037790.0	0.0000	6989.0000	ppb	0.95	50000.00	
27 Al	# 3	45	261019600.0	0.0000	9841.0000	ppb	1.27	50000.00	
28 Si	# 1	45	4044097.0	0.0000	2409.0000	ppb	0.95	10000.00	
31 P	# 3	45	260282.4	0.0000	168.3000	ppb	1.12	400000.00	
39 K	# 2	45	1008064.0	0.0000	1487.0000	ppb	0.83	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	357209.3	0.0000	128.1000	ppb	1.68	500.00	
51 V	# 2	45	182560.8	0.0000	25.2000	ppb	0.33	500.00	
52 Cr	# 2	45	73937.0	0.0000	8.5140	ppb	0.57	500.00	
55 Mn	# 3	45	2379177.0	0.0000	52.4200	ppb	0.65	3000.00	
56 Fe	# 1	45	176043600.0	0.0000	6910.0000	ppb	0.24	50000.00	
59 Co	# 3	45	178392.1	0.0000	4.9500	ppb	1.11	500.00	
60 Ni	# 2	45	32826.0	0.0000	8.8350	ppb	0.27	500.00	
63 Cu	# 2	45	44386.6	0.0000	4.3800	ppb	0.67	500.00	
66 Zn	# 3	72	76996.6	0.0000	17.4500	ppb	1.26	500.00	
75 As	# 2	72	4792.9	0.0000	5.5430	ppb	1.47	500.00	
78 Se	# 1	72	148.2	0.0000	0.1554	ppb	13.33	500.00	
88 Sr	# 3	72	25354310.0	0.0000	604.1000	ppb	0.86	500.00	>LRS
90 Zr	# 3	72	79654.1	0.0000	3.0040	ppb	1.73	1000.00	
95 Mo	# 3	115	2966.0	0.0000	0.3358	ppb	3.91	500.00	
107 Ag	# 3	115	515.6	0.0000	0.0253	ppb	10.31	50.00	
111 Cd	# 3	115	1499.0	0.0000	0.3847	ppb	1.01	500.00	
118 Sn	# 3	115	33600.0	0.0000	3.0980	ppb	0.70	500.00	
121 Sb	# 3	115	6648.7	0.0000	0.3981	ppb	3.18	500.00	
137 Ba	# 3	115	1525786.0	0.0000	316.8000	ppb	0.81	1000.00	
182 W	# 3	159	1803.5	0.0000	0.1842	ppb	3.45	1000.00	
205 Tl	# 3	159	3203.9	0.0000	0.1223	ppb	1.14	500.00	
208 Pb	# 3	159	155056.3	0.0000	4.8440	ppb	1.00	500.00	
235 U	# 3	159	221.1	0.0000	0.0057	ppb	6.15	5.00	
238 U	# 3	159	27152.8	0.0000	0.8415	ppb	0.95	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	650883.38	4.83	946489.44	68.8	60 - 125	
45 Sc	# 1	2634178.50	1.95	2561560.50	102.8	60 - 125	
45 Sc	# 2	271394.91	1.12	273035.03	99.4	60 - 125	
45 Sc	# 3	4268539.00	1.71	4670495.50	91.4	60 - 125	
72 Ge	# 1	564119.50	1.08	617197.63	91.4	60 - 125	
72 Ge	# 2	137716.34	0.97	149699.25	92.0	60 - 125	
72 Ge	# 3	787652.13	0.19	907582.81	86.8	60 - 125	
115 In	# 3	4346904.50	1.35	5063765.50	85.8	60 - 125	
159 Tb	# 3	5002157.50	0.09	5455991.00	91.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02022.D\98E02022.D#
Date Acquired:	May 9 2016 05:50 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-03
Misc Info:	
Vial Number:	2105
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	136092.2	0.0000	11.5900	ppb	2.79	50.00	
9 Be	# 3	6	1157.9	0.0000	0.3652	ppb	4.56	50.00	
11 B	# 3	6	18381.4	0.0000	5.9060	ppb	2.28	100.00	
23 Na	# 1	45	1763403.0	0.0000	275.5000	ppb	1.67	50000.00	
24 Mg	# 3	45	128266600.0	0.0000	6615.0000	ppb	2.42	50000.00	
27 Al	# 3	45	127733400.0	0.0000	4941.0000	ppb	1.19	50000.00	
28 Si	# 1	45	2685362.0	0.0000	1703.0000	ppb	0.98	10000.00	
31 P	# 3	45	569227.5	0.0000	404.0000	ppb	1.33	400000.00	
39 K	# 2	45	598261.5	0.0000	898.7000	ppb	1.01	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	186499.0	0.0000	68.6200	ppb	0.24	500.00	
51 V	# 2	45	72436.8	0.0000	10.2600	ppb	0.71	500.00	
52 Cr	# 2	45	33998.1	0.0000	4.0510	ppb	0.37	500.00	
55 Mn	# 3	45	1707244.0	0.0000	38.5800	ppb	0.45	3000.00	
56 Fe	# 1	45	68183904.0	0.0000	2850.0000	ppb	0.35	50000.00	
59 Co	# 3	45	206096.5	0.0000	5.8690	ppb	0.27	500.00	
60 Ni	# 2	45	26325.6	0.0000	7.3690	ppb	0.69	500.00	
63 Cu	# 2	45	47732.7	0.0000	4.9230	ppb	0.29	500.00	
66 Zn	# 3	72	46454.0	0.0000	10.9900	ppb	0.89	500.00	
75 As	# 2	72	4730.2	0.0000	5.8100	ppb	1.26	500.00	
78 Se	# 1	72	179.3	0.0000	0.2126	ppb	8.09	500.00	
88 Sr	# 3	72	32686000.0	0.0000	817.8000	ppb	0.49	500.00	>LRS
90 Zr	# 3	72	64998.3	0.0000	2.5730	ppb	1.44	1000.00	
95 Mo	# 3	115	3023.8	0.0000	0.3561	ppb	4.39	500.00	
107 Ag	# 3	115	417.8	0.0000	0.0208	ppb	4.87	50.00	
111 Cd	# 3	115	1768.0	0.0000	0.4715	ppb	2.66	500.00	
118 Sn	# 3	115	37922.3	0.0000	3.6220	ppb	0.92	500.00	
121 Sb	# 3	115	4104.2	0.0000	0.2115	ppb	7.35	500.00	
137 Ba	# 3	115	9082943.0	0.0000	1951.0000	ppb	0.96	1000.00	>LRS
182 W	# 3	159	8324.3	0.0000	0.9331	ppb	1.21	1000.00	
205 Tl	# 3	159	3763.0	0.0000	0.1506	ppb	2.26	500.00	
208 Pb	# 3	159	83436.1	0.0000	2.6730	ppb	0.42	500.00	
235 U	# 3	159	492.3	0.0000	0.0135	ppb	10.36	5.00	
238 U	# 3	159	62171.3	0.0000	1.9900	ppb	0.91	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	625736.38	1.44	946489.44	66.1	60 - 125	
45 Sc # 1	2473087.00	0.59	2561560.50	96.5	60 - 125	
45 Sc # 2	260813.59	1.02	273035.03	95.5	60 - 125	
45 Sc # 3	4159726.50	0.68	4670495.50	89.1	60 - 125	
72 Ge # 1	519851.13	0.72	617197.63	84.2	60 - 125	
72 Ge # 2	129690.73	1.62	149699.25	86.6	60 - 125	
72 Ge # 3	750118.44	1.21	907582.81	82.7	60 - 125	
115 In # 3	4202415.50	0.51	5063765.50	83.0	60 - 125	
159 Tb # 3	4864148.50	1.03	5455991.00	89.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02023.D\98E02023.D#
Date Acquired:	May 9 2016 05:55 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-04
Misc Info:	
Vial Number:	2106
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	124108.1	0.0000	10.2300	ppb	2.13	50.00	
9 Be	# 3	6	879.0	0.0000	0.2791	ppb	4.11	50.00	
11 B	# 3	6	16246.2	0.0000	5.1020	ppb	3.25	100.00	
23 Na	# 1	45	1584035.0	0.0000	250.4000	ppb	1.67	50000.00	
24 Mg	# 3	45	128214600.0	0.0000	6621.0000	ppb	0.99	50000.00	
27 Al	# 3	45	105303200.0	0.0000	4078.0000	ppb	0.05	50000.00	
28 Si	# 1	45	2872894.0	0.0000	1859.0000	ppb	1.92	10000.00	
31 P	# 3	45	565535.4	0.0000	401.7000	ppb	0.29	400000.00	
39 K	# 2	45	480427.6	0.0000	724.8000	ppb	1.11	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	152729.1	0.0000	56.2600	ppb	0.96	500.00	
51 V	# 2	45	66784.6	0.0000	9.6090	ppb	0.61	500.00	
52 Cr	# 2	45	24645.0	0.0000	2.9770	ppb	0.43	500.00	
55 Mn	# 3	45	1303535.0	0.0000	29.4900	ppb	2.03	3000.00	
56 Fe	# 1	45	56786992.0	0.0000	2422.0000	ppb	0.52	50000.00	
59 Co	# 3	45	173151.2	0.0000	4.9360	ppb	2.12	500.00	
60 Ni	# 2	45	21490.2	0.0000	6.1180	ppb	0.51	500.00	
63 Cu	# 2	45	40000.2	0.0000	4.1700	ppb	0.67	500.00	
66 Zn	# 3	72	46139.7	0.0000	10.9400	ppb	1.45	500.00	
75 As	# 2	72	4766.0	0.0000	5.9640	ppb	0.53	500.00	
78 Se	# 1	72	163.1	0.0000	0.1939	ppb	6.22	500.00	
88 Sr	# 3	72	32539960.0	0.0000	815.5000	ppb	0.33	500.00	>LRS
90 Zr	# 3	72	48167.6	0.0000	1.9080	ppb	3.27	1000.00	
95 Mo	# 3	115	1462.4	0.0000	0.1560	ppb	1.48	500.00	
107 Ag	# 3	115	528.9	0.0000	0.0275	ppb	5.47	50.00	
111 Cd	# 3	115	1799.6	0.0000	0.4881	ppb	5.96	500.00	
118 Sn	# 3	115	33133.2	0.0000	3.2130	ppb	0.69	500.00	
121 Sb	# 3	115	3536.2	0.0000	0.1707	ppb	8.11	500.00	
137 Ba	# 3	115	7423213.0	0.0000	1621.0000	ppb	2.09	1000.00	>LRS
182 W	# 3	159	6651.0	0.0000	0.7482	ppb	4.80	1000.00	
205 Tl	# 3	159	5663.8	0.0000	0.2354	ppb	4.93	500.00	
208 Pb	# 3	159	66074.0	0.0000	2.1290	ppb	1.75	500.00	
235 U	# 3	159	444.5	0.0000	0.0122	ppb	3.66	5.00	
238 U	# 3	159	55201.6	0.0000	1.7800	ppb	4.03	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	618219.00	2.10	946489.44	65.3	60 - 125	
45 Sc	# 1	2424126.80	1.68	2561560.50	94.6	60 - 125	
45 Sc	# 2	256308.14	1.11	273035.03	93.9	60 - 125	
45 Sc	# 3	4155233.30	2.46	4670495.50	89.0	60 - 125	
72 Ge	# 1	512832.91	1.02	617197.63	83.1	60 - 125	
72 Ge	# 2	127353.28	1.08	149699.25	85.1	60 - 125	
72 Ge	# 3	748847.06	1.07	907582.81	82.5	60 - 125	
115 In	# 3	4133487.00	1.83	5063765.50	81.6	60 - 125	
159 Tb	# 3	4829348.50	1.78	5455991.00	88.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02024.D\98E02024.D#
Date Acquired: May 9 2016 05:59 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: E066-05
Misc Info:
Vial Number: 2107
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	266355.4	0.0000	20.6600	ppb	3.10	50.00	
9 Be	# 3	6	5552.5	0.0000	1.3690	ppb	1.95	50.00	
11 B	# 3	6	30077.3	0.0000	7.9240	ppb	7.40	100.00	
23 Na	# 1	45	792881.8	0.0000	93.8400	ppb	1.22	50000.00	
24 Mg	# 3	45	84949480.0	0.0000	3639.0000	ppb	2.32	50000.00	
27 Al	# 3	45	778861500.0	0.0000	25020.0000	ppb	0.62	50000.00	
28 Si	# 1	45	3719409.0	0.0000	2067.0000	ppb	1.10	10000.00	
31 P	# 3	45	441878.8	0.0000	252.9000	ppb	0.77	400000.00	
39 K	# 2	45	3068008.0	0.0000	4263.0000	ppb	0.61	50000.00	
40 Ca	# 1	45	149008500.0	0.0000	11150.0000	ppb	1.39	50000.00	
47 Ti	# 3	45	1296738.0	0.0000	396.4000	ppb	4.18	500.00	
51 V	# 2	45	381752.1	0.0000	48.7600	ppb	0.19	500.00	
52 Cr	# 2	45	257960.4	0.0000	27.4500	ppb	0.52	500.00	
55 Mn	# 3	45	14444990.0	0.0000	271.5000	ppb	1.68	3000.00	
56 Fe	# 1	45	646072580.0	0.0000	23660.0000	ppb	0.62	50000.00	
59 Co	# 3	45	339037.4	0.0000	8.0190	ppb	1.49	500.00	
60 Ni	# 2	45	82481.0	0.0000	20.4700	ppb	0.89	500.00	
63 Cu	# 2	45	205391.4	0.0000	19.2900	ppb	0.40	500.00	
66 Zn	# 3	72	471828.0	0.0000	90.2800	ppb	5.02	500.00	
75 As	# 2	72	8381.5	0.0000	8.5210	ppb	2.08	500.00	
78 Se	# 1	72	292.7	0.0000	0.2927	ppb	6.01	500.00	
88 Sr	# 3	72	2660683.0	0.0000	53.1600	ppb	7.65	500.00	
90 Zr	# 3	72	196067.5	0.0000	6.2070	ppb	6.15	1000.00	
95 Mo	# 3	115	9934.3	0.0000	1.0330	ppb	2.02	500.00	
107 Ag	# 3	115	2860.4	0.0000	0.1293	ppb	1.35	50.00	
111 Cd	# 3	115	3653.6	0.0000	0.8140	ppb	4.76	500.00	
118 Sn	# 3	115	49864.2	0.0000	3.9450	ppb	0.57	500.00	
121 Sb	# 3	115	8812.4	0.0000	0.4680	ppb	4.72	500.00	
137 Ba	# 3	115	1333180.0	0.0000	237.0000	ppb	3.89	1000.00	
182 W	# 3	159	1631.3	0.0000	0.1459	ppb	0.24	1000.00	
205 Tl	# 3	159	8351.1	0.0000	0.3029	ppb	2.06	500.00	
208 Pb	# 3	159	1238213.0	0.0000	34.6600	ppb	0.86	500.00	
235 U	# 3	159	235.6	0.0000	0.0054	ppb	14.49	5.00	
238 U	# 3	159	26084.8	0.0000	0.7213	ppb	2.16	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	811256.81	3.60	946489.44	85.7	60 - 125	
45 Sc # 1	2823205.80	1.16	2561560.50	110.2	60 - 125	
45 Sc # 2	294672.22	0.22	273035.03	107.9	60 - 125	
45 Sc # 3	5009703.50	1.21	4670495.50	107.3	60 - 125	
72 Ge # 1	635630.88	1.37	617197.63	103.0	60 - 125	
72 Ge # 2	157161.75	0.85	149699.25	105.0	60 - 125	
72 Ge # 3	941755.31	5.31	907582.81	103.8	60 - 125	
115 In # 3	5077160.50	1.44	5063765.50	100.3	60 - 125	
159 Tb # 3	5598646.00	0.51	5455991.00	102.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02025.D\98E02025.D#
Date Acquired:	May 9 2016 06:04 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-06
Misc Info:	
Vial Number:	2108
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	219892.6	0.0000	15.4600	ppb	3.37	50.00	
9 Be	# 3	6	4633.2	0.0000	1.1150	ppb	4.27	50.00	
11 B	# 3	6	29295.2	0.0000	7.4480	ppb	1.59	100.00	
23 Na	# 1	45	630239.4	0.0000	66.8700	ppb	1.40	50000.00	
24 Mg	# 3	45	85481552.0	0.0000	3674.0000	ppb	2.12	50000.00	
27 Al	# 3	45	665507390.0	0.0000	21450.0000	ppb	2.13	50000.00	
28 Si	# 1	45	4044379.0	0.0000	2180.0000	ppb	2.13	10000.00	
31 P	# 3	45	419467.7	0.0000	239.9000	ppb	0.97	400000.00	
39 K	# 2	45	2871554.0	0.0000	3868.0000	ppb	0.85	50000.00	
40 Ca	# 1	45	511741700.0	0.0000	37170.0000	ppb	1.93	50000.00	
47 Ti	# 3	45	1136055.0	0.0000	348.5000	ppb	0.58	500.00	
51 V	# 2	45	294827.6	0.0000	36.5000	ppb	0.96	500.00	
52 Cr	# 2	45	299305.3	0.0000	30.9300	ppb	1.16	500.00	
55 Mn	# 3	45	11068430.0	0.0000	208.7000	ppb	1.00	3000.00	
56 Fe	# 1	45	539835900.0	0.0000	19190.0000	ppb	1.23	50000.00	
59 Co	# 3	45	293702.2	0.0000	6.9710	ppb	2.16	500.00	
60 Ni	# 2	45	72064.5	0.0000	17.3600	ppb	1.32	500.00	
63 Cu	# 2	45	164881.9	0.0000	14.9900	ppb	1.01	500.00	
66 Zn	# 3	72	251676.8	0.0000	47.9200	ppb	1.12	500.00	
75 As	# 2	72	5824.7	0.0000	5.7690	ppb	0.28	500.00	
78 Se	# 1	72	259.1	0.0000	0.2514	ppb	8.61	500.00	
88 Sr	# 3	72	3070358.0	0.0000	61.0700	ppb	0.69	500.00	
90 Zr	# 3	72	175877.7	0.0000	5.5460	ppb	2.12	1000.00	
95 Mo	# 3	115	5839.4	0.0000	0.5849	ppb	2.88	500.00	
107 Ag	# 3	115	1513.5	0.0000	0.0665	ppb	4.29	50.00	
111 Cd	# 3	115	2401.5	0.0000	0.5259	ppb	5.78	500.00	
118 Sn	# 3	115	43718.4	0.0000	3.4180	ppb	1.01	500.00	
121 Sb	# 3	115	5818.3	0.0000	0.2646	ppb	2.57	500.00	
137 Ba	# 3	115	1226059.0	0.0000	215.7000	ppb	0.98	1000.00	
182 W	# 3	159	1262.3	0.0000	0.1078	ppb	2.58	1000.00	
205 Tl	# 3	159	7094.7	0.0000	0.2518	ppb	0.67	500.00	
208 Pb	# 3	159	674084.3	0.0000	18.6200	ppb	0.90	500.00	
235 U	# 3	159	197.8	0.0000	0.0044	ppb	14.33	5.00	
238 U	# 3	159	26144.9	0.0000	0.7137	ppb	1.29	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	830031.69	1.76	946489.44	87.7	60 - 125	
45 Sc	# 1	2909093.50	1.25	2561560.50	113.6	60 - 125	
45 Sc	# 2	303553.53	1.55	273035.03	111.2	60 - 125	
45 Sc	# 3	4992068.50	1.14	4670495.50	106.9	60 - 125	
72 Ge	# 1	646069.44	0.27	617197.63	104.7	60 - 125	
72 Ge	# 2	160861.61	1.24	149699.25	107.5	60 - 125	
72 Ge	# 3	943318.75	1.19	907582.81	103.9	60 - 125	
115 In	# 3	5131169.50	1.02	5063765.50	101.3	60 - 125	
159 Tb	# 3	5670967.00	0.44	5455991.00	103.9	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02026.D\98E02026.D#
Date Acquired:	May 9 2016 06:08 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-07M
Misc Info:	
Vial Number:	2109
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	537627.1	0.0000	58.2800	ppb	3.09	50.00	>LRS
9 Be	# 3	6	141653.7	0.0000	41.7700	ppb	0.54	50.00	
11 B	# 3	6	128358.4	0.0000	47.2800	ppb	1.67	100.00	
23 Na	# 1	45	25504940.0	0.0000	3957.0000	ppb	0.85	50000.00	
24 Mg	# 3	45	195449790.0	0.0000	9316.0000	ppb	1.10	50000.00	
27 Al	# 3	45	555068420.0	0.0000	19840.0000	ppb	0.63	50000.00	
28 Si	# 1	45	6476219.0	0.0000	3775.0000	ppb	0.57	10000.00	
31 P	# 3	45	241881.6	0.0000	145.8000	ppb	0.85	400000.00	
39 K	# 2	45	4456611.0	0.0000	6550.0000	ppb	0.26	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	748843.1	0.0000	254.8000	ppb	0.09	500.00	
51 V	# 2	45	596104.4	0.0000	80.3500	ppb	0.32	500.00	
52 Cr	# 2	45	457407.2	0.0000	51.3100	ppb	1.28	500.00	
55 Mn	# 3	45	6325654.0	0.0000	132.3000	ppb	0.51	3000.00	
56 Fe	# 1	45	386057410.0	0.0000	14830.0000	ppb	0.64	50000.00	
59 Co	# 3	45	1608620.0	0.0000	42.3800	ppb	1.09	500.00	
60 Ni	# 2	45	196806.8	0.0000	51.4900	ppb	1.24	500.00	
63 Cu	# 2	45	417615.8	0.0000	41.5400	ppb	0.72	500.00	
66 Zn	# 3	72	463466.1	0.0000	100.6000	ppb	0.75	500.00	
75 As	# 2	72	41079.6	0.0000	45.5500	ppb	0.44	500.00	
78 Se	# 1	72	32523.0	0.0000	38.4500	ppb	0.85	500.00	
88 Sr	# 3	72	17532040.0	0.0000	396.8000	ppb	0.15	500.00	
90 Zr	# 3	72	259610.0	0.0000	9.3180	ppb	0.17	1000.00	
95 Mo	# 3	115	312819.3	0.0000	37.4800	ppb	1.27	500.00	
107 Ag	# 3	115	718287.1	0.0000	36.8200	ppb	1.26	50.00	
111 Cd	# 3	115	153006.6	0.0000	38.3900	ppb	1.17	500.00	
118 Sn	# 3	115	457730.9	0.0000	40.6300	ppb	0.45	500.00	
121 Sb	# 3	115	363104.6	0.0000	26.7600	ppb	0.87	500.00	
137 Ba	# 3	115	5660025.0	0.0000	1120.0000	ppb	1.07	1000.00	>LRS
182 W	# 3	159	1821.3	0.0000	0.1827	ppb	3.07	1000.00	
205 Tl	# 3	159	900646.3	0.0000	37.5200	ppb	1.49	500.00	
208 Pb	# 3	159	1463856.0	0.0000	45.0700	ppb	0.16	500.00	
235 U	# 3	159	9522.1	0.0000	0.2555	ppb	4.25	5.00	
238 U	# 3	159	1321105.0	0.0000	40.5300	ppb	1.41	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	681321.56	0.86	946489.44	72.0	60 - 125	
45 Sc	# 1	2691705.00	1.07	2561560.50	105.1	60 - 125	
45 Sc	# 2	279766.81	0.84	273035.03	102.5	60 - 125	
45 Sc	# 3	4500821.50	1.44	4670495.50	96.4	60 - 125	
72 Ge	# 1	585879.06	1.21	617197.63	94.9	60 - 125	
72 Ge	# 2	144786.75	1.10	149699.25	96.7	60 - 125	
72 Ge	# 3	829296.31	0.56	907582.81	91.4	60 - 125	
115 In	# 3	4561565.00	0.87	5063765.50	90.1	60 - 125	
159 Tb	# 3	5091281.00	0.72	5455991.00	93.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02027.D\98E02027.D#
Date Acquired:	May 9 2016 06:13 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	BLANK
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	72057.1	0.0000	0.0963	ppb	78.04	50.00	
9 Be	# 3	6	31.1	0.0000	0.0000	ppb	13817.00	50.00	
11 B	# 3	6	4832.2	0.0000	-0.3950	ppb	20.90	100.00	
23 Na	# 1	45	141089.7	0.0000	-3.2070	ppb	4.63	50000.00	
24 Mg	# 3	45	24588.4	0.0000	0.7707	ppb	0.80	50000.00	
27 Al	# 3	45	38206.4	0.0000	1.1040	ppb	2.17	50000.00	
28 Si	# 1	45	13080.3	0.0000	5.4370	ppb	3.08	10000.00	
31 P	# 3	45	30830.6	0.0000	-2.0640	ppb	25.04	400000.00	
39 K	# 2	45	35750.1	0.0000	-3.2080	ppb	19.66	50000.00	
40 Ca	# 1	45	301127.1	0.0000	21.1000	ppb	0.43	50000.00	
47 Ti	# 3	45	240.0	0.0000	0.0242	ppb	12.79	500.00	
51 V	# 2	45	1860.6	0.0000	-0.0150	ppb	29.79	500.00	
52 Cr	# 2	45	350.2	0.0000	-0.0071	ppb	10.27	500.00	
55 Mn	# 3	45	4776.6	0.0000	0.0246	ppb	7.14	3000.00	
56 Fe	# 1	45	82624.5	0.0000	2.6800	ppb	3.97	50000.00	
59 Co	# 3	45	420.0	0.0000	0.0036	ppb	20.40	500.00	
60 Ni	# 2	45	146.7	0.0000	0.0141	ppb	12.25	500.00	
63 Cu	# 2	45	3719.5	0.0000	0.1492	ppb	4.42	500.00	
66 Zn	# 3	72	4748.9	0.0000	0.7052	ppb	2.81	500.00	
75 As	# 2	72	59.1	0.0000	0.0053	ppb	136.80	500.00	
78 Se	# 1	72	18.4	0.0000	-0.0077	ppb	29.44	500.00	
88 Sr	# 3	72	1534.6	0.0000	0.0169	ppb	12.46	500.00	
90 Zr	# 3	72	1856.9	0.0000	0.0480	ppb	10.34	1000.00	
95 Mo	# 3	115	417.8	0.0000	0.0046	ppb	84.56	500.00	
107 Ag	# 3	115	85.6	0.0000	0.0013	ppb	64.75	50.00	
111 Cd	# 3	115	73.3	0.0000	0.0054	ppb	123.51	500.00	
118 Sn	# 3	115	515.6	0.0000	0.0038	ppb	38.26	500.00	
121 Sb	# 3	115	1126.8	0.0000	-0.0480	ppb	5.79	500.00	
137 Ba	# 3	115	234.5	0.0000	0.0297	ppb	4.60	1000.00	
182 W	# 3	159	111.1	0.0000	-0.0050	ppb	33.37	1000.00	
205 Tl	# 3	159	400.0	0.0000	0.0011	ppb	124.32	500.00	
208 Pb	# 3	159	808.9	0.0000	0.0055	ppb	37.71	500.00	
235 U	# 3	159	18.9	0.0000	0.0001	ppb	267.39	5.00	
238 U	# 3	159	245.6	0.0000	0.0001	ppb	1174.80	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	939027.88	2.59	946489.44	99.2	60 - 125	
45 Sc # 1	2828522.00	0.53	2561560.50	110.4	60 - 125	
45 Sc # 2	304239.59	1.07	273035.03	111.4	60 - 125	
45 Sc # 3	4990167.00	0.53	4670495.50	106.8	60 - 125	
72 Ge # 1	677274.94	0.79	617197.63	109.7	60 - 125	
72 Ge # 2	166954.17	1.02	149699.25	111.5	60 - 125	
72 Ge # 3	982960.94	1.09	907582.81	108.3	60 - 125	
115 In # 3	5417593.50	0.87	5063765.50	107.0	60 - 125	
159 Tb # 3	5773446.00	0.81	5455991.00	105.8	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02028.D\98E02028.D#
Date Acquired: May 9 2016 06:17 pm
Operator: CCapul
Sample Name: CCV2
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:47 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.85 ppb	319165.09	2.73	25.00	90 - 110	
9 Be	24.99 ppb	104507.70	2.20	25.00	90 - 110	
11 B	50.82 ppb	169701.00	2.56	50.00	90 - 110	
23 Na	24490.00 ppb	165252000.00	0.62	25000.00	90 - 110	
24 Mg	23390.00 ppb	535137980.00	1.01	25000.00	90 - 110	
27 Al	24040.00 ppb	733507330.00	0.50	25000.00	90 - 110	
28 Si	2458.00 ppb	4439025.00	0.51	2500.00	90 - 110	
31 P	245.00 ppb	420559.19	1.34	250.00	90 - 110	
39 K	24680.00 ppb	17554820.00	0.07	25000.00	90 - 110	
40 Ca	24670.00 ppb	330826590.00	0.60	25000.00	90 - 110	
47 Ti	245.30 ppb	786309.31	0.28	250.00	90 - 110	
51 V	248.90 ppb	1936824.00	2.08	250.00	90 - 110	
52 Cr	246.70 ppb	2310841.00	1.07	250.00	90 - 110	
55 Mn	1445.00 ppb	75325280.00	0.90	1500.00	90 - 110	
56 Fe	24200.00 ppb	663104580.00	0.84	25000.00	90 - 110	
59 Co	249.20 ppb	10315410.00	1.37	250.00	90 - 110	
60 Ni	255.40 ppb	1025719.00	1.49	250.00	90 - 110	
63 Cu	249.60 ppb	2627819.00	1.95	250.00	90 - 110	
66 Zn	244.90 ppb	1272285.00	1.35	250.00	90 - 110	
75 As	251.50 ppb	243072.09	0.53	250.00	90 - 110	
78 Se	244.70 ppb	228017.91	0.63	250.00	90 - 110	
88 Sr	251.40 ppb	12535420.00	0.58	250.00	90 - 110	
90 Zr	27.38 ppb	860271.31	1.41	25.00	90 - 110	
95 Mo	253.90 ppb	2294345.00	1.02	250.00	90 - 110	
107 Ag	24.38 ppb	515327.00	0.42	25.00	90 - 110	
111 Cd	250.50 ppb	1081439.00	0.14	250.00	90 - 110	
118 Sn	246.50 ppb	3007363.00	0.59	250.00	90 - 110	
121 Sb	248.70 ppb	3643162.00	0.57	250.00	90 - 110	
137 Ba	496.00 ppb	2716044.00	0.12	500.00	90 - 110	
182 W	30.28 ppb	301051.19	0.29	25.00	90 - 110	Fail
205 Tl	252.00 ppb	6542464.00	1.10	250.00	90 - 110	
208 Pb	259.30 ppb	9108432.00	0.55	250.00	90 - 110	
235 U	1.62 ppb	65289.38	1.81	1.80	90 - 110	
238 U	248.70 ppb	8770025.00	1.24	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	840146.94	1.62	946489.44	88.8	60 - 125	
45 Sc	2833024.00	0.34	2561560.50	110.6	60 - 125	
45 Sc	294115.41	1.75	273035.03	107.7	60 - 125	
45 Sc	4909178.00	1.78	4670495.50	105.1	60 - 125	
72 Ge	645792.25	0.86	617197.63	104.6	60 - 125	
72 Ge	155316.14	0.37	149699.25	103.8	60 - 125	
72 Ge	935683.94	0.85	907582.81	103.1	60 - 125	
115 In	4942605.50	0.31	5063765.50	97.6	60 - 125	
159 Tb	5508764.50	0.64	5455991.00	101.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02029.D\98E02029.D#
Date Acquired: May 9 2016 06:21 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: CCB2
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.1198	ppb	69344.4	83.26	0.20	
9 Be	-0.0005	ppb	27.8	232.17	0.10	
11 B	-0.6849	ppb	3629.6	11.93	5.00	
23 Na	-3.7760	ppb	130444.5	5.29	40.00	
24 Mg	0.2528	ppb	12400.8	10.43	10.00	
27 Al	0.3216	ppb	13794.6	10.51	20.00	
28 Si	0.6603	ppb	4256.0	25.38	20.00	
31 P	-2.0420	ppb	30522.7	24.43	10.00	
39 K	-2.7980	ppb	34791.0	8.76	20.00	
40 Ca	1.1610	ppb	32579.6	2.13	25.00	
47 Ti	0.0085	ppb	186.7	80.16	0.50	
51 V	-0.0087	ppb	1844.4	32.64	0.50	
52 Cr	-0.0082	ppb	327.3	15.09	0.20	
55 Mn	0.0068	ppb	3791.8	36.78	0.20	
56 Fe	2.5680	ppb	75581.5	7.04	10.00	
59 Co	0.0026	ppb	376.7	28.06	0.20	
60 Ni	0.0047	ppb	103.6	38.25	0.20	
63 Cu	-0.0005	ppb	2018.4	462.70	0.40	
66 Zn	-0.0247	ppb	757.8	47.16	2.00	
75 As	0.0104	ppb	62.0	83.98	0.20	
78 Se	0.0103	ppb	35.1	29.08	0.20	
88 Sr	0.0041	ppb	851.2	27.05	0.20	
90 Zr	0.0124	ppb	674.5	7.63	2.00	
95 Mo	0.1029	ppb	1371.2	13.36	0.40	
107 Ag	-0.0002	ppb	51.1	170.69	0.20	
111 Cd	0.0028	ppb	59.9	192.01	0.20	
118 Sn	0.0391	ppb	973.4	6.71	0.20	
121 Sb	0.2009	ppb	5047.9	10.55	0.40	
137 Ba	0.0083	ppb	104.4	28.27	0.20	
182 W	0.0115	ppb	277.8	13.75	1.00	
205 Tl	0.0110	ppb	657.8	30.15	0.20	
208 Pb	0.0024	ppb	686.7	33.18	0.10	
235 U	0.0001	ppb	21.1	90.70	1.00	
238 U	0.0169	ppb	854.5	11.12	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	900172.8	1.90	946489.44	95.1	60 - 125	
45 Sc	2688260.5	1.13	2561560.50	104.9	60 - 125	
45 Sc	293626.1	0.60	273035.03	107.5	60 - 125	
45 Sc	4934448.5	0.71	4670495.50	105.7	60 - 125	
72 Ge	659315.9	1.11	617197.63	106.8	60 - 125	
72 Ge	161070.8	1.35	149699.25	107.6	60 - 125	
72 Ge	970507.8	0.46	907582.81	106.9	60 - 125	
115 In	5339845.5	0.51	5063765.50	105.5	60 - 125	
159 Tb	5682309.0	1.21	5455991.00	104.1	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02030.D\98E02030.D#
Date Acquired:	May 9 2016 06:26 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-07A
Misc Info:	
Vial Number:	2110
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	601800.2	0.0000	57.8000	ppb	2.57	50.00	>LRS
9 Be	# 3	6	160351.9	0.0000	41.9400	ppb	2.69	50.00	
11 B	# 3	6	143051.1	0.0000	46.7000	ppb	2.05	100.00	
23 Na	# 1	45	28159020.0	0.0000	4177.0000	ppb	0.16	50000.00	
24 Mg	# 3	45	217939390.0	0.0000	9622.0000	ppb	1.72	50000.00	
27 Al	# 3	45	544907900.0	0.0000	18040.0000	ppb	3.05	50000.00	
28 Si	# 1	45	6157153.0	0.0000	3430.0000	ppb	1.44	10000.00	
31 P	# 3	45	267411.3	0.0000	149.7000	ppb	1.10	400000.00	
39 K	# 2	45	4787335.0	0.0000	6593.0000	ppb	0.48	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	784825.5	0.0000	247.3000	ppb	1.29	500.00	
51 V	# 2	45	650193.2	0.0000	82.1200	ppb	0.94	500.00	
52 Cr	# 2	45	490677.4	0.0000	51.5700	ppb	0.81	500.00	
55 Mn	# 3	45	8084336.0	0.0000	156.6000	ppb	1.13	3000.00	
56 Fe	# 1	45	412616190.0	0.0000	15150.0000	ppb	0.44	50000.00	
59 Co	# 3	45	1787637.0	0.0000	43.6100	ppb	1.33	500.00	
60 Ni	# 2	45	214630.9	0.0000	52.6100	ppb	1.41	500.00	
63 Cu	# 2	45	456071.0	0.0000	42.5100	ppb	1.16	500.00	
66 Zn	# 3	72	510877.5	0.0000	105.2000	ppb	0.77	500.00	
75 As	# 2	72	45904.5	0.0000	48.3800	ppb	0.56	500.00	
78 Se	# 1	72	35767.5	0.0000	40.2800	ppb	0.25	500.00	
88 Sr	# 3	72	21138620.0	0.0000	454.2000	ppb	1.30	500.00	
90 Zr	# 3	72	196318.7	0.0000	6.6880	ppb	1.50	1000.00	
95 Mo	# 3	115	358892.2	0.0000	41.0700	ppb	0.73	500.00	
107 Ag	# 3	115	763723.9	0.0000	37.3900	ppb	1.51	50.00	
111 Cd	# 3	115	166293.5	0.0000	39.8400	ppb	0.83	500.00	
118 Sn	# 3	115	505118.5	0.0000	42.8200	ppb	1.09	500.00	
121 Sb	# 3	115	580748.3	0.0000	40.9400	ppb	1.25	500.00	
137 Ba	# 3	115	14112850.0	0.0000	2668.0000	ppb	2.83	1000.00	>LRS
182 W	# 3	159	1838.0	0.0000	0.1745	ppb	8.69	1000.00	
205 Tl	# 3	159	996946.5	0.0000	39.4600	ppb	0.34	500.00	
208 Pb	# 3	159	1597869.0	0.0000	46.7400	ppb	1.18	500.00	
235 U	# 3	159	10573.0	0.0000	0.2695	ppb	1.71	5.00	
238 U	# 3	159	1443554.0	0.0000	42.0800	ppb	1.00	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	768549.13	2.83	946489.44	81.2	60 - 125	
45 Sc	# 1	2816471.80	0.74	2561560.50	110.0	60 - 125	
45 Sc	# 2	298610.69	1.55	273035.03	109.4	60 - 125	
45 Sc	# 3	4859911.50	0.50	4670495.50	104.1	60 - 125	
72 Ge	# 1	615070.44	0.96	617197.63	99.7	60 - 125	
72 Ge	# 2	152345.34	1.25	149699.25	101.8	60 - 125	
72 Ge	# 3	873482.06	1.68	907582.81	96.2	60 - 125	
115 In	# 3	4776331.50	1.15	5063765.50	94.3	60 - 125	
159 Tb	# 3	5358921.00	0.91	5455991.00	98.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02031.D\98E02031.D#
Date Acquired:	May 9 2016 06:30 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-07
Misc Info:	
Vial Number:	2111
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	205785.9	0.0000	16.0600	ppb	0.65	50.00	
9 Be	# 3	6	2751.5	0.0000	0.7255	ppb	6.72	50.00	
11 B	# 3	6	25300.1	0.0000	6.9740	ppb	2.02	100.00	
23 Na	# 1	45	807835.0	0.0000	104.8000	ppb	0.94	50000.00	
24 Mg	# 3	45	129965800.0	0.0000	6090.0000	ppb	2.04	50000.00	
27 Al	# 3	45	408151810.0	0.0000	14340.0000	ppb	2.19	50000.00	
28 Si	# 1	45	5762056.0	0.0000	3436.0000	ppb	0.48	10000.00	
31 P	# 3	45	254045.2	0.0000	151.2000	ppb	1.97	400000.00	
39 K	# 2	45	1642761.0	0.0000	2412.0000	ppb	0.77	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	630853.6	0.0000	210.9000	ppb	0.23	500.00	
51 V	# 2	45	314607.3	0.0000	42.8200	ppb	0.25	500.00	
52 Cr	# 2	45	109237.8	0.0000	12.3700	ppb	0.36	500.00	
55 Mn	# 3	45	5915094.0	0.0000	121.6000	ppb	1.32	3000.00	
56 Fe	# 1	45	288440900.0	0.0000	11330.0000	ppb	0.37	50000.00	
59 Co	# 3	45	225199.9	0.0000	5.8250	ppb	1.53	500.00	
60 Ni	# 2	45	51767.6	0.0000	13.7000	ppb	0.41	500.00	
63 Cu	# 2	45	53370.4	0.0000	5.2070	ppb	0.67	500.00	
66 Zn	# 3	72	142977.5	0.0000	30.9700	ppb	0.77	500.00	
75 As	# 2	72	6481.5	0.0000	7.2840	ppb	1.04	500.00	
78 Se	# 1	72	134.2	0.0000	0.1363	ppb	6.39	500.00	
88 Sr	# 3	72	18288750.0	0.0000	414.8000	ppb	0.19	500.00	
90 Zr	# 3	72	186270.3	0.0000	6.6980	ppb	0.39	1000.00	
95 Mo	# 3	115	7065.6	0.0000	0.8045	ppb	0.85	500.00	
107 Ag	# 3	115	600.0	0.0000	0.0281	ppb	7.58	50.00	
111 Cd	# 3	115	1917.3	0.0000	0.4685	ppb	10.16	500.00	
118 Sn	# 3	115	33861.8	0.0000	2.9540	ppb	1.35	500.00	
121 Sb	# 3	115	6313.0	0.0000	0.3461	ppb	1.64	500.00	
137 Ba	# 3	115	13430210.0	0.0000	2641.0000	ppb	1.64	1000.00	>LRS
182 W	# 3	159	1565.7	0.0000	0.1520	ppb	5.56	1000.00	
205 Tl	# 3	159	4238.7	0.0000	0.1601	ppb	2.04	500.00	
208 Pb	# 3	159	245943.0	0.0000	7.4330	ppb	0.64	500.00	
235 U	# 3	159	240.0	0.0000	0.0060	ppb	17.09	5.00	
238 U	# 3	159	30132.7	0.0000	0.9028	ppb	1.71	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	755960.25	2.86	946489.44	79.9	60 - 125	
45 Sc # 1	2631136.50	1.10	2561560.50	102.7	60 - 125	
45 Sc # 2	276311.31	1.13	273035.03	101.2	60 - 125	
45 Sc # 3	4579613.50	1.30	4670495.50	98.1	60 - 125	
72 Ge # 1	570885.44	1.08	617197.63	92.5	60 - 125	
72 Ge # 2	142039.63	1.62	149699.25	94.9	60 - 125	
72 Ge # 3	827487.63	0.33	907582.81	91.2	60 - 125	
115 In # 3	4590373.00	1.40	5063765.50	90.7	60 - 125	
159 Tb # 3	5176799.50	0.33	5455991.00	94.9	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02032.D\98E02032.D#
Date Acquired:	May 9 2016 06:35 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-07J
Misc Info:	
Vial Number:	2112
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	104370.6	0.0000	3.2420	ppb	4.48	50.00	
9 Be	# 3	6	667.8	0.0000	0.1416	ppb	6.15	50.00	
11 B	# 3	6	8061.7	0.0000	0.5828	ppb	19.82	100.00	
23 Na	# 1	45	259656.7	0.0000	16.3500	ppb	1.09	50000.00	
24 Mg	# 3	45	30016920.0	0.0000	1313.0000	ppb	1.22	50000.00	
27 Al	# 3	45	94124512.0	0.0000	3089.0000	ppb	1.97	50000.00	
28 Si	# 1	45	1242941.0	0.0000	722.6000	ppb	1.77	10000.00	
31 P	# 3	45	83070.0	0.0000	31.3900	ppb	3.78	400000.00	
39 K	# 2	45	366394.8	0.0000	475.3000	ppb	0.25	50000.00	
40 Ca	# 1	45	762703870.0	0.0000	59840.0000	ppb	1.00	50000.00	>LRS
47 Ti	# 3	45	136084.7	0.0000	42.4700	ppb	0.11	500.00	
51 V	# 2	45	67992.2	0.0000	8.6840	ppb	0.79	500.00	
52 Cr	# 2	45	23717.1	0.0000	2.5440	ppb	1.71	500.00	
55 Mn	# 3	45	1299498.0	0.0000	24.9000	ppb	0.71	3000.00	
56 Fe	# 1	45	62786340.0	0.0000	2410.0000	ppb	0.54	50000.00	
59 Co	# 3	45	50450.9	0.0000	1.2140	ppb	2.96	500.00	
60 Ni	# 2	45	11597.1	0.0000	2.9280	ppb	1.66	500.00	
63 Cu	# 2	45	19260.5	0.0000	1.6770	ppb	2.34	500.00	
66 Zn	# 3	72	37946.3	0.0000	7.1480	ppb	0.95	500.00	
75 As	# 2	72	1461.9	0.0000	1.4540	ppb	3.89	500.00	
78 Se	# 1	72	41.1	0.0000	0.0186	ppb	44.76	500.00	
88 Sr	# 3	72	4143960.0	0.0000	83.1700	ppb	2.18	500.00	
90 Zr	# 3	72	41033.9	0.0000	1.2990	ppb	2.90	1000.00	
95 Mo	# 3	115	1771.3	0.0000	0.1515	ppb	7.02	500.00	
107 Ag	# 3	115	165.6	0.0000	0.0051	ppb	9.85	50.00	
111 Cd	# 3	115	458.1	0.0000	0.0921	ppb	7.52	500.00	
118 Sn	# 3	115	7688.2	0.0000	0.5727	ppb	2.33	500.00	
121 Sb	# 3	115	2582.6	0.0000	0.0517	ppb	5.52	500.00	
137 Ba	# 3	115	2972915.0	0.0000	523.5000	ppb	3.87	1000.00	
182 W	# 3	159	416.7	0.0000	0.0257	ppb	14.63	1000.00	
205 Tl	# 3	159	1171.2	0.0000	0.0309	ppb	4.20	500.00	
208 Pb	# 3	159	56257.1	0.0000	1.5630	ppb	3.20	500.00	
235 U	# 3	159	82.2	0.0000	0.0016	ppb	32.34	5.00	
238 U	# 3	159	6598.8	0.0000	0.1780	ppb	1.34	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	905619.88	1.93	946489.44	95.7	60 - 125	
45 Sc	# 1	2693178.00	0.88	2561560.50	105.1	60 - 125	
45 Sc	# 2	288016.59	2.16	273035.03	105.5	60 - 125	
45 Sc	# 3	4902500.50	0.86	4670495.50	105.0	60 - 125	
72 Ge	# 1	631254.19	0.61	617197.63	102.3	60 - 125	
72 Ge	# 2	156141.13	1.61	149699.25	104.3	60 - 125	
72 Ge	# 3	935090.31	0.56	907582.81	103.0	60 - 125	
115 In	# 3	5129790.00	2.48	5063765.50	101.3	60 - 125	
159 Tb	# 3	5584838.00	0.98	5455991.00	102.4	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02033.D\98E02033.D#
Date Acquired:	May 9 2016 06:39 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-07D
Misc Info:	
Vial Number:	2201
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	188936.4	0.0000	12.8900	ppb	3.35	50.00	
9 Be	# 3	6	2581.5	0.0000	0.6341	ppb	6.63	50.00	
11 B	# 3	6	21805.9	0.0000	5.2760	ppb	4.28	100.00	
23 Na	# 1	45	733906.1	0.0000	93.0300	ppb	2.84	50000.00	
24 Mg	# 3	45	128025600.0	0.0000	5996.0000	ppb	0.93	50000.00	
27 Al	# 3	45	335895100.0	0.0000	11800.0000	ppb	1.02	50000.00	
28 Si	# 1	45	6275168.0	0.0000	3742.0000	ppb	0.88	10000.00	
31 P	# 3	45	259282.6	0.0000	154.6000	ppb	1.09	400000.00	
39 K	# 2	45	1424363.0	0.0000	2054.0000	ppb	0.41	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	581582.7	0.0000	194.4000	ppb	1.04	500.00	
51 V	# 2	45	293156.0	0.0000	39.3200	ppb	0.69	500.00	
52 Cr	# 2	45	97947.2	0.0000	10.9300	ppb	0.91	500.00	
55 Mn	# 3	45	5078920.0	0.0000	104.4000	ppb	1.20	3000.00	
56 Fe	# 1	45	256620700.0	0.0000	10080.0000	ppb	1.27	50000.00	
59 Co	# 3	45	208814.5	0.0000	5.4000	ppb	1.21	500.00	
60 Ni	# 2	45	47518.7	0.0000	12.3900	ppb	0.55	500.00	
63 Cu	# 2	45	50206.9	0.0000	4.8160	ppb	1.06	500.00	
66 Zn	# 3	72	110829.8	0.0000	23.6900	ppb	0.16	500.00	
75 As	# 2	72	6366.3	0.0000	7.0460	ppb	1.27	500.00	
78 Se	# 1	72	121.1	0.0000	0.1187	ppb	6.99	500.00	
88 Sr	# 3	72	19083410.0	0.0000	427.8000	ppb	0.80	500.00	
90 Zr	# 3	72	154084.2	0.0000	5.4760	ppb	2.72	1000.00	
95 Mo	# 3	115	7117.9	0.0000	0.8196	ppb	1.48	500.00	
107 Ag	# 3	115	542.3	0.0000	0.0255	ppb	6.97	50.00	
111 Cd	# 3	115	1864.2	0.0000	0.4597	ppb	1.13	500.00	
118 Sn	# 3	115	31527.8	0.0000	2.7770	ppb	1.77	500.00	
121 Sb	# 3	115	5316.9	0.0000	0.2769	ppb	4.16	500.00	
137 Ba	# 3	115	15263950.0	0.0000	3033.0000	ppb	2.59	1000.00	>LRS
182 W	# 3	159	1595.7	0.0000	0.1549	ppb	6.27	1000.00	
205 Tl	# 3	159	3936.4	0.0000	0.1473	ppb	3.77	500.00	
208 Pb	# 3	159	236148.8	0.0000	7.1200	ppb	1.86	500.00	
235 U	# 3	159	262.2	0.0000	0.0065	ppb	8.11	5.00	
238 U	# 3	159	29935.4	0.0000	0.8947	ppb	2.27	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	809230.44	0.70	946489.44	85.5	60 - 125	
45 Sc # 1	2631720.80	1.22	2561560.50	102.7	60 - 125	
45 Sc # 2	280252.31	1.06	273035.03	102.6	60 - 125	
45 Sc # 3	4580507.50	1.21	4670495.50	98.1	60 - 125	
72 Ge # 1	577905.63	1.12	617197.63	93.6	60 - 125	
72 Ge # 2	144180.97	0.45	149699.25	96.3	60 - 125	
72 Ge # 3	837114.44	1.22	907582.81	92.2	60 - 125	
115 In # 3	4543426.50	1.05	5063765.50	89.7	60 - 125	
159 Tb # 3	5189739.50	1.41	5455991.00	95.1	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02034.D\98E02034.D#
Date Acquired:	May 9 2016 06:44 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-08
Misc Info:	
Vial Number:	2202
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	260741.9	0.0000	17.0200	ppb	4.48	50.00	
9 Be	# 3	6	5671.4	0.0000	1.2360	ppb	7.72	50.00	
11 B	# 3	6	26255.5	0.0000	5.7120	ppb	8.87	100.00	
23 Na	# 1	45	921308.3	0.0000	114.1000	ppb	0.49	50000.00	
24 Mg	# 3	45	92696192.0	0.0000	3879.0000	ppb	1.94	50000.00	
27 Al	# 3	45	773590210.0	0.0000	24280.0000	ppb	0.68	50000.00	
28 Si	# 1	45	3893002.0	0.0000	2180.0000	ppb	1.39	10000.00	
31 P	# 3	45	411200.4	0.0000	228.0000	ppb	1.29	400000.00	
39 K	# 2	45	2804694.0	0.0000	3840.0000	ppb	0.46	50000.00	
40 Ca	# 1	45	87789808.0	0.0000	6622.0000	ppb	1.07	50000.00	
47 Ti	# 3	45	1334679.0	0.0000	398.7000	ppb	0.54	500.00	
51 V	# 2	45	337862.1	0.0000	42.5500	ppb	1.28	500.00	
52 Cr	# 2	45	220662.4	0.0000	23.1700	ppb	1.63	500.00	
55 Mn	# 3	45	19541840.0	0.0000	358.9000	ppb	1.16	3000.00	
56 Fe	# 1	45	611424000.0	0.0000	22570.0000	ppb	0.79	50000.00	
59 Co	# 3	45	370368.5	0.0000	8.5590	ppb	0.58	500.00	
60 Ni	# 2	45	78078.8	0.0000	19.1200	ppb	1.81	500.00	
63 Cu	# 2	45	168553.6	0.0000	15.5900	ppb	1.64	500.00	
66 Zn	# 3	72	278307.1	0.0000	52.4900	ppb	2.27	500.00	
75 As	# 2	72	7058.0	0.0000	7.0880	ppb	0.46	500.00	
78 Se	# 1	72	292.2	0.0000	0.2921	ppb	4.07	500.00	
88 Sr	# 3	72	2308855.0	0.0000	45.4700	ppb	0.05	500.00	
90 Zr	# 3	72	152533.8	0.0000	4.7620	ppb	1.77	1000.00	
95 Mo	# 3	115	7200.1	0.0000	0.7316	ppb	1.05	500.00	
107 Ag	# 3	115	2348.1	0.0000	0.1048	ppb	4.74	50.00	
111 Cd	# 3	115	2240.9	0.0000	0.4909	ppb	4.21	500.00	
118 Sn	# 3	115	50317.4	0.0000	3.9460	ppb	0.78	500.00	
121 Sb	# 3	115	6334.1	0.0000	0.2994	ppb	2.73	500.00	
137 Ba	# 3	115	1015950.0	0.0000	179.1000	ppb	2.80	1000.00	
182 W	# 3	159	1274.6	0.0000	0.1105	ppb	8.77	1000.00	
205 Tl	# 3	159	8227.7	0.0000	0.2981	ppb	2.55	500.00	
208 Pb	# 3	159	602294.3	0.0000	16.8500	ppb	0.97	500.00	
235 U	# 3	159	190.0	0.0000	0.0043	ppb	23.94	5.00	
238 U	# 3	159	23863.3	0.0000	0.6590	ppb	0.38	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	918895.81	4.00	946489.44	97.1	60 - 125	
45 Sc	# 1	2800637.30	0.80	2561560.50	109.3	60 - 125	
45 Sc	# 2	298656.59	1.73	273035.03	109.4	60 - 125	
45 Sc	# 3	5127466.00	1.24	4670495.50	109.8	60 - 125	
72 Ge	# 1	635647.75	0.46	617197.63	103.0	60 - 125	
72 Ge	# 2	158891.20	0.46	149699.25	106.1	60 - 125	
72 Ge	# 3	952703.94	1.59	907582.81	105.0	60 - 125	
115 In	# 3	5121582.00	1.14	5063765.50	101.1	60 - 125	
159 Tb	# 3	5601400.50	0.55	5455991.00	102.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02035.D\98E02035.D#
Date Acquired:	May 9 2016 06:48 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-09
Misc Info:	
Vial Number:	2203
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	154791.5	0.0000	9.7610	ppb	2.52	50.00	
9 Be	# 3	6	1690.2	0.0000	0.4218	ppb	8.32	50.00	
11 B	# 3	6	19878.2	0.0000	4.7860	ppb	5.24	100.00	
23 Na	# 1	45	1379914.0	0.0000	197.5000	ppb	2.10	50000.00	
24 Mg	# 3	45	101222600.0	0.0000	4764.0000	ppb	2.71	50000.00	
27 Al	# 3	45	258433500.0	0.0000	9122.0000	ppb	3.15	50000.00	
28 Si	# 1	45	3964479.0	0.0000	2377.0000	ppb	0.74	10000.00	
31 P	# 3	45	352961.4	0.0000	219.3000	ppb	2.28	400000.00	
39 K	# 2	45	1006208.0	0.0000	1463.0000	ppb	1.89	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	413984.2	0.0000	139.0000	ppb	1.83	500.00	
51 V	# 2	45	162725.6	0.0000	22.1200	ppb	1.57	500.00	
52 Cr	# 2	45	79755.0	0.0000	9.0600	ppb	1.60	500.00	
55 Mn	# 3	45	2861930.0	0.0000	59.0400	ppb	0.53	3000.00	
56 Fe	# 1	45	172836800.0	0.0000	6830.0000	ppb	0.35	50000.00	
59 Co	# 3	45	159998.7	0.0000	4.1550	ppb	1.99	500.00	
60 Ni	# 2	45	33607.6	0.0000	8.9220	ppb	2.18	500.00	
63 Cu	# 2	45	45819.6	0.0000	4.4630	ppb	2.25	500.00	
66 Zn	# 3	72	75906.3	0.0000	16.5800	ppb	1.31	500.00	
75 As	# 2	72	3981.1	0.0000	4.4870	ppb	2.16	500.00	
78 Se	# 1	72	144.9	0.0000	0.1496	ppb	0.48	500.00	
88 Sr	# 3	72	15761530.0	0.0000	362.1000	ppb	0.55	500.00	
90 Zr	# 3	72	48244.1	0.0000	1.7510	ppb	1.15	1000.00	
95 Mo	# 3	115	2500.3	0.0000	0.2674	ppb	2.72	500.00	
107 Ag	# 3	115	540.0	0.0000	0.0257	ppb	5.54	50.00	
111 Cd	# 3	115	1364.4	0.0000	0.3380	ppb	9.48	500.00	
118 Sn	# 3	115	33423.9	0.0000	2.9850	ppb	1.49	500.00	
121 Sb	# 3	115	5567.0	0.0000	0.3008	ppb	5.62	500.00	
137 Ba	# 3	115	2176943.0	0.0000	438.1000	ppb	1.01	1000.00	
182 W	# 3	159	1501.3	0.0000	0.1479	ppb	1.81	1000.00	
205 Tl	# 3	159	2887.1	0.0000	0.1067	ppb	8.90	500.00	
208 Pb	# 3	159	171908.4	0.0000	5.2800	ppb	2.43	500.00	
235 U	# 3	159	203.3	0.0000	0.0051	ppb	6.77	5.00	
238 U	# 3	159	21778.0	0.0000	0.6618	ppb	1.63	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	793543.44	2.22	946489.44	83.8	60 - 125	
45 Sc	# 1	2616453.00	1.38	2561560.50	102.1	60 - 125	
45 Sc	# 2	275237.25	2.13	273035.03	100.8	60 - 125	
45 Sc	# 3	4560208.50	2.05	4670495.50	97.6	60 - 125	
72 Ge	# 1	570145.25	0.93	617197.63	92.4	60 - 125	
72 Ge	# 2	140973.94	1.14	149699.25	94.2	60 - 125	
72 Ge	# 3	816781.94	1.08	907582.81	90.0	60 - 125	
115 In	# 3	4485691.00	0.65	5063765.50	88.6	60 - 125	
159 Tb	# 3	5090544.00	1.64	5455991.00	93.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02036.D\98E02036.D#
Date Acquired:	May 9 2016 06:52 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-10
Misc Info:	
Vial Number:	2204
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	197289.3	0.0000	12.8400	ppb	2.89	50.00	
9 Be	# 3	6	2483.7	0.0000	0.5822	ppb	3.18	50.00	
11 B	# 3	6	21023.4	0.0000	4.7190	ppb	5.91	100.00	
23 Na	# 1	45	2278534.0	0.0000	352.6000	ppb	0.86	50000.00	
24 Mg	# 3	45	148958590.0	0.0000	6872.0000	ppb	1.76	50000.00	
27 Al	# 3	45	342354110.0	0.0000	11850.0000	ppb	1.19	50000.00	
28 Si	# 1	45	6091946.0	0.0000	3762.0000	ppb	0.99	10000.00	
31 P	# 3	45	300875.6	0.0000	179.8000	ppb	1.47	400000.00	
39 K	# 2	45	1243948.0	0.0000	1870.0000	ppb	2.06	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	525716.9	0.0000	173.1000	ppb	0.93	500.00	
51 V	# 2	45	233800.1	0.0000	32.7300	ppb	0.66	500.00	
52 Cr	# 2	45	84226.6	0.0000	9.8210	ppb	0.73	500.00	
55 Mn	# 3	45	3359493.0	0.0000	67.9800	ppb	0.65	3000.00	
56 Fe	# 1	45	223210900.0	0.0000	9082.0000	ppb	0.37	50000.00	
59 Co	# 3	45	181942.2	0.0000	4.6340	ppb	0.46	500.00	
60 Ni	# 2	45	38204.5	0.0000	10.4100	ppb	0.83	500.00	
63 Cu	# 2	45	44446.5	0.0000	4.4410	ppb	1.35	500.00	
66 Zn	# 3	72	101361.2	0.0000	21.9600	ppb	0.73	500.00	
75 As	# 2	72	5559.0	0.0000	6.4450	ppb	0.07	500.00	
78 Se	# 1	72	107.6	0.0000	0.1079	ppb	7.44	500.00	
88 Sr	# 3	72	25066970.0	0.0000	569.9000	ppb	1.31	500.00	>LRS
90 Zr	# 3	72	164656.1	0.0000	5.9340	ppb	0.87	1000.00	
95 Mo	# 3	115	2718.2	0.0000	0.2880	ppb	2.18	500.00	
107 Ag	# 3	115	550.0	0.0000	0.0257	ppb	5.23	50.00	
111 Cd	# 3	115	1804.2	0.0000	0.4424	ppb	6.59	500.00	
118 Sn	# 3	115	39011.5	0.0000	3.4260	ppb	0.71	500.00	
121 Sb	# 3	115	4711.1	0.0000	0.2300	ppb	4.05	500.00	
137 Ba	# 3	115	12123360.0	0.0000	2396.0000	ppb	0.58	1000.00	>LRS
182 W	# 3	159	1722.4	0.0000	0.1747	ppb	2.39	1000.00	
205 Tl	# 3	159	3555.1	0.0000	0.1369	ppb	9.73	500.00	
208 Pb	# 3	159	206720.8	0.0000	6.4450	ppb	1.78	500.00	
235 U	# 3	159	224.5	0.0000	0.0057	ppb	13.05	5.00	
238 U	# 3	159	27552.8	0.0000	0.8517	ppb	3.42	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	847373.25	0.77	946489.44	89.5	60 - 125	
45 Sc # 1	2541195.50	0.29	2561560.50	99.2	60 - 125	
45 Sc # 2	268191.34	0.88	273035.03	98.2	60 - 125	
45 Sc # 3	4649749.50	1.24	4670495.50	99.6	60 - 125	
72 Ge # 1	554157.56	0.33	617197.63	89.8	60 - 125	
72 Ge # 2	137535.34	0.72	149699.25	91.9	60 - 125	
72 Ge # 3	825514.13	0.56	907582.81	91.0	60 - 125	
115 In # 3	4567139.50	1.07	5063765.50	90.2	60 - 125	
159 Tb # 3	5017522.50	1.86	5455991.00	92.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02038.D\98E02038.D#
Date Acquired:	May 9 2016 07:01 pm
Operator:	CCapul
Sample Name:	CCV3
Misc Info:	
Vial Number:	1206
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update:	May 09 2016 04:47 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.63 ppb	353904.09	1.66	25.00	90 - 110	
9 Be	23.82 ppb	111280.80	2.14	25.00	90 - 110	
11 B	49.03 ppb	183047.70	3.36	50.00	90 - 110	
23 Na	24250.00 ppb	157305500.00	1.44	25000.00	90 - 110	
24 Mg	24290.00 ppb	557837380.00	1.26	25000.00	90 - 110	
27 Al	24460.00 ppb	749172480.00	0.91	25000.00	90 - 110	
28 Si	2466.00 ppb	4280835.00	0.84	2500.00	90 - 110	
31 P	250.20 ppb	430372.81	1.27	250.00	90 - 110	
39 K	24940.00 ppb	17102600.00	1.23	25000.00	90 - 110	
40 Ca	24650.00 ppb	317564900.00	0.51	25000.00	90 - 110	
47 Ti	245.00 ppb	788473.38	0.97	250.00	90 - 110	
51 V	247.00 ppb	1853383.00	0.99	250.00	90 - 110	
52 Cr	244.40 ppb	2206859.00	0.81	250.00	90 - 110	
55 Mn	1437.00 ppb	75176960.00	0.85	1500.00	90 - 110	
56 Fe	24150.00 ppb	636060610.00	0.87	25000.00	90 - 110	
59 Co	245.40 ppb	10198940.00	0.64	250.00	90 - 110	
60 Ni	255.80 ppb	990566.13	1.79	250.00	90 - 110	
63 Cu	247.10 ppb	2507956.00	0.62	250.00	90 - 110	
66 Zn	243.80 ppb	1259037.00	1.05	250.00	90 - 110	
75 As	249.80 ppb	235035.91	0.61	250.00	90 - 110	
78 Se	246.70 ppb	220645.80	0.39	250.00	90 - 110	
88 Sr	251.50 ppb	12460770.00	0.10	250.00	90 - 110	
90 Zr	27.87 ppb	870111.63	0.88	25.00	90 - 110	Fail
95 Mo	253.20 ppb	2257957.00	1.47	250.00	90 - 110	
107 Ag	24.63 ppb	513976.50	0.59	25.00	90 - 110	
111 Cd	250.30 ppb	1066847.00	0.81	250.00	90 - 110	
118 Sn	248.80 ppb	2995616.00	0.82	250.00	90 - 110	
121 Sb	251.80 ppb	3640057.00	0.40	250.00	90 - 110	
137 Ba	505.30 ppb	2731003.00	1.13	500.00	90 - 110	
182 W	29.66 ppb	294212.69	0.16	25.00	90 - 110	Fail
205 Tl	248.40 ppb	6435319.00	0.76	250.00	90 - 110	
208 Pb	255.10 ppb	8939691.00	1.14	250.00	90 - 110	
235 U	1.62 ppb	64887.49	1.25	1.80	90 - 110	Fail
238 U	246.60 ppb	8672941.00	0.67	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	938523.00	2.25	946489.44	99.2	60 - 125	
45 Sc	2722889.50	1.48	2561560.50	106.3	60 - 125	
45 Sc	283551.19	0.88	273035.03	103.9	60 - 125	
45 Sc	4927828.50	1.30	4670495.50	105.5	60 - 125	
72 Ge	619772.25	0.67	617197.63	100.4	60 - 125	
72 Ge	151211.41	0.84	149699.25	101.0	60 - 125	
72 Ge	929846.31	0.25	907582.81	102.5	60 - 125	
115 In	4878955.50	1.20	5063765.50	96.4	60 - 125	
159 Tb	5495701.00	1.08	5455991.00	100.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02039.D\98E02039.D#
Date Acquired: May 9 2016 07:06 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: CCB3
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.0417	ppb	76348.3	88.48	0.20	
9 Be	-0.0007	ppb	30.0	87.39	0.10	
11 B	-0.7789	ppb	3735.1	4.73	5.00	
23 Na	-6.0300	ppb	113237.2	2.70	40.00	
24 Mg	0.2389	ppb	12053.8	12.79	10.00	
27 Al	0.3222	ppb	13782.3	10.05	20.00	
28 Si	1.6430	ppb	5794.9	5.33	20.00	
31 P	1.3550	ppb	35854.8	174.24	10.00	
39 K	-3.5720	ppb	33103.2	17.28	20.00	
40 Ca	1.1770	ppb	31991.5	0.87	25.00	
47 Ti	0.0011	ppb	162.2	635.69	0.50	
51 V	0.0105	ppb	1927.5	29.59	0.50	
52 Cr	-0.0084	ppb	314.5	14.38	0.20	
55 Mn	0.0103	ppb	3966.3	17.24	0.20	
56 Fe	2.4510	ppb	70807.5	6.79	10.00	
59 Co	0.0017	ppb	337.8	130.71	0.20	
60 Ni	0.0011	ppb	86.2	283.32	0.20	
63 Cu	-0.0060	ppb	1895.7	74.62	0.40	
66 Zn	-0.0207	ppb	764.5	45.71	2.00	
75 As	0.0120	ppb	62.2	90.18	0.20	
78 Se	0.0168	ppb	39.6	49.06	0.20	
88 Sr	0.0030	ppb	780.1	47.53	0.20	
90 Zr	0.0126	ppb	667.8	2.97	2.00	
95 Mo	0.0883	ppb	1213.4	7.59	0.40	
107 Ag	-0.0002	ppb	51.1	364.24	0.20	
111 Cd	0.0057	ppb	72.9	83.06	0.20	
118 Sn	0.0410	ppb	985.6	10.08	0.20	
121 Sb	0.2374	ppb	5554.8	4.44	0.40	
137 Ba	0.0123	ppb	126.7	22.98	0.20	
182 W	0.0110	ppb	271.1	5.44	1.00	
205 Tl	0.0113	ppb	658.9	6.27	0.20	
208 Pb	0.0012	ppb	635.6	159.64	0.10	
235 U	0.0001	ppb	17.8	324.18	1.00	
238 U	0.0172	ppb	855.6	13.47	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1017160.0	0.77	946489.44	107.5	60 - 125	
45 Sc	2623585.5	0.57	2561560.50	102.4	60 - 125	
45 Sc	283851.0	0.72	273035.03	104.0	60 - 125	
45 Sc	4924088.0	0.95	4670495.50	105.4	60 - 125	
72 Ge	632676.8	1.49	617197.63	102.5	60 - 125	
72 Ge	157303.8	1.39	149699.25	105.1	60 - 125	
72 Ge	951641.9	0.85	907582.81	104.9	60 - 125	
115 In	5273162.0	1.01	5063765.50	104.1	60 - 125	
159 Tb	5633870.0	1.50	5455991.00	103.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02040.D\98E02040.D#
Date Acquired: May 9 2016 07:10 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: IME013SB
Misc Info:
Vial Number: 2205
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: MBS
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.1339	ppb	86705.5	91.11	0.50	
9 Be	-0.0021	ppb	25.6	36.46	0.50	
11 B	-1.0350	ppb	3012.7	5.08	10.00	
23 Na	-5.8160	ppb	120276.8	1.08	100.00	
24 Mg	1.2900	ppb	38719.7	7.84	100.00	
27 Al	9.9590	ppb	330383.4	0.35	100.00	
28 Si	1.8940	ppb	6524.1	4.19	50.00	
31 P	7.7720	ppb	49237.7	15.89	10.00	
39 K	-1.7330	ppb	37069.4	12.17	100.00	
40 Ca	15.8700	ppb	225049.9	0.46	100.00	
47 Ti	0.0329	ppb	283.3	32.21	0.50	
51 V	-0.1239	ppb	990.3	2.72	0.50	
52 Cr	0.0379	ppb	790.9	8.65	0.50	
55 Mn	0.0662	ppb	7377.9	8.19	0.50	
56 Fe	2.4580	ppb	74527.8	1.34	100.00	
59 Co	0.0101	ppb	733.4	23.33	0.50	
60 Ni	0.0350	ppb	234.7	1.82	0.50	
63 Cu	0.2537	ppb	4889.4	3.47	0.50	
66 Zn	0.7814	ppb	5253.5	5.32	2.00	
75 As	-0.0146	ppb	38.4	11.81	0.50	
78 Se	-0.0114	ppb	14.7	13.95	0.50	
88 Sr	0.0236	ppb	1919.1	3.53	0.50	
90 Zr	0.0081	ppb	551.1	28.89	5.00	
95 Mo	0.0196	ppb	574.5	20.78	0.50	
107 Ag	0.0005	ppb	67.8	141.96	0.50	
111 Cd	0.0005	ppb	50.6	1150.90	0.50	
118 Sn	3.2340	ppb	44313.2	1.92	20.00	
121 Sb	0.0434	ppb	2629.3	19.18	0.50	
137 Ba	0.0402	ppb	302.2	27.69	0.50	
182 W	-0.0007	ppb	158.9	222.10	2.00	
205 Tl	0.0036	ppb	476.7	54.18	0.50	
208 Pb	0.0105	ppb	1012.3	11.72	0.50	
235 U	0.0002	ppb	23.3	171.21	---	
238 U	0.0034	ppb	373.4	37.78	0.50	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1122934.0	1.27	946489.44	118.6	60 - 125	
45 Sc	2754131.5	1.08	2561560.50	107.5	60 - 125	
45 Sc	306217.0	0.60	273035.03	112.2	60 - 125	
45 Sc	5270220.0	0.69	4670495.50	112.8	60 - 125	
72 Ge	668409.2	1.53	617197.63	108.3	60 - 125	
72 Ge	167227.1	1.07	149699.25	111.7	60 - 125	
72 Ge	1000053.6	0.66	907582.81	110.2	60 - 125	
115 In	5494957.5	1.46	5063765.50	108.5	60 - 125	
159 Tb	5878939.0	0.21	5455991.00	107.8	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

LCS QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02041.D\98E02041.D#
Date Acquired: May 9 2016 07:15 pm
Operator: CCapul
Sample Name: IME013SL
Misc Info:
Vial Number: 2206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: LCSS
Final Dil Factor: 1.00

Analyte Elements

Element	CPS Mean	Conc.		RSD(%)	Expected	QC Range(%)	Flag
7 Li	623714.19	40.01	ppb	3.81	40.00	80 - 120.0	
9 Be	197817.91	36.03	ppb	2.88	40.00	80 - 120.0	
11 B	152905.50	34.33	ppb	1.53	40.00	80 - 120.0	
23 Na	26630460.00	4080.00	ppb	1.23	4000.00	80 - 120.0	
24 Mg	98110400.00	4083.00	ppb	0.23	4000.00	80 - 120.0	
27 Al	131151000.00	4093.00	ppb	1.44	4000.00	80 - 120.0	
28 Si	8097.38	2.84	ppb	2.40	4000.00	80 - 120.0	Fail
31 P	48409.96	7.92	ppb	2.91	400.00	80 - 120.0	Fail
39 K	3066315.00	4183.00	ppb	1.47	4000.00	80 - 120.0	
40 Ca	53103460.00	4114.00	ppb	0.66	4000.00	80 - 120.0	
47 Ti	132120.09	39.21	ppb	0.21	40.00	80 - 120.0	
51 V	301103.19	37.72	ppb	0.74	40.00	80 - 120.0	
52 Cr	368961.31	38.58	ppb	0.55	40.00	80 - 120.0	
55 Mn	2190439.00	39.95	ppb	1.36	40.00	80 - 120.0	
56 Fe	106252600.00	4029.00	ppb	0.43	4000.00	80 - 120.0	
59 Co	1715894.00	39.46	ppb	1.21	40.00	80 - 120.0	
60 Ni	165140.00	40.28	ppb	0.85	40.00	80 - 120.0	
63 Cu	426201.91	39.52	ppb	0.68	40.00	80 - 120.0	
66 Zn	431577.19	79.41	ppb	0.64	80.00	80 - 120.0	
75 As	38698.61	38.18	ppb	1.36	40.00	80 - 120.0	
78 Se	36165.96	37.96	ppb	0.43	40.00	80 - 120.0	
88 Sr	2144426.00	41.17	ppb	1.41	40.00	80 - 120.0	
90 Zr	3468.39	0.10	ppb	3.23	30.00	80 - 120.0	Fail
95 Mo	365391.41	37.85	ppb	1.47	40.00	80 - 120.0	
107 Ag	891751.81	39.52	ppb	0.33	40.00	80 - 120.0	
111 Cd	178931.20	38.82	ppb	1.79	40.00	80 - 120.0	
118 Sn	544938.00	41.82	ppb	0.75	40.00	80 - 120.0	
121 Sb	611280.50	39.00	ppb	0.66	40.00	80 - 120.0	
137 Ba	235472.50	40.28	ppb	1.18	40.00	80 - 120.0	
182 W	272.24	0.01	ppb	13.58	40.00	80 - 120.0	Fail
205 Tl	1033177.00	38.13	ppb	1.11	40.00	80 - 120.0	
208 Pb	1434766.00	39.14	ppb	0.44	40.00	80 - 120.0	
235 U	10189.36	0.24	ppb	2.34	0.28	80 - 120.0	
238 U	1416879.00	38.52	ppb	1.24	40.00	80 - 120.0	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1102955.50	0.85	946489.44	116.5	60 - 125	
45 Sc	2726747.80	0.54	2561560.50	106.4	60 - 125	
45 Sc	300031.78	1.04	273035.03	109.9	60 - 125	
45 Sc	5154991.50	0.71	4670495.50	110.4	60 - 125	
72 Ge	659810.56	0.80	617197.63	106.9	60 - 125	
72 Ge	162696.05	1.45	149699.25	108.7	60 - 125	
72 Ge	977321.13	1.18	907582.81	107.7	60 - 125	
115 In	5275993.00	0.99	5063765.50	104.2	60 - 125	
159 Tb	5746171.00	0.92	5455991.00	105.3	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

4 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02042.D\98E02042.D#
Date Acquired:	May 9 2016 07:19 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-11
Misc Info:	
Vial Number:	2207
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	296472.7	0.0000	16.9400	ppb	2.82	50.00	
9 Be	# 3	6	5644.8	0.0000	1.0770	ppb	3.66	50.00	
11 B	# 3	6	34681.9	0.0000	6.8830	ppb	5.90	100.00	
23 Na	# 1	45	2246901.0	0.0000	307.4000	ppb	0.34	50000.00	
24 Mg	# 3	45	106868300.0	0.0000	4362.0000	ppb	1.38	50000.00	
27 Al	# 3	45	757774780.0	0.0000	23200.0000	ppb	1.62	50000.00	
28 Si	# 1	45	4441514.0	0.0000	2446.0000	ppb	0.50	10000.00	
31 P	# 3	45	520358.0	0.0000	286.4000	ppb	1.56	400000.00	
39 K	# 2	45	2823820.0	0.0000	3777.0000	ppb	1.61	50000.00	
40 Ca	# 1	45	649554430.0	0.0000	48200.0000	ppb	1.31	50000.00	
47 Ti	# 3	45	1339242.0	0.0000	390.2000	ppb	0.23	500.00	
51 V	# 2	45	336154.9	0.0000	41.3600	ppb	0.63	500.00	
52 Cr	# 2	45	243022.5	0.0000	24.9300	ppb	0.96	500.00	
55 Mn	# 3	45	25985210.0	0.0000	465.5000	ppb	0.78	3000.00	
56 Fe	# 1	45	586168000.0	0.0000	21280.0000	ppb	1.04	50000.00	
59 Co	# 3	45	399450.2	0.0000	9.0050	ppb	1.54	500.00	
60 Ni	# 2	45	77758.0	0.0000	18.6100	ppb	0.67	500.00	
63 Cu	# 2	45	199714.1	0.0000	18.0800	ppb	1.07	500.00	
66 Zn	# 3	72	398602.5	0.0000	74.2200	ppb	0.32	500.00	
75 As	# 2	72	7348.4	0.0000	7.3150	ppb	1.44	500.00	
78 Se	# 1	72	308.5	0.0000	0.3051	ppb	1.56	500.00	
88 Sr	# 3	72	4701986.0	0.0000	91.3700	ppb	0.97	500.00	
90 Zr	# 3	72	170094.6	0.0000	5.2390	ppb	1.38	1000.00	
95 Mo	# 3	115	7084.5	0.0000	0.7133	ppb	1.66	500.00	
107 Ag	# 3	115	2421.4	0.0000	0.1073	ppb	2.38	50.00	
111 Cd	# 3	115	5332.8	0.0000	1.1720	ppb	3.56	500.00	
118 Sn	# 3	115	47508.1	0.0000	3.6950	ppb	1.32	500.00	
121 Sb	# 3	115	7801.7	0.0000	0.3920	ppb	1.94	500.00	
137 Ba	# 3	115	1537128.0	0.0000	268.8000	ppb	1.22	1000.00	
182 W	# 3	159	1709.1	0.0000	0.1520	ppb	1.06	1000.00	
205 Tl	# 3	159	7804.0	0.0000	0.2794	ppb	1.41	500.00	
208 Pb	# 3	159	2101529.0	0.0000	58.3000	ppb	0.73	500.00	
235 U	# 3	159	193.3	0.0000	0.0043	ppb	18.45	5.00	
238 U	# 3	159	27068.1	0.0000	0.7417	ppb	2.10	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1047936.30	3.16	946489.44	110.7	60 - 125	
45 Sc # 1	2847956.00	0.49	2561560.50	111.2	60 - 125	
45 Sc # 2	305612.78	0.96	273035.03	111.9	60 - 125	
45 Sc # 3	5256638.50	0.84	4670495.50	112.5	60 - 125	
72 Ge # 1	644391.44	1.64	617197.63	104.4	60 - 125	
72 Ge # 2	160345.84	0.87	149699.25	107.1	60 - 125	
72 Ge # 3	965720.19	0.88	907582.81	106.4	60 - 125	
115 In # 3	5162194.50	0.48	5063765.50	101.9	60 - 125	
159 Tb # 3	5651078.50	0.04	5455991.00	103.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02043.D\98E02043.D#
Date Acquired:	May 9 2016 07:24 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-12
Misc Info:	
Vial Number:	2208
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	159355.2	0.0000	8.6500	ppb	2.86	50.00	
9 Be	# 3	6	1621.3	0.0000	0.3651	ppb	8.69	50.00	
11 B	# 3	6	31266.4	0.0000	7.5380	ppb	6.04	100.00	
23 Na	# 1	45	2420972.0	0.0000	375.9000	ppb	0.67	50000.00	
24 Mg	# 3	45	131356900.0	0.0000	6008.0000	ppb	0.80	50000.00	
27 Al	# 3	45	217837600.0	0.0000	7472.0000	ppb	0.61	50000.00	
28 Si	# 1	45	4438198.0	0.0000	2739.0000	ppb	1.38	10000.00	
31 P	# 3	45	613107.9	0.0000	384.9000	ppb	0.37	400000.00	
39 K	# 2	45	723282.9	0.0000	1047.0000	ppb	0.07	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	295594.0	0.0000	96.4500	ppb	0.91	500.00	
51 V	# 2	45	129912.5	0.0000	17.7700	ppb	0.25	500.00	
52 Cr	# 2	45	62784.0	0.0000	7.1850	ppb	1.10	500.00	
55 Mn	# 3	45	1963531.0	0.0000	39.3500	ppb	1.07	3000.00	
56 Fe	# 1	45	123946700.0	0.0000	5040.0000	ppb	0.22	50000.00	
59 Co	# 3	45	166475.1	0.0000	4.2020	ppb	1.65	500.00	
60 Ni	# 2	45	27163.1	0.0000	7.2690	ppb	1.04	500.00	
63 Cu	# 2	45	48832.9	0.0000	4.8110	ppb	1.35	500.00	
66 Zn	# 3	72	61892.6	0.0000	13.2600	ppb	1.00	500.00	
75 As	# 2	72	3492.9	0.0000	4.0280	ppb	1.33	500.00	
78 Se	# 1	72	204.7	0.0000	0.2276	ppb	4.46	500.00	
88 Sr	# 3	72	22711250.0	0.0000	512.9000	ppb	1.37	500.00	>LRS
90 Zr	# 3	72	35717.4	0.0000	1.2720	ppb	2.56	1000.00	
95 Mo	# 3	115	2018.0	0.0000	0.2080	ppb	3.80	500.00	
107 Ag	# 3	115	768.9	0.0000	0.0376	ppb	10.20	50.00	
111 Cd	# 3	115	1416.6	0.0000	0.3508	ppb	4.93	500.00	
118 Sn	# 3	115	33795.9	0.0000	3.0120	ppb	1.43	500.00	
121 Sb	# 3	115	5612.6	0.0000	0.3034	ppb	3.25	500.00	
137 Ba	# 3	115	2454438.0	0.0000	493.1000	ppb	1.49	1000.00	
182 W	# 3	159	1882.5	0.0000	0.1908	ppb	2.65	1000.00	
205 Tl	# 3	159	2732.6	0.0000	0.1011	ppb	2.43	500.00	
208 Pb	# 3	159	127213.7	0.0000	3.9300	ppb	1.66	500.00	
235 U	# 3	159	261.1	0.0000	0.0067	ppb	4.58	5.00	
238 U	# 3	159	31337.8	0.0000	0.9620	ppb	1.99	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	878309.69	3.88	946489.44	92.8	60 - 125	
45 Sc	# 1	2542419.30	0.85	2561560.50	99.3	60 - 125	
45 Sc	# 2	272829.50	1.48	273035.03	99.9	60 - 125	
45 Sc	# 3	4691493.50	1.99	4670495.50	100.4	60 - 125	
72 Ge	# 1	557984.81	0.76	617197.63	90.4	60 - 125	
72 Ge	# 2	137638.27	2.19	149699.25	91.9	60 - 125	
72 Ge	# 3	830987.56	1.01	907582.81	91.6	60 - 125	
115 In	# 3	4493883.50	1.52	5063765.50	88.7	60 - 125	
159 Tb	# 3	5055346.00	1.35	5455991.00	92.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02044.D\98E02044.D#
Date Acquired:	May 9 2016 07:28 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-13
Misc Info:	
Vial Number:	2209
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	193275.9	0.0000	10.9200	ppb	0.67	50.00	
9 Be	# 3	6	1723.5	0.0000	0.3684	ppb	1.88	50.00	
11 B	# 3	6	28072.3	0.0000	6.1750	ppb	7.47	100.00	
23 Na	# 1	45	1484570.0	0.0000	224.4000	ppb	0.95	50000.00	
24 Mg	# 3	45	195041100.0	0.0000	8760.0000	ppb	5.09	50000.00	
27 Al	# 3	45	248923600.0	0.0000	8384.0000	ppb	3.49	50000.00	
28 Si	# 1	45	4227041.0	0.0000	2643.0000	ppb	1.07	10000.00	
31 P	# 3	45	325573.3	0.0000	190.5000	ppb	3.17	400000.00	
39 K	# 2	45	786192.0	0.0000	1143.0000	ppb	1.08	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	334022.2	0.0000	107.0000	ppb	1.43	500.00	
51 V	# 2	45	132864.7	0.0000	18.1900	ppb	0.15	500.00	
52 Cr	# 2	45	53793.0	0.0000	6.1550	ppb	0.53	500.00	
55 Mn	# 3	45	1870518.0	0.0000	36.8000	ppb	2.01	3000.00	
56 Fe	# 1	45	128602800.0	0.0000	5298.0000	ppb	0.36	50000.00	
59 Co	# 3	45	153157.3	0.0000	3.7950	ppb	2.97	500.00	
60 Ni	# 2	45	24228.6	0.0000	6.4870	ppb	0.66	500.00	
63 Cu	# 2	45	29262.4	0.0000	2.8080	ppb	1.20	500.00	
66 Zn	# 3	72	70134.8	0.0000	14.9100	ppb	0.37	500.00	
75 As	# 2	72	4632.0	0.0000	5.4030	ppb	1.04	500.00	
78 Se	# 1	72	112.2	0.0000	0.1126	ppb	5.85	500.00	
88 Sr	# 3	72	38019160.0	0.0000	851.2000	ppb	1.36	500.00	>LRS
90 Zr	# 3	72	102724.4	0.0000	3.6420	ppb	1.42	1000.00	
95 Mo	# 3	115	1891.3	0.0000	0.1904	ppb	2.70	500.00	
107 Ag	# 3	115	411.1	0.0000	0.0188	ppb	2.73	50.00	
111 Cd	# 3	115	1330.4	0.0000	0.3254	ppb	6.04	500.00	
118 Sn	# 3	115	32414.6	0.0000	2.8590	ppb	0.58	500.00	
121 Sb	# 3	115	3731.8	0.0000	0.1593	ppb	8.58	500.00	
137 Ba	# 3	115	13623480.0	0.0000	2709.0000	ppb	0.84	1000.00	>LRS
182 W	# 3	159	1499.0	0.0000	0.1468	ppb	5.55	1000.00	
205 Tl	# 3	159	2450.4	0.0000	0.0880	ppb	2.22	500.00	
208 Pb	# 3	159	109141.7	0.0000	3.3280	ppb	2.26	500.00	
235 U	# 3	159	235.6	0.0000	0.0059	ppb	10.36	5.00	
238 U	# 3	159	29643.5	0.0000	0.8984	ppb	1.60	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	923519.69	0.81	946489.44	97.6	60 - 125	
45 Sc	# 1	2509515.80	1.32	2561560.50	98.0	60 - 125	
45 Sc	# 2	272601.13	1.31	273035.03	99.8	60 - 125	
45 Sc	# 3	4779473.50	1.62	4670495.50	102.3	60 - 125	
72 Ge	# 1	559140.13	0.86	617197.63	90.6	60 - 125	
72 Ge	# 2	136502.61	1.19	149699.25	91.2	60 - 125	
72 Ge	# 3	838403.06	1.31	907582.81	92.4	60 - 125	
115 In	# 3	4539131.00	0.39	5063765.50	89.6	60 - 125	
159 Tb	# 3	5117811.00	1.33	5455991.00	93.8	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02045.D\98E02045.D#
Date Acquired:	May 9 2016 07:32 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-14
Misc Info:	
Vial Number:	2210
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	195367.1	0.0000	10.4800	ppb	2.09	50.00	
9 Be	# 3	6	1691.3	0.0000	0.3480	ppb	0.40	50.00	
11 B	# 3	6	26253.8	0.0000	5.3930	ppb	0.62	100.00	
23 Na	# 1	45	1504507.0	0.0000	216.6000	ppb	0.70	50000.00	
24 Mg	# 3	45	225736000.0	0.0000	9657.0000	ppb	1.15	50000.00	
27 Al	# 3	45	226801900.0	0.0000	7277.0000	ppb	0.83	50000.00	
28 Si	# 1	45	3075752.0	0.0000	1837.0000	ppb	1.49	10000.00	
31 P	# 3	45	344107.7	0.0000	192.0000	ppb	0.09	400000.00	
39 K	# 2	45	705762.5	0.0000	977.8000	ppb	0.53	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	300743.2	0.0000	91.8000	ppb	0.30	500.00	
51 V	# 2	45	125387.5	0.0000	16.4500	ppb	1.23	500.00	
52 Cr	# 2	45	48929.1	0.0000	5.3670	ppb	0.88	500.00	
55 Mn	# 3	45	1628509.0	0.0000	30.5100	ppb	1.04	3000.00	
56 Fe	# 1	45	113445900.0	0.0000	4467.0000	ppb	1.04	50000.00	
59 Co	# 3	45	146737.0	0.0000	3.4630	ppb	1.45	500.00	
60 Ni	# 2	45	21706.8	0.0000	5.5740	ppb	0.38	500.00	
63 Cu	# 2	45	27945.2	0.0000	2.5580	ppb	0.76	500.00	
66 Zn	# 3	72	67544.1	0.0000	13.8300	ppb	0.35	500.00	
75 As	# 2	72	3444.5	0.0000	3.8240	ppb	0.41	500.00	
78 Se	# 1	72	93.1	0.0000	0.0851	ppb	8.76	500.00	
88 Sr	# 3	72	46695288.0	0.0000	1008.0000	ppb	0.84	500.00	>LRS
90 Zr	# 3	72	113270.9	0.0000	3.8720	ppb	0.40	1000.00	
95 Mo	# 3	115	1986.9	0.0000	0.1911	ppb	0.23	500.00	
107 Ag	# 3	115	425.6	0.0000	0.0185	ppb	6.88	50.00	
111 Cd	# 3	115	1336.7	0.0000	0.3119	ppb	5.29	500.00	
118 Sn	# 3	115	33855.1	0.0000	2.8510	ppb	1.22	500.00	
121 Sb	# 3	115	3348.4	0.0000	0.1196	ppb	9.51	500.00	
137 Ba	# 3	115	17253250.0	0.0000	3276.0000	ppb	1.75	1000.00	>LRS
182 W	# 3	159	1609.1	0.0000	0.1513	ppb	3.14	1000.00	
205 Tl	# 3	159	2187.0	0.0000	0.0733	ppb	5.19	500.00	
208 Pb	# 3	159	100011.3	0.0000	2.9180	ppb	1.84	500.00	
235 U	# 3	159	252.2	0.0000	0.0061	ppb	8.71	5.00	
238 U	# 3	159	33359.0	0.0000	0.9687	ppb	1.73	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	958300.38	1.37	946489.44	101.2	60 - 125	
45 Sc	# 1	2626117.80	1.65	2561560.50	102.5	60 - 125	
45 Sc	# 2	284066.16	1.94	273035.03	104.0	60 - 125	
45 Sc	# 3	5015289.00	0.47	4670495.50	107.4	60 - 125	
72 Ge	# 1	577624.25	0.73	617197.63	93.6	60 - 125	
72 Ge	# 2	142852.75	1.35	149699.25	95.4	60 - 125	
72 Ge	# 3	869707.94	0.55	907582.81	95.8	60 - 125	
115 In	# 3	4753777.00	0.42	5063765.50	93.9	60 - 125	
159 Tb	# 3	5344394.00	0.93	5455991.00	98.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02046.D\98E02046.D#
Date Acquired:	May 9 2016 07:37 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-15
Misc Info:	
Vial Number:	2211
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	261395.3	0.0000	15.0000	ppb	1.37	50.00	
9 Be	# 3	6	4364.2	0.0000	0.8637	ppb	5.48	50.00	
11 B	# 3	6	35144.1	0.0000	7.3360	ppb	2.50	100.00	
23 Na	# 1	45	1475415.0	0.0000	207.3000	ppb	0.35	50000.00	
24 Mg	# 3	45	135935700.0	0.0000	5656.0000	ppb	1.00	50000.00	
27 Al	# 3	45	640687100.0	0.0000	19990.0000	ppb	0.48	50000.00	
28 Si	# 1	45	4113536.0	0.0000	2409.0000	ppb	0.95	10000.00	
31 P	# 3	45	466652.3	0.0000	260.0000	ppb	0.28	400000.00	
39 K	# 2	45	2221395.0	0.0000	3135.0000	ppb	1.01	50000.00	
40 Ca	# 1	45	2468833000.0	0.0000	194800.0000	ppb	0.61	50000.00	>LRS
47 Ti	# 3	45	991529.5	0.0000	294.5000	ppb	0.98	500.00	
51 V	# 2	45	265136.7	0.0000	34.4700	ppb	0.31	500.00	
52 Cr	# 2	45	189469.9	0.0000	20.5600	ppb	0.45	500.00	
55 Mn	# 3	45	22847870.0	0.0000	417.2000	ppb	0.29	3000.00	
56 Fe	# 1	45	424239010.0	0.0000	16380.0000	ppb	0.50	50000.00	
59 Co	# 3	45	295909.2	0.0000	6.7980	ppb	0.49	500.00	
60 Ni	# 2	45	61130.1	0.0000	15.4700	ppb	0.11	500.00	
63 Cu	# 2	45	125101.3	0.0000	11.9100	ppb	0.55	500.00	
66 Zn	# 3	72	307988.9	0.0000	61.0700	ppb	1.13	500.00	
75 As	# 2	72	6198.0	0.0000	6.6400	ppb	0.43	500.00	
78 Se	# 1	72	270.2	0.0000	0.2839	ppb	6.43	500.00	
88 Sr	# 3	72	13890610.0	0.0000	287.6000	ppb	0.95	500.00	
90 Zr	# 3	72	159059.4	0.0000	5.2190	ppb	0.14	1000.00	
95 Mo	# 3	115	9078.1	0.0000	0.9687	ppb	1.07	500.00	
107 Ag	# 3	115	2282.5	0.0000	0.1058	ppb	3.15	50.00	
111 Cd	# 3	115	5566.2	0.0000	1.2810	ppb	3.38	500.00	
118 Sn	# 3	115	43499.4	0.0000	3.5370	ppb	2.31	500.00	
121 Sb	# 3	115	6887.7	0.0000	0.3531	ppb	5.36	500.00	
137 Ba	# 3	115	3738036.0	0.0000	683.8000	ppb	1.29	1000.00	
182 W	# 3	159	2072.5	0.0000	0.1998	ppb	1.29	1000.00	
205 Tl	# 3	159	6066.3	0.0000	0.2278	ppb	2.67	500.00	
208 Pb	# 3	159	924880.6	0.0000	27.1800	ppb	0.19	500.00	
235 U	# 3	159	266.7	0.0000	0.0065	ppb	11.38	5.00	
238 U	# 3	159	31251.0	0.0000	0.9090	ppb	2.33	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	1008146.60	1.48	946489.44	106.5	60 - 125	
45 Sc	# 1	2678476.80	1.31	2561560.50	104.6	60 - 125	
45 Sc	# 2	288847.41	0.96	273035.03	105.8	60 - 125	
45 Sc	# 3	5156517.00	0.40	4670495.50	110.4	60 - 125	
72 Ge	# 1	603265.13	0.24	617197.63	97.7	60 - 125	
72 Ge	# 2	148870.89	1.56	149699.25	99.4	60 - 125	
72 Ge	# 3	906418.31	0.96	907582.81	99.9	60 - 125	
115 In	# 3	4935393.50	1.29	5063765.50	97.5	60 - 125	
159 Tb	# 3	5332578.50	0.36	5455991.00	97.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02047.D\98E02047.D#
Date Acquired:	May 9 2016 07:41 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-16
Misc Info:	
Vial Number:	2212
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	256146.7	0.0000	12.7100	ppb	1.74	50.00	
9 Be	# 3	6	4105.2	0.0000	0.7380	ppb	2.15	50.00	
11 B	# 3	6	56848.3	0.0000	11.6300	ppb	6.36	100.00	
23 Na	# 1	45	2726505.0	0.0000	383.3000	ppb	1.29	50000.00	
24 Mg	# 3	45	75965888.0	0.0000	3044.0000	ppb	1.02	50000.00	
27 Al	# 3	45	530856990.0	0.0000	15960.0000	ppb	1.25	50000.00	
28 Si	# 1	45	3970846.0	0.0000	2216.0000	ppb	1.55	10000.00	
31 P	# 3	45	518385.9	0.0000	279.7000	ppb	1.10	400000.00	
39 K	# 2	45	1959414.0	0.0000	2637.0000	ppb	0.50	50000.00	
40 Ca	# 1	45	494660800.0	0.0000	37180.0000	ppb	1.70	50000.00	
47 Ti	# 3	45	939252.4	0.0000	268.7000	ppb	0.73	500.00	
51 V	# 2	45	269278.3	0.0000	33.4800	ppb	1.37	500.00	
52 Cr	# 2	45	1028805.0	0.0000	106.9000	ppb	0.70	500.00	
55 Mn	# 3	45	16403950.0	0.0000	288.5000	ppb	0.89	3000.00	
56 Fe	# 1	45	544377600.0	0.0000	20020.0000	ppb	1.14	50000.00	
59 Co	# 3	45	284096.8	0.0000	6.2860	ppb	0.98	500.00	
60 Ni	# 2	45	57440.7	0.0000	13.9100	ppb	1.60	500.00	
63 Cu	# 2	45	521483.5	0.0000	48.0800	ppb	0.79	500.00	
66 Zn	# 3	72	939293.9	0.0000	170.6000	ppb	1.75	500.00	
75 As	# 2	72	9187.3	0.0000	9.1730	ppb	1.01	500.00	
78 Se	# 1	72	460.2	0.0000	0.4631	ppb	2.34	500.00	
88 Sr	# 3	72	3500016.0	0.0000	66.2500	ppb	1.45	500.00	
90 Zr	# 3	72	140849.5	0.0000	4.2240	ppb	0.95	1000.00	
95 Mo	# 3	115	42275.7	0.0000	4.3880	ppb	1.35	500.00	
107 Ag	# 3	115	4168.6	0.0000	0.1841	ppb	1.15	50.00	
111 Cd	# 3	115	23226.0	0.0000	5.0770	ppb	0.80	500.00	
118 Sn	# 3	115	68755.7	0.0000	5.2950	ppb	0.68	500.00	
121 Sb	# 3	115	22004.7	0.0000	1.3030	ppb	2.72	500.00	
137 Ba	# 3	115	1783031.0	0.0000	307.9000	ppb	1.08	1000.00	
182 W	# 3	159	2863.8	0.0000	0.2609	ppb	0.69	1000.00	
205 Tl	# 3	159	5895.1	0.0000	0.2043	ppb	1.77	500.00	
208 Pb	# 3	159	21907720.0	0.0000	598.3000	ppb	0.71	500.00	>LRS
235 U	# 3	159	195.6	0.0000	0.0043	ppb	15.05	5.00	
238 U	# 3	159	21611.0	0.0000	0.5815	ppb	1.18	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	1108445.30	4.74	946489.44	117.1	60 - 125	
45 Sc	# 1	2811650.30	0.88	2561560.50	109.8	60 - 125	
45 Sc	# 2	302023.41	1.34	273035.03	110.6	60 - 125	
45 Sc	# 3	5353548.00	0.40	4670495.50	114.6	60 - 125	
72 Ge	# 1	651409.63	1.28	617197.63	105.5	60 - 125	
72 Ge	# 2	160080.77	0.27	149699.25	106.9	60 - 125	
72 Ge	# 3	991345.81	0.65	907582.81	109.2	60 - 125	
115 In	# 3	5226998.00	1.19	5063765.50	103.2	60 - 125	
159 Tb	# 3	5741528.00	0.45	5455991.00	105.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02048.D\98E02048.D#
Date Acquired:	May 9 2016 07:46 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-17
Misc Info:	
Vial Number:	2301
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	201043.5	0.0000	12.6000	ppb	3.34	50.00	
9 Be	# 3	6	2246.9	0.0000	0.5097	ppb	6.93	50.00	
11 B	# 3	6	27793.7	0.0000	6.5330	ppb	3.82	100.00	
23 Na	# 1	45	2004818.0	0.0000	319.2000	ppb	1.65	50000.00	
24 Mg	# 3	45	147055500.0	0.0000	6737.0000	ppb	1.04	50000.00	
27 Al	# 3	45	201482590.0	0.0000	6922.0000	ppb	1.43	50000.00	
28 Si	# 1	45	3456904.0	0.0000	2210.0000	ppb	0.78	10000.00	
31 P	# 3	45	882482.4	0.0000	564.3000	ppb	1.10	400000.00	
39 K	# 2	45	784792.7	0.0000	1172.0000	ppb	1.26	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	264754.9	0.0000	86.5400	ppb	0.71	500.00	
51 V	# 2	45	96235.8	0.0000	13.4500	ppb	1.79	500.00	
52 Cr	# 2	45	41850.5	0.0000	4.9030	ppb	1.54	500.00	
55 Mn	# 3	45	2965965.0	0.0000	59.5800	ppb	1.18	3000.00	
56 Fe	# 1	45	90869920.0	0.0000	3829.0000	ppb	1.35	50000.00	
59 Co	# 3	45	303677.1	0.0000	7.6830	ppb	0.83	500.00	
60 Ni	# 2	45	29630.3	0.0000	8.1440	ppb	1.56	500.00	
63 Cu	# 2	45	52841.0	0.0000	5.3660	ppb	1.03	500.00	
66 Zn	# 3	72	63417.5	0.0000	13.9400	ppb	0.16	500.00	
75 As	# 2	72	5216.4	0.0000	6.2270	ppb	1.47	500.00	
78 Se	# 1	72	183.1	0.0000	0.2102	ppb	1.46	500.00	
88 Sr	# 3	72	30780530.0	0.0000	713.2000	ppb	0.47	500.00	>LRS
90 Zr	# 3	72	73148.7	0.0000	2.6820	ppb	2.30	1000.00	
95 Mo	# 3	115	2787.1	0.0000	0.3086	ppb	3.33	500.00	
107 Ag	# 3	115	524.5	0.0000	0.0254	ppb	6.11	50.00	
111 Cd	# 3	115	2861.2	0.0000	0.7335	ppb	1.55	500.00	
118 Sn	# 3	115	39698.2	0.0000	3.6170	ppb	0.99	500.00	
121 Sb	# 3	115	4144.2	0.0000	0.1993	ppb	5.94	500.00	
137 Ba	# 3	115	9584952.0	0.0000	1964.0000	ppb	2.60	1000.00	>LRS
182 W	# 3	159	8071.9	0.0000	0.8845	ppb	1.75	1000.00	
205 Tl	# 3	159	5308.1	0.0000	0.2130	ppb	4.53	500.00	
208 Pb	# 3	159	148989.6	0.0000	4.6830	ppb	1.00	500.00	
235 U	# 3	159	382.2	0.0000	0.0101	ppb	12.48	5.00	
238 U	# 3	159	56459.6	0.0000	1.7680	ppb	1.98	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	875096.13	3.12	946489.44	92.5	60 - 125	
45 Sc	# 1	2453765.50	1.49	2561560.50	95.8	60 - 125	
45 Sc	# 2	265780.13	2.27	273035.03	97.3	60 - 125	
45 Sc	# 3	4683371.00	1.11	4670495.50	100.3	60 - 125	
72 Ge	# 1	536065.81	0.57	617197.63	86.9	60 - 125	
72 Ge	# 2	133532.58	2.15	149699.25	89.2	60 - 125	
72 Ge	# 3	810037.50	0.81	907582.81	89.3	60 - 125	
115 In	# 3	4405724.50	1.53	5063765.50	87.0	60 - 125	
159 Tb	# 3	4972095.50	1.19	5455991.00	91.1	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

3 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02049.D\98E02049.D#
Date Acquired:	May 9 2016 07:50 pm
Acq. Method:	EMX6020H.M
Operator:	CCapu1
Sample Name:	BLANK
Misc Info:	
Vial Number:	1101
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	83564.8	0.0000	-0.0102	ppb	421.62	50.00	
9 Be	# 3	6	34.4	0.0000	-0.0004	ppb	483.47	50.00	
11 B	# 3	6	4025.2	0.0000	-0.7888	ppb	1.05	100.00	
23 Na	# 1	45	107225.5	0.0000	-7.1270	ppb	2.95	50000.00	
24 Mg	# 3	45	18341.3	0.0000	0.4719	ppb	1.52	50000.00	
27 Al	# 3	45	25698.4	0.0000	0.6686	ppb	2.77	50000.00	
28 Si	# 1	45	10286.7	0.0000	4.2820	ppb	4.55	10000.00	
31 P	# 3	45	36337.0	0.0000	0.4987	ppb	82.78	400000.00	
39 K	# 2	45	33518.7	0.0000	-4.0000	ppb	26.63	50000.00	
40 Ca	# 1	45	271713.1	0.0000	20.3200	ppb	1.41	50000.00	
47 Ti	# 3	45	200.0	0.0000	0.0096	ppb	135.57	500.00	
51 V	# 2	45	1868.4	0.0000	-0.0026	ppb	355.47	500.00	
52 Cr	# 2	45	321.6	0.0000	-0.0084	ppb	9.38	500.00	
55 Mn	# 3	45	4252.0	0.0000	0.0116	ppb	18.71	3000.00	
56 Fe	# 1	45	48919.7	0.0000	1.5730	ppb	3.95	50000.00	
59 Co	# 3	45	338.9	0.0000	0.0013	ppb	37.94	500.00	
60 Ni	# 2	45	81.6	0.0000	-0.0006	ppb	212.80	500.00	
63 Cu	# 2	45	2625.6	0.0000	0.0604	ppb	5.44	500.00	
66 Zn	# 3	72	2958.2	0.0000	0.3800	ppb	8.41	500.00	
75 As	# 2	72	44.0	0.0000	-0.0069	ppb	60.88	500.00	
78 Se	# 1	72	13.1	0.0000	-0.0127	ppb	16.02	500.00	
88 Sr	# 3	72	1303.5	0.0000	0.0126	ppb	7.25	500.00	
90 Zr	# 3	72	1010.1	0.0000	0.0225	ppb	2.45	1000.00	
95 Mo	# 3	115	161.1	0.0000	-0.0213	ppb	5.89	500.00	
107 Ag	# 3	115	72.2	0.0000	0.0007	ppb	135.28	50.00	
111 Cd	# 3	115	33.6	0.0000	-0.0029	ppb	144.52	500.00	
118 Sn	# 3	115	334.5	0.0000	-0.0097	ppb	19.02	500.00	
121 Sb	# 3	115	1203.4	0.0000	-0.0432	ppb	12.47	500.00	
137 Ba	# 3	115	304.5	0.0000	0.0414	ppb	5.04	1000.00	
182 W	# 3	159	92.2	0.0000	-0.0067	ppb	32.47	1000.00	
205 Tl	# 3	159	277.8	0.0000	-0.0033	ppb	46.78	500.00	
208 Pb	# 3	159	842.3	0.0000	0.0065	ppb	12.99	500.00	
235 U	# 3	159	22.2	0.0000	0.0002	ppb	65.23	5.00	
238 U	# 3	159	120.0	0.0000	-0.0033	ppb	12.08	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1107603.10	0.54	946489.44	117.0	60 - 125	
45 Sc # 1	2644319.50	1.44	2561560.50	103.2	60 - 125	
45 Sc # 2	290001.75	1.06	273035.03	106.2	60 - 125	
45 Sc # 3	5189153.50	0.32	4670495.50	111.1	60 - 125	
72 Ge # 1	654786.56	0.12	617197.63	106.1	60 - 125	
72 Ge # 2	158375.33	1.41	149699.25	105.8	60 - 125	
72 Ge # 3	977433.94	0.45	907582.81	107.7	60 - 125	
115 In # 3	5414112.00	0.85	5063765.50	106.9	60 - 125	
159 Tb # 3	5730670.50	1.25	5455991.00	105.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02050.D\98E02050.D#
Date Acquired: May 9 2016 07:55 pm
Operator: CCapul
Sample Name: CCV4
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update: May 09 2016 04:47 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.78 ppb	355802.50	2.96	25.00	90 - 110	
9 Be	23.32 ppb	108946.00	3.51	25.00	90 - 110	
11 B	47.02 ppb	175937.59	2.81	50.00	90 - 110	
23 Na	23960.00 ppb	147617200.00	0.74	25000.00	90 - 110	
24 Mg	24380.00 ppb	547778880.00	0.46	25000.00	90 - 110	
27 Al	24670.00 ppb	738833410.00	1.21	25000.00	90 - 110	
28 Si	2469.00 ppb	4069204.00	0.23	2500.00	90 - 110	
31 P	253.20 ppb	425694.69	1.41	250.00	90 - 110	
39 K	24860.00 ppb	16253290.00	0.73	25000.00	90 - 110	
40 Ca	24480.00 ppb	299549790.00	0.25	25000.00	90 - 110	
47 Ti	245.00 ppb	771204.50	1.09	250.00	90 - 110	
51 V	246.70 ppb	1765595.00	1.36	250.00	90 - 110	
52 Cr	245.10 ppb	2110234.00	1.05	250.00	90 - 110	
55 Mn	1429.00 ppb	73152408.00	0.79	1500.00	90 - 110	
56 Fe	24350.00 ppb	608916290.00	0.72	25000.00	90 - 110	
59 Co	232.30 ppb	9443245.00	0.81	250.00	90 - 110	
60 Ni	247.80 ppb	915441.13	1.10	250.00	90 - 110	
63 Cu	239.50 ppb	2318119.00	1.51	250.00	90 - 110	
66 Zn	237.20 ppb	1190902.00	1.32	250.00	90 - 110	
75 As	248.10 ppb	224793.91	0.58	250.00	90 - 110	
78 Se	240.60 ppb	209848.80	0.58	250.00	90 - 110	
88 Sr	248.90 ppb	11995220.00	1.61	250.00	90 - 110	
90 Zr	26.02 ppb	790242.88	1.43	25.00	90 - 110	
95 Mo	252.60 ppb	2202390.00	1.78	250.00	90 - 110	
107 Ag	24.21 ppb	493874.91	1.25	25.00	90 - 110	
111 Cd	246.70 ppb	1027971.00	3.15	250.00	90 - 110	
118 Sn	249.50 ppb	2937552.00	1.15	250.00	90 - 110	
121 Sb	244.20 ppb	3451336.00	0.96	250.00	90 - 110	
137 Ba	500.30 ppb	2643488.00	1.98	500.00	90 - 110	
182 W	28.92 ppb	277751.50	0.71	25.00	90 - 110	Fail
205 Tl	232.30 ppb	5825848.00	1.90	250.00	90 - 110	
208 Pb	239.20 ppb	8115056.00	1.96	250.00	90 - 110	
235 U	1.56 ppb	60802.85	2.79	1.80	90 - 110	Fail
238 U	239.90 ppb	8169204.00	2.61	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	939131.88	2.55	946489.44	99.2	60 - 125	
45 Sc	2585888.00	0.76	2561560.50	100.9	60 - 125	
45 Sc	270407.97	1.28	273035.03	99.0	60 - 125	
45 Sc	4819950.00	0.50	4670495.50	103.2	60 - 125	
72 Ge	604400.75	0.48	617197.63	97.9	60 - 125	
72 Ge	145615.81	1.04	149699.25	97.3	60 - 125	
72 Ge	904407.69	1.38	907582.81	99.7	60 - 125	
115 In	4769509.50	0.81	5063765.50	94.2	60 - 125	
159 Tb	5321028.00	1.64	5455991.00	97.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures
0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02051.D\98E02051.D#
Date Acquired: May 9 2016 07:59 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: CCB4
Misc Info:
Vial Number: 1202
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.1754	ppb	79338.4	32.29	0.20	
9 Be	-0.0033	ppb	17.8	41.64	0.10	
11 B	-0.9328	ppb	3323.9	7.00	5.00	
23 Na	-7.6540	ppb	103859.6	3.34	40.00	
24 Mg	0.0689	ppb	8562.0	37.98	10.00	
27 Al	0.1531	ppb	9043.5	19.27	20.00	
28 Si	1.0950	ppb	4913.4	7.02	20.00	
31 P	-1.5160	ppb	32850.3	20.10	10.00	
39 K	-5.5750	ppb	32790.1	4.85	20.00	
40 Ca	1.3630	ppb	34554.7	1.27	25.00	
47 Ti	0.0091	ppb	197.8	60.86	0.50	
51 V	0.0007	ppb	1915.5	754.59	0.50	
52 Cr	-0.0101	ppb	309.6	13.42	0.20	
55 Mn	-0.0018	ppb	3500.6	179.32	0.20	
56 Fe	2.2280	ppb	65600.1	8.72	10.00	
59 Co	-0.0002	ppb	270.0	552.58	0.20	
60 Ni	-0.0032	ppb	71.8	16.45	0.20	
63 Cu	-0.0171	ppb	1842.1	29.17	0.40	
66 Zn	0.0295	ppb	1062.3	24.96	2.00	
75 As	0.0068	ppb	58.4	70.48	0.20	
78 Se	0.0144	ppb	38.4	33.09	0.20	
88 Sr	0.0013	ppb	714.5	48.80	0.20	
90 Zr	0.0131	ppb	703.4	12.22	2.00	
95 Mo	0.0777	ppb	1145.7	15.30	0.40	
107 Ag	-0.0001	ppb	54.4	1378.10	0.20	
111 Cd	0.0005	ppb	50.0	685.24	0.20	
118 Sn	0.0360	ppb	950.1	7.59	0.20	
121 Sb	0.4588	ppb	9294.9	7.45	0.40	Fail
137 Ba	0.0126	ppb	132.2	22.73	0.20	
182 W	0.0074	ppb	236.7	38.66	1.00	
205 Tl	0.0024	ppb	428.9	68.88	0.20	
208 Pb	0.0033	ppb	720.0	39.33	0.10	
235 U	0.0003	ppb	28.9	36.13	1.00	
238 U	0.0156	ppb	807.8	13.97	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1080750.8	3.29	946489.44	114.2	60 - 125	
45 Sc	2643070.0	1.67	2561560.50	103.2	60 - 125	
45 Sc	293338.1	1.07	273035.03	107.4	60 - 125	
45 Sc	5169878.5	0.70	4670495.50	110.7	60 - 125	
72 Ge	650928.6	1.21	617197.63	105.5	60 - 125	
72 Ge	160970.3	1.46	149699.25	107.5	60 - 125	
72 Ge	982375.6	0.81	907582.81	108.2	60 - 125	
115 In	5439704.0	0.66	5063765.50	107.4	60 - 125	
159 Tb	5699660.5	1.47	5455991.00	104.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: D:\DATA\I982016\E\I98E02.B\98E02052.D\98E02052.D#
Date Acquired: May 9 2016 08:03 pm
Acq. Method: EMX6020H.M
Operator: CCapul
Sample Name: E066-18
Misc Info:
Vial Number: 2302
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update: May 09 2016 04:47 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	258571.6	0.0000	13.6300	ppb	2.54	50.00	
9 Be	# 3	6	4176.4	0.0000	0.7804	ppb	3.03	50.00	
11 B	# 3	6	39166.9	0.0000	7.8210	ppb	1.79	100.00	
23 Na	# 1	45	1153983.0	0.0000	152.7000	ppb	0.30	50000.00	
24 Mg	# 3	45	104545500.0	0.0000	4254.0000	ppb	2.82	50000.00	
27 Al	# 3	45	474313980.0	0.0000	14480.0000	ppb	2.40	50000.00	
28 Si	# 1	45	4241029.0	0.0000	2427.0000	ppb	0.97	10000.00	
31 P	# 3	45	440452.6	0.0000	238.4000	ppb	1.44	400000.00	
39 K	# 2	45	1719635.0	0.0000	2333.0000	ppb	0.18	50000.00	
40 Ca	# 1	45	1319700000.0	0.0000	101700.0000	ppb	0.86	50000.00	>LRS
47 Ti	# 3	45	867344.3	0.0000	251.9000	ppb	1.53	500.00	
51 V	# 2	45	247340.7	0.0000	31.0700	ppb	0.68	500.00	
52 Cr	# 2	45	405241.5	0.0000	42.5600	ppb	0.73	500.00	
55 Mn	# 3	45	21393150.0	0.0000	382.0000	ppb	0.73	3000.00	
56 Fe	# 1	45	446699710.0	0.0000	16850.0000	ppb	0.64	50000.00	
59 Co	# 3	45	362752.5	0.0000	8.1520	ppb	1.17	500.00	
60 Ni	# 2	45	150786.6	0.0000	36.9300	ppb	0.70	500.00	
63 Cu	# 2	45	410866.0	0.0000	38.2500	ppb	0.76	500.00	
66 Zn	# 3	72	721773.6	0.0000	138.3000	ppb	3.23	500.00	
75 As	# 2	72	10659.0	0.0000	10.8100	ppb	1.44	500.00	
78 Se	# 1	72	394.5	0.0000	0.4050	ppb	9.77	500.00	
88 Sr	# 3	72	8176626.0	0.0000	163.4000	ppb	3.03	500.00	
90 Zr	# 3	72	140894.6	0.0000	4.4600	ppb	2.65	1000.00	
95 Mo	# 3	115	19589.2	0.0000	2.0310	ppb	3.23	500.00	
107 Ag	# 3	115	17035.6	0.0000	0.7661	ppb	0.18	50.00	
111 Cd	# 3	115	19776.7	0.0000	4.3580	ppb	2.37	500.00	
118 Sn	# 3	115	77476.7	0.0000	6.0230	ppb	2.28	500.00	
121 Sb	# 3	115	16784.2	0.0000	0.9752	ppb	3.00	500.00	
137 Ba	# 3	115	2098920.0	0.0000	365.6000	ppb	2.69	1000.00	
182 W	# 3	159	23849.1	0.0000	2.3450	ppb	1.82	1000.00	
205 Tl	# 3	159	5384.8	0.0000	0.1904	ppb	0.76	500.00	
208 Pb	# 3	159	4716186.0	0.0000	132.0000	ppb	0.81	500.00	
235 U	# 3	159	205.6	0.0000	0.0046	ppb	23.25	5.00	
238 U	# 3	159	22936.9	0.0000	0.6333	ppb	1.07	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1066276.10	0.46	946489.44	112.7	60 - 125	
45 Sc # 1	2741266.30	0.91	2561560.50	107.0	60 - 125	
45 Sc # 2	298761.56	1.24	273035.03	109.4	60 - 125	
45 Sc # 3	5272438.00	0.74	4670495.50	112.9	60 - 125	
72 Ge # 1	633571.69	0.64	617197.63	102.7	60 - 125	
72 Ge # 2	157734.98	1.11	149699.25	105.4	60 - 125	
72 Ge # 3	939656.94	2.79	907582.81	103.5	60 - 125	
115 In # 3	5183726.50	1.64	5063765.50	102.4	60 - 125	
159 Tb # 3	5600422.50	0.37	5455991.00	102.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02053.D\98E02053.D#
Date Acquired:	May 9 2016 08:08 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-19
Misc Info:	
Vial Number:	2303
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	193550.5	0.0000	10.1300	ppb	1.17	50.00	
9 Be	# 3	6	2665.9	0.0000	0.5459	ppb	1.97	50.00	
11 B	# 3	6	20656.1	0.0000	3.8060	ppb	4.48	100.00	
23 Na	# 1	45	622403.0	0.0000	75.1200	ppb	0.81	50000.00	
24 Mg	# 3	45	108547600.0	0.0000	4585.0000	ppb	0.12	50000.00	
27 Al	# 3	45	373056380.0	0.0000	11820.0000	ppb	1.60	50000.00	
28 Si	# 1	45	4457292.0	0.0000	2655.0000	ppb	1.07	10000.00	
31 P	# 3	45	418913.2	0.0000	235.0000	ppb	0.79	400000.00	
39 K	# 2	45	1400662.0	0.0000	1958.0000	ppb	0.83	50000.00	
40 Ca	# 1	45	--------	----	--------	ppb	--------	50000.00	>LRS
47 Ti	# 3	45	571532.2	0.0000	172.3000	ppb	0.18	500.00	
51 V	# 2	45	183503.3	0.0000	23.7900	ppb	0.98	500.00	
52 Cr	# 2	45	102398.8	0.0000	11.0900	ppb	1.10	500.00	
55 Mn	# 3	45	5357993.0	0.0000	99.2700	ppb	0.50	3000.00	
56 Fe	# 1	45	240191010.0	0.0000	9428.0000	ppb	0.62	50000.00	
59 Co	# 3	45	232933.5	0.0000	5.4320	ppb	0.88	500.00	
60 Ni	# 2	45	42603.1	0.0000	10.7800	ppb	1.76	500.00	
63 Cu	# 2	45	88930.4	0.0000	8.4160	ppb	1.90	500.00	
66 Zn	# 3	72	135218.6	0.0000	27.0900	ppb	0.71	500.00	
75 As	# 2	72	5331.1	0.0000	5.7840	ppb	1.53	500.00	
78 Se	# 1	72	130.0	0.0000	0.1257	ppb	8.90	500.00	
88 Sr	# 3	72	11191310.0	0.0000	234.9000	ppb	0.11	500.00	
90 Zr	# 3	72	93994.9	0.0000	3.1240	ppb	3.83	1000.00	
95 Mo	# 3	115	3467.3	0.0000	0.3576	ppb	7.72	500.00	
107 Ag	# 3	115	481.1	0.0000	0.0210	ppb	14.70	50.00	
111 Cd	# 3	115	2088.9	0.0000	0.4879	ppb	2.36	500.00	
118 Sn	# 3	115	33421.6	0.0000	2.7860	ppb	0.70	500.00	
121 Sb	# 3	115	6524.2	0.0000	0.3406	ppb	5.24	500.00	
137 Ba	# 3	115	1321485.0	0.0000	248.4000	ppb	0.52	1000.00	
182 W	# 3	159	1452.4	0.0000	0.1371	ppb	3.97	1000.00	
205 Tl	# 3	159	3569.6	0.0000	0.1300	ppb	1.04	500.00	
208 Pb	# 3	159	331045.2	0.0000	9.8280	ppb	0.41	500.00	
235 U	# 3	159	156.7	0.0000	0.0037	ppb	19.29	5.00	
238 U	# 3	159	18309.6	0.0000	0.5359	ppb	1.67	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	969634.38	1.37	946489.44	102.4	60 - 125	
45 Sc	# 1	2634177.80	0.74	2561560.50	102.8	60 - 125	
45 Sc	# 2	288818.81	1.37	273035.03	105.8	60 - 125	
45 Sc	# 3	5079393.00	1.12	4670495.50	108.8	60 - 125	
72 Ge	# 1	591336.06	1.44	617197.63	95.8	60 - 125	
72 Ge	# 2	146846.08	0.72	149699.25	98.1	60 - 125	
72 Ge	# 3	893944.13	0.40	907582.81	98.5	60 - 125	
115 In	# 3	4801430.50	1.07	5063765.50	94.8	60 - 125	
159 Tb	# 3	5273299.00	0.74	5455991.00	96.7	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02054.D\98E02054.D#
Date Acquired:	May 9 2016 08:12 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-20
Misc Info:	
Vial Number:	2304
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	239828.8	0.0000	13.3100	ppb	3.08	50.00	
9 Be	# 3	6	3904.1	0.0000	0.7741	ppb	4.84	50.00	
11 B	# 3	6	22660.5	0.0000	4.1330	ppb	7.10	100.00	
23 Na	# 1	45	486681.6	0.0000	52.3900	ppb	0.41	50000.00	
24 Mg	# 3	45	126768100.0	0.0000	5214.0000	ppb	1.44	50000.00	
27 Al	# 3	45	503321410.0	0.0000	15530.0000	ppb	1.16	50000.00	
28 Si	# 1	45	5107363.0	0.0000	3000.0000	ppb	0.37	10000.00	
31 P	# 3	45	367201.0	0.0000	197.5000	ppb	0.28	400000.00	
39 K	# 2	45	1851935.0	0.0000	2580.0000	ppb	1.33	50000.00	
40 Ca	# 1	45	2097062000.0	0.0000	165900.0000	ppb	0.25	50000.00	>LRS
47 Ti	# 3	45	776022.5	0.0000	227.8000	ppb	1.31	500.00	
51 V	# 2	45	299730.5	0.0000	38.6300	ppb	0.70	500.00	
52 Cr	# 2	45	129184.8	0.0000	13.8700	ppb	0.26	500.00	
55 Mn	# 3	45	8918101.0	0.0000	160.9000	ppb	0.93	3000.00	
56 Fe	# 1	45	343054020.0	0.0000	13280.0000	ppb	0.42	50000.00	
59 Co	# 3	45	270280.5	0.0000	6.1370	ppb	0.93	500.00	
60 Ni	# 2	45	56548.0	0.0000	14.1800	ppb	0.33	500.00	
63 Cu	# 2	45	82214.4	0.0000	7.6890	ppb	0.75	500.00	
66 Zn	# 3	72	174050.4	0.0000	33.2100	ppb	0.59	500.00	
75 As	# 2	72	5780.5	0.0000	6.0000	ppb	0.38	500.00	
78 Se	# 1	72	117.1	0.0000	0.1066	ppb	3.43	500.00	
88 Sr	# 3	72	9668166.0	0.0000	193.1000	ppb	0.32	500.00	
90 Zr	# 3	72	162151.1	0.0000	5.1320	ppb	0.80	1000.00	
95 Mo	# 3	115	4984.5	0.0000	0.5011	ppb	2.46	500.00	
107 Ag	# 3	115	641.2	0.0000	0.0272	ppb	12.49	50.00	
111 Cd	# 3	115	2106.4	0.0000	0.4660	ppb	2.80	500.00	
118 Sn	# 3	115	34629.5	0.0000	2.7370	ppb	1.28	500.00	
121 Sb	# 3	115	5437.0	0.0000	0.2443	ppb	1.76	500.00	
137 Ba	# 3	115	4340990.0	0.0000	773.9000	ppb	1.89	1000.00	
182 W	# 3	159	1195.7	0.0000	0.1064	ppb	1.48	1000.00	
205 Tl	# 3	159	4887.9	0.0000	0.1774	ppb	1.27	500.00	
208 Pb	# 3	159	340219.1	0.0000	9.8060	ppb	1.25	500.00	
235 U	# 3	159	166.7	0.0000	0.0038	ppb	6.28	5.00	
238 U	# 3	159	18130.5	0.0000	0.5150	ppb	1.32	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	1005773.30	3.27	946489.44	106.3	60 - 125	
45 Sc	# 1	2671171.00	1.71	2561560.50	104.3	60 - 125	
45 Sc	# 2	291609.72	0.46	273035.03	106.8	60 - 125	
45 Sc	# 3	5217046.00	0.97	4670495.50	111.7	60 - 125	
72 Ge	# 1	609532.44	0.69	617197.63	98.8	60 - 125	
72 Ge	# 2	153535.77	1.04	149699.25	102.6	60 - 125	
72 Ge	# 3	939672.81	0.44	907582.81	103.5	60 - 125	
115 In	# 3	5063870.00	1.47	5063765.50	100.0	60 - 125	
159 Tb	# 3	5431334.50	0.59	5455991.00	99.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02055.D\98E02055.D#
Date Acquired:	May 9 2016 08:17 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-21M
Misc Info:	
Vial Number:	2305
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	759485.4	0.0000	56.2000	ppb	1.10	50.00	>LRS
9 Be	# 3	6	181217.0	0.0000	36.6300	ppb	2.74	50.00	
11 B	# 3	6	154187.6	0.0000	38.6400	ppb	4.28	100.00	
23 Na	# 1	45	24372820.0	0.0000	3801.0000	ppb	0.57	50000.00	
24 Mg	# 3	45	228267810.0	0.0000	9487.0000	ppb	0.70	50000.00	
27 Al	# 3	45	729373120.0	0.0000	22730.0000	ppb	1.18	50000.00	
28 Si	# 1	45	7236216.0	0.0000	4241.0000	ppb	0.79	10000.00	
31 P	# 3	45	389880.0	0.0000	213.5000	ppb	0.59	400000.00	
39 K	# 2	45	4805209.0	0.0000	6847.0000	ppb	1.10	50000.00	
40 Ca	# 1	45	2655909900.0	0.0000	209600.0000	ppb	1.24	50000.00	>LRS
47 Ti	# 3	45	966864.8	0.0000	286.8000	ppb	0.68	500.00	
51 V	# 2	45	571073.0	0.0000	74.6000	ppb	1.51	500.00	
52 Cr	# 2	45	467943.5	0.0000	50.8800	ppb	1.05	500.00	
55 Mn	# 3	45	10985240.0	0.0000	200.3000	ppb	0.98	3000.00	
56 Fe	# 1	45	443638910.0	0.0000	17130.0000	ppb	1.13	50000.00	
59 Co	# 3	45	1845994.0	0.0000	42.4000	ppb	1.36	500.00	
60 Ni	# 2	45	202545.4	0.0000	51.3600	ppb	1.43	500.00	
63 Cu	# 2	45	433170.5	0.0000	41.7600	ppb	1.34	500.00	
66 Zn	# 3	72	536121.9	0.0000	105.6000	ppb	1.30	500.00	
75 As	# 2	72	40960.3	0.0000	43.8700	ppb	0.96	500.00	
78 Se	# 1	72	31801.0	0.0000	36.8300	ppb	1.62	500.00	
88 Sr	# 3	72	13111510.0	0.0000	269.4000	ppb	2.49	500.00	
90 Zr	# 3	72	300859.0	0.0000	9.8040	ppb	2.05	1000.00	
95 Mo	# 3	115	323023.8	0.0000	35.9500	ppb	0.12	500.00	
107 Ag	# 3	115	771117.2	0.0000	36.7200	ppb	1.12	50.00	
111 Cd	# 3	115	164916.6	0.0000	38.4300	ppb	0.67	500.00	
118 Sn	# 3	115	489783.9	0.0000	40.3800	ppb	0.58	500.00	
121 Sb	# 3	115	270336.4	0.0000	18.4700	ppb	0.69	500.00	
137 Ba	# 3	115	4151947.0	0.0000	763.2000	ppb	0.78	1000.00	
182 W	# 3	159	1769.1	0.0000	0.1688	ppb	3.63	1000.00	
205 Tl	# 3	159	930653.6	0.0000	37.1100	ppb	0.66	500.00	
208 Pb	# 3	159	1577721.0	0.0000	46.5000	ppb	0.43	500.00	
235 U	# 3	159	9405.3	0.0000	0.2415	ppb	4.03	5.00	
238 U	# 3	159	1318369.0	0.0000	38.7200	ppb	0.58	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	994360.06	3.03	946489.44	105.1	60 - 125	
45 Sc	# 1	2677525.50	1.43	2561560.50	104.5	60 - 125	
45 Sc	# 2	288671.53	1.94	273035.03	105.7	60 - 125	
45 Sc	# 3	5162286.50	0.31	4670495.50	110.5	60 - 125	
72 Ge	# 1	598131.69	1.18	617197.63	96.9	60 - 125	
72 Ge	# 2	149899.70	1.53	149699.25	100.1	60 - 125	
72 Ge	# 3	913492.19	0.90	907582.81	100.7	60 - 125	
115 In	# 3	4910525.50	0.30	5063765.50	97.0	60 - 125	
159 Tb	# 3	5318541.00	0.21	5455991.00	97.5	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02056.D\98E02056.D#
Date Acquired:	May 9 2016 08:21 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-21A
Misc Info:	
Vial Number:	2306
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	770639.3	0.0000	56.1500	ppb	1.36	50.00	>LRS
9 Be	# 3	6	188635.3	0.0000	37.5400	ppb	2.46	50.00	
11 B	# 3	6	164924.5	0.0000	40.7900	ppb	4.69	100.00	
23 Na	# 1	45	25643510.0	0.0000	4010.0000	ppb	1.38	50000.00	
24 Mg	# 3	45	221674800.0	0.0000	9158.0000	ppb	2.37	50000.00	
27 Al	# 3	45	635305220.0	0.0000	19680.0000	ppb	1.81	50000.00	
28 Si	# 1	45	4477512.0	0.0000	2630.0000	ppb	1.34	10000.00	
31 P	# 3	45	361817.4	0.0000	195.2000	ppb	1.32	400000.00	
39 K	# 2	45	4734748.0	0.0000	6830.0000	ppb	1.10	50000.00	
40 Ca	# 1	45	2571544100.0	0.0000	203500.0000	ppb	1.10	50000.00	>LRS
47 Ti	# 3	45	945284.6	0.0000	278.8000	ppb	2.23	500.00	
51 V	# 2	45	584560.4	0.0000	77.3200	ppb	0.62	500.00	
52 Cr	# 2	45	473065.4	0.0000	52.0800	ppb	1.24	500.00	
55 Mn	# 3	45	10721620.0	0.0000	194.4000	ppb	2.20	3000.00	
56 Fe	# 1	45	443139580.0	0.0000	17150.0000	ppb	0.71	50000.00	
59 Co	# 3	45	1899372.0	0.0000	43.3600	ppb	2.65	500.00	
60 Ni	# 2	45	205692.2	0.0000	52.8100	ppb	0.99	500.00	
63 Cu	# 2	45	450132.6	0.0000	43.9500	ppb	0.79	500.00	
66 Zn	# 3	72	539464.5	0.0000	106.5000	ppb	0.21	500.00	
75 As	# 2	72	43694.6	0.0000	46.9500	ppb	1.15	500.00	
78 Se	# 1	72	34143.9	0.0000	39.0800	ppb	0.11	500.00	
88 Sr	# 3	72	12265090.0	0.0000	252.5000	ppb	1.18	500.00	
90 Zr	# 3	72	199895.1	0.0000	6.5240	ppb	2.98	1000.00	
95 Mo	# 3	115	361296.0	0.0000	39.8600	ppb	0.78	500.00	
107 Ag	# 3	115	789621.5	0.0000	37.2800	ppb	1.48	50.00	
111 Cd	# 3	115	171872.3	0.0000	39.7100	ppb	0.85	500.00	
118 Sn	# 3	115	516282.1	0.0000	42.2000	ppb	0.77	500.00	
121 Sb	# 3	115	583967.1	0.0000	39.6900	ppb	0.39	500.00	
137 Ba	# 3	115	2665959.0	0.0000	485.9000	ppb	1.73	1000.00	
182 W	# 3	159	1286.8	0.0000	0.1178	ppb	6.73	1000.00	
205 Tl	# 3	159	980805.1	0.0000	38.9100	ppb	1.50	500.00	
208 Pb	# 3	159	1634020.0	0.0000	47.9100	ppb	1.89	500.00	
235 U	# 3	159	10032.5	0.0000	0.2563	ppb	1.32	5.00	
238 U	# 3	159	1380941.0	0.0000	40.3400	ppb	1.20	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1010070.90	3.72	946489.44	106.7	60 - 125	
45 Sc # 1	2671036.80	0.85	2561560.50	104.3	60 - 125	
45 Sc # 2	285088.47	1.10	273035.03	104.4	60 - 125	
45 Sc # 3	5194073.50	1.16	4670495.50	111.2	60 - 125	
72 Ge # 1	605071.06	1.01	617197.63	98.0	60 - 125	
72 Ge # 2	149425.52	1.00	149699.25	99.8	60 - 125	
72 Ge # 3	911578.63	0.33	907582.81	100.4	60 - 125	
115 In # 3	4953464.50	0.74	5063765.50	97.8	60 - 125	
159 Tb # 3	5346818.00	0.92	5455991.00	98.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

2 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02057.D\98E02057.D#
Date Acquired:	May 9 2016 08:26 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-21
Misc Info:	
Vial Number:	2307
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	251561.5	0.0000	13.3000	ppb	0.70	50.00	
9 Be	# 3	6	3917.4	0.0000	0.7395	ppb	2.27	50.00	
11 B	# 3	6	24163.3	0.0000	4.2240	ppb	3.68	100.00	
23 Na	# 1	45	508976.6	0.0000	56.0800	ppb	2.24	50000.00	
24 Mg	# 3	45	129329700.0	0.0000	5290.0000	ppb	1.35	50000.00	
27 Al	# 3	45	512828100.0	0.0000	15730.0000	ppb	1.13	50000.00	
28 Si	# 1	45	4427000.0	0.0000	2606.0000	ppb	1.89	10000.00	
31 P	# 3	45	367491.6	0.0000	196.5000	ppb	0.42	400000.00	
39 K	# 2	45	1881455.0	0.0000	2632.0000	ppb	0.34	50000.00	
40 Ca	# 1	45	2539546100.0	0.0000	201400.0000	ppb	1.52	50000.00	>LRS
47 Ti	# 3	45	827877.4	0.0000	241.7000	ppb	0.21	500.00	
51 V	# 2	45	294003.9	0.0000	38.0400	ppb	0.81	500.00	
52 Cr	# 2	45	125249.8	0.0000	13.5000	ppb	0.76	500.00	
55 Mn	# 3	45	8760060.0	0.0000	157.2000	ppb	1.38	3000.00	
56 Fe	# 1	45	342429600.0	0.0000	13280.0000	ppb	0.57	50000.00	
59 Co	# 3	45	280365.0	0.0000	6.3330	ppb	2.54	500.00	
60 Ni	# 2	45	56195.5	0.0000	14.1400	ppb	1.45	500.00	
63 Cu	# 2	45	76837.5	0.0000	7.2020	ppb	0.70	500.00	
66 Zn	# 3	72	166272.4	0.0000	32.1200	ppb	0.69	500.00	
75 As	# 2	72	5999.9	0.0000	6.2740	ppb	1.66	500.00	
78 Se	# 1	72	133.1	0.0000	0.1264	ppb	8.35	500.00	
88 Sr	# 3	72	10280090.0	0.0000	207.9000	ppb	0.37	500.00	
90 Zr	# 3	72	178008.3	0.0000	5.7060	ppb	0.47	1000.00	
95 Mo	# 3	115	5309.1	0.0000	0.5462	ppb	1.52	500.00	
107 Ag	# 3	115	737.8	0.0000	0.0323	ppb	2.11	50.00	
111 Cd	# 3	115	2174.7	0.0000	0.4905	ppb	5.52	500.00	
118 Sn	# 3	115	35951.3	0.0000	2.8930	ppb	1.22	500.00	
121 Sb	# 3	115	5527.0	0.0000	0.2567	ppb	3.23	500.00	
137 Ba	# 3	115	2494053.0	0.0000	452.5000	ppb	1.30	1000.00	
182 W	# 3	159	1329.0	0.0000	0.1202	ppb	3.34	1000.00	
205 Tl	# 3	159	4800.1	0.0000	0.1742	ppb	3.97	500.00	
208 Pb	# 3	159	325439.3	0.0000	9.3900	ppb	0.85	500.00	
235 U	# 3	159	162.2	0.0000	0.0037	ppb	15.76	5.00	
238 U	# 3	159	19040.8	0.0000	0.5418	ppb	1.15	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	1055143.40	0.93	946489.44	111.5	60 - 125	
45 Sc	# 1	2665591.30	1.37	2561560.50	104.1	60 - 125	
45 Sc	# 2	290509.69	1.48	273035.03	106.4	60 - 125	
45 Sc	# 3	5245789.00	1.76	4670495.50	112.3	60 - 125	
72 Ge	# 1	603105.13	0.52	617197.63	97.7	60 - 125	
72 Ge	# 2	152462.73	0.42	149699.25	101.8	60 - 125	
72 Ge	# 3	927984.38	0.82	907582.81	102.2	60 - 125	
115 In	# 3	4976261.00	1.48	5063765.50	98.3	60 - 125	
159 Tb	# 3	5424841.50	0.16	5455991.00	99.4	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02058.D\98E02058.D#
Date Acquired:	May 9 2016 08:30 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-21J
Misc Info:	
Vial Number:	2308
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	118609.9	0.0000	2.6890	ppb	9.28	50.00	
9 Be	# 3	6	815.6	0.0000	0.1437	ppb	13.79	50.00	
11 B	# 3	6	7475.7	0.0000	0.0461	ppb	269.20	100.00	
23 Na	# 1	45	183079.9	0.0000	4.2790	ppb	9.36	50000.00	
24 Mg	# 3	45	27343650.0	0.0000	1125.0000	ppb	2.84	50000.00	
27 Al	# 3	45	106623500.0	0.0000	3291.0000	ppb	2.59	50000.00	
28 Si	# 1	45	919778.6	0.0000	532.1000	ppb	2.00	10000.00	
31 P	# 3	45	102165.1	0.0000	39.6300	ppb	2.01	400000.00	
39 K	# 2	45	396055.1	0.0000	515.0000	ppb	1.26	50000.00	
40 Ca	# 1	45	528706590.0	0.0000	41310.0000	ppb	1.68	50000.00	
47 Ti	# 3	45	167516.8	0.0000	49.1600	ppb	0.50	500.00	
51 V	# 2	45	62227.5	0.0000	7.8850	ppb	0.80	500.00	
52 Cr	# 2	45	26689.3	0.0000	2.8520	ppb	0.62	500.00	
55 Mn	# 3	45	1878875.0	0.0000	33.8700	ppb	0.67	3000.00	
56 Fe	# 1	45	73270488.0	0.0000	2801.0000	ppb	1.04	50000.00	
59 Co	# 3	45	60190.9	0.0000	1.3620	ppb	0.72	500.00	
60 Ni	# 2	45	12336.0	0.0000	3.0990	ppb	1.96	500.00	
63 Cu	# 2	45	19515.5	0.0000	1.6920	ppb	2.11	500.00	
66 Zn	# 3	72	39156.4	0.0000	7.1750	ppb	0.40	500.00	
75 As	# 2	72	1299.0	0.0000	1.2840	ppb	1.94	500.00	
78 Se	# 1	72	32.2	0.0000	0.0084	ppb	2.88	500.00	
88 Sr	# 3	72	2223139.0	0.0000	43.3900	ppb	0.43	500.00	
90 Zr	# 3	72	39234.3	0.0000	1.2080	ppb	2.98	1000.00	
95 Mo	# 3	115	1421.3	0.0000	0.1081	ppb	3.58	500.00	
107 Ag	# 3	115	185.6	0.0000	0.0057	ppb	5.72	50.00	
111 Cd	# 3	115	479.0	0.0000	0.0926	ppb	8.59	500.00	
118 Sn	# 3	115	7894.0	0.0000	0.5645	ppb	4.28	500.00	
121 Sb	# 3	115	2669.3	0.0000	0.0506	ppb	14.17	500.00	
137 Ba	# 3	115	533221.9	0.0000	90.1600	ppb	3.08	1000.00	
182 W	# 3	159	330.0	0.0000	0.0172	ppb	30.13	1000.00	
205 Tl	# 3	159	1305.7	0.0000	0.0360	ppb	2.29	500.00	
208 Pb	# 3	159	71670.0	0.0000	1.9970	ppb	3.70	500.00	
235 U	# 3	159	68.9	0.0000	0.0013	ppb	20.79	5.00	
238 U	# 3	159	4120.9	0.0000	0.1088	ppb	3.12	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1093855.00	4.02	946489.44	115.6	60 - 125	
45 Sc # 1	2704662.00	1.38	2561560.50	105.6	60 - 125	
45 Sc # 2	289499.44	1.19	273035.03	106.0	60 - 125	
45 Sc # 3	5214152.00	0.77	4670495.50	111.6	60 - 125	
72 Ge # 1	638322.69	0.64	617197.63	103.4	60 - 125	
72 Ge # 2	156380.77	0.21	149699.25	104.5	60 - 125	
72 Ge # 3	961275.38	1.43	907582.81	105.9	60 - 125	
115 In # 3	5339403.50	1.29	5063765.50	105.4	60 - 125	
159 Tb # 3	5584802.00	2.21	5455991.00	102.4	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02059.D\98E02059.D#
Date Acquired:	May 9 2016 08:35 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-21D
Misc Info:	
Vial Number:	2309
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	250085.4	0.0000	13.2300	ppb	5.90	50.00	
9 Be	# 3	6	3975.2	0.0000	0.7520	ppb	2.17	50.00	
11 B	# 3	6	23446.4	0.0000	4.0590	ppb	4.76	100.00	
23 Na	# 1	45	515750.2	0.0000	56.8100	ppb	1.07	50000.00	
24 Mg	# 3	45	134575600.0	0.0000	5521.0000	ppb	1.91	50000.00	
27 Al	# 3	45	506002910.0	0.0000	15570.0000	ppb	2.06	50000.00	
28 Si	# 1	45	4801824.0	0.0000	2814.0000	ppb	1.52	10000.00	
31 P	# 3	45	387524.4	0.0000	209.1000	ppb	1.10	400000.00	
39 K	# 2	45	1868549.0	0.0000	2625.0000	ppb	0.54	50000.00	
40 Ca	# 1	45	2388105000.0	0.0000	188600.0000	ppb	0.91	50000.00	>LRS
47 Ti	# 3	45	800562.9	0.0000	234.5000	ppb	1.44	500.00	
51 V	# 2	45	291368.6	0.0000	37.8500	ppb	1.06	500.00	
52 Cr	# 2	45	123858.5	0.0000	13.4100	ppb	1.20	500.00	
55 Mn	# 3	45	9692796.0	0.0000	174.5000	ppb	1.45	3000.00	
56 Fe	# 1	45	338100700.0	0.0000	13060.0000	ppb	0.40	50000.00	
59 Co	# 3	45	292577.3	0.0000	6.6280	ppb	0.20	500.00	
60 Ni	# 2	45	56836.8	0.0000	14.3700	ppb	0.83	500.00	
63 Cu	# 2	45	80371.0	0.0000	7.5740	ppb	1.04	500.00	
66 Zn	# 3	72	168582.9	0.0000	32.1100	ppb	2.05	500.00	
75 As	# 2	72	5748.9	0.0000	5.9840	ppb	2.13	500.00	
78 Se	# 1	72	133.6	0.0000	0.1252	ppb	5.27	500.00	
88 Sr	# 3	72	10731750.0	0.0000	213.9000	ppb	1.84	500.00	
90 Zr	# 3	72	179075.4	0.0000	5.6580	ppb	1.40	1000.00	
95 Mo	# 3	115	5445.8	0.0000	0.5512	ppb	2.79	500.00	
107 Ag	# 3	115	693.4	0.0000	0.0296	ppb	3.41	50.00	
111 Cd	# 3	115	2202.7	0.0000	0.4882	ppb	0.91	500.00	
118 Sn	# 3	115	35481.0	0.0000	2.8060	ppb	1.31	500.00	
121 Sb	# 3	115	5047.9	0.0000	0.2185	ppb	2.19	500.00	
137 Ba	# 3	115	2395025.0	0.0000	427.2000	ppb	1.20	1000.00	
182 W	# 3	159	1355.7	0.0000	0.1240	ppb	11.86	1000.00	
205 Tl	# 3	159	4866.7	0.0000	0.1784	ppb	4.03	500.00	
208 Pb	# 3	159	339968.6	0.0000	9.8960	ppb	2.34	500.00	
235 U	# 3	159	144.5	0.0000	0.0033	ppb	3.41	5.00	
238 U	# 3	159	19414.8	0.0000	0.5574	ppb	1.58	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1053078.90	2.41	946489.44	111.3	60 - 125	
45 Sc # 1	2676543.50	1.39	2561560.50	104.5	60 - 125	
45 Sc # 2	289291.78	1.50	273035.03	106.0	60 - 125	
45 Sc # 3	5229036.00	0.36	4670495.50	112.0	60 - 125	
72 Ge # 1	609767.25	1.22	617197.63	98.8	60 - 125	
72 Ge # 2	153131.63	1.13	149699.25	102.3	60 - 125	
72 Ge # 3	941589.25	2.08	907582.81	103.7	60 - 125	
115 In # 3	5060859.00	1.25	5063765.50	99.9	60 - 125	
159 Tb # 3	5379237.00	1.13	5455991.00	98.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02060.D\98E02060.D#
Date Acquired:	May 9 2016 08:39 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	E066-16I
Misc Info:	
Vial Number:	3112
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	118908.1	0.0000	2.5830	ppb	8.26	50.00	
9 Be	# 3	6	830.1	0.0000	0.1438	ppb	6.08	50.00	
11 B	# 3	6	13558.7	0.0000	1.4440	ppb	4.53	100.00	
23 Na	# 1	45	587951.3	0.0000	69.5300	ppb	1.39	50000.00	
24 Mg	# 3	45	15417300.0	0.0000	638.0000	ppb	0.92	50000.00	
27 Al	# 3	45	105477400.0	0.0000	3275.0000	ppb	0.58	50000.00	
28 Si	# 1	45	758644.9	0.0000	449.8000	ppb	0.46	10000.00	
31 P	# 3	45	129484.2	0.0000	56.3800	ppb	0.37	400000.00	
39 K	# 2	45	402878.6	0.0000	521.3000	ppb	1.02	50000.00	
40 Ca	# 1	45	96231688.0	0.0000	7711.0000	ppb	0.82	50000.00	
47 Ti	# 3	45	182037.7	0.0000	53.7500	ppb	1.71	500.00	
51 V	# 2	45	54153.7	0.0000	6.7860	ppb	0.60	500.00	
52 Cr	# 2	45	203879.0	0.0000	21.9400	ppb	0.82	500.00	
55 Mn	# 3	45	3333659.0	0.0000	60.5100	ppb	1.14	3000.00	
56 Fe	# 1	45	106625500.0	0.0000	4181.0000	ppb	0.87	50000.00	
59 Co	# 3	45	56533.7	0.0000	1.2870	ppb	0.18	500.00	
60 Ni	# 2	45	11637.3	0.0000	2.9040	ppb	0.67	500.00	
63 Cu	# 2	45	110309.4	0.0000	10.4000	ppb	1.43	500.00	
66 Zn	# 3	72	190878.8	0.0000	35.0600	ppb	1.72	500.00	
75 As	# 2	72	1859.5	0.0000	1.8310	ppb	2.97	500.00	
78 Se	# 1	72	106.0	0.0000	0.0892	ppb	12.42	500.00	
88 Sr	# 3	72	693442.5	0.0000	13.3100	ppb	2.09	500.00	
90 Zr	# 3	72	32505.3	0.0000	0.9832	ppb	1.77	1000.00	
95 Mo	# 3	115	8583.3	0.0000	0.8406	ppb	1.68	500.00	
107 Ag	# 3	115	859.0	0.0000	0.0352	ppb	5.58	50.00	
111 Cd	# 3	115	4695.7	0.0000	0.9952	ppb	2.31	500.00	
118 Sn	# 3	115	13778.2	0.0000	1.0090	ppb	2.72	500.00	
121 Sb	# 3	115	5669.3	0.0000	0.2397	ppb	1.48	500.00	
137 Ba	# 3	115	360282.3	0.0000	60.8100	ppb	0.87	1000.00	
182 W	# 3	159	630.0	0.0000	0.0465	ppb	7.47	1000.00	
205 Tl	# 3	159	1374.6	0.0000	0.0383	ppb	5.62	500.00	
208 Pb	# 3	159	4413063.0	0.0000	123.1000	ppb	2.21	500.00	
235 U	# 3	159	52.2	0.0000	0.0009	ppb	29.33	5.00	
238 U	# 3	159	4244.3	0.0000	0.1114	ppb	0.87	500.00	

ISTD Elements

Element		CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	# 3	1109788.40	3.69	946489.44	117.3	60 - 125	
45 Sc	# 1	2636814.00	1.06	2561560.50	102.9	60 - 125	
45 Sc	# 2	291285.06	1.20	273035.03	106.7	60 - 125	
45 Sc	# 3	5182666.00	0.69	4670495.50	111.0	60 - 125	
72 Ge	# 1	634713.88	0.14	617197.63	102.8	60 - 125	
72 Ge	# 2	158707.63	1.08	149699.25	106.0	60 - 125	
72 Ge	# 3	976896.31	2.17	907582.81	107.6	60 - 125	
115 In	# 3	5347043.00	0.49	5063765.50	105.6	60 - 125	
159 Tb	# 3	5621576.50	1.74	5455991.00	103.0	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02062.D\98E02062.D#
Date Acquired:	May 9 2016 08:48 pm
Operator:	CCapul
Sample Name:	CCV5
Misc Info:	
Vial Number:	1205
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal Update:	May 09 2016 04:47 pm
Sample Type:	CCV
Total Dil Factor:	1.00

QC Elements

Element	Conc.	CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.26 ppb	388319.41	1.35	25.00	90 - 110	
9 Be	22.38 ppb	116092.40	0.77	25.00	90 - 110	~~Fail~~
11 B	46.14 ppb	191765.20	1.52	50.00	90 - 110	
23 Na	24190.00 ppb	150151810.00	0.95	25000.00	90 - 110	
24 Mg	24860.00 ppb	586064900.00	0.56	25000.00	90 - 110	
27 Al	24930.00 ppb	783854080.00	0.11	25000.00	90 - 110	
28 Si	2495.00 ppb	4143669.00	1.14	2500.00	90 - 110	
31 P	254.90 ppb	449478.50	1.42	250.00	90 - 110	
39 K	25130.00 ppb	17165980.00	1.07	25000.00	90 - 110	
40 Ca	25020.00 ppb	308472510.00	1.13	25000.00	90 - 110	
47 Ti	247.80 ppb	818579.69	0.93	250.00	90 - 110	
51 V	245.70 ppb	1837150.00	0.49	250.00	90 - 110	
52 Cr	242.20 ppb	2178994.00	1.24	250.00	90 - 110	
55 Mn	1428.00 ppb	76737592.00	0.50	1500.00	90 - 110	
56 Fe	24480.00 ppb	616893820.00	1.07	25000.00	90 - 110	
59 Co	244.60 ppb	10437340.00	0.02	250.00	90 - 110	
60 Ni	250.10 ppb	965178.19	0.33	250.00	90 - 110	
63 Cu	244.50 ppb	2473236.00	1.17	250.00	90 - 110	
66 Zn	241.80 ppb	1266393.00	0.71	250.00	90 - 110	
75 As	249.70 ppb	234929.80	0.38	250.00	90 - 110	
78 Se	241.90 ppb	214146.50	0.50	250.00	90 - 110	
88 Sr	253.30 ppb	12730980.00	0.47	250.00	90 - 110	
90 Zr	28.40 ppb	899492.50	1.77	25.00	90 - 110	Fail
95 Mo	252.80 ppb	2318481.00	1.51	250.00	90 - 110	
107 Ag	24.14 ppb	517977.41	0.72	25.00	90 - 110	
111 Cd	246.40 ppb	1079906.00	0.90	250.00	90 - 110	
118 Sn	247.00 ppb	3058564.00	0.72	250.00	90 - 110	
121 Sb	245.80 ppb	3654122.00	0.98	250.00	90 - 110	
137 Ba	498.10 ppb	2767755.00	1.11	500.00	90 - 110	
182 W	29.43 ppb	287617.91	0.59	25.00	90 - 110	Fail
205 Tl	246.70 ppb	6295438.00	1.33	250.00	90 - 110	
208 Pb	255.20 ppb	8813638.00	1.10	250.00	90 - 110	
235 U	1.59 ppb	62991.47	1.05	1.80	90 - 110	Fail
238 U	243.90 ppb	8454552.00	1.17	250.00	90 - 110	

90% av 110

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1041964.90	1.06	946489.44	110.1	60 - 125	
45 Sc	2605473.50	0.32	2561560.50	101.7	60 - 125	
45 Sc	282536.31	1.45	273035.03	103.5	60 - 125	
45 Sc	5058893.00	1.06	4670495.50	108.3	60 - 125	
72 Ge	613452.56	0.50	617197.63	99.4	60 - 125	
72 Ge	151169.14	0.48	149699.25	101.0	60 - 125	
72 Ge	943292.25	0.16	907582.81	103.9	60 - 125	
115 In	5016536.50	1.19	5063765.50	99.1	60 - 125	
159 Tb	5414615.00	0.74	5455991.00	99.2	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

4 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

CCB QC Report

Data File:	D:\DATA\I982016\E\I98E02.B\98E02063.D\98E02063.D#
Date Acquired:	May 9 2016 08:52 pm
Acq. Method:	EMX6020H.M
Operator:	CCapul
Sample Name:	CCB5
Misc Info:	
Vial Number:	1202
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	D:\DATA\I982016\A\I98A01.B\EMX6020H.C
Last Cal. Update:	May 09 2016 04:47 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.2960	ppb	80829.6	32.37	0.20	Fail
9 Be	-0.0015	ppb	28.9	63.96	0.10	
11 B	-0.9210	ppb	3511.7	1.69	5.00	
23 Na	-9.3050	ppb	92719.0	1.13	40.00	
24 Mg	0.1135	ppb	9732.9	20.07	10.00	
27 Al	0.1498	ppb	9022.4	18.08	20.00	
28 Si	1.2300	ppb	5100.1	3.33	20.00	
31 P	-1.9860	ppb	32396.6	16.76	10.00	
39 K	-6.8170	ppb	31750.9	6.71	20.00	
40 Ca	1.2010	ppb	32264.2	0.82	25.00	
47 Ti	0.0161	ppb	223.3	46.34	0.50	
51 V	-0.0040	ppb	1869.9	94.95	0.50	
52 Cr	-0.0136	ppb	274.9	15.34	0.20	
55 Mn	-0.0044	ppb	3392.8	72.40	0.20	
56 Fe	2.1790	ppb	63837.8	9.53	10.00	
59 Co	0.0000	ppb	281.1	2032.70	0.20	
60 Ni	-0.0053	ppb	63.1	7.73	0.20	
63 Cu	-0.0191	ppb	1811.9	19.45	0.40	
66 Zn	0.0140	ppb	982.3	106.30	2.00	
75 As	0.0038	ppb	55.6	116.77	0.20	
78 Se	0.0154	ppb	39.1	36.07	0.20	
88 Sr	0.0019	ppb	750.1	38.63	0.20	
90 Zr	0.0106	ppb	625.6	9.06	2.00	
95 Mo	0.0693	ppb	1067.9	14.40	0.40	
107 Ag	-0.0005	ppb	44.4	82.92	0.20	
111 Cd	0.0033	ppb	63.7	98.87	0.20	
118 Sn	0.0428	ppb	1045.6	22.14	0.20	
121 Sb	0.1812	ppb	4847.8	6.05	0.40	
137 Ba	0.0067	ppb	97.8	43.78	0.20	
182 W	0.0059	ppb	223.3	62.72	1.00	
205 Tl	0.0079	ppb	584.5	12.42	0.20	
208 Pb	0.0004	ppb	618.9	565.56	0.10	
235 U	0.0002	ppb	22.2	189.24	1.00	
238 U	0.0152	ppb	801.2	10.68	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1123384.0	0.89	946489.44	118.7	60 - 125	
45 Sc	2621584.8	1.08	2561560.50	102.3	60 - 125	
45 Sc	291865.8	1.04	273035.03	106.9	60 - 125	
45 Sc	5223273.5	1.02	4670495.50	111.8	60 - 125	
72 Ge	645818.4	0.52	617197.63	104.6	60 - 125	
72 Ge	161253.9	1.03	149699.25	107.7	60 - 125	
72 Ge	986439.9	0.64	907582.81	108.7	60 - 125	
115 In	5467679.0	0.85	5063765.50	108.0	60 - 125	
159 Tb	5763485.5	1.39	5455991.00	105.6	60 - 125	

ISTD Ref File : D:\DATA\I982016\E\I98E02.B\98E02004.D\98E02004.D#

1 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # 02515001

Book #: EIM-058
Batch: TMF0125
Matrix: Soil
Digestor ID: D

SOP #	Rev. #
☐ EMAX-200.8	5
☑ EMAX-6020	9
☐ EMAX-	

Start	Temp	End	Temp
	92 °C		92.8 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A - 007 - 03 - 05	4
LCS-2	SM6A - 007 - 03 - 06	4
MS	same spike soln & vol as LCS 1&2	
Blank Soil (Bead)	SM5A - 03 - 02 - 09	2g
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWIA - 005 - 16 - 15	10
HCl	- 15 - 24	5+5
H_2O_2	- 14 - 23	10
HNO_3(1:1)	SM5B - 03 - 69 - 04	10
pH Strip (0-14)	NA	NA

Digestate Location	Metals
Extract Location	NA
☑ Reagent Water ID:	SM5A - 03 - 02 - 07
☑ Thermometer ID:	150590425 / D24
☑ Pipette ID:	142780357
☐ Pipette ID:	NA
☐ Pipette ID:	NA
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask	
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask	

Prepared By: SP

Standard Added By: SP Witnessed By: DA

Extract Rcvd By: [signature] Checked By: [signature]

EMAX LABORATORIES, INC.

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16IME012S01	IME012SB	2.06	g	5/9/16 11:15	100	2	100	1	
16IME012S02	IME012SL	2.04	g	5/9/16 11:16	100	2	100	1	
16IME012S03	E066-01	2.06	g	5/9/16 11:17	100	2	100	0.971	✓
16IME012S04	E066-02	2.07	g	5/9/16 11:18	100	2	100	0.966	✓
16IME012S05	E066-03	2.05	g	5/9/16 11:19	100	2	100	0.976	✓
16IME012S06	E066-04	2.04	g	5/9/16 11:20	100	2	100	0.98	✓
16IME012S07	E066-05	2.05	g	5/9/16 11:21	100	2	100	0.976	✓
16IME012S08	E066-06	2.05	g	5/9/16 11:22	100	2	100	0.976	✓
16IME012S09	E066-07	2.04	g	5/9/16 11:23	100	2	100	0.98	✓
16IME012S10	E066-07M	2.04	g	5/9/16 11:24	100	2	100	0.98	✓
16IME012S11	E066-07D	2.07	g	5/9/16 11:25	100	2	100	0.966	✓
16IME012S12	E066-08	2.02	g	5/9/16 11:26	100	2	100	0.99	✓
16IME012S13	E066-09	2.08	g	5/9/16 11:27	100	2	100	0.962	✓
16IME012S14	E066-10	2.05	g	5/9/16 11:27	100	2	100	0.976	✓

SP 5/9/16

Balance ID: 10203192. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/9/16 11:28

Prepared By: SPara

☑ Digestion Ended @ 5/9/16 15:53

Checked By: CW

Comments:

Date 5/9/16

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # 02515001

Book #: EIM-058
Batch: IME013S
Matrix: Soil
Digestor ID: C

SOP #	Rev. #
☐ EMAX-200.8	5
☑ EMAX-6020	9
☐ EMAX-	

Start	Temp	End	Temp
	92 °C		92.8 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A - 007 - 03 - 05	4
LCS-2	SM6A - 007 - 03 - 06	4
MS	Same spike soln & volog	LCS 1 & 2
Blank Soil (Bead)	SM5A - 03 - 02 - 09	2g
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWIA - 005 - 16 - 15	10
HCl	- 15 - 24	5+5
H_2O_2	- 14 - 23	10
HNO_3(1:1)	SM5B - 03 - 69 - 04	10
pH Strip (0-14)	NA	NA

Digestate Location	Metals
Extract Location	NA
☑ Reagent Water ID:	SM5A - 03 - 02 - 07
☑ Thermometer ID:	150590648/C22
☑ Pipette ID:	142780357
☐ Pipette ID:	NA
☐ Pipette ID:	NA
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask	
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask	

Prepared By: SP
Standard Added By: SP Witnessed By: DA
Extract Rcvd By: [illegible] Checked By: [illegible]

EMAX LABORATORIES, INC.

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16IME013S01	IME013SB	2.02	g	5/9/16 11:30	100	2	100	1	
16IME013S02	IME013SL	2.03	g	5/9/16 11:30	100	2	100	1	
16IME013S03	E066-11	2.03	g	5/9/16 11:31	100	2	100	0.985	✓
16IME013S04	E066-12	2.04	g	5/9/16 11:31	100	2	100	0.98	✓
16IME013S05	E066-13	2.04	g	5/9/16 11:32	100	2	100	0.98	✓
16IME013S06	E066-14	2.04	g	5/9/16 11:33	100	2	100	0.98	✓
16IME013S07	E066-15	2.09	g	5/9/16 11:34	100	2	100	0.957	✓
16IME013S08	E066-16	2.05	g	5/9/16 11:35	100	2	100	0.976	✓
16IME013S09	E066-17	2.08	g	5/9/16 11:36	100	2	100	0.962	✓
16IME013S10	E066-18	2.06	g	5/9/16 11:37	100	2	100	0.971	✓
16IME013S11	E066-19	2.06	g	5/9/16 11:37	100	2	100	0.971	✓
16IME013S12	E066-20	2.02	g	5/9/16 11:41	100	2	100	0.99	✓
16IME013S13	E066-21	2.05	g	5/9/16 11:42	100	2	100	0.976	✓
16IME013S14	E066-21M	2.08	g	5/9/16 11:43	100	2	100	0.962	✓
16IME013S15	E066-21D	2.02	g	5/9/16 11:43	100	2	100	0.99	✓

SP 5/9/16

Balance ID: 10203192. Calibration check was verified prior to use.

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/9/16 11:44

☑ Digestion Ended @ 5/9/16 15:54

Prepared By: SPara

Checked By: [illegible]

Date 5/9/16

Comments:

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Sample Identification #	Date Collected	Date Received	Matrix	Analysis
TB-05132016	5/13/2016	5/14/2016	Aqueous	VOCs (8260B)
CAFB-IDW-W-05132016	5/13/2016	5/14/2016	Aqueous	VOCs (8260B), SVOCs (8270D), Metals (6020A/7470A), Pesticides (8081A), Herbicides (8151A), TPH GRO/DRO (8015C)
CAFB-IDW-S-05132016	5/13/2016	5/14/2016	Soil	TCLP VOCs (8260B), TCLP SVOCs (8270D), TCLP Metals (6010B/7470A), TCLP Pesticides (8081A), TCLP Herbicides (8151A), Paint Filter (9095B)
CA015-0341A-0005.	5/13/2016	5/14/2016	Soil	TPH GRO/DRO (8015C)

1.0 Laboratory Case Narrative \ Cooler Receipt Form

Verification Criteria	Yes	No	N/A
Were any DoD-QSM deviations noted in the laboratory case narrative?	X		
Were DoD-QSM corrective actions followed if deviations were noted?	X		
Were any issues noted in the cooler receipt form?	X		

The laboratory case narrative indicated an SVOC surrogate recovery was outside evaluation criteria. Selenium was detected in the metals method blank sample. These issues are discussed further in the appropriate sections below. .

The cooler receipt form indicated corrections were made to the sample labels; however, the corrections were not initialed and dated. Analyses for CAFB-IDW-W-05132016 and CAFB-IDW-S-05132016 were logged in per instructions from the URS chemist. The analyses were incorrectly marked on the COC. No qualification of data was required.

2.0 Sample Documentation

Verification Criteria	Yes	No
Were all samples documented correctly on the chain-of-custody (COC) and samples labels?		X
Were all sample identifications (IDs) documented correctly on sample labels?	X	
Did samples listed on COCs match the sample labels?	X	
Were samples relinquished properly on the COC?	X	

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

3.0 Holding Time

Verification Criteria	Yes	No	N/A
Were all samples extracted/analyzed within holding time?	X		
Were samples outside holding time extracted/analyzed < 2x holding time?			X
Were samples outside holding time extracted/analyzed > 2x holding time?			X

4.0 Instrument Performance Check (Tuning)

Method 8260B Instrument Tuning Criteria (Filename)	**RCW153.D**		
Instrument:	**06**		
Date of Tuning:	**3/10/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 4 of SW-846 Method 8260B?	X		

Method 8260B Instrument Tuning Criteria (Filename)	**REW371.D**		
Instrument:	**06**		
Date of Tuning:	**5/19/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 4 of SW-846 Method 8260B?	X		

Method 8260B Instrument Tuning Criteria (Filename)	**REW401.D**		
Instrument:	**06**		
Date of Tuning:	**5/20/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 4 of SW-846 Method 8260B?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8260B Instrument Tuning Criteria (Filename)	**RCN001.D**		
Instrument:	**F4**		
Date of Tuning:	**3/7/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 4 of SW-846 Method 8260B?	X		

Method 8260B Instrument Tuning Criteria (Filename)	**REN138.D**		
Instrument:	**F4**		
Date of Tuning:	**5/26/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 4 of SW-846 Method 8260B?	X		

Method 8270D Instrument Tuning Criteria (Filename)	**RBJ002.D**		
Instrument:	**E4**		
Date of Tuning:	**2/2/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 3 of SW-846 Method 8270D?	X		

Method 8270D Instrument Tuning Criteria (Filename)	**REJ381.D**		
Instrument:	**E4**		
Date of Tuning:	**5/25/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 3 of SW-846 Method 8270D?	X		

Method 8270D Instrument Tuning Criteria (Filename)	**REJ322.D**		
Instrument:	**E4**		
Date of Tuning:	**5/23/2016**		
	Yes	**No**	**N/A**
Was instrument tuning completed prior to calibration?	X		
Were all samples analyzed under an acceptable 12 hour clock tune?	X		
Were ion relative abundances for each target mass within the required intensities limits listed in Table 3 of SW-846 Method 8270D?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 6020A Instrument Tuning Criteria (Filename)	**F6E10001.D**	
Instrument:	**F6**	
Date of Tuning:	**5/23/2016**	
	Yes	**No**
Was instrument tuning completed prior to calibration?	X	
Was mass calibration ≤ 0.1 amu from true value?	X	
Was resolution < 0.9 amu full width at 10% peak height?	X	
For stability, was the RSD ≤ 5% for at least four replicate analytes?	X	

5.0 Breakdown Check

Method 8081A Breakdown Check Criteria (Filename)	**ME11009**		
Instrument:	**E8**		
Date of Breakdown Check:	**5/11/2016**		
	Yes	**No**	**N/A**
Was the breakdown check analyzed at the beginning of each 12-hour period, prior to analysis of samples?	X		
Was the degradation ≤ 15% for both DDT and Endrin?	X		

Method 8081A Breakdown Check Criteria (Filename)	**ME20003**		
Instrument:	**E8**		
Date of Breakdown Check:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the breakdown check analyzed at the beginning of each 12-hour period, prior to analysis of samples?	X		
Was the degradation ≤ 15% for both DDT and Endrin?	X		

Method 8081A Breakdown Check Criteria (Filename)	**ME20010**		
Instrument:	**E8**		
Date of Breakdown Check:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the breakdown check analyzed at the beginning of each 12-hour period, prior to analysis of samples?	X		
Was the degradation ≤ 15% for both DDT and Endrin?	X		

Method 8081A Breakdown Check Criteria (Filename)	**ME24003**		
Instrument:	**E8**		
Date of Breakdown Check:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the breakdown check analyzed at the beginning of each 12-hour period, prior to analysis of samples?	X		
Was the degradation ≤ 15% for both DDT and Endrin?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

6.0 Initial Calibration

Method 8260B Initial Calibration Criteria			
Instrument:	**06**		
Date of Calibration:	**3/10/2016**		
	Yes	**No**	**N/A**
Are the average response factors (RFs) for SPCCs above the minimum DoD-QSM response factor? (VOCs - ≥ 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, ≥ 0.1 for chloromethane, bromoform, and 1,1-dichloroethane.)	X		
Are the RSDs for CCCs (1,1-Dichloroethene; Chloroform; 1,2-Dichloropropane; Toluene; Ethylbenzene and Vinyl Chloride) for VOCs ≤ 30%? and one option below?	X		
Option 1: RSD for each analyte ≤ 15%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 8260B Initial Calibration Criteria			
Instrument:	**F4**		
Date of Calibration:	**3/7/2016**		
	Yes	**No**	**N/A**
Are the average response factors (RFs) for SPCCs above the minimum DoD-QSM response factor? (VOCs - ≥ 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, ≥ 0.1 for chloromethane, bromoform, and 1,1-dichloroethane.)	X		
Are the RSDs for CCCs (1,1-Dichloroethene; Chloroform; 1,2-Dichloropropane; Toluene; Ethylbenzene and Vinyl Chloride) for VOCs ≤ 30%? and one option below?	X		
Option 1: RSD for each analyte ≤ 15%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 8270D Initial Calibration Criteria			
Instrument:	**E4**		
Date of Calibration:	**2/2/2016**		
	Yes	**No**	**N/A**
Are the average response factors (RFs) for SPCCs above the minimum DoD-QSM response factor? (SVOCs - ≥ 0.05 for N-nitroso-di-n-propylamine; hexachlorocyclopentadiene; 2,4-dinitrophenol and 4-nitrophenol)	X		
Are the RSDs for CCCs (Acenaphthene; 1,4-Dichlorobenzene; Hexachlorobutadiene; Diphenylamine; Di-n-octyl phthalate; Fluoranthene; Benzo(a)pyrene; 4-Chloro-3-methylphenol; 2,4-Dichlorophenol; 2-Nitrophenol; Phenol; Pentachlorophenol and 2,4,6-Trichlorophenol) for SVOCs ≤ 30%? and one option below?	X		
Option 1: RSD for each analyte ≤ 15%?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8270D Initial Calibration Criteria			
Instrument:	**E4**		
Date of Calibration:	**2/2/2016**		
	Yes	**No**	**N/A**
Option 2: If linear least squares regression was used was the r ≥ 0.995?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 8081A Initial Calibration Criteria			
Instrument:	**E8**		
Date of Calibration:	**5/11/2016**		
	Yes	**No**	**N/A**
Was the ICAL analyzed prior to sample analysis	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 8151A Initial Calibration Criteria			
Instrument:	**16**		
Date of Calibration:	**3/4/2016**		
	Yes	**No**	**N/A**
Was the ICAL analyzed prior to sample analysis	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 8015C (GRO) Initial Calibration Criteria			
Instrument:	**55**		
Date of Calibration:	**2/23/2016**		
	Yes	**No**	**N/A**
Was the ICAL analyzed prior to sample analysis	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8015C (DRO/ORO) Initial Calibration Criteria			
Instrument:	**D5**		
Date of Calibration:	**3/9/2016 (DRO/ORO)**		
	Yes	**No**	**N/A**
Was the ICAL analyzed prior to sample analysis	X		
Option 1: RSD for each analyte ≤ 20%?	X		
Option 2: If linear least squares regression was used was the $r^2 \geq 0.99$?			X
Option 3: If non-linear regression was used was the coefficient of determination $r^2 \geq 0.99$?			X
If non-linear regression was used were 6 points used for second order and 7 points for third order?			X

Method 6020A Initial Calibration Criteria			
Instrument:	**F6**		
Date of Calibration:	**5/23/2016**		
	Yes	**No**	**N/A**
Was a minimum of two standards and a calibration blank used for ICAL?	X		
Was $r \geq 0.995$?	X		

Method 6010C Initial Calibration Criteria			
Instrument:	**D8**		
Date of Calibration:	**5/24/2016**		
	Yes	**No**	**N/A**
Was a minimum of two standards and a calibration blank used for ICAL?	X		
Was $r \geq 0.995$?	X		

Method 7470A Initial Calibration Criteria			
Instrument:	**47**		
Date of Calibration:	**5/19/2016**		
	Yes	**No**	**N/A**
Was a minimum of five standards and a calibration blank used for ICAL?	X		
Was $r \geq 0.995$?	X		

Method 7470A Initial Calibration Criteria			
Instrument:	**47**		
Date of Calibration:	**5/23/2016**		
	Yes	**No**	**N/A**
Was a minimum of five standards and a calibration blank used for ICAL?	X		
Was $r \geq 0.995$?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

7.0 Initial Calibration Verification [(ICV) Second Source]

Method 8260B ICV Criteria (Filename)	**RCW166.D**		
Instrument:	**06**		
Date of Initial Calibration Verification:	**3/10/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %D for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8260B ICV Criteria (Filename)	**RCN014.D**		
Instrument:	**F4**		
Date of Initial Calibration Verification:	**3/7/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %D for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8270D ICV Criteria (Filename)	**RBJ033.D**		
Instrument:	**E4**		
Date of Initial Calibration Verification:	**2/2/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %D for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8081A ICV Criteria (Filename)	**ME11026-27**		
Instrument:	**E8**		
Date of Initial Calibration Verification:	**5/11/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8081A Toxaphene ICV Criteria (Filename)	**ME11036**		
Instrument:	**E8**		
Date of Initial Calibration Verification:	**5/11/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8151A ICV Criteria (Filename)	**WC04010.D**		
Instrument:	**16**		
Date of Initial Calibration Verification:	**3/4/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8015C ICV (GRO) Criteria (Filename)	**UB23010.D**		
Instrument:	**55**		
Date of Initial Calibration Verification:	**2/23/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8015C ICV (DRO) Criteria (Filename)	**LC09027A.D**		
Instrument:	**D5**		
Date of Initial Calibration Verification:	**3/9/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Method 8015C ICV (ORO) Criteria (Filename)	**LC09035A.D**		
Instrument:	**D5**		
Date of Initial Calibration Verification:	**3/9/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each calibration?	X		
Was the ICV %difference (%D) for all analytes within ± 20% of the expected value (initial source)?	X		

Method 6020A ICV Criteria (Filename)	**F6E10009.D**		
Instrument:	**F6**		
Date of Initial Calibration Verification	**5/23/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Was the ICV %recovery (%R) for all analytes within 90-110%?	X		

Method 6010C ICV Criteria (Filename)	**ID8E025014.D**		
Instrument:	**D8**		
Date of Initial Calibration Verification	**5/24/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 6010C ICV Criteria (Filename)	**ID8E025014.D**		
Instrument:	**D8**		
Date of Initial Calibration Verification	**5/24/2016**		
	Yes	**No**	**N/A**
Was the ICV %recovery (%R) for all analytes within 90-110%?	X		

Method 7470A ICV Criteria (Filename)	**M47E011007.D**		
Instrument:	**47**		
Date of Initial Calibration Verification	**5/19/2016**		
	Yes	**No**	**N/A**
Was the ICV analyzed after each ICAL, prior to the beginning of a sample analysis?	X		
Was the ICV %R within 90-110%?	X		

8.0 Continuing Calibration Verification (CCV)

Method 8260B CCV Criteria (Filename)	**REW372.D**		
Instrument:	**06**		
Date of Calibration Verification:	**5/19/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed daily before sample analysis?	X		
Was the CCV analyzed every 12 hours of analysis time?	X		
Are the average response factors (RFs) for SPCCs above the minimum DoD QSM response factor? (VOCs - ≥ 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, ≥ 0.1 for chloromethane, bromoform, and 1,1-dichloroethane.)	X		
Was the CCV %D or %drift for all target compounds ≤ 20%?	X		

Method 8260B CCV Criteria (Filename)	**REW402.D**		
Instrument:	**06**		
Date of Calibration Verification:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed daily before sample analysis?	X		
Was the CCV analyzed every 12 hours of analysis time?	X		
Are the average response factors (RFs) for SPCCs above the minimum DoD QSM response factor? (VOCs - ≥ 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, ≥ 0.1 for chloromethane, bromoform, and 1,1-dichloroethane.)	X		
Was the CCV %D or %drift for all target compounds ≤ 20%?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8260B CCV Criteria (Filename)	**REN139.D**		
Instrument:	**F4**		
Date of Calibration Verification:	**5/26/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed daily before sample analysis?	X		
Was the CCV analyzed every 12 hours of analysis time?	X		
Are the average response factors (RFs) for SPCCs above the minimum DoD QSM response factor? (VOCs - ≥ 0.30 for chlorobenzene and 1,1,2,2-tetrachloroethane, ≥ 0.1 for chloromethane, bromoform, and 1,1-dichloroethane.)	X		
Was the CCV %D or %drift for all target compounds ≤ 20%?	X		

Method 8270D CCV Criteria (Filename)	**REJ323**		
Instrument:	**E4**		
Date of Calibration Verification:	**5/23/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed daily before sample analysis?	X		
Was the CCV analyzed every 12 hours of analysis time?	X		
Are the average response factors (RFs) for SPCCs above the minimum DoD QSM response factor? (SVOCs - ≥ 0.05 for N-nitroso-di-n-propylamine; hexachlorocyclopentadiene; 2,4-dinitrophenol and 4-nitrophenol)	X		
Was the CCV %D or %drift for all target compounds ≤ 20%?	X		

Method 8270D CCV Criteria (Filename)	**REJ382**		
Instrument:	**E4**		
Date of Calibration Verification:	**5/25/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed daily before sample analysis?	X		
Was the CCV analyzed every 12 hours of analysis time?	X		
Are the average response factors (RFs) for SPCCs above the minimum DoD QSM response factor? (SVOCs - ≥ 0.05 for N-nitroso-di-n-propylamine; hexachlorocyclopentadiene; 2,4-dinitrophenol and 4-nitrophenol)	X		
Was the CCV %D or %drift for all target compounds ≤ 20%?	X		

Method 8081A CCV Criteria (Filename)	**ME20004**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8081A CCV Criteria (Filename) – Toxaphene	**ME20005**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8081A CCV Criteria (Filename)	**ME20011**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8081A CCV Criteria (Filename) – Toxaphene	**ME20012**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/20/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8081A CCV Criteria (Filename)	**ME24004**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8081A CCV Criteria (Filename) – Toxaphene	**ME24005**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8081A CCV Criteria (Filename)	**ME24015**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8081A CCV Criteria (Filename) – Toxaphene	**ME24016**		
Instrument:	**E8**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8151A CCV Criteria (Filename)	**WE19002**		
Instrument:	**16**		
Date of Calibration Verification:	**5/19/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8151A CCV Criteria (Filename)	**WE19009**		
Instrument:	**16**		
Date of Calibration Verification:	**5/19/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8151A CCV Criteria (Filename)	**WE24002**		
Instrument:	**16**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8151A CCV Criteria (Filename)	**WE24014**		
Instrument:	**16**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8151A CCV Criteria (Filename)	**WE24023**		
Instrument:	**16**		
Date of Calibration Verification:	**5/24/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (GRO) CCV Criteria (Filename)	**UE17003.D**		
Instrument:	**55**		
Date of Calibration Verification:	**5/17/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (GRO) CCV Criteria (Filename)	**UE17013.D**		
Instrument:	**55**		
Date of Calibration Verification:	**5/17/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

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Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8015C (GRO) CCV Criteria (Filename)	**UE17022.D**		
Instrument:	**55**		
Date of Calibration Verification:	**5/17/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (GRO) CCV Criteria (Filename)	**UE17026.D**		
Instrument:	**55**		
Date of Calibration Verification:	**5/17/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (DRO) CCV Criteria (Filename)	**LE23006.D**		
Instrument:	**D5**		
Date of Calibration Verification:	**5/23/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (ORO) CCV Criteria (Filename)	**LE23007.D**		
Instrument:	**D5**		
Date of Calibration Verification:	**5/23/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Method 8015C (DRO) CCV Criteria (Filename)	**LE23019.D**		
Instrument:	**D5**		
Date of Calibration Verification:	**5/23/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 8015C (ORO) CCV Criteria (Filename)	**LE23020.D**		
Instrument:	**D5**		
Date of Calibration Verification:	**5/23/2016**		
	Yes	**No**	**N/A**
Was the CCV analyzed prior to sample analysis, after every 10 field samples, and at the end of the analysis sequence?	X		
Were all project analytes within established retention time windows?	X		
Were all project analytes within ± 20% of expected value from the ICAL?	X		

Method 6020A CCV Criteria (Date)	**All CCVs on 5/23/2016**		
Instrument:	**F6**		
	Yes	**No**	**N/A**
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the CCV %Rs for all analytes within 90-110%?	X		

Method 6010C CCV Criteria (Date)	**All CCVs on 5/24/2016**		
Instrument:	**D8**		
	Yes	**No**	**N/A**
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the CCV %Rs for all analytes within 90-110%?	X		

Method 7470A CCV Criteria (Date)	**All CCVs on 5/19/2016**		
Instrument:	**47**		
	Yes	**No**	**N/A**
Was the CCV analyzed after every 10 samples and at the end of the analysis sequence?	X		
Were the CCV %Rs within 80-120%?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

9.0 Blank Samples

Blank Criteria	Yes	No	N/A
Was a method blank analyzed with every preparatory batch?	X		
Were analytes detected > ½ the LOQ and > 1/10 the amount measured in any sample or 1/10 the regulatory limit?		X	
Were target analytes detected in method, trip or calibration blanks?	X		

Blank ID	Parameter	Analyte	Concentration	LOQ	Units
MBLK2W	Metals	Selenium	0.0143	0.05	mg/L

The analytical result for selenium was nondetect in the associated sample. No qualification of data was required.

10.0 Laboratory Control Sample (LCS)

LCS Criteria	Yes	No	N/A
Was an LCS analyzed with every preparatory batch?	X		
Were LCS recoveries within acceptance criteria listed in the UFP-QAPP?	X		

11.0 Surrogates

Methods 8260B/8270D/8081B /8151A Surrogate Criteria	Yes	No	N/A
Were surrogate spikes added to all field and QC samples?	X		
Were surrogate recoveries within acceptance criteria listed in the UFP-QAPP?	X		

12.0 Internal Standards (IS)

Methods 8260B/8270D/6020A Criteria	Yes	No	N/A
Were internal standards spiked for all samples and standards?	X		
Were VOC and SVOC internal standard areas within -50% to + 100% of the ICAL midpoint standard area?	X		
Were VOC and SVOC retention times ± 30 seconds from the retention times of the midpoint standard of the ICAL?	X		
For Method 6020A, were internal standards spiked for all samples and standards?	X		
For Method 6020A, were internal standard areas within 30% to 120% of the ICAL midpoint standard area?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
Date Verified: 6/16/2016 **URS ITR:**
Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

13.0 Interference Check Sample (6020A Metals only)

Interference Check Sample Criteria	Yes	No	N/A
Were ICS-A and ICSAB samples analyzed at the beginning of the analytical run and every 12 hours?	X		
Was the ICS-A absolute value concentration for all non-spiked metals < LOD (unless they are a verified trace impurity form one of the spiked metals)	X		
Were the ICS-AB recoveries within ± 20%?	X		

14.0 Matrix Spike/Matrix Spike Duplicate

MS/MSD Criteria	Yes	No	N/A
Was a MS/MSD sample analyzed with every preparatory batch?	X		
Was a MS/MSD sample collected for this SDG?	X		
Were MS/MSD recoveries/RPDs within acceptance criteria listed in the UFP-QAPP?	X		

Sample CAFB-IDW-W-05132016 was spiked and analyzed for metals. Sample CAFB-IDW-S-05132016 was spiked and analyzed for TCLP metals.

The native concentration of barium in sample CAFB-IDW-W-05132016 was greater than four times the spike amount; therefore, the associated barium results did not required evaluation or qualification.

15.0 Matrix Duplicate

Matrix Duplicate (MD) Criteria	Yes	No	N/A
Were MD samples analyzed with every preparatory batch?	X		
Were MD samples collected for this SDG?	X		
Were MD RPDs within acceptance criteria listed in the UFP-QAPP?	X		

Sample CAFB-IDW-W-05132016 was duplicated and analyzed for metals. Sample CAFB-IDW-S-05132016 was duplicated and analyzed for TCLP metals and paint filter.

16.0 Dilution Test

Method 6020A Dilution Test Criteria	Yes	No	N/A
Was a dilution test sample analyzed with every preparatory batch?	X		
Was a dilution test sample analyzed from this SDG?	X		
Were metals concentrations > 50x the LOQ?	X		
Did the five-fold dilution agree within ± 10% of the original measurement?	X		
If the five-fold dilution did not agree within ± 10% of the original measurement, was a post digestion spike sample analyzed?	X		

Cannon AFB Data Verification

Laboratory and SDGs#: EMAX 16E133 **URS Chemist: Jennifer Zorinsky**
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Guidance: DoD QSM, Version 4.2, Appendix F Tables (DoD, 2010)
Applicable QAPP: Work Plan RCRA Facility Investigation at Twelve Sites (FPM/URS 2015)
Applicable Analytical Methods: 8260B, 8270D, 8081A, 8151A, 8015C, 6020A/6010C/7470A/7471B, and 9095B

Sample CAFB-IDW-W-05132016 was diluted and analyzed for metals. Sample CAFB-IDW-S-05132016 was diluted and analyzed for TCLP metals.

17.0 Post Digestion Spike (PDS)

Method 6020A PDS Criteria	Yes	No	N/A
Was a PDS sample analyzed from this SDG?	X		
Was a PDS sample analyzed if the dilution test failed or metals concentrations were < 50 x the LOD?	X		
Were the PDS recoveries within 75-125%?	X		

Sample CAFB-IDW-W-05132016 was spiked and analyzed for metals. Sample CAFB-IDW-S-05132016 was spiked and analyzed for TCLP metals.

18.0 Field Duplicate Samples

Field Duplicate Criteria	Yes	No	N/A
Were field duplicate samples collected for this SDG? (if yes, list below)		X	
Were parent sample / field duplicate RPDs ≤ 50% for soil analytes that had concentrations > 5x the LOQ.			X
Were the differences between the parent sample / field duplicate < 2x the LOQ for analytes that had concentrations < 5x the LOQ			X

19.0 Sensitivity

Sensitivity Criteria	Yes	No	N/A
Was the laboratory sensitivity consistent with project (QAPP) requirements?	X		
Did all analytes meet sensitivity requirements?	X		

20.0 Additional Qualifications

Additional Qualification Criteria	Yes	No	N/A
Were common laboratory contaminants detected?		X	
Were common laboratory contaminant concentrations < 2x the LOQ?			X
Was professional judgment used to qualify data (if yes, list below)?		X	

CLIENT: **URS CORPORATION**

PROJECT: **CANNON AFB PBR**

SDG: **16E133**

I certify this package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than that the conditions detailed in the report. Release of the data contained in this hardcopy data package and in the computer-readable data submitted in CD ROM has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Caspar J. Pang
Laboratory Director

LABORATORY REPORT

CLIENT: **URS CORPORATION**

PROJECT: **CANNON AFB PBR**

SDG: **16E133**

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EMAX
LABORATORIES, INC.
1835 W. 205th Street
Torrance, CA 90501
Tel: (310) 618-8889
Fax: (310) 618-0818

Date: 06-06-2016
EMAX Batch No.: 16E133

Attn: Jeff Aust

URS Corporation
12120 Shamrock Plaza, Suite 300
Omaha, NE 68154

Subject: Laboratory Report
Project: CANNON AFB PBR

Enclosed is the Laboratory report for samples received on 05/14/16.
The data reported relate only to samples listed below :

Sample ID	Control #	Col Date	Matrix	Analysis
TB-05132016	E133-01	05/13/16	WATER	VOLATILE ORGANICS BY GC/MS
CAFB-IDW-W-05132016	E133-02	05/13/16	WATER	VOLATILE ORGANICS BY GC/MS
				TOTAL METALS BY ICP-MS
				MERCURY
				CHLORINATED HERBICIDES
				PESTICIDES ORGANOCHLORINE
				SEMIVOLATILE ORGANICS BY GCMS
CAFB-IDW-S-05132016	E133-03	05/13/16	SOIL	DRO & ORO
				GASOLINE RANGE ORGANICS
				METALS ICP TCLP
				MERCURY TCLP
				SEMIVOLATILE ORGANICS TCLP
				VOLATILE ORGANICS TCLP
				PAINT FILTER LIQUID TEST
				CHLORINATED HERBICIDES TCLP
				PESTICIDES TCLP
CA015-0341A-000.5	E133-04	05/13/16	SOIL	DRO & ORO
				GASOLINE RANGE ORGANICS

The results are summarized on the following pages.

Please feel free to call if you have any questions concerning
these results.

Sincerely yours,

Caspar J. Pang
Laboratory Director

This report is confidential and intended solely for the use of the individual or entity to whom it is addressed. This report shall not be reproduced except in full or without the written approval of EMAX.

EMAX certifies that results included in this report meets all NELAC & DOD requirements unless noted in the Case Narrative.

NELAP Accredited Certificate Number E871112
L-A-B Accredited DoD ELAP and ISO/IEC 17025 Certificate Number L2278 Testing
California ELAP Accredited Certificate Number 2672

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

A total of two (2) water samples were received on 05/14/16 to be analyzed for Volatile Organics by GC/MS in accordance with Method SW5030B/8260B and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There were two (2) CCVs associated with this SDG: CCV(Datafile ID:REW372) and CCV(Datafile ID:REW402). All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. VO06E16B and VO06E17B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, two (2) sets of LCS/LCD were analyzed. All Analytes in VO06E16L/VO06E16C and VO06E17L/VO06E17C were within LCS limits. Refer to LCS summary forms for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.
Sample E133-02 was reanalyzed and initially reported at dilution to reduce matrix interference (Foamer sample).

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 05/14/16 to be analyzed for TCLP Volatile Organics by GC/MS in accordance with Method SW1311/5030B/8260B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Result was within acceptance criteria. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There was one (1) CCV associated with this SDG. Target analytes in CCV(Datafile ID:REN139) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. TVE003SB and VSF4E08B were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in VSF4E08L/VSF4E08C were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW3520C/8270D
SEMI VOLATILE ORGANICS BY GC/MS

One (1) water sample was received on 05/14/16 to be analyzed for Semi Volatile Organics by GC/MS in accordance with Method SW3520C/8270D and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios as well as DDT breakdown were evaluated. Results were within acceptance criteria. Tailing factor for Benzidine and Pentachlorophenol were also verified and results were within the method limits. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There was one (1) CCV associated with this SDG. Target analytes in CCV(Datafile ID:REJ323) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. SVE025WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in SVE025WL/SVE025WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. For this SDG, all surrogate recoveries were within QC limits except for Terphenyl-D14 in E133-02; most likely due to matrix interference. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.
Sample E133-02 (CAFB-IDW-W-05132016) was extracted with reduced amount and the extract was further diluted prior to analysis due to matrix problem of bubble milky orange color sample.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

One (1) soil sample was received on 05/14/16 to be analyzed for TCLP Semi Volatile Organics by GC/MS in accordance with Method SW1311/3520C/8270D and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument tune check was performed prior to calibration. Instrument mass ratios as well as DDT breakdown were evaluated. Results were within acceptance criteria. Tailing factor for Benzidine and Pentachlorophenol were also verified and results were within the method limits. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. There was one (1) CCV associated with this SDG. Target analytes in CCV(Datafile ID:REJ382) were within calibration acceptance criteria. All calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. SVE030WB and TXE014SB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in SVE030WL/SVE030WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. For this SDG, all surrogate recoveries were within QC limits except for 2-Fluorobiphenyl in SVE030WC. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met with the exception of those that were discussed within the associated QC parameter.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

A total of two (2) soil samples were received on 05/14/16 to be analyzed for Gasoline Range Organics by Purge and Trap in accordance with Method SW5035A/8015C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. GPE008SB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. GPE008SL/GPE008SC was within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION
OIL RANGE ORGANICS BY EXTRACTION

A total of two (2) soil samples were received on 05/14/16 to be analyzed for Diesel Range Organics by Extraction and Oil Range Organics by Extraction in accordance with Method SW3550B/8015C and project specific requirements.

Holding Time
Samples were analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. DSE021SB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. DSE021SL/DSE021SC was within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
Samples were analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.
Sample E133-04 (CA015-0341A-000.5) displayed heavier fuel pattern.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW3520C/8081B
PESTICIDES

One (1) water sample was received on 05/14/16 to be analyzed for Pesticides in accordance with Method SW3520C/8081B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument performance was checked prior to calibration. DDT and Endrin breakdown were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. CPE015WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in CPE015WL/CPE015WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Relative percentage difference (RPD) between the two results was evaluated. If RPD is less than 40% and peaks are well defined the higher result is reported. Where RPD is greater than 40% the chromatogram was checked for anomalies and results were selected based on processed knowledge. If there is no evidence of any chromatographic ambiguity, the higher result is reported.
Note that analyte CASNO 5103-74-2 (registered as trans-chlordane) was reported as gamma-chlordane as identified in Method 8081A/DOD QSM 5.0.
Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/SW3520C/8081B
TCLP PESTICIDES

One (1) soil sample was received on 05/14/16 to be analyzed for Tclp Pesticides in accordance with Method SW1311/SW3520C/8081B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Instrument Performance and Calibration
Instrument performance was checked prior to calibration. DDT and Endrin breakdown were within specification. Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using secondary source (ICV). Continuing calibration (CCV) was carried out at a frequency required by the project. All project calibration requirements were satisfied. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. CPE018WB and TXE014SB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in CPE018WL/CPE018WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogates were added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Relative percentage difference (RPD) between the two results was evaluated. If RPD is less than 40% and peaks are well defined the higher result is reported. Where RPD is greater than 40% the chromatogram was checked for anomalies and results were selected based on processed knowledge. If there is no evidence of any chromatographic ambiguity, the higher result is reported.
Note that analyte CASNO 5103-74-2 (registered as trans-chlordane) was reported as gamma-chlordane as identified in Method 8081A/DOD QSM 5.0.
Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD 8151A
HERBICIDES

One (1) water sample was received on 05/14/16 to be analyzed for Herbicides in accordance with Method 8151A and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. HEE007WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in HEE007WL/HEE007WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/8151A
TCLP HERBICIDES

One (1) soil sample was received on 05/14/16 to be analyzed for Tclp Herbicides in accordance with Method SW1311/8151A and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria. Refer to calibration summary forms of ICAL, ICV and CCV for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. HEE008WB and TXE014SB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. All Analytes in HEE008WL/HEE008WC were within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
No matrix QC sample was designated on this SDG.

Surrogate
Surrogate was added on QC and field samples. All surrogate recoveries were within QC limits. Refer to sample result summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW6020A
TOTAL METALS BY ICP-MS

One (1) water sample was received on 05/14/16 to be analyzed for Total Metals by ICP-MS in accordance with Method SW6020A and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Initial Calibration was established as prescribed by the method and was verified using a secondary source(ICV). Interference checks were performed and results were within required limits. Continuing calibration verifications and continuing calibration blanks were carried out at the frequency specified by the project. All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. IME032WB - result was compliant to project requirement. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) LCS was analyzed. IME032WL - all analytes were within LCS QC limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) MS was analyzed. In addition, analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

One (1) soil sample was received on 05/14/16 to be analyzed for TCLP Metals by ICP in accordance with Method SW1311/3010A/6010C and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Calibration was performed as prescribed by the method and was verified using a secondary source (ICV). All calibration requirements were within acceptance criteria. MRL was analyzed as required by the project. Refer to MRL summary form for details.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. IPE033WB - result was compliant to project requirement. Selenium(0.0143J <1/2 LOQ) was detected at trace level in TXE014SB. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) LCS was analyzed. All Analytes in IPE033WL - all analytes were within LCS QC limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) MS was analyzed. In addition, analytical spike and serial dilution were analyzed and evaluated as appropriate. Results were within expected values. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW7470A
MERCURY BY COLD VAPOR

One (1) water sample was received on 05/14/16 to be analyzed for Mercury by Cold Vapor in accordance with Method SW7470A and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, one (1) method blank was analyzed. Mercury was not detected in HGE014WB. Refer to sample result summary form for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) LCS was analyzed. Mercury was within LCS QC limits in HGE014WL. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) MS was analyzed. Sample duplicate was analyzed and RPD was within expected value. Refer to Matrix QC summary forms for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW1311/7470A
TCLP MERCURY

One (1) soil sample was received on 05/14/16 to be analyzed for Tclp Mercury in accordance with Method SW1311/7470A and project specific requirements.

Holding Time
The sample was digested and analyzed within the prescribed holding time.

Calibration
Multi-calibration points were generated to establish initial calibration (ICAL). ICAL was verified using a secondary source (ICV). Continuing calibration (CCV) verifications were carried on a frequency specified by the project. All calibration requirements were within acceptance criteria.

Method Blank
Method blank was prepared and analyzed at the frequency required by the project. For this SDG, two (2) method blanks were analyzed. HGE017WB and TXE014SB were compliant to project requirement. Refer to sample result summary forms for details.

Lab Control Sample
Lab control sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of LCS/LCD was analyzed. HGE017WL/HGE017WC was within LCS limits. Refer to LCS summary form for details.

Matrix QC Sample
Matrix spike sample was prepared and analyzed at a frequency required by the project. For this SDG, one (1) set of MS/MSD was analyzed. Mercury was within MS QC limits in E133-03M/S. Refer to Matrix QC summary form for details.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

CASE NARRATIVE

Client : URS CORPORATION

Project: CANNON AFB PBR

SDG : 16E133

METHOD SW9095B
PAINT FILTER LIQUID TEST

One (1) soil sample was received on 05/14/16 to be analyzed for Paint Filter Liquid Test in accordance with Method SW9095B and project specific requirements.

Holding Time
The sample was analyzed within the prescribed holding time.

Matrix QC Sample
Sample duplicate was analyzed and RPD was within expected value.

Sample Analysis
The sample was analyzed according to prescribed analytical procedures. Results were evaluated in accordance to project requirements. For this SDG, all quality control requirements were met.

SAMPLE RECEIPT FORM 1 Reference Number: SM02.7.3

Type of Delivery	Airbill / Tracking Number	ECN 16E133
☑ Fedex ☐ UPS ☐ GSO ☐ Others	7830 6026 8404	Recipient ML
☐ EMAX Courier ☐ Client Delivery		Date 5/14/16 Time 1132

COC INSPECTION

☑ Client Name	☑ Client PM/FC	☑ Sampler Name	☑ Sampling Date/Time	☑ Sample ID	☑ Matrix
☑ Address	☐ Tel # / Fax #	☐ Courier Signature	☑ Analysis Required	☑ Preservative (if any)	☐ TAT
Safety Issues (if any)	☐ High concentrations expected	☐ From Superfund Site	☐ Rad screening required		

Note:

PACKAGING INSPECTION

Container	☑ Cooler	☐ Box	☐ Other		
Condition	☑ Custody Seal	☑ Intact	☐ Damaged		
Packaging	☑ Bubble Pack	☐ Styrofoam	☐ Popcorn	☑ Sufficient	☑ Plastic bags
Temperatures (Cool, ≤6 °C but not frozen)	☑ Cooler 1 1.7 °C	☐ Cooler 2_____ °C	☐ Cooler 3_____ °C	☐ Cooler 4_____ °C	☐ Cooler 5_____ °C
	☐ Cooler 6_____ °C	☐ Cooler 7_____ °C	☐ Cooler 8_____ °C	☐ Cooler 9_____ °C	☐ Cooler 10_____ °C
Thermometer:	*A - S/N* 130632505	*B - S/N* 140252070	*C - S/N* 140252067	*D - S/N* 150555630	

Comments: ☐ **Temperature is out of range. PM was informed IMMEDIATELY.**

Note:

DISCREPANCIES

LabSampleID	LabSampleContainerID	Code	ClientSample Label ID / Information	Corrective Action
2,3	8,13,14	D10		R1
2	3-7	D22	* TCLP for VOA TCLP for Metals Bottles are preserved	~~Use unpreserved containers~~ R3

☐ pH holding time requirement for water samples is 15 mins. Water samples for pH analysis are received beyond 15 minutes from sampling time.

NOTES/OBSERVATIONS: * Containers 3-5 are vials preserved w/ HCl. Analysis - TCLP water
Containers 6-7 are preserved w/ HNO3

LEGEND:

☐ **Continue to next page.**

Code	Description- Sample Management	Code	Description-Sample Management	Code	Description-Sample Management
D1	Analysis is not indicated in _____	D13	Out of Holding Time	R1	Proceed as indicated in ☑ COC ☐ Label
D2	Analysis mismatch COC vs label	D14	Bubble is >6mm	R2	Refer to attached instruction
D3	Sample ID mismatch COC vs label	D15	No trip blank in cooler	R3	Cancel the analysis
D4	Sample ID is not indicated in _____	D16	Preservation not indicated in _____	R4	Use vial with smallest bubble first
D5	Container -[improper] [leaking] [broken]	D17	Preservation mismatch COC vs label	R5	Log-in with latest sampling date and time+1 min
D6	Date/Time is not indicated in _____	D18	Insufficient chemical preservative	R6	Adjust pH as necessary
D7	Date/Time mismatch COC vs label	D19	Insufficient Sample	R7	Filter and preserved as necessary
D8	Sample listed in COC is not received	D20	No filtration info for dissolved analysis	R8	
D9	Sample received is not listed in COC	D21	No sample for moisture determination	R9	
D10	No initial/date on corrections in COC/label	D22	Improper preservative	R10	
D11	Container count mismatch COC vs received	D23		R11	
D12	Container size mismatch COC vs received	D24		R12	

REVIEWS:

Sample Labeling [signature] **Date** 5/16/16 5/16/16

SRF [signature] **Date** 5/16/16

PM [signature] **Date** 5/16/16

ORIGIN ID:CVNA (402) 321-0977
KYLE KLOEWER
URS GCP
12120 SHAMROCK PLZ STE 100

OMAHA, NE 68154
UNITED STATES US

SHIP DATE: 13MAY16
ACTWGT: 59.70 LB
CAD: 006993959/SSFE1703
DIMS: 26x14x13 IN

BILL THIRD PARTY

TO **SAMPLE CUSTODIAN**
EMAX LABORATORIES
1835 WEST 205TH STREET

TORRANCE CA 90501

(310) 618-0818 REF:
INV:
PO: DEPT:

FedEx Express

TRK# 0201 **7830 6026 8404**

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO HHRA

90501
CA-US **LAX**

Andy Mai

From: Zorinsky, Jennifer [jennifer.zorinsky@aecom.com]
Sent: Wednesday, May 18, 2016 6:38 AM
To: Andy Mai; Gragert, Steve
Subject: RE: Cannon; logins 16E133, 16E143, 16E144
Follow Up Flag: FollowUp
Flag Status: Red

Andy,

For the aqueous IDW sample (16E133), please change pests, herbs, and SVOCs from TCLP to totals. Please run as totals and report only the TCLP analyte list.

Thanks
Jennifer

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Tuesday, May 17, 2016 8:37 PM
To: Gragert, Steve; Zorinsky, Jennifer
Subject: Cannon; logins 16E133, 16E143, 16E144

Hi Steve\Jennifer,

Please review the attached logins along with the receipt forms and let us know if you have any questions.

Thanks,
Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

Andy Mai

From: Gragert, Steve [steve.gragert@aecom.com]
Sent: Monday, May 16, 2016 11:10 AM
To: Andy Mai; Zorinsky, Jennifer
Subject: RE: Cannon; discrepancies 16E133

Please analyze the aqueous VOCs and metals as total Hg totals using the TCLP analyte list. Do not run TCLP on them.

Hopefully that makes sense.

Thanks.

Steve Gragert, CHMM
Senior Chemist, SH&E Representative, Environment, Central Midwest
D +1-402-952-2534
M +1-402-880-9047
steve.gragert@aecom.com

AECOM
12120 Shamrock Plaza Suite 100
Omaha, NE 68154, United States
T +1-402-334-8181
aecom.com

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FORTUNE WORLD'S MOST ADMIRED COMPANIES 2015

From: Andy Mai [mailto:AMai@emaxlabs.com]
Sent: Monday, May 16, 2016 12:53 PM
To: Gragert, Steve; Zorinsky, Jennifer
Subject: Cannon; discrepancies 16E133

Hi Steve\Jennifer,

The water TCLP samples for VOCs and Metals were received in preserved containers. TCLP samples should be unpreserved. We plan to use the unpreserved ambers and proceed with the analyses. Please let me know if this is OK.

Thanks,
Andy Mai
EMAX Laboratories, Inc.
1835 W. 205th St.
Torrance, CA 90501
Tel: 310-618-8889 ext. 117
Fax: 310-618-0818
AMai@emaxlabs.com

URS Corporation
12120 Shamrock Plaza, Suite 100, Omaha, NE 68154 (402) 334-8181 Fax (402) 334-1984

CHAIN OF CUSTODY RECORD

16E133

Project Name: Cannon AFB PBR
Project No.: 60425210
Project Location: CAFB, NM
Project Manager: Mike Sonderman
Sampler(s): K. Klocwes, J. Carritt

	Sample Date	Sample Time	Type Comp.	Type Grab	Sample Identification	Matrix	Containers No.	Containers Type	TCLP Water	TCLP Soil	TPH-GRO 8015	TPH-DRO/ORO 8015	VOCs 8260B						Preservative / Remarks
1	5/13/16	0745	X*	X	TB-05132016	AQ	2	40mL VOAs					X						HCL
2	5/13/16	0830	X		CAFB-IDW-W-05132016	AQ	See special Instructions		X										
3	5/13/16	0800	X		CAFB-IDW-S-05132016	Soil	See special Instructions			X	X	X							(2) 40mL VOA, MEOH=GRO
4	5/13/16	0945		X	CA015-0341A-000.5	Soil	1	4oz Glass jar				X							
4B 5/16/16	5/13/16	0945		X	CA015-0341A-000.5	Soil	2	40mL VOA			X								MeOH

Signatures	Date	Time	Shipping Details	Special Instructions
Relinquished by: [signature]	5/13/16	1030	Method of Shipment: FEDEX	TCLP Water = 8260B, 8270D, 8081B, 8151A, 6020A, 7470A, (3) 40mL VOA, HCL / (5) 1 Liter Ambers NONE PRESER. (2) 250mL HDPE, HNO3
Received by:			Airbill No.: –	
Relinquished by:			Lab Address: EMAX Laboratories 1835 West 205th Street Torrance, CA 90501	TCLP Soil = 8260B, 8270D, 8081B, ~~8081~~ 8151A, 6010C, 7470A, 9095B, (2) 8oz Glass jars
Received for Laboratory by: [signature]	5/14/16	11:32		

P Drive/Office Administration/Chain of Custody Form (Nov 2012) White copy - Laboratory Yellow copy - Laboratory Pink copy - URS

Temp = 1.7°C 130380

REPORTING CONVENTIONS

DATA QUALIFIERS:

Lab Qualifier	AFCEE Qualifier	Description
J	F	Indicates that the analyte is positively identified and the result is less than LOQ/RL but greater than LOD/MDL/DL.
N		Indicates presumptive evidence of a compound.
B	B	Indicates that the analyte is found in the associated method blank as well as in the sample at above QC level.
E	J	Indicates that the result is above the maximum calibration range or estimated value.
*	*	Out of QC limit.

Note: The above qualifiers are used to flag the results unless the project requires a different set of qualification criteria.

ACRONYMS AND ABBREVIATIONS:

CRDL	Contract Required Detection Limit
RL	Reporting Limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
DO	Diluted out

DATES

The date and time information for leaching and preparation reflect the beginning date and time of the procedure unless the method, protocol, or project specifically requires otherwise.

LAB CHRONICLE
VOLATILE ORGANICS BY GC/MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : T-006

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	V006E16B	1	NA	05/19/1615:50	05/19/1615:50	REW376	RCW159	V006E16	Method Blank
LCS1W	V006E16L	1	NA	05/19/1614:33	05/19/1614:33	REW373	RCW159	V006E16	Lab Control Sample (LCS)
LCD1W	V006E16C	1	NA	05/19/1614:58	05/19/1614:58	REW374	RCW159	V006E16	LCS Duplicate
TB-05132016	E133-01	1	NA	05/19/1616:16	05/19/1616:16	REW377	RCW159	V006E16	Field Sample
MBLK2W	V006E17B	1	NA	05/20/1613:38	05/20/1613:38	REW406	RCW159	V006E17	Method Blank
LCS2W	V006E17L	1	NA	05/20/1612:22	05/20/1612:22	REW403	RCW159	V006E17	Lab Control Sample (LCS)
LCD2W	V006E17C	1	NA	05/20/1612:47	05/20/1612:47	REW404	RCW159	V006E17	LCS Duplicate
CAFB-IDW-W-05132016	E133-02	10	NA	05/20/1614:03	05/20/1614:03	REW407	RCW159	V006E17	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TCLP VOLATILE ORGANICS BY GC/MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : F4

LEACHATE

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	VSF4E08B	1	NA	05/26/1611:35	05/26/1611:35	REN142	RCN007	VSF4E08	Method Blank
LCS1W	VSF4E08L	1	NA	05/26/1610:40	05/26/1610:40	REN140	RCN007	VSF4E08	Lab Control Sample (LCS)
LCD1W	VSF4E08C	1	NA	05/26/1611:08	05/26/1611:08	REN141	RCN007	VSF4E08	LCS Duplicate
MBLK2W	TVE003SB	10	NA	05/26/1612:03	05/26/1612:03	REN143	RCN007	VSF4E08	Method Blank
CAFB-IDW-S-05132016	E133-03	10	NA	05/26/1612:31	05/26/1612:31	REN144	RCN007	VSF4E08	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
SEMI VOLATILE ORGANICS BY GC/MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : T-OE4

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
LCS1W	SVE025WL	1	NA	05/23/1610:39	05/18/1615:14	REJ328	RBJ007	SVE025W	Lab Control Sample (LCS)
LCD1W	SVE025WC	1	NA	05/23/1610:58	05/18/1615:14	REJ329	RBJ007	SVE025W	LCS Duplicate
MBLK1W	SVE025WB	1	NA	05/23/1611:17	05/18/1615:14	REJ330	RBJ007	SVE025W	Method Blank
CAFB-IDW-W-05132016	E133-02	5	NA	05/23/1617:47	05/18/1615:14	REJ350	RBJ007	SVE025W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : T-OE4

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	SVE030WB	1	NA	05/25/1611:45	05/23/1612:45	REJ384	RBJ007	SVE030W	Method Blank
LCS1W	SVE030WL	1	NA	05/25/1612:04	05/23/1612:45	REJ385	RBJ007	SVE030W	Lab Control Sample (LCS)
LCD1W	SVE030WC	1	NA	05/25/1612:24	05/23/1612:45	REJ386	RBJ007	SVE030W	LCS Duplicate
MBLK2W	TXE014SB	10	NA	05/25/1614:19	05/23/1612:45	REJ392	RBJ007	SVE030W	Method Blank
CAFB-IDW-S-05132016	E133-03	10	4.0	05/25/1614:39	05/23/1612:45	REJ393	RBJ007	SVE030W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : GCT055

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	GPE008SB	1	NA	05/17/1618:04	05/17/1618:04	UE17004A	UE17003A	GPE008S	Method Blank
LCS1S	GPE008SL	1	NA	05/17/1618:42	05/17/1618:42	UE17005A	UE17003A	GPE008S	Lab Control Sample (LCS)
LCD1S	GPE008SC	1	NA	05/17/1619:19	05/17/1619:19	UE17006A	UE17003A	GPE008S	LCS Duplicate
CAFB-IDW-S-05132016	E133-03N	1.02	4.0	05/18/1611:04	05/18/1611:04	UE17025A	UE17013A	GPE008S	Field Sample
CA015-0341A-000.5	E133-04	0.88	6.1	05/17/1621:10	05/17/1621:10	UE17009A	UE17003A	GPE008S	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
DIESEL RANGE ORGANICS BY EXTRACTION

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : D5

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	DSE021SB	1	NA	05/23/1612:38	05/20/1618:00	LE23008A	LE23007A	DSE021S	Method Blank
LCS1S	DSE021SL	1	NA	05/23/1612:55	05/20/1618:00	LE23009A	LE23007A	DSE021S	Lab Control Sample (LCS)
LCD1S	DSE021SC	1	NA	05/23/1613:12	05/20/1618:00	LE23010A	LE23007A	DSE021S	LCS Duplicate
CAFB-IDW-S-05132016	E133-03	1	4.0	05/23/1614:03	05/20/1618:00	LE23013A	LE23007A	DSE021S	Field Sample
CA015-0341A-000.5	E133-04	1	6.1	05/23/1615:27	05/20/1618:00	LE23018A	LE23007A	DSE021S	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
OIL RANGE ORGANICS BY EXTRACTION

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : D5

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1S	DSE021SB	1	NA	05/23/1612:38	05/20/1618:00	LE23008A	LE23007A	DSE021S	Method Blank
LCS1S	DSE021SL	1	NA	05/23/1613:29	05/20/1618:00	LE23011A	LE23007A	DSE021S	Lab Control Sample (LCS)
LCD1S	DSE021SC	1	NA	05/23/1613:46	05/20/1618:00	LE23012A	LE23007A	DSE021S	LCS Duplicate
CAFB-IDW-S-05132016	E133-03	1	4.0	05/23/1614:03	05/20/1618:00	LE23013A	LE23007A	DSE021S	Field Sample
CA015-0341A-000.5	E133-04	1	6.1	05/23/1615:27	05/20/1618:00	LE23018A	LE23007A	DSE021S	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
PESTICIDES

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : GCE8

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	CPE015WB	1	NA	05/20/1616:36	05/19/1610:15	ME20006B	ME20004B	CPE015W	Method Blank
LCS1W	CPE015WL	1	NA	05/20/1616:56	05/19/1610:15	ME20007B	ME20004B	CPE015W	Lab Control Sample (LCS)
LCD1W	CPE015WC	1	NA	05/20/1617:16	05/19/1610:15	ME20008B	ME20004B	CPE015W	LCS Duplicate
CAFB-IDW-W-05132016	E133-02	1.06	NA	05/20/1617:36	05/19/1610:15	ME20009B	ME20004B	CPE015W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TCLP PESTICIDES

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : GCE8

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	CPE018WB	1	NA	05/24/1612:54	05/23/1610:00	ME24006A	ME24004A	CPE018W	Method Blank
LCS1W	CPE018WL	1	NA	05/24/1613:14	05/23/1610:00	ME24007A	ME24004A	CPE018W	Lab Control Sample (LCS)
LCD1W	CPE018WC	1	NA	05/24/1613:34	05/23/1610:00	ME24008A	ME24004A	CPE018W	LCS Duplicate
MBLK2W	TXE014SB	10	NA	05/24/1614:54	05/23/1610:00	ME24012A	ME24004A	CPE018W	Method Blank
CAFB-IDW-S-05132016	E133-03	10	4.0	05/24/1615:14	05/23/1610:00	ME24013A	ME24004A	CPE018W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
HERBICIDES

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : GCT016

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	HEE007WB	1	NA	05/19/1612:01	05/18/1610:40	WE19003A	WE19002A	HEE007W	Method Blank
LCS1W	HEE007WL	1	NA	05/19/1612:28	05/18/1610:40	WE19004A	WE19002A	HEE007W	Lab Control Sample (LCS)
LCD1W	HEE007WC	1	NA	05/19/1612:56	05/18/1610:40	WE19005A	WE19002A	HEE007W	LCS Duplicate
CAFB-IDW-W-05132016	E133-02I	5	NA	05/19/1613:24	05/18/1610:40	WE19006A	WE19002A	HEE007W	Diluted Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TCLP HERBICIDES

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : GCT016

LEACHATE

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	HEE008WB	1	NA	05/24/1612:45	05/23/1611:00	WE24006A	WE24002A	HEE008W	Method Blank
LCS1W	HEE008WL	1	NA	05/24/1613:12	05/23/1611:00	WE24007A	WE24002A	HEE008W	Lab Control Sample (LCS)
LCD1W	HEE008WC	1	NA	05/24/1613:40	05/23/1611:00	WE24008A	WE24002A	HEE008W	LCS Duplicate
MBLK2W	TXE014SB	50	NA	05/24/1617:30	05/23/1611:00	WE24016A	WE24014A	HEE008W	Method Blank
CAFB-IDW-S-05132016	E133-03	50	NA	05/24/1618:41	05/23/1611:00	WE24018A	WE24014A	HEE008W	Field Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TOTAL METALS BY ICP-MS

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : T-IF6

WATER

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IME032WB	1	NA	05/23/1620:13	05/20/1611:41	F6E10064	F6E10062	IME032W	Method Blank
LCS1W	IME032WL	1	NA	05/23/1620:17	05/20/1611:41	F6E10065	F6E10062	IME032W	Lab Control Sample (LCS)
CAFB-IDW-W-05132016MS	E133-02M	1	NA	05/23/1620:26	05/20/1611:41	F6E10067	F6E10062	IME032W	Matrix Spike Sample (MS)
CAFB-IDW-W-05132016AS	E133-02A	1	NA	05/23/1620:30	05/20/1611:41	F6E10068	F6E10062	IME032W	Analytical Spike Sample
CAFB-IDW-W-05132016	E133-02	1	NA	05/23/1620:34	05/20/1611:41	F6E10069	F6E10062	IME032W	Field Sample
CAFB-IDW-W-05132016DL	E133-02J	5	NA	05/23/1620:39	05/20/1611:41	F6E10070	F6E10062	IME032W	Diluted Sample
CAFB-IDW-W-05132016DUP	E133-02D	1	NA	05/23/1620:43	05/20/1611:41	F6E10071	F6E10062	IME032W	Duplicate Sample

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
TCLP METALS BY ICP

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : T-ID8

LEACHATE

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	IPE033WB	1	NA	05/24/1616:12	05/23/1614:43	ID8E025022	ID8E025020	IPE033W	Method Blank
LCS1W	IPE033WL	1	NA	05/24/1616:15	05/23/1614:43	ID8E025023	ID8E025020	IPE033W	Lab Control Sample (LCS)
MBLK2W	TXE014SB	5	NA	05/24/1616:17	05/23/1614:43	ID8E025024	ID8E025020	IPE033W	Method Blank
CAFB-IDW-S-05132016AS	E133-03A	5	NA	05/24/1616:20	05/23/1614:43	ID8E025025	ID8E025020	IPE033W	Analytical Spike Sample
CAFB-IDW-S-05132016	E133-03	5	NA	05/24/1616:23	05/23/1614:43	ID8E025026	ID8E025020	IPE033W	Field Sample
CAFB-IDW-S-05132016DL	E133-03J	25	NA	05/24/1616:26	05/23/1614:43	ID8E025027	ID8E025020	IPE033W	Diluted Sample
CAFB-IDW-S-05132016DUP	E133-03D	5	NA	05/24/1616:29	05/23/1614:43	ID8E025028	ID8E025020	IPE033W	Duplicate Sample
CAFB-IDW-S-05132016MS	E133-03M	5	NA	05/24/1616:32	05/23/1614:43	ID8E025029	ID8E025020	IPE033W	Matrix Spike Sample (MS)

FN - Filename
% Moist - Percent Moisture

METHOD SW7470A
MERCURY BY COLD VAPOR

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : WATER
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE014WB	ND	1	NA	0.50	0.054	0.10	05/19/1619:11	05/19/1612:10	M47E011030	M47E011	HGE014W	NA	NA
LCS1W	HGE014WL	2.52	1	NA	0.50	0.054	0.10	05/19/1619:13	05/19/1612:10	M47E011031	M47E011	HGE014W	NA	NA
CAFB-IDW-W-05132016	E133-02	ND	1	NA	0.50	0.054	0.10	05/19/1619:22	05/19/1612:10	M47E011035	M47E011	HGE014W	05/13/1608:30	05/14/16
CAFB-IDW-W-05132016MS	E133-02M	2.35	1	NA	0.50	0.054	0.10	05/19/1619:27	05/19/1612:10	M47E011037	M47E011	HGE014W	05/13/1608:30	05/14/16
CAFB-IDW-W-05132016DUP	E133-02D	ND	1	NA	0.50	0.054	0.10	05/19/1619:29	05/19/1612:10	M47E011038	M47E011	HGE014W	05/13/1608:30	05/14/16

LAB CHRONICLE
TCLP MERCURY

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : TI047

LEACHATE

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
MBLK1W	HGE017WB	1	NA	05/23/1618:35	05/23/1612:00	M47E013041	M47E013	HGE017W	Method Blank
LCS1W	HGE017WL	1	NA	05/23/1618:38	05/23/1612:00	M47E013042	M47E013	HGE017W	Lab Control Sample (LCS)
LCD1W	HGE017WC	1	NA	05/23/1618:40	05/23/1612:00	M47E013043	M47E013	HGE017W	LCS Duplicate
MBLK2W	TXE014SB	1	NA	05/23/1618:42	05/23/1612:00	M47E013044	M47E013	HGE017W	Method Blank
CAF8-IDW-S-05132016	E133-03	1	NA	05/23/1618:51	05/23/1612:00	M47E013048	M47E013	HGE017W	Field Sample
CAFB-IDW-S-05132016MS	E133-03M	1	NA	05/23/1618:56	05/23/1612:00	M47E013050	M47E013	HGE017W	Matrix Spike Sample (MS)
CAFB-IDW-S-05132016MSD	E133-03S	1	NA	05/23/1618:58	05/23/1612:00	M47E013051	M47E013	HGE017W	MS Duplicate (MSD)

FN - Filename
% Moist - Percent Moisture

LAB CHRONICLE
Paint Filter Liquid Test

Client : URS CORPORATION
Project : CANNON AFB PBR

SDG NO. : 16E133
Instrument ID : NA

SOIL

Client Sample ID	Laboratory Sample ID	Dilution Factor	% Moist	Analysis DateTime	Extraction DateTime	Sample Data FN	Calibration Data FN	Prep. Batch	Notes
CAFB-IDW-S-05132016	E133-03	1	4.0	05/15/1615:10	NA	PFE00201	PFE002	PFE002S	Field Sample
CAFB-IDW-S-05132016DUP	E133-03D	1	4.0	05/15/1615:10	NA	PFE00202	PFE002	PFE002S	Duplicate Sample

FN - Filename
% Moist - Percent Moisture

RESULTS SUMMARIES

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/19/16 16:16
Sample ID:	TB-05132016	Date Analyzed:	05/19/16 16:16
Lab Samp ID:	E133-01	Dilution Factor:	1
Lab File ID:	REW377	Matrix :	WATER
Ext Btch ID:	VO06E16	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.4	10.00	104	70-120
4-BROMOFLUOROBENZENE	10.6	10.00	106	75-120
TOLUENE-D8	10.4	10.00	104	85-120
DIBROMOFLUOROMETHANE	10.0	10.00	100	85-115

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 14:03
Sample ID	: CAFB-IDW-W-05132016	Date Analyzed:	05/20/16 14:03
Lab Samp ID	: E133-02	Dilution Factor:	10
Lab File ID	: REW407	Matrix :	WATER
Ext Btch ID	: V006E17	% Moisture :	NA
Calib. Ref.	: RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	10	1.0	2.0
2-BUTANONE	ND	100	20	40
CARBON TETRACHLORIDE	ND	10	1.0	2.0
CHLOROBENZENE	ND	10	1.0	2.0
CHLOROFORM	ND	10	1.0	2.0
1,4-DICHLOROBENZENE	ND	10	1.0	2.0
1,2-DICHLOROETHANE	ND	10	1.0	2.0
1,1-DICHLOROETHENE	ND	10	1.0	2.0
TETRACHLOROETHENE	ND	10	1.5	2.0
TRICHLOROETHENE	ND	10	1.0	2.0
VINYL CHLORIDE	ND	10	1.2	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	108	100.0	108	70-120
4-BROMOFLUOROBENZENE	103	100.0	103	75-120
TOLUENE-D8	104	100.0	104	85-120
DIBROMOFLUOROMETHANE	94.7	100.0	94.7	85-115

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/26/16 12:31
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/26/16 12:31
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	REN144	Matrix :	LEACHATE
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	50	5.0	10
2-BUTANONE	ND	100	25	50
CARBON TETRACHLORIDE	ND	50	5.4	10
CHLOROBENZENE	ND	50	5.0	10
CHLOROFORM	ND	50	5.0	10
1,4-DICHLOROBENZENE	ND	50	5.0	10
1,2-DICHLOROETHANE	ND	50	5.0	10
1,1-DICHLOROETHENE	ND	50	5.0	10
TETRACHLOROETHENE	ND	50	5.0	10
TRICHLOROETHENE	ND	50	5.0	10
VINYL CHLORIDE	ND	50	6.1	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	454	500.0	90.8	70-120
4-BROMOFLUOROBENZENE	456	500.0	91.1	75-120
TOLUENE-D8	488	500.0	97.6	85-120
DIBROMOFLUOROMETHANE	500	500.0	100	85-115

DateTime Leached: 05/24/16 15:30

METHOD SW3520C/8270D
SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 15:14
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/23/16 17:47
Lab Samp ID:	E133-02	Dilution Factor:	5
Lab File ID:	REJ350	Matrix :	WATER
Ext Btch ID:	SVE025W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	50	12	25
2,4,6-TRICHLOROPHENOL	ND	50	12	25
2,4-DINITROTOLUENE	ND	50	12	25
2-METHYLPHENOL	ND	50	12	25
4-METHYLPHENOL (1)	ND	50	12	25
HEXACHLOROBENZENE	ND	50	12	25
HEXACHLOROBUTADIENE	ND	50	12	25
HEXACHLOROETHANE	ND	50	12	25
NITROBENZENE	ND	50	12	25
PENTACHLOROPHENOL	ND	100	12	25
PYRIDINE	ND	200	57	100

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	142	150.0	94.7	40-125
2-FLUOROBIPHENYL	30.2	50.00	60.4	50-110
2-FLUOROPHENOL	73.3	150.0	48.9	20-110
NITROBENZENE-D5	30.3	50.00	60.6	40-110
PHENOL-D5	98.5	150.0	65.7	10-115
TERPHENYL-D14	22.3	50.00	44.6*	50-135

(1): 4-Methylphenol cannot be separated from 3-Methylphenol

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/25/16 14:39
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	REJ393	Matrix :	LEACHATE
Ext Btch ID:	SVE030W	% Moisture :	4.0
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	100	25	50
2,4,6-TRICHLOROPHENOL	ND	100	25	50
2,4-DINITROTOLUENE	ND	100	25	50
2-METHYLPHENOL	ND	100	25	50
4-METHYLPHENOL (1)	ND	100	25	50
HEXACHLOROBENZENE	ND	100	25	50
HEXACHLOROBUTADIENE	ND	100	25	50
HEXACHLOROETHANE	ND	100	25	50
NITROBENZENE	ND	100	25	50
PENTACHLOROPHENOL	ND	200	25	50
PYRIDINE	ND	400	110	200

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	348	600.0	58.1	40-125
2-FLUOROBIPHENYL	117	200.0	58.5	50-110
2-FLUOROPHENOL	281	600.0	46.9	20-110
NITROBENZENE-D5	114	200.0	57.0	40-110
PHENOL-D5	332	600.0	55.3	10-115
TERPHENYL-D14	144	200.0	72.0	50-135

(1): Cannot be separated from 3-Methylphenol
DateTime Leached: 05/20/16 18:30

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 11:04
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/18/16 11:04
Lab Samp ID:	E133-03N	Dilution Factor:	1.02
Lab File ID:	UE17025A	Matrix :	SOIL
Ext Btch ID:	GPE008S	% Moisture :	4.0
Calib. Ref.:	UE17013A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	0.30J	1.1	0.27	0.53

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.47	2.125	69.4	67-134

Parameter	H-C Range
GRO	C6-C10

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/17/16 21:10
Sample ID:	CA015-0341A-000.5	Date Analyzed:	05/17/16 21:10
Lab Samp ID:	E133-04	Dilution Factor:	0.88
Lab File ID:	UE17009A	Matrix :	SOIL
Ext Btch ID:	GPE008S	% Moisture :	6.1
Calib. Ref.:	UE17003A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	0.77J	0.94	0.23	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.51	1.874	80.6	67-134

Parameter	H-C Range
GRO	C6-C10

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/23/16 14:03
Lab Samp ID:	E133-03	Dilution Factor:	1
Lab File ID:	LE23013A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	4.0
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	ND	10	2.6	5.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	93.9	104.2	90.1	60-130
HEXACOSANE	31.8	26.04	122	60-130

Parameter	H-C Range
DRO	C10-C24

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	CA015-0341A-000.5	Date Analyzed:	05/23/16 15:27
Lab Samp ID:	E133-04	Dilution Factor:	1
Lab File ID:	LE23018A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	6.1
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	10J	11	2.7	5.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	86.3	106.5	81.1	60-130
HEXACOSANE	29.9	26.62	112	60-130

Parameter	H-C Range
DRO	C10-C24

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/23/16 14:03
Lab Samp ID:	E133-03	Dilution Factor:	1
Lab File ID:	LE23013A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	4.0
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	ND	21	2.6	5.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	93.9	104.2	90.1	60-130
HEXACOSANE	31.8	26.04	122	60-130

Parameter	H-C Range
ORO	C24-C36

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	CA015-0341A-000.5	Date Analyzed:	05/23/16 15:27
Lab Samp ID:	E133-04	Dilution Factor:	1
Lab File ID:	LE23018A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	6.1
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	100	21	2.7	5.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	86.3	106.5	81.1	60-130
HEXACOSANE	29.9	26.62	112	60-130

Parameter	H-C Range
ORO	C24-C36

METHOD SW3520C/8081B
PESTICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/19/16 10:15
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/20/16 17:36
Lab Samp ID:	E133-02	Dilution Factor:	1.06
Lab File ID:	ME20009B	Matrix :	WATER
Ext Btch ID:	CPE015W	% Moisture :	NA
Calib. Ref.:	ME20004B	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	0.012J | (ND)	0.11	0.0053	0.011
HEPTACHLOR	0.20 | (ND)	0.11	0.0074	0.011
HEPTACHLOR EPOXIDE	ND | (ND)	0.11	0.0053	0.011
GAMMA-CHLORDANE	0.031J | (ND)	0.11	0.0053	0.011
ALPHA-CHLORDANE	ND | (ND)	0.11	0.0053	0.011
ENDRIN	ND | (ND)	0.11	0.0085	0.011
METHOXYCHLOR	ND | (ND)	1.1	0.053	0.11
TOXAPHENE	ND | (ND)	2.1	0.26	0.53

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.4823 | (0.4802)	0.4000	121 | (120)	25-140
DECACHLOROBIPHENYL	0.4133 | (0.4456)	0.4000	103 | (111)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 15:14
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	ME24013A	Matrix	: WATER
Ext Btch ID:	CPE018W	% Moisture	: 4.0
Calib. Ref.:	ME24004A	Instrument ID	: GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND) | ND	1.0	0.050	0.10
HEPTACHLOR	(ND) | ND	1.0	0.070	0.10
HEPTACHLOR EPOXIDE	(ND) | ND	1.0	0.050	0.10
GAMMA-CHLORDANE	(ND) | ND	1.0	0.050	0.10
ALPHA-CHLORDANE	(ND) | ND	1.0	0.050	0.10
ENDRIN	(ND) | ND	1.0	0.080	0.10
METHOXYCHLOR	(ND) | ND	10	0.50	1.0
TOXAPHENE	(ND) | ND	20	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(3.748) | 3.565	4.000	(93.7) | 89.1	25-140
DECACHLOROBIPHENYL	4.015 | (4.178)	4.000	100 | (104)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

DateTime Leached: 05/20/16 18:30

METHOD 8151A
HERBICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 10:40
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/19/16 13:24
Lab Samp ID:	E133-02I	Dilution Factor:	5
Lab File ID:	WE19006A	Matrix :	WATER
Ext Btch ID:	HEE007W	% Moisture :	NA
Calib. Ref.:	WE19002A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	5.7 | (10)	2.0	0.50	1.0
2,4,5-TP (SILVEX)	(ND) | ND	2.0	0.50	1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	(11.78) | 10.99	10.00	(118) | 110	50-130

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 18:41
Lab Samp ID:	E133-03	Dilution Factor:	50
Lab File ID:	WE24018A	Matrix :	LEACHATE
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24014A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	20	5.0	10
2,4,5-TP (SILVEX)	(ND)|ND	20	5.0	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	410.6|(462.9)	500.0	82.1|(92.6)	50-130

DateTime Leached: 05/20/16 18:30

METHOD SW6020A
TOTAL METALS BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
SDG NO.	: 16E133	Date Extracted:	05/20/16 11:41
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/23/16 20:34
Lab Samp ID:	E133-02	Dilution Factor:	1
Lab File ID:	F6E10069	Matrix :	WATER
Ext Btch ID:	IME032W	% Moisture :	NA
Calib. Ref.:	F6E10062	Instrument ID :	T-IF6

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
Arsenic	1.78	1.00	0.200	0.100
Barium	149	1.00	0.500	0.250
Cadmium	1.97	1.00	0.200	0.100
Chromium, total	16.0	1.00	0.200	0.100
Lead	3.70	1.00	0.200	0.100
Selenium	17.3	1.00	0.300	0.150
Silver	ND	1.00	0.200	0.100

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	05/13/16 08:00
Project	: CANNON AFB PBR	Date Received:	05/14/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 16:23
Lab Samp ID:	E133-03	Dilution Factor:	5
Lab File ID:	ID8E025026	Matrix :	LEACHATE
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	0.0152J	0.0500	0.0150	0.0250
Barium	1.51	0.0500	0.00500	0.0100
Cadmium	ND	0.0500	0.00500	0.0100
Chromium	ND	0.0500	0.00750	0.0150
Lead	ND	0.0500	0.00850	0.0150
Selenium	ND	0.0500	0.0125	0.0250
Silver	ND	0.0500	0.00750	0.0150

DateTime Leached: 05/20/16 18:30

METHOD SW7470A
MERCURY BY COLD VAPOR

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : WATER
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE014WB	ND	1	NA	0.50	0.054	0.10	05/19/1619:11	05/19/1612:10	M47E011030	M47E011	HGE014W	NA	NA
LCS1W	HGE014WL	2.52	1	NA	0.50	0.054	0.10	05/19/1619:13	05/19/1612:10	M47E011031	M47E011	HGE014W	NA	NA
CAFB-IDW-W-05132016	E133-02	ND	1	NA	0.50	0.054	0.10	05/19/1619:22	05/19/1612:10	M47E011035	M47E011	HGE014W	05/13/1608:30	05/14/16
CAFB-IDW-W-05132016MS	E133-02M	2.35	1	NA	0.50	0.054	0.10	05/19/1619:27	05/19/1612:10	M47E011037	M47E011	HGE014W	05/13/1608:30	05/14/16
CAFB-IDW-W-05132016DUP	E133-02D	ND	1	NA	0.50	0.054	0.10	05/19/1619:29	05/19/1612:10	M47E011038	M47E011	HGE014W	05/13/1608:30	05/14/16

METHOD SW1311/7470A
TCLP MERCURY

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : LEACHATE
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE017WB	ND	1	NA	0.50	0.054	0.10	05/23/1618:35	05/23/1612:00	M47E013041	M47E013	HGE017W	NA	NA
LCS1W	HGE017WL	2.46	1	NA	0.50	0.054	0.10	05/23/1618:38	05/23/1612:00	M47E013042	M47E013	HGE017W	NA	NA
LCD1W	HGE017WC	2.45	1	NA	0.50	0.054	0.10	05/23/1618:40	05/23/1612:00	M47E013043	M47E013	HGE017W	NA	NA
MBLK2W	TXE014SB	ND	1	NA	5.0	0.54	1.0	05/23/1618:42	05/23/1612:00	M47E013044	M47E013	HGE017W	NA	NA
CAFB-IDW-S-05132016	E133-03	ND	1	NA	5.0	0.54	1.0	05/23/1618:51	05/23/1612:00	M47E013048	M47E013	HGE017W	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016MS	E133-03M	25.6	1	NA	5.0	0.54	1.0	05/23/1618:56	05/23/1612:00	M47E013050	M47E013	HGE017W	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016MSD	E133-03S	25.4	1	NA	5.0	0.54	1.0	05/23/1618:58	05/23/1612:00	M47E013051	M47E013	HGE017W	05/13/1608:00	05/14/16

DateTime Leached: 05/20/16 18:30
Note: 5 ml leachate was diluted to 50 ml reagent water prior to digestion.

METHOD SW9095B
Paint Filter Liquid Test

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : SOIL
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ml)	DLF	MOIST	LOQ (ml)	LOD (ml)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
CAFB-IDW-S-05132016	E133-03	ND	1	4.0	5.21	NA	05/15/1615:10	NA	PFE00201	PFE002	PFE002S	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016DUP	E133-03D	ND	1	4.0	5.21	NA	05/15/1615:10	NA	PFE00202	PFE002	PFE002S	05/13/1608:00	05/14/16

QC SUMMARIES

METHOD BLANK

Method: 8260B

QC Measure: VOO6E16B

Associated Samples:

TB-05132016

QC Measure: VOO6E17B

Associated Samples:

CAFB-IDW-W-05132016

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/19/16
Batch No.	: 16E133	Date Extracted:	05/19/16 15:50
Sample ID:	MBLK1W	Date Analyzed:	05/19/16 15:50
Lab Samp ID:	V006E16B	Dilution Factor:	1
Lab File ID:	REW376	Matrix :	WATER
Ext Btch ID:	V006E16	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.2	10.00	102	70-120
4-BROMOFLUOROBENZENE	10.6	10.00	106	75-120
TOLUENE-D8	10.2	10.00	102	85-120
DIBROMOFLUOROMETHANE	10.1	10.00	101	85-115

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 13:38
Sample ID:	MBLK2W	Date Analyzed:	05/20/16 13:38
Lab Samp ID:	V006E17B	Dilution Factor:	1
Lab File ID:	REW406	Matrix :	WATER
Ext Btch ID:	V006E17	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.1	10.00	101	70-120
4-BROMOFLUOROBENZENE	10.9	10.00	109	75-120
TOLUENE-D8	10.6	10.00	106	85-120
DIBROMOFLUOROMETHANE	9.45	10.00	94.5	85-115

Method: 8260B

QC Measure: VSF4E08B

Associated Samples:

CAFB-IDW-S-05132016
TVE003SB

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/26/16
Batch No.	: 16E133	Date Extracted:	05/26/16 11:35
Sample ID:	MBLK1W	Date Analyzed:	05/26/16 11:35
Lab Samp ID:	VSF4E08B	Dilution Factor:	1
Lab File ID:	REN142	Matrix :	WATER
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	5.0	0.50	1.0
2-BUTANONE	ND	10	2.5	5.0
CARBON TETRACHLORIDE	ND	5.0	0.54	1.0
CHLOROBENZENE	ND	5.0	0.50	1.0
CHLOROFORM	ND	5.0	0.50	1.0
1,4-DICHLOROBENZENE	ND	5.0	0.50	1.0
1,2-DICHLOROETHANE	ND	5.0	0.50	1.0
1,1-DICHLOROETHENE	ND	5.0	0.50	1.0
TETRACHLOROETHENE	ND	5.0	0.50	1.0
TRICHLOROETHENE	ND	5.0	0.50	1.0
VINYL CHLORIDE	ND	5.0	0.61	1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	45.1	50.00	90.2	70-120
4-BROMOFLUOROBENZENE	46.2	50.00	92.4	75-120
TOLUENE-D8	49.3	50.00	98.7	85-120
DIBROMOFLUOROMETHANE	49.9	50.00	99.8	85-115

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/26/16
Batch No.	: 16E133	Date Extracted:	05/26/16 12:03
Sample ID:	MBLK2W	Date Analyzed:	05/26/16 12:03
Lab Samp ID:	TVE003SB	Dilution Factor:	10
Lab File ID:	REN143	Matrix :	LEACHATE
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	50	5.0	10
2-BUTANONE	ND	100	25	50
CARBON TETRACHLORIDE	ND	50	5.4	10
CHLOROBENZENE	ND	50	5.0	10
CHLOROFORM	ND	50	5.0	10
1,4-DICHLOROBENZENE	ND	50	5.0	10
1,2-DICHLOROETHANE	ND	50	5.0	10
1,1-DICHLOROETHENE	ND	50	5.0	10
TETRACHLOROETHENE	ND	50	5.0	10
TRICHLOROETHENE	ND	50	5.0	10
VINYL CHLORIDE	ND	50	6.1	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	460	500.0	92.0	70-120
4-BROMOFLUOROBENZENE	455	500.0	91.1	75-120
TOLUENE-D8	486	500.0	97.1	85-120
DIBROMOFLUOROMETHANE	507	500.0	101	85-115

DateTime Leached: 05/24/16 15:30

Method: 8270D

QC Measure: SVE025WB

Associated Samples:

CAFB-IDW-W-05132016

METHOD SW3520C/8270D
SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/18/16
Batch No.	: 16E133	Date Extracted:	05/18/16 15:14
Sample ID:	MBLK1W	Date Analyzed:	05/23/16 11:17
Lab Samp ID:	SVE025WB	Dilution Factor:	1
Lab File ID:	REJ330	Matrix :	WATER
Ext Btch ID:	SVE025W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4,6-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4-DINITROTOLUENE	ND	10	2.5	5.0
2-METHYLPHENOL	ND	10	2.5	5.0
4-METHYLPHENOL (1)	ND	10	2.5	5.0
HEXACHLOROBENZENE	ND	10	2.5	5.0
HEXACHLOROBUTADIENE	ND	10	2.5	5.0
HEXACHLOROETHANE	ND	10	2.5	5.0
NITROBENZENE	ND	10	2.5	5.0
PENTACHLOROPHENOL	ND	20	2.5	5.0
PYRIDINE	ND	40	11	20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	51.5	60.00	85.9	40-125
2-FLUOROBIPHENYL	14.9	20.00	74.4	50-110
2-FLUOROPHENOL	38.9	60.00	64.8	20-110
NITROBENZENE-D5	15.8	20.00	78.9	40-110
PHENOL-D5	45.2	60.00	75.3	10-115
TERPHENYL-D14	16.7	20.00	83.5	50-135

(1): 4-Methylphenol cannot be separated from 3-Methylphenol

Method: 8270D

QC Measure: SVE030WB

Associated Samples:

QC Measure: TXE014SB

Associated Samples:

CAFB-IDW-S-05132016

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	MBLK1W	Date Analyzed:	05/25/16 11:45
Lab Samp ID:	SVE030WB	Dilution Factor:	1
Lab File ID:	REJ384	Matrix :	WATER
Ext Btch ID:	SVE030W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4,6-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4-DINITROTOLUENE	ND	10	2.5	5.0
2-METHYLPHENOL	ND	10	2.5	5.0
4-METHYLPHENOL (1)	ND	10	2.5	5.0
HEXACHLOROBENZENE	ND	10	2.5	5.0
HEXACHLOROBUTADIENE	ND	10	2.5	5.0
HEXACHLOROETHANE	ND	10	2.5	5.0
NITROBENZENE	ND	10	2.5	5.0
PENTACHLOROPHENOL	ND	20	2.5	5.0
PYRIDINE	ND	40	11	20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	33.8	60.00	56.3	40-125
2-FLUOROBIPHENYL	10.1	20.00	50.4	50-110
2-FLUOROPHENOL	27.4	60.00	45.6	20-110
NITROBENZENE-D5	10.9	20.00	54.6	40-110
PHENOL-D5	32.6	60.00	54.3	10-115
TERPHENYL-D14	14.7	20.00	73.2	50-135

(1): Cannot be separated from 3-Methylphenol

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	MBLK2W	Date Analyzed:	05/25/16 14:19
Lab Samp ID:	TXE014SB	Dilution Factor:	10
Lab File ID:	REJ392	Matrix :	LEACHATE
Ext Btch ID:	SVE030W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	100	25	50
2,4,6-TRICHLOROPHENOL	ND	100	25	50
2,4-DINITROTOLUENE	ND	100	25	50
2-METHYLPHENOL	ND	100	25	50
4-METHYLPHENOL (1)	ND	100	25	50
HEXACHLOROBENZENE	ND	100	25	50
HEXACHLOROBUTADIENE	ND	100	25	50
HEXACHLOROETHANE	ND	100	25	50
NITROBENZENE	ND	100	25	50
PENTACHLOROPHENOL	ND	200	25	50
PYRIDINE	ND	400	110	200

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	391	600.0	65.1	40-125
2-FLUOROBIPHENYL	116	200.0	58.1	50-110
2-FLUOROPHENOL	320	600.0	53.4	20-110
NITROBENZENE-D5	128	200.0	63.8	40-110
PHENOL-D5	373	600.0	62.1	10-115
TERPHENYL-D14	164	200.0	82.1	50-135

(1): Cannot be separated from 3-Methylphenol
DateTime Leached: 05/20/16 18:30

Method: 8015C

QC Measure: GPE008SB

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/17/16
Batch No.	: 16E133	Date Extracted:	05/17/16 18:04
Sample ID:	MBLK1S	Date Analyzed:	05/17/16 18:04
Lab Samp ID:	GPE008SB	Dilution Factor:	1
Lab File ID:	UE17004A	Matrix :	SOIL
Ext Btch ID:	GPE008S	% Moisture :	NA
Calib. Ref.:	UE17003A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	ND	1.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.55	2.000	77.5	67-134

Parameter	H-C Range
GRO	C6-C10

Method: 8015C

QC Measure: DSE021SB

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	MBLK1S	Date Analyzed:	05/23/16 12:38
Lab Samp ID:	DSE021SB	Dilution Factor:	1
Lab File ID:	LE23008A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	NA
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	ND	10	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	97.1	100.0	97.1	60-130
HEXACOSANE	28.4	25.00	114	60-130

Parameter	H-C Range
DRO	C10-C24

Method: 8015C

QC Measure: DSE021SB

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	MBLK1S	Date Analyzed:	05/23/16 12:38
Lab Samp ID:	DSE021SB	Dilution Factor:	1
Lab File ID:	LE23008A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	NA
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	ND	20	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	97.1	100.0	97.1	60-130
HEXACOSANE	28.4	25.00	114	60-130

Parameter	H-C Range
ORO	C24-C36

Method: 8081A

QC Measure: CPE015WB

Associated Samples:

CAFB-IDW-W-05132016

METHOD SW3520C/8081B
PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/19/16
Batch No.	: 16E133	Date Extracted:	05/19/16 10:15
Sample ID:	MBLK1W	Date Analyzed:	05/20/16 16:36
Lab Samp ID:	CPE015WB	Dilution Factor:	1
Lab File ID:	ME20006B	Matrix	: WATER
Ext Btch ID:	CPE015W	% Moisture	: NA
Calib. Ref.:	ME20004B	Instrument ID	: GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	ND | (ND)	0.10	0.0050	0.010
HEPTACHLOR	ND | (ND)	0.10	0.0070	0.010
HEPTACHLOR EPOXIDE	ND | (ND)	0.10	0.0050	0.010
GAMMA-CHLORDANE	ND | (ND)	0.10	0.0050	0.010
ALPHA-CHLORDANE	ND | (ND)	0.10	0.0050	0.010
ENDRIN	ND | (ND)	0.10	0.0080	0.010
METHOXYCHLOR	ND | (ND)	1.0	0.050	0.10
TOXAPHENE	ND | (ND)	2.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.3985 | (0.3813)	0.4000	99.6 | (95.3)	25-140
DECACHLOROBIPHENYL	0.3905 | (0.4100)	0.4000	97.6 | (103)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

Method: 8081A

QC Measure: CPE018WB

Associated Samples:

CAFB-IDW-S-05132016
TXE014SB

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 12:54
Lab Samp ID:	CPE018WB	Dilution Factor:	1
Lab File ID:	ME24006A	Matrix :	WATER
Ext Btch ID:	CPE018W	% Moisture :	NA
Calib. Ref.:	ME24004A	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND) | ND	0.10	0.0050	0.010
HEPTACHLOR	(ND) | ND	0.10	0.0070	0.010
HEPTACHLOR EPOXIDE	(ND) | ND	0.10	0.0050	0.010
GAMMA-CHLORDANE	(ND) | ND	0.10	0.0050	0.010
ALPHA-CHLORDANE	(ND) | ND	0.10	0.0050	0.010
ENDRIN	(ND) | ND	0.10	0.0080	0.010
METHOXYCHLOR	(ND) | ND	1.0	0.050	0.10
TOXAPHENE	(ND) | ND	2.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.3856) | 0.3576	0.4000	(96.4) | 89.4	25-140
DECACHLOROBIPHENYL	0.3837 | (0.4055)	0.4000	95.9 | (101)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 14:54
Lab Samp ID:	TXE014SB	Dilution Factor:	10
Lab File ID:	ME24012A	Matrix :	WATER
Ext Btch ID:	CPE018W	% Moisture :	NA
Calib. Ref.:	ME24004A	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND) | ND	1.0	0.050	0.10
HEPTACHLOR	(ND) | ND	1.0	0.070	0.10
HEPTACHLOR EPOXIDE	(ND) | ND	1.0	0.050	0.10
GAMMA-CHLORDANE	(ND) | ND	1.0	0.050	0.10
ALPHA-CHLORDANE	(ND) | ND	1.0	0.050	0.10
ENDRIN	(ND) | ND	1.0	0.080	0.10
METHOXYCHLOR	(ND) | ND	10	0.50	1.0
TOXAPHENE	(ND) | ND	20	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(4.106) | 3.745	4.000	(103) | 93.6	25-140
DECACHLOROBIPHENYL	3.962 | (4.148)	4.000	99.1 | (104)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

DateTime Leached: 05/20/16 18:30

Method: 8151A

QC Measure: HEE007WB

Associated Samples:

CAFB-IDW-W-05132016

METHOD 8151A
HERBICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/18/16
Batch No.	: 16E133	Date Extracted:	05/18/16 10:40
Sample ID:	MBLK1W	Date Analyzed:	05/19/16 12:01
Lab Samp ID:	HEE007WB	Dilution Factor:	1
Lab File ID:	WE19003A	Matrix :	WATER
Ext Btch ID:	HEE007W	% Moisture :	NA
Calib. Ref.:	WE19002A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	0.40	0.10	0.20
2,4,5-TP (SILVEX)	(ND)|ND	0.40	0.10	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	6.758|(7.320)	10.00	67.6|(73.2)	50-130

Method: 8151A

QC Measure: HEE008WB

Associated Samples:

CAFB-IDW-S-05132016
TXE014SB

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 12:45
Lab Samp ID:	HEE008WB	Dilution Factor:	1
Lab File ID:	WE24006A	Matrix :	WATER
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24002A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	0.40	0.10	0.20
2,4,5-TP (SILVEX)	(ND)|ND	0.40	0.10	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	7.172|(8.407)	10.00	71.7|(84.1)	50-130

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 17:30
Lab Samp ID:	TXE014SB	Dilution Factor:	50
Lab File ID:	WE24016A	Matrix :	LEACHATE
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24014A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	20	5.0	10
2,4,5-TP (SILVEX)	(ND)|ND	20	5.0	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	434.9|(490.6)	500.0	87.0|(98.1)	50-130

DateTime Leached: 05/20/16 18:30

Method: 6020A

QC Measure: IME032WB

Associated Samples:

CAFB-IDW-W-05132016

METHOD SW6020A
TOTAL METALS BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
SDG NO.	: 16E133	Date Extracted:	05/20/16 11:41
Sample ID:	MBLK1W	Date Analyzed:	05/23/16 20:13
Lab Samp ID:	IME032WB	Dilution Factor:	1
Lab File ID:	F6E10064	Matrix :	WATER
Ext Btch ID:	IME032W	% Moisture :	NA
Calib. Ref.:	F6E10062	Instrument ID :	T-IF6

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
Arsenic	ND	1.00	0.200	0.100
Barium	ND	1.00	0.500	0.250
Cadmium	ND	1.00	0.200	0.100
Chromium, total	ND	1.00	0.200	0.100
Lead	ND	1.00	0.200	0.100
Selenium	ND	1.00	0.300	0.150
Silver	ND	1.00	0.200	0.100

Method: 6010C

QC Measure: IPE033WB

Associated Samples:

CAFB-IDW-S-05132016
TXE014SB

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 16:12
Lab Samp ID:	IPE033WB	Dilution Factor:	1
Lab File ID:	ID8E025022	Matrix :	WATER
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	ND	0.0100	0.00300	0.00500
Barium	ND	0.0100	0.00100	0.00200
Cadmium	ND	0.0100	0.00100	0.00200
Chromium	ND	0.0100	0.00150	0.00300
Lead	ND	0.0100	0.00170	0.00300
Selenium	ND	0.0100	0.00250	0.00500
Silver	ND	0.0100	0.00150	0.00300

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 16:17
Lab Samp ID:	TXE014SB	Dilution Factor:	5
Lab File ID:	ID8E025024	Matrix :	LEACHATE
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	ND	0.0500	0.0150	0.0250
Barium	ND	0.0500	0.00500	0.0100
Cadmium	ND	0.0500	0.00500	0.0100
Chromium	ND	0.0500	0.00750	0.0150
Lead	ND	0.0500	0.00850	0.0150
Selenium	0.0143J	0.0500	0.0125	0.0250
Silver	ND	0.0500	0.00750	0.0150

DateTime Leached: 05/20/16 18:30

Method: 7470A

QC Measure: HGE014WB

Associated Samples:

CAFB-IDW-W-05132016

METHOD SW7470A
MERCURY BY COLD VAPOR

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : WATER
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE014WB	ND	1	NA	0.50	0.054	0.10	05/19/1619:11	05/19/1612:10	M47E011030	M47E011	HGE014W	NA	NA

Method: 7470A

QC Measure: HGE017WB

Associated Samples:

CAFB-IDW-S-05132016
TXE014SB

METHOD SW1311/7470A
TCLP MERCURY

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : LEACHATE
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE017WB	ND	1	NA	0.50	0.054	0.10	05/23/1618:35	05/23/1612:00	M47E013041	M47E013	HGE017W	NA	NA
MBLK2W	TXE014SB	ND	1	NA	5.0	0.54	1.0	05/23/1618:42	05/23/1612:00	M47E013044	M47E013	HGE017W	NA	NA

LCS/LCSD

Method: 8260B

QC Measure: VO06E16L

Associated Samples:

TB-05132016

QC Measure: VO06E17L

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	V006E16B	V006E16L	V006E16C		
LAB FILE ID:	REW376	REW373	REW374		
DATE EXTRACTED:	05/19/1615:50	05/19/1614:33	05/19/1614:58	DATE COLLECTED:	NA
DATE ANALYZED:	05/19/1615:50	05/19/1614:33	05/19/1614:58	DATE RECEIVED:	05/19/16
PREP. BATCH:	V006E16	V006E16	V006E16		
CALIB. REF:	RCW159	RCW159	RCW159		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	10.0	9.30	93	10.0	9.61	96	3	80-120	30
2-Butanone	ND	50.0	60.2	120	50.0	53.2	106	12	30-150	30
Carbon Tetrachloride	ND	10.0	9.84	98	10.0	9.96	100	1	65-140	30
Chlorobenzene	ND	10.0	9.92	99	10.0	10.3	103	3	80-120	30
Chloroform	ND	10.0	10.8	108	10.0	11.0	110	2	65-135	30
1,4-Dichlorobenzene	ND	10.0	9.62	96	10.0	10.2	102	6	75-125	30
1,2-Dichloroethane	ND	10.0	11.6	116	10.0	11.6	116	0	70-130	30
1,1-Dichloroethene	ND	10.0	8.53	85	10.0	8.73	87	2	70-130	30
Tetrachloroethene	ND	10.0	8.13	81	10.0	8.55	86	5	45-150	30
Trichloroethene	ND	10.0	9.19	92	10.0	9.34	93	2	70-125	30
Vinyl Chloride	ND	10.0	9.92	99	10.0	10.0	100	1	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	11.2	112	10.0	11.3	113	70-120
4-Bromofluorobenzene	10.0	9.63	96	10.0	9.72	97	75-120
Toluene-d8	10.0	9.40	94	10.0	9.78	98	85-120
Dibromofluoromethane	10.0	10.3	103	10.0	10.3	103	85-115

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	V006E17B	V006E17L	V006E17C		
LAB FILE ID:	REW406	REW403	REW404		
DATE EXTRACTED:	05/20/1613:38	05/20/1612:22	05/20/1612:47	DATE COLLECTED:	NA
DATE ANALYZED:	05/20/1613:38	05/20/1612:22	05/20/1612:47	DATE RECEIVED:	05/20/16
PREP. BATCH:	V006E17	V006E17			
V006E17					
CALIB. REF:	RCW159	RCW159	RCW159		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	10.0	10.0	100	10.0	10.1	101	1	80-120	30
2-Butanone	ND	50.0	44.1	88	50.0	48.3	97	9	30-150	30
Carbon Tetrachloride	ND	10.0	9.99	100	10.0	10.3	103	3	65-140	30
Chlorobenzene	ND	10.0	9.73	97	10.0	10.1	101	3	80-120	30
Chloroform	ND	10.0	10.0	100	10.0	10.3	103	3	65-135	30
1,4-Dichlorobenzene	ND	10.0	10.1	101	10.0	9.97	100	1	75-125	30
1,2-Dichloroethane	ND	10.0	10.9	109	10.0	11.4	114	4	70-130	30
1,1-Dichloroethene	ND	10.0	9.90	99	10.0	10.2	102	3	70-130	30
Tetrachloroethene	ND	10.0	8.71	87	10.0	8.99	90	3	45-150	30
Trichloroethene	ND	10.0	9.36	94	10.0	9.40	94	0	70-125	30
Vinyl Chloride	ND	10.0	9.08	91	10.0	8.90	89	2	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.7	107	10.0	11.0	110	70-120
4-Bromofluorobenzene	10.0	10.0	100	10.0	9.90	99	75-120
Toluene-d8	10.0	9.79	98	10.0	9.99	100	85-120
Dibromofluoromethane	10.0	9.68	97	10.0	9.70	97	85-115

Method: 8260B

QC Measure: VSF4E08L

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VSF4E08B	VSF4E08L	VSF4E08C		
LAB FILE ID:	REN142	REN140	REN141		
DATE EXTRACTED:	05/26/1611:35	05/26/1610:40	05/26/1611:08	DATE COLLECTED:	NA
DATE ANALYZED:	05/26/1611:35	05/26/1610:40	05/26/1611:08	DATE RECEIVED:	05/26/16
PREP. BATCH:	VSF4E08	VSF4E08	VSF4E08		
CALIB. REF:	RCN007	RCN007	RCN007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	50.0	56.4	113	50.0	57.8	116	3	80-120	30
2-Butanone	ND	250	209	84	250	261	105	22	30-150	30
Carbon Tetrachloride	ND	50.0	54.3	109	50.0	56.5	113	4	65-140	30
Chlorobenzene	ND	50.0	55.1	110	50.0	56.9	114	3	80-120	30
Chloroform	ND	50.0	56.5	113	50.0	57.7	115	2	65-135	30
1,4-Dichlorobenzene	ND	50.0	55.3	111	50.0	57.0	114	3	75-125	30
1,2-Dichloroethane	ND	50.0	47.6	95	50.0	48.3	97	1	70-130	30
1,1-Dichloroethene	ND	50.0	48.8	98	50.0	51.2	102	5	70-130	30
Tetrachloroethene	ND	50.0	53.3	107	50.0	57.4	115	7	45-150	30
Trichloroethene	ND	50.0	55.5	111	50.0	57.9	116	4	70-125	30
Vinyl Chloride	ND	50.0	50.6	101	50.0	46.7	93	8	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	43.5	87	50.0	42.9	86	70-120
4-Bromofluorobenzene	50.0	46.5	93	50.0	46.7	93	75-120
Toluene-d8	50.0	50.1	100	50.0	50.3	101	85-120
Dibromofluoromethane	50.0	49.9	100	50.0	49.0	98	85-115

Method: 8270D

QC Measure: SVE025WL

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3520C/8270D

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVE025WB	SVE025WL	SVE025WC		
LAB FILE ID:	REJ330	REJ328	REJ329		
DATE EXTRACTED:	05/18/1615:14	05/18/1615:14	05/18/1615:14	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1611:17	05/23/1610:39	05/23/1610:58	DATE RECEIVED:	05/18/16
PREP. BATCH:	SVE025W	SVE025W	SVE025W		
CALIB. REF:	RBJ007	RBJ007	RBJ007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4,5-Trichlorophenol	ND	40.0	27.8	70	40.0	30.5	76	9	50-110	30
2,4,6-Trichlorophenol	ND	40.0	26.4	66	40.0	28.9	72	9	50-115	30
2,4-Dinitrotoluene	ND	40.0	34.0	85	40.0	36.8	92	8	50-120	30
2-Methylphenol	ND	40.0	23.1	58	40.0	23.4	58	1	40-110	30
4-Methylphenol	ND	40.0	23.4	58	40.0	24.3	61	4	30-110	30
Hexachlorobenzene	ND	40.0	30.3	76	40.0	33.3	83	9	50-110	30
Hexachlorobutadiene	ND	40.0	24.2	61	40.0	24.2	61	0	25-105	30
Hexachloroethane	ND	40.0	23.4	59	40.0	22.2	56	5	30-100	30
Nitrobenzene	ND	40.0	24.4	61	40.0	24.6	62	1	45-110	30
Pentachlorophenol	ND	40.0	33.2	83	40.0	37.0	93	11	40-115	30
Pyridine	ND	80.0	40.7	51	80.0	39.2J	49	4	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	60.0	46.5	77	60.0	48.6	81	40-125
2-Fluorobiphenyl	20.0	10.7	53	20.0	11.3	57	50-110
2-Fluorophenol	60.0	28.5	48	60.0	27.0	45	20-110
Nitrobenzene-d5	20.0	11.3	57	20.0	11.4	57	40-110
Phenol-d5	60.0	32.8	55	60.0	32.7	54	10-115
Terphenyl-d14	20.0	14.6	73	20.0	15.4	77	50-135

Method: 8270D

QC Measure: SVE030WL

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3520C/8270D

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVE030WB	SVE030WL	SVE030WC		
LAB FILE ID:	REJ384	REJ385	REJ386		
DATE EXTRACTED:	05/23/1612:45	05/23/1612:45	05/23/1612:45	DATE COLLECTED:	NA
DATE ANALYZED:	05/25/1611:45	05/25/1612:04	05/25/1612:24	DATE RECEIVED:	05/23/16
PREP. BATCH:	SVE030W	SVE030W	SVE030W		
CALIB. REF:	RBJ007	RBJ007	RBJ007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4,5-Trichlorophenol	ND	40.0	27.7	69	40.0	24.9	62	11	50-110	30
2,4,6-Trichlorophenol	ND	40.0	26.0	65	40.0	23.0	58	12	50-115	30
2,4-Dinitrotoluene	ND	40.0	32.8	82	40.0	34.0	85	4	50-120	30
2-Methylphenol	ND	40.0	23.2	58	40.0	19.5	49	17	40-110	30
4-Methylphenol	ND	40.0	23.2	58	40.0	20.0	50	15	30-110	30
Hexachlorobenzene	ND	40.0	29.7	74	40.0	29.8	74	0	50-110	30
Hexachlorobutadiene	ND	40.0	25.0	63	40.0	20.6	52	19	25-105	30
Hexachloroethane	ND	40.0	23.7	59	40.0	19.5	49	19	30-100	30
Nitrobenzene	ND	40.0	24.6	61	40.0	20.8	52	17	45-110	30
Pentachlorophenol	ND	40.0	31.3	78	40.0	32.7	82	5	40-115	30
Pyridine	ND	80.0	40.5	51	80.0	36.0J	45	12	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	60.0	43.3	72	60.0	48.3	81	40-125
2-Fluorobiphenyl	20.0	10.4	52	20.0	9.79	49*	50-110
2-Fluorophenol	60.0	26.9	45	60.0	25.1	42	20-110
Nitrobenzene-d5	20.0	10.9	55	20.0	10.1	51	40-110
Phenol-d5	60.0	31.9	53	60.0	30.2	50	10-115
Terphenyl-d14	20.0	13.6	68	20.0	16.5	82	50-135

Method: 8015C

QC Measure: GPE008SL

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5035A/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	GPE008SB	GPE008SL	GPE008SC		
LAB FILE ID:	UE17004A	UE17005A	UE17006A		
DATE EXTRACTED:	05/17/1618:04	05/17/1618:42	05/17/1619:19	DATE COLLECTED:	NA
DATE ANALYZED:	05/17/1618:04	05/17/1618:42	05/17/1619:19	DATE RECEIVED:	05/17/16
PREP. BATCH:	GPE008S	GPE008S	GPE008S		
CALIB. REF:	UE17003A	UE17003A	UE17003A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	25.0	23.8	95	25.0	23.9	96	1	50-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	2.00	2.21	110	2.00	2.19	110	67-134

Method: 8015C

QC Measure: DSE021SL

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3550B/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSE021SB	DSE021SL	DSE021SC		
LAB FILE ID:	LE23008A	LE23009A	LE23010A		
DATE EXTRACTED:	05/20/1618:00	05/20/1618:00	05/20/1618:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1612:38	05/23/1612:55	05/23/1613:12	DATE RECEIVED:	05/20/16
PREP. BATCH:	DSE021S	DSE021S	DSE021S		
CALIB. REF:	LE23007A	LE23007A	LE23007A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	500	531	106	500	522	104	2	60-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	102	102	100	99.8	100	60-130
Hexacosane	25.0	30.8	123	25.0	31.0	124	60-130

Method: 8015C

QC Measure: DSE021SL

Associated Samples:

CAFB-IDW-S-05132016
CA015-0341A-000.5

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3550B/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSE021SB	DSE021SL	DSE021SC		
LAB FILE ID:	LE23008A	LE23011A	LE23012A		
DATE EXTRACTED:	05/20/1618:00	05/20/1618:00	05/20/1618:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1612:38	05/23/1613:29	05/23/1613:46	DATE RECEIVED:	05/20/16
PREP. BATCH:	DSE021S	DSE021S	DSE021S		
CALIB. REF:	LE23007A	LE23007A	LE23007A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
ORO	ND	500	488	98	500	452	90	7	50-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	100	100	100	100	100	60-130
Hexacosane	25.0	29.8	119	25.0	28.8	115	60-130

Method: 8081A

QC Measure: CPE015WL

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3520C/8081B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPE015WB	CPE015WL	CPE015WC		
LAB FILE ID:	ME20006B	ME20007B	ME20008B		
DATE EXTRACTED:	05/19/1610:15	05/19/1610:15	05/19/1610:15	DATE COLLECTED:	NA
DATE ANALYZED:	05/20/1616:36	05/20/1616:56	05/20/1617:16	DATE RECEIVED:	05/19/16
PREP. BATCH:	CPE015W	CPE015W	CPE015W		
CALIB. REF:	ME20004B	ME20004B	ME20004B		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	ND | (ND)	0.200	0.221 | (0.223)	110 | (112)	0.200	0.195 | (0.199)	97 | (100)	13 | (11)	25-135	30
Heptachlor	ND | (ND)	0.200	0.225 | (0.211)	112 | (105)	0.200	0.202 | (0.189)	101 | (94)	11 | (11)	40-130	30
Heptachlor Epoxide	ND | (ND)	0.200	0.213 | (0.210)	106 | (105)	0.200	0.204 | (0.197)	102 | (98)	4 | (6)	60-130	30
gamma-Chlordane	ND | (ND)	0.200	0.202 | (0.212)	101 | (106)	0.200	0.202 | (0.200)	101 | (100)	0 | (6)	60-125	30
alpha-Chlordane	ND | (ND)	0.200	0.214 | (0.204)	107 | (102)	0.200	0.205 | (0.193)	102 | (96)	4 | (6)	65-125	30
Endrin	ND | (ND)	0.200	0.245 | (0.232)	122 | (116)	0.200	0.235 | (0.221)	118 | (110)	4 | (5)	55-135	30
Methoxychlor	ND | (ND)	2.00	2.12 | (2.18)	106 | (109)	2.00	2.13 | (2.17)	107 | (108)	0 | (0)	55-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	0.4357 | (0.3912)	109 | (97.8)	0.4000	0.3577 | (0.3268)	89.4 | (81.7)	25-140
Decachlorobiphenyl	0.4000	0.4074 | (0.4258)	102 | (106)	0.4000	0.4175 | (0.4378)	104 | (109)	30-135

Method: 8081A

QC Measure: CPE018WL

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3520C/8081B

MATRIX: WATER
% MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID:	MBLK1W		
LAB SAMP ID:	CPE018WB	CPE018WL	CPE018WC
LAB FILE ID:	ME24006A	ME24007A	ME24008A
DATE EXTRACTED:	05/23/1610:00	05/23/1610:00	05/23/1610:00
DATE ANALYZED:	05/24/1612:54	05/24/1613:14	05/24/1613:34
PREP. BATCH:	CPE018W	CPE018W	CPE018W
CALIB. REF:	ME24004A	ME24004A	ME24004A

DATE COLLECTED: NA
DATE RECEIVED: 05/23/16

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	(ND) | ND	0.200	0.215 | (0.219)	108 | (110)	0.200	(0.227) | 0.227	(114) | 114	(5) | 4	25-135	30
Heptachlor	(ND) | ND	0.200	(0.225) | 0.223	(112) | 112	0.200	(0.237) | 0.231	(118) | 116	(5) | 4	40-130	30
Heptachlor Epoxide	(ND) | ND	0.200	(0.214) | 0.212	(107) | 106	0.200	(0.227) | 0.222	(114) | 111	(6) | 5	60-130	30
gamma-Chlordane	(ND) | ND	0.200	0.205 | (0.219)	102 | (110)	0.200	0.218 | (0.229)	109 | (114)	6 | (4)	60-125	30
alpha-Chlordane	(ND) | ND	0.200	(0.215) | 0.205	(108) | 102	0.200	(0.228) | 0.215	(114) | 108	(6) | 5	65-125	30
Endrin	(ND) | ND	0.200	0.252 | (0.238)	126 | (119)	0.200	0.268 | (0.253)	134 | (126)	6 | (6)	55-135	30
Methoxychlor	(ND) | ND	2.00	(2.20) | 2.35	(110) | 117	2.00	(2.36) | 2.52	(118) | 126	(7) | 7	55-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	(0.3684) | 0.3479	(92.1) | 87.0	0.4000	(0.4021) | 0.3699	(101) | 92.5	25-140
Decachlorobiphenyl	0.4000	0.3791 | (0.3981)	94.8 | (99.5)	0.4000	0.4125 | (0.4368)	103 | (109)	30-135

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Method: 8151A

QC Measure: HEE007WL

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: 8151A

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HEE007WB	HEE007WL	HEE007WC		
LAB FILE ID:	WE19003A	WE19004A	WE19005A		
DATE EXTRACTED:	05/18/1610:40	05/18/1610:40	05/18/1610:40	DATE COLLECTED:	NA
DATE ANALYZED:	05/19/1612:01	05/19/1612:28	05/19/1612:56	DATE RECEIVED:	05/18/16
PREP. BATCH:	HEE007W	HEE007W	HEE007W		
CALIB. REF:	WE19002A	WE19002A	WE19002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4-D	(ND)|ND	1.00	0.675|(0.946)	68|(95)	1.00	0.789|(0.995)	79|(100)	16|(5)	35-115	30
2,4,5-TP (Silvex)	(ND)|ND	1.00	0.753|(1.01)	75|(101)	1.00	0.881|(1.12)	88|(112)	16|(10)	50-115	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4-DCPAA	10.00	6.772|(7.556)	67.7|(75.6)	10.00	8.377|(9.262)	83.8|(92.6)	50-130

Method: 8151A

QC Measure: HEE008WL

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/8151A

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HEE008WB	HEE008WL	HEE008WC		
LAB FILE ID:	WE24006A	WE24007A	WE24008A		
DATE EXTRACTED:	05/23/1611:00	05/23/1611:00	05/23/1611:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/24/1612:45	05/24/1613:12	05/24/1613:40	DATE RECEIVED:	05/23/16
PREP. BATCH:	HEE008W	HEE008W	HEE008W		
CALIB. REF:	WE24002A	WE24002A	WE24002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4-D	(ND)|ND	1.00	0.826|(0.888)	83|(89)	1.00	0.850|(0.955)	85|(96)	3|(7)	35-115	30
2,4,5-TP (Silvex)	(ND)|ND	1.00	0.846|(0.992)	85|(99)	1.00	0.810|(1.01)	81|(101)	4|(2)	50-115	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4-DCPAA	10.00	7.122|(8.189)	71.2|(81.9)	10.00	7.168|(8.210)	71.7|(82.1)	50-130

Method: 6020A

QC Measure: IME032WL

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W			
CONTROL NO.:	IME032WB	IME032WL		
LAB FILE ID:	F6E10064	F6E10065		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	NA
DATIME ANALYZD:	05/23/1620:13	05/23/1620:17	DATE RECEIVED:	05/20/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	30.0	29.7	99	80-120
Barium	ND	30.0	29.4	98	80-120
Cadmium	ND	30.0	28.8	96	80-120
Chromium, total	ND	30.0	30.6	102	80-120
Lead	ND	30.0	28.9	96	80-120
Selenium	ND	30.0	29.8	99	80-120
Silver	ND	30.0	29.3	98	80-120

Method: 6010C

QC Measure: IPE033WL

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W			
CONTROL NO.:	IPE033WB	IPE033WL		
LAB FILE ID:	ID8E025022	ID8E025023		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	NA
DATIME ANALYZD:	05/24/1616:12	05/24/1616:15	DATE RECEIVED:	05/23/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	.5	.514	103	80-120
Barium	ND	.5	.496	99	80-120
Cadmium	ND	.5	.498	100	80-120
Chromium	ND	.5	.502	100	80-120
Lead	ND	.5	.496	99	80-120
Selenium	ND	.5	.513	103	80-120
Silver	ND	.5	.498	100	80-120

Method: 7470A

QC Measure: HGE014WL

Associated Samples:

CAFB-IDW-W-05132016

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

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MATRIX : WATER
DILUTION FACTOR: 1 1
SAMPLE ID : MBLK1W LCS1W
LAB SAMPLE ID : HGE014WB HGE014WL
LAB FILE ID : M47E011030 M47E011031
DATE PREPARED : 05/19/1612:10 05/19/1612:10
DATE ANALYZED : 05/19/1619:11 05/19/1619:13
PREP BATCH : HGE014W HGE014W
CALIBRATION REF: M47E0110 M47E0110

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	QC LIMIT (%)
Mercury	ND	2.5	2.52	101	80-120

Method: 7470A

QC Measure: HGE017WL

Associated Samples:

CAFB-IDW-S-05132016

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW1311/7470A

MATRIX	: WATER		% MOISTURE: N/A
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	: HGE017WB	HGE017WL	HGE017WC
LAB FILE ID	: M47E013041	M47E013042	M47E013043
DATE PREPARED	: 05/23/1612:00	05/23/1612:00	05/23/1612:00
DATE ANALYZED	: 05/23/1618:35	05/23/1618:38	05/23/1618:40
PREP BATCH	: HGE017W	HGE017W	HGE017W
CALIBRATION REF	: M47E013	M47E013	M47E013

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Mercury	ND	2.50	2.46	98	2.50	2.45	98	0	80-120	20

MS/MSD / DUPLICATE / SERIAL DILUTION / ANALYTICAL SPIKE

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	CAFB-IDW-W-05132016			
CONTROL NO.:	E133-02	E133-02M		
LAB FILE ID:	F6E10069	F6E10067		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATIME ANALYZD:	05/23/1620:34	05/23/1620:26	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Arsenic	1.78	30.0	33.6	106	80-120
Barium	149	30.0	189	133*	80-120
Cadmium	1.97	30.0	30.7	96	80-120
Chromium, total	16.0	30.0	46.4	101	80-120
Lead	3.70	30.0	32.1	95	80-120
Selenium	17.3	30.0	48.7	105	80-120
Silver	ND	30.0	28.2	94	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW6020A

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	5		
SAMPLE ID:	CAFB-IDW-W-051	CAFB-IDW-W-051		
EMAX SAMP ID:	E133-02	E133-02J		
LAB FILE ID:	F6E10069	F6E10070		
DATE EXTRACTED:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATE ANALYZED:	05/23/1620:34	05/23/1620:39	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	1.78	1.8J	NA	10
Barium	149	149	0	10
Cadmium	1.97	2.07J	NA	10
Chromium, total	16	16.1	0	10
Lead	3.7	3.79J	NA	10
Selenium	17.3	16	8	10
Silver	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	CAFB-IDW-W-05132016			
CONTROL NO.:	E133-02	E133-02A		
LAB FILE ID:	F6E10069	F6E10068		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATIME ANALYZD:	05/23/1620:34	05/23/1620:30	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Arsenic	1.78	30.0	34.1	108	75-125
Barium	149	30.0	186	125	75-125
Cadmium	1.97	30.0	32.0	100	75-125
Chromium, total	16.0	30.0	47.2	104	75-125
Lead	3.70	30.0	33.3	99	75-125
Selenium	17.3	30.0	50.8	111	75-125
Silver	ND	30.0	30.3	101	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	CAFB-IDW-W-051	CAFB-IDW-W-051		
EMAX SAMP ID:	E133-02	E133-02D		
LAB FILE ID:	F6E10069	F6E10071		
DATE EXTRACTED:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATE ANALYZED:	05/23/1620:34	05/23/1620:43	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	DUPL RSLT (ug/L)	RPD RSLT %	QC LIMIT (%)
Arsenic	1.78	1.74	2	20
Barium	149	149	0	20
Cadmium	1.97	1.94	2	20
Chromium, total	16	15.9	1	20
Lead	3.7	3.69	0	20
Selenium	17.3	17	2	20
Silver	ND	ND	0	20

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

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MATRIX:	LEACHATE		% MOISTURE:	NA
DILTN FACTR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016			
CONTROL NO.:	E133-03	E133-03M		
LAB FILE ID:	ID8E025026	ID8E025029		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATIME ANALYZD:	05/24/1616:23	05/24/1616:32	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Arsenic	ND	2.5	2.71	108	80-120
Barium	1.51	2.5	3.93	97	80-120
Cadmium	ND	2.5	2.46	98	80-120
Chromium	ND	2.5	2.48	99	80-120
Lead	ND	2.5	2.47	99	80-120
Selenium	ND	2.5	2.83	113	80-120
Silver	ND	2.5	2.62	105	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILUTION FACTOR:	5	25		
SAMPLE ID:	CAFB-IDW-S-05132016	CAFB-IDW-S-05132016		
EMAX SAMP ID:	E133-03	E133-03J		
LAB FILE ID:	ID8E025026	ID8E025027		
DATE EXTRACTED:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATE ANALYZED:	05/24/1616:23	05/24/1616:26	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SERIAL DIL RSLT (mg/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	10
Barium	1.51	1.43	5	10
Cadmium	ND	ND	0	10
Chromium	ND	ND	0	10
Lead	ND	ND	0	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

==========

MATRIX:	LEACHATE		% MOISTURE:	NA
DILTN FACTR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016			
CONTROL NO.:	E133-03	E133-03A		
LAB FILE ID:	ID8E025026	ID8E025025		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATIME ANALYZD:	05/24/1616:23	05/24/1616:20	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	AS RSLT (mg/L)	AS % REC	QC LIMIT (%)
Arsenic	ND	2.5	2.8	112	75-125
Barium	1.51	2.5	3.98	99	75-125
Cadmium	ND	2.5	2.5	100	75-125
Chromium	ND	2.5	2.55	102	75-125
Lead	ND	2.5	2.57	103	75-125
Selenium	ND	2.5	2.88	115	75-125
Silver	ND	2.5	2.63	105	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016	CAFB-IDW-S-05132016		
EMAX SAMP ID:	E133-03	E133-03D		
LAB FILE ID:	ID8E025026	ID8E025028		
DATE EXTRACTED:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATE ANALYZED:	05/24/1616:23	05/24/1616:29	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	20
Barium	1.51	1.37	10	20
Cadmium	ND	ND	0	20
Chromium	ND	ND	0	20
Lead	ND	ND	0	20
Selenium	ND	ND	0	20
Silver	ND	ND	0	20

EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

==========

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: CAFB-IDW-W-05132016	CAFB-IDW-W-05132016MS
LAB SAMPLE ID	: E133-02	E133-02M
LAB FILE ID	: M47E011035	M47E011037
DATE PREPARED	: 05/19/1612:10	05/19/1612:10
DATE ANALYZED	: 05/19/1619:22	05/19/1619:27
PREP BATCH	: HGE014W	HGE014W
CALIBRATION REF	: M47E011	M47E011

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Mercury	ND	2.50	2.35	94	80-120

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

==========

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: CAFB-IDW-W-05132016	CAFB-IDW-W-05132016DUP
LAB SAMPLE ID	: E133-02	E133-02D
LAB FILE ID	: M47E011035	M47E011038
DATE PREPARED	: 05/19/1612:10	05/19/1612:10
DATE ANALYZED	: 05/19/1619:22	05/19/1619:29
PREP BATCH	: HGE014W	HGE014W
CALIBRATION REF	: M47E011	M47E011

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Mercury	ND	ND	0	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW1311/7470A

MATRIX	: LEACHATE		% MOISTURE: NA
DILUTION FACTOR	: 1	1	1
SAMPLE ID	: CAFB-IDW-S-05132016	CAFB-IDW-S-05132016MS	CAFB-IDW-S-05132016MSD
LAB SAMPLE ID	: E133-03	E133-03M	E133-03S
LAB FILE ID	: M47E013048	M47E013050	M47E013051
DATE PREPARED	: 05/23/1612:00	05/23/1612:00	05/23/1612:00
DATE ANALYZED	: 05/23/1618:51	05/23/1618:56	05/23/1618:58
PREP BATCH	: HGE017W	HGE017W	HGE017W
CALIBRATION REF	: M47E013	M47E013	M47E013

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Mercury	ND	25.0	25.6	102	25.0	25.4	102	1	80-120	20

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
METHOD: SW9095B
MATRIX: SOIL
% MOISTURE: 4.0

BATCH NO.: 16E133
SAMPLE ID: CAFB-IDW-S-05132016DUP
CONTROL NO.: E133-03D

DATE RECEIVED: 05/14/16
DATE EXTRACTED: NA
DATE ANALYZED: 05/15/16 15:10

ACCESSION:

PARAMETER	SAMPLE (ml)	DUP. SAMPLE (ml)	RPD (%)	RPD LIMIT (%)
FREE LIQUID	ND	ND	0	20

RAW DATA

VOLATILE ORGANICS

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/19/16 16:16
Sample ID:	TB-05132016	Date Analyzed:	05/19/16 16:16
Lab Samp ID:	E133-01	Dilution Factor:	1
Lab File ID:	REW377	Matrix :	WATER
Ext Btch ID:	V006E16	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.4	10.00	104	70-120
4-BROMOFLUOROBENZENE	10.6	10.00	106	75-120
TOLUENE-D8	10.4	10.00	104	85-120
DIBROMOFLUOROMETHANE	10.0	10.00	100	85-115

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW377.D Vial: 7
Acq On : 19 May 2016 4:16 pm Operator: ODinh
Sample : 16E133-01 25mL Inst : 06
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:32 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

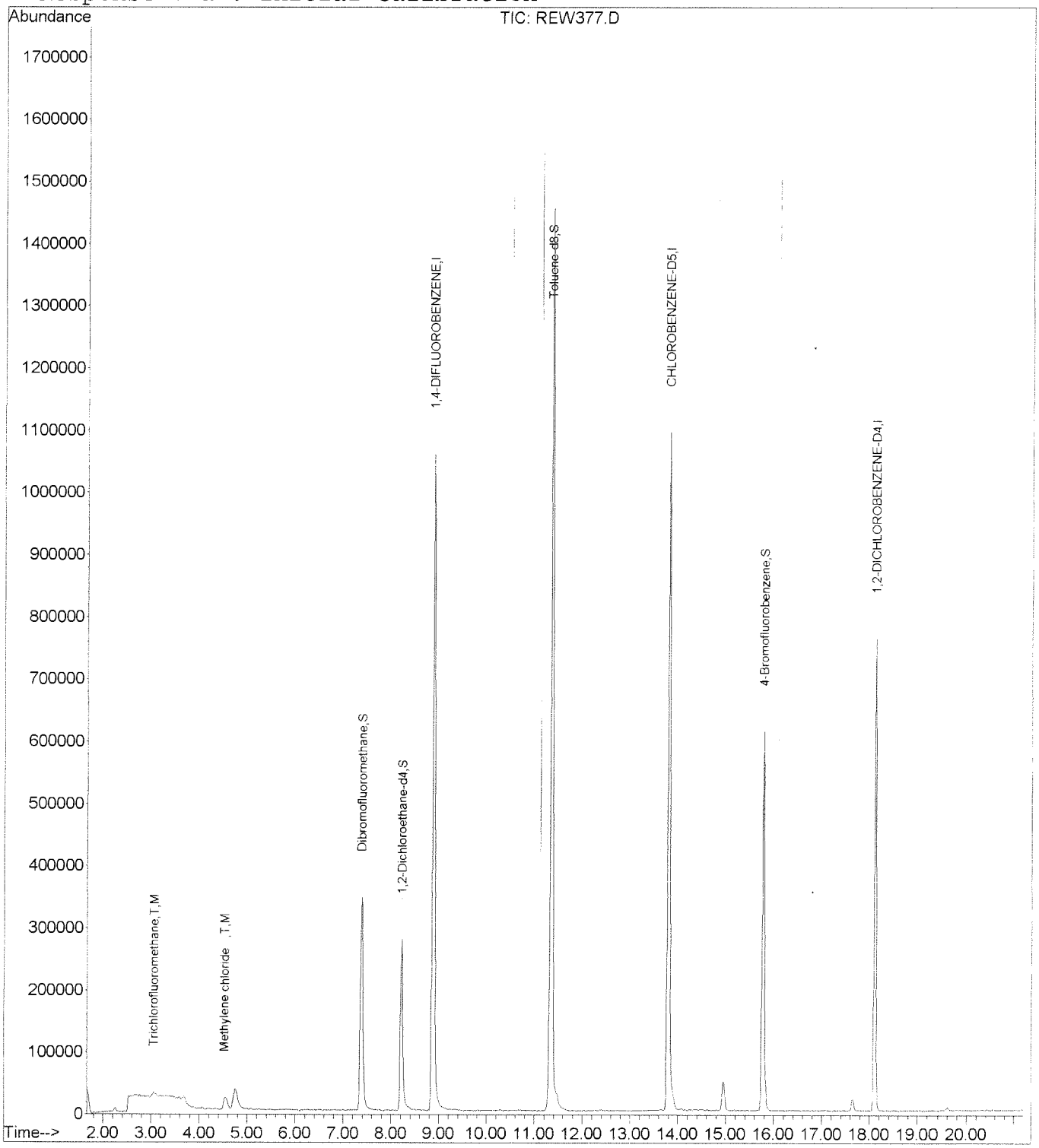
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1488321	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.80	117	1082313	10.00	ug/l	0.01
73) 1,2-DICHLOROBENZENE-D4	18.11	152	286352	10.00	ug/l	0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.39	111	444134	10.03	ug/l	0.03
Spiked Amount 10.000			Recovery	=	100.30%	
41) 1,2-Dichloroethane-d4	8.22	65	331453	10.37	ug/l	0.03
Spiked Amount 10.000			Recovery	=	103.70%	
54) Toluene-d8	11.34	98	1663367	10.44	ug/l	0.01
Spiked Amount 10.000			Recovery	=	104.40%	
76) 4-Bromofluorobenzene	15.77	95	442595	10.56	ug/l	0.03
Spiked Amount 10.000			Recovery	=	105.60%	
Target Compounds						Qvalue
8) Trichlorofluoromethane	3.06	101	10721	0.19	ug/l	96
17) Methylene chloride	4.53	49	37992	0.57	ug/l	84

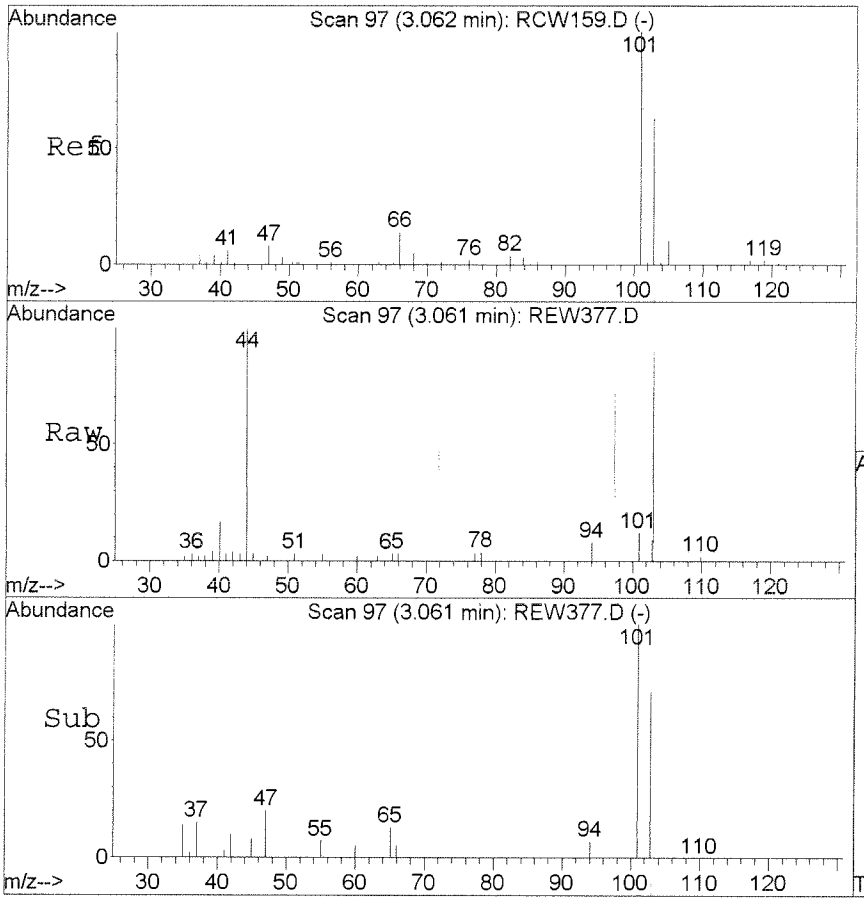
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E19\REW377.D Vial: 7
Acq On : 19 May 2016 4:16 pm Operator: ODinh
Sample : 16E133-01 25mL Inst : 06
Misc : DF=1.0 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:32 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration

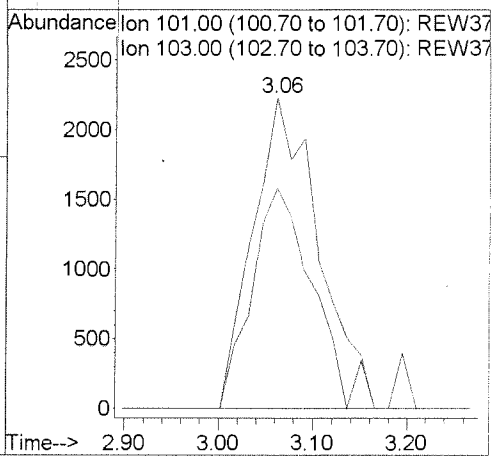


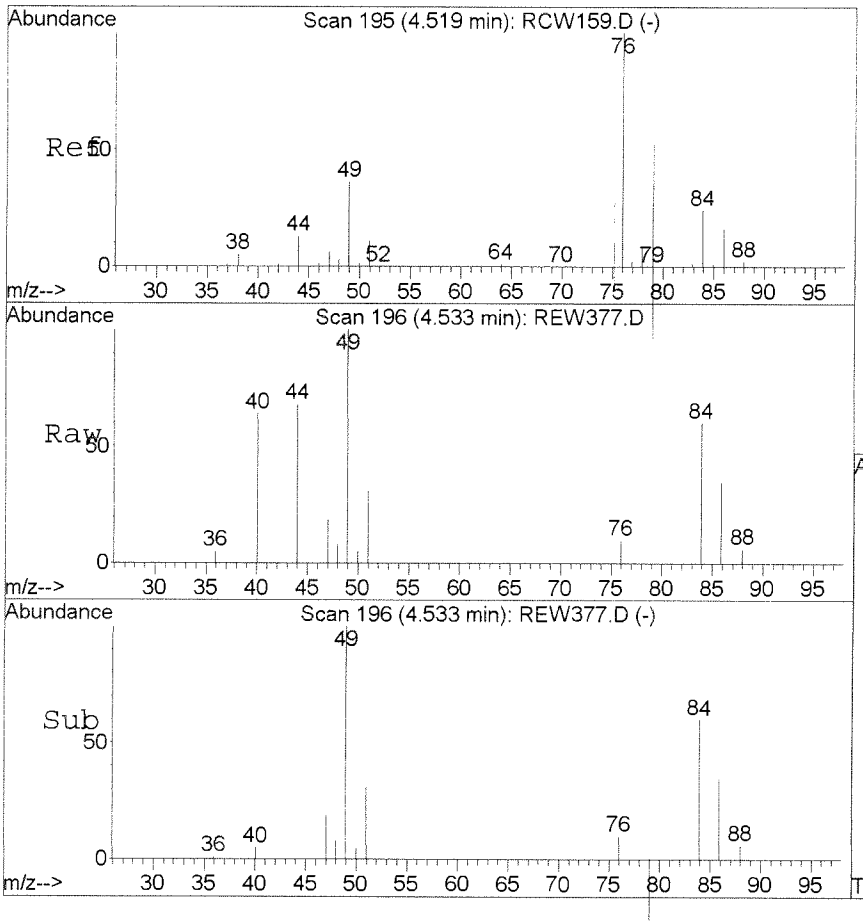


#8
Trichlorofluoromethane
Concen: 0.19 ug/l
RT: 3.06 min Scan# 97
Delta R.T. -0.00 min
Lab File: REW377.D
Acq: 19 May 2016 4:16 pm

Tgt Ion:101 Resp: 10721

Ion	Ratio	Lower	Upper
101	100		
103	67.0	34.2	94.2

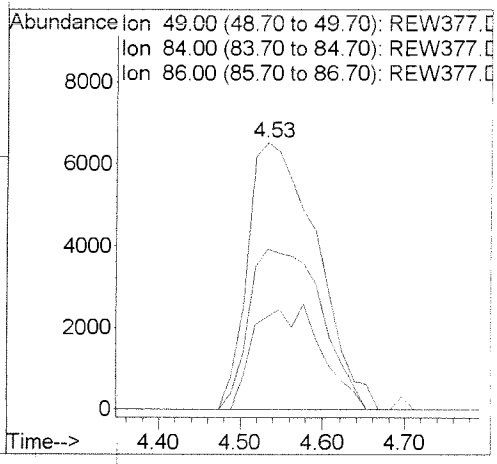




#17
Methylene chloride
Concen: 0.57 ug/l
RT: 4.53 min Scan# 196
Delta R.T. 0.01 min
Lab File: REW377.D
Acq: 19 May 2016 4:16 pm

Tgt Ion: 49 Resp: 37992

Ion	Ratio	Lower	Upper
49	100		
84	63.0	38.1	98.1
86	22.6	12.8	72.8



METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 14:03
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/20/16 14:03
Lab Samp ID:	E133-02	Dilution Factor:	10
Lab File ID:	REW407	Matrix :	WATER
Ext Btch ID:	VO06E17	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	10	1.0	2.0
2-BUTANONE	ND	100	20	40
CARBON TETRACHLORIDE	ND	10	1.0	2.0
CHLOROBENZENE	ND	10	1.0	2.0
CHLOROFORM	ND	10	1.0	2.0
1,4-DICHLOROBENZENE	ND	10	1.0	2.0
1,2-DICHLOROETHANE	ND	10	1.0	2.0
1,1-DICHLOROETHENE	ND	10	1.0	2.0
TETRACHLOROETHENE	ND	10	1.5	2.0
TRICHLOROETHENE	ND	10	1.0	2.0
VINYL CHLORIDE	ND	10	1.2	2.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	108	100.0	108	70-120
4-BROMOFLUOROBENZENE	103	100.0	103	75-120
TOLUENE-D8	104	100.0	104	85-120
DIBROMOFLUOROMETHANE	94.7	100.0	94.7	85-115

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW407.D Vial: 7
Acq On : 20 May 2016 2:03 pm Operator: ODinh
Sample : 16E133-02 2.5mL Inst : 06
Misc : DF=10 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:33 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

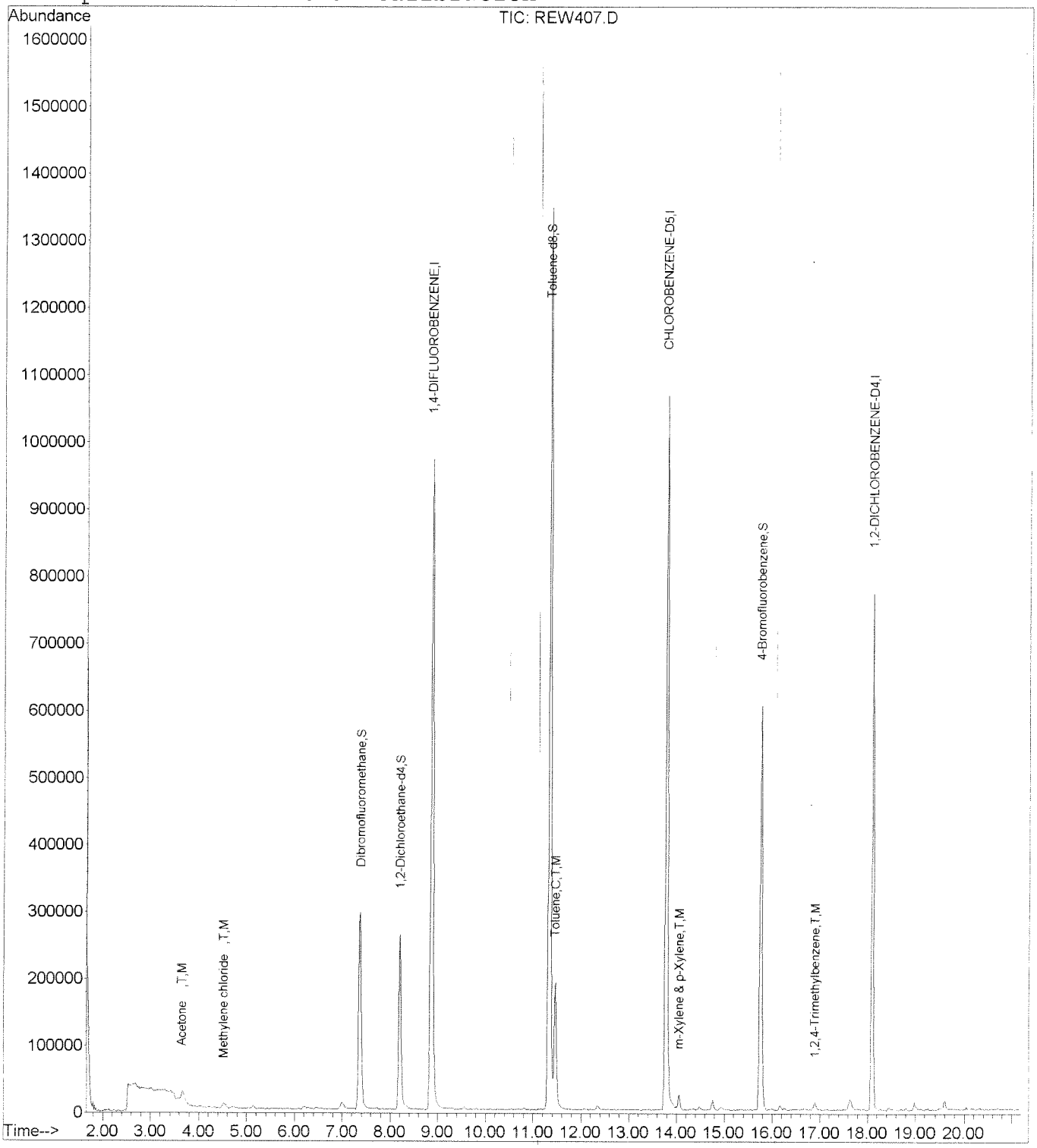
Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1372318	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1005162	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	278896	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.37	111	386361	9.47 ug/l	0.01
Spiked Amount 10.000			Recovery =	94.70%	
41) 1,2-Dichloroethane-d4	8.20	65	318020	10.79 ug/l	0.01
Spiked Amount 10.000			Recovery =	107.90%	
54) Toluene-d8	11.33	98	1542809	10.43 ug/l	0.00
Spiked Amount 10.000			Recovery =	104.30%	
76) 4-Bromofluorobenzene	15.76	95	420973	10.32 ug/l	0.01
Spiked Amount 10.000			Recovery =	103.20%	
Target Compounds					Qvalue
11) Acetone	3.66	43	34311	8.24 ug/l	97
17) Methylene chloride	4.52	49	13125	0.21 ug/l	72
55) Toluene	11.46	91	226701	1.20 ug/l	99
69) m-Xylene & p-Xylene	14.06	91	24398	0.16 ug/l	99
85) 1,2,4-Trimethylbenzene	16.90	105	13097	0.11 ug/l	82

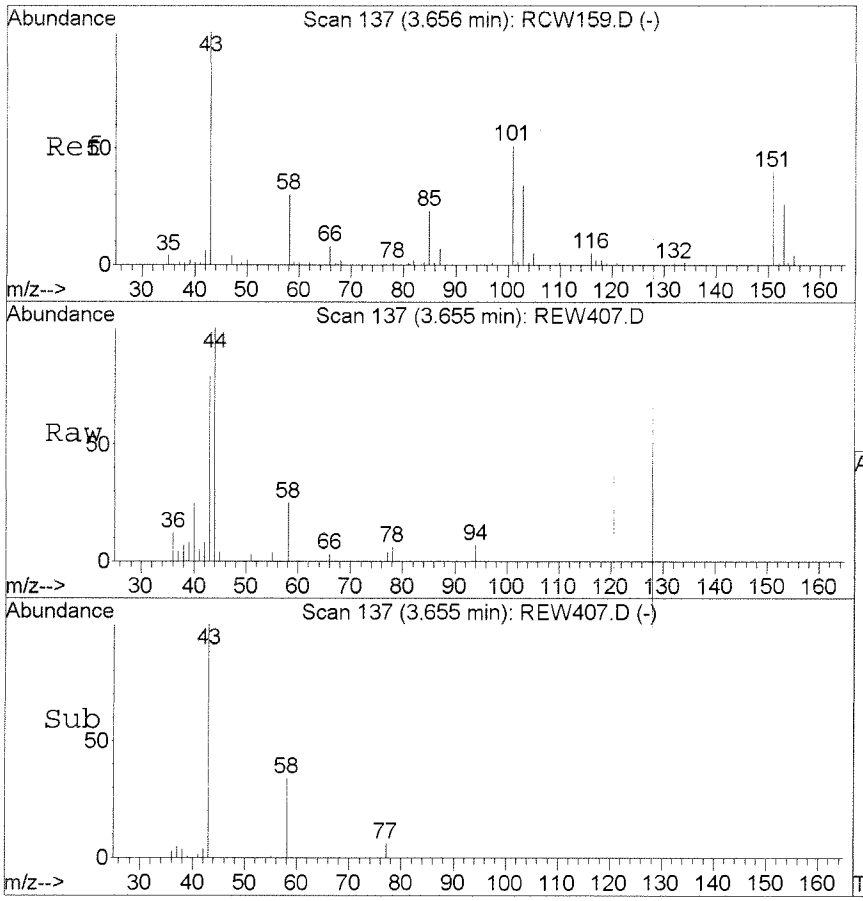
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E20\REW407.D Vial: 7
Acq On : 20 May 2016 2:03 pm Operator: ODinh
Sample : 16E133-02 2.5mL Inst : 06
Misc : DF=10 Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:33 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration

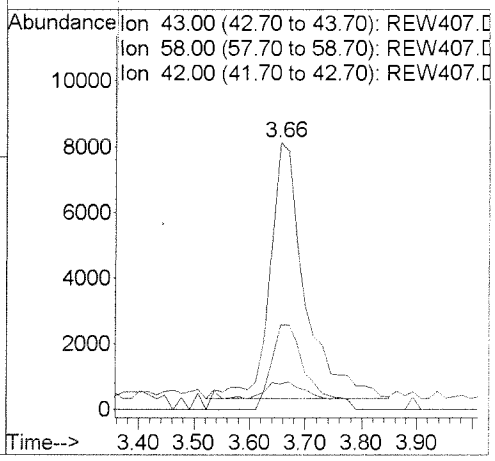


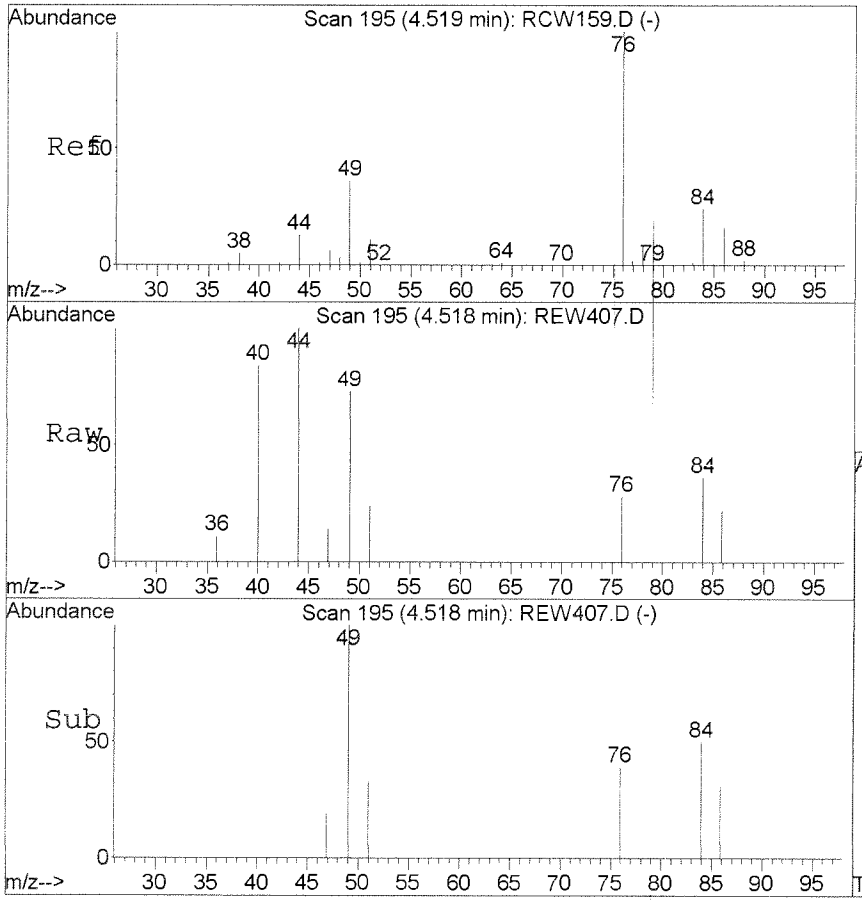


#11
Acetone
Concen: 8.24 ug/l
RT: 3.66 min Scan# 137
Delta R.T. -0.00 min
Lab File: REW407.D
Acq: 20 May 2016 2:03 pm

Tgt Ion: 43 Resp: 34311

Ion	Ratio	Lower	Upper
43	100		
58	33.3	1.7	61.7
42	8.9	0.0	37.8

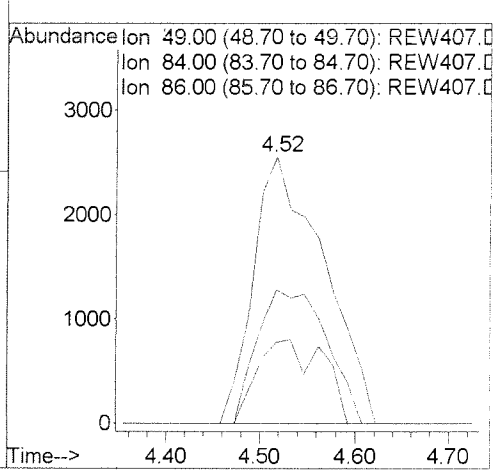


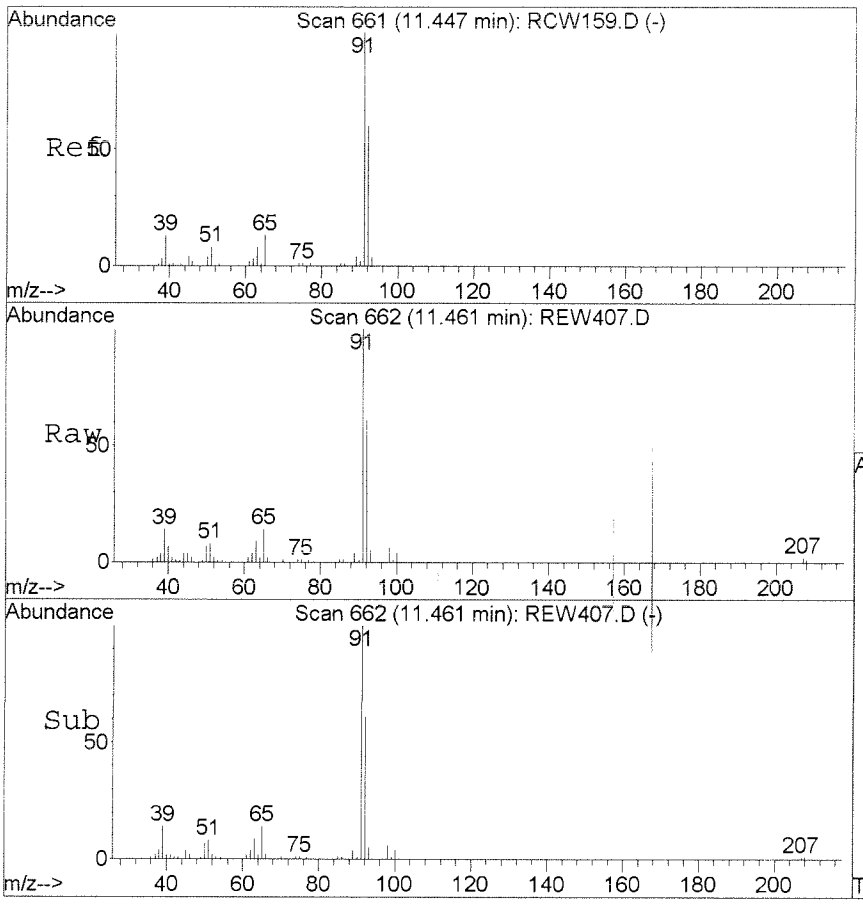


#17
Methylene chloride
Concen: 0.21 ug/l
RT: 4.52 min Scan# 195
Delta R.T. -0.00 min
Lab File: REW407.D
Acq: 20 May 2016 2:03 pm

Tgt Ion: 49 Resp: 13125

Ion	Ratio	Lower	Upper
49	100		
84	49.5	38.1	98.1
86	20.4	12.8	72.8

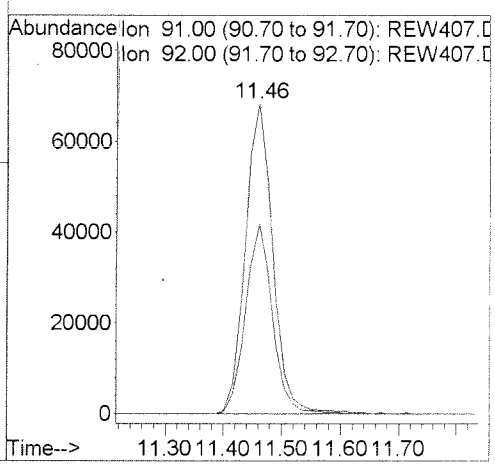


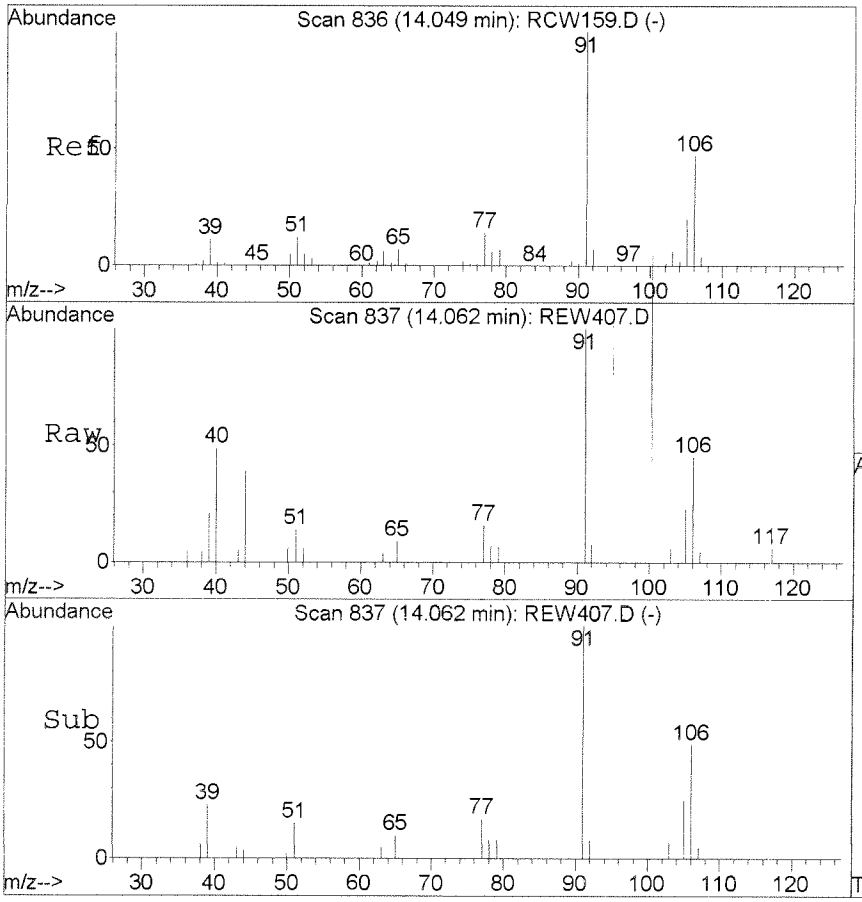


#55
Toluene
Concen: 1.20 ug/l
RT: 11.46 min Scan# 662
Delta R.T. 0.01 min
Lab File: REW407.D
Acq: 20 May 2016 2:03 pm

Tgt Ion: 91 Resp: 226701

Ion	Ratio	Lower	Upper
91	100		
92	59.7	30.7	90.7

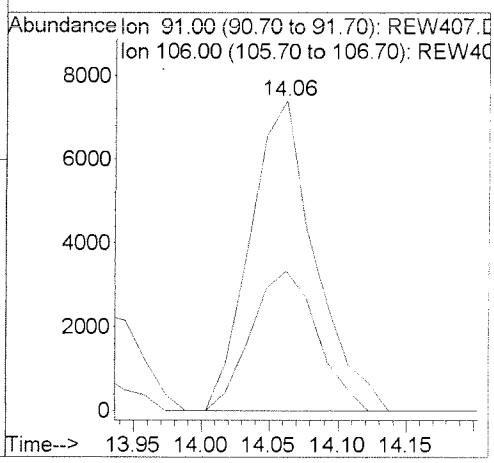


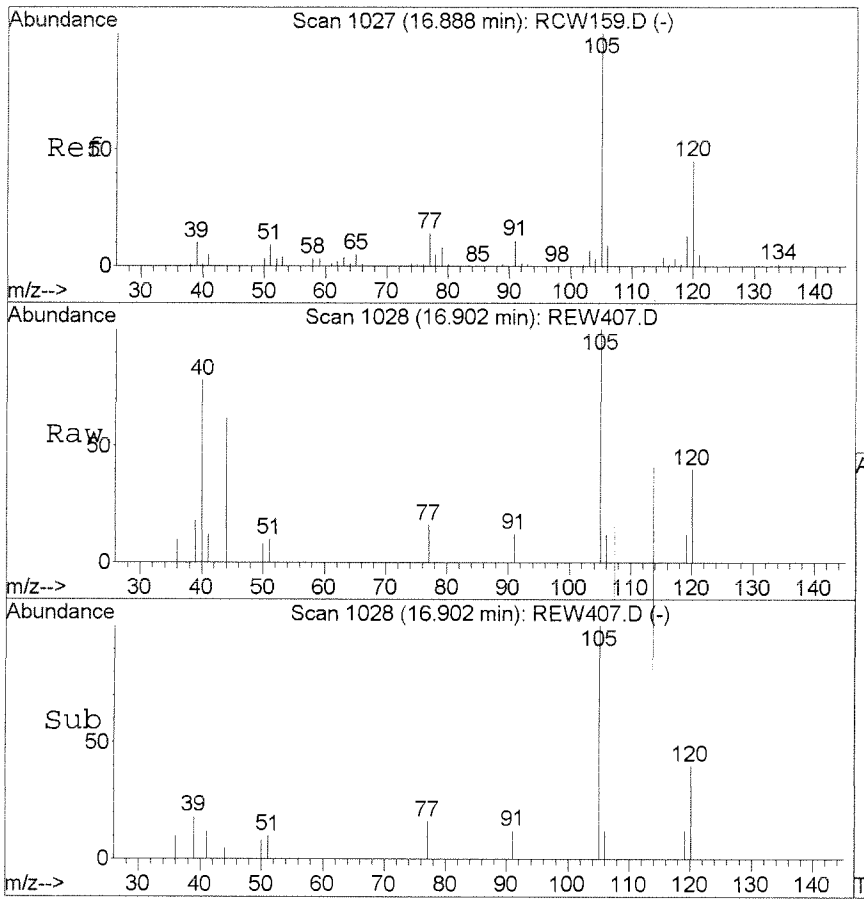


#69
m-Xylene & p-Xylene
Concen: 0.16 ug/l
RT: 14.06 min Scan# 837
Delta R.T. 0.01 min
Lab File: REW407.D
Acq: 20 May 2016 2:03 pm

Tgt Ion: 91 Resp: 24398

Ion	Ratio	Lower	Upper
91	100		
106	46.0	16.6	76.6

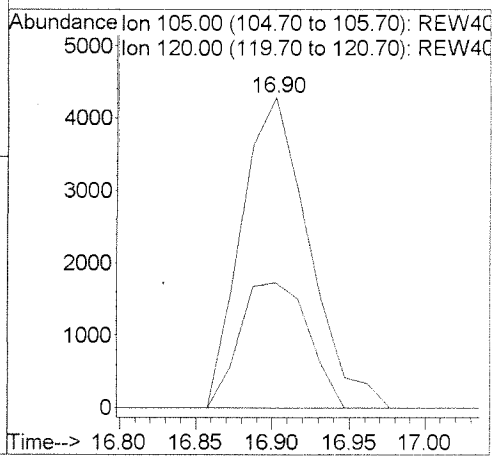




#85
1,2,4-Trimethylbenzene
Concen: 0.11 ug/l
RT: 16.90 min Scan# 1028
Delta R.T. 0.01 min
Lab File: REW407.D
Acq: 20 May 2016 2:03 pm

Tgt Ion:105 Resp: 13097

Ion	Ratio	Lower	Upper
105	100		
120	41.3	23.9	83.9



QC SUMMARIES

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/19/16
Batch No.	: 16E133	Date Extracted:	05/19/16 15:50
Sample ID:	MBLK1W	Date Analyzed:	05/19/16 15:50
Lab Samp ID:	V006E16B	Dilution Factor:	1
Lab File ID:	REW376	Matrix :	WATER
Ext Btch ID:	V006E16	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.2	10.00	102	70-120
4-BROMOFLUOROBENZENE	10.6	10.00	106	75-120
TOLUENE-D8	10.2	10.00	102	85-120
DIBROMOFLUOROMETHANE	10.1	10.00	101	85-115

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5030B/8260B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1
SAMPLE ID:	MBLK1W		
LAB SAMP ID:	V006E16B	V006E16L	V006E16C
LAB FILE ID:	REW376	REW373	REW374
DATE EXTRACTED:	05/19/1615:50	05/19/1614:33	05/19/1614:58
DATE ANALYZED:	05/19/1615:50	05/19/1614:33	05/19/1614:58
PREP. BATCH:	V006E16	V006E16	V006E16
CALIB. REF:	RCW159	RCW159	RCW159

DATE COLLECTED: NA
DATE RECEIVED: 05/19/16

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	10.0	9.30	93	10.0	9.61	96	3	80-120	30
2-Butanone	ND	50.0	60.2	120	50.0	53.2	106	12	30-150	30
Carbon Tetrachloride	ND	10.0	9.84	98	10.0	9.96	100	1	65-140	30
Chlorobenzene	ND	10.0	9.92	99	10.0	10.3	103	3	80-120	30
Chloroform	ND	10.0	10.8	108	10.0	11.0	110	2	65-135	30
1,4-Dichlorobenzene	ND	10.0	9.62	96	10.0	10.2	102	6	75-125	30
1,2-Dichloroethane	ND	10.0	11.6	116	10.0	11.6	116	0	70-130	30
1,1-Dichloroethene	ND	10.0	8.53	85	10.0	8.73	87	2	70-130	30
Tetrachloroethene	ND	10.0	8.13	81	10.0	8.55	86	5	45-150	30
Trichloroethene	ND	10.0	9.19	92	10.0	9.34	93	2	70-125	30
Vinyl Chloride	ND	10.0	9.92	99	10.0	10.0	100	1	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	11.2	112	10.0	11.3	113	70-120
4-Bromofluorobenzene	10.0	9.63	96	10.0	9.72	97	75-120
Toluene-d8	10.0	9.40	94	10.0	9.78	98	85-120
Dibromofluoromethane	10.0	10.3	103	10.0	10.3	103	85-115

METHOD SW5030B/8260B
VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 13:38
Sample ID:	MBLK2W	Date Analyzed:	05/20/16 13:38
Lab Samp ID:	VO06E17B	Dilution Factor:	1
Lab File ID:	REW406	Matrix :	WATER
Ext Btch ID:	VO06E17	% Moisture :	NA
Calib. Ref.:	RCW159	Instrument ID :	06

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	1.0	0.10	0.20
2-BUTANONE	ND	10	2.0	4.0
CARBON TETRACHLORIDE	ND	1.0	0.10	0.20
CHLOROBENZENE	ND	1.0	0.10	0.20
CHLOROFORM	ND	1.0	0.10	0.20
1,4-DICHLOROBENZENE	ND	1.0	0.10	0.20
1,2-DICHLOROETHANE	ND	1.0	0.10	0.20
1,1-DICHLOROETHENE	ND	1.0	0.10	0.20
TETRACHLOROETHENE	ND	1.0	0.15	0.20
TRICHLOROETHENE	ND	1.0	0.10	0.20
VINYL CHLORIDE	ND	1.0	0.12	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	10.1	10.00	101	70-120
4-BROMOFLUOROBENZENE	10.9	10.00	109	75-120
TOLUENE-D8	10.6	10.00	106	85-120
DIBROMOFLUOROMETHANE	9.45	10.00	94.5	85-115

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5030B/8260B

MATRIX: WATER % MOISTURE: NA

DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK2W				
LAB SAMP ID:	V006E17B	V006E17L	V006E17C		
LAB FILE ID:	REW406	REW403	REW404		
DATE EXTRACTED:	05/20/1613:38	05/20/1612:22	05/20/1612:47	DATE COLLECTED:	NA
DATE ANALYZED:	05/20/1613:38	05/20/1612:22	05/20/1612:47	DATE RECEIVED:	05/20/16
PREP. BATCH:	V006E17	V006E17			
V006E17					
CALIB. REF:	RCW159	RCW159	RCW159		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	10.0	10.0	100	10.0	10.1	101	1	80-120	30
2-Butanone	ND	50.0	44.1	88	50.0	48.3	97	9	30-150	30
Carbon Tetrachloride	ND	10.0	9.99	100	10.0	10.3	103	3	65-140	30
Chlorobenzene	ND	10.0	9.73	97	10.0	10.1	101	3	80-120	30
Chloroform	ND	10.0	10.0	100	10.0	10.3	103	3	65-135	30
1,4-Dichlorobenzene	ND	10.0	10.1	101	10.0	9.97	100	1	75-125	30
1,2-Dichloroethane	ND	10.0	10.9	109	10.0	11.4	114	4	70-130	30
1,1-Dichloroethene	ND	10.0	9.90	99	10.0	10.2	102	3	70-130	30
Tetrachloroethene	ND	10.0	8.71	87	10.0	8.99	90	3	45-150	30
Trichloroethene	ND	10.0	9.36	94	10.0	9.40	94	0	70-125	30
Vinyl Chloride	ND	10.0	9.08	91	10.0	8.90	89	2	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	10.0	10.7	107	10.0	11.0	110	70-120
4-Bromofluorobenzene	10.0	10.0	100	10.0	9.90	99	75-120
Toluene-d8	10.0	9.79	98	10.0	9.99	100	85-120
Dibromofluoromethane	10.0	9.68	97	10.0	9.70	97	85-115

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW376.D Vial: 6
Acq On : 19 May 2016 3:50 pm Operator: ODinh
Sample : VO06E16B 25mL Inst : 06
Misc : BLANK Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

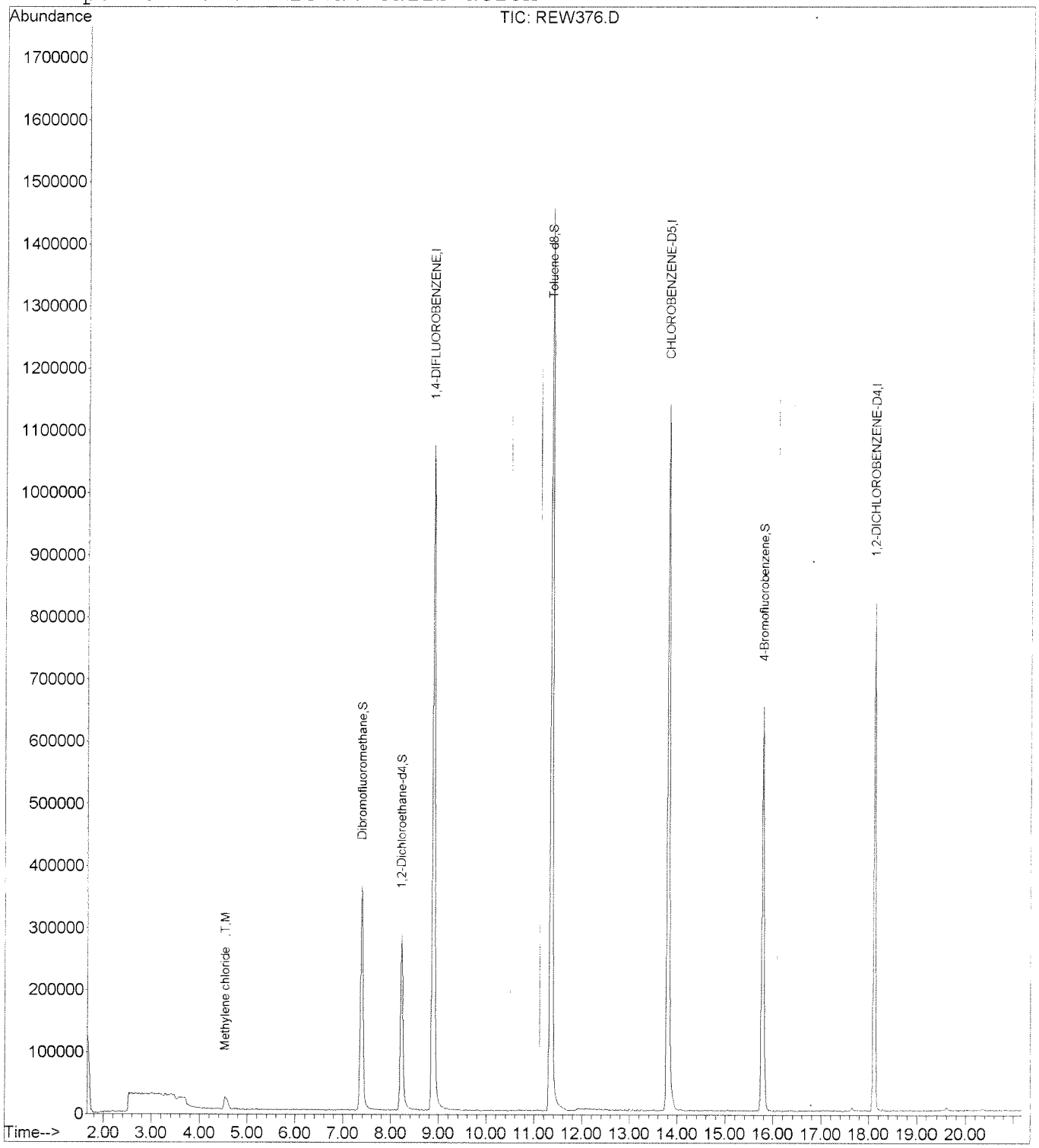
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1556122	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.79	117	1150690	10.00	ug/l	0.01
73) 1,2-DICHLOROBENZENE-D4	18.11	152	302902	10.00	ug/l	0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.39	111	468049	10.11	ug/l	0.03
Spiked Amount 10.000			Recovery	=	101.10%	
41) 1,2-Dichloroethane-d4	8.22	65	341158	10.21	ug/l	0.03
Spiked Amount 10.000			Recovery	=	102.10%	
54) Toluene-d8	11.34	98	1723077	10.17	ug/l	0.01
Spiked Amount 10.000			Recovery	=	101.70%	
76) 4-Bromofluorobenzene	15.77	95	468107	10.56	ug/l	0.03
Spiked Amount 10.000			Recovery	=	105.60%	
Target Compounds						Qvalue
17) Methylene chloride	4.53	49	40660	0.58	ug/l	91

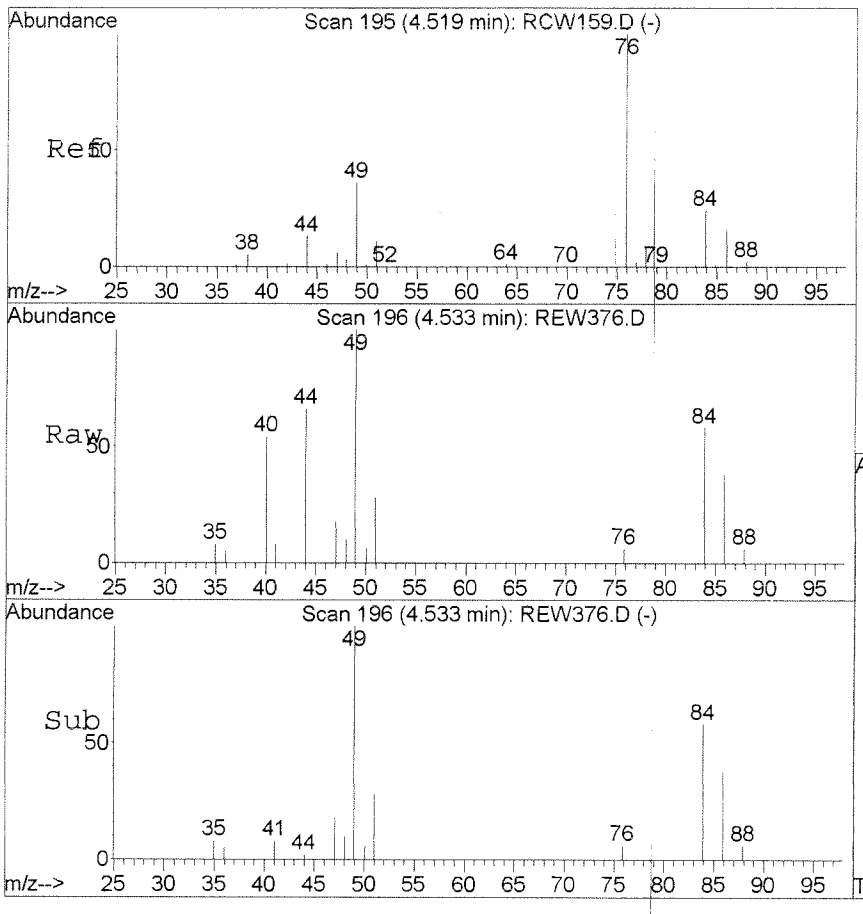
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E19\REW376.D Vial: 6
Acq On : 19 May 2016 3:50 pm Operator: ODinh
Sample : VO06E16B 25mL Inst : 06
Misc : BLANK Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration

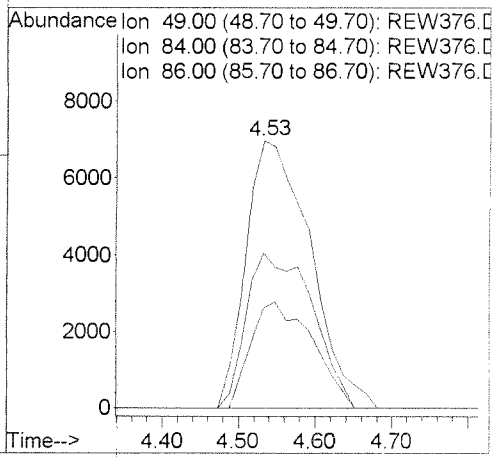




#17
Methylene chloride
Concen: 0.58 ug/l
RT: 4.53 min Scan# 196
Delta R.T. 0.01 min
Lab File: REW376.D
Acq: 19 May 2016 3:50 pm

Tgt Ion: 49 Resp: 40660

Ion	Ratio	Lower	Upper
49	100		
84	59.5	38.1	98.1
86	38.2	12.8	72.8



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW373.D Vial: 3
Acq On : 19 May 2016 2:33 pm Operator: ODinh
Sample : VO06E16L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1567390	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.80	117	1245210	10.00	ug/l	0.01
73) 1,2-DICHLOROBENZENE-D4	18.11	152	418366	10.00	ug/l	0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.39	111	478951	10.27	ug/l	0.03
Spiked Amount 10.000			Recovery = 102.70%			
41) 1,2-Dichloroethane-d4	8.22	65	378496	11.25	ug/l	0.03
Spiked Amount 10.000			Recovery = 112.50%			
54) Toluene-d8	11.34	98	1723967	9.40	ug/l	0.01
Spiked Amount 10.000			Recovery = 94.00%			
76) 4-Bromofluorobenzene	15.77	95	589769	9.63	ug/l	0.03
Spiked Amount 10.000			Recovery = 96.30%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.81	85	505995	12.02	ug/l	98
3) Chloromethane	2.05	50	783845	10.38	ug/l	99
4) Vinyl chloride	2.18	62	667185	9.92	ug/l	99
5) Bromomethane	2.67	94	382291	9.59	ug/l	97
6) Chloroethane	2.78	64	399302	10.07	ug/l	98
7) Dichlorofluoromethane	2.81	67	1171054	10.65	ug/l	99
8) Trichlorofluoromethane	3.08	101	654874	11.05	ug/l	100
9) Acrolein	3.58	56	125002	48.12	ug/l	93
10) 1,1,2-Trichloro-1,2,2-trif	3.64	151	275155	8.61	ug/l	99
11) Acetone	3.67	43	306754	64.46	ug/l	99
12) 1,1-Dichloroethene	3.86	61	833449	8.53	ug/l	96
13) tert-Butyl alcohol	3.97	59	97501	61.93	ug/l	98
16) Iodomethane	4.29	142	589176	7.38	ug/l	95
17) Methylene chloride	4.53	49	721368	10.23	ug/l	92
18) Carbon disulfide	4.55	76	2201414	11.24	ug/l	99
19) Acrylonitrile	4.74	53	442169	56.47	ug/l	99
20) tert-Butyl methyl ether (M	4.79	73	868592	11.28	ug/l	99
21) trans-1,2-Dichloroethene	4.98	61	784692	8.71	ug/l	96
22) Isopropyl ether (DIPE)	5.54	45	2367130	11.26	ug/l	97
23) Vinyl acetate	5.74	43	704649	10.63	ug/l	98
24) 1,1-Dichloroethane	5.71	63	1084847	10.40	ug/l	98
26) tert-Butyl ethyl ether (ET	6.26	59	1434868	11.04	ug/l	99
27) 2-Butanone	6.47	72	116759	60.21	ug/l	91
28) 2,2-Dichloropropane	6.67	77	433529	10.16	ug/l	97
29) cis-1,2-Dichloroethene	6.75	96	547369	9.61	ug/l	94
30) Chloroform	7.02	83	943823	10.79	ug/l	99
32) Bromochloromethane	7.28	49	463296	11.08	ug/l	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW373.D Vial: 3
Acq On : 19 May 2016 2:33 pm Operator: ODinh
Sample : VO06E16L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Tetrahydrofuran	7.36	42	71245	11.60 ug/l	98
35)	1,1,1-Trichloroethane	7.68	97	641436	10.71 ug/l	99
38)	1,1-Dichloropropene	7.95	110	225807	8.59 ug/l	99
39)	Carbon tetrachloride	8.10	119	547153	9.84 ug/l	100
40)	tert-Amyl methyl ether (TA	8.16	87	207431	11.29 ug/l	97
42)	1,2-Dichloroethane	8.37	62	484317	11.61 ug/l	100
43)	Benzene	8.38	78	2169856	9.30 ug/l	99
44)	Trichloroethene	9.39	130	510091	9.19 ug/l	98
46)	1,2-Dichloropropane	9.69	63	616550	10.98 ug/l	94
47)	1,4-Dioxane	10.12	88	34828	195.70 ug/l	97
48)	Bromodichloromethane	10.06	83	656003	11.16 ug/l	99
49)	Dibromomethane	10.15	93	210388	10.35 ug/l	97
50)	2-Chloroethyl vinyl ether	10.61	63	4920	0.93 ug/l #	16
51)	4-Methyl-2-pentanone	10.64	43	1555788	61.02 ug/l	99
52)	cis-1,3-Dichloropropene	10.97	75	794416	10.52 ug/l	97
55)	Toluene	11.48	91	2166508	9.26 ug/l	100
56)	Ethyl methacrylate	11.79	69	412562	10.99 ug/l	94
57)	trans-1,3-Dichloropropene	11.79	75	573879	10.89 ug/l	94
58)	1,1,2-Trichloroethane	12.03	97	294381	11.37 ug/l	99
59)	2-Hexanone	12.06	43	1015160	62.04 ug/l	97
60)	1,3-Dichloropropane	12.44	76	587826	11.00 ug/l	99
61)	Tetrachloroethene	12.52	164	330942	8.13 ug/l	97
62)	Dibromochloromethane	12.86	129	348846	10.56 ug/l	99
64)	1,2-Dibromoethane	13.17	107	260345	10.12 ug/l	98
65)	1-Chlorohexane	13.45	91	852431	8.65 ug/l	94
66)	Chlorobenzene	13.85	112	1266475	9.92 ug/l	97
67)	1,1,1,2-Tetrachloroethane	13.93	131	418451	10.78 ug/l	99
68)	Ethylbenzene	13.94	91	2547337	9.72 ug/l	99
69)	m-Xylene & p-Xylene	14.06	91	3683561	19.27 ug/l	99
70)	o-Xylene	14.78	91	1886554	10.04 ug/l	98
71)	Styrene	14.84	104	1347707	10.12 ug/l	95
72)	Isopropylbenzene	15.36	105	2202920	10.38 ug/l	100
74)	Bromoform	15.39	173	148031	9.25 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.64	83	356159	11.14 ug/l	99
77)	1,2,3-Trichloropropane	15.88	110	80947	11.64 ug/l	99
78)	trans-1,4-Dichloro-2-buten	16.00	53	85248	9.72 ug/l	98
79)	n-Propylbenzene	16.01	91	3114957	9.28 ug/l	98
80)	Bromobenzene	16.08	156	383857	9.51 ug/l	94
81)	1,3,5-Trimethylbenzene	16.26	105	1701616	9.50 ug/l	99
82)	2-Chlorotoluene	16.29	91	1922289	9.78 ug/l	100
83)	4-Chlorotoluene	16.37	91	1533813	9.36 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW373.D Vial: 3
Acq On : 19 May 2016 2:33 pm Operator: ODinh
Sample : VO06E16L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

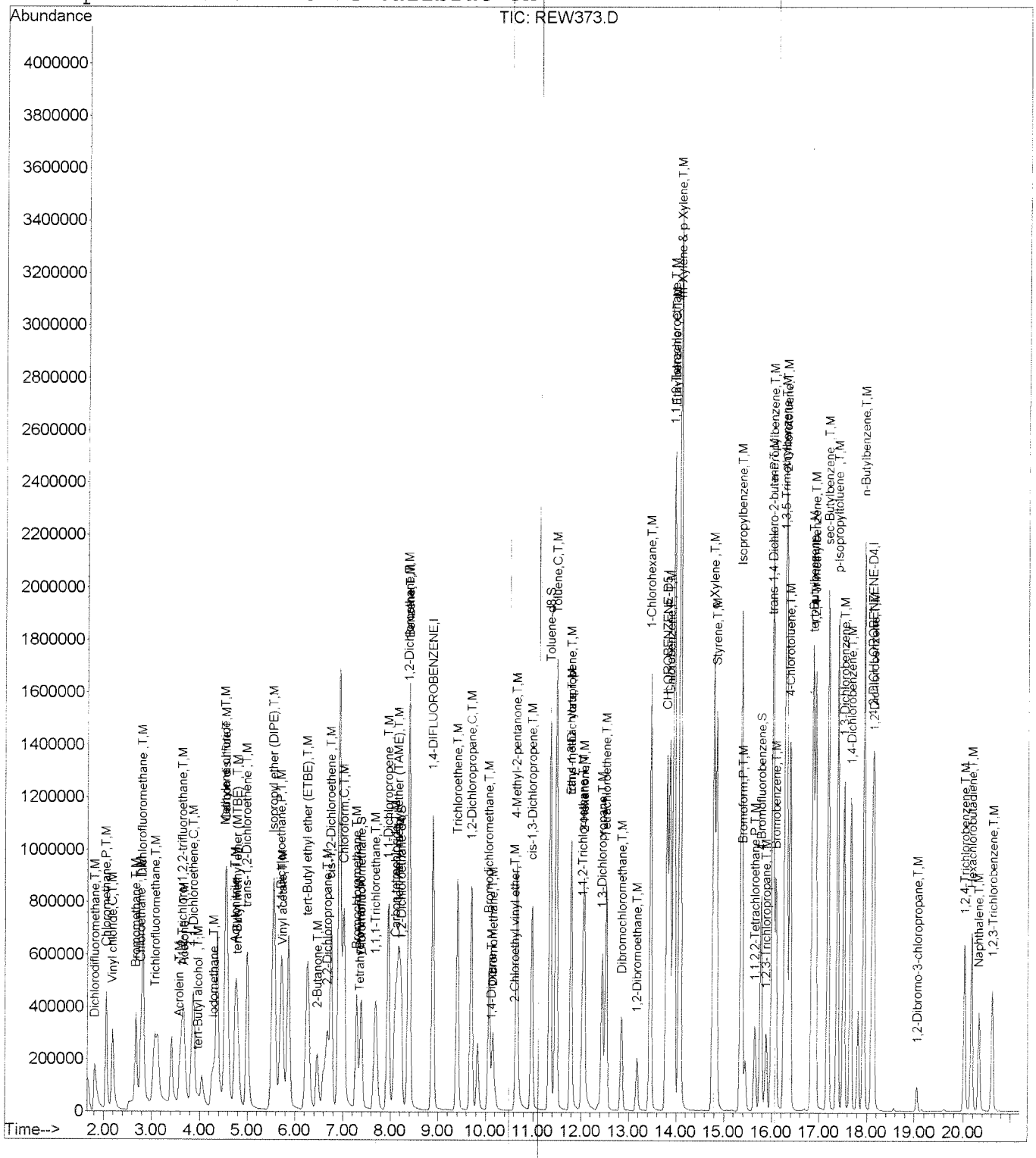
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
84)	tert-Butylbenzene	16.86	134	402018	9.80 ug/l	99
85)	1,2,4-Trimethylbenzene	16.90	105	1658330	9.61 ug/l	98
86)	sec-Butylbenzene	17.17	105	2505840	9.81 ug/l	99
87)	p-Isopropyltoluene	17.38	119	1843333	9.75 ug/l	100
88)	1,3-Dichlorobenzene	17.51	146	823888	9.87 ug/l	99
89)	1,4-Dichlorobenzene	17.66	146	764538	9.62 ug/l	99
90)	n-Butylbenzene	17.93	91	1906387	9.11 ug/l	99
91)	1,2-Dichlorobenzene	18.14	146	693045	10.26 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.06	157	35080	9.63 ug/l	95
93)	1,2,4-Trichlorobenzene	20.02	180	307371	8.78 ug/l	99
94)	Hexachlorobutadiene	20.17	225	209821	9.28 ug/l	97
95)	Naphthalene	20.32	128	510825	9.33 ug/l	100
96)	1,2,3-Trichlorobenzene	20.62	180	239867	9.18 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E19\REW373.D Vial: 3
Acq On : 19 May 2016 2:33 pm Operator: ODinh
Sample : VO06E16L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:29 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW374.D
Acq On : 19 May 2016 2:58 pm
Sample : VO06E16C
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: May 23 11:30 2016

Vial: 4
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1585531	10.00 ug/l	0.01
53) CHLOROBENZENE-D5	13.80	117	1234292	10.00 ug/l	0.01
73) 1,2-DICHLOROBENZENE-D4	18.11	152	407004	10.00 ug/l	0.01
System Monitoring Compounds					
34) Dibromofluoromethane	7.37	111	484099	10.27 ug/l	0.01
Spiked Amount 10.000			Recovery	= 102.70%	
41) 1,2-Dichloroethane-d4	8.22	65	383236	11.26 ug/l	0.03
Spiked Amount 10.000			Recovery	= 112.60%	
54) Toluene-d8	11.34	98	1777822	9.78 ug/l	0.01
Spiked Amount 10.000			Recovery	= 97.80%	
76) 4-Bromofluorobenzene	15.76	95	578659	9.72 ug/l	0.01
Spiked Amount 10.000			Recovery	= 97.20%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.82	85	496675	11.66 ug/l	99
3) Chloromethane	2.04	50	761726	9.97 ug/l	98
4) Vinyl chloride	2.19	62	683379	10.04 ug/l	99
5) Bromomethane	2.67	94	374452	9.28 ug/l	98
6) Chloroethane	2.78	64	396187	9.87 ug/l	98
7) Dichlorofluoromethane	2.81	67	1194085	10.73 ug/l	98
8) Trichlorofluoromethane	3.06	101	645131	10.76 ug/l	99
9) Acrolein	3.58	56	105959	40.32 ug/l	95
10) 1,1,2-Trichloro-1,2,2-trif	3.64	151	284290	8.80 ug/l	98
11) Acetone	3.67	43	282376	58.66 ug/l	98
12) 1,1-Dichloroethene	3.86	61	862906	8.73 ug/l	96
13) tert-Butyl alcohol	3.97	59	93550	58.74 ug/l	92
16) Iodomethane	4.30	142	619257	7.67 ug/l	97
17) Methylene chloride	4.53	49	728016	10.20 ug/l	94
18) Carbon disulfide	4.55	76	2215325	11.18 ug/l	99
19) Acrylonitrile	4.74	53	397718	50.22 ug/l	100
20) tert-Butyl methyl ether (M	4.77	73	855609	10.98 ug/l	99
21) trans-1,2-Dichloroethene	4.98	61	822236	9.03 ug/l	96
22) Isopropyl ether (DIPE)	5.53	45	2449380	11.51 ug/l	98
23) Vinyl acetate	5.74	43	698398	10.42 ug/l	98
24) 1,1-Dichloroethane	5.71	63	1111100	10.53 ug/l	99
26) tert-Butyl ethyl ether (ET	6.24	59	1441776	10.97 ug/l	99
27) 2-Butanone	6.45	72	104412	53.23 ug/l #	88
28) 2,2-Dichloropropane	6.66	77	464100	10.75 ug/l	98
29) cis-1,2-Dichloroethene	6.75	96	572158	9.93 ug/l	93
30) Chloroform	7.02	83	974620	11.01 ug/l	99
32) Bromochloromethane	7.28	49	467111	11.05 ug/l	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW374.D Vial: 4
Acq On : 19 May 2016 2:58 pm Operator: ODinh
Sample : VO06E16C Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:30 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33) Tetrahydrofuran	7.34	42	78064	12.60 ug/l	92
35) 1,1,1-Trichloroethane	7.68	97	668661	11.04 ug/l	98
38) 1,1-Dichloropropene	7.94	110	240273	9.03 ug/l	100
39) Carbon tetrachloride	8.10	119	560446	9.96 ug/l	99
40) tert-Amyl methyl ether (TA	8.16	87	206662	11.12 ug/l	98
42) 1,2-Dichloroethane	8.37	62	488514	11.57 ug/l	99
43) Benzene	8.38	78	2267145	9.61 ug/l	99
44) Trichloroethene	9.39	130	524235	9.34 ug/l	98
46) 1,2-Dichloropropane	9.69	63	634682	11.17 ug/l	94
47) 1,4-Dioxane	10.11	88	34651	192.48 ug/l	99
48) Bromodichloromethane	10.06	83	675332	11.36 ug/l	100
49) Dibromomethane	10.14	93	209756	10.20 ug/l	96
50) 2-Chloroethyl vinyl ether	10.61	63	5127	0.96 ug/l #	30
51) 4-Methyl-2-pentanone	10.64	43	1413975	54.82 ug/l	99
52) cis-1,3-Dichloropropene	10.96	75	822069	10.76 ug/l	98
55) Toluene	11.48	91	2264934	9.76 ug/l	99
56) Ethyl methacrylate	11.79	69	400514	10.76 ug/l	91
57) trans-1,3-Dichloropropene	11.79	75	574731	11.00 ug/l	97
58) 1,1,2-Trichloroethane	12.03	97	289259	11.27 ug/l	98
59) 2-Hexanone	12.06	43	905967	55.86 ug/l	98
60) 1,3-Dichloropropane	12.44	76	590989	11.16 ug/l	100
61) Tetrachloroethene	12.52	164	344923	8.55 ug/l	98
62) Dibromochloromethane	12.84	129	349675	10.68 ug/l	100
64) 1,2-Dibromoethane	13.17	107	264849	10.38 ug/l	100
65) 1-Chlorohexane	13.45	91	896745	9.18 ug/l	95
66) Chlorobenzene	13.85	112	1296991	10.25 ug/l	99
67) 1,1,1,2-Tetrachloroethane	13.93	131	423349	11.00 ug/l	99
68) Ethylbenzene	13.94	91	2610445	10.05 ug/l	99
69) m-Xylene & p-Xylene	14.06	91	3778510	19.94 ug/l	98
70) o-Xylene	14.78	91	1939229	10.41 ug/l	100
71) Styrene	14.84	104	1367771	10.36 ug/l	95
72) Isopropylbenzene	15.36	105	2228064	10.60 ug/l	100
74) Bromoform	15.37	173	143619	9.22 ug/l	99
75) 1,1,2,2-Tetrachloroethane	15.64	83	345585	11.11 ug/l	100
77) 1,2,3-Trichloropropane	15.88	110	79583	11.76 ug/l	96
78) trans-1,4-Dichloro-2-buten	16.00	53	83528	9.79 ug/l	97
79) n-Propylbenzene	16.01	91	3165716	9.69 ug/l	98
80) Bromobenzene	16.08	156	400386	10.20 ug/l	95
81) 1,3,5-Trimethylbenzene	16.26	105	1741677	9.99 ug/l	99
82) 2-Chlorotoluene	16.29	91	1968553	10.29 ug/l	99
83) 4-Chlorotoluene	16.37	91	1589387	9.97 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW374.D Vial: 4
Acq On : 19 May 2016 2:58 pm Operator: ODinh
Sample : VO06E16C Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:30 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

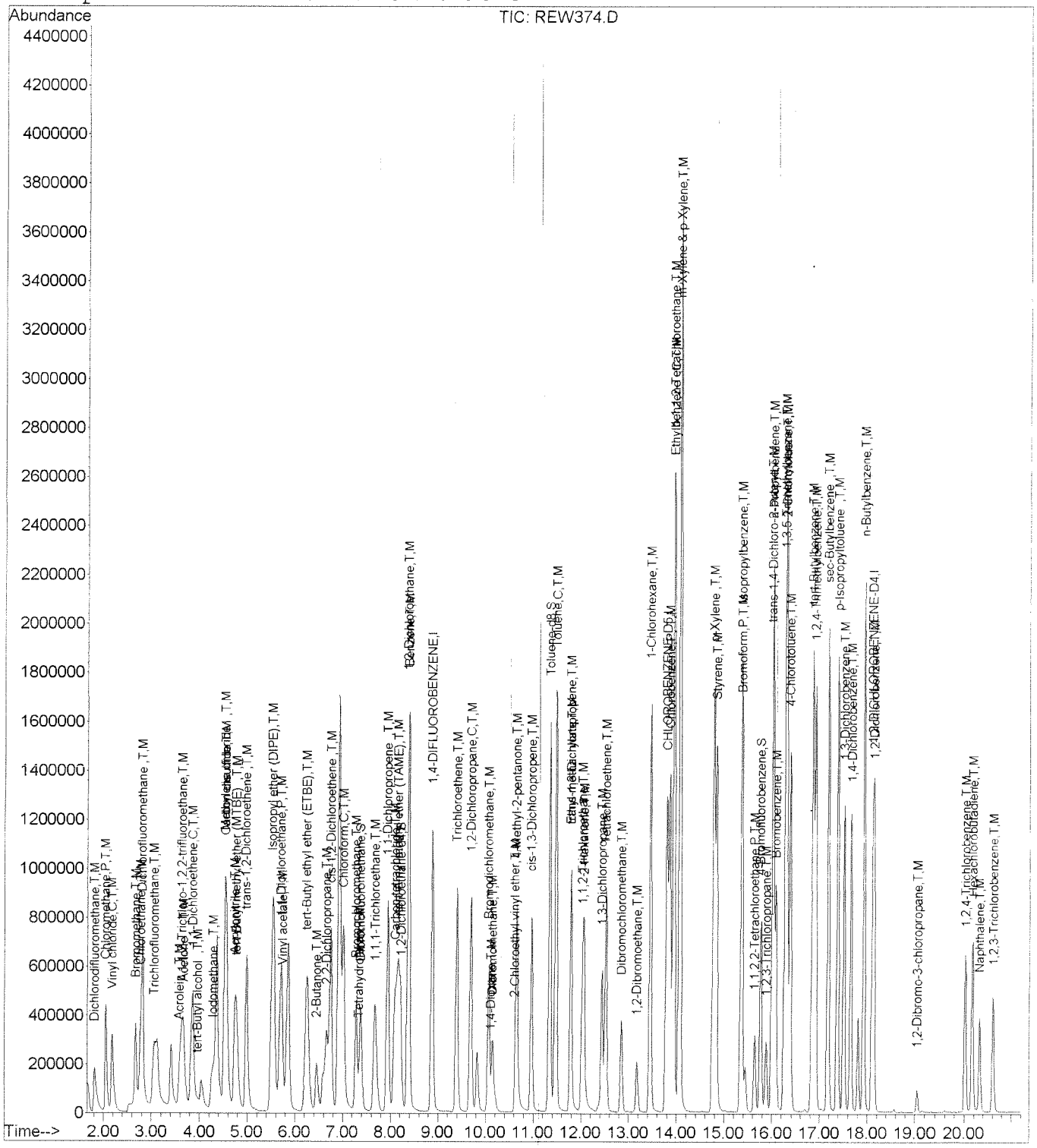
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
84)	tert-Butylbenzene	16.84	134	425676	10.66 ug/l	97
85)	1,2,4-Trimethylbenzene	16.90	105	1695710	10.10 ug/l	99
86)	sec-Butylbenzene	17.17	105	2483729	10.00 ug/l	99
87)	p-Isopropyltoluene	17.38	119	1868825	10.16 ug/l	99
88)	1,3-Dichlorobenzene	17.51	146	843506	10.39 ug/l	100
89)	1,4-Dichlorobenzene	17.66	146	787079	10.18 ug/l	99
90)	n-Butylbenzene	17.93	91	1939627	9.52 ug/l	99
91)	1,2-Dichlorobenzene	18.14	146	689304	10.49 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.06	157	33385	9.42 ug/l	94
93)	1,2,4-Trichlorobenzene	20.02	180	310544	9.12 ug/l	99
94)	Hexachlorobutadiene	20.17	225	222310	10.11 ug/l	100
95)	Naphthalene	20.32	128	514035	9.65 ug/l	100
96)	1,2,3-Trichlorobenzene	20.62	180	239743	9.43 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E19\REW374.D Vial: 4
Acq On : 19 May 2016 2:58 pm Operator: ODinh
Sample : VO06E16C Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:30 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW406.D
Acq On : 20 May 2016 1:38 pm
Sample : VO06E17B 25mL
Misc : BLANK
MS Integration Params: RTE.P
Quant Time: May 20 14:21 2016

Vial: 6
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1402910	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.78	117	1012186	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	261142	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	7.37	111	394314	9.45	ug/l	0.01
Spiked Amount 10.000			Recovery = 94.50%			
41) 1,2-Dichloroethane-d4	8.21	65	303373	10.07	ug/l	0.01
Spiked Amount 10.000			Recovery = 100.70%			
54) Toluene-d8	11.33	98	1578960	10.60	ug/l	0.00
Spiked Amount 10.000			Recovery = 106.00%			
76) 4-Bromofluorobenzene	15.76	95	417552	10.93	ug/l	0.01
Spiked Amount 10.000			Recovery = 109.30%			

Target Compounds Qvalue

(#) = qualifier out of range (m) = manual integration

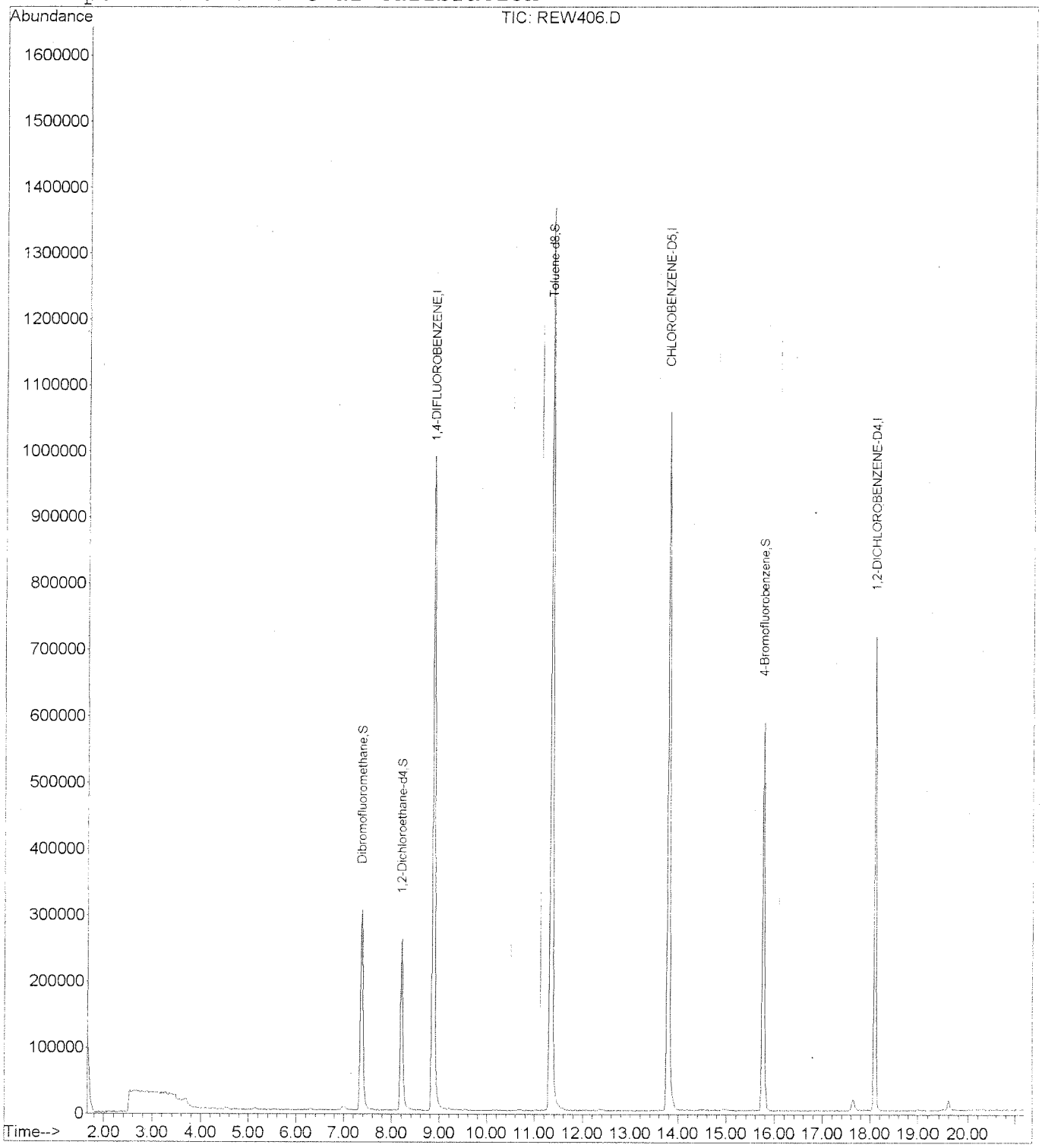
Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E20\REW406.D
Acq On : 20 May 2016 1:38 pm
Sample : VO06E17B 25mL
Misc : BLANK
MS Integration Params: RTE.P
Quant Time: May 20 14:21 2016

Vial: 6
Operator: ODinh
Inst : 06
Multiplr: 1.00

Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW403.D Vial: 3
Acq On : 20 May 2016 12:22 pm Operator: ODinh
Sample : VO06E17L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:43 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1426912	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.78	117	1137220	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	381040	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	7.37	111	410772	9.68	ug/l	0.01
Spiked Amount 10.000			Recovery = 96.80%			
41) 1,2-Dichloroethane-d4	8.21	65	328161	10.71	ug/l	0.01
Spiked Amount 10.000			Recovery = 107.10%			
54) Toluene-d8	11.34	98	1638853	9.79	ug/l	0.01
Spiked Amount 10.000			Recovery = 97.90%			
76) 4-Bromofluorobenzene	15.76	95	558968	10.02	ug/l	0.01
Spiked Amount 10.000			Recovery = 100.20%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.80	85	416418	10.86	ug/l	97
3) Chloromethane	2.03	50	669253	9.74	ug/l	100
4) Vinyl chloride	2.17	62	556055	9.08	ug/l	99
5) Bromomethane	2.66	94	310144	8.54	ug/l	99
6) Chloroethane	2.75	64	342836	9.49	ug/l	96
7) Dichlorofluoromethane	2.79	67	1087746	10.86	ug/l	99
8) Trichlorofluoromethane	3.06	101	532803	9.87	ug/l	99
9) Acrolein	3.58	56	103988	43.97	ug/l	93
10) 1,1,2-Trichloro-1,2,2-trif	3.63	151	255455	8.78	ug/l	100
11) Acetone	3.67	43	219356	50.63	ug/l	98
12) 1,1-Dichloroethene	3.83	61	881110	9.90	ug/l	95
13) tert-Butyl alcohol	3.95	59	59258	41.34	ug/l #	65
15) Methyl acetate	4.31	43	169071	9.76	ug/l	96
16) Iodomethane	4.28	142	598631	8.24	ug/l	97
17) Methylene chloride	4.52	49	643516	10.02	ug/l	93
18) Carbon disulfide	4.53	76	1709979	9.59	ug/l	100
19) Acrylonitrile	4.73	53	311461	43.70	ug/l	99
20) tert-Butyl methyl ether (M	4.77	73	686214	9.79	ug/l	99
21) trans-1,2-Dichloroethene	4.98	61	820211	10.01	ug/l	95
22) Isopropyl ether (DIPE)	5.53	45	1969495	10.29	ug/l	97
23) Vinyl acetate	5.72	43	559288	9.27	ug/l	96
24) 1,1-Dichloroethane	5.69	63	969253	10.21	ug/l	100
25) 2-Butanol	6.11	45	54973	37.29	ug/l #	7
26) tert-Butyl ethyl ether (ET	6.24	59	1209353	10.22	ug/l	98
27) 2-Butanone	6.45	72	77789	44.07	ug/l #	87
28) 2,2-Dichloropropane	6.66	77	417888	10.76	ug/l	97
29) cis-1,2-Dichloroethene	6.73	96	484928	9.35	ug/l	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW403.D Vial: 3
Acq On : 20 May 2016 12:22 pm Operator: ODinh
Sample : VO06E17L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:43 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	7.00	83	800534	10.05 ug/l	98
32)	Bromochloromethane	7.28	49	396693	10.43 ug/l	88
33)	Tetrahydrofuran	7.34	42	58762	10.47 ug/l	95
35)	1,1,1-Trichloroethane	7.67	97	560458	10.28 ug/l	97
36)	Cyclohexane	7.69	56	1258869	11.25 ug/l	97
38)	1,1-Dichloropropene	7.94	110	227572	9.51 ug/l	99
39)	Carbon tetrachloride	8.09	119	506158	9.99 ug/l	98
40)	tert-Amyl methyl ether (TA	8.16	87	168487	10.08 ug/l	97
42)	1,2-Dichloroethane	8.37	62	414176	10.90 ug/l	99
43)	Benzene	8.37	78	2124683	10.00 ug/l	99
44)	Trichloroethene	9.40	130	473274	9.36 ug/l	98
45)	Methylcyclohexane	9.47	83	1042074	12.16 ug/l	97
46)	1,2-Dichloropropane	9.68	63	529902	10.36 ug/l	95
47)	1,4-Dioxane	10.11	88	26221	161.84 ug/l	97
48)	Bromodichloromethane	10.06	83	528932	9.88 ug/l	99
49)	Dibromomethane	10.14	93	174468	9.42 ug/l	93
50)	2-Chloroethyl vinyl ether	10.60	63	38688	8.01 ug/l	96
51)	4-Methyl-2-pentanone	10.64	43	1099296	47.36 ug/l	98
52)	cis-1,3-Dichloropropene	10.96	75	695155	10.11 ug/l	96
55)	Toluene	11.46	91	2023906	9.47 ug/l	100
56)	Ethyl methacrylate	11.79	69	320832	9.36 ug/l	90
57)	trans-1,3-Dichloropropene	11.77	75	482312	10.02 ug/l	95
58)	1,1,2-Trichloroethane	12.03	97	222309	9.40 ug/l	99
59)	2-Hexanone	12.06	43	692474	46.34 ug/l	98
60)	1,3-Dichloropropane	12.43	76	477879	9.80 ug/l	100
61)	Tetrachloroethene	12.52	164	323736	8.71 ug/l	96
62)	Dibromochloromethane	12.84	129	265930	8.81 ug/l	98
64)	1,2-Dibromoethane	13.17	107	207926	8.85 ug/l	99
65)	1-Chlorohexane	13.45	91	881695	9.80 ug/l	93
66)	Chlorobenzene	13.84	112	1133722	9.73 ug/l	96
67)	1,1,1,2-Tetrachloroethane	13.91	131	339201	9.56 ug/l	98
68)	Ethylbenzene	13.93	91	2440282	10.19 ug/l	99
69)	m-Xylene & p-Xylene	14.06	91	3542219	20.29 ug/l	98
70)	o-Xylene	14.76	91	1842156	10.73 ug/l	100
71)	Styrene	14.82	104	1297943	10.67 ug/l	99
72)	Isopropylbenzene	15.36	105	2187027	11.29 ug/l	99
74)	Bromoform	15.37	173	116155	7.97 ug/l	100
75)	1,1,2,2-Tetrachloroethane	15.64	83	273826	9.40 ug/l	99
77)	1,2,3-Trichloropropane	15.88	110	61241	9.67 ug/l	98
78)	trans-1,4-Dichloro-2-buten	16.00	53	82470	10.32 ug/l	98
79)	n-Propylbenzene	16.01	91	3183139	10.41 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW403.D
Acq On : 20 May 2016 12:22 pm
Sample : VO06E17L
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: May 20 12:43 2016

Vial: 3
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

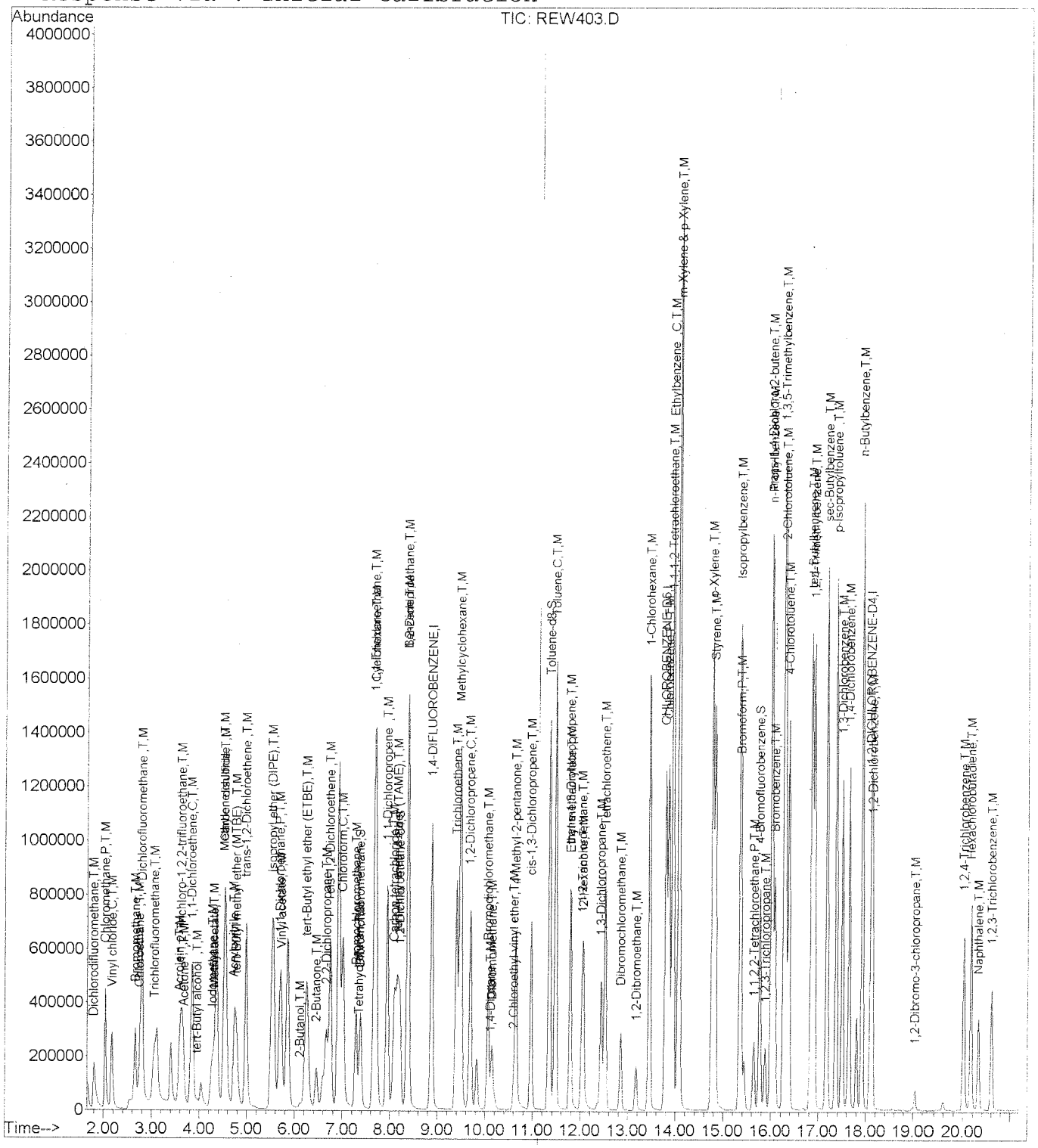
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	359743	9.79 ug/l	89
81)	1,3,5-Trimethylbenzene	16.26	105	1746742	10.71 ug/l	99
82)	2-Chlorotoluene	16.29	91	1809568	10.10 ug/l	95
83)	4-Chlorotoluene	16.37	91	1564093	10.47 ug/l	95
84)	tert-Butylbenzene	16.84	134	406823	10.89 ug/l	98
85)	1,2,4-Trimethylbenzene	16.90	105	1715425	10.92 ug/l	99
86)	sec-Butylbenzene	17.17	105	2491232	10.71 ug/l	99
87)	p-Isopropyltoluene	17.36	119	1871387	10.87 ug/l	100
88)	1,3-Dichlorobenzene	17.50	146	773725	10.18 ug/l	99
89)	1,4-Dichlorobenzene	17.65	146	732621	10.12 ug/l	99
90)	n-Butylbenzene	17.91	91	2001959	10.50 ug/l	99
91)	1,2-Dichlorobenzene	18.14	146	608724	9.90 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.04	157	25621	7.77 ug/l	88
93)	1,2,4-Trichlorobenzene	20.01	180	307301	9.64 ug/l	99
94)	Hexachlorobutadiene	20.16	225	219181	10.64 ug/l	98
95)	Naphthalene	20.32	128	467495	9.37 ug/l	99
96)	1,2,3-Trichlorobenzene	20.61	180	227696	9.57 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E20\REW403.D Vial: 3
Acq On : 20 May 2016 12:22 pm Operator: ODinh
Sample : VO06E17L Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:43 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW404.D
Acq On : 20 May 2016 12:47 pm
Sample : VO06E17C
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: May 20 13:08 2016

Vial: 4
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1458939	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1140574	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	372471	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.37	111	420690	9.70 ug/l	0.01
Spiked Amount 10.000			Recovery	= 97.00%	
41) 1,2-Dichloroethane-d4	8.21	65	343963	10.98 ug/l	0.01
Spiked Amount 10.000			Recovery	= 109.80%	
54) Toluene-d8	11.33	98	1677606	9.99 ug/l	0.00
Spiked Amount 10.000			Recovery	= 99.90%	
76) 4-Bromofluorobenzene	15.76	95	539647	9.90 ug/l	0.01
Spiked Amount 10.000			Recovery	= 99.00%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.81	85	414286	10.57 ug/l	100
3) Chloromethane	2.03	50	661979	9.42 ug/l	99
4) Vinyl chloride	2.17	62	557173	8.90 ug/l	100
5) Bromomethane	2.66	94	310658	8.37 ug/l	100
6) Chloroethane	2.76	64	344384	9.33 ug/l	96
7) Dichlorofluoromethane	2.79	67	1086341	10.61 ug/l	98
8) Trichlorofluoromethane	3.05	101	528745	9.58 ug/l	99
9) Acrolein	3.57	56	113180	46.80 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	271686	9.14 ug/l	100
11) Acetone	3.66	43	242295	54.70 ug/l	99
12) 1,1-Dichloroethene	3.83	61	924042	10.16 ug/l	95
13) tert-Butyl alcohol	3.95	59	69898	47.70 ug/l	88
15) Methyl acetate	4.31	43	181161	10.22 ug/l	98
16) Iodomethane	4.27	142	629564	8.47 ug/l	95
17) Methylene chloride	4.52	49	684768	10.43 ug/l	93
18) Carbon disulfide	4.52	76	1691651	9.28 ug/l	99
19) Acrylonitrile	4.73	53	343158	47.09 ug/l	98
20) tert-Butyl methyl ether (M	4.77	73	763685	10.65 ug/l	99
21) trans-1,2-Dichloroethene	4.96	61	864961	10.32 ug/l	94
22) Isopropyl ether (DIPE)	5.51	45	2123670	10.85 ug/l	97
23) Vinyl acetate	5.72	43	609565	9.88 ug/l	97
24) 1,1-Dichloroethane	5.68	63	999766	10.30 ug/l	100
25) 2-Butanol	6.11	45	56704	37.62 ug/l #	1
26) tert-Butyl ethyl ether (ET	6.23	59	1308758	10.82 ug/l	98
27) 2-Butanone	6.45	72	87147	48.28 ug/l	89
28) 2,2-Dichloropropane	6.64	77	419078	10.55 ug/l	98
29) cis-1,2-Dichloroethene	6.73	96	518292	9.78 ug/l	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW404.D
Acq On : 20 May 2016 12:47 pm
Sample : VO06E17C
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: May 20 13:08 2016

Vial: 4
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	7.00	83	840797	10.32 ug/l	98
32)	Bromochloromethane	7.27	49	422177	10.85 ug/l	88
33)	Tetrahydrofuran	7.33	42	63162	11.02 ug/l	99
35)	1,1,1-Trichloroethane	7.67	97	568780	10.21 ug/l	98
36)	Cyclohexane	7.67	56	1298716	11.35 ug/l	97
38)	1,1-Dichloropropene	7.94	110	247078	10.10 ug/l	98
39)	Carbon tetrachloride	8.09	119	535027	10.33 ug/l	99
40)	tert-Amyl methyl ether (TA	8.15	87	183649	10.74 ug/l	97
42)	1,2-Dichloroethane	8.35	62	441307	11.36 ug/l	99
43)	Benzene	8.37	78	2194978	10.11 ug/l	99
44)	Trichloroethene	9.38	130	485500	9.40 ug/l	97
45)	Methylcyclohexane	9.47	83	1060068	12.10 ug/l	98
46)	1,2-Dichloropropane	9.68	63	565301	10.81 ug/l	95
47)	1,4-Dioxane	10.11	88	29913	180.58 ug/l	94
48)	Bromodichloromethane	10.05	83	562891	10.29 ug/l	99
49)	Dibromomethane	10.14	93	182813	9.66 ug/l	96
50)	2-Chloroethyl vinyl ether	10.60	63	42711	8.65 ug/l	96
51)	4-Methyl-2-pentanone	10.63	43	1223596	51.56 ug/l	98
52)	cis-1,3-Dichloropropene	10.96	75	747456	10.63 ug/l	98
55)	Toluene	11.46	91	2160479	10.08 ug/l	100
56)	Ethyl methacrylate	11.77	69	354124	10.30 ug/l	91
57)	trans-1,3-Dichloropropene	11.77	75	514887	10.67 ug/l	95
58)	1,1,2-Trichloroethane	12.01	97	239818	10.11 ug/l	99
59)	2-Hexanone	12.06	43	766441	51.14 ug/l	99
60)	1,3-Dichloropropane	12.43	76	524839	10.73 ug/l	99
61)	Tetrachloroethene	12.52	164	334983	8.99 ug/l	96
62)	Dibromochloromethane	12.84	129	288007	9.52 ug/l	98
64)	1,2-Dibromoethane	13.17	107	228058	9.68 ug/l	99
65)	1-Chlorohexane	13.44	91	902816	10.00 ug/l	94
66)	Chlorobenzene	13.84	112	1175870	10.06 ug/l	96
67)	1,1,1,2-Tetrachloroethane	13.91	131	363810	10.23 ug/l	98
68)	Ethylbenzene	13.93	91	2510032	10.45 ug/l	99
69)	m-Xylene & p-Xylene	14.06	91	3735964	21.34 ug/l	99
70)	o-Xylene	14.76	91	1809119	10.51 ug/l	99
71)	Styrene	14.82	104	1273779	10.44 ug/l	98
72)	Isopropylbenzene	15.34	105	2118768	10.90 ug/l	100
74)	Bromoform	15.37	173	122129	8.57 ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.64	83	279852	9.83 ug/l	98
77)	1,2,3-Trichloropropane	15.88	110	65094	10.51 ug/l	99
78)	trans-1,4-Dichloro-2-buten	15.98	53	84464	10.81 ug/l	99
79)	n-Propylbenzene	16.00	91	3040015	10.17 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW404.D Vial: 4
Acq On : 20 May 2016 12:47 pm Operator: ODinh
Sample : VO06E17C Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 13:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

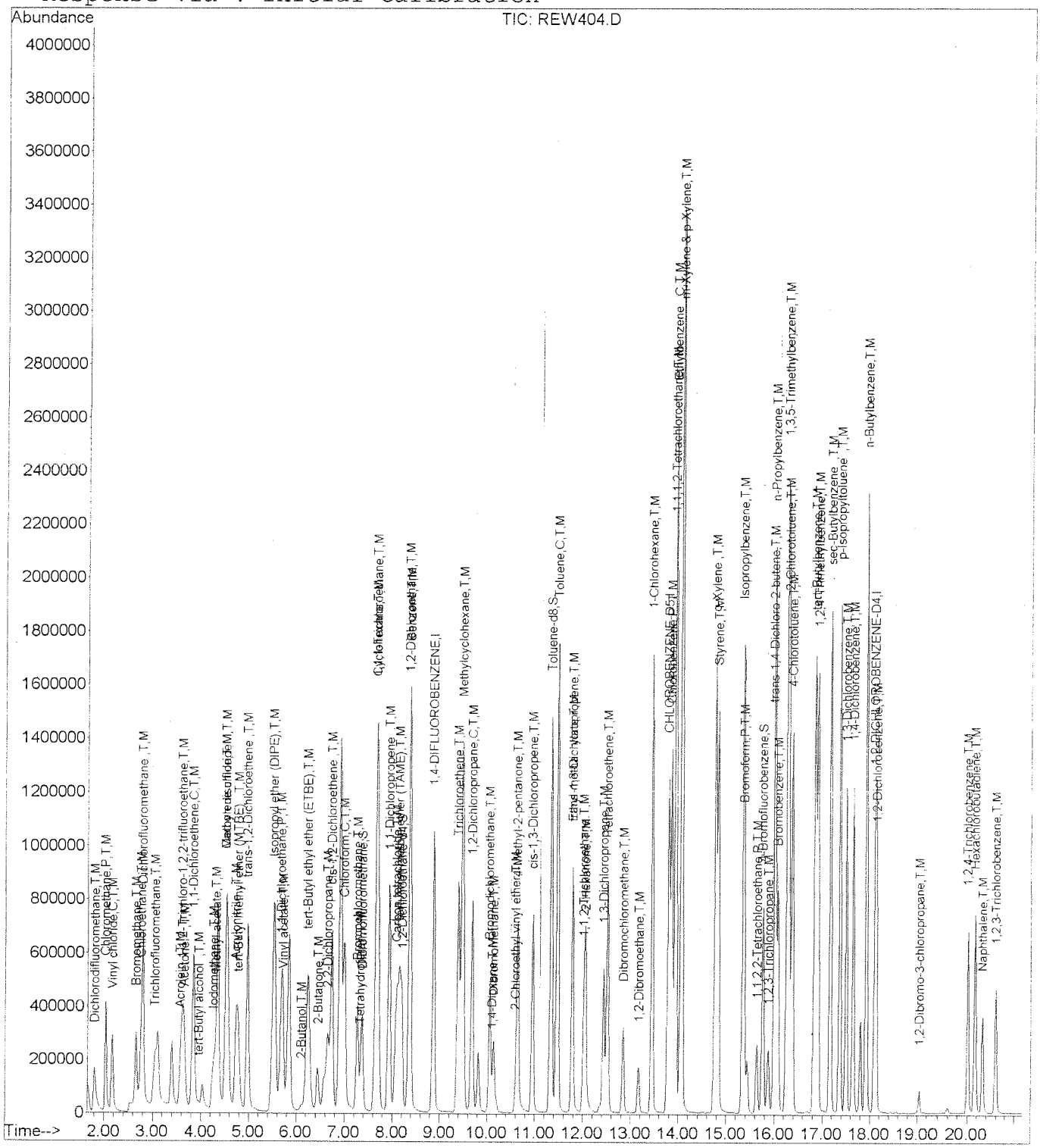
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80) Bromobenzene	16.07	156	348677	9.71 ug/l	89
81) 1,3,5-Trimethylbenzene	16.26	105	1673129	10.49 ug/l	100
82) 2-Chlorotoluene	16.29	91	1778419	10.16 ug/l	99
83) 4-Chlorotoluene	16.37	91	1531403	10.49 ug/l	100
84) tert-Butylbenzene	16.84	134	388191	10.63 ug/l	98
85) 1,2,4-Trimethylbenzene	16.90	105	1650475	10.75 ug/l	91
86) sec-Butylbenzene	17.17	105	2356267	10.36 ug/l	99
87) p-Isopropyltoluene	17.36	119	1797935	10.68 ug/l	100
88) 1,3-Dichlorobenzene	17.50	146	744682	10.02 ug/l	99
89) 1,4-Dichlorobenzene	17.65	146	705838	9.97 ug/l	99
90) n-Butylbenzene	17.91	91	1994587	10.70 ug/l	99
91) 1,2-Dichlorobenzene	18.14	146	607069	10.10 ug/l	99
92) 1,2-Dibromo-3-chloropropan	19.04	157	28176	8.71 ug/l	90
93) 1,2,4-Trichlorobenzene	20.01	180	303665	9.74 ug/l	99
94) Hexachlorobutadiene	20.16	225	209225	10.40 ug/l	97
95) Naphthalene	20.32	128	496099	10.18 ug/l	100
96) 1,2,3-Trichlorobenzene	20.60	180	235819	10.14 ug/l	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E20\REW404.D Vial: 4
Acq On : 20 May 2016 12:47 pm Operator: ODinh
Sample : VO06E17C Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 13:08 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



INITIAL CALIBRATION(S)

5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: RCW153
Instrument ID: 06
GC Column:RTX502.2ID:0.25mm (mm)

Contract: CANNON AFB PBR
SAS No.: SDG No.: 16E133
BFB Injection Date : 03/10/16
BFB Injection Time : 17:55
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	19.62
75	30.0 - 60.0% of mass 95	44.08
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.82
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	62.58
175	5.0 - 9.0% of mass 174	4.49(7.2)1
176	95.0 - 101.0% of mass 174	61.69(98.6)1
177	5.0 - 9.0% of mass 176	3.56(5.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD0.3	VO06C101	RCW154	03/10/16	18:28
2	VSTD0.5	VO06C102	RCW155	03/10/16	18:53
3	VSTD01	VO06C103	RCW156	03/10/16	19:18
4	VSTD02	VO06C104	RCW157	03/10/16	19:44
5	VSTD05	VO06C105	RCW158	03/10/16	20:09
6	VSTD010	VO06C106	RCW159	03/10/16	20:34
7	VSTD020	VO06C107	RCW160	03/10/16	20:59
8	VSTD030	VO06C108	RCW161	03/10/16	21:25
9	VSTD050	VO06C109	RCW162	03/10/16	21:50
10	VSTD100	VO06C1010	RCW163	03/10/16	22:15
11	VSTD010	IVO06C1001	RCW166	03/10/16	23:31

FORM V VOA OLM02.0

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :T006
Beginning DateTime :03/10/16 18:28
Spike Units :PPB
IC File :RCW159

Column Spec :RTX502.2 ID :0.25MM
Ending DateTime :03/10/16 22:15
HPChem Method :V006C10

	M IDX	Parameters	.3 18:28 RCW154	.5 18:53 RCW155	1 19:18 RCW156	2 19:44 RCW157	5 20:09 RCW158	10 20:34 RCW159	20 20:59 RCW160	30 21:25 RCW161	50 21:50 RCW162	100 22:15 RCW163	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	8.8616
	2	Dichlorodifluoromethane	0.278	0.303	0.246	0.248	0.257	0.272	0.268	0.274	0.274	0.266	0.269	6.15	1.8064
	3	Chloromethane	0.509	0.536	0.465	0.427	0.466	0.509	0.474	0.483	0.478	0.472	0.482	6.24	2.0328
	4	Vinyl chloride	------	0.504	0.405	0.427	0.415	0.462	0.414	0.417	0.389	------	0.429	8.53	2.1613
	5	Bromomethane	0.271	0.273	0.241	0.234	0.233	0.268	0.253	0.259	0.257	0.256	0.254	5.68	2.6589
	6	Chloroethane	------	0.316	0.242	0.238	0.243	0.261	0.245	0.251	0.245	0.236	0.253	9.75	2.7513
	7	Dichlorofluoromethane	0.689	0.750	0.621	0.670	0.673	0.731	0.715	0.723	0.714	0.730	0.702	5.47	2.7943
	8	Trichlorofluoromethane	0.393	0.398	0.338	0.350	0.358	0.390	0.385	0.393	0.393	0.384	0.378	5.65	3.0544
5	9	Acrolein	------	------	0.019	0.016	0.016	0.018	0.015	0.016	0.016	0.016	0.017	7.97	3.5674
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	------	0.205	0.188	0.197	0.187	0.206	0.209	0.213	0.213	0.217	0.204	5.37	3.6104
5	11	Acetone	------	------	------	0.037	0.030	0.032	0.028	0.028	0.029	0.028	0.030	11.59	3.6544
	12	1,1-Dichloroethene	0.590	0.622	0.573	0.606	0.584	0.658	0.637	0.652	0.652	0.662	0.624	5.35	3.8350
5	13	tert-Butyl alcohol	------	0.008	0.009	0.010	0.010	0.012	0.010	0.010	0.011	0.010	0.010	9.89	3.9407
	14	Acetonitrile	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	15	Methyl acetate	0.126	0.120	0.127	0.126	0.113	0.132	0.112	0.119	0.122	0.117	0.121	5.16	4.3033
	16	Iodomethane	0.466	0.525	0.449	0.490	0.497	0.544	0.524	0.532	0.532	0.533	0.509	6.31	4.2661
	17	Methylene chloride	------	0.487	0.423	0.447	0.450	0.477	0.443	0.447	0.445	0.430	0.450	4.53	4.5189
	18	Carbon disulfide	1.327	1.391	1.161	1.157	1.189	1.247	1.233	1.261	1.272	1.255	1.249	5.78	4.5203
5	19	Acrylonitrile	------	------	0.042	0.049	0.048	0.055	0.049	0.051	0.054	0.052	0.050	8.02	4.7140
	20	tert-Butyl methyl ether (MTBE)	0.446	0.488	0.454	0.477	0.486	0.544	0.488	0.509	0.517	0.507	0.491	5.97	4.7612
	21	trans-1,2-Dichloroethene	0.499	0.574	0.521	0.555	0.577	0.630	0.597	0.600	0.597	0.596	0.574	6.91	4.9664
	22	Isopropyl ether (DIPE)	------	1.337	1.227	1.264	1.322	1.438	1.325	1.367	1.401	1.395	1.342	5.02	5.5167
	23	Vinyl acetate	------	------	0.351	0.369	0.400	0.479	0.427	0.442	0.463	0.452	0.423	10.80	5.7120
	24	1,1-Dichloroethane	0.644	0.691	0.599	0.649	0.647	0.707	0.672	0.681	0.677	0.686	0.665	4.67	5.6800
5	25	2-Butanol	------	------	------	0.009	0.009	0.011	0.010	0.011	0.011	0.011	0.010	12.19	6.0969
	26	tert-Butyl ethyl ether (ETBE)	0.735	0.807	0.746	0.812	0.825	0.919	0.833	0.865	0.883	0.866	0.829	7.00	6.2331
5	27	2-Butanone	------	------	0.010	0.011	0.012	0.014	0.012	0.013	0.014	0.013	0.012	10.08	6.4367
	28	2,2-Dichloropropane	------	0.305	0.269	0.286	0.268	0.284	0.266	0.256	0.245	------	0.272	6.92	6.6450
	29	cis-1,2-Dichloroethene	0.323	0.372	0.333	0.350	0.364	0.393	0.373	0.376	0.379	0.371	0.363	5.96	6.7267
	30	Chloroform	0.507	0.567	0.504	0.545	0.561	0.607	0.565	0.572	0.577	0.579	0.558	5.74	6.9913
5	31	tert-Amyl alcohol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	32	Bromochloromethane	0.234	0.246	0.250	0.263	0.270	0.302	0.277	0.274	0.279	0.272	0.267	7.23	7.2604
	33	Tetrahydrofuran	0.085	0.067	0.056	0.046	0.044	0.046	0.036	0.037	0.040	0.037	0.049	31.56	7.3332
	34	Dibromofluoromethane	0.264	0.269	0.269	0.278	0.290	0.314	0.292	0.405	0.300	0.293	0.297	13.72	7.3600
	35	1,1,1-Trichloroethane	0.354	0.395	0.353	0.382	0.373	0.406	0.397	0.393	0.393	0.373	0.382	4.79	7.6588
	36	Cyclohexane	0.846	0.793	0.752	0.776	0.732	0.782	0.770	0.805	0.809	0.774	0.784	4.06	7.6737
	37	2,2,4-Trimethylpentane	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	38	1,1-Dichloropropene	0.148	0.173	0.153	0.162	0.164	0.181	0.176	0.177	0.174	0.172	0.168	6.54	7.9250
	39	Carbon tetrachloride	0.306	0.361	0.324	0.354	0.339	0.376	0.372	0.375	0.373	0.368	0.355	6.78	8.0751
	40	tert-Amyl methyl ether (TAME)	0.098	0.109	0.108	0.118	0.118	0.133	0.120	0.125	0.125	0.119	0.117	8.51	8.1509
	41	1,2-Dichloroethane-d4	0.220	0.187	0.199	0.196	0.209	0.225	0.206	0.286	0.211	0.207	0.215	12.84	8.1985
	42	1,2-Dichloroethane	0.227	0.254	0.250	0.270	0.269	0.297	0.274	0.274	0.280	0.267	0.266	7.20	8.3561
	43	Benzene	1.388	1.529	1.337	1.430	1.457	1.578	1.505	1.519	1.561	1.579	1.488	5.56	8.3606
	44	Trichloroethene	0.323	0.357	0.320	0.347	0.344	0.380	0.368	0.365	0.370	0.368	0.354	5.76	9.3805
	45	Methylcyclohexane	0.620	0.567	0.564	0.601	0.586	0.608	0.590	0.631	0.622	0.618	0.601	3.89	9.4682
	46	1,2-Dichloropropane	0.347	0.378	0.319	0.348	0.345	0.395	0.361	0.371	0.366	0.353	0.358	5.79	9.6689
20	47	1,4-Dioxane	------	------	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	10.88	10.0978
	48	Bromodichloromethane	0.349	0.366	0.339	0.363	0.377	0.409	0.384	0.387	0.392	0.383	0.375	5.61	10.0510
	49	Dibromomethane	0.106	0.115	0.119	0.126	0.135	0.148	0.133	0.140	0.141	0.135	0.130	10.15	10.1253
	50	2-Chloroethyl vinyl ether	------	0.033	0.029	0.032	0.034	0.038	0.034	0.035	0.035	0.035	0.034	7.53	10.5864
5	51	4-Methyl-2-pentanone	------	------	0.134	0.152	0.155	0.178	0.160	0.167	0.178	0.177	0.163	9.47	10.6293
	52	cis-1,3-Dichloropropene	0.429	0.478	0.403	0.454	0.478	0.540	0.501	0.509	0.515	0.513	0.482	8.84	10.9445
	53	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	13.7797
	54	Toluene-d8	1.328	1.325	1.328	1.394	1.403	1.498	1.435	2.003	1.484	1.525	1.472	13.60	11.3281
	55	Toluene	1.720	1.907	1.720	1.859	1.800	1.999	1.902	1.953	1.997	1.934	1.879	5.48	11.4560
	56	Ethyl methacrylate	------	0.274	0.257	0.285	0.292	0.337	0.307	0.312	0.331	0.319	0.301	8.83	11.7742
	57	trans-1,3-Dichloropropene	0.338	0.386	0.375	0.412	0.424	0.470	0.445	0.450	0.469	0.464	0.423	10.61	11.7697
	58	1,1,2-Trichloroethane	0.184	0.198	0.190	0.205	0.207	0.233	0.210	0.216	0.222	0.214	0.208	7.00	12.0135

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5	59	2-Hexanone	------	------	0.111	0.122	0.126	0.143	0.126	0.137	0.144	0.142	0.131	9.12	12.0436
	60	1,3-Dichloropropane	0.359	0.414	0.401	0.431	0.431	0.475	0.438	0.441	0.455	0.444	0.429	7.43	12.4283
	61	Tetrachloroethene	0.283	0.339	0.310	0.318	0.309	0.343	0.340	0.343	0.342	0.341	0.327	6.32	12.5056
	62	Dibromochloromethane	0.227	0.242	0.240	0.261	0.272	0.295	0.273	0.278	0.285	0.280	0.265	8.41	12.8327
	63	2-Ethyl-1-butanol	------	------	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
	64	1,2-Dibromoethane	------	0.199	0.181	0.198	0.200	0.225	0.209	0.215	0.221	0.212	0.207	6.53	13.1568
	65	1-Chlorohexane	------	0.781	0.733	0.775	0.718	0.816	0.814	0.833	0.828	0.824	0.791	5.39	13.4393
	66	Chlorobenzene	0.904	1.035	0.909	0.984	0.996	1.106	1.058	1.076	1.072	1.112	1.025	7.31	13.8407
	67	1,1,1,2-Tetrachloroethane	0.277	0.312	0.283	0.316	0.310	0.341	0.327	0.322	0.320	0.310	0.312	6.19	13.9150
	68	Ethylbenzene	1.824	2.168	1.905	2.087	2.004	2.221	2.259	2.252	2.283	2.050	2.105	7.55	13.9299
2	69	m-Xylene & p-Xylene	1.342	1.517	1.399	1.490	1.466	1.607	1.638	1.686	1.668	------	1.535	7.95	14.0488
	70	o-Xylene	------	1.526	1.348	1.455	1.433	1.576	1.528	1.572	1.540	1.604	1.509	5.43	14.7609
	71	Styrene	------	1.001	0.931	1.014	1.022	1.148	1.099	1.135	1.128	1.151	1.070	7.42	14.8220
	72	Isopropylbenzene	1.444	1.721	1.548	1.683	1.601	1.797	1.774	1.840	1.809	1.820	1.704	7.83	15.3423
	73	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	18.0927
	74	Bromoform	------	0.370	0.336	0.366	0.376	0.417	0.386	0.398	0.393	0.400	0.383	6.22	15.3622
	75	1,1,2,2-Tetrachloroethane	0.712	0.810	0.722	0.742	0.748	0.841	0.755	0.780	0.776	0.759	0.764	5.10	15.6248
	76	4-Bromofluorobenzene	1.515	1.364	1.293	1.399	1.438	1.502	1.426	1.928	1.367	1.402	1.463	12.01	15.7511
	77	1,2,3-Trichloropropane	0.126	0.167	0.163	0.172	0.170	0.181	0.173	0.172	0.170	0.167	0.166	8.96	15.8686
	78	trans-1,4-Dichloro-2-butene	------	0.199	0.170	0.195	0.206	0.238	0.221	0.223	0.222	0.212	0.210	9.51	15.9833
	79	n-Propylbenzene	7.018	8.255	7.295	8.012	7.505	8.343	8.608	8.633	8.553	------	8.025	7.58	15.9965
	80	Bromobenzene	0.864	1.018	0.873	0.956	0.920	1.039	1.008	1.008	0.969	0.988	0.964	6.31	16.0708
	81	1,3,5-Trimethylbenzene	3.808	4.597	3.956	4.258	4.118	4.384	4.489	4.484	4.255	4.470	4.282	5.97	16.2536
	82	2-Chlorotoluene	4.258	5.057	4.437	4.785	4.584	4.923	4.853	4.908	4.495	4.704	4.700	5.36	16.2789
	83	4-Chlorotoluene	3.714	4.173	3.601	3.821	3.574	3.991	3.996	4.091	4.004	4.222	3.919	5.87	16.3607
	84	tert-Butylbenzene	0.881	1.085	0.947	0.996	0.908	0.995	1.029	1.018	0.970	0.979	0.981	6.03	16.8365
	85	1,2,4-Trimethylbenzene	3.587	4.254	3.750	4.158	3.891	4.303	4.295	4.303	4.245	4.446	4.123	6.82	16.8929
	86	sec-Butylbenzene	5.313	6.511	5.732	6.116	5.581	6.230	6.545	6.594	6.495	5.926	6.104	7.41	17.1635
	87	p-Isopropyltoluene	3.934	4.655	4.093	4.580	4.197	4.649	4.737	4.834	4.779	4.729	4.519	7.10	17.3642
	88	1,3-Dichlorobenzene	1.812	2.021	1.801	2.005	1.906	2.076	2.071	2.123	2.036	2.094	1.994	5.80	17.4980
	89	1,4-Dichlorobenzene	1.677	1.948	1.718	1.846	1.775	1.984	2.036	2.028	1.954	2.039	1.900	7.18	17.6467
	90	n-Butylbenzene	4.347	5.234	4.538	4.844	4.535	5.161	5.331	5.561	5.347	5.143	5.004	8.23	17.9143
	91	1,2-Dichlorobenzene	1.455	1.699	1.487	1.586	1.531	1.701	1.656	1.678	1.644	1.703	1.614	5.79	18.1225
	92	1,2-Dibromo-3-chloropropane	------	0.051	0.063	0.081	0.080	0.091	0.083	0.090	0.089	0.089	0.080	17.52	19.0427
	93	1,2,4-Trichlorobenzene	------	0.785	0.729	0.781	0.747	0.880	0.872	0.929	0.881	0.928	0.837	9.18	20.0107
	94	Hexachlorobutadiene	0.461	0.558	0.507	0.526	0.497	0.559	0.576	0.604	0.554	0.561	0.540	7.81	20.1593
	95	Naphthalene	------	1.264	1.144	1.189	1.198	1.381	1.344	1.392	1.424	1.444	1.309	8.57	20.3113
	96	1,2,3-Trichlorobenzene	0.529	0.601	0.564	0.579	0.583	0.676	0.660	0.688	0.677	0.688	0.624	9.51	20.6053

Spike Amount = Nominal Amount * M
Ave_%RSD : 7.8 Max_%RSD : 31.6

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
33	Tetrahydrofuran	0.00160	0.03782	0.9985
92	1,2-Dibromo-3-chloropropane	-0.00221	0.08940	0.9997

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Compound List Report TO06

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
Total Cpnds : 96

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	8.86	1.000	A	1	A	B
2	T	Dichlorodifluoromethane	85	1.81	0.204	A	1	A	B
3	T	Chloromethane	50	2.04	0.230	A	1	A	B
4	T	Vinyl chloride	62	2.17	0.244	A	1	A	B
5	T	Bromomethane	94	2.66	0.300	A	1	A	B
6	T	Chloroethane	64	2.76	0.312	A	2	A	B
7	T	Dichlorofluoromethane	67	2.79	0.315	A	1	A	B
8	T	Trichlorofluoromethane	101	3.06	0.346	A	1	A	B
9	T	Acrolein	56	3.57	0.403	A	1	A	B
10	T	1,1,2-Trichloro-1,2,2-trifluor	151	3.61	0.408	A	1	A	B
11	T	Acetone	43	3.66	0.413	A	2	A	B
12	T	1,1-Dichloroethene	61	3.83	0.433	A	2	A	B
13	T	tert-Butyl alcohol	59	3.94	0.445	A	1	A	B
14	T	Acetonitrile	41	0.00	0.000	A	2	A	B
15	T	Methyl acetate	43	4.31	0.486	A	1	A	B
16	T	Iodomethane	142	4.27	0.481	A	1	A	B
17	T	Methylene chloride	49	4.52	0.510	A	2	A	B
18	T	Carbon disulfide	76	4.52	0.510	A	1	A	B
19	T	Acrylonitrile	53	4.71	0.532	A	2	A	B
20	T	tert-Butyl methyl ether (MTBE)	73	4.76	0.537	A	1	A	B
21	T	trans-1,2-Dichloroethene	61	4.96	0.560	A	2	A	B
22	T	Isopropyl ether (DIPE)	45	5.51	0.622	A	1	A	B
23	T	Vinyl acetate	43	5.71	0.644	A	1	A	B
24	T	1,1-Dichloroethane	63	5.68	0.641	A	2	A	B
25	T	2-Butanol	45	6.09	0.688	A	1	A	B
26	T	tert-Butyl ethyl ether (ETBE)	59	6.23	0.703	A	1	A	B
27	T	2-Butanone	72	6.44	0.726	A	1	A	B
28	T	2,2-Dichloropropane	77	6.64	0.750	A	2	A	B
29	T	cis-1,2-Dichloroethene	96	6.72	0.758	A	2	A	B
30	T	Chloroform	83	6.99	0.789	A	2	A	B
31	T	tert-Amyl alcohol	59	0.00	0.000	A	2	A	B
32	T	Bromochloromethane	49	7.27	0.820	A	2	A	B
33	T	Tetrahydrofuran	42	7.33	0.827	L	2	A	B
34	S	Dibromofluoromethane	111	7.36	0.831	A	2	A	B
35	T	1,1,1-Trichloroethane	97	7.66	0.864	A	2	A	B
36	T	Cyclohexane	56	7.67	0.866	A	2	A	B
37	T	2,2,4-Trimethylpentane	57	0.00	0.000	A	3	A	B
38	T	1,1-Dichloropropene	110	7.92	0.894	A	1	A	B
39	T	Carbon tetrachloride	119	8.07	0.911	A	1	A	B
40	T	tert-Amyl methyl ether (TAME)	87	8.15	0.919	A	2	A	B
41	S	1,2-Dichloroethane-d4	65	8.19	0.924	A	1	A	B
42	T	1,2-Dichloroethane	62	8.35	0.943	A	1	A	B
43	T	Benzene	78	8.37	0.945	A	2	A	B
44	T	Trichloroethene	130	9.38	1.059	A	3	A	B
45	T	Methylcyclohexane	83	9.47	1.069	A	2	A	B
46	T	1,2-Dichloropropane	63	9.66	1.091	A	2	A	B
47	T	1,4-Dioxane	88	10.09	1.139	A	1	A	B
48	T	Bromodichloromethane	83	10.05	1.134	A	1	A	B
49	T	Dibromomethane	93	10.12	1.143	A	2	A	B
50	T	2-Chloroethyl vinyl ether	63	10.58	1.195	A	2	A	B
51	T	4-Methyl-2-pentanone	43	10.63	1.200	A	3	A	B
52	T	cis-1,3-Dichloropropene	75	10.94	1.235	A	3	A	B

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53	I	CHLOROBENZENE-D5	117	13.78	1.000	A	2	A	B
54	S	Toluene-d8	98	11.33	0.822	A	1	A	B
55	T	Toluene	91	11.45	0.831	A	1	A	B
56	T	Ethyl methacrylate	69	11.77	0.854	A	2	A	B
57	T	trans-1,3-Dichloropropene	75	11.77	0.854	A	2	A	B
58	T	1,1,2-Trichloroethane	97	12.01	0.872	A	3	A	B
59	T	2-Hexanone	43	12.04	0.874	A	2	A	B
60	T	1,3-Dichloropropane	76	12.43	0.902	A	1	A	B
61	T	Tetrachloroethene	164	12.50	0.907	A	3	A	B
62	T	Dibromochloromethane	129	12.83	0.931	A	1	A	B
63	T	2-Ethyl-1-butanol	43	0.00	0.000	A	3	A	B
64	T	1,2-Dibromoethane	107	13.16	0.955	A	1	A	B
65	T	1-Chlorohexane	91	13.44	0.975	A	3	A	B
66	T	Chlorobenzene	112	13.84	1.004	A	3	A	B
67	T	1,1,1,2-Tetrachloroethane	131	13.91	1.010	A	3	A	B
68	T	Ethylbenzene	91	13.93	1.011	A	1	A	B
69	T	m-Xylene & p-Xylene	91	14.05	1.019	A	1	A	B
70	T	o-Xylene	91	14.76	1.071	A	1	A	B
71	T	Styrene	104	14.82	1.076	A	2	A	B
72	T	Isopropylbenzene	105	15.34	1.113	A	3	A	B
73	I	1,2-DICHLOROBENZENE-D4	152	18.09	1.000	A	1	A	B
74	T	Bromoform	173	15.36	0.849	A	2	A	B
75	T	1,1,2,2-Tetrachloroethane	83	15.62	0.864	A	1	A	B
76	S	4-Bromofluorobenzene	95	15.74	0.870	A	2	A	B
77	T	1,2,3-Trichloropropane	110	15.86	0.877	A	1	A	B
78	T	trans-1,4-Dichloro-2-butene	53	15.98	0.883	A	1	A	B
79	T	n-Propylbenzene	91	16.00	0.884	A	2	A	B
80	T	Bromobenzene	156	16.07	0.888	A	2	A	B
81	T	1,3,5-Trimethylbenzene	105	16.25	0.898	A	2	A	B
82	T	2-Chlorotoluene	91	16.28	0.900	A	1	A	B
83	T	4-Chlorotoluene	91	16.35	0.904	A	1	A	B
84	T	tert-Butylbenzene	134	16.83	0.930	A	2	A	B
85	T	1,2,4-Trimethylbenzene	105	16.89	0.933	A	1	A	B
86	T	sec-Butylbenzene	105	17.16	0.948	A	1	A	B
87	T	p-Isopropyltoluene	119	17.36	0.960	A	2	A	B
88	T	1,3-Dichlorobenzene	146	17.50	0.967	A	2	A	B
89	T	1,4-Dichlorobenzene	146	17.65	0.975	A	2	A	B
90	T	n-Butylbenzene	91	17.91	0.990	A	2	A	B
91	T	1,2-Dichlorobenzene	146	18.12	1.002	A	2	A	B
92	T	1,2-Dibromo-3-chloropropane	157	19.04	1.053	L	2	A	B
93	T	1,2,4-Trichlorobenzene	180	20.01	1.106	A	2	A	B
94	T	Hexachlorobutadiene	225	20.16	1.114	A	2	A	B
95	T	Naphthalene	128	20.31	1.122	A	1	A	B
96	T	1,2,3-Trichlorobenzene	180	20.61	1.139	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

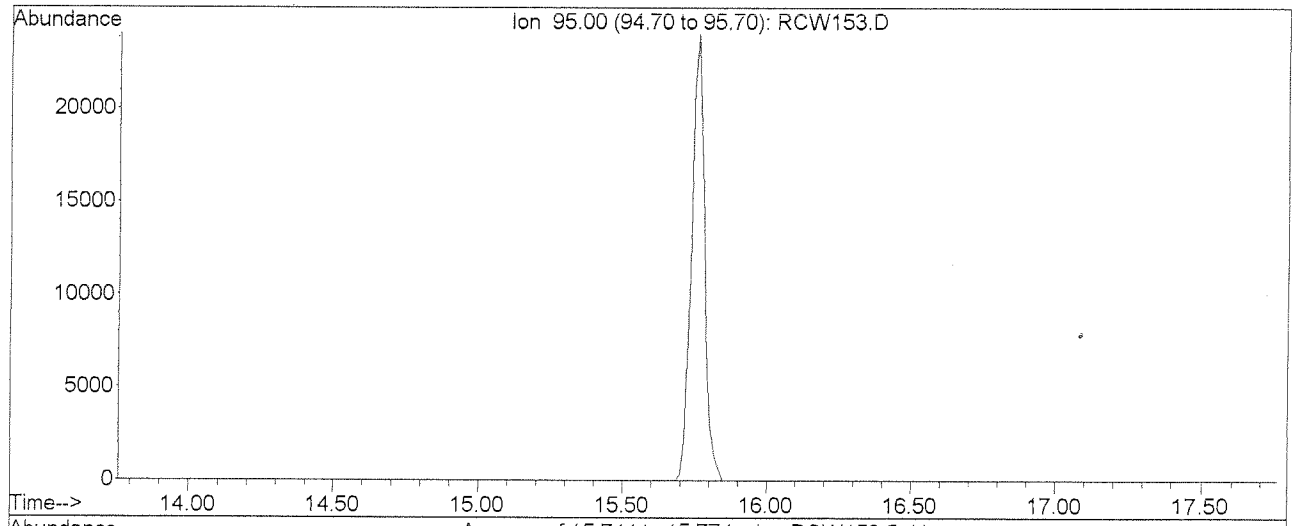
VO06C10.M Fri Mar 11 14:56:00 2016

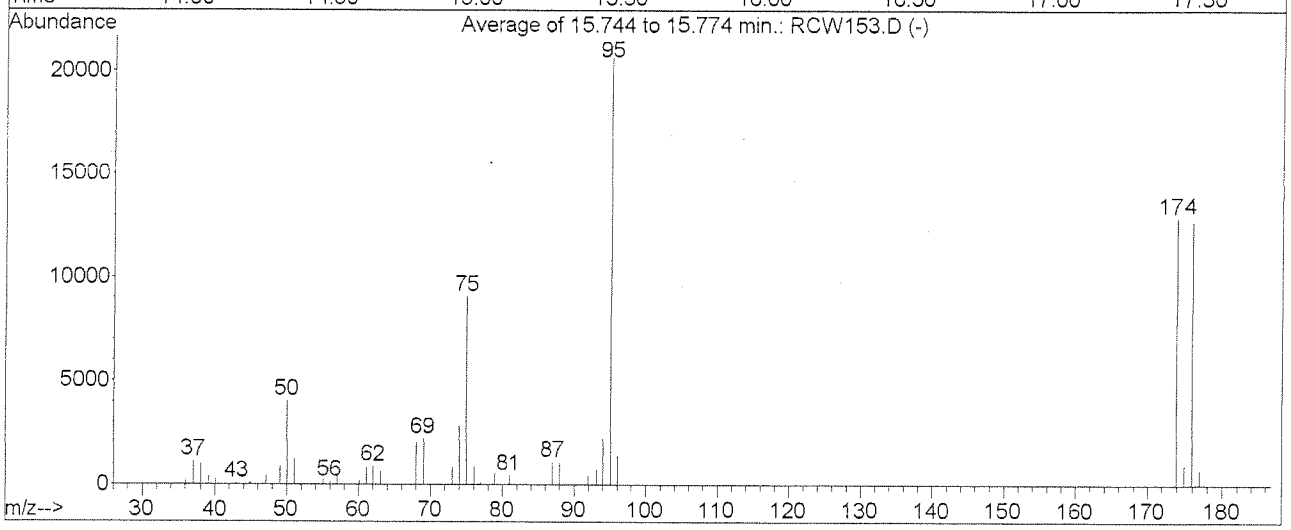
SW 3/13/16

BFB

Data File : D:\HPCHEM\1\DATA\16C10\RCW153.D
Acq On : 10 Mar 2016 5:55 pm
Sample : BFB06C07
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: ODinh
Inst : TO06
Multiplr: 1.00





AutoFind: Scans 950, 951, 952; Background Corrected with Scan 945

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	4048	PASS
75	95	30	60	44.1	9096	PASS
95	95	100	100	100.0	20635	PASS
96	95	5	9	6.8	1408	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	62.6	12914	PASS
175	174	5	9	7.2	927	PASS
176	174	95	101	98.6	12729	PASS
177	176	5	9	5.8	735	PASS

RCW153.D VO06C10.M Fri Mar 11 14:50:57 2016

SM 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW154.D Vial: 2
Acq On : 10 Mar 2016 6:28 pm Operator: ODinh
Sample : VO06C101 Inst : TO06
Misc : 0.3ppb 8260+3-ADD/1.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:52 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1461186	10.00 ug/l	0.01
53) CHLOROBENZENE-D5	13.78	117	1110802	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	321759	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.37	111	11580	0.27 ug/l	0.01
Spiked Amount 10.000			Recovery	= 2.70%	
41) 1,2-Dichloroethane-d4	8.21	65	9624	0.31 ug/l	0.01
Spiked Amount 10.000			Recovery	= 3.10%	
54) Toluene-d8	11.33	98	44258	0.27 ug/l	0.00
Spiked Amount 10.000			Recovery	= 2.70%	
76) 4-Bromofluorobenzene	15.76	95	14620	0.31 ug/l	0.01
Spiked Amount 10.000			Recovery	= 3.10%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.82	85	12197	0.31 ug/l	88
3) Chloromethane	2.03	50	22296	0.32 ug/l	99
4) Vinyl chloride	2.16	62	19436	0.31 ug/l	84
5) Bromomethane	2.66	94	11861	0.32 ug/l	92
6) Chloroethane	2.76	64	13789	0.37 ug/l #	66
7) Dichlorofluoromethane	2.79	67	30218	0.29 ug/l	86
8) Trichlorofluoromethane	3.06	101	17228	0.31 ug/l	81
10) 1,1,2-Trichloro-1,2,2-trif	3.63	151	7756	0.26 ug/l	93
12) 1,1-Dichloroethene	3.83	61	25848	0.28 ug/l	98
16) Iodomethane	4.28	142	20423	0.27 ug/l	98
17) Methylene chloride	4.52	49	21715	0.33 ug/l	99
18) Carbon disulfide	4.53	76	58167	0.32 ug/l	97
19) Acrylonitrile	4.74	53	9545	1.31 ug/l	95
20) tert-Butyl methyl ether (M	4.79	73	19546	0.27 ug/l	69
21) trans-1,2-Dichloroethene	4.98	61	21867	0.26 ug/l	98
22) Isopropyl ether (DIPE)	5.53	45	51811	0.26 ug/l	98
24) 1,1-Dichloroethane	5.69	63	28215	0.29 ug/l	98
26) tert-Butyl ethyl ether (ET	6.24	59	32220	0.27 ug/l	96
27) 2-Butanone	6.47	72	2189	1.21 ug/l #	56
28) 2,2-Dichloropropane	6.66	77	12519	0.31 ug/l	77
29) cis-1,2-Dichloroethene	6.73	96	14169	0.27 ug/l	98
30) Chloroform	7.00	83	22208	0.27 ug/l	98
32) Bromochloromethane	7.27	49	10271	0.26 ug/l	95
33) Tetrahydrofuran	7.34	42	3714	0.25 ug/l #	42
35) 1,1,1-Trichloroethane	7.67	97	15529	0.28 ug/l	97
36) Cyclohexane	7.69	56	37098	0.32 ug/l	97
38) 1,1-Dichloropropene	7.94	110	6469	0.26 ug/l	83

(#) = qualifier out of range (m) = manual integration
RCW154.D VO06C10.M Fri Mar 11 14:52:17 2016 SV 3/13/16 Page 1

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW154.D Vial: 2
Acq On : 10 Mar 2016 6:28 pm Operator: ODinh
Sample : VO06C101 Inst : TO06
Misc : 0.3ppb 8260+3-ADD/1.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:52 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Carbon tetrachloride	8.09	119	13434	0.26 ug/l	97
40)	tert-Amyl methyl ether (TA	8.16	87	4297	0.25 ug/l #	71
42)	1,2-Dichloroethane	8.37	62	9944	0.26 ug/l	98
43)	Benzene	8.37	78	60858	0.28 ug/l	99
44)	Trichloroethene	9.38	130	14154	0.27 ug/l	98
45)	Methylcyclohexane	9.47	83	27159	0.31 ug/l	91
46)	1,2-Dichloropropane	9.68	63	15230	0.29 ug/l	94
47)	1,4-Dioxane	10.12	88	306	1.84 ug/l #	1
48)	Bromodichloromethane	10.06	83	15281	0.28 ug/l	100
49)	Dibromomethane	10.14	93	4637	0.24 ug/l	100
50)	2-Chloroethyl vinyl ether	10.60	63	1243	0.25 ug/l #	45
51)	4-Methyl-2-pentanone	10.64	43	33008	1.39 ug/l	98
52)	cis-1,3-Dichloropropene	10.96	75	18806	0.27 ug/l	85
55)	Toluene	11.46	91	57333	0.27 ug/l	99
56)	Ethyl methacrylate	11.79	69	7915	0.24 ug/l	96
57)	trans-1,3-Dichloropropene	11.77	75	11268	0.24 ug/l	81
58)	1,1,2-Trichloroethane	12.03	97	6139	0.27 ug/l	91
59)	2-Hexanone	12.06	43	23295	1.60 ug/l	91
60)	1,3-Dichloropropane	12.43	76	11957	0.25 ug/l	100
61)	Tetrachloroethene	12.52	164	9445	0.26 ug/l	97
62)	Dibromochloromethane	12.84	129	7555	0.26 ug/l	96
64)	1,2-Dibromoethane	13.17	107	4854	0.21 ug/l	90
65)	1-Chlorohexane	13.44	91	21568	0.25 ug/l	88
66)	Chlorobenzene	13.84	112	30130	0.26 ug/l #	74
67)	1,1,1,2-Tetrachloroethane	13.91	131	9221	0.27 ug/l #	58
68)	Ethylbenzene	13.93	91	60771	0.26 ug/l	99
69)	m-Xylene & p-Xylene	14.05	91	89431	0.52 ug/l	99
70)	o-Xylene	14.76	91	42856	0.26 ug/l	99
71)	Styrene	14.82	104	28910	0.24 ug/l	99
72)	Isopropylbenzene	15.34	105	48105	0.25 ug/l	99
74)	Bromoform	15.37	173	2969	0.24 ug/l	86
75)	1,1,2,2-Tetrachloroethane	15.62	83	6877	0.28 ug/l	99
77)	1,2,3-Trichloropropane	15.88	110	1218	0.23 ug/l #	8
78)	trans-1,4-Dichloro-2-buten	16.00	53	1507	0.22 ug/l #	41
79)	n-Propylbenzene	16.00	91	67741	0.26 ug/l	98
80)	Bromobenzene	16.07	156	8339	0.27 ug/l	89
81)	1,3,5-Trimethylbenzene	16.26	105	36759	0.27 ug/l	99
82)	2-Chlorotoluene	16.28	91	41105	0.27 ug/l	98
83)	4-Chlorotoluene	16.37	91	35850	0.28 ug/l	96
84)	tert-Butylbenzene	16.84	134	8503	0.27 ug/l	98
85)	1,2,4-Trimethylbenzene	16.90	105	34622	0.26 ug/l	98

(#) = qualifier out of range (m) = manual integration

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW154.D Vial: 2
Acq On : 10 Mar 2016 6:28 pm Operator: ODinh
Sample : VO06C101 Inst : TO06
Misc : 0.3ppb 8260+3-ADD/1.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:52 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
86)	sec-Butylbenzene	17.17	105	51283	0.26 ug/l		100
87)	p-Isopropyltoluene	17.36	119	37970	0.26 ug/l		99
88)	1,3-Dichlorobenzene	17.50	146	17486	0.27 ug/l		96
89)	1,4-Dichlorobenzene	17.65	146	16187	0.26 ug/l		96
90)	n-Butylbenzene	17.91	91	41957	0.26 ug/l		98
91)	1,2-Dichlorobenzene	18.12	146	14049	0.27 ug/l	#	71
92)	1,2-Dibromo-3-chloropropan	19.04	157	313	0.36 ug/l	#	5
93)	1,2,4-Trichlorobenzene	20.01	180	6304	0.23 ug/l		97
94)	Hexachlorobutadiene	20.16	225	4453	0.26 ug/l		83
95)	Naphthalene	20.32	128	10286	0.24 ug/l	#	70
96)	1,2,3-Trichlorobenzene	20.60	180	5107	0.25 ug/l		93

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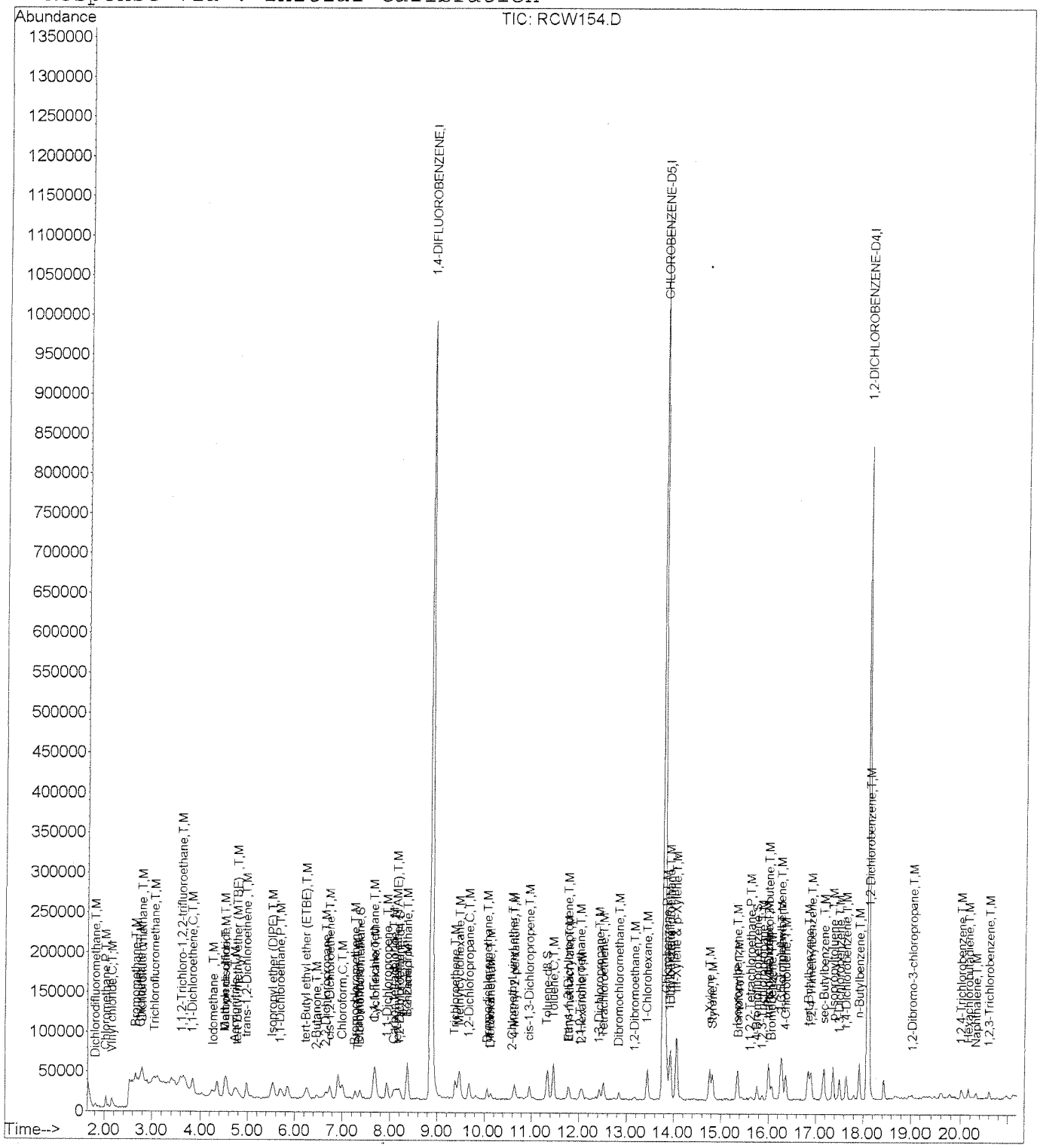
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW154.D Vial: 2
Acq On : 10 Mar 2016 6:28 pm Operator: ODinh
Sample : VO06C101 Inst : TO06
Misc : 0.3ppb 8260+3-ADD/1.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:52 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW155.D Vial: 3
Acq On : 10 Mar 2016 6:53 pm Operator: ODinh
Sample : VO06C102 Inst : TO06
Misc : 0.5ppb 8260+3-ADD/2.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:14 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1393432	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1056981	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	310795	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	18740	0.45 ug/l	0.00
Spiked Amount 10.000			Recovery	= 4.50%	
41) 1,2-Dichloroethane-d4	8.21	65	13023	0.44 ug/l	0.02
Spiked Amount 10.000			Recovery	= 4.40%	
54) Toluene-d8	11.33	98	69999	0.45 ug/l	0.00
Spiked Amount 10.000			Recovery	= 4.50%	
76) 4-Bromofluorobenzene	15.76	95	21201	0.47 ug/l	0.02
Spiked Amount 10.000			Recovery	= 4.70%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.81	85	21126	0.56 ug/l	85
3) Chloromethane	2.03	50	37313	0.56 ug/l	100
4) Vinyl chloride	2.16	62	35108	0.59 ug/l	93
5) Bromomethane	2.66	94	18988	0.54 ug/l	95
6) Chloroethane	2.75	64	22010	0.62 ug/l	84
7) Dichlorofluoromethane	2.79	67	52255	0.53 ug/l	90
8) Trichlorofluoromethane	3.05	101	27699	0.53 ug/l	97
9) Acrolein	3.57	56	7561	3.27 ug/l	65
10) 1,1,2-Trichloro-1,2,2-trif	3.60	151	14249	0.50 ug/l	97
11) Acetone	3.66	43	25592	6.05 ug/l	84
12) 1,1-Dichloroethene	3.84	61	43319	0.50 ug/l	97
13) tert-Butyl alcohol	3.94	59	2957	2.11 ug/l #	80
15) Methyl acetate	4.31	43	8390	0.50 ug/l	75
16) Iodomethane	4.25	142	36547	0.52 ug/l	100
17) Methylene chloride	4.50	49	33931	0.54 ug/l	97
18) Carbon disulfide	4.52	76	96906	0.56 ug/l	100
19) Acrylonitrile	4.73	53	13707	1.97 ug/l	96
20) tert-Butyl methyl ether (M	4.76	73	33966	0.50 ug/l	83
21) trans-1,2-Dichloroethene	4.97	61	40005	0.50 ug/l	99
22) Isopropyl ether (DIPE)	5.53	45	93177	0.50 ug/l	100
23) Vinyl acetate	5.72	43	26087	0.44 ug/l	93
24) 1,1-Dichloroethane	5.68	63	48146	0.52 ug/l	99
25) 2-Butanol	6.10	45	4528	3.14 ug/l #	40
26) tert-Butyl ethyl ether (ET	6.24	59	56209	0.49 ug/l	97
27) 2-Butanone	6.45	72	3331	1.93 ug/l	90
28) 2,2-Dichloropropane	6.65	77	21239	0.56 ug/l	94
29) cis-1,2-Dichloroethene	6.73	96	25947	0.51 ug/l	88

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW155.D Vial: 3
Acq On : 10 Mar 2016 6:53 pm Operator: ODinh
Sample : VO06C102 Inst : TO06
Misc : 0.5ppb 8260+3-ADD/2.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:14 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	39508	0.51 ug/l	99
32)	Bromochloromethane	7.25	49	17114	0.46 ug/l	97
33)	Tetrahydrofuran	7.33	42	4635	0.46 ug/l #	48
35)	1,1,1-Trichloroethane	7.66	97	27501	0.52 ug/l	98
36)	Cyclohexane	7.69	56	55262	0.51 ug/l	97
38)	1,1-Dichloropropene	7.92	110	12019	0.51 ug/l	100
39)	Carbon tetrachloride	8.07	119	25125	0.51 ug/l	100
40)	tert-Amyl methyl ether (TA	8.16	87	7568	0.46 ug/l #	78
42)	1,2-Dichloroethane	8.35	62	17663	0.48 ug/l	98
43)	Benzene	8.35	78	106544	0.51 ug/l	99
44)	Trichloroethene	9.38	130	24894	0.50 ug/l	99
45)	Methylcyclohexane	9.46	83	39487	0.47 ug/l	98
46)	1,2-Dichloropropane	9.66	63	26304	0.53 ug/l	87
47)	1,4-Dioxane	10.11	88	1178	7.45 ug/l	81
48)	Bromodichloromethane	10.05	83	25509	0.49 ug/l	98
49)	Dibromomethane	10.12	93	7989	0.44 ug/l	96
50)	2-Chloroethyl vinyl ether	10.59	63	2277	0.48 ug/l #	45
51)	4-Methyl-2-pentanone	10.63	43	48774	2.15 ug/l	97
52)	cis-1,3-Dichloropropene	10.94	75	33301	0.50 ug/l	96
55)	Toluene	11.46	91	100793	0.51 ug/l	99
56)	Ethyl methacrylate	11.77	69	14463	0.45 ug/l	91
57)	trans-1,3-Dichloropropene	11.77	75	20394	0.46 ug/l	87
58)	1,1,2-Trichloroethane	12.01	97	10466	0.48 ug/l	94
59)	2-Hexanone	12.06	43	29396	2.12 ug/l	95
60)	1,3-Dichloropropane	12.43	76	21904	0.48 ug/l	100
61)	Tetrachloroethene	12.50	164	17926	0.52 ug/l	98
62)	Dibromochloromethane	12.83	129	12795	0.46 ug/l	94
64)	1,2-Dibromoethane	13.16	107	10535	0.48 ug/l	99
65)	1-Chlorohexane	13.44	91	41251	0.49 ug/l	96
66)	Chlorobenzene	13.84	112	54674	0.50 ug/l	88
67)	1,1,1,2-Tetrachloroethane	13.92	131	16498	0.50 ug/l #	65
68)	Ethylbenzene	13.93	91	114598	0.51 ug/l	99
69)	m-Xylene & p-Xylene	14.05	91	160395	0.99 ug/l	99
70)	o-Xylene	14.76	91	80625	0.51 ug/l	99
71)	Styrene	14.82	104	52915	0.47 ug/l	96
72)	Isopropylbenzene	15.34	105	90973	0.51 ug/l	100
74)	Bromoform	15.36	173	5749	0.48 ug/l	96
75)	1,1,2,2-Tetrachloroethane	15.63	83	12581	0.53 ug/l	92
77)	1,2,3-Trichloropropane	15.86	110	2592	0.50 ug/l	98
78)	trans-1,4-Dichloro-2-buten	16.00	53	3099	0.48 ug/l #	41
79)	n-Propylbenzene	16.00	91	128284	0.51 ug/l	99

(#) = qualifier out of range (m) = manual integration

SG 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW155.D Vial: 3
Acq On : 10 Mar 2016 6:53 pm Operator: ODinh
Sample : VO06C102 Inst : TO06
Misc : 0.5ppb 8260+3-ADD/2.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:14 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	15813	0.53 ug/l #	76
81)	1,3,5-Trimethylbenzene	16.25	105	71444	0.54 ug/l	99
82)	2-Chlorotoluene	16.28	91	78584	0.54 ug/l	99
83)	4-Chlorotoluene	16.37	91	64844	0.53 ug/l	96
84)	tert-Butylbenzene	16.83	134	16858	0.55 ug/l	95
85)	1,2,4-Trimethylbenzene	16.89	105	66099	0.52 ug/l	97
86)	sec-Butylbenzene	17.16	105	101184	0.53 ug/l	99
87)	p-Isopropyltoluene	17.36	119	72338	0.52 ug/l	98
88)	1,3-Dichlorobenzene	17.50	146	31412	0.51 ug/l	99
89)	1,4-Dichlorobenzene	17.65	146	30267	0.51 ug/l	99
90)	n-Butylbenzene	17.91	91	81332	0.52 ug/l	99
91)	1,2-Dichlorobenzene	18.12	146	26401	0.53 ug/l	86
92)	1,2-Dibromo-3-chloropropan	19.04	157	789	0.53 ug/l	83
93)	1,2,4-Trichlorobenzene	20.01	180	12198	0.47 ug/l	94
94)	Hexachlorobutadiene	20.16	225	8674	0.52 ug/l	99
95)	Naphthalene	20.31	128	19647	0.48 ug/l	97
96)	1,2,3-Trichlorobenzene	20.61	180	9343	0.48 ug/l	95

(#) = qualifier out of range (m) = manual integration
RCW155.D VO06C10.M Fri Mar 11 14:52:32 2016

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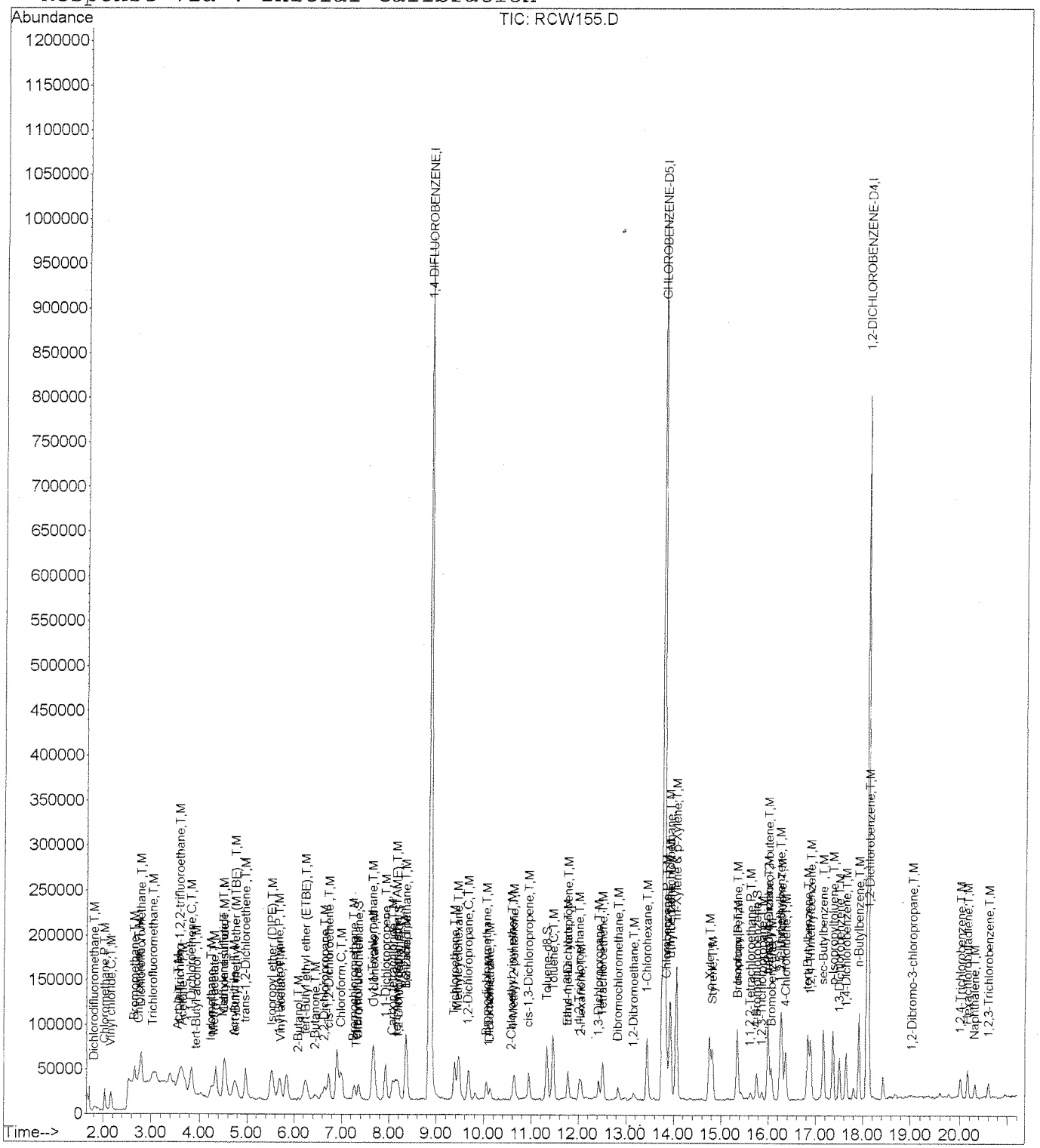
Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW155.D Vial: 3
Acq On : 10 Mar 2016 6:53 pm Operator: ODinh
Sample : VO06C102 Inst : TO06
Misc : 0.5ppb 8260+3-ADD/2.5ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:14 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW156.D Vial: 4
Acq On : 10 Mar 2016 7:18 pm Operator: ODinh
Sample : VO06C103 Inst : TO06
Misc : 1.0ppb 8260+3-ADD/5.0ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:15 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1413574	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1048908	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	312874	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	37984	0.90 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.00%	
41) 1,2-Dichloroethane-d4	8.21	65	28067	0.92 ug/l	0.02
Spiked Amount 10.000			Recovery	= 9.20%	
54) Toluene-d8	11.33	98	139279	0.90 ug/l	0.00
Spiked Amount 10.000			Recovery	= 9.00%	
76) 4-Bromofluorobenzene	15.76	95	40461	0.88 ug/l	0.02
Spiked Amount 10.000			Recovery	= 8.80%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	34711	0.91 ug/l	98
3) Chloromethane	2.03	50	65680	0.96 ug/l	96
4) Vinyl chloride	2.16	62	57292	0.94 ug/l	95
5) Bromomethane	2.66	94	34094	0.95 ug/l	93
6) Chloroethane	2.75	64	34173	0.96 ug/l	90
7) Dichlorofluoromethane	2.79	67	87748	0.88 ug/l	92
8) Trichlorofluoromethane	3.06	101	47728	0.89 ug/l	97
9) Acrolein	3.57	56	13708	5.85 ug/l	67
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	26635	0.92 ug/l	95
11) Acetone	3.66	43	31300	7.29 ug/l #	90
12) 1,1-Dichloroethene	3.84	61	81000	0.92 ug/l	99
13) tert-Butyl alcohol	3.94	59	6171	4.35 ug/l #	83
15) Methyl acetate	4.31	43	17941	1.04 ug/l	86
16) Iodomethane	4.27	142	63514	0.88 ug/l	99
17) Methylene chloride	4.52	49	59794	0.94 ug/l	88
18) Carbon disulfide	4.52	76	164125	0.93 ug/l	99
19) Acrylonitrile	4.73	53	29528	4.18 ug/l	97
20) tert-Butyl methyl ether (M	4.77	73	64109	0.92 ug/l	88
21) trans-1,2-Dichloroethene	4.97	61	73596	0.91 ug/l	99
22) Isopropyl ether (DIPE)	5.52	45	173468	0.91 ug/l	99
23) Vinyl acetate	5.72	43	49602	0.83 ug/l	95
24) 1,1-Dichloroethane	5.68	63	84718	0.90 ug/l	98
25) 2-Butanol	6.12	45	5331	3.65 ug/l #	44
26) tert-Butyl ethyl ether (ET	6.24	59	105382	0.90 ug/l	99
27) 2-Butanone	6.44	72	7157	4.09 ug/l #	85
28) 2,2-Dichloropropane	6.65	77	38067	0.99 ug/l	94
29) cis-1,2-Dichloroethene	6.73	96	47044	0.92 ug/l	92

(#) = qualifier out of range (m) = manual integration

3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW156.D Vial: 4
Acq On : 10 Mar 2016 7:18 pm Operator: ODinh
Sample : VO06C103 Inst : TO06
Misc : 1.0ppb 8260+3-ADD/5.0ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:15 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	71210	0.90 ug/l	99
32)	Bromochloromethane	7.27	49	35348	0.94 ug/l	96
33)	Tetrahydrofuran	7.34	42	7864	1.05 ug/l	75
35)	1,1,1-Trichloroethane	7.66	97	49883	0.92 ug/l	99
36)	Cyclohexane	7.67	56	106333	0.96 ug/l	97
38)	1,1-Dichloropropene	7.92	110	21577	0.91 ug/l	100
39)	Carbon tetrachloride	8.07	119	45852	0.91 ug/l	98
40)	tert-Amyl methyl ether (TA	8.16	87	15243	0.92 ug/l	95
42)	1,2-Dichloroethane	8.35	62	35314	0.94 ug/l	97
43)	Benzene	8.37	78	188942	0.90 ug/l	99
44)	Trichloroethene	9.38	130	45177	0.90 ug/l	99
45)	Methylcyclohexane	9.47	83	79703	0.94 ug/l	97
46)	1,2-Dichloropropane	9.68	63	45089	0.89 ug/l	98
47)	1,4-Dioxane	10.11	88	2612	16.27 ug/l	91
48)	Bromodichloromethane	10.05	83	47938	0.90 ug/l	99
49)	Dibromomethane	10.12	93	16803	0.92 ug/l	93
50)	2-Chloroethyl vinyl ether	10.60	63	4087	0.85 ug/l #	69
51)	4-Methyl-2-pentanone	10.63	43	94665	4.12 ug/l	98
52)	cis-1,3-Dichloropropene	10.94	75	57001	0.84 ug/l	94
55)	Toluene	11.46	91	180463	0.92 ug/l	100
56)	Ethyl methacrylate	11.77	69	26959	0.85 ug/l	93
57)	trans-1,3-Dichloropropene	11.77	75	39348	0.89 ug/l	93
58)	1,1,2-Trichloroethane	12.01	97	19938	0.91 ug/l	99
59)	2-Hexanone	12.06	43	58077	4.21 ug/l	94
60)	1,3-Dichloropropane	12.43	76	42109	0.94 ug/l	99
61)	Tetrachloroethene	12.50	164	32513	0.95 ug/l	99
62)	Dibromochloromethane	12.83	129	25135	0.90 ug/l	99
64)	1,2-Dibromoethane	13.16	107	18955	0.87 ug/l	97
65)	1-Chlorohexane	13.44	91	76858	0.93 ug/l	97
66)	Chlorobenzene	13.84	112	95354	0.89 ug/l	89
67)	1,1,1,2-Tetrachloroethane	13.92	131	29677	0.91 ug/l	89
68)	Ethylbenzene	13.93	91	199775	0.90 ug/l	100
69)	m-Xylene & p-Xylene	14.05	91	293482	1.82 ug/l	99
70)	o-Xylene	14.76	91	141386	0.89 ug/l	99
71)	Styrene	14.82	104	97676	0.87 ug/l	95
72)	Isopropylbenzene	15.34	105	162381	0.91 ug/l	100
74)	Bromoform	15.36	173	10512	0.88 ug/l	97
75)	1,1,2,2-Tetrachloroethane	15.63	83	22575	0.94 ug/l	97
77)	1,2,3-Trichloropropane	15.88	110	5107	0.98 ug/l	91
78)	trans-1,4-Dichloro-2-buten	15.98	53	5304	0.81 ug/l	99
79)	n-Propylbenzene	16.00	91	228232	0.91 ug/l	99

(#) = qualifier out of range (m) = manual integration

3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW156.D Vial: 4
Acq On : 10 Mar 2016 7:18 pm Operator: ODinh
Sample : VO06C103 Inst : TO06
Misc : 1.0ppb 8260+3-ADD/5.0ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:15 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80) Bromobenzene	16.07	156	27328	0.91 ug/l	93
81) 1,3,5-Trimethylbenzene	16.25	105	123760	0.92 ug/l	99
82) 2-Chlorotoluene	16.28	91	138812	0.94 ug/l	99
83) 4-Chlorotoluene	16.35	91	112657	0.92 ug/l	99
84) tert-Butylbenzene	16.83	134	29637	0.97 ug/l	96
85) 1,2,4-Trimethylbenzene	16.89	105	117323	0.91 ug/l	99
86) sec-Butylbenzene	17.17	105	179333	0.94 ug/l	100
87) p-Isopropyltoluene	17.36	119	128064	0.91 ug/l	99
88) 1,3-Dichlorobenzene	17.50	146	56334	0.90 ug/l	98
89) 1,4-Dichlorobenzene	17.65	146	53747	0.90 ug/l	99
90) n-Butylbenzene	17.91	91	141988	0.91 ug/l	97
91) 1,2-Dichlorobenzene	18.12	146	46516	0.92 ug/l	93
92) 1,2-Dibromo-3-chloropropan	19.03	157	1962	0.95 ug/l	84
93) 1,2,4-Trichlorobenzene	20.01	180	22810	0.87 ug/l	98
94) Hexachlorobutadiene	20.16	225	15848	0.94 ug/l	97
95) Naphthalene	20.31	128	35800	0.87 ug/l	96
96) 1,2,3-Trichlorobenzene	20.61	180	17656	0.90 ug/l	99

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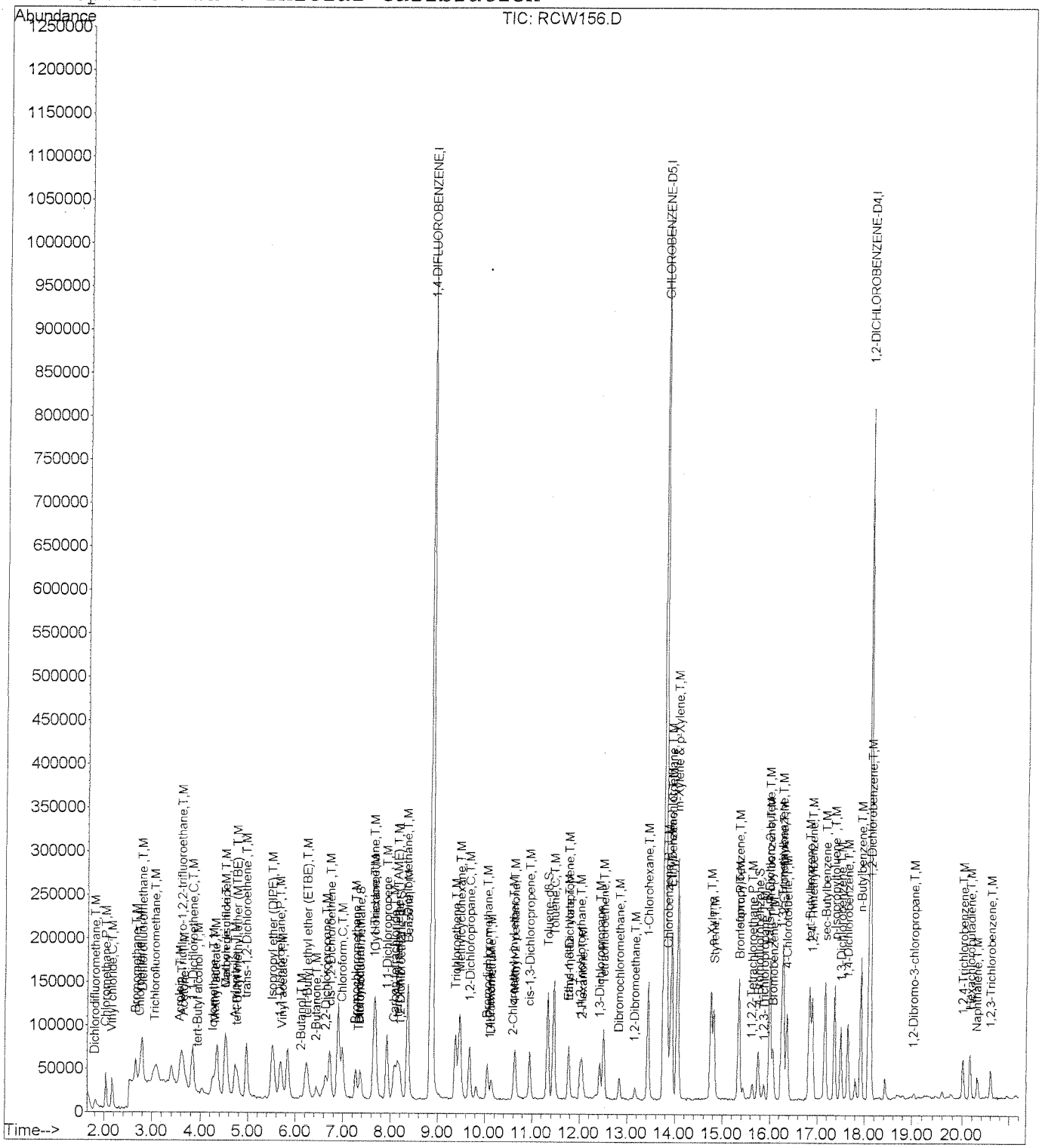
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW156.D Vial: 4
Acq On : 10 Mar 2016 7:18 pm Operator: ODinh
Sample : VO06C103 Inst : TO06
Misc : 1.0ppb 8260+3-ADD/5.0ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:15 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW157.D Vial: 5
Acq On : 10 Mar 2016 7:44 pm Operator: ODinh
Sample : VO06C104 Inst : TO06
Misc : 2.0ppb 8260+3-ADD/10ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1457332	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1083329	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	328316	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	81144	1.87 ug/l	0.00
Spiked Amount 10.000			Recovery	= 18.70%	
41) 1,2-Dichloroethane-d4	8.21	65	57183	1.83 ug/l	0.02
Spiked Amount 10.000			Recovery	= 18.30%	
54) Toluene-d8	11.33	98	302003	1.89 ug/l	0.00
Spiked Amount 10.000			Recovery	= 18.90%	
76) 4-Bromofluorobenzene	15.76	95	91867	1.91 ug/l	0.02
Spiked Amount 10.000			Recovery	= 19.10%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	72312	1.85 ug/l	99
3) Chloromethane	2.03	50	124347	1.77 ug/l	98
4) Vinyl chloride	2.16	62	124382	1.99 ug/l	96
5) Bromomethane	2.66	94	68165	1.84 ug/l	100
6) Chloroethane	2.75	64	69427	1.88 ug/l	96
7) Dichlorofluoromethane	2.79	67	195301	1.91 ug/l	98
8) Trichlorofluoromethane	3.06	101	102007	1.85 ug/l	97
9) Acrolein	3.57	56	22790	9.43 ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	57340	1.93 ug/l	97
11) Acetone	3.66	43	54636	12.35 ug/l	95
12) 1,1-Dichloroethene	3.84	61	176540	1.94 ug/l	100
13) tert-Butyl alcohol	3.95	59	14290	9.76 ug/l	95
15) Methyl acetate	4.31	43	36723	2.07 ug/l	92
16) Iodomethane	4.27	142	142823	1.92 ug/l	99
17) Methylene chloride	4.52	49	130250	1.99 ug/l	98
18) Carbon disulfide	4.52	76	337157	1.85 ug/l	99
19) Acrylonitrile	4.71	53	71877	9.87 ug/l	97
20) tert-Butyl methyl ether (M	4.76	73	139059	1.94 ug/l	97
21) trans-1,2-Dichloroethene	4.97	61	161807	1.93 ug/l	99
22) Isopropyl ether (DIPE)	5.52	45	368287	1.88 ug/l	100
23) Vinyl acetate	5.72	43	107574	1.75 ug/l	99
24) 1,1-Dichloroethane	5.68	63	189055	1.95 ug/l	99
25) 2-Butanol	6.11	45	12723	8.45 ug/l #	62
26) tert-Butyl ethyl ether (ET	6.23	59	236672	1.96 ug/l	100
27) 2-Butanone	6.45	72	16392	9.09 ug/l	92
28) 2,2-Dichloropropane	6.65	77	83240	2.10 ug/l	98
29) cis-1,2-Dichloroethene	6.72	96	101897	1.92 ug/l	92

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW157.D Vial: 5
Acq On : 10 Mar 2016 7:44 pm Operator: ODinh
Sample : VO06C104 Inst : TO06
Misc : 2.0ppb 8260+3-ADD/10ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	7.00	83	158883	1.95 ug/l	100
32)	Bromochloromethane	7.25	49	76732	1.97 ug/l	98
33)	Tetrahydrofuran	7.34	42	13424	2.01 ug/l	93
35)	1,1,1-Trichloroethane	7.66	97	111375	2.00 ug/l	98
36)	Cyclohexane	7.67	56	226212	1.98 ug/l	99
38)	1,1-Dichloropropene	7.92	110	47166	1.93 ug/l	100
39)	Carbon tetrachloride	8.07	119	103312	2.00 ug/l	96
40)	tert-Amyl methyl ether (TA	8.15	87	34355	2.01 ug/l	97
42)	1,2-Dichloroethane	8.35	62	78745	2.03 ug/l	97
43)	Benzene	8.35	78	416851	1.92 ug/l	99
44)	Trichloroethene	9.38	130	101020	1.96 ug/l	98
45)	Methylcyclohexane	9.47	83	175039	2.00 ug/l	99
46)	1,2-Dichloropropane	9.68	63	101497	1.94 ug/l	98
47)	1,4-Dioxane	10.11	88	6106	36.90 ug/l	88
48)	Bromodichloromethane	10.05	83	105947	1.94 ug/l	100
49)	Dibromomethane	10.12	93	36714	1.94 ug/l	98
50)	2-Chloroethyl vinyl ether	10.58	63	9334	1.89 ug/l	92
51)	4-Methyl-2-pentanone	10.63	43	221996	9.36 ug/l	99
52)	cis-1,3-Dichloropropene	10.94	75	132225	1.88 ug/l	97
55)	Toluene	11.45	91	402686	1.98 ug/l	100
56)	Ethyl methacrylate	11.77	69	61761	1.89 ug/l	96
57)	trans-1,3-Dichloropropene	11.77	75	89367	1.95 ug/l	96
58)	1,1,2-Trichloroethane	12.01	97	44500	1.98 ug/l	99
59)	2-Hexanone	12.04	43	132608	9.32 ug/l	98
60)	1,3-Dichloropropane	12.43	76	93462	2.01 ug/l	100
61)	Tetrachloroethene	12.50	164	68866	1.95 ug/l	98
62)	Dibromochloromethane	12.83	129	56620	1.97 ug/l	100
64)	1,2-Dibromoethane	13.16	107	42935	1.92 ug/l	99
65)	1-Chlorohexane	13.44	91	167953	1.96 ug/l	98
66)	Chlorobenzene	13.84	112	213201	1.92 ug/l	95
67)	1,1,1,2-Tetrachloroethane	13.92	131	68384	2.02 ug/l	94
68)	Ethylbenzene	13.93	91	452261	1.98 ug/l	99
69)	m-Xylene & p-Xylene	14.05	91	645615	3.88 ug/l	98
70)	o-Xylene	14.76	91	315259	1.93 ug/l	100
71)	Styrene	14.82	104	219729	1.90 ug/l	95
72)	Isopropylbenzene	15.34	105	364555	1.98 ug/l	100
74)	Bromoform	15.37	173	24040	1.91 ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.62	83	48739	1.94 ug/l	96
77)	1,2,3-Trichloropropane	15.86	110	11321	2.07 ug/l	100
78)	trans-1,4-Dichloro-2-buten	15.98	53	12834	1.86 ug/l	93
79)	n-Propylbenzene	16.00	91	526106	2.00 ug/l	99

(#) = qualifier out of range (m) = manual integration

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW157.D Vial: 5
Acq On : 10 Mar 2016 7:44 pm Operator: ODinh
Sample : VO06C104 Inst : TO06
Misc : 2.0ppb 8260+3-ADD/10ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80) Bromobenzene	16.07	156	62765	1.98 ug/l	96
81) 1,3,5-Trimethylbenzene	16.25	105	279617	1.99 ug/l	99
82) 2-Chlorotoluene	16.28	91	314184	2.04 ug/l	99
83) 4-Chlorotoluene	16.35	91	250929	1.95 ug/l	98
84) tert-Butylbenzene	16.83	134	65418	2.03 ug/l	97
85) 1,2,4-Trimethylbenzene	16.89	105	273045	2.02 ug/l	100
86) sec-Butylbenzene	17.16	105	401613	2.00 ug/l	100
87) p-Isopropyltoluene	17.36	119	300707	2.03 ug/l	99
88) 1,3-Dichlorobenzene	17.50	146	131664	2.01 ug/l	99
89) 1,4-Dichlorobenzene	17.65	146	121188	1.94 ug/l	98
90) n-Butylbenzene	17.91	91	318080	1.94 ug/l	99
91) 1,2-Dichlorobenzene	18.12	146	104153	1.97 ug/l	96
92) 1,2-Dibromo-3-chloropropan	19.04	157	5328	2.06 ug/l	88
93) 1,2,4-Trichlorobenzene	20.01	180	51295	1.87 ug/l	99
94) Hexachlorobutadiene	20.16	225	34543	1.95 ug/l	97
95) Naphthalene	20.31	128	78079	1.82 ug/l	99
96) 1,2,3-Trichlorobenzene	20.61	180	37997	1.85 ug/l	96

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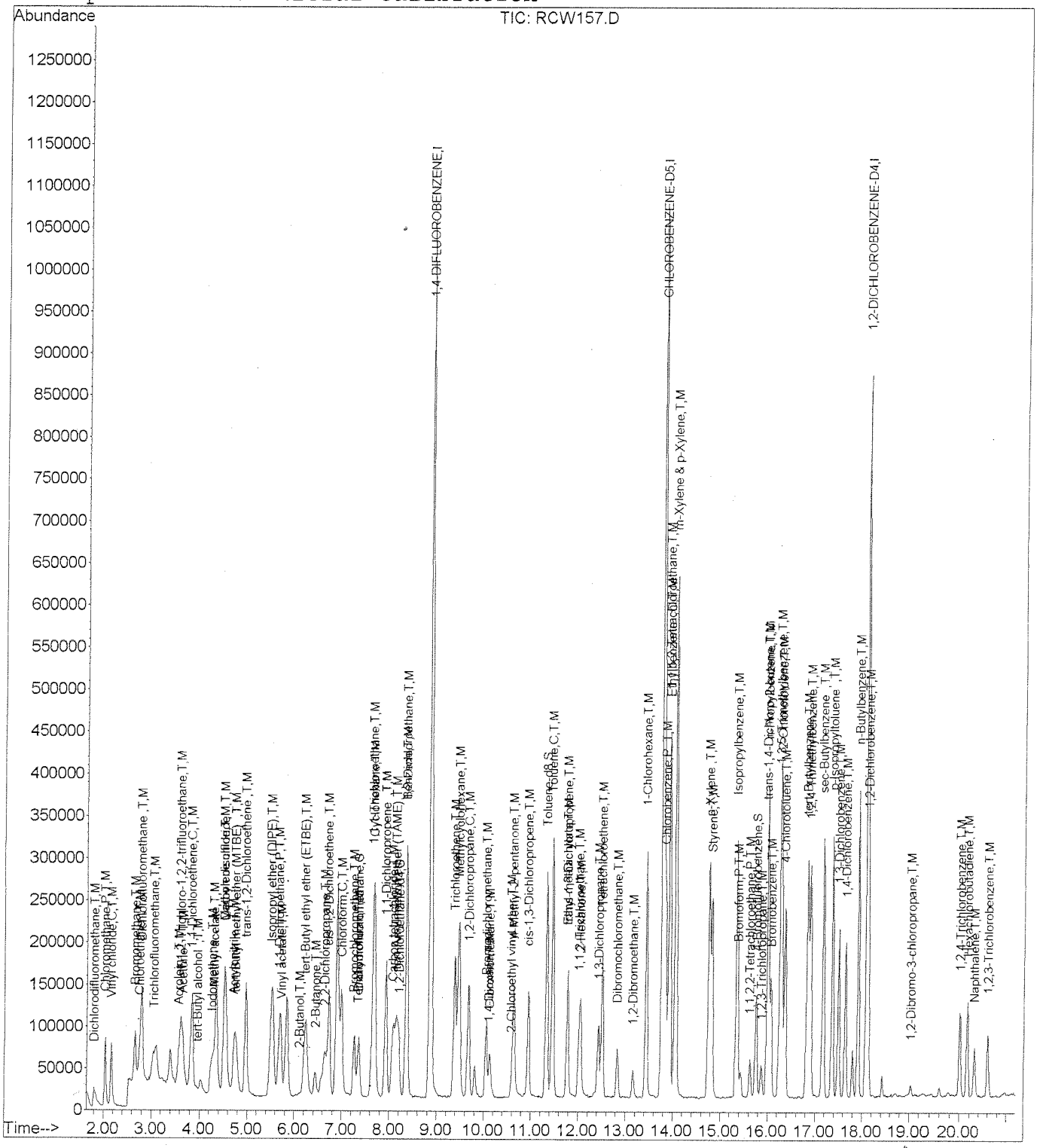
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW157.D Vial: 5
Acq On : 10 Mar 2016 7:44 pm Operator: ODinh
Sample : VO06C104 Inst : TO06
Misc : 2.0ppb 8260+3-ADD/10ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW158.D Vial: 6
Acq On : 10 Mar 2016 8:09 pm Operator: ODinh
Sample : VO06C105 Inst : TO06
Misc : 5.0ppb 8260+3-ADD/25ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1536357	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.77	117	1181738	10.00 ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	18.09	152	365392	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	222508	4.87 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.70%	
41) 1,2-Dichloroethane-d4	8.19	65	160629	4.87 ug/l	0.00
Spiked Amount 10.000			Recovery	= 48.70%	
54) Toluene-d8	11.33	98	829203	4.77 ug/l	0.00
Spiked Amount 10.000			Recovery	= 47.70%	
76) 4-Bromofluorobenzene	15.74	95	262784	4.91 ug/l	0.00
Spiked Amount 10.000			Recovery	= 49.10%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	197416	4.78 ug/l	98
3) Chloromethane	2.03	50	358147	4.84 ug/l	99
4) Vinyl chloride	2.16	62	318428	4.83 ug/l	98
5) Bromomethane	2.66	94	178613	4.57 ug/l	96
6) Chloroethane	2.75	64	186509	4.80 ug/l	99
7) Dichlorofluoromethane	2.79	67	517293	4.80 ug/l	100
8) Trichlorofluoromethane	3.06	101	275092	4.73 ug/l	100
9) Acrolein	3.57	56	62280	24.46 ug/l	93
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	143500	4.58 ug/l	99
11) Acetone	3.66	43	113413	24.31 ug/l	99
12) 1,1-Dichloroethene	3.84	61	448964	4.69 ug/l	99
13) tert-Butyl alcohol	3.94	59	39865	25.83 ug/l	89
15) Methyl acetate	4.30	43	86979	4.66 ug/l	97
16) Iodomethane	4.27	142	381789	4.88 ug/l	99
17) Methylene chloride	4.52	49	345752	5.00 ug/l	99
18) Carbon disulfide	4.52	76	913546	4.76 ug/l	99
19) Acrylonitrile	4.71	53	185599	24.18 ug/l	96
20) tert-Butyl methyl ether (M	4.76	73	372967	4.94 ug/l	99
21) trans-1,2-Dichloroethene	4.97	61	442922	5.02 ug/l	100
22) Isopropyl ether (DIPE)	5.52	45	1015358	4.93 ug/l	99
23) Vinyl acetate	5.71	43	307359	4.73 ug/l	100
24) 1,1-Dichloroethane	5.68	63	497177	4.86 ug/l	99
25) 2-Butanol	6.10	45	33138	20.88 ug/l #	54
26) tert-Butyl ethyl ether (ET	6.23	59	633466	4.97 ug/l	99
27) 2-Butanone	6.44	72	45521	23.95 ug/l	98
28) 2,2-Dichloropropane	6.65	77	205506	4.91 ug/l	99
29) cis-1,2-Dichloroethene	6.72	96	279853	5.01 ug/l	99

(#) = qualifier out of range (m) = manual integration

3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW158.D Vial: 6
Acq On : 10 Mar 2016 8:09 pm Operator: ODinh
Sample : VO06C105 Inst : TO06
Misc : 5.0ppb 8260+3-ADD/25ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	430677	5.02 ug/l	100
32)	Bromochloromethane	7.25	49	207308	5.06 ug/l	98
33)	Tetrahydrofuran	7.33	42	34134	5.45 ug/l	94
35)	1,1,1-Trichloroethane	7.66	97	286826	4.89 ug/l	99
36)	Cyclohexane	7.67	56	562300	4.67 ug/l	99
38)	1,1-Dichloropropene	7.92	110	125686	4.88 ug/l	99
39)	Carbon tetrachloride	8.07	119	260450	4.78 ug/l	98
40)	tert-Amyl methyl ether (TA	8.15	87	90918	5.05 ug/l	100
42)	1,2-Dichloroethane	8.36	62	206646	5.05 ug/l	100
43)	Benzene	8.36	78	1119199	4.89 ug/l	100
44)	Trichloroethene	9.38	130	264560	4.86 ug/l	98
45)	Methylcyclohexane	9.47	83	450389	4.88 ug/l	98
46)	1,2-Dichloropropane	9.66	63	265274	4.82 ug/l	99
47)	1,4-Dioxane	10.09	88	15616	89.52 ug/l	90
48)	Bromodichloromethane	10.05	83	289584	5.03 ug/l	99
49)	Dibromomethane	10.12	93	103549	5.20 ug/l	97
50)	2-Chloroethyl vinyl ether	10.59	63	26033	5.01 ug/l	96
51)	4-Methyl-2-pentanone	10.63	43	597208	23.90 ug/l	100
52)	cis-1,3-Dichloropropene	10.94	75	367299	4.96 ug/l	99
55)	Toluene	11.45	91	1063365	4.79 ug/l	100
56)	Ethyl methacrylate	11.77	69	172243	4.84 ug/l	100
57)	trans-1,3-Dichloropropene	11.76	75	250250	5.00 ug/l	98
58)	1,1,2-Trichloroethane	12.01	97	122058	4.97 ug/l	99
59)	2-Hexanone	12.04	43	372374	23.98 ug/l	100
60)	1,3-Dichloropropane	12.43	76	254711	5.02 ug/l	100
61)	Tetrachloroethene	12.50	164	182597	4.73 ug/l	100
62)	Dibromochloromethane	12.83	129	160451	5.12 ug/l	99
64)	1,2-Dibromoethane	13.16	107	118353	4.85 ug/l	98
65)	1-Chlorohexane	13.44	91	424082	4.54 ug/l	99
66)	Chlorobenzene	13.84	112	588423	4.86 ug/l	98
67)	1,1,1,2-Tetrachloroethane	13.92	131	183252	4.97 ug/l	99
68)	Ethylbenzene	13.93	91	1184352	4.76 ug/l	100
69)	m-Xylene & p-Xylene	14.05	91	1733006	9.55 ug/l	100
70)	o-Xylene	14.75	91	846702	4.75 ug/l	100
71)	Styrene	14.82	104	603992	4.78 ug/l	94
72)	Isopropylbenzene	15.34	105	946132	4.70 ug/l	100
74)	Bromoform	15.36	173	68724	4.92 ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.63	83	136617	4.89 ug/l	99
77)	1,2,3-Trichloropropane	15.86	110	30975	5.10 ug/l	99
78)	trans-1,4-Dichloro-2-buten	15.98	53	37712	4.92 ug/l	100
79)	n-Propylbenzene	16.00	91	1371220	4.68 ug/l	99

(#) = qualifier out of range (m) = manual integration
RCW158.D VO06C10.M Fri Mar 11 14:53:18 2016

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW158.D Vial: 6
Acq On : 10 Mar 2016 8:09 pm Operator: ODinh
Sample : VO06C105 Inst : TO06
Misc : 5.0ppb 8260+3-ADD/25ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	168069	4.77 ug/l	97
81)	1,3,5-Trimethylbenzene	16.25	105	752282	4.81 ug/l	99
82)	2-Chlorotoluene	16.28	91	837512	4.88 ug/l	100
83)	4-Chlorotoluene	16.35	91	652955	4.56 ug/l	100
84)	tert-Butylbenzene	16.83	134	165849	4.63 ug/l	99
85)	1,2,4-Trimethylbenzene	16.89	105	710903	4.72 ug/l	100
86)	sec-Butylbenzene	17.16	105	1019652	4.57 ug/l	99
87)	p-Isopropyltoluene	17.36	119	766728	4.64 ug/l	99
88)	1,3-Dichlorobenzene	17.50	146	348146	4.78 ug/l	99
89)	1,4-Dichlorobenzene	17.65	146	324345	4.67 ug/l	100
90)	n-Butylbenzene	17.91	91	828594	4.53 ug/l	99
91)	1,2-Dichlorobenzene	18.12	146	279772	4.74 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.04	157	14684	4.74 ug/l	98
93)	1,2,4-Trichlorobenzene	20.01	180	136462	4.46 ug/l	100
94)	Hexachlorobutadiene	20.16	225	90870	4.60 ug/l	99
95)	Naphthalene	20.31	128	218793	4.57 ug/l	100
96)	1,2,3-Trichlorobenzene	20.61	180	106447	4.67 ug/l	99

(#) = qualifier out of range (m) = manual integration
RCW158.D VO06C10.M Fri Mar 11 14:53:18 2016

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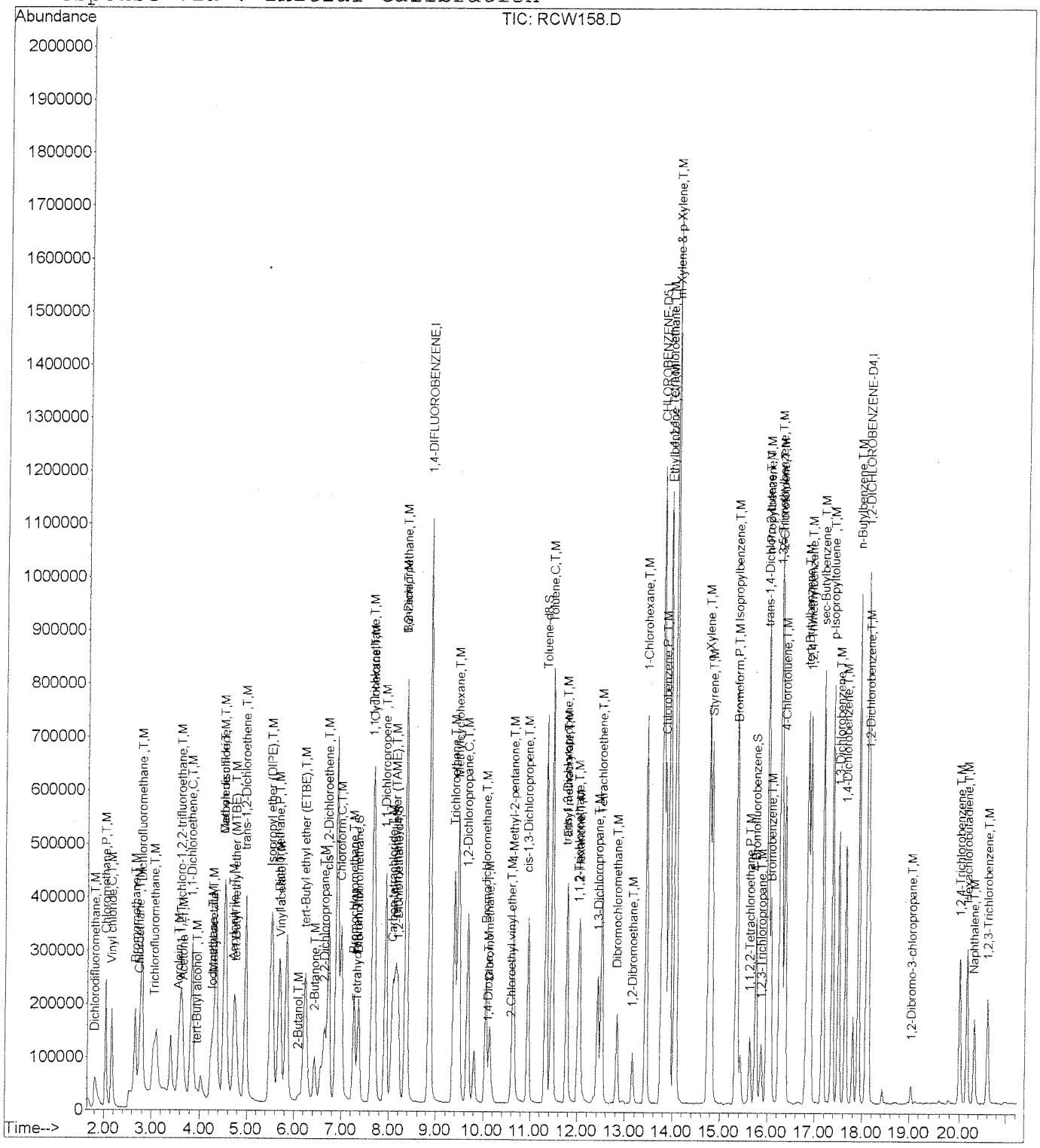
Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW158.D Vial: 6
Acq On : 10 Mar 2016 8:09 pm Operator: ODinh
Sample : VO06C105 Inst : TO06
Misc : 5.0ppb 8260+3-ADD/25ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:35 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



SW 3/13/16

208

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW159.D Vial: 7
Acq On : 10 Mar 2016 8:34 pm Operator: ODinh
Sample : VO06C106 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1439848	10.00	ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1115563	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	351627	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	7.36	111	452261	10.56	ug/l	0.00
Spiked Amount 10.000			Recovery	=	105.60%	
41) 1,2-Dichloroethane-d4	8.19	65	324642	10.50	ug/l	0.00
Spiked Amount 10.000			Recovery	=	105.00%	
54) Toluene-d8	11.33	98	1671496	10.18	ug/l	0.00
Spiked Amount 10.000			Recovery	=	101.80%	
76) 4-Bromofluorobenzene	15.74	95	527984	10.26	ug/l	0.00
Spiked Amount 10.000			Recovery	=	102.60%	
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.81	85	391937	10.13	ug/l	100
3) Chloromethane	2.04	50	733069	10.57	ug/l	100
4) Vinyl chloride	2.17	62	664560	10.76	ug/l	100
5) Bromomethane	2.66	94	385677	10.53	ug/l	100
6) Chloroethane	2.76	64	376160	10.32	ug/l	100
7) Dichlorofluoromethane	2.79	67	1051899	10.41	ug/l	100
8) Trichlorofluoromethane	3.06	101	561789	10.32	ug/l	100
9) Acrolein	3.57	56	126812	53.14	ug/l	100
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	295924	10.08	ug/l	100
11) Acetone	3.66	43	233252	53.36	ug/l	100
12) 1,1-Dichloroethene	3.83	61	947187	10.55	ug/l	100
13) tert-Butyl alcohol	3.94	59	83450	57.70	ug/l	100
15) Methyl acetate	4.31	43	189624	10.84	ug/l	100
16) Iodomethane	4.27	142	783684	10.69	ug/l	100
17) Methylene chloride	4.52	49	687011	10.60	ug/l	100
18) Carbon disulfide	4.52	76	1795559	9.98	ug/l	100
19) Acrylonitrile	4.71	53	393115	54.66	ug/l	100
20) tert-Butyl methyl ether (M	4.76	73	783420	11.07	ug/l	100
21) trans-1,2-Dichloroethene	4.96	61	907124	10.97	ug/l	100
22) Isopropyl ether (DIPE)	5.51	45	2071081	10.72	ug/l	100
23) Vinyl acetate	5.71	43	690259	11.34	ug/l	100
24) 1,1-Dichloroethane	5.68	63	1017817	10.62	ug/l	100
25) 2-Butanol	6.09	45	81779	54.97	ug/l	100
26) tert-Butyl ethyl ether (ET	6.23	59	1322668	11.08	ug/l	100
27) 2-Butanone	6.44	72	99569	55.90	ug/l	100
28) 2,2-Dichloropropane	6.64	77	408727	10.43	ug/l	100
29) cis-1,2-Dichloroethene	6.72	96	565156	10.80	ug/l	100

(#) = qualifier out of range (m) = manual integration

3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW159.D Vial: 7
Acq On : 10 Mar 2016 8:34 pm Operator: ODinh
Sample : VO06C106 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	873378	10.87 ug/l	100
32)	Bromochloromethane	7.27	49	434439	11.31 ug/l	100
33)	Tetrahydrofuran	7.33	42	66485	11.79 ug/l	100
35)	1,1,1-Trichloroethane	7.66	97	585147	10.64 ug/l	100
36)	Cyclohexane	7.67	56	1126619	9.98 ug/l	100
38)	1,1-Dichloropropene	7.92	110	260310	10.78 ug/l	100
39)	Carbon tetrachloride	8.07	119	541759	10.60 ug/l	100
40)	tert-Amyl methyl ether (TA	8.15	87	191153	11.33 ug/l	100
42)	1,2-Dichloroethane	8.35	62	428220	11.17 ug/l	100
43)	Benzene	8.37	78	2272054	10.60 ug/l	100
44)	Trichloroethene	9.38	130	546426	10.71 ug/l	100
45)	Methylcyclohexane	9.47	83	875567	10.13 ug/l	100
46)	1,2-Dichloropropane	9.66	63	568219	11.01 ug/l	100
47)	1,4-Dioxane	10.09	88	35936	219.81 ug/l	100
48)	Bromodichloromethane	10.05	83	589611	10.92 ug/l	100
49)	Dibromomethane	10.12	93	213129	11.41 ug/l	100
50)	2-Chloroethyl vinyl ether	10.58	63	55142	11.32 ug/l	100
51)	4-Methyl-2-pentanone	10.63	43	1280752	54.68 ug/l	100
52)	cis-1,3-Dichloropropene	10.94	75	777489	11.20 ug/l	100
55)	Toluene	11.45	91	2230527	10.64 ug/l	100
56)	Ethyl methacrylate	11.77	69	375441	11.16 ug/l	100
57)	trans-1,3-Dichloropropene	11.77	75	523894	11.10 ug/l	100
58)	1,1,2-Trichloroethane	12.01	97	259797	11.20 ug/l	100
59)	2-Hexanone	12.04	43	797128	54.38 ug/l	100
60)	1,3-Dichloropropane	12.43	76	530152	11.08 ug/l	100
61)	Tetrachloroethene	12.50	164	382197	10.48 ug/l	100
62)	Dibromochloromethane	12.83	129	329474	11.13 ug/l	100
64)	1,2-Dibromoethane	13.16	107	250457	10.87 ug/l	100
65)	1-Chlorohexane	13.44	91	909920	10.31 ug/l	100
66)	Chlorobenzene	13.84	112	1233260	10.79 ug/l	100
67)	1,1,1,2-Tetrachloroethane	13.91	131	380301	10.93 ug/l	100
68)	Ethylbenzene	13.93	91	2477566	10.55 ug/l	100
69)	m-Xylene & p-Xylene	14.05	91	3586393	20.94 ug/l	100
70)	o-Xylene	14.76	91	1758201	10.44 ug/l	100
71)	Styrene	14.82	104	1280289	10.73 ug/l	100
72)	Isopropylbenzene	15.34	105	2004161	10.54 ug/l	100
74)	Bromoform	15.36	173	146632	10.90 ug/l	100
75)	1,1,2,2-Tetrachloroethane	15.62	83	295666	11.00 ug/l	100
77)	1,2,3-Trichloropropane	15.86	110	63744	10.91 ug/l	100
78)	trans-1,4-Dichloro-2-buten	15.98	53	83557	11.33 ug/l	100
79)	n-Propylbenzene	16.00	91	2933704	10.40 ug/l	100

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW159.D Vial: 7
Acq On : 10 Mar 2016 8:34 pm Operator: ODinh
Sample : VO06C106 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	365495	10.78 ug/l	100
81)	1,3,5-Trimethylbenzene	16.25	105	1541529	10.24 ug/l	100
82)	2-Chlorotoluene	16.28	91	1731019	10.47 ug/l	100
83)	4-Chlorotoluene	16.35	91	1403441	10.19 ug/l	100
84)	tert-Butylbenzene	16.83	134	349769	10.14 ug/l	100
85)	1,2,4-Trimethylbenzene	16.89	105	1513108	10.44 ug/l	100
86)	sec-Butylbenzene	17.16	105	2190576	10.21 ug/l	100
87)	p-Isopropyltoluene	17.36	119	1634725	10.29 ug/l	100
88)	1,3-Dichlorobenzene	17.50	146	729846	10.41 ug/l	100
89)	1,4-Dichlorobenzene	17.65	146	697746	10.44 ug/l	100
90)	n-Butylbenzene	17.91	91	1814864	10.31 ug/l	100
91)	1,2-Dichlorobenzene	18.12	146	598289	10.54 ug/l	100
92)	1,2-Dibromo-3-chloropropan	19.04	157	31951	10.41 ug/l	100
93)	1,2,4-Trichlorobenzene	20.01	180	309295	10.51 ug/l	100
94)	Hexachlorobutadiene	20.16	225	196475	10.34 ug/l	100
95)	Naphthalene	20.31	128	485619	10.55 ug/l	100
96)	1,2,3-Trichlorobenzene	20.61	180	237633	10.82 ug/l	100

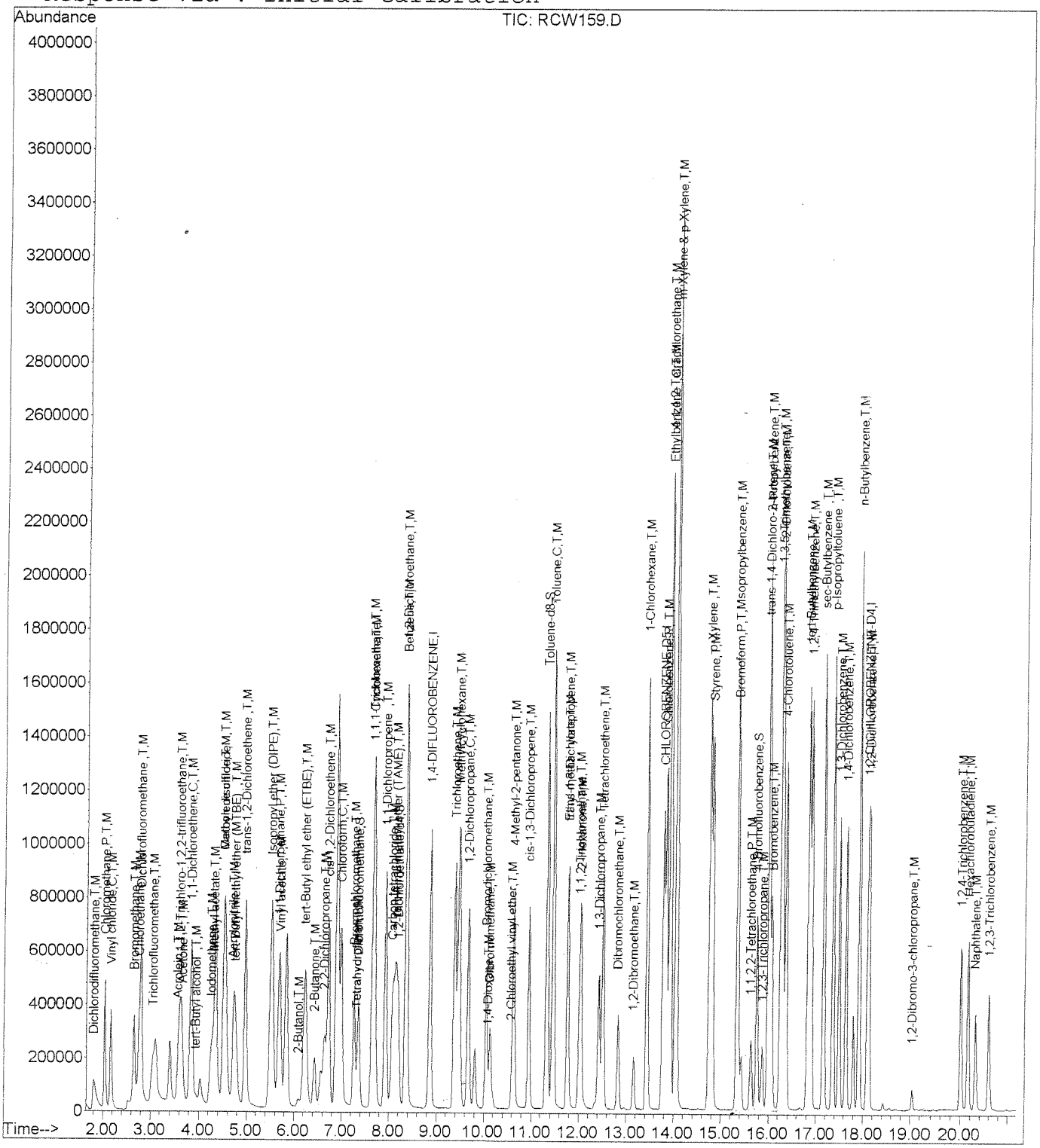
SW 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW159.D Vial: 7
Acq On : 10 Mar 2016 8:34 pm Operator: ODinh
Sample : VO06C106 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



5/3/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW160.D Vial: 8
Acq On : 10 Mar 2016 8:59 pm Operator: ODinh
Sample : VO06C107 Inst : TO06
Misc : 20ppb 8260+3-ADD/100ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1449130	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1118566	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	344003	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	846797	19.65 ug/l	0.00
Spiked Amount 10.000			Recovery	= 196.50%	
41) 1,2-Dichloroethane-d4	8.19	65	597757	19.21 ug/l	0.00
Spiked Amount 10.000			Recovery	= 192.10%	
54) Toluene-d8	11.33	98	3210383	19.49 ug/l	0.00
Spiked Amount 10.000			Recovery	= 194.90%	
76) 4-Bromofluorobenzene	15.74	95	980967	19.49 ug/l	0.00
Spiked Amount 10.000			Recovery	= 194.90%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	775897	19.93 ug/l	99
3) Chloromethane	2.03	50	1373032	19.67 ug/l	99
4) Vinyl chloride	2.16	62	1201058	19.31 ug/l	99
5) Bromomethane	2.66	94	734534	19.93 ug/l	99
6) Chloroethane	2.75	64	711322	19.39 ug/l	99
7) Dichlorofluoromethane	2.79	67	2073246	20.39 ug/l	98
8) Trichlorofluoromethane	3.05	101	1117149	20.38 ug/l	99
9) Acrolein	3.57	56	224068	93.29 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	606809	20.54 ug/l	100
11) Acetone	3.66	43	399371	90.77 ug/l	98
12) 1,1-Dichloroethene	3.84	61	1845807	20.43 ug/l	100
13) tert-Butyl alcohol	3.94	59	140385	96.45 ug/l	91
15) Methyl acetate	4.30	43	324572	18.44 ug/l	97
16) Iodomethane	4.27	142	1520057	20.60 ug/l	100
17) Methylene chloride	4.52	49	1284510	19.70 ug/l	100
18) Carbon disulfide	4.52	76	3574392	19.74 ug/l	99
19) Acrylonitrile	4.71	53	705786	97.50 ug/l	98
20) tert-Butyl methyl ether (M	4.76	73	1415391	19.87 ug/l	99
21) trans-1,2-Dichloroethene	4.97	61	1729878	20.78 ug/l	99
22) Isopropyl ether (DIPE)	5.52	45	3840317	19.75 ug/l	99
23) Vinyl acetate	5.71	43	1236580	20.18 ug/l	98
24) 1,1-Dichloroethane	5.68	63	1947827	20.20 ug/l	100
25) 2-Butanol	6.10	45	142022	94.85 ug/l #	92
26) tert-Butyl ethyl ether (ET	6.23	59	2413995	20.09 ug/l	100
27) 2-Butanone	6.44	72	180269	100.55 ug/l	98
28) 2,2-Dichloropropane	6.65	77	770290	19.53 ug/l	100
29) cis-1,2-Dichloroethene	6.73	96	1081053	20.53 ug/l	100

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW160.D Vial: 8
Acq On : 10 Mar 2016 8:59 pm Operator: ODinh
Sample : VO06C107 Inst : TO06
Misc : 20ppb 8260+3-ADD/100ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	1637494	20.24 ug/l	100
32)	Bromochloromethane	7.25	49	802631	20.77 ug/l	99
33)	Tetrahydrofuran	7.33	42	105417	18.81 ug/l	94
35)	1,1,1-Trichloroethane	7.66	97	1151070	20.79 ug/l	100
36)	Cyclohexane	7.67	56	2231563	19.64 ug/l	99
38)	1,1-Dichloropropene	7.92	110	509220	20.95 ug/l	100
39)	Carbon tetrachloride	8.07	119	1077975	20.96 ug/l	100
40)	tert-Amyl methyl ether (TA	8.15	87	347233	20.45 ug/l	98
42)	1,2-Dichloroethane	8.35	62	795315	20.61 ug/l	98
43)	Benzene	8.35	78	4361675	20.22 ug/l	100
44)	Trichloroethene	9.38	130	1066518	20.78 ug/l	99
45)	Methylcyclohexane	9.47	83	1709013	19.64 ug/l	99
46)	1,2-Dichloropropane	9.66	63	1046186	20.15 ug/l	100
47)	1,4-Dioxane	10.09	88	67884	412.57 ug/l	93
48)	Bromodichloromethane	10.05	83	1114154	20.50 ug/l	100
49)	Dibromomethane	10.12	93	385950	20.53 ug/l	99
50)	2-Chloroethyl vinyl ether	10.59	63	99244	20.24 ug/l	97
51)	4-Methyl-2-pentanone	10.63	43	2324536	98.61 ug/l	100
52)	cis-1,3-Dichloropropene	10.94	75	1451279	20.78 ug/l	99
55)	Toluene	11.46	91	4254817	20.24 ug/l	100
56)	Ethyl methacrylate	11.77	69	687570	20.39 ug/l	99
57)	trans-1,3-Dichloropropene	11.77	75	995925	21.04 ug/l	98
58)	1,1,2-Trichloroethane	12.01	97	470073	20.21 ug/l	99
59)	2-Hexanone	12.04	43	1408574	95.83 ug/l	99
60)	1,3-Dichloropropane	12.43	76	979658	20.42 ug/l	100
61)	Tetrachloroethene	12.50	164	759694	20.78 ug/l	98
62)	Dibromochloromethane	12.83	129	610483	20.57 ug/l	98
64)	1,2-Dibromoethane	13.16	107	468024	20.25 ug/l	98
65)	1-Chlorohexane	13.44	91	1821428	20.58 ug/l	99
66)	Chlorobenzene	13.84	112	2366219	20.64 ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.92	131	732109	20.99 ug/l	99
68)	Ethylbenzene	13.93	91	5054178	21.46 ug/l	99
69)	m-Xylene & p-Xylene	14.05	91	7328698	42.69 ug/l	99
70)	o-Xylene	14.76	91	3417622	20.25 ug/l	99
71)	Styrene	14.82	104	2458909	20.54 ug/l	100
72)	Isopropylbenzene	15.34	105	3969432	20.83 ug/l	99
74)	Bromoform	15.37	173	265790	20.19 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.63	83	519569	19.76 ug/l	100
77)	1,2,3-Trichloropropane	15.88	110	119266	20.86 ug/l	94
78)	trans-1,4-Dichloro-2-buten	15.98	53	152035	21.08 ug/l	96
79)	n-Propylbenzene	16.00	91	5922448	21.45 ug/l	99

(#) = qualifier out of range (m) = manual integration

3/13/16

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW160.D Vial: 8
Acq On : 10 Mar 2016 8:59 pm Operator: ODinh
Sample : VO06C107 Inst : TO06
Misc : 20ppb 8260+3-ADD/100ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
80)	Bromobenzene	16.07	156	693790	20.91 ug/l	#	83
81)	1,3,5-Trimethylbenzene	16.25	105	3088386	20.97 ug/l		99
82)	2-Chlorotoluene	16.28	91	3339053	20.65 ug/l		100
83)	4-Chlorotoluene	16.37	91	2749322	20.39 ug/l		100
84)	tert-Butylbenzene	16.84	134	708225	20.99 ug/l		98
85)	1,2,4-Trimethylbenzene	16.89	105	2954766	20.83 ug/l		100
86)	sec-Butylbenzene	17.17	105	4503339	21.45 ug/l		100
87)	p-Isopropyltoluene	17.36	119	3258745	20.96 ug/l		100
88)	1,3-Dichlorobenzene	17.50	146	1425171	20.77 ug/l		100
89)	1,4-Dichlorobenzene	17.65	146	1400680	21.43 ug/l		99
90)	n-Butylbenzene	17.91	91	3667474	21.30 ug/l		100
91)	1,2-Dichlorobenzene	18.12	146	1139265	20.52 ug/l		99
92)	1,2-Dibromo-3-chloropropan	19.04	157	57396	18.91 ug/l		96
93)	1,2,4-Trichlorobenzene	20.01	180	599649	20.83 ug/l		100
94)	Hexachlorobutadiene	20.16	225	396618	21.34 ug/l		99
95)	Naphthalene	20.32	128	924748	20.54 ug/l		99
96)	1,2,3-Trichlorobenzene	20.61	180	453761	21.13 ug/l		99

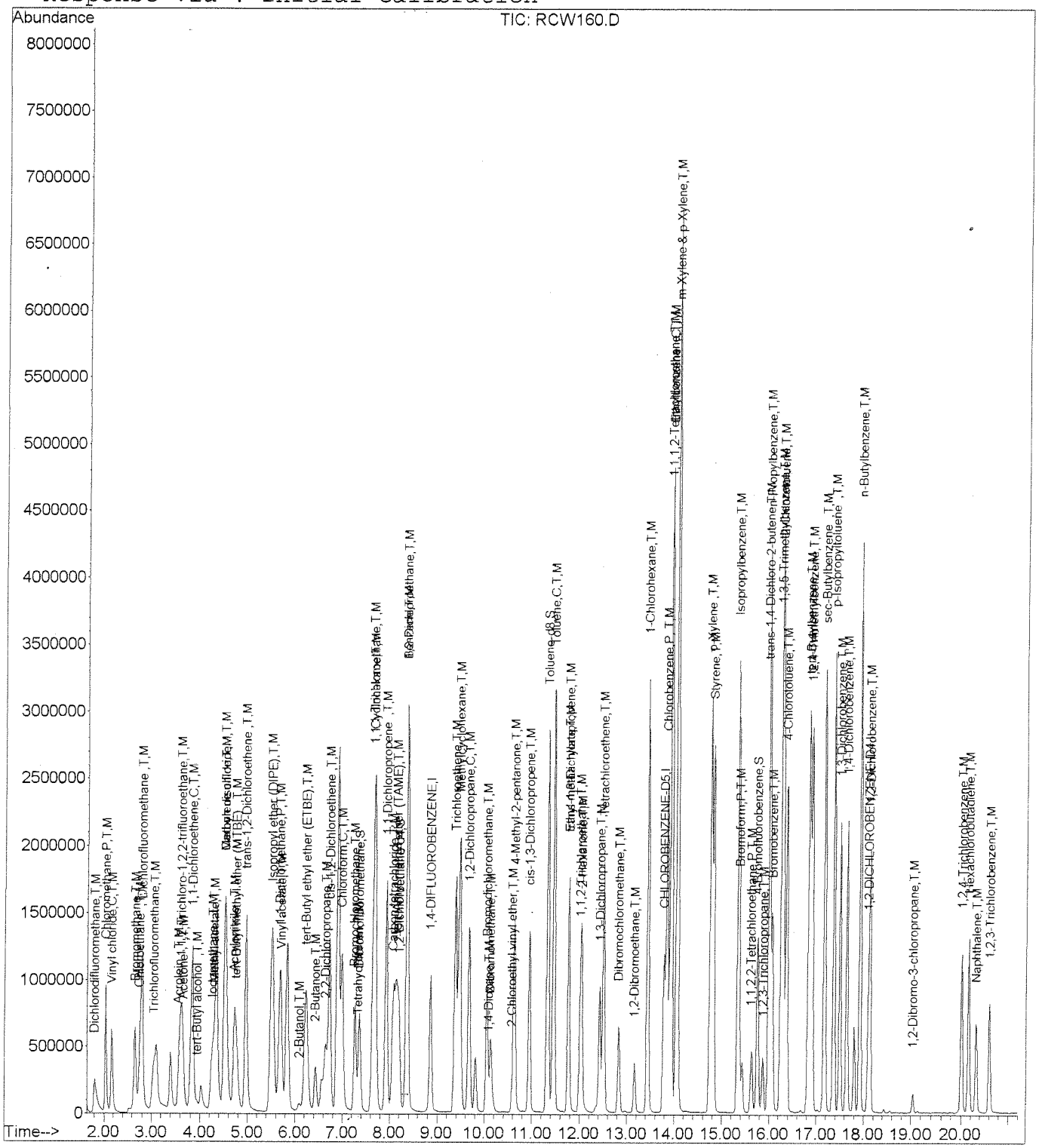
SW 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW160.D Vial: 8
Acq On : 10 Mar 2016 8:59 pm Operator: ODinh
Sample : VO06C107 Inst : TO06
Misc : 20ppb 8260+3-ADD/100ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:36 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW161.D Vial: 9
Acq On : 10 Mar 2016 9:25 pm Operator: ODinh
Sample : VO06C108 Inst : TO06
Misc : 30ppb 8260+3-ADD/150ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:37 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1401379	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1086411	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	341498	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	1700894	40.81 ug/l	0.00
Spiked Amount 10.000			Recovery	= 408.10%	
41) 1,2-Dichloroethane-d4	8.19	65	1204435	40.03 ug/l	0.00
Spiked Amount 10.000			Recovery	= 400.30%	
54) Toluene-d8	11.33	98	6527122	40.81 ug/l	0.00
Spiked Amount 10.000			Recovery	= 408.10%	
76) 4-Bromofluorobenzene	15.74	95	1975190	39.53 ug/l	0.00
Spiked Amount 10.000			Recovery	= 395.30%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	1151638	30.59 ug/l	99
3) Chloromethane	2.03	50	2032447	30.10 ug/l	99
4) Vinyl chloride	2.16	62	1753988	29.17 ug/l	97
5) Bromomethane	2.66	94	1090585	30.59 ug/l	98
6) Chloroethane	2.75	64	1054357	29.73 ug/l	99
7) Dichlorofluoromethane	2.79	67	3041196	30.93 ug/l	98
8) Trichlorofluoromethane	3.05	101	1651671	31.16 ug/l	99
9) Acrolein	3.57	56	331739	142.82 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	894506	31.31 ug/l	100
11) Acetone	3.66	43	595273	139.91 ug/l	99
12) 1,1-Dichloroethene	3.83	61	2741128	31.37 ug/l	99
13) tert-Butyl alcohol	3.94	59	216362	153.71 ug/l	94
15) Methyl acetate	4.30	43	500753	29.42 ug/l	98
16) Iodomethane	4.27	142	2235023	31.32 ug/l	100
17) Methylene chloride	4.52	49	1879155	29.80 ug/l	99
18) Carbon disulfide	4.52	76	5300472	30.28 ug/l	99
19) Acrylonitrile	4.71	53	1079058	154.14 ug/l	99
20) tert-Butyl methyl ether (M	4.76	73	2139403	31.06 ug/l	99
21) trans-1,2-Dichloroethene	4.96	61	2521906	31.33 ug/l	99
22) Isopropyl ether (DIPE)	5.51	45	5746559	30.56 ug/l	99
23) Vinyl acetate	5.71	43	1859455	31.38 ug/l	100
24) 1,1-Dichloroethane	5.68	63	2862167	30.70 ug/l	100
25) 2-Butanol	6.09	45	232262	160.41 ug/l #	1
26) tert-Butyl ethyl ether (ET	6.23	59	3635569	31.29 ug/l	99
27) 2-Butanone	6.44	72	272411	157.13 ug/l	99
28) 2,2-Dichloropropane	6.64	77	1075890	28.21 ug/l	100
29) cis-1,2-Dichloroethene	6.72	96	1579548	31.02 ug/l	100

(#) = qualifier out of range (m) = manual integration

SV 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW161.D Vial: 9
Acq On : 10 Mar 2016 9:25 pm Operator: ODinh
Sample : VO06C108 Inst : TO06
Misc : 30ppb 8260+3-ADD/150ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:37 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	2404183	30.73 ug/l	99
32)	Bromochloromethane	7.25	49	1153543	30.87 ug/l	99
33)	Tetrahydrofuran	7.33	42	156516	29.11 ug/l	93
35)	1,1,1-Trichloroethane	7.66	97	1654309	30.90 ug/l	99
36)	Cyclohexane	7.67	56	3385031	30.81 ug/l	100
38)	1,1-Dichloropropene	7.92	110	743310	31.62 ug/l	99
39)	Carbon tetrachloride	8.07	119	1575214	31.67 ug/l	100
40)	tert-Amyl methyl ether (TA	8.15	87	523658	31.88 ug/l	98
42)	1,2-Dichloroethane	8.35	62	1153475	30.91 ug/l	100
43)	Benzene	8.35	78	6387570	30.63 ug/l	99
44)	Trichloroethene	9.38	130	1535723	30.94 ug/l	99
45)	Methylcyclohexane	9.47	83	2651833	31.51 ug/l	98
46)	1,2-Dichloropropane	9.66	63	1560715	31.08 ug/l	99
47)	1,4-Dioxane	10.09	88	101745	639.44 ug/l	91
48)	Bromodichloromethane	10.05	83	1626209	30.94 ug/l	100
49)	Dibromomethane	10.12	93	587959	32.34 ug/l	99
50)	2-Chloroethyl vinyl ether	10.58	63	145782	30.74 ug/l	98
51)	4-Methyl-2-pentanone	10.63	43	3508468	153.91 ug/l	100
52)	cis-1,3-Dichloropropene	10.94	75	2139341	31.67 ug/l	98
55)	Toluene	11.45	91	6365036	31.18 ug/l	98
56)	Ethyl methacrylate	11.77	69	1017057	31.05 ug/l	100
57)	trans-1,3-Dichloropropene	11.76	75	1466050	31.88 ug/l	97
58)	1,1,2-Trichloroethane	12.01	97	704674	31.20 ug/l	99
59)	2-Hexanone	12.04	43	2235745	156.61 ug/l	99
60)	1,3-Dichloropropane	12.43	76	1436665	30.83 ug/l	100
61)	Tetrachloroethene	12.50	164	1119111	31.52 ug/l	99
62)	Dibromochloromethane	12.83	129	907483	31.48 ug/l	99
64)	1,2-Dibromoethane	13.16	107	699270	31.15 ug/l	99
65)	1-Chlorohexane	13.44	91	2715543	31.59 ug/l	98
66)	Chlorobenzene	13.84	112	3506384	31.49 ug/l	99
67)	1,1,1,2-Tetrachloroethane	13.91	131	1050950	31.02 ug/l	99
68)	Ethylbenzene	13.93	91	7338200	32.08 ug/l	99
69)	m-Xylene & p-Xylene	14.05	91	10990102	65.91 ug/l	98
70)	o-Xylene	14.76	91	5124981	31.26 ug/l	99
71)	Styrene	14.82	104	3700609	31.83 ug/l	99
72)	Isopropylbenzene	15.34	105	5997126	32.40 ug/l	99
74)	Bromoform	15.36	173	408113	31.23 ug/l	100
75)	1,1,2,2-Tetrachloroethane	15.62	83	799262	30.62 ug/l	100
77)	1,2,3-Trichloropropane	15.86	110	176481	31.09 ug/l	96
78)	trans-1,4-Dichloro-2-buten	15.98	53	228311	31.88 ug/l	97
79)	n-Propylbenzene	16.00	91	8844690	32.27 ug/l	99

(#) = qualifier out of range (m) = manual integration

3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW161.D Vial: 9
Acq On : 10 Mar 2016 9:25 pm Operator: ODinh
Sample : VO06C108 Inst : TO06
Misc : 30ppb 8260+3-ADD/150ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:37 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	1033010	31.36 ug/l	99
81)	1,3,5-Trimethylbenzene	16.25	105	4593672	31.41 ug/l	99
82)	2-Chlorotoluene	16.28	91	5028357	31.33 ug/l	100
83)	4-Chlorotoluene	16.35	91	4191142	31.32 ug/l	99
84)	tert-Butylbenzene	16.84	134	1042581	31.13 ug/l	98
85)	1,2,4-Trimethylbenzene	16.89	105	4407944	31.31 ug/l	99
86)	sec-Butylbenzene	17.16	105	6755171	32.40 ug/l	99
87)	p-Isopropyltoluene	17.36	119	4952163	32.09 ug/l	99
88)	1,3-Dichlorobenzene	17.50	146	2174623	31.93 ug/l	99
89)	1,4-Dichlorobenzene	17.65	146	2077253	32.01 ug/l	98
90)	n-Butylbenzene	17.91	91	5696736	33.34 ug/l	99
91)	1,2-Dichlorobenzene	18.12	146	1719114	31.19 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.04	157	92473	30.54 ug/l	97
93)	1,2,4-Trichlorobenzene	20.01	180	951757	33.31 ug/l	99
94)	Hexachlorobutadiene	20.16	225	618341	33.51 ug/l	99
95)	Naphthalene	20.31	128	1425926	31.90 ug/l	99
96)	1,2,3-Trichlorobenzene	20.61	180	704534	33.04 ug/l	99

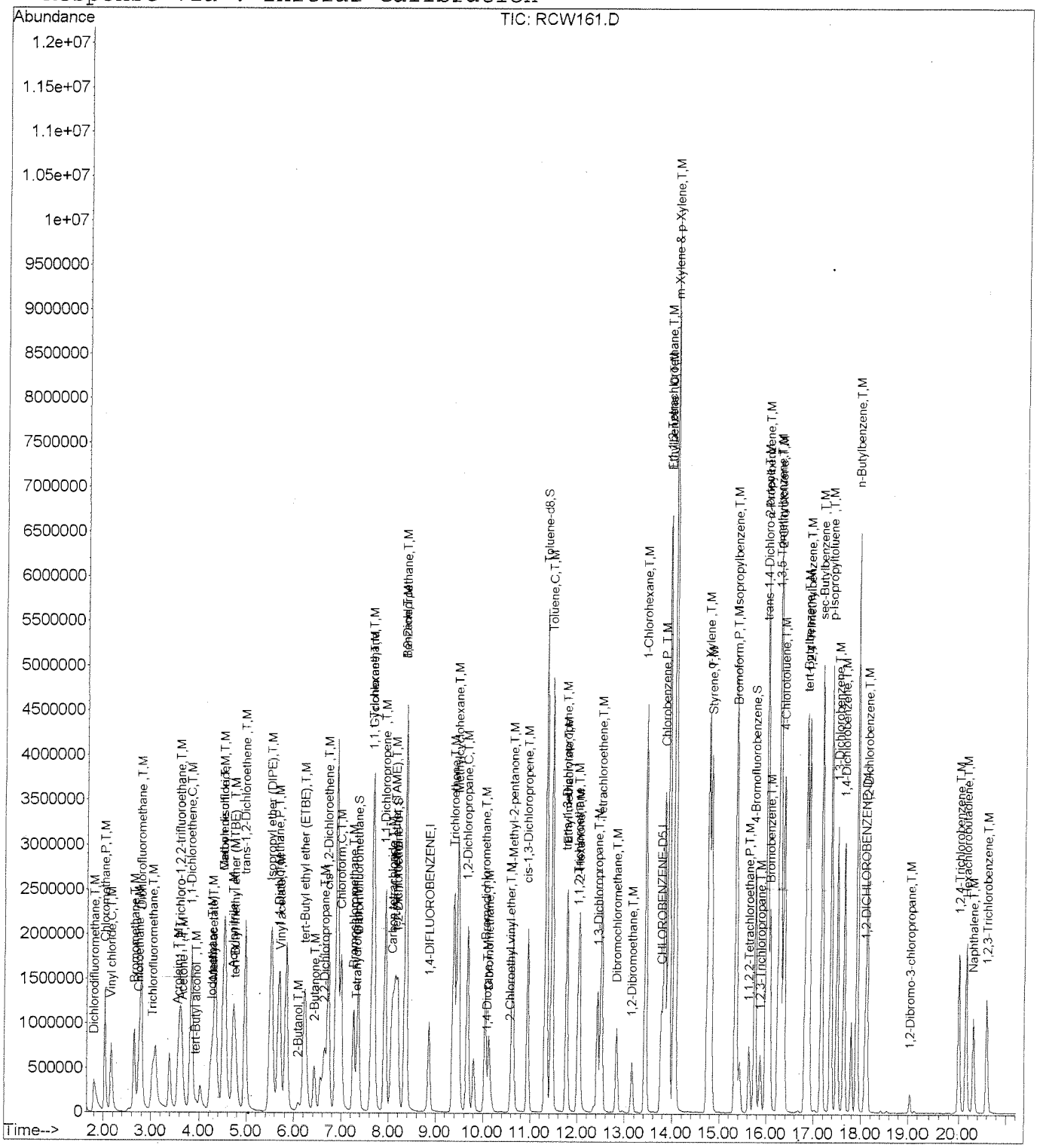
SW 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW161.D Vial: 9
Acq On : 10 Mar 2016 9:25 pm Operator: ODinh
Sample : VO06C108 Inst : TO06
Misc : 30ppb 8260+3-ADD/150ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:37 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



Sw 3/13/16

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW162.D Vial: 10
Acq On : 10 Mar 2016 9:50 pm Operator: ODinh
Sample : VO06C109 Inst : TO06
Misc : 50ppb 8260+3-ADD/250ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1405446	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1084074	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	347980	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	2110859	50.50 ug/l	0.00
Spiked Amount 10.000			Recovery	= 505.00%	
41) 1,2-Dichloroethane-d4	8.21	65	1485563	49.23 ug/l	0.01
Spiked Amount 10.000			Recovery	= 492.30%	
54) Toluene-d8	11.33	98	8043839	50.40 ug/l	0.00
Spiked Amount 10.000			Recovery	= 504.00%	
76) 4-Bromofluorobenzene	15.76	95	2378287	46.71 ug/l	0.01
Spiked Amount 10.000			Recovery	= 467.10%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.81	85	1927531	51.05 ug/l	100
3) Chloromethane	2.04	50	3360817	49.63 ug/l	99
4) Vinyl chloride	2.16	62	2735354	45.36 ug/l	100
5) Bromomethane	2.66	94	1805841	50.51 ug/l	98
6) Chloroethane	2.75	64	1723242	48.45 ug/l	100
7) Dichlorofluoromethane	2.79	67	5018856	50.89 ug/l	98
8) Trichlorofluoromethane	3.05	101	2761383	51.95 ug/l	99
9) Acrolein	3.57	56	578607	248.38 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	1499758	52.35 ug/l	100
11) Acetone	3.66	43	1022864	239.71 ug/l	98
12) 1,1-Dichloroethene	3.83	61	4582407	52.29 ug/l	100
13) tert-Butyl alcohol	3.94	59	384616	272.45 ug/l	98
15) Methyl acetate	4.30	43	860308	50.40 ug/l	97
16) Iodomethane	4.27	142	3739430	52.24 ug/l	100
17) Methylene chloride	4.52	49	3128883	49.48 ug/l	99
18) Carbon disulfide	4.52	76	8936488	50.90 ug/l	98
19) Acrylonitrile	4.71	53	1883442	268.27 ug/l	99
20) tert-Butyl methyl ether (M	4.76	73	3631543	52.58 ug/l	98
21) trans-1,2-Dichloroethene	4.96	61	4193305	51.94 ug/l	99
22) Isopropyl ether (DIPE)	5.51	45	9848304	52.22 ug/l	99
23) Vinyl acetate	5.71	43	3250836	54.70 ug/l	100
24) 1,1-Dichloroethane	5.68	63	4759046	50.90 ug/l	99
25) 2-Butanol	6.09	45	401267	276.32 ug/l #	1
26) tert-Butyl ethyl ether (ET	6.23	59	6206093	53.27 ug/l	100
27) 2-Butanone	6.44	72	478473	275.18 ug/l	99
28) 2,2-Dichloropropane	6.64	77	1718757	44.93 ug/l	99
29) cis-1,2-Dichloroethene	6.73	96	2664291	52.17 ug/l	98

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW162.D Vial: 10
Acq On : 10 Mar 2016 9:50 pm Operator: ODinh
Sample : VO06C109 Inst : TO06
Misc : 50ppb 8260+3-ADD/250ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	7.00	83	4056131	51.70 ug/l	99
32)	Bromochloromethane	7.27	49	1957228	52.22 ug/l	99
33)	Tetrahydrofuran	7.33	42	279192	52.10 ug/l	94
35)	1,1,1-Trichloroethane	7.67	97	2760290	51.42 ug/l	99
36)	Cyclohexane	7.67	56	5685925	51.60 ug/l	100
38)	1,1-Dichloropropene	7.92	110	1224344	51.94 ug/l	100
39)	Carbon tetrachloride	8.09	119	2621183	52.55 ug/l	99
40)	tert-Amyl methyl ether (TA	8.15	87	876001	53.18 ug/l	98
42)	1,2-Dichloroethane	8.35	62	1968863	52.62 ug/l	98
43)	Benzene	8.37	78	10967033	52.43 ug/l	98
44)	Trichloroethene	9.38	130	2602671	52.28 ug/l	98
45)	Methylcyclohexane	9.47	83	4372553	51.81 ug/l	98
46)	1,2-Dichloropropane	9.68	63	2569417	51.02 ug/l	100
47)	1,4-Dioxane	10.09	88	177214	1110.51 ug/l	92
48)	Bromodichloromethane	10.05	83	2758002	52.33 ug/l	100
49)	Dibromomethane	10.12	93	989021	54.24 ug/l	98
50)	2-Chloroethyl vinyl ether	10.58	63	246729	51.88 ug/l	97
51)	4-Methyl-2-pentanone	10.63	43	6243998	273.11 ug/l	99
52)	cis-1,3-Dichloropropene	10.96	75	3620271	53.44 ug/l	97
55)	Toluene	11.46	91	10825966	53.14 ug/l	97
56)	Ethyl methacrylate	11.77	69	1792756	54.86 ug/l	99
57)	trans-1,3-Dichloropropene	11.77	75	2543288	55.43 ug/l	97
58)	1,1,2-Trichloroethane	12.01	97	1201585	53.31 ug/l	99
59)	2-Hexanone	12.04	43	3907684	274.31 ug/l	100
60)	1,3-Dichloropropane	12.43	76	2464612	53.00 ug/l	100
61)	Tetrachloroethene	12.52	164	1855225	52.36 ug/l	99
62)	Dibromochloromethane	12.84	129	1546023	53.75 ug/l	99
64)	1,2-Dibromoethane	13.16	107	1197054	53.44 ug/l	100
65)	1-Chlorohexane	13.44	91	4488590	52.33 ug/l	97
66)	Chlorobenzene	13.84	112	5810756	52.29 ug/l	98
67)	1,1,1,2-Tetrachloroethane	13.91	131	1734139	51.29 ug/l	99
68)	Ethylbenzene	13.93	91	12376632	54.23 ug/l	97
69)	m-Xylene & p-Xylene	14.05	91	18084653	108.68 ug/l	96
70)	o-Xylene	14.76	91	8344814	51.01 ug/l	98
71)	Styrene	14.82	104	6111752	52.69 ug/l	99
72)	Isopropylbenzene	15.34	105	9807630	53.10 ug/l	98
74)	Bromoform	15.37	173	684578	51.41 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.62	83	1350067	50.75 ug/l	100
77)	1,2,3-Trichloropropane	15.88	110	296574	51.28 ug/l	96
78)	trans-1,4-Dichloro-2-buten	15.98	53	386987	53.04 ug/l	93
79)	n-Propylbenzene	16.00	91	14881054	53.29 ug/l	97

(#) = qualifier out of range (m) = manual integration

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW162.D Vial: 10
Acq On : 10 Mar 2016 9:50 pm Operator: ODinh
Sample : VO06C109 Inst : TO06
Misc : 50ppb 8260+3-ADD/250ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
80)	Bromobenzene	16.07	156	1686176	50.24 ug/l	#	83
81)	1,3,5-Trimethylbenzene	16.26	105	7403948	49.69 ug/l		98
82)	2-Chlorotoluene	16.28	91	7820778	47.81 ug/l		99
83)	4-Chlorotoluene	16.37	91	6966684	51.09 ug/l		98
84)	tert-Butylbenzene	16.84	134	1688436	49.47 ug/l		99
85)	1,2,4-Trimethylbenzene	16.90	105	7385734	51.48 ug/l		98
86)	sec-Butylbenzene	17.17	105	11301019	53.20 ug/l		98
87)	p-Isopropyltoluene	17.36	119	8314626	52.88 ug/l		98
88)	1,3-Dichlorobenzene	17.50	146	3541825	51.03 ug/l		99
89)	1,4-Dichlorobenzene	17.65	146	3400152	51.42 ug/l		98
90)	n-Butylbenzene	17.91	91	9303407	53.43 ug/l		98
91)	1,2-Dichlorobenzene	18.12	146	2860261	50.92 ug/l		98
92)	1,2-Dibromo-3-chloropropan	19.04	157	155506	50.24 ug/l		97
93)	1,2,4-Trichlorobenzene	20.01	180	1533236	52.66 ug/l		99
94)	Hexachlorobutadiene	20.16	225	964157	51.27 ug/l		98
95)	Naphthalene	20.32	128	2477547	54.39 ug/l		100
96)	1,2,3-Trichlorobenzene	20.60	180	1177874	54.21 ug/l		99

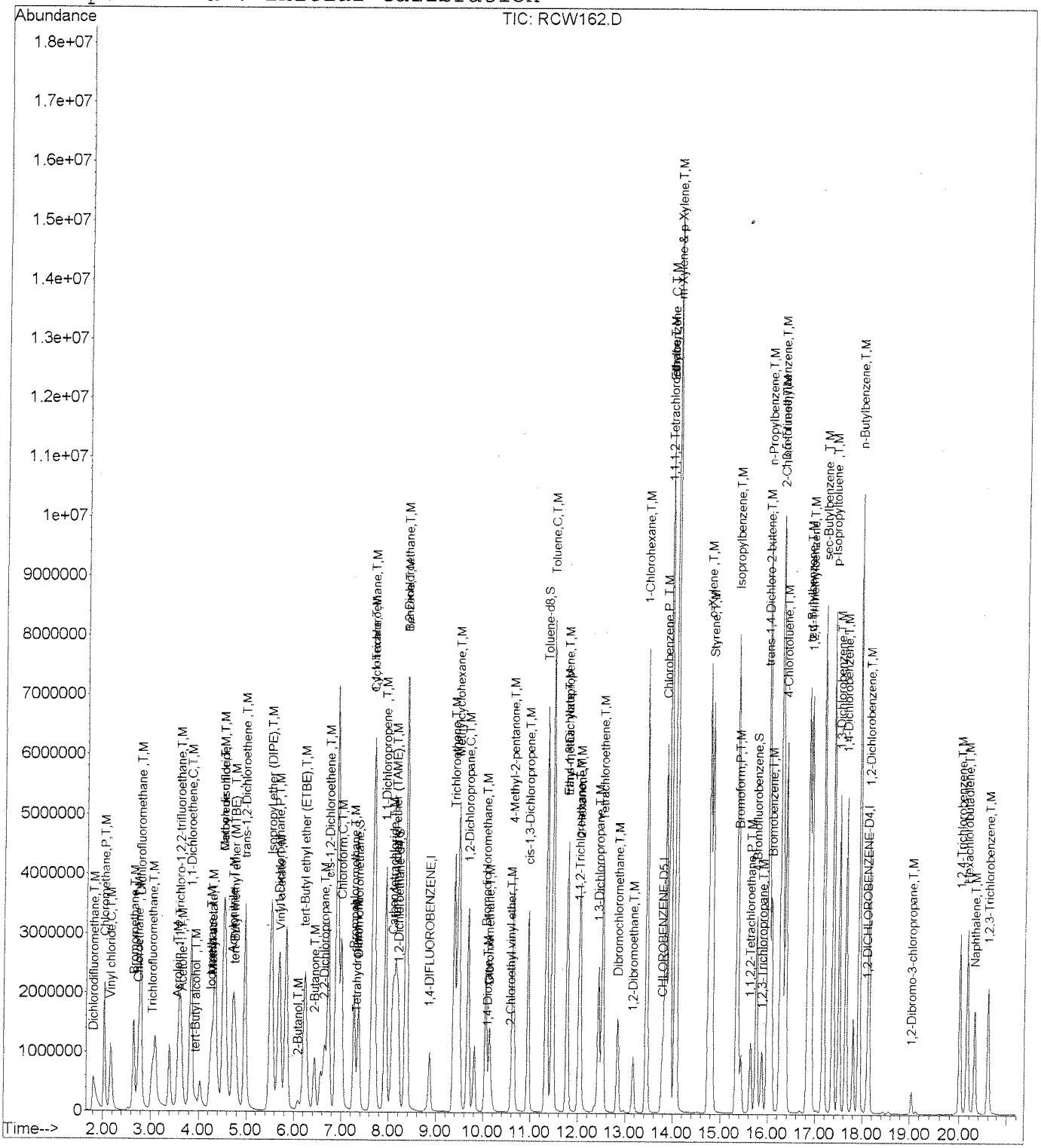
SL 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW162.D Vial: 10
Acq On : 10 Mar 2016 9:50 pm Operator: ODinh
Sample : VO06C109 Inst : TO06
Misc : 50ppb 8260+3-ADD/250ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



S 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW163.D Vial: 11
Acq On : 10 Mar 2016 10:15 pm Operator: ODinh
Sample : VO06C1010 Inst : TO06
Misc : 100ppb 8260+3-ADD/500ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1417370	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.78	117	1085434	10.00 ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	337996	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	4150425	98.46 ug/l	0.00
Spiked Amount 10.000			Recovery	= 984.60%	
41) 1,2-Dichloroethane-d4	8.19	65	2934816	96.44 ug/l	0.00
Spiked Amount 10.000			Recovery	= 964.40%	
54) Toluene-d8	11.33	98	16555374	103.60 ug/l	0.00
Spiked Amount 10.000			Recovery	= 1036.00%	
76) 4-Bromofluorobenzene	15.74	95	4737017	95.77 ug/l	0.00
Spiked Amount 10.000			Recovery	= 957.70%	

Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.80	85	3775263	99.14 ug/l	99
3) Chloromethane	2.03	50	6684210	97.88 ug/l	97
4) Vinyl chloride	2.17	62	4490635	73.83 ug/l	100
5) Bromomethane	2.65	94	3622067	100.45 ug/l	98
6) Chloroethane	2.75	64	3351624	93.43 ug/l	99
7) Dichlorofluoromethane	2.79	67	10339877	103.97 ug/l	96
8) Trichlorofluoromethane	3.05	101	5447907	101.63 ug/l	100
9) Acrolein	3.57	56	1135793	483.46 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	3075765	106.46 ug/l	100
11) Acetone	3.64	43	1992707	463.07 ug/l	98
12) 1,1-Dichloroethene	3.83	61	9381023	106.15 ug/l	99
13) tert-Butyl alcohol	3.94	59	742551	521.57 ug/l	98
15) Methyl acetate	4.30	43	1662641	96.58 ug/l	98
16) Iodomethane	4.27	142	7561354	104.75 ug/l	99
17) Methylene chloride	4.53	49	6094582	95.56 ug/l	99
18) Carbon disulfide	4.52	76	17781331	100.42 ug/l	98
19) Acrylonitrile	4.71	53	3682363	520.09 ug/l	98
20) tert-Butyl methyl ether (M	4.76	73	7185657	103.16 ug/l	97
21) trans-1,2-Dichloroethene	4.96	61	8443715	103.70 ug/l	99
22) Isopropyl ether (DIPE)	5.51	45	19766619	103.93 ug/l	98
23) Vinyl acetate	5.71	43	6407900	106.91 ug/l	100
24) 1,1-Dichloroethane	5.68	63	9727301	103.15 ug/l	97
25) 2-Butanol	6.09	45	803613	548.73 ug/l #	1
26) tert-Butyl ethyl ether (ET	6.23	59	12280934	104.52 ug/l	99
27) 2-Butanone	6.42	72	914104	521.31 ug/l	93
28) 2,2-Dichloropropane	6.64	77	3028121	78.50 ug/l	99
29) cis-1,2-Dichloroethene	6.72	96	5260345	102.13 ug/l	98

(#) = qualifier out of range (m) = manual integration

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW163.D Vial: 11
Acq On : 10 Mar 2016 10:15 pm Operator: ODinh
Sample : VO06C1010 Inst : TO06
Misc : 100ppb 8260+3-ADD/500ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	8203566	103.68 ug/l	98
32)	Bromochloromethane	7.25	49	3855477	102.00 ug/l	99
33)	Tetrahydrofuran	7.33	42	526387	97.77 ug/l	93
35)	1,1,1-Trichloroethane	7.66	97	5280906	97.54 ug/l	98
36)	Cyclohexane	7.67	56	10976449	98.77 ug/l	99
38)	1,1-Dichloropropene	7.92	110	2432200	102.31 ug/l	100
39)	Carbon tetrachloride	8.07	119	5218659	103.74 ug/l	99
40)	tert-Amyl methyl ether (TA	8.15	87	1693084	101.93 ug/l	95
42)	1,2-Dichloroethane	8.35	62	3780672	100.18 ug/l	99
43)	Benzene	8.35	78	22374043	106.07 ug/l	96
44)	Trichloroethene	9.38	130	5215266	103.89 ug/l	97
45)	Methylcyclohexane	9.47	83	8753864	102.84 ug/l	96
46)	1,2-Dichloropropane	9.66	63	5009695	98.63 ug/l	99
47)	1,4-Dioxane	10.09	88	341775	2123.71 ug/l	90
48)	Bromodichloromethane	10.05	83	5425339	102.07 ug/l	99
49)	Dibromomethane	10.12	93	1919676	104.40 ug/l	97
50)	2-Chloroethyl vinyl ether	10.58	63	491805	102.55 ug/l	97
51)	4-Methyl-2-pentanone	10.63	43	12521445	543.08 ug/l	98
52)	cis-1,3-Dichloropropene	10.94	75	7273332	106.47 ug/l	96
55)	Toluene	11.46	91	20996798	102.94 ug/l	99
56)	Ethyl methacrylate	11.77	69	3464080	105.87 ug/l	97
57)	trans-1,3-Dichloropropene	11.76	75	5031507	109.52 ug/l	95
58)	1,1,2-Trichloroethane	12.01	97	2322489	102.91 ug/l	99
59)	2-Hexanone	12.04	43	7698803	539.76 ug/l	99
60)	1,3-Dichloropropane	12.43	76	4818012	103.48 ug/l	98
61)	Tetrachloroethene	12.50	164	3700418	104.31 ug/l	99
62)	Dibromochloromethane	12.83	129	3037614	105.48 ug/l	99
64)	1,2-Dibromoethane	13.16	107	2301027	102.60 ug/l	99
65)	1-Chlorohexane	13.44	91	8946557	104.16 ug/l	95
66)	Chlorobenzene	13.84	112	12066248	108.45 ug/l	96
67)	1,1,1,2-Tetrachloroethane	13.91	131	3369526	99.54 ug/l	98
68)	Ethylbenzene	13.93	91	22256597	97.39 ug/l	99
69)	m-Xylene & p-Xylene	14.06	91	26961145	161.83 ug/l	80
70)	o-Xylene	14.76	91	17414684	106.32 ug/l	95
71)	Styrene	14.82	104	12496992	107.60 ug/l	96
72)	Isopropylbenzene	15.34	105	19757242	106.84 ug/l	97
74)	Bromoform	15.36	173	1353153	104.63 ug/l	100
75)	1,1,2,2-Tetrachloroethane	15.62	83	2564748	99.26 ug/l	100
77)	1,2,3-Trichloropropane	15.86	110	563079	100.23 ug/l	96
78)	trans-1,4-Dichloro-2-buten	15.98	53	718052	101.32 ug/l	91
79)	n-Propylbenzene	16.00	91	24030463	88.60 ug/l	95

(#) = qualifier out of range (m) = manual integration

SV 3/13/16

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Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW163.D Vial: 11
Acq On : 10 Mar 2016 10:15 pm Operator: ODinh
Sample : VO06C1010 Inst : TO06
Misc : 100ppb 8260+3-ADD/500ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
80)	Bromobenzene	16.07	156	3340965	102.49 ug/l	#	83
81)	1,3,5-Trimethylbenzene	16.26	105	15109341	104.40 ug/l		96
82)	2-Chlorotoluene	16.28	91	15899372	100.08 ug/l		97
83)	4-Chlorotoluene	16.37	91	14270423	107.74 ug/l		96
84)	tert-Butylbenzene	16.84	134	3307482	99.77 ug/l		96
85)	1,2,4-Trimethylbenzene	16.90	105	15028319	107.84 ug/l		95
86)	sec-Butylbenzene	17.17	105	20030831	97.08 ug/l		99
87)	p-Isopropyltoluene	17.36	119	15984691	104.66 ug/l		97
88)	1,3-Dichlorobenzene	17.50	146	7078445	105.01 ug/l		97
89)	1,4-Dichlorobenzene	17.65	146	6890367	107.27 ug/l		97
90)	n-Butylbenzene	17.91	91	17383334	102.78 ug/l		97
91)	1,2-Dichlorobenzene	18.12	146	5756933	105.52 ug/l		97
92)	1,2-Dibromo-3-chloropropan	19.04	157	301782	100.12 ug/l		97
93)	1,2,4-Trichlorobenzene	20.01	180	3134930	110.84 ug/l		99
94)	Hexachlorobutadiene	20.16	225	1897073	103.87 ug/l		99
95)	Naphthalene	20.31	128	4882038	110.35 ug/l		100
96)	1,2,3-Trichlorobenzene	20.61	180	2324278	110.14 ug/l		99

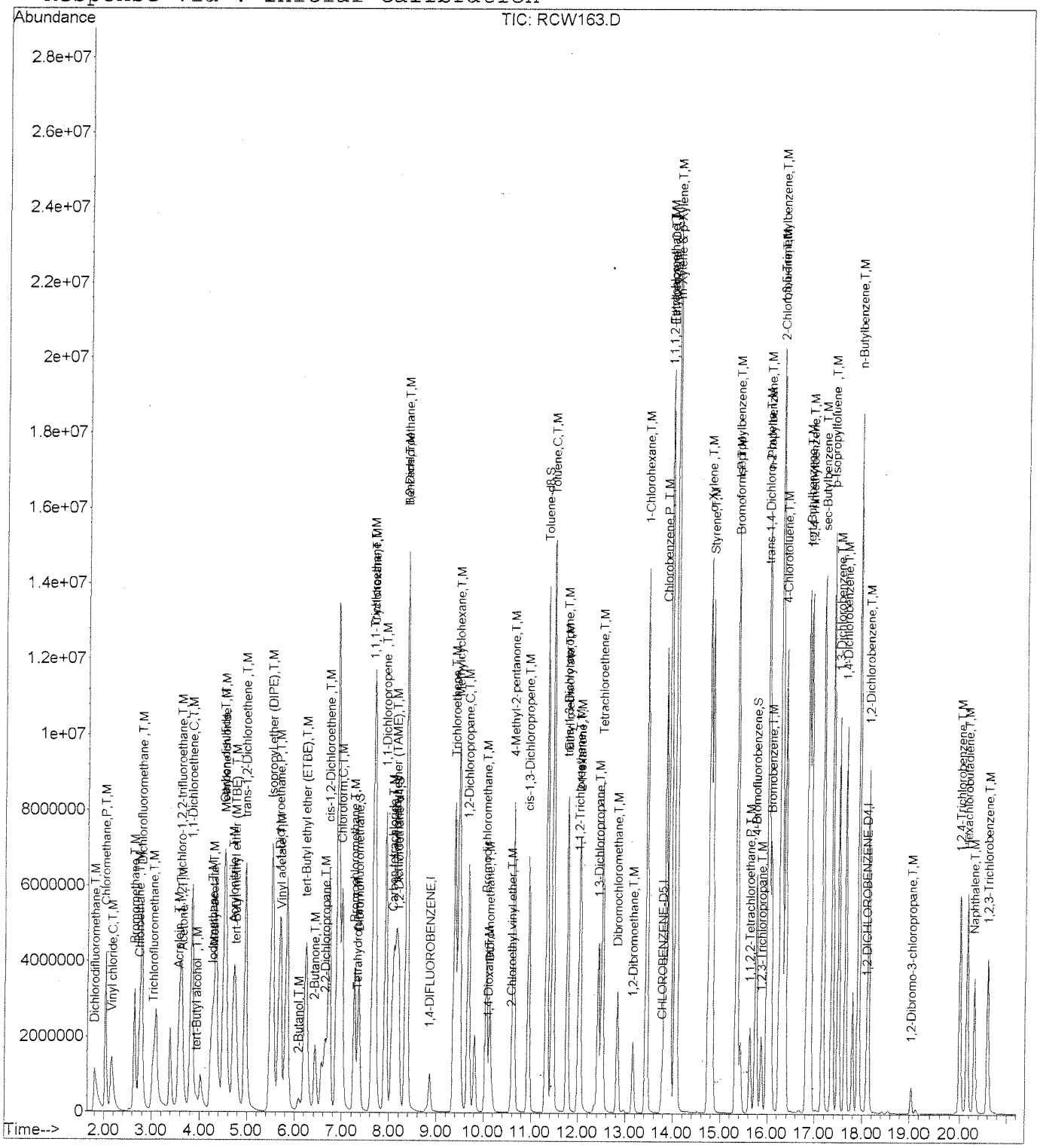
SW 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW163.D Vial: 11
Acq On : 10 Mar 2016 10:15 pm Operator: ODinh
Sample : VO06C1010 Inst : TO06
Misc : 100ppb 8260+3-ADD/500ppb KET-AA-TBA+2-Bu Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 10:38 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



SW 3/13/16

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SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :T006
IC_Beginning DateTime :03/10/16 18:28
Spike Amount :10 PPB
CC/CV File :RCW166
IC File :RCW159

Column Spec :RTX502.2 ID :0.25MM
IC_Ending DateTime :03/10/16 22:15
HPChem Method :V006C10
Date_Time :03/10/16 23:31

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	10.000	0	1412479	1	1	8.860	8.862	0				
	2	Dichlorodifluoromethane	10.388	3.9	394216	0.279	0.269	1.809	1.806	6.15				
	3	Chloromethane	10.373	3.7	705904	0.500	0.482	2.037	2.033	6.24				
	4	Vinyl chloride	10.686	6.9	647700	0.459	0.429	2.165	2.161	8.53				
	5	Bromomethane	10.477	4.8	376472	0.267	0.254	2.661	2.659	5.68				
	6	Chloroethane	10.156	1.6	363053	0.257	0.253	2.750	2.751	9.75				
	7	Dichlorofluoromethane	9.939	-0.6	984984	0.697	0.702	2.795	2.794	5.47				
	8	Trichlorofluoromethane	10.427	4.3	557010	0.394	0.378	3.047	3.054	5.65				
5	9	Acrolein	49.526	-0.9	115949	0.016	0.017	3.568	3.567	7.97				
	10	1,1,2-Trichloro-1,2,2-trifluoroethane	9.986	-0.1	287503	0.204	0.204	3.612	3.610	5.37				
5	11	Acetone	48.564	-2.9	208261	0.029	0.030	3.657	3.654	11.59				
	12	1,1-Dichloroethene	10.002	0.0	880881	0.624	0.624	3.835	3.835	5.35				
5	13	tert-Butyl alcohol	48.263	-3.5	68474	0.010	0.010	3.939	3.941	9.89				
	14	Acetonitrile												
	15	Methyl acetate	9.969	-0.3	171028	0.121	0.121	4.296	4.303	5.16				
	16	Iodomethane	10.427	4.3	750062	0.531	0.509	4.266	4.266	6.31				
	17	Methylene chloride	10.092	0.9	641359	0.454	0.450	4.519	4.519	4.53				
	18	Carbon disulfide	10.216	2.2	1802653	1.276	1.249	4.519	4.520	5.78				
5	19	Acrylonitrile	51.123	2.2	360716	0.051	0.050	4.712	4.714	8.02				
	20	tert-Butyl methyl ether (MTBE)	10.085	0.8	700064	0.496	0.491	4.757	4.761	5.97				
	21	trans-1,2-Dichloroethene	10.187	1.9	826596	0.585	0.574	4.965	4.966	6.91				
	22	Isopropyl ether (DIPE)	9.868	-1.3	1870286	1.324	1.342	5.515	5.517	5.02				
	23	Vinyl acetate	10.648	6.5	636050	0.450	0.423	5.708	5.712	10.80				
	24	1,1-Dichloroethane	9.977	-0.2	937569	0.664	0.665	5.679	5.680	4.67				
5	25	2-Butanol	48.763	-2.5	71166	0.010	0.010	6.095	6.097	12.19				
	26	tert-Butyl ethyl ether (ETBE)	10.120	1.2	1185022	0.839	0.829	6.229	6.233	7.00				
5	27	2-Butanone	51.006	2.0	89130	0.013	0.012	6.437	6.437	10.08				
	28	2,2-Dichloropropane	9.401	-6.0	361402	0.256	0.272	6.645	6.645	6.92				
	29	cis-1,2-Dichloroethene	10.366	3.7	532076	0.377	0.363	6.719	6.727	5.96				
	30	Chloroform	10.099	1.0	796304	0.564	0.558	6.987	6.991	5.74				
5	31	tert-Amyl alcohol												
	32	Bromochloromethane	10.352	3.5	389928	0.276	0.267	7.255	7.260	7.23				
	33	Tetrahydrofuran	10.497	5.0	58332	0.041	0.049	7.329	7.333	31.56	0.0016	0.0378		0.9985
	34	Dibromofluoromethane	10.733	7.3	450870	0.319	0.297	7.359	7.360	13.72				
	35	1,1,1-Trichloroethane	10.272	2.7	554226	0.392	0.382	7.656	7.659	4.79				
	36	Cyclohexane	9.982	-0.2	1105565	0.783	0.784	7.671	7.674	4.06				
	37	2,2,4-Trimethylpentane												
	38	1,1-Dichloropropene	10.146	1.5	240359	0.170	0.168	7.924	7.925	6.54				
	39	Carbon tetrachloride	10.189	1.9	510749	0.362	0.355	8.072	8.075	6.78				
	40	tert-Amyl methyl ether (TAME)	10.017	0.2	165813	0.117	0.117	8.147	8.151	8.51				
	41	1,2-Dichloroethane-d4	10.492	4.9	318184	0.225	0.215	8.191	8.198	12.84				
	42	1,2-Dichloroethane	10.291	2.9	387008	0.274	0.266	8.355	8.356	7.20				
	43	Benzene	9.999	-0.0	2101985	1.488	1.488	8.355	8.361	5.56				
	44	Trichloroethene	10.199	2.0	510241	0.361	0.354	9.381	9.380	5.76				
	45	Methylcyclohexane	10.347	3.5	877673	0.621	0.601	9.455	9.468	3.89				
	46	1,2-Dichloropropane	10.120	1.2	512249	0.363	0.358	9.663	9.669	5.79				
20	47	1,4-Dioxane	207.249	3.6	33238	0.001	0.001	10.094	10.098	10.88				
	48	Bromodichloromethane	10.205	2.0	540563	0.383	0.375	10.050	10.051	5.61				
	49	Dibromomethane	10.449	4.5	191467	0.136	0.130	10.124	10.125	10.15				
	50	2-Chloroethyl vinyl ether	7.717	-22.8	36882	0.026	0.034	10.585	10.586	7.53				
5	51	4-Methyl-2-pentanone	49.386	-1.2	1134728	0.161	0.163	10.630	10.629	9.47				
	52	cis-1,3-Dichloropropene	10.174	1.7	692629	0.490	0.482	10.942	10.944	8.84				
	53	CHLOROBENZENE-D5	10.000	0	1075453	1	1	13.767	13.780	0				
	54	Toluene-d8	10.539	5.4	1668761	1.552	1.472	11.328	11.328	13.60				
	55	Toluene	9.998	-0.0	2020735	1.879	1.879	11.447	11.456	5.48				
	56	Ethyl methacrylate	10.230	2.3	331654	0.308	0.301	11.774	11.774	8.83				
	57	trans-1,3-Dichloropropene	10.410	4.1	473848	0.441	0.423	11.759	11.770	10.61				
	58	1,1,2-Trichloroethane	10.474	4.7	234215	0.218	0.208	12.012	12.014	7.00				
5	59	2-Hexanone	49.490	-1.0	699405	0.130	0.131	12.042	12.044	9.12				
	60	1,3-Dichloropropane	10.282	2.8	474333	0.441	0.429	12.429	12.428	7.43				
	61	Tetrachloroethene	9.990	-0.1	351129	0.326	0.327	12.503	12.506	6.32				
	62	Dibromochloromethane	10.308	3.1	294100	0.273	0.265	12.830	12.833	8.41				
	63	2-Ethyl-1-butanol												
	64	1,2-Dibromoethane	10.308	3.1	229056	0.213	0.207	13.157	13.157	6.53				
	65	1-Chlorohexane	9.631	-3.7	819573	0.762	0.791	13.439	13.439	5.39				
	66	Chlorobenzene	10.239	2.4	1128717	1.050	1.025	13.841	13.841	7.31				
	67	1,1,1,2-Tetrachloroethane	10.404	4.0	348931	0.324	0.312	13.915	13.915	6.19				
	68	Ethylbenzene	10.122	1.2	2291820	2.131	2.105	13.930	13.930	7.55				
2	69	m-Xylene & p-Xylene	19.954	-0.2	3293849	1.531	1.535	14.049	14.049	7.95				
	70	o-Xylene	9.750	-2.5	1582444	1.471	1.509	14.748	14.761	5.43				
	71	Styrene	10.087	0.9	1160753	1.079	1.070	14.807	14.822	7.42				
	72	Isopropylbenzene	9.825	-1.7	1800286	1.674	1.704	15.342	15.342	7.83				
	73	1,2-DICHLOROBENZENE-D4	10.000	0	331769	1	1	18.093	18.093	0				
	74	Bromoform	10.198	2.0	129464	0.390	0.383	15.357	15.362	6.22				
	75	1,1,2,2-Tetrachloroethane	10.071	0.7	255435	0.770	0.764	15.625	15.625	5.10				
	76	4-Bromofluorobenzene	10.505	5.0	509995	1.537	1.463	15.744	15.751	12.01				
	77	1,2,3-Trichloropropane	10.396	4.0	57329	0.173	0.166	15.863	15.869	8.96				
	78	trans-1,4-Dichloro-2-butene	9.732	-2.7	67703	0.204	0.210	15.982	15.983	9.51				
	79	n-Propylbenzene	9.723	-2.8	2588531	7.802	8.025	15.997	15.997	7.58				

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80	Bromobenzene	10.376	3.8	331996	1.001	0.964	16.056	16.071	6.31				
81	1,3,5-Trimethylbenzene	9.743	-2.6	1384085	4.172	4.282	16.249	16.254	5.97				
82	2-Chlorotoluene	9.944	-0.6	1550713	4.674	4.700	16.279	16.279	5.36				
83	4-Chlorotoluene	9.341	-6.6	1214400	3.660	3.919	16.354	16.361	5.87				
84	tert-Butylbenzene	9.646	-3.5	313863	0.946	0.981	16.829	16.837	6.03				
85	1,2,4-Trimethylbenzene	9.896	-1.0	1353627	4.080	4.123	16.889	16.893	6.82				
86	sec-Butylbenzene	9.717	-2.8	1968020	5.932	6.104	17.156	17.163	7.41				
87	p-Isopropyltoluene	9.450	-5.5	1416722	4.270	4.519	17.365	17.364	7.10				
88	1,3-Dichlorobenzene	10.064	0.6	665913	2.007	1.994	17.498	17.498	5.80				
89	1,4-Dichlorobenzene	9.953	-0.5	627544	1.892	1.900	17.647	17.647	7.18				
90	n-Butylbenzene	9.440	-5.6	1567175	4.724	5.004	17.914	17.914	8.23				
91	1,2-Dichlorobenzene	9.921	-0.8	531297	1.601	1.614	18.123	18.122	5.79				
92	1,2-Dibromo-3-chloropropane	9.554	-4.5	27605	0.083	0.080	19.045	19.043	17.52	-0.0022	0.0894		0.9997
93	1,2,4-Trichlorobenzene	10.112	1.1	280736	0.846	0.837	20.011	20.011	9.18				
94	Hexachlorobutadiene	10.028	0.3	179772	0.542	0.540	20.160	20.159	7.81				
95	Naphthalene	10.025	0.3	435374	1.312	1.309	20.308	20.311	8.57				
96	1,2,3-Trichlorobenzene	10.433	4.3	216118	0.651	0.624	20.605	20.605	9.51				

Spike Amount = Nominal Amount * M

SW
3/13/16

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	98	0.00
2	T,M	Dichlorodifluoromethane	10.000	10.388	-3.9	101	0.00
3	P,T,M	Chloromethane	10.000	10.373	-3.7	96	0.00
4	C,T,M	Vinyl chloride	10.000	10.686	-6.9	97	0.00
5	T,M	Bromomethane	10.000	10.477	-4.8	98	0.00
6	T,M	Chloroethane	10.000	10.156	-1.6	97	-0.01
7	T,M	Dichlorofluoromethane	10.000	9.939	0.6	94	0.00
8	T,M	Trichlorofluoromethane	10.000	10.427	-4.3	99	-0.01
9	T,M	Acrolein	50.000	49.526	0.9	91	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	9.986	0.1	97	0.00
11	T,M	Acetone	50.000	48.564	2.9	89	0.00
12	C,T,M	1,1-Dichloroethene	10.000	10.002	-0.0	93	0.00
13	T,M	tert-Butyl alcohol	50.000	48.263	3.5	82	0.00
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	9.969	0.3	90	-0.01
16	T,M	Iodomethane	10.000	10.427	-4.3	96	0.00
17	T,M	Methylene chloride	10.000	10.091	-0.9	93	0.00
18	T,M	Carbon disulfide	10.000	10.216	-2.2	100	0.00
19	T,M	Acrylonitrile	50.000	51.123	-2.2	92	0.00
20	T,M	tert-Butyl methyl ether (MT	10.000	10.085	-0.9	89	0.00
21	T,M	trans-1,2-Dichloroethene	10.000	10.187	-1.9	91	0.00
22	T,M	Isopropyl ether (DIPE)	10.000	9.868	1.3	90	0.00
23	T,M	Vinyl acetate	10.000	10.648	-6.5	92	0.00
24	P,T,M	1,1-Dichloroethane	10.000	9.977	0.2	92	0.00
25	T,M	2-Butanol	50.000	48.763	2.5	87	0.00
26	T,M	tert-Butyl ethyl ether (ETB	10.000	10.120	-1.2	90	0.00
27	T,M	2-Butanone	50.000	51.006	-2.0	90	0.00
28	T,M	2,2-Dichloropropane	10.000	9.401	6.0	88	0.00
29	T,M	cis-1,2-Dichloroethene	10.000	10.366	-3.7	94	0.00
30	C,T,M	Chloroform	10.000	10.099	-1.0	91	0.00
31	T,M	tert-Amyl alcohol	-1.000	0.000	0.0	0	0.00
32	T,M	Bromochloromethane	10.000	10.352	-3.5	90	-0.01
33	T,M	Tetrahydrofuran	10.000	10.497	-5.0	88	0.00
34	S	Dibromofluoromethane	10.000	10.733	-7.3	100	0.00
35	T,M	1,1,1-Trichloroethane	10.000	10.272	-2.7	95	0.00
36	T,M	Cyclohexane	10.000	9.982	0.2	98	0.00
37	T,M	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	0.00
38	T,M	1,1-Dichloropropene	10.000	10.145	-1.4	92	0.00
39	T,M	Carbon tetrachloride	10.000	10.189	-1.9	94	0.00
40	T,M	tert-Amyl methyl ether (TAM	10.000	10.017	-0.2	87	0.00
41	S	1,2-Dichloroethane-d4	10.000	10.492	-4.9	98	0.00

(#) = Out of Range

SW 3/13/16

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	10.291	-2.9	90	0.00
43	T,M	Benzene	10.000	9.999	0.0	93	-0.01
44	T,M	Trichloroethene	10.000	10.199	-2.0	93	0.00
45	T,M	Methylcyclohexane	10.000	10.347	-3.5	100	-0.01
46	C,T,M	1,2-Dichloropropane	10.000	10.120	-1.2	90	0.00
47	T,M	1,4-Dioxane	200.000	207.249	-3.6	92	0.00
48	T,M	Bromodichloromethane	10.000	10.205	-2.1	92	0.00
49	T,M	Dibromomethane	10.000	10.449	-4.5	90	0.00
50	T,M	2-Chloroethyl vinyl ether *	10.000	7.717	22.8#	67	0.00
51	T,M	4-Methyl-2-pentanone	50.000	49.386	1.2	89	0.00
52	T,M	cis-1,3-Dichloropropene	10.000	10.174	-1.7	89	0.00
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	96	-0.01
54	S	Toluene-d8	10.000	10.539	-5.4	100	0.00
55	C,T,M	Toluene	10.000	9.999	0.0	91	0.00
56	T,M	Ethyl methacrylate	10.000	10.230	-2.3	88	0.00
57	T,M	trans-1,3-Dichloropropene	10.000	10.410	-4.1	90	-0.01
58	T,M	1,1,2-Trichloroethane	10.000	10.475	-4.7	90	0.00
59	T,M	2-Hexanone	50.000	49.490	1.0	88	0.00
60	T,M	1,3-Dichloropropane	10.000	10.282	-2.8	89	0.00
61	T,M	Tetrachloroethene	10.000	9.990	0.1	92	0.00
62	T,M	Dibromochloromethane	10.000	10.308	-3.1	89	0.00
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	10.308	-3.1	91	0.00
65	T,M	1-Chlorohexane	10.000	9.631	3.7	90	0.00
66	P, T,M	Chlorobenzene	10.000	10.239	-2.4	92	0.00
67	T,M	1,1,1,2-Tetrachloroethane	10.000	10.404	-4.0	92	0.00
68	C,T,M	Ethylbenzene	10.000	10.122	-1.2	93	0.00
69	T,M	m-Xylene & p-Xylene	20.000	19.954	0.2	92	0.00
70	T,M	o-Xylene	10.000	9.750	2.5	90	-0.01
71	T,M	Styrene	10.000	10.087	-0.9	91	-0.01
72	T,M	Isopropylbenzene	10.000	9.825	1.8	90	0.00
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	94	0.00
74	P,T,M	Bromoform	10.000	10.198	-2.0	88	0.00
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.071	-0.7	86	0.00
76	S	4-Bromofluorobenzene	10.000	10.505	-5.1	97	0.00
77	T,M	1,2,3-Trichloropropane	10.000	10.396	-4.0	90	0.00
78	T,M	trans-1,4-Dichloro-2-butene	10.000	9.732	2.7	81	0.00
79	T,M	n-Propylbenzene	10.000	9.723	2.8	88	0.00
80	T,M	Bromobenzene	10.000	10.376	-3.8	91	-0.01

(#) = Out of Range

* NOT valid analyte

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Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	9.743	2.6	90	0.00
82	T,M	2-Chlorotoluene	10.000	9.944	0.6	90	0.00
83	T,M	4-Chlorotoluene	10.000	9.341	6.6	87	0.00
84	T,M	tert-Butylbenzene	10.000	9.646	3.5	90	0.00
85	T,M	1,2,4-Trimethylbenzene	10.000	9.895	1.1	89	0.00
86	T,M	sec-Butylbenzene	10.000	9.717	2.8	90	0.00
87	T,M	p-Isopropyltoluene	10.000	9.450	5.5	87	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.064	-0.6	91	0.00
89	T,M	1,4-Dichlorobenzene	10.000	9.953	0.5	90	0.00
90	T,M	n-Butylbenzene	10.000	9.440	5.6	86	0.00
91	T,M	1,2-Dichlorobenzene	10.000	9.921	0.8	89	0.00
92	T,M	1,2-Dibromo-3-chloropropane	10.000	9.554	4.5	86	0.00
93	T,M	1,2,4-Trichlorobenzene	10.000	10.112	-1.1	91	0.00
94	T,M	Hexachlorobutadiene	10.000	10.028	-0.3	91	0.00
95	T,M	Naphthalene	10.000	10.025	-0.3	90	0.00
96	T,M	1,2,3-Trichlorobenzene	10.000	10.433	-4.3	91	0.00

SW 3/13/16

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	98	0.00
2	T,M	Dichlorodifluoromethane	0.269	0.279	-3.7	101	0.00
3	P,T,M	Chloromethane	0.482	0.500	-3.7	96	0.00
4	C,T,M	Vinyl chloride	0.429	0.459	-7.0	97	0.00
5	T,M	Bromomethane	0.254	0.267	-5.1	98	0.00
6	T,M	Chloroethane	0.253	0.257	-1.6	97	-0.01
7	T,M	Dichlorofluoromethane	0.702	0.697	0.7	94	0.00
8	T,M	Trichlorofluoromethane	0.378	0.394	-4.2	99	-0.01
9	T,M	Acrolein	0.017	0.016	5.9	91	0.00
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.204	0.204	0.0	97	0.00
11	T,M	Acetone	0.030	0.029	3.3	89	0.00
12	C,T,M	1,1-Dichloroethene	0.624	0.624	0.0	93	0.00
13	T,M	tert-Butyl alcohol	0.010	0.010	0.0	82	0.00
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.121	0.121	0.0	90	-0.01
16	T,M	Iodomethane	0.509	0.531	-4.3	96	0.00
17	T,M	Methylene chloride	0.450	0.454	-0.9	93	0.00
18	T,M	Carbon disulfide	1.249	1.276	-2.2	100	0.00
19	T,M	Acrylonitrile	0.050	0.051	-2.0	92	0.00
20	T,M	tert-Butyl methyl ether (MT	0.491	0.496	-1.0	89	0.00
21	T,M	trans-1,2-Dichloroethene	0.574	0.585	-1.9	91	0.00
22	T,M	Isopropyl ether (DIPE)	1.342	1.324	1.3	90	0.00
23	T,M	Vinyl acetate	0.423	0.450	-6.4	92	0.00
24	P,T,M	1,1-Dichloroethane	0.665	0.664	0.2	92	0.00
25	T,M	2-Butanol	0.010	0.010	0.0	87	0.00
26	T,M	tert-Butyl ethyl ether (ETB	0.829	0.839	-1.2	90	0.00
27	T,M	2-Butanone	0.012	0.013	-8.3	90	0.00
28	T,M	2,2-Dichloropropane	0.272	0.256	5.9	88	0.00
29	T,M	cis-1,2-Dichloroethene	0.363	0.377	-3.9	94	0.00
30	C,T,M	Chloroform	0.558	0.564	-1.1	91	0.00
31	T,M	tert-Amyl alcohol	0.000	0.000	0.0	0#	0.00
32	T,M	Bromochloromethane	0.267	0.276	-3.4	90	-0.01
33	T,M	Tetrahydrofuran	0.049	0.041	16.3	88	0.00
34	S	Dibromofluoromethane	0.297	0.319	-7.4	100	0.00
35	T,M	1,1,1-Trichloroethane	0.382	0.392	-2.6	95	0.00
36	T,M	Cyclohexane	0.784	0.783	0.1	98	0.00
37	T,M	2,2,4-Trimethylpentane	0.000	0.000	0.0	0#	0.00
38	T,M	1,1-Dichloropropene	0.168	0.170	-1.2	92	0.00
39	T,M	Carbon tetrachloride	0.355	0.362	-2.0	94	0.00
40	T,M	tert-Amyl methyl ether (TAM	0.117	0.117	0.0	87	0.00
41	S	1,2-Dichloroethane-d4	0.215	0.225	-4.7	98	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.266	0.274	-3.0	90	0.00
43	T,M	Benzene	1.488	1.488	0.0	93	-0.01
44	T,M	Trichloroethene	0.354	0.361	-2.0	93	0.00
45	T,M	Methylcyclohexane	0.601	0.621	-3.3	100	-0.01
46	C,T,M	1,2-Dichloropropane	0.358	0.363	-1.4	90	0.00
47	T,M	1,4-Dioxane	0.001	0.001	0.0	92	0.00
48	T,M	Bromodichloromethane	0.375	0.383	-2.1	92	0.00
49	T,M	Dibromomethane	0.130	0.136	-4.6	90	0.00
50	T,M	2-Chloroethyl vinyl ether *	0.034	0.026	23.5#	67	0.00
51	T,M	4-Methyl-2-pentanone	0.163	0.161	1.2	89	0.00
52	T,M	cis-1,3-Dichloropropene	0.482	0.490	-1.7	89	0.00
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	96	-0.01
54	S	Toluene-d8	1.472	1.552	-5.4	100	0.00
55	C,T,M	Toluene	1.879	1.879	0.0	91	0.00
56	T,M	Ethyl methacrylate	0.301	0.308	-2.3	88	0.00
57	T,M	trans-1,3-Dichloropropene	0.423	0.441	-4.3	90	-0.01
58	T,M	1,1,2-Trichloroethane	0.208	0.218	-4.8	90	0.00
59	T,M	2-Hexanone	0.131	0.130	0.8	88	0.00
60	T,M	1,3-Dichloropropane	0.429	0.441	-2.8	89	0.00
61	T,M	Tetrachloroethene	0.327	0.326	0.3	92	0.00
62	T,M	Dibromochloromethane	0.265	0.273	-3.0	89	0.00
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.207	0.213	-2.9	91	0.00
65	T,M	1-Chlorohexane	0.791	0.762	3.7	90	0.00
66	P, T,M	Chlorobenzene	1.025	1.050	-2.4	92	0.00
67	T,M	1,1,1,2-Tetrachloroethane	0.312	0.324	-3.8	92	0.00
68	C,T,M	Ethylbenzene	2.105	2.131	-1.2	93	0.00
69	T,M	m-Xylene & p-Xylene	1.535	1.531	0.3	92	0.00
70	T,M	o-Xylene	1.509	1.471	2.5	90	-0.01
71	T,M	Styrene	1.070	1.079	-0.8	91	-0.01
72	T,M	Isopropylbenzene	1.704	1.674	1.8	90	0.00
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	94	0.00
74	P,T,M	Bromoform	0.383	0.390	-1.8	88	0.00
75	P,T,M	1,1,2,2-Tetrachloroethane	0.764	0.770	-0.8	86	0.00
76	S	4-Bromofluorobenzene	1.463	1.537	-5.1	97	0.00
77	T,M	1,2,3-Trichloropropane	0.166	0.173	-4.2	90	0.00
78	T,M	trans-1,4-Dichloro-2-butene	0.210	0.204	2.9	81	0.00
79	T,M	n-Propylbenzene	8.025	7.802	2.8	88	0.00
80	T,M	Bromobenzene	0.964	1.001	-3.8	91	-0.01

(#) = Out of Range

SW 3/13/16

* NOT valid analyte

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.282	4.172	2.6	90	0.00
82	T,M	2-Chlorotoluene	4.700	4.674	0.6	90	0.00
83	T,M	4-Chlorotoluene	3.919	3.660	6.6	87	0.00
84	T,M	tert-Butylbenzene	0.981	0.946	3.6	90	0.00
85	T,M	1,2,4-Trimethylbenzene	4.123	4.080	1.0	89	0.00
86	T,M	sec-Butylbenzene	6.104	5.932	2.8	90	0.00
87	T,M	p-Isopropyltoluene	4.519	4.270	5.5	87	0.00
88	T,M	1,3-Dichlorobenzene	1.994	2.007	-0.7	91	0.00
89	T,M	1,4-Dichlorobenzene	1.900	1.892	0.4	90	0.00
90	T,M	n-Butylbenzene	5.004	4.724	5.6	86	0.00
91	T,M	1,2-Dichlorobenzene	1.614	1.601	0.8	89	0.00
92	T,M	1,2-Dibromo-3-chloropropane	0.080	0.083	-3.8	86	0.00
93	T,M	1,2,4-Trichlorobenzene	0.837	0.846	-1.1	91	0.00
94	T,M	Hexachlorobutadiene	0.540	0.542	-0.4	91	0.00
95	T,M	Naphthalene	1.309	1.312	-0.2	90	0.00
96	T,M	1,2,3-Trichlorobenzene	0.624	0.651	-4.3	91	0.00

SW 3/13/16

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

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.86	114	1412479	10.00 ug/l	0.00
53) CHLOROBENZENE-D5	13.77	117	1075453	10.00 ug/l	-0.01
73) 1,2-DICHLOROBENZENE-D4	18.09	152	331769	10.00 ug/l	0.00
System Monitoring Compounds					
34) Dibromofluoromethane	7.36	111	450870	10.73 ug/l	0.00
Spiked Amount 10.000			Recovery	= 107.30%	
41) 1,2-Dichloroethane-d4	8.19	65	318184	10.49 ug/l	0.00
Spiked Amount 10.000			Recovery	= 104.90%	
54) Toluene-d8	11.33	98	1668761	10.54 ug/l	0.00
Spiked Amount 10.000			Recovery	= 105.40%	
76) 4-Bromofluorobenzene	15.74	95	509995	10.50 ug/l	0.00
Spiked Amount 10.000			Recovery	= 105.00%	
Target Compounds					Qvalue
2) Dichlorodifluoromethane	1.81	85	394216	10.39 ug/l	99
3) Chloromethane	2.04	50	705904	10.37 ug/l	100
4) Vinyl chloride	2.17	62	647700	10.69 ug/l	100
5) Bromomethane	2.66	94	376472	10.48 ug/l	98
6) Chloroethane	2.75	64	363053	10.16 ug/l	100
7) Dichlorofluoromethane	2.79	67	984984	9.94 ug/l	100
8) Trichlorofluoromethane	3.05	101	557010	10.43 ug/l	100
9) Acrolein	3.57	56	115949	49.53 ug/l	99
10) 1,1,2-Trichloro-1,2,2-trif	3.61	151	287503	9.99 ug/l	100
11) Acetone	3.66	43	208261	48.56 ug/l	98
12) 1,1-Dichloroethene	3.84	61	880881	10.00 ug/l	99
13) tert-Butyl alcohol	3.94	59	68474	48.26 ug/l	92
15) Methyl acetate	4.30	43	171028	9.97 ug/l	100
16) Iodomethane	4.27	142	750062	10.43 ug/l	100
17) Methylene chloride	4.52	49	641359	10.09 ug/l	100
18) Carbon disulfide	4.52	76	1802653	10.22 ug/l	100
19) Acrylonitrile	4.71	53	360716	51.12 ug/l	98
20) tert-Butyl methyl ether (M	4.76	73	700064	10.08 ug/l	99
21) trans-1,2-Dichloroethene	4.97	61	826596	10.19 ug/l	99
22) Isopropyl ether (DIPE)	5.52	45	1870286	9.87 ug/l	100
23) Vinyl acetate	5.71	43	636050	10.65 ug/l	99
24) 1,1-Dichloroethane	5.68	63	937569	9.98 ug/l	100
25) 2-Butanol	6.10	45	71166	48.76 ug/l #	92
26) tert-Butyl ethyl ether (ET	6.23	59	1185022	10.12 ug/l	100
27) 2-Butanone	6.44	72	89130	51.01 ug/l	98
28) 2,2-Dichloropropane	6.65	77	361402	9.40 ug/l	100
29) cis-1,2-Dichloroethene	6.72	96	532076	10.37 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	6.99	83	796304	10.10 ug/l	99
32)	Bromochloromethane	7.25	49	389928	10.35 ug/l	99
33)	Tetrahydrofuran	7.33	42	58332	10.50 ug/l	99
35)	1,1,1-Trichloroethane	7.66	97	554226	10.27 ug/l	99
36)	Cyclohexane	7.67	56	1105565	9.98 ug/l	99
38)	1,1-Dichloropropene	7.92	110	240359	10.15 ug/l	99
39)	Carbon tetrachloride	8.07	119	510749	10.19 ug/l	100
40)	tert-Amyl methyl ether (TA	8.15	87	165813	10.02 ug/l	100
42)	1,2-Dichloroethane	8.35	62	387008	10.29 ug/l	99
43)	Benzene	8.35	78	2101985	10.00 ug/l	100
44)	Trichloroethene	9.38	130	510241	10.20 ug/l	97
45)	Methylcyclohexane	9.46	83	877673	10.35 ug/l	99
46)	1,2-Dichloropropane	9.66	63	512249	10.12 ug/l	99
47)	1,4-Dioxane	10.09	88	33238	207.25 ug/l	91
48)	Bromodichloromethane	10.05	83	540563	10.20 ug/l	100
49)	Dibromomethane	10.12	93	191467	10.45 ug/l	98
50)	2-Chloroethyl vinyl ether	10.58	63	36882	7.72 ug/l	99
51)	4-Methyl-2-pentanone	10.63	43	1134728	49.39 ug/l	99
52)	cis-1,3-Dichloropropene	10.94	75	692629	10.17 ug/l	98
55)	Toluene	11.45	91	2020735	10.00 ug/l	100
56)	Ethyl methacrylate	11.77	69	331654	10.23 ug/l	99
57)	trans-1,3-Dichloropropene	11.76	75	473848	10.41 ug/l	99
58)	1,1,2-Trichloroethane	12.01	97	234215	10.47 ug/l	100
59)	2-Hexanone	12.04	43	699405	49.49 ug/l	99
60)	1,3-Dichloropropane	12.43	76	474333	10.28 ug/l	100
61)	Tetrachloroethene	12.50	164	351129	9.99 ug/l	100
62)	Dibromochloromethane	12.83	129	294100	10.31 ug/l	97
64)	1,2-Dibromoethane	13.16	107	229056	10.31 ug/l	100
65)	1-Chlorohexane	13.44	91	819573	9.63 ug/l	99
66)	Chlorobenzene	13.84	112	1128717	10.24 ug/l	100
67)	1,1,1,2-Tetrachloroethane	13.92	131	348931	10.40 ug/l	99
68)	Ethylbenzene	13.93	91	2291820	10.12 ug/l	100
69)	m-Xylene & p-Xylene	14.05	91	3293849	19.95 ug/l	100
70)	o-Xylene	14.75	91	1582444	9.75 ug/l	100
71)	Styrene	14.81	104	1160753	10.09 ug/l	100
72)	Isopropylbenzene	15.34	105	1800286	9.83 ug/l	100
74)	Bromoform	15.36	173	129464	10.20 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.62	83	255435	10.07 ug/l	100
77)	1,2,3-Trichloropropane	15.86	110	57329	10.40 ug/l	98
78)	trans-1,4-Dichloro-2-buten	15.98	53	67703	9.73 ug/l	98
79)	n-Propylbenzene	16.00	91	2588531	9.72 ug/l	100

(#) = qualifier out of range (m) = manual integration

SW 3/13/16

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.06	156	331996	10.38 ug/l	99
81)	1,3,5-Trimethylbenzene	16.25	105	1384085	9.74 ug/l	99
82)	2-Chlorotoluene	16.28	91	1550713	9.94 ug/l	99
83)	4-Chlorotoluene	16.35	91	1214400	9.34 ug/l	100
84)	tert-Butylbenzene	16.83	134	313863	9.65 ug/l	99
85)	1,2,4-Trimethylbenzene	16.89	105	1353627	9.90 ug/l	100
86)	sec-Butylbenzene	17.16	105	1968020	9.72 ug/l	100
87)	p-Isopropyltoluene	17.36	119	1416722	9.45 ug/l	100
88)	1,3-Dichlorobenzene	17.50	146	665913	10.06 ug/l	100
89)	1,4-Dichlorobenzene	17.65	146	627544	9.95 ug/l	99
90)	n-Butylbenzene	17.91	91	1567175	9.44 ug/l	99
91)	1,2-Dichlorobenzene	18.12	146	531297	9.92 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.04	157	27605	9.55 ug/l	98
93)	1,2,4-Trichlorobenzene	20.01	180	280736	10.11 ug/l	99
94)	Hexachlorobutadiene	20.16	225	179772	10.03 ug/l	99
95)	Naphthalene	20.31	128	435374	10.03 ug/l	99
96)	1,2,3-Trichlorobenzene	20.61	180	216118	10.43 ug/l	99

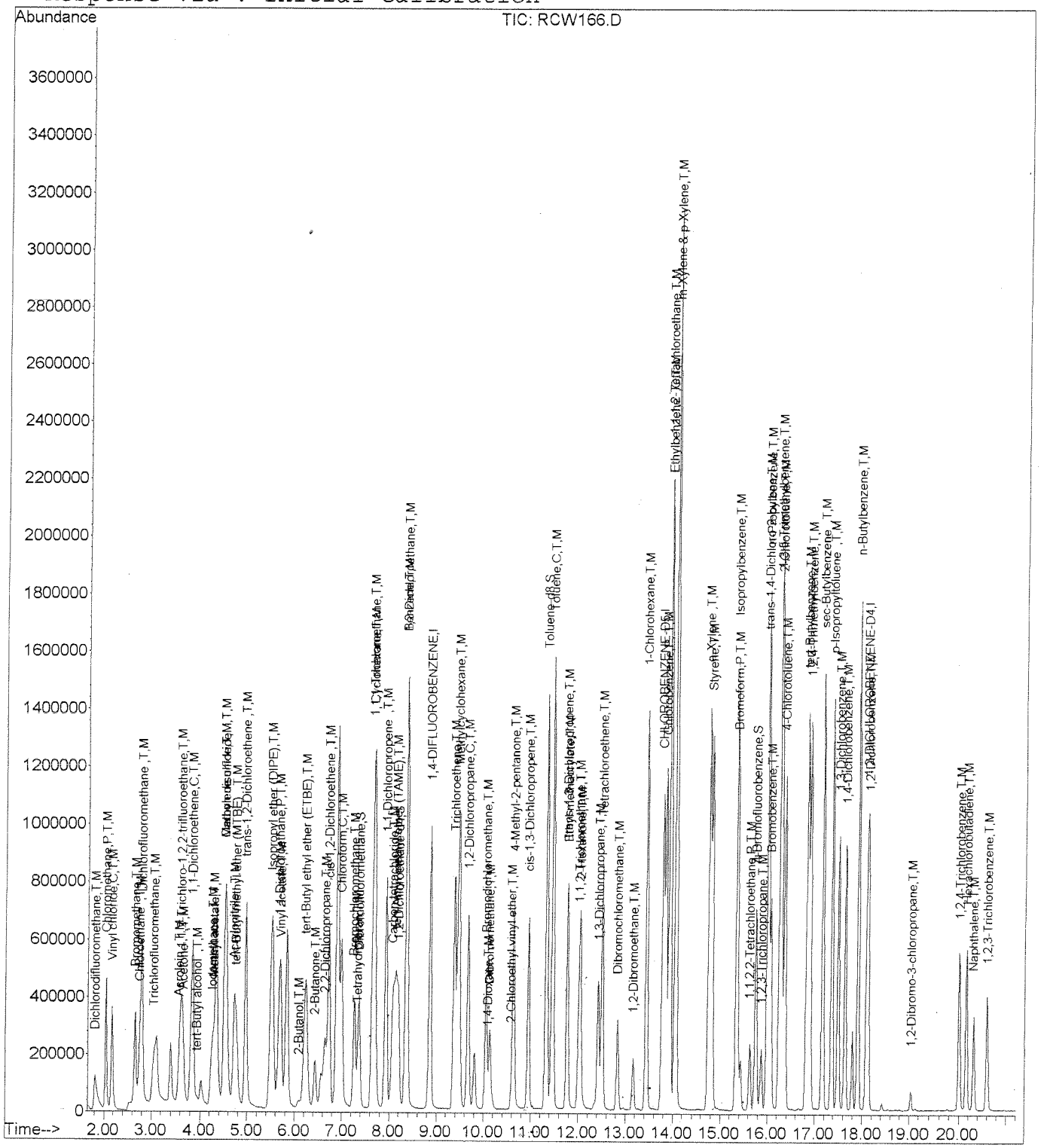
SV 3/13/16

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16C10\RCW166.D Vial: 14
Acq On : 10 Mar 2016 11:31 pm Operator: ODinh
Sample : IVO06C1001 Inst : TO06
Misc : 10ppb 8260+3-ADD/50ppb KET-AA-TBA+2-But Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: Mar 11 14:08 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



SV 3/13/16

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DAILY CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: REW371
Instrument ID: 06
GC Column:RTX502.2ID:0.25mm (mm)

Contract: CANNON AFB PBR
SAS No.: SDG No.: 16E133
BFB Injection Date : 05/19/16
BFB Injection Time : 13:31
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.74
75	30.0 - 60.0% of mass 95	50.49
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.45
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	61.34
175	5.0 - 9.0% of mass 174	4.59(7.5)1
176	95.0 - 101.0% of mass 174	59.14(96.4)1
177	5.0 - 9.0% of mass 176	3.81(6.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV006C1041	REW372	05/19/16	14:04
2	MBLK1W	V006E16B	REW376	05/19/16	15:50
3	LCS1W	V006E16L	REW373	05/19/16	14:33
4	LCD1W	V006E16C	REW374	05/19/16	14:58
5	TB-05132016	E133-01	REW377	05/19/16	16:16

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX INC.
Lab Code : EMXT
Lab File ID : RCW159
Instrument ID: 06
GC Column : RTX502.2ID:0.25mm (mm)

Project : CANNON AFB PBR
SDG No. : 16E133
Date Analyzed : 03/10/16
Time Analyzed : 20:34
Heated Purge : No

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1439848	8.86	1115563	13.78	351627	18.09
	UPPER LIMIT	2879696	9.36	2231126	14.28	703254	18.59
	LOWER LIMIT	719924	8.36	557782	13.28	175814	17.59
	SAMPLE ID						
1	VSTD010	1495908	8.89	1171224	13.79	398190	18.11
2	MBLK1W	1556122	8.87	1150690	13.79	302902	18.11
3	LCS1W	1567390	8.87	1245210	13.80	418366	18.11
4	LCD1W	1585531	8.87	1234292	13.80	407004	18.11
5	TB-05132016	1488321	8.87	1082313	13.80	286352	18.11

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

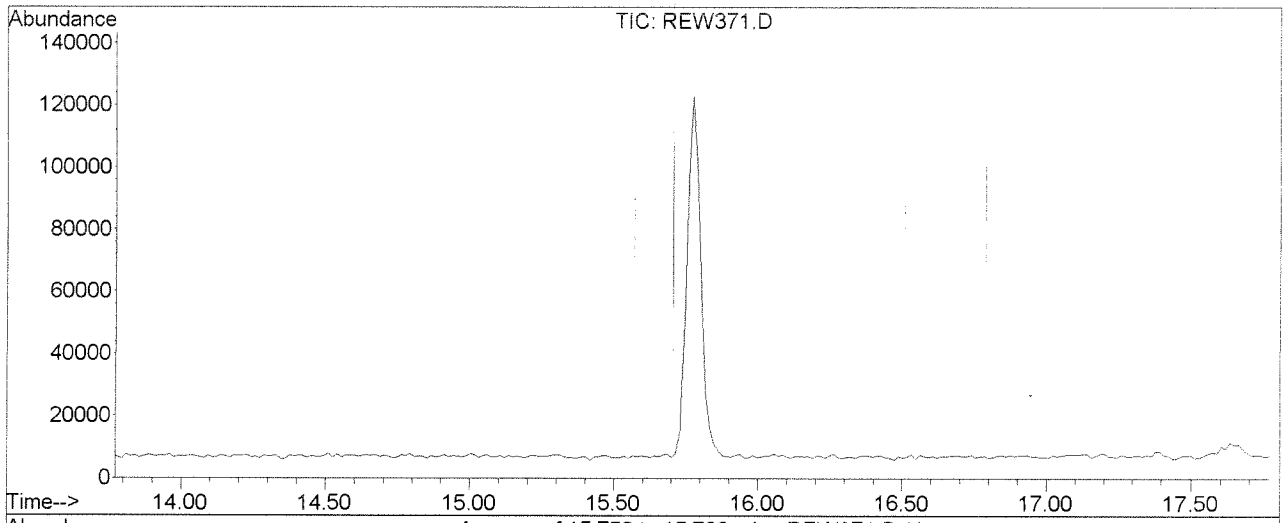
AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.5 minutes (30 sec) of internal standard RT
RT LOWER LIMIT = - 0.5 minutes (30 sec) of internal standard RT

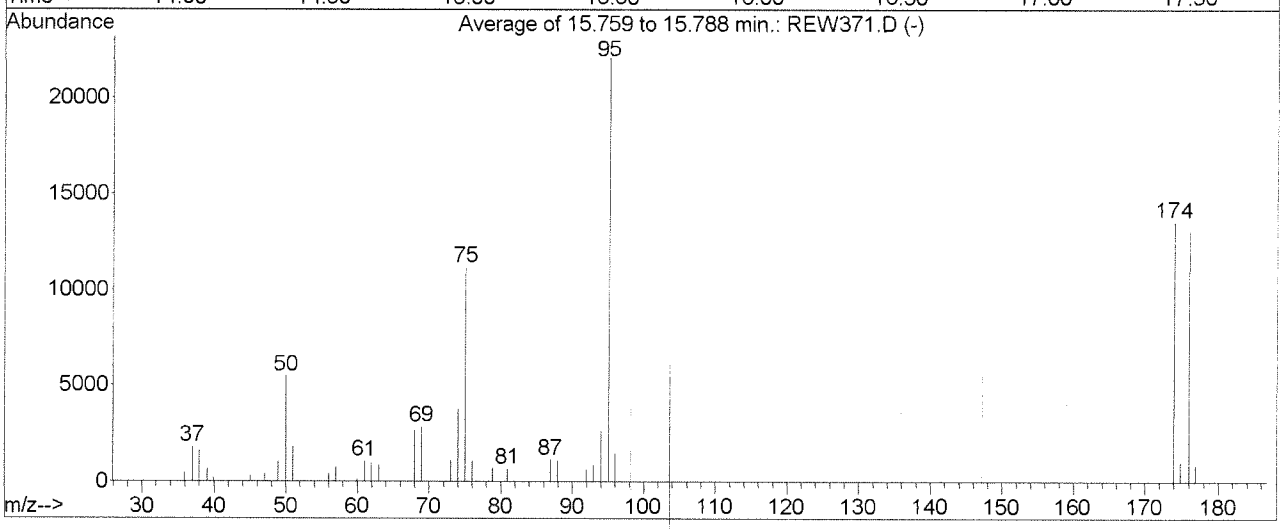
Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

BFB

Data File : D:\HPCHEM\1\DATA\16E19\REW371.D
Acq On : 19 May 2016 1:31 pm
Sample : BFB06E16
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: ODinh
Inst : 06
Multiplr: 1.00





AutoFind: Scans 951, 952, 953; Background Corrected with Scan 946

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.7	5472	PASS
75	95	30	60	50.5	11168	PASS
95	95	100	100	100.0	22120	PASS
96	95	5	9	6.4	1426	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	61.3	13569	PASS
175	174	5	9	7.5	1015	PASS
176	174	95	101	96.4	13081	PASS
177	176	5	9	6.4	843	PASS

REW371.D VO06C10.M Mon May 23 11:26:38 2016

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	104	0.03
2	T,M	Dichlorodifluoromethane	10.000	11.776	-17.8	121	0.00
3	P,T,M	Chloromethane	10.000	9.878	1.2	97	0.00
4	C,T,M	Vinyl chloride	10.000	9.879	1.2	95	0.02
5	T,M	Bromomethane	10.000	8.955	10.4	88	0.01
6	T,M	Chloroethane	10.000	9.778	2.2	98	0.01
7	T,M	Dichlorofluoromethane	10.000	11.195	-12.0	112	0.01
8	T,M	Trichlorofluoromethane	10.000	11.061	-10.6	111	0.00
9	T,M	Acrolein	50.000	45.800	8.4	90	0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	8.779	12.2	90	0.03
11	T,M	Acetone	50.000	62.197	-24.4#	121	0.01
12	C,T,M	1,1-Dichloroethene	10.000	8.883	11.2	87	0.01
13	T,M	tert-Butyl alcohol	50.000	60.055	-20.1#	108	0.04
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	0.000	100.0#	0	-4.31#
16	T,M	Iodomethane	10.000	7.642	23.6#	74	0.03
17	T,M	Methylene chloride	10.000	10.554	-5.5	103	0.01
18	T,M	Carbon disulfide	10.000	11.851	-18.5	123	0.03
19	T,M	Acrylonitrile	50.000	54.380	-8.8	103	0.03
20	T,M	tert-Butyl methyl ether (MT	10.000	11.060	-10.6	104	0.03
21	T,M	trans-1,2-Dichloroethene	10.000	9.366	6.3	89	0.03
22	T,M	Isopropyl ether (DIPE)	10.000	11.481	-14.8	111	0.03
23	T,M	Vinyl acetate	10.000	10.381	-3.8	95	0.03
24	P,T,M	1,1-Dichloroethane	10.000	10.906	-9.1	107	0.03
25	T,M	2-Butanol	50.000	0.000	100.0#	0	-6.09#
26	T,M	tert-Butyl ethyl ether (ETB	10.000	11.131	-11.3	104	0.03
27	T,M	2-Butanone	50.000	54.192	-8.4	101	0.03
28	T,M	2,2-Dichloropropane	10.000	11.229	-12.3	112	0.03
29	T,M	cis-1,2-Dichloroethene	10.000	9.866	1.3	95	0.03
30	C,T,M	Chloroform	10.000	11.155	-11.5	107	0.03
31	T,M	tert-Amyl alcohol	-1.000	0.000	0.0	0	0.00
32	T,M	Bromochloromethane	10.000	11.090	-10.9	102	0.01
33	T,M	Tetrahydrofuran	10.000	11.046	-10.5	98	0.03
34	S	Dibromofluoromethane	10.000	10.076	-0.8	99	0.03
35	T,M	1,1,1-Trichloroethane	10.000	11.497	-15.0	112	0.03
36	T,M	Cyclohexane	10.000	0.000	100.0#	0	-7.67#
37	T,M	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	0.00
38	T,M	1,1-Dichloropropene	10.000	9.162	8.4	88	0.03
39	T,M	Carbon tetrachloride	10.000	10.429	-4.3	102	0.03
40	T,M	tert-Amyl methyl ether (TAM	10.000	11.024	-10.2	101	0.03
41	S	1,2-Dichloroethane-d4	10.000	11.271	-12.7	112	0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	11.872	-18.7	110	0.03
43	T,M	Benzene	10.000	9.795	2.1	96	0.01
44	T,M	Trichloroethene	10.000	9.297	7.0	90	0.01
45	T,M	Methylcyclohexane	10.000	0.000	100.0#	0	-9.47#
46	C,T,M	1,2-Dichloropropane	10.000	11.278	-12.8	106	0.03
47	T,M	1,4-Dioxane	200.000	195.973	2.0	93	0.03
48	T,M	Bromodichloromethane	10.000	11.162	-11.6	106	0.01
49	T,M	Dibromomethane	10.000	10.146	-1.5	92	0.03
50	T,M	2-Chloroethyl vinyl ether	10.000	0.867	91.3#	8	0.03
51	T,M	4-Methyl-2-pentanone	50.000	55.994	-12.0	106	0.03
52	T,M	cis-1,3-Dichloropropene	10.000	10.869	-8.7	101	0.03
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	105	0.01
54	S	Toluene-d8	10.000	9.794	2.1	101	0.01
55	C,T,M	Toluene	10.000	9.814	1.9	97	0.03
56	T,M	Ethyl methacrylate	10.000	10.884	-8.8	102	0.01
57	T,M	trans-1,3-Dichloropropene	10.000	11.438	-14.4	108	0.01
58	T,M	1,1,2-Trichloroethane	10.000	11.273	-12.7	106	0.01
59	T,M	2-Hexanone	50.000	57.068	-14.1	110	0.01
60	T,M	1,3-Dichloropropane	10.000	11.304	-13.0	107	0.01
61	T,M	Tetrachloroethene	10.000	8.724	12.8	87	0.03
62	T,M	Dibromochloromethane	10.000	10.653	-6.5	100	0.03
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	10.372	-3.7	100	0.01
65	T,M	1-Chlorohexane	10.000	9.468	5.3	96	0.01
66	P, T,M	Chlorobenzene	10.000	10.308	-3.1	100	0.01
67	T,M	1,1,1,2-Tetrachloroethane	10.000	11.260	-12.6	108	0.01
68	C,T,M	Ethylbenzene	10.000	10.409	-4.1	104	0.01
69	T,M	m-Xylene & p-Xylene	20.000	20.650	-3.2	104	0.01
70	T,M	o-Xylene	10.000	10.539	-5.4	106	0.01
71	T,M	Styrene	10.000	10.602	-6.0	104	0.01
72	T,M	Isopropylbenzene	10.000	10.959	-9.6	109	0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	113	0.01
74	P,T,M	Bromoform	10.000	9.091	9.1	94	0.03
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	11.070	-10.7	114	0.01
76	S	4-Bromofluorobenzene	10.000	9.599	4.0	106	0.03
77	T,M	1,2,3-Trichloropropane	10.000	11.235	-12.3	117	0.03
78	T,M	trans-1,4-Dichloro-2-butene	10.000	10.221	-2.2	102	0.01
79	T,M	n-Propylbenzene	10.000	9.801	2.0	107	0.01
80	T,M	Bromobenzene	10.000	9.836	1.6	103	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	10.082	-0.8	112	0.01
82	T,M	2-Chlorotoluene	10.000	10.284	-2.8	111	0.01
83	T,M	4-Chlorotoluene	10.000	10.050	-0.5	112	0.03
84	T,M	tert-Butylbenzene	10.000	10.541	-5.4	118	0.03
85	T,M	1,2,4-Trimethylbenzene	10.000	10.295	-2.9	112	0.01
86	T,M	sec-Butylbenzene	10.000	10.321	-3.2	115	0.01
87	T,M	p-Isopropyltoluene	10.000	10.114	-1.1	111	0.01
88	T,M	1,3-Dichlorobenzene	10.000	10.228	-2.3	111	0.01
89	T,M	1,4-Dichlorobenzene	10.000	10.059	-0.6	109	0.01
90	T,M	n-Butylbenzene	10.000	9.638	3.6	106	0.01
91	T,M	1,2-Dichlorobenzene	10.000	10.457	-4.6	112	0.01
92	T,M	1,2-Dibromo-3-chloropropane	10.000	8.994	10.1	97	0.01
93	T,M	1,2,4-Trichlorobenzene	10.000	8.757	12.4	94	0.01
94	T,M	Hexachlorobutadiene	10.000	9.724	2.8	106	0.01
95	T,M	Naphthalene	10.000	8.903	11.0	96	0.01
96	T,M	1,2,3-Trichlorobenzene	10.000	9.092	9.1	95	0.01

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	104	0.03
2	T,M	Dichlorodifluoromethane	0.269	0.316	-17.5	121	0.00
3	P,T,M	Chloromethane	0.482	0.476	1.2	97	0.00
4	C,T,M	Vinyl chloride	0.429	0.424	1.2	95	0.02
5	T,M	Bromomethane	0.254	0.228	10.2	88	0.01
6	T,M	Chloroethane	0.253	0.247	2.4	98	0.01
7	T,M	Dichlorofluoromethane	0.702	0.785	-11.8	112	0.01
8	T,M	Trichlorofluoromethane	0.378	0.418	-10.6	111	0.00
9	T,M	Acrolein	0.017	0.015	11.8	90	0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.204	0.179	12.3	90	0.03
11	T,M	Acetone	0.030	0.038	-26.7#	121	0.01
12	C,T,M	1,1-Dichloroethene	0.624	0.554	11.2	87	0.01
13	T,M	tert-Butyl alcohol	0.010	0.012	-20.0	108	0.04
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.121	0.000	100.0#	0#	-4.31#
16	T,M	Iodomethane	0.509	0.389	23.6#	74	0.03
17	T,M	Methylene chloride	0.450	0.475	-5.6	103	0.01
18	T,M	Carbon disulfide	1.249	1.480	-18.5	123	0.03
19	T,M	Acrylonitrile	0.050	0.054	-8.0	103	0.03
20	T,M	tert-Butyl methyl ether (MT	0.491	0.544	-10.8	104	0.03
21	T,M	trans-1,2-Dichloroethene	0.574	0.538	6.3	89	0.03
22	T,M	Isopropyl ether (DIPE)	1.342	1.540	-14.8	111	0.03
23	T,M	Vinyl acetate	0.423	0.439	-3.8	95	0.03
24	P,T,M	1,1-Dichloroethane	0.665	0.726	-9.2	107	0.03
25	T,M	2-Butanol	0.010	0.000	100.0#	0#	-6.09#
26	T,M	tert-Butyl ethyl ether (ETB	0.829	0.923	-11.3	104	0.03
27	T,M	2-Butanone	0.012	0.013	-8.3	101	0.03
28	T,M	2,2-Dichloropropane	0.272	0.306	-12.5	112	0.03
29	T,M	cis-1,2-Dichloroethene	0.363	0.359	1.1	95	0.03
30	C,T,M	Chloroform	0.558	0.623	-11.6	107	0.03
31	T,M	tert-Amyl alcohol	0.000	0.000	0.0	0#	0.00
32	T,M	Bromochloromethane	0.267	0.296	-10.9	102	0.01
33	T,M	Tetrahydrofuran	0.049	0.043	12.2	98	0.03
34	S	Dibromofluoromethane	0.297	0.300	-1.0	99	0.03
35	T,M	1,1,1-Trichloroethane	0.382	0.439	-14.9	112	0.03
36	T,M	Cyclohexane	0.784	0.000	100.0#	0#	-7.67#
37	T,M	2,2,4-Trimethylpentane	0.000	0.000	0.0	0#	0.00
38	T,M	1,1-Dichloropropene	0.168	0.154	8.3	88	0.03
39	T,M	Carbon tetrachloride	0.355	0.370	-4.2	102	0.03
40	T,M	tert-Amyl methyl ether (TAM	0.117	0.129	-10.3	101	0.03
41	S	1,2-Dichloroethane-d4	0.215	0.242	-12.6	112	0.03

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.266	0.316	-18.8	110	0.03
43	T,M	Benzene	1.488	1.458	2.0	96	0.01
44	T,M	Trichloroethene	0.354	0.329	7.1	90	0.01
45	T,M	Methylcyclohexane	0.601	0.000	100.0#	0#	-9.47#
46	C,T,M	1,2-Dichloropropane	0.358	0.404	-12.8	106	0.03
47	T,M	1,4-Dioxane	0.001	0.001	0.0	93	0.03
48	T,M	Bromodichloromethane	0.375	0.419	-11.7	106	0.01
49	T,M	Dibromomethane	0.130	0.132	-1.5	92	0.03
50	T,M	2-Chloroethyl vinyl ether	0.034	0.003	91.2#	8#	0.03
51	T,M	4-Methyl-2-pentanone	0.163	0.182	-11.7	106	0.03
52	T,M	cis-1,3-Dichloropropene	0.482	0.524	-8.7	101	0.03
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	105	0.01
54	S	Toluene-d8	1.472	1.442	2.0	101	0.01
55	C,T,M	Toluene	1.879	1.844	1.9	97	0.03
56	T,M	Ethyl methacrylate	0.301	0.328	-9.0	102	0.01
57	T,M	trans-1,3-Dichloropropene	0.423	0.484	-14.4	108	0.01
58	T,M	1,1,2-Trichloroethane	0.208	0.234	-12.5	106	0.01
59	T,M	2-Hexanone	0.131	0.150	-14.5	110	0.01
60	T,M	1,3-Dichloropropane	0.429	0.485	-13.1	107	0.01
61	T,M	Tetrachloroethene	0.327	0.285	12.8	87	0.03
62	T,M	Dibromochloromethane	0.265	0.283	-6.8	100	0.03
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.207	0.214	-3.4	100	0.01
65	T,M	1-Chlorohexane	0.791	0.749	5.3	96	0.01
66	P, T,M	Chlorobenzene	1.025	1.057	-3.1	100	0.01
67	T,M	1,1,1,2-Tetrachloroethane	0.312	0.351	-12.5	108	0.01
68	C,T,M	Ethylbenzene	2.105	2.191	-4.1	104	0.01
69	T,M	m-Xylene & p-Xylene	1.535	1.585	-3.3	104	0.01
70	T,M	o-Xylene	1.509	1.590	-5.4	106	0.01
71	T,M	Styrene	1.070	1.134	-6.0	104	0.01
72	T,M	Isopropylbenzene	1.704	1.867	-9.6	109	0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	113	0.01
74	P,T,M	Bromoform	0.383	0.348	9.1	94	0.03
75	P,T,M	1,1,2,2-Tetrachloroethane	0.764	0.846	-10.7	114	0.01
76	S	4-Bromofluorobenzene	1.463	1.405	4.0	106	0.03
77	T,M	1,2,3-Trichloropropane	0.166	0.187	-12.7	117	0.03
78	T,M	trans-1,4-Dichloro-2-butene	0.210	0.214	-1.9	102	0.01
79	T,M	n-Propylbenzene	8.025	7.865	2.0	107	0.01
80	T,M	Bromobenzene	0.964	0.949	1.6	103	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.282	4.317	-0.8	112	0.01
82	T,M	2-Chlorotoluene	4.700	4.834	-2.9	111	0.01
83	T,M	4-Chlorotoluene	3.919	3.938	-0.5	112	0.03
84	T,M	tert-Butylbenzene	0.981	1.034	-5.4	118	0.03
85	T,M	1,2,4-Trimethylbenzene	4.123	4.245	-3.0	112	0.01
86	T,M	sec-Butylbenzene	6.104	6.300	-3.2	115	0.01
87	T,M	p-Isopropyltoluene	4.519	4.570	-1.1	111	0.01
88	T,M	1,3-Dichlorobenzene	1.994	2.040	-2.3	111	0.01
89	T,M	1,4-Dichlorobenzene	1.900	1.912	-0.6	109	0.01
90	T,M	n-Butylbenzene	5.004	4.823	3.6	106	0.01
91	T,M	1,2-Dichlorobenzene	1.614	1.688	-4.6	112	0.01
92	T,M	1,2-Dibromo-3-chloropropane	0.080	0.078	2.5	97	0.01
93	T,M	1,2,4-Trichlorobenzene	0.837	0.733	12.4	94	0.01
94	T,M	Hexachlorobutadiene	0.540	0.525	2.8	106	0.01
95	T,M	Naphthalene	1.309	1.165	11.0	96	0.01
96	T,M	1,2,3-Trichlorobenzene	0.624	0.568	9.0	95	0.01

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:26 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.89	114	1495908	10.00	ug/l	0.03
53) CHLOROBENZENE-D5	13.79	117	1171224	10.00	ug/l	0.01
73) 1,2-DICHLOROBENZENE-D4	18.11	152	398190	10.00	ug/l	0.01
System Monitoring Compounds						
34) Dibromofluoromethane	7.39	111	448266	10.08	ug/l	0.03
Spiked Amount 10.000			Recovery = 100.80%			
41) 1,2-Dichloroethane-d4	8.22	65	361989	11.27	ug/l	0.03
Spiked Amount 10.000			Recovery = 112.70%			
54) Toluene-d8	11.34	98	1688907	9.79	ug/l	0.01
Spiked Amount 10.000			Recovery = 97.90%			
76) 4-Bromofluorobenzene	15.77	95	559321	9.60	ug/l	0.03
Spiked Amount 10.000			Recovery = 96.00%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.81	85	473263	11.78	ug/l	97
3) Chloromethane	2.04	50	711939	9.88	ug/l	99
4) Vinyl chloride	2.18	62	634168	9.88	ug/l	100
5) Bromomethane	2.67	94	340784	8.96	ug/l	98
6) Chloroethane	2.78	64	370185	9.78	ug/l	97
7) Dichlorofluoromethane	2.81	67	1174999	11.19	ug/l	98
8) Trichlorofluoromethane	3.06	101	625799	11.06	ug/l	100
9) Acrolein	3.58	56	113561	45.80	ug/l	92
10) 1,1,2-Trichloro-1,2,2-trif	3.64	151	267698	8.78	ug/l	99
11) Acetone	3.67	43	282478	62.20	ug/l	97
12) 1,1-Dichloroethene	3.85	61	828556	8.88	ug/l	95
13) tert-Butyl alcohol	3.98	59	90237	60.06	ug/l	92
16) Iodomethane	4.29	142	582157	7.64	ug/l	96
17) Methylene chloride	4.53	49	710352	10.55	ug/l	92
18) Carbon disulfide	4.55	76	2214539	11.85	ug/l	99
19) Acrylonitrile	4.74	53	406356	54.38	ug/l	99
20) tert-Butyl methyl ether (M	4.79	73	813098	11.06	ug/l	99
21) trans-1,2-Dichloroethene	4.99	61	804896	9.37	ug/l	94
22) Isopropyl ether (DIPE)	5.54	45	2304438	11.48	ug/l	97
23) Vinyl acetate	5.74	43	656736	10.38	ug/l	97
24) 1,1-Dichloroethane	5.71	63	1085371	10.91	ug/l	99
26) tert-Butyl ethyl ether (ET	6.26	59	1380343	11.13	ug/l	98
27) 2-Butanone	6.47	72	100290	54.19	ug/l #	86
28) 2,2-Dichloropropane	6.67	77	457174	11.23	ug/l	97
29) cis-1,2-Dichloroethene	6.75	96	536315	9.87	ug/l	98
30) Chloroform	7.02	83	931533	11.15	ug/l	98
32) Bromochloromethane	7.28	49	442412	11.09	ug/l	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D
Acq On : 19 May 2016 2:04 pm
Sample : CVO06C1041
Misc : 10ppb 8260/50ppb KET-AA-TBA
MS Integration Params: RTE.P
Quant Time: May 23 11:26 2016

Vial: 2
Operator: ODinh
Inst : 06
Multiplr: 1.00
Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
33)	Tetrahydrofuran	7.36	42	64887	11.05 ug/l	97
35)	1,1,1-Trichloroethane	7.68	97	656970	11.50 ug/l	98
38)	1,1-Dichloropropene	7.95	110	229882	9.16 ug/l	98
39)	Carbon tetrachloride	8.10	119	553703	10.43 ug/l	100
40)	tert-Amyl methyl ether (TA	8.18	87	193270	11.02 ug/l	95
42)	1,2-Dichloroethane	8.38	62	472833	11.87 ug/l	99
43)	Benzene	8.38	78	2180629	9.79 ug/l	99
44)	Trichloroethene	9.39	130	492570	9.30 ug/l	97
46)	1,2-Dichloropropane	9.69	63	604548	11.28 ug/l	93
47)	1,4-Dioxane	10.12	88	33286	195.97 ug/l	95
48)	Bromodichloromethane	10.06	83	626191	11.16 ug/l	99
49)	Dibromomethane	10.15	93	196892	10.15 ug/l	96
50)	2-Chloroethyl vinyl ether	10.61	63	4386	0.87 ug/l #	24
51)	4-Methyl-2-pentanone	10.66	43	1362561	55.99 ug/l	99
52)	cis-1,3-Dichloropropene	10.97	75	783709	10.87 ug/l	96
55)	Toluene	11.48	91	2160105	9.81 ug/l	100
56)	Ethyl methacrylate	11.79	69	384266	10.88 ug/l	92
57)	trans-1,3-Dichloropropene	11.79	75	566991	11.44 ug/l	96
58)	1,1,2-Trichloroethane	12.03	97	274506	11.27 ug/l	98
59)	2-Hexanone	12.06	43	878327	57.07 ug/l	97
60)	1,3-Dichloropropane	12.44	76	567956	11.30 ug/l	100
61)	Tetrachloroethene	12.53	164	333930	8.72 ug/l	97
62)	Dibromochloromethane	12.86	129	331033	10.65 ug/l	99
64)	1,2-Dibromoethane	13.17	107	251016	10.37 ug/l	98
65)	1-Chlorohexane	13.45	91	877452	9.47 ug/l	94
66)	Chlorobenzene	13.85	112	1237553	10.31 ug/l	97
67)	1,1,1,2-Tetrachloroethane	13.93	131	411282	11.26 ug/l	99
68)	Ethylbenzene	13.94	91	2566634	10.41 ug/l	100
69)	m-Xylene & p-Xylene	14.06	91	3712310	20.65 ug/l	98
70)	o-Xylene	14.78	91	1862674	10.54 ug/l	100
71)	Styrene	14.84	104	1328680	10.60 ug/l	98
72)	Isopropylbenzene	15.36	105	2186923	10.96 ug/l	99
74)	Bromoform	15.39	173	138505	9.09 ug/l	98
75)	1,1,2,2-Tetrachloroethane	15.64	83	336966	11.07 ug/l	99
77)	1,2,3-Trichloropropane	15.89	110	74359	11.24 ug/l	99
78)	trans-1,4-Dichloro-2-buten	16.00	53	85335	10.22 ug/l	100
79)	n-Propylbenzene	16.01	91	3131763	9.80 ug/l	99
80)	Bromobenzene	16.08	156	377729	9.84 ug/l	93
81)	1,3,5-Trimethylbenzene	16.26	105	1718986	10.08 ug/l	100
82)	2-Chlorotoluene	16.29	91	1924856	10.28 ug/l	100
83)	4-Chlorotoluene	16.38	91	1568165	10.05 ug/l	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:26 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

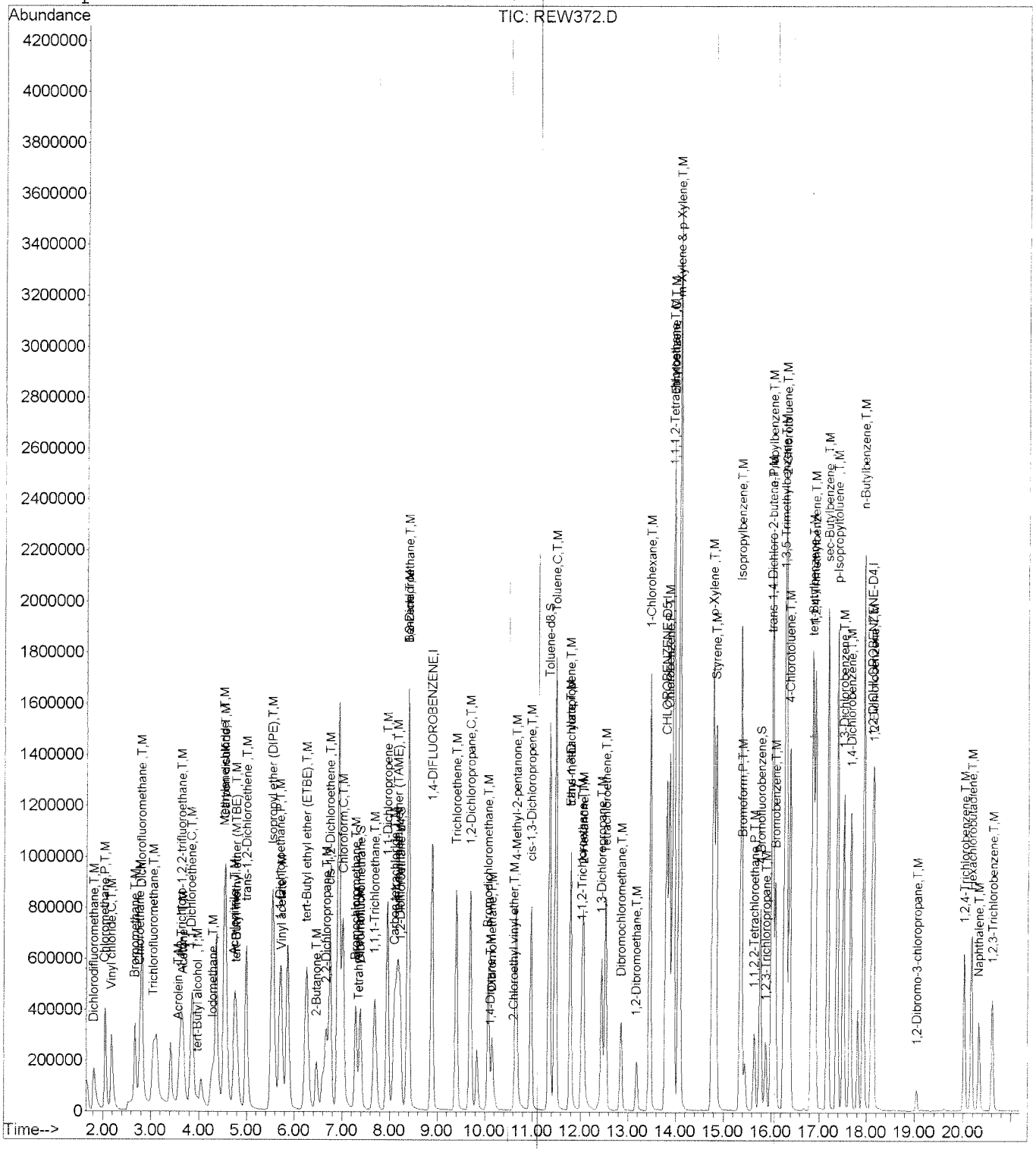
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
84)	tert-Butylbenzene	16.86	134	411664	10.54 ug/l	99
85)	1,2,4-Trimethylbenzene	16.90	105	1690185	10.29 ug/l	99
86)	sec-Butylbenzene	17.17	105	2508725	10.32 ug/l	99
87)	p-Isopropyltoluene	17.38	119	1819770	10.11 ug/l	99
88)	1,3-Dichlorobenzene	17.51	146	812257	10.23 ug/l	99
89)	1,4-Dichlorobenzene	17.66	146	761172	10.06 ug/l	100
90)	n-Butylbenzene	17.93	91	1920532	9.64 ug/l	100
91)	1,2-Dichlorobenzene	18.14	146	672072	10.46 ug/l	99
92)	1,2-Dibromo-3-chloropropan	19.06	157	31138	8.99 ug/l	91
93)	1,2,4-Trichlorobenzene	20.02	180	291797	8.76 ug/l	98
94)	Hexachlorobutadiene	20.17	225	209232	9.72 ug/l	99
95)	Naphthalene	20.32	128	464031	8.90 ug/l	100
96)	1,2,3-Trichlorobenzene	20.62	180	226047	9.09 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E19\REW372.D Vial: 2
Acq On : 19 May 2016 2:04 pm Operator: ODinh
Sample : CVO06C1041 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 23 11:26 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



5A
VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: REW401
Instrument ID: 06
GC Column:RTX502.2ID:0.25mm (mm)

Contract: CANNON AFB PBR
SAS No.: SDG No.: 16E133
BFB Injection Date : 05/20/16
BFB Injection Time : 11:15
Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	24.33
75	30.0 - 60.0% of mass 95	52.02
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.33
173	Less than 2.0% of mass 174	0.00(0.0)1
174	Greater than 50% of mass 95	56.41
175	5.0 - 9.0% of mass 174	3.79(6.7)1
176	95.0 - 101.0% of mass 174	56.17(99.6)1
177	5.0 - 9.0% of mass 176	4.05(7.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD010	CV006C1042	REW402	05/20/16	11:47
2	MBLK2W	V006E17B	REW406	05/20/16	13:38
3	LCS2W	V006E17L	REW403	05/20/16	12:22
4	LCD2W	V006E17C	REW404	05/20/16	12:47
5	CAFB-IDW-W-05132016	E133-02	REW407	05/20/16	14:03

FORM V VOA OLM02.0

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX INC.
Lab Code : EMXT
Lab File ID : RCW159
Instrument ID: 06
GC Column : RTX502.2ID:0.25mm (mm)

Project : CANNON AFB PBR
SDG No. : 16E133
Date Analyzed : 03/10/16
Time Analyzed : 20:34
Heated Purge : No

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	1439848	8.86	1115563	13.78	351627	18.09
	UPPER LIMIT	2879696	9.36	2231126	14.28	703254	18.59
	LOWER LIMIT	719924	8.36	557782	13.28	175814	17.59
	SAMPLE ID						
1	VSTD010	1336991	8.87	1074952	13.78	348770	18.09
2	MBLK2W	1402910	8.87	1012186	13.78	261142	18.09
3	LCS2W	1426912	8.87	1137220	13.78	381040	18.09
4	LCD2W	1458939	8.86	1140574	13.78	372471	18.09
5	CAFB-IDW-W-05132016	1372318	8.86	1005162	13.78	278896	18.09

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

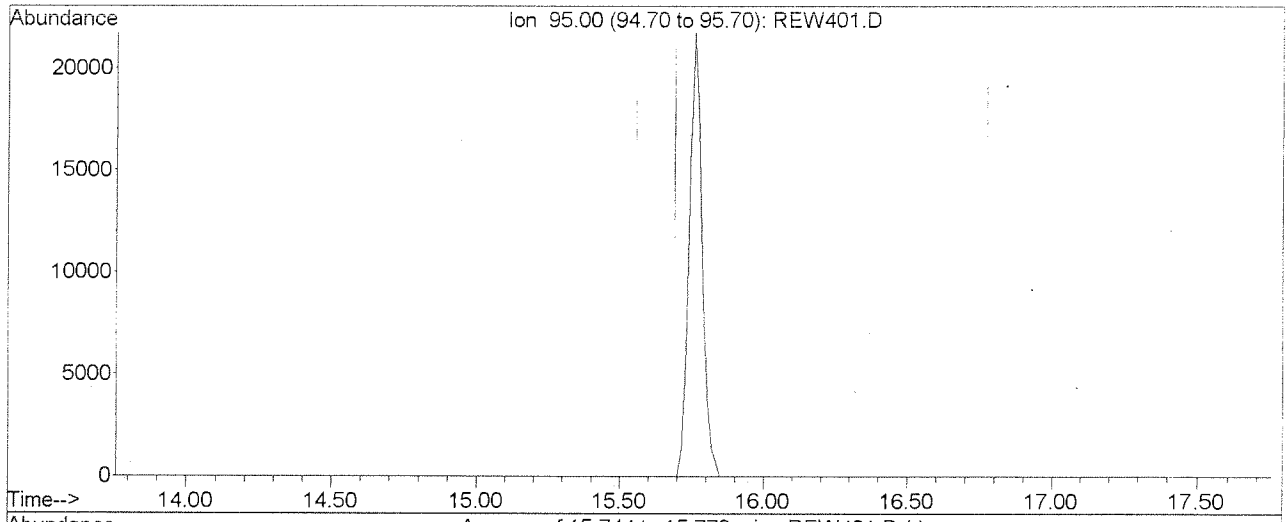
AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.5 minutes (30 sec) of internal standard RT
RT LOWER LIMIT = - 0.5 minutes (30 sec) of internal standard RT

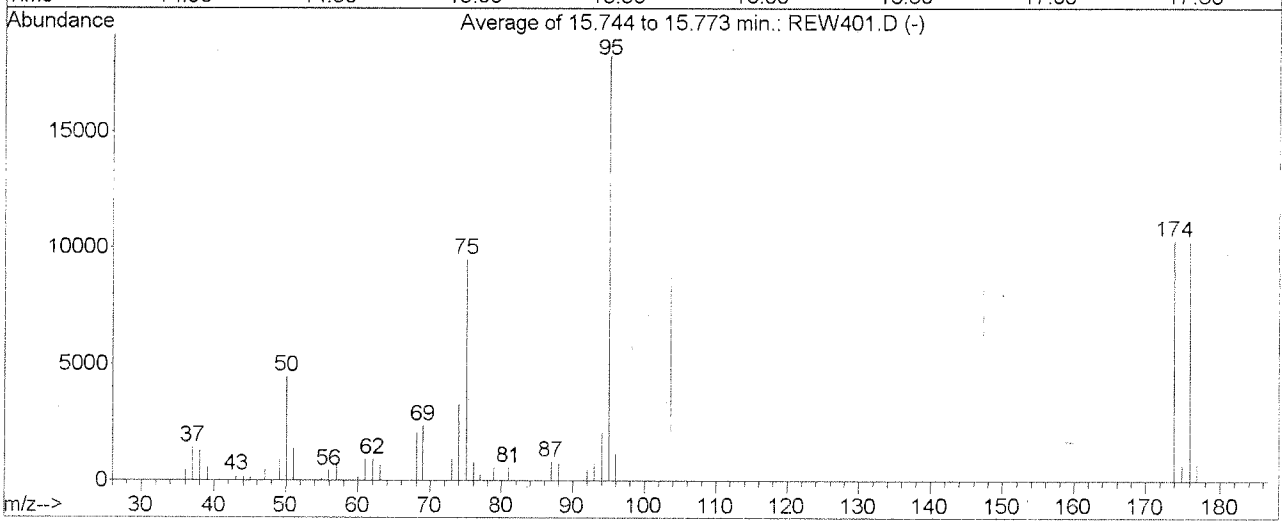
Column used to flag internal standard area values with an asterisk
* Values outside of QC limits.

BFB

Data File : D:\HPCHEM\1\DATA\16E20\REW401.D
Acq On : 20 May 2016 11:15 am
Sample : BFB06E17
Misc : T/CHK
MS Integration Params: RTE.P
Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260

Vial: 1
Operator: ODinh
Inst : 06
Multiplr: 1.00





AutoFind: Scans 950, 951, 952; Background Corrected with Scan 946

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	24.3	4445	PASS
75	95	30	60	52.0	9504	PASS
95	95	100	100	100.0	18270	PASS
96	95	5	9	6.3	1157	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	56.4	10306	PASS
175	174	5	9	6.7	692	PASS
176	174	95	101	99.6	10263	PASS
177	176	5	9	7.2	739	PASS

REW401.D VO06C10.M Fri May 20 15:15:51 2016

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	10.000	10.000	0.0	93	0.01
2	T,M	Dichlorodifluoromethane	10.000	10.954	-9.5	100	0.00
3	P,T,M	Chloromethane	10.000	9.746	2.5	86	0.00
4	C,T,M	Vinyl chloride	10.000	9.314	6.9	80	0.00
5	T,M	Bromomethane	10.000	8.260	17.4	73	0.00
6	T,M	Chloroethane	10.000	9.245	7.6	83	0.00
7	T,M	Dichlorofluoromethane	10.000	10.930	-9.3	97	0.00
8	T,M	Trichlorofluoromethane	10.000	9.893	1.1	89	0.00
9	T,M	Acrolein	50.000	49.900	0.2	87	0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	10.000	8.832	11.7	81	0.01
11	T,M	Acetone	50.000	56.746	-13.5	99	0.00
12	C,T,M	1,1-Dichloroethene	10.000	10.244	-2.4	90	0.00
13	T,M	tert-Butyl alcohol	50.000	46.423	7.2	75	0.01
14	T,M	Acetonitrile	-1.000	0.000	0.0	0	0.00
15	T,M	Methyl acetate	10.000	10.355	-3.6	89	0.00
16	T,M	Iodomethane	10.000	8.134	18.7	71	0.01
17	T,M	Methylene chloride	10.000	10.799	-8.0	95	0.01
18	T,M	Carbon disulfide	10.000	9.447	5.5	88	0.01
19	T,M	Acrylonitrile	50.000	48.127	3.7	82	0.01
20	T,M	tert-Butyl methyl ether (MT	10.000	10.710	-7.1	90	0.01
21	T,M	trans-1,2-Dichloroethene	10.000	10.557	-5.6	89	0.01
22	T,M	Isopropyl ether (DIPE)	10.000	10.928	-9.3	95	0.01
23	T,M	Vinyl acetate	10.000	10.150	-1.5	83	0.01
24	P,T,M	1,1-Dichloroethane	10.000	10.732	-7.3	94	0.01
25	T,M	2-Butanol	50.000	45.336	9.3	77	0.01
26	T,M	tert-Butyl ethyl ether (ETB	10.000	11.107	-11.1	93	0.01
27	T,M	2-Butanone	50.000	49.082	1.8	82	0.01
28	T,M	2,2-Dichloropropane	10.000	11.183	-11.8	100	0.01
29	T,M	cis-1,2-Dichloroethene	10.000	9.611	3.9	83	0.01
30	C,T,M	Chloroform	10.000	10.566	-5.7	90	0.01
31	T,M	tert-Amyl alcohol	-1.000	0.000	0.0	0	0.00
32	T,M	Bromochloromethane	10.000	11.233	-12.3	92	0.00
33	T,M	Tetrahydrofuran	10.000	11.333	-13.3	89	0.01
34	S	Dibromofluoromethane	10.000	9.701	3.0	85	0.01
35	T,M	1,1,1-Trichloroethane	10.000	10.688	-6.9	93	0.01
36	T,M	Cyclohexane	10.000	11.731	-17.3	109	0.01
37	T,M	2,2,4-Trimethylpentane	-1.000	0.000	0.0	0	0.00
38	T,M	1,1-Dichloropropene	10.000	9.781	2.2	84	0.01
39	T,M	Carbon tetrachloride	10.000	10.440	-4.4	91	0.01
40	T,M	tert-Amyl methyl ether (TAM	10.000	10.828	-8.3	89	0.01
41	S	1,2-Dichloroethane-d4	10.000	11.410	-14.1	101	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	10.000	11.773	-17.7	98	0.01
43	T,M	Benzene	10.000	10.183	-1.8	89	0.01
44	T,M	Trichloroethene	10.000	9.400	6.0	81	0.01
45	T,M	Methylcyclohexane	10.000	12.227	-22.3#	112	0.00
46	C,T,M	1,2-Dichloropropane	10.000	10.834	-8.3	91	0.01
47	T,M	1,4-Dioxane	200.000	173.043	13.5	73	0.01
48	T,M	Bromodichloromethane	10.000	10.586	-5.9	90	0.01
49	T,M	Dibromomethane	10.000	9.881	1.2	80	0.01
50	T,M	2-Chloroethyl vinyl ether	10.000	8.948	10.5	73	0.01
51	T,M	4-Methyl-2-pentanone	50.000	53.779	-7.6	91	0.01
52	T,M	cis-1,3-Dichloropropene	10.000	10.663	-6.6	88	0.01
53	I	CHLOROBENZENE-D5	10.000	10.000	0.0	96	0.00
54	S	Toluene-d8	10.000	9.715	2.9	92	0.01
55	C,T,M	Toluene	10.000	9.801	2.0	89	0.01
56	T,M	Ethyl methacrylate	10.000	10.317	-3.2	89	0.01
57	T,M	trans-1,3-Dichloropropene	10.000	10.651	-6.5	92	0.00
58	T,M	1,1,2-Trichloroethane	10.000	10.081	-0.8	87	0.01
59	T,M	2-Hexanone	50.000	52.722	-5.4	93	0.01
60	T,M	1,3-Dichloropropane	10.000	10.688	-6.9	93	0.01
61	T,M	Tetrachloroethene	10.000	8.977	10.2	83	0.01
62	T,M	Dibromochloromethane	10.000	9.324	6.8	81	0.01
63	T,M	2-Ethyl-1-butanol	-1.000	0.000	0.0	0	0.00
64	T,M	1,2-Dibromoethane	10.000	9.458	5.4	84	0.01
65	T,M	1-Chlorohexane	10.000	9.971	0.3	93	0.01
66	P, T,M	Chlorobenzene	10.000	10.119	-1.2	90	0.01
67	T,M	1,1,1,2-Tetrachloroethane	10.000	10.049	-0.5	89	0.01
68	C,T,M	Ethylbenzene	10.000	10.576	-5.8	97	0.01
69	T,M	m-Xylene & p-Xylene	20.000	21.239	-6.2	98	0.01
70	T,M	o-Xylene	10.000	10.554	-5.5	97	0.00
71	T,M	Styrene	10.000	10.366	-3.7	93	0.00
72	T,M	Isopropylbenzene	10.000	10.851	-8.5	99	0.01
73	I	1,2-DICHLOROBENZENE-D4	10.000	10.000	0.0	99	0.00
74	P,T,M	Bromoform	10.000	8.333	16.7	76	0.01
75	P,T,M	1,1,2,2-Tetrachloroethane	10.000	10.272	-2.7	93	0.01
76	S	4-Bromofluorobenzene	10.000	10.189	-1.9	98	0.01
77	T,M	1,2,3-Trichloropropane	10.000	10.517	-5.2	96	0.01
78	T,M	trans-1,4-Dichloro-2-butene	10.000	11.473	-14.7	100	0.01
79	T,M	n-Propylbenzene	10.000	10.421	-4.2	99	0.01
80	T,M	Bromobenzene	10.000	9.677	3.2	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	10.000	10.644	-6.4	103	0.01
82	T,M	2-Chlorotoluene	10.000	11.015	-10.2	104	0.01
83	T,M	4-Chlorotoluene	10.000	10.011	-0.1	97	0.01
84	T,M	tert-Butylbenzene	10.000	10.781	-7.8	105	0.01
85	T,M	1,2,4-Trimethylbenzene	10.000	10.986	-9.9	104	0.01
86	T,M	sec-Butylbenzene	10.000	10.780	-7.8	105	0.01
87	T,M	p-Isopropyltoluene	10.000	11.002	-10.0	106	0.00
88	T,M	1,3-Dichlorobenzene	10.000	10.205	-2.1	97	0.00
89	T,M	1,4-Dichlorobenzene	10.000	10.250	-2.5	97	0.00
90	T,M	n-Butylbenzene	10.000	11.015	-10.2	106	0.00
91	T,M	1,2-Dichlorobenzene	10.000	10.320	-3.2	97	0.01
92	T,M	1,2-Dibromo-3-chloropropane	10.000	9.045	9.6	86	0.00
93	T,M	1,2,4-Trichlorobenzene	10.000	9.528	4.7	90	0.00
94	T,M	Hexachlorobutadiene	10.000	10.770	-7.7	103	0.01
95	T,M	Naphthalene	10.000	9.716	2.8	91	0.01
96	T,M	1,2,3-Trichlorobenzene	10.000	9.709	2.9	89	0.00

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	93	0.01
2	T,M	Dichlorodifluoromethane	0.269	0.294	-9.3	100	0.00
3	P,T,M	Chloromethane	0.482	0.470	2.5	86	0.00
4	C,T,M	Vinyl chloride	0.429	0.400	6.8	80	0.00
5	T,M	Bromomethane	0.254	0.210	17.3	73	0.00
6	T,M	Chloroethane	0.253	0.234	7.5	83	0.00
7	T,M	Dichlorofluoromethane	0.702	0.767	-9.3	97	0.00
8	T,M	Trichlorofluoromethane	0.378	0.374	1.1	89	0.00
9	T,M	Acrolein	0.017	0.017	0.0	87	0.01
10	T,M	1,1,2-Trichloro-1,2,2-trifl	0.204	0.180	11.8	81	0.01
11	T,M	Acetone	0.030	0.034	-13.3	99	0.00
12	C,T,M	1,1-Dichloroethene	0.624	0.639	-2.4	90	0.00
13	T,M	tert-Butyl alcohol	0.010	0.009	10.0	75	0.01
14	T,M	Acetonitrile	0.000	0.000	0.0	0#	0.00
15	T,M	Methyl acetate	0.121	0.126	-4.1	89	0.00
16	T,M	Iodomethane	0.509	0.414	18.7	71	0.01
17	T,M	Methylene chloride	0.450	0.486	-8.0	95	0.01
18	T,M	Carbon disulfide	1.249	1.180	5.5	88	0.01
19	T,M	Acrylonitrile	0.050	0.048	4.0	82	0.01
20	T,M	tert-Butyl methyl ether (MT	0.491	0.526	-7.1	90	0.01
21	T,M	trans-1,2-Dichloroethene	0.574	0.606	-5.6	89	0.01
22	T,M	Isopropyl ether (DIPE)	1.342	1.466	-9.2	95	0.01
23	T,M	Vinyl acetate	0.423	0.429	-1.4	83	0.01
24	P,T,M	1,1-Dichloroethane	0.665	0.714	-7.4	94	0.01
25	T,M	2-Butanol	0.010	0.009	10.0	77	0.01
26	T,M	tert-Butyl ethyl ether (ETB	0.829	0.921	-11.1	93	0.01
27	T,M	2-Butanone	0.012	0.012	0.0	82	0.01
28	T,M	2,2-Dichloropropane	0.272	0.304	-11.8	100	0.01
29	T,M	cis-1,2-Dichloroethene	0.363	0.349	3.9	83	0.01
30	C,T,M	Chloroform	0.558	0.590	-5.7	90	0.01
31	T,M	tert-Amyl alcohol	0.000	0.000	0.0	0#	0.00
32	T,M	Bromochloromethane	0.267	0.300	-12.4	92	0.00
33	T,M	Tetrahydrofuran	0.049	0.044	10.2	89	0.01
34	S	Dibromofluoromethane	0.297	0.289	2.7	85	0.01
35	T,M	1,1,1-Trichloroethane	0.382	0.408	-6.8	93	0.01
36	T,M	Cyclohexane	0.784	0.920	-17.3	109	0.01
37	T,M	2,2,4-Trimethylpentane	0.000	0.000	0.0	0#	0.00
38	T,M	1,1-Dichloropropene	0.168	0.164	2.4	84	0.01
39	T,M	Carbon tetrachloride	0.355	0.371	-4.5	91	0.01
40	T,M	tert-Amyl methyl ether (TAM	0.117	0.127	-8.5	89	0.01
41	S	1,2-Dichloroethane-d4	0.215	0.245	-14.0	101	0.01

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
42	T,M	1,2-Dichloroethane	0.266	0.313	-17.7	98	0.01
43	T,M	Benzene	1.488	1.516	-1.9	89	0.01
44	T,M	Trichloroethene	0.354	0.333	5.9	81	0.01
45	T,M	Methylcyclohexane	0.601	0.734	-22.1#	112	0.00
46	C,T,M	1,2-Dichloropropane	0.358	0.388	-8.4	91	0.01
47	T,M	1,4-Dioxane	0.001	0.001	0.0	73	0.01
48	T,M	Bromodichloromethane	0.375	0.397	-5.9	90	0.01
49	T,M	Dibromomethane	0.130	0.128	1.5	80	0.01
50	T,M	2-Chloroethyl vinyl ether	0.034	0.030	11.8	73	0.01
51	T,M	4-Methyl-2-pentanone	0.163	0.175	-7.4	91	0.01
52	T,M	cis-1,3-Dichloropropene	0.482	0.514	-6.6	88	0.01
53	I	CHLOROBENZENE-D5	1.000	1.000	0.0	96	0.00
54	S	Toluene-d8	1.472	1.430	2.9	92	0.01
55	C,T,M	Toluene	1.879	1.842	2.0	89	0.01
56	T,M	Ethyl methacrylate	0.301	0.311	-3.3	89	0.01
57	T,M	trans-1,3-Dichloropropene	0.423	0.451	-6.6	92	0.00
58	T,M	1,1,2-Trichloroethane	0.208	0.210	-1.0	87	0.01
59	T,M	2-Hexanone	0.131	0.139	-6.1	93	0.01
60	T,M	1,3-Dichloropropane	0.429	0.458	-6.8	93	0.01
61	T,M	Tetrachloroethene	0.327	0.293	10.4	83	0.01
62	T,M	Dibromochloromethane	0.265	0.247	6.8	81	0.01
63	T,M	2-Ethyl-1-butanol	0.000	0.000	0.0	0#	0.00
64	T,M	1,2-Dibromoethane	0.207	0.195	5.8	84	0.01
65	T,M	1-Chlorohexane	0.791	0.789	0.3	93	0.01
66	P, T,M	Chlorobenzene	1.025	1.037	-1.2	90	0.01
67	T,M	1,1,1,2-Tetrachloroethane	0.312	0.313	-0.3	89	0.01
68	C,T,M	Ethylbenzene	2.105	2.227	-5.8	97	0.01
69	T,M	m-Xylene & p-Xylene	1.535	1.630	-6.2	98	0.01
70	T,M	o-Xylene	1.509	1.593	-5.6	97	0.00
71	T,M	Styrene	1.070	1.109	-3.6	93	0.00
72	T,M	Isopropylbenzene	1.704	1.849	-8.5	99	0.01
73	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	99	0.00
74	P,T,M	Bromoform	0.383	0.319	16.7	76	0.01
75	P,T,M	1,1,2,2-Tetrachloroethane	0.764	0.785	-2.7	93	0.01
76	S	4-Bromofluorobenzene	1.463	1.491	-1.9	98	0.01
77	T,M	1,2,3-Trichloropropane	0.166	0.175	-5.4	96	0.01
78	T,M	trans-1,4-Dichloro-2-butene	0.210	0.241	-14.8	100	0.01
79	T,M	n-Propylbenzene	8.025	8.363	-4.2	99	0.01
80	T,M	Bromobenzene	0.964	0.933	3.2	89	0.00

(#) = Out of Range

Evaluate Continuing Calibration Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
81	T,M	1,3,5-Trimethylbenzene	4.282	4.558	-6.4	103	0.01
82	T,M	2-Chlorotoluene	4.700	5.178	-10.2	104	0.01
83	T,M	4-Chlorotoluene	3.919	3.923	-0.1	97	0.01
84	T,M	tert-Butylbenzene	0.981	1.057	-7.7	105	0.01
85	T,M	1,2,4-Trimethylbenzene	4.123	4.530	-9.9	104	0.01
86	T,M	sec-Butylbenzene	6.104	6.580	-7.8	105	0.01
87	T,M	p-Isopropyltoluene	4.519	4.971	-10.0	106	0.00
88	T,M	1,3-Dichlorobenzene	1.994	2.035	-2.1	97	0.00
89	T,M	1,4-Dichlorobenzene	1.900	1.948	-2.5	97	0.00
90	T,M	n-Butylbenzene	5.004	5.512	-10.2	106	0.00
91	T,M	1,2-Dichlorobenzene	1.614	1.666	-3.2	97	0.01
92	T,M	1,2-Dibromo-3-chloropropane	0.080	0.079	1.3	86	0.00
93	T,M	1,2,4-Trichlorobenzene	0.837	0.797	4.8	90	0.00
94	T,M	Hexachlorobutadiene	0.540	0.582	-7.8	103	0.01
95	T,M	Naphthalene	1.309	1.272	2.8	91	0.01
96	T,M	1,2,3-Trichlorobenzene	0.624	0.606	2.9	89	0.00

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) 1,4-DIFLUOROBENZENE	8.87	114	1336991	10.00	ug/l	0.01
53) CHLOROBENZENE-D5	13.78	117	1074952	10.00	ug/l	0.00
73) 1,2-DICHLOROBENZENE-D4	18.09	152	348770	10.00	ug/l	0.00
System Monitoring Compounds						
34) Dibromofluoromethane	7.37	111	385739	9.70	ug/l	0.01
Spiked Amount 10.000			Recovery = 97.00%			
41) 1,2-Dichloroethane-d4	8.20	65	327514	11.41	ug/l	0.01
Spiked Amount 10.000			Recovery = 114.10%			
54) Toluene-d8	11.34	98	1537566	9.72	ug/l	0.01
Spiked Amount 10.000			Recovery = 97.20%			
76) 4-Bromofluorobenzene	15.76	95	520018	10.19	ug/l	0.01
Spiked Amount 10.000			Recovery = 101.90%			
Target Compounds						Qvalue
2) Dichlorodifluoromethane	1.80	85	393463	10.95	ug/l	98
3) Chloromethane	2.03	50	627788	9.75	ug/l	99
4) Vinyl chloride	2.17	62	534379	9.31	ug/l	100
5) Bromomethane	2.66	94	280956	8.26	ug/l	97
6) Chloroethane	2.76	64	312840	9.25	ug/l	96
7) Dichlorofluoromethane	2.79	67	1025311	10.93	ug/l	98
8) Trichlorofluoromethane	3.06	101	500267	9.89	ug/l	100
9) Acrolein	3.58	56	110583	49.90	ug/l	94
10) 1,1,2-Trichloro-1,2,2-trif	3.63	151	240706	8.83	ug/l	99
11) Acetone	3.66	43	230343	56.75	ug/l	99
12) 1,1-Dichloroethene	3.83	61	854028	10.24	ug/l	94
13) tert-Butyl alcohol	3.95	59	62343	46.42	ug/l #	74
15) Methyl acetate	4.31	43	168150	10.35	ug/l	99
16) Iodomethane	4.28	142	553840	8.13	ug/l	94
17) Methylene chloride	4.53	49	649667	10.80	ug/l	91
18) Carbon disulfide	4.53	76	1577820	9.45	ug/l	99
19) Acrylonitrile	4.73	53	321430	48.13	ug/l	99
20) tert-Butyl methyl ether (M	4.77	73	703743	10.71	ug/l	98
21) trans-1,2-Dichloroethene	4.98	61	810824	10.56	ug/l	92
22) Isopropyl ether (DIPE)	5.53	45	1960486	10.93	ug/l	96
23) Vinyl acetate	5.72	43	573870	10.15	ug/l	96
24) 1,1-Dichloroethane	5.69	63	954620	10.73	ug/l	99
25) 2-Butanol	6.11	45	62629	45.34	ug/l #	44
26) tert-Butyl ethyl ether (ET	6.24	59	1230996	11.11	ug/l	97
27) 2-Butanone	6.45	72	81184	49.08	ug/l #	83
28) 2,2-Dichloropropane	6.66	77	406928	11.18	ug/l	96
29) cis-1,2-Dichloroethene	6.73	96	466939	9.61	ug/l	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
30)	Chloroform	7.00	83	788656	10.57 ug/l	98
32)	Bromochloromethane	7.27	49	400485	11.23 ug/l	85
33)	Tetrahydrofuran	7.34	42	59441	11.33 ug/l	98
35)	1,1,1-Trichloroethane	7.67	97	545864	10.69 ug/l	97
36)	Cyclohexane	7.68	56	1229759	11.73 ug/l	95
38)	1,1-Dichloropropene	7.94	110	219351	9.78 ug/l	99
39)	Carbon tetrachloride	8.09	119	495371	10.44 ug/l	100
40)	tert-Amyl methyl ether (TA	8.16	87	169658	10.83 ug/l	96
42)	1,2-Dichloroethane	8.37	62	419091	11.77 ug/l	99
43)	Benzene	8.38	78	2026326	10.18 ug/l	99
44)	Trichloroethene	9.39	130	445135	9.40 ug/l	96
45)	Methylcyclohexane	9.47	83	981723	12.23 ug/l	96
46)	1,2-Dichloropropane	9.68	63	519064	10.83 ug/l	93
47)	1,4-Dioxane	10.11	88	26269	173.04 ug/l	94
48)	Bromodichloromethane	10.06	83	530799	10.59 ug/l	100
49)	Dibromomethane	10.14	93	171377	9.88 ug/l	93
50)	2-Chloroethyl vinyl ether	10.60	63	40479	8.95 ug/l	96
51)	4-Methyl-2-pentanone	10.64	43	1169627	53.78 ug/l	97
52)	cis-1,3-Dichloropropene	10.96	75	687169	10.66 ug/l	96
55)	Toluene	11.46	91	1979933	9.80 ug/l	100
56)	Ethyl methacrylate	11.79	69	334308	10.32 ug/l	89
57)	trans-1,3-Dichloropropene	11.77	75	484599	10.65 ug/l	92
58)	1,1,2-Trichloroethane	12.03	97	225314	10.08 ug/l	99
59)	2-Hexanone	12.06	43	744740	52.72 ug/l	96
60)	1,3-Dichloropropane	12.44	76	492854	10.69 ug/l	100
61)	Tetrachloroethene	12.52	164	315376	8.98 ug/l	96
62)	Dibromochloromethane	12.84	129	265917	9.32 ug/l	99
64)	1,2-Dibromoethane	13.17	107	210084	9.46 ug/l	99
65)	1-Chlorohexane	13.45	91	848115	9.97 ug/l	94
66)	Chlorobenzene	13.85	112	1114955	10.12 ug/l	96
67)	1,1,1,2-Tetrachloroethane	13.93	131	336885	10.05 ug/l	98
68)	Ethylbenzene	13.94	91	2393511	10.58 ug/l	99
69)	m-Xylene & p-Xylene	14.06	91	3504326	21.24 ug/l	99
70)	o-Xylene	14.76	91	1711981	10.55 ug/l	99
71)	Styrene	14.82	104	1192297	10.37 ug/l	97
72)	Isopropylbenzene	15.36	105	1987249	10.85 ug/l	100
74)	Bromoform	15.37	173	111209	8.33 ug/l	99
75)	1,1,2,2-Tetrachloroethane	15.64	83	273861	10.27 ug/l	100
77)	1,2,3-Trichloropropane	15.88	110	60968	10.52 ug/l	95
78)	trans-1,4-Dichloro-2-buten	16.00	53	83902	11.47 ug/l	97
79)	n-Propylbenzene	16.01	91	2916657	10.42 ug/l	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report (QT Reviewed)

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:08 2016 Quant Results File: VO06C10.RES

Quant Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration
DataAcq Meth : VO06C10

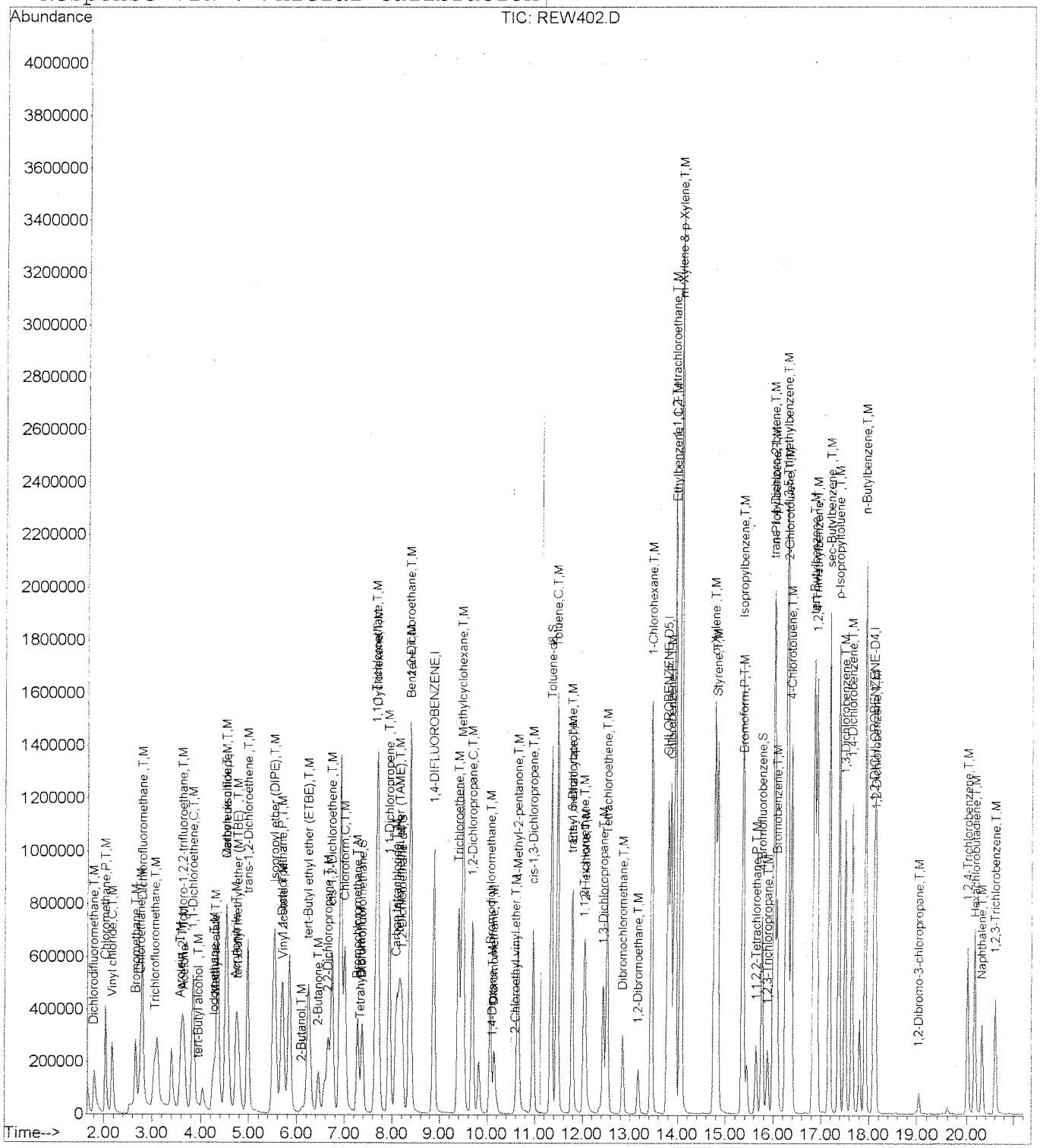
	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
80)	Bromobenzene	16.07	156	325502	9.68 ug/l	90
81)	1,3,5-Trimethylbenzene	16.26	105	1589635	10.64 ug/l	100
82)	2-Chlorotoluene	16.29	91	1805765	11.02 ug/l	99
83)	4-Chlorotoluene	16.37	91	1368175	10.01 ug/l	100
84)	tert-Butylbenzene	16.84	134	368786	10.78 ug/l	97
85)	1,2,4-Trimethylbenzene	16.90	105	1579809	10.99 ug/l	99
86)	sec-Butylbenzene	17.17	105	2295041	10.78 ug/l	100
87)	p-Isopropyltoluene	17.36	119	1733765	11.00 ug/l	100
88)	1,3-Dichlorobenzene	17.50	146	709807	10.20 ug/l	99
89)	1,4-Dichlorobenzene	17.65	146	679351	10.25 ug/l	100
90)	n-Butylbenzene	17.91	91	1922446	11.02 ug/l	99
91)	1,2-Dichlorobenzene	18.14	146	580961	10.32 ug/l	98
92)	1,2-Dibromo-3-chloropropan	19.04	157	27431	9.04 ug/l	94
93)	1,2,4-Trichlorobenzene	20.01	180	278083	9.53 ug/l	99
94)	Hexachlorobutadiene	20.17	225	202974	10.77 ug/l	98
95)	Naphthalene	20.32	128	443539	9.72 ug/l	99
96)	1,2,3-Trichlorobenzene	20.60	180	211420	9.71 ug/l	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : D:\HPCHEM\1\DATA\16E20\REW402.D Vial: 2
Acq On : 20 May 2016 11:47 am Operator: ODinh
Sample : CVO06C1042 Inst : 06
Misc : 10ppb 8260/50ppb KET-AA-TBA Multiplr: 1.00
MS Integration Params: RTE.P
Quant Time: May 20 12:08 2016 Quant Results File: VO06C10.RE

Method : D:\HPCHEM\1\METHODS\VO06C10.M (RTE Integrator)
Title : METHOD 8260
Last Update : Fri Mar 11 10:33:59 2016
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 03/10/16 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: A06-060

BATCH CVD06C106

Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01	RCW 153	BFB06C07		NA	NA	NA		17:55
02	154	VD06C101	A .03 (µL)					0.3 / 1.5 ppb
03	155	2	.05					0.5 2.5
04	156	3	.1					1 5
05	157	4	.2					2 10
06	158	5	.5					5 25
07	159	6	1					10 50
08	160	7	2					20 100
09	161	8	3					30 150
10	162	9	5					50 250
11	163	10	10					100 500 ppb
12	164	RINSE						
13	165							
14	166	IVD06C1001						10 50 ppb (☆)
15	167	RINSE						
16	168	LOD VERF.						0.2 / 1 ppb
17	169							00:47
18								
19								
20								
21								
22								A: CS, Gas, 8260, SS,
23								Kat: AA + 4add.
24								
25								
26								
27								
28								
29								
30								03/11/16

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	03/10/16
ICAL ID	VD06C10

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-26-35-03	*	250
DCC	-45-02		250
DCC	-42-03		250
DCC	-35-01		250/1250
BFB	-29-01	1	50
IS/SURR.	-44-01 -14-01	1 *	250 250
ICV/LCS	-20-02 -45-01	1 1	250 250
ICV/LCS	-28-03 46-01	5 5	50 250
ICV/LCS	-31-03	5	250
ICV/LCS	SV1-12-49-16	1.25	2000
Data File Folder	16C10		

	LOT #	Syringe Lot #
pH strip	–	MSV-01-01-01
Chlorine strip	–	-02-10-10
Methanol		-02-22-2
$NaHSO_4$		-01-22
Reagent Water	RW4-15-001	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments: * Variet amount
(☆) Not valid for 2CLEVE

Analyzed By: OP

Date Disposed: 03/11/16 Disposed By: OP

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 05/19/16 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge Book #: A06-061

BATCH V0006C1041

Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01	REW371	BFB06E16						13:31
02	372	CV006C1041						
03	373	V006E16L						
04	374	↓ C						
05	375	RINSE						
06	376	V006E16B	25mL					
07	377	16E133-01	↓	1.0	✓	✓		
08	378	↓ -02	↓	↓	✓	✓		Foamer, RR at 57
09	379	RINSE						
10	380	↓						
11	381	16E160-01	25mL	1.0	✓	✓		IS failed, RR
12	382	-11	↓	↓	✓	✓		↓
13	383	-09	↓	↓	✓	✓		↓
14	384	-09M	↓	↓	✓	✓		↓
15	385	↓ -09S	↓	↓	✓	✓		↓
16	386	RINSE						
17	387	16E160-02	25mL	1.0	✓	✓		IS failed, RR
18	388	-03	↓	↓	✓	✓		↓
19	389	-04	↓	↓	✓	✓		↓
20	390	-05	↓	↓	✓	✓		↓
21	391	-06	↓	↓	✓	✓		↓
22	392	-07	↓	↓	✓	✓		↓
23	393	-08	↓	↓	✓	✓		↓
24	394	↓ -10	↓	↓	✓	✓		↓ 23:31
25	↓ 395→400	RINSE						
26								
27								
28								
29								
30								05/20/16 OD

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	05/10/16
ICAL ID	V006C10

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SM-26-60-01	1	
DCC	-68-03	1	
DCC	-59-02	5	
DCC	-62-01	5	
BFB	-29-02	1	50/250
IS/SURR.	-66-01	1	
ICV/LCS	-58-02	1	
ICV/LCS	-56-02	1	
ICV/LCS	-59-01	5	
ICV/LCS	↓ -28-03	5	
Data File Folder	16E19		

	LOT #	Syringe Lot #
pH strip	HC574756	MSV-07-01-04
Chlorine strip	6021	-02-10-10
Methanol		-02-22-2
$NaHSO_4$		↓ -02-22
Reagent Water	RW4-15-001	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: OD

Date Disposed: 05/20/16 Disposed By: OD

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 1 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 05/20/16 ☐ 5-mL Purge ☐ 10-mL Purge ☑ 25-mL Purge

Book #: A06-061

BATCH V0006C1042

Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH <2	Matrix W Cl_2 <5ppm	Matrix S	Notes
01	REW 401	BFB06E17						11:15
02	402	CLB06C1042						
03	403	V006E17L						
04	404	↓ C						
05	405	RINSE						
06	406	V006 E17B	25mL					
07	407	16E133-02	2.5mL	10	✓	✓		Foamer
08	408	RINSE						
09	409	16E144-01	25mL	1.0	✓	✓		
10	410	16E155-01			✓	✓		
11	411	16E162-01			✓	✓		
12	412	16E175-10			✓	✓		
13	413	16E144-02			✓	✓		
14	414	-03			✓	✓		
15	415	↓ -04			✓	✓		
16	416	16E155-02			✓	✓		ss high pH
17	417	16E162-02			✓	✓		
18	418	16E175-01			✓	✓		
19	419	-02			✓	✓		
20	420	-03			✓	✓		
21	421	-04			✓	✓		
22	422	-05			✓	✓		
23	423	-06			✓	✓		
24	424	-07			✓	✓		
25	425	-08			✓	✓		
26	426	↓ -09	↓	↓	✓	✓		22:28
27	427	CV006C1042A						
28	428	RINSE						
29	↓	↓						
30	433							

Instrument No.	06
INITIAL CALIBRATION REFERENCE	
DATE	03/10/16
ICAL ID	V006C10

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-26-60-01	1	
DCC	-68-03	1	
DCC	-59-02	5	
DCC	-62-01	5	
DCC	-61-02	1	
BFB	-29-02	1	
IS/SURR.	-66-01	1	50/250
ICV/LCS	-58-02	1	
ICV/LCS	-56-02	1	
ICV/LCS	-59-01	5	
ICV/LCS	-28-03	5	
ICV/LCS	-31-03	5	
ICV/LCS	-63-03	5	
Data File Folder	16E20		

	LOT #	Syringe Lot #
pH strip	HC574756	MSV-07-01-04
Chlorine strip	6021	-02-1070
Methanol		-02-22-2
$NaHSO_4$		-02-22
Reagent Water	RW4-15-001	-02-18
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TO06	

Comments:

Analyzed By: DD

Date Disposed: 05/23/16 Disposed By: DD

TCLP VOLATILE ORGANICS

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/26/16 12:31
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/26/16 12:31
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	REN144	Matrix :	LEACHATE
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	50	5.0	10
2-BUTANONE	ND	100	25	50
CARBON TETRACHLORIDE	ND	50	5.4	10
CHLOROBENZENE	ND	50	5.0	10
CHLOROFORM	ND	50	5.0	10
1,4-DICHLOROBENZENE	ND	50	5.0	10
1,2-DICHLOROETHANE	ND	50	5.0	10
1,1-DICHLOROETHENE	ND	50	5.0	10
TETRACHLOROETHENE	ND	50	5.0	10
TRICHLOROETHENE	ND	50	5.0	10
VINYL CHLORIDE	ND	50	6.1	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	454	500.0	90.8	70-120
4-BROMOFLUOROBENZENE	456	500.0	91.1	75-120
TOLUENE-D8	488	500.0	97.6	85-120
DIBROMOFLUOROMETHANE	500	500.0	100	85-115

DateTime Leached: 05/24/16 15:30

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN144.D
Acq On : 26 May 2016 12:31 pm
Operator : DNguye
Sample : 16E133-03 0.5mL
Misc : DF=10
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 03 10:53:58 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

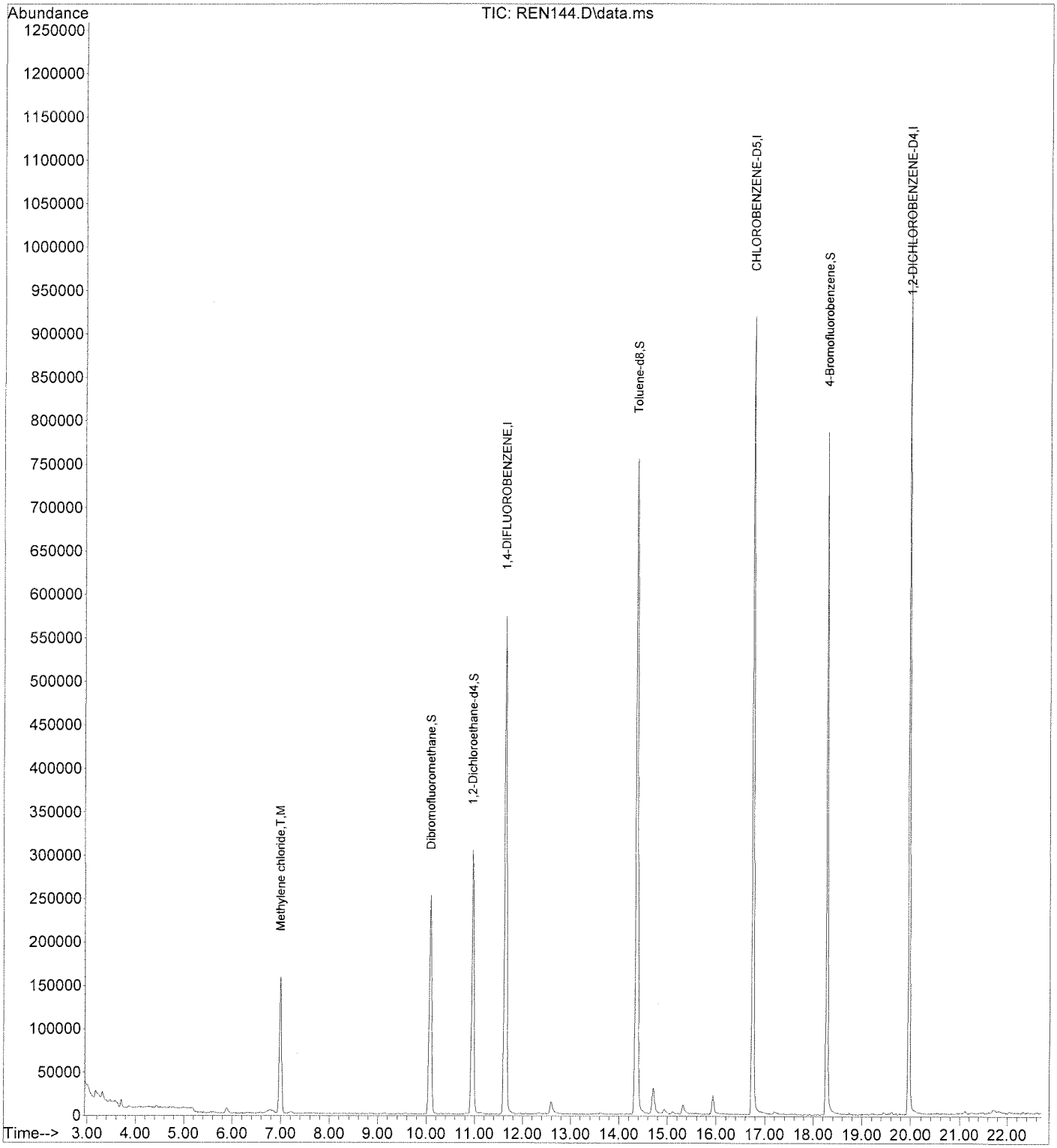
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-DIFLUOROBENZENE	11.631	114	716258	50.00 ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	630721	50.00 ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	277231	50.00 ug/l	0.00
System Monitoring Compounds					
38) Dibromofluoromethane	10.079	111	260471	50.00 ug/l	0.00
Spiked Amount 50.000			Recovery =	100.00%	
44) 1,2-Dichloroethane-d4	10.949	65	347518	45.38 ug/l	-0.01
Spiked Amount 50.000			Recovery =	90.76%	
57) Toluene-d8	14.360	98	842255	48.81 ug/l	0.00
Spiked Amount 50.000			Recovery =	97.62%	
77) 4-Bromofluorobenzene	18.267	95	302553	45.57 ug/l	0.00
Spiked Amount 50.000			Recovery =	91.14%	
Target Compounds					Qvalue
19) Methylene chloride	6.987	49	172851	18.11 ug/l M	96

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN144.D
Acq On : 26 May 2016 12:31 pm
Operator : DNguye
Sample : 16E133-03 0.5mL
Misc : DF=10
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 03 10:53:58 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



QC SUMMARIES

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/26/16
Batch No.	: 16E133	Date Extracted:	05/26/16 11:35
Sample ID:	MBLK1W	Date Analyzed:	05/26/16 11:35
Lab Samp ID:	VSF4E08B	Dilution Factor:	1
Lab File ID:	REN142	Matrix :	WATER
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	5.0	0.50	1.0
2-BUTANONE	ND	10	2.5	5.0
CARBON TETRACHLORIDE	ND	5.0	0.54	1.0
CHLOROBENZENE	ND	5.0	0.50	1.0
CHLOROFORM	ND	5.0	0.50	1.0
1,4-DICHLOROBENZENE	ND	5.0	0.50	1.0
1,2-DICHLOROETHANE	ND	5.0	0.50	1.0
1,1-DICHLOROETHENE	ND	5.0	0.50	1.0
TETRACHLOROETHENE	ND	5.0	0.50	1.0
TRICHLOROETHENE	ND	5.0	0.50	1.0
VINYL CHLORIDE	ND	5.0	0.61	1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	45.1	50.00	90.2	70-120
4-BROMOFLUOROBENZENE	46.2	50.00	92.4	75-120
TOLUENE-D8	49.3	50.00	98.7	85-120
DIBROMOFLUOROMETHANE	49.9	50.00	99.8	85-115

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/5030B/8260B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	VSF4E08B	VSF4E08L	VSF4E08C		
LAB FILE ID:	REN142	REN140	REN141		
DATE EXTRACTED:	05/26/1611:35	05/26/1610:40	05/26/1611:08	DATE COLLECTED:	NA
DATE ANALYZED:	05/26/1611:35	05/26/1610:40	05/26/1611:08	DATE RECEIVED:	05/26/16
PREP. BATCH:	VSF4E08	VSF4E08	VSF4E08		
CALIB. REF:	RCN007	RCN007	RCN007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Benzene	ND	50.0	56.4	113	50.0	57.8	116	3	80-120	30
2-Butanone	ND	250	209	84	250	261	105	22	30-150	30
Carbon Tetrachloride	ND	50.0	54.3	109	50.0	56.5	113	4	65-140	30
Chlorobenzene	ND	50.0	55.1	110	50.0	56.9	114	3	80-120	30
Chloroform	ND	50.0	56.5	113	50.0	57.7	115	2	65-135	30
1,4-Dichlorobenzene	ND	50.0	55.3	111	50.0	57.0	114	3	75-125	30
1,2-Dichloroethane	ND	50.0	47.6	95	50.0	48.3	97	1	70-130	30
1,1-Dichloroethene	ND	50.0	48.8	98	50.0	51.2	102	5	70-130	30
Tetrachloroethene	ND	50.0	53.3	107	50.0	57.4	115	7	45-150	30
Trichloroethene	ND	50.0	55.5	111	50.0	57.9	116	4	70-125	30
Vinyl Chloride	ND	50.0	50.6	101	50.0	46.7	93	8	50-145	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
1,2-Dichloroethane-d4	50.0	43.5	87	50.0	42.9	86	70-120
4-Bromofluorobenzene	50.0	46.5	93	50.0	46.7	93	75-120
Toluene-d8	50.0	50.1	100	50.0	50.3	101	85-120
Dibromofluoromethane	50.0	49.9	100	50.0	49.0	98	85-115

METHOD SW1311/5030B/8260B
TCLP VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/26/16
Batch No.	: 16E133	Date Extracted:	05/26/16 12:03
Sample ID:	MBLK2W	Date Analyzed:	05/26/16 12:03
Lab Samp ID:	TVE003SB	Dilution Factor:	10
Lab File ID:	REN143	Matrix :	LEACHATE
Ext Btch ID:	VSF4E08	% Moisture :	NA
Calib. Ref.:	RCN007	Instrument ID :	TOF4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
BENZENE	ND	50	5.0	10
2-BUTANONE	ND	100	25	50
CARBON TETRACHLORIDE	ND	50	5.4	10
CHLOROBENZENE	ND	50	5.0	10
CHLOROFORM	ND	50	5.0	10
1,4-DICHLOROBENZENE	ND	50	5.0	10
1,2-DICHLOROETHANE	ND	50	5.0	10
1,1-DICHLOROETHENE	ND	50	5.0	10
TETRACHLOROETHENE	ND	50	5.0	10
TRICHLOROETHENE	ND	50	5.0	10
VINYL CHLORIDE	ND	50	6.1	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
1,2-DICHLOROETHANE-D4	460	500.0	92.0	70-120
4-BROMOFLUOROBENZENE	455	500.0	91.1	75-120
TOLUENE-D8	486	500.0	97.1	85-120
DIBROMOFLUOROMETHANE	507	500.0	101	85-115

DateTime Leached: 05/24/16 15:30

QC DATA

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN142.D
Acq On : 26 May 2016 11:35 am
Operator : DNguye
Sample : VSF4E08B 5.0mL
Misc : DF=1.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 01 14:34:41 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.631	114	756910	50.00	ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	654157	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	288570	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	274787	49.92	ug/l	0.00
Spiked Amount 50.000			Recovery = 99.84%			
44) 1,2-Dichloroethane-d4	10.949	65	364888	45.09	ug/l	-0.01
Spiked Amount 50.000			Recovery = 90.18%			
57) Toluene-d8	14.360	98	883009	49.34	ug/l	0.00
Spiked Amount 50.000			Recovery = 98.68%			
77) 4-Bromofluorobenzene	18.267	95	319388	46.21	ug/l	0.00
Spiked Amount 50.000			Recovery = 92.42%			

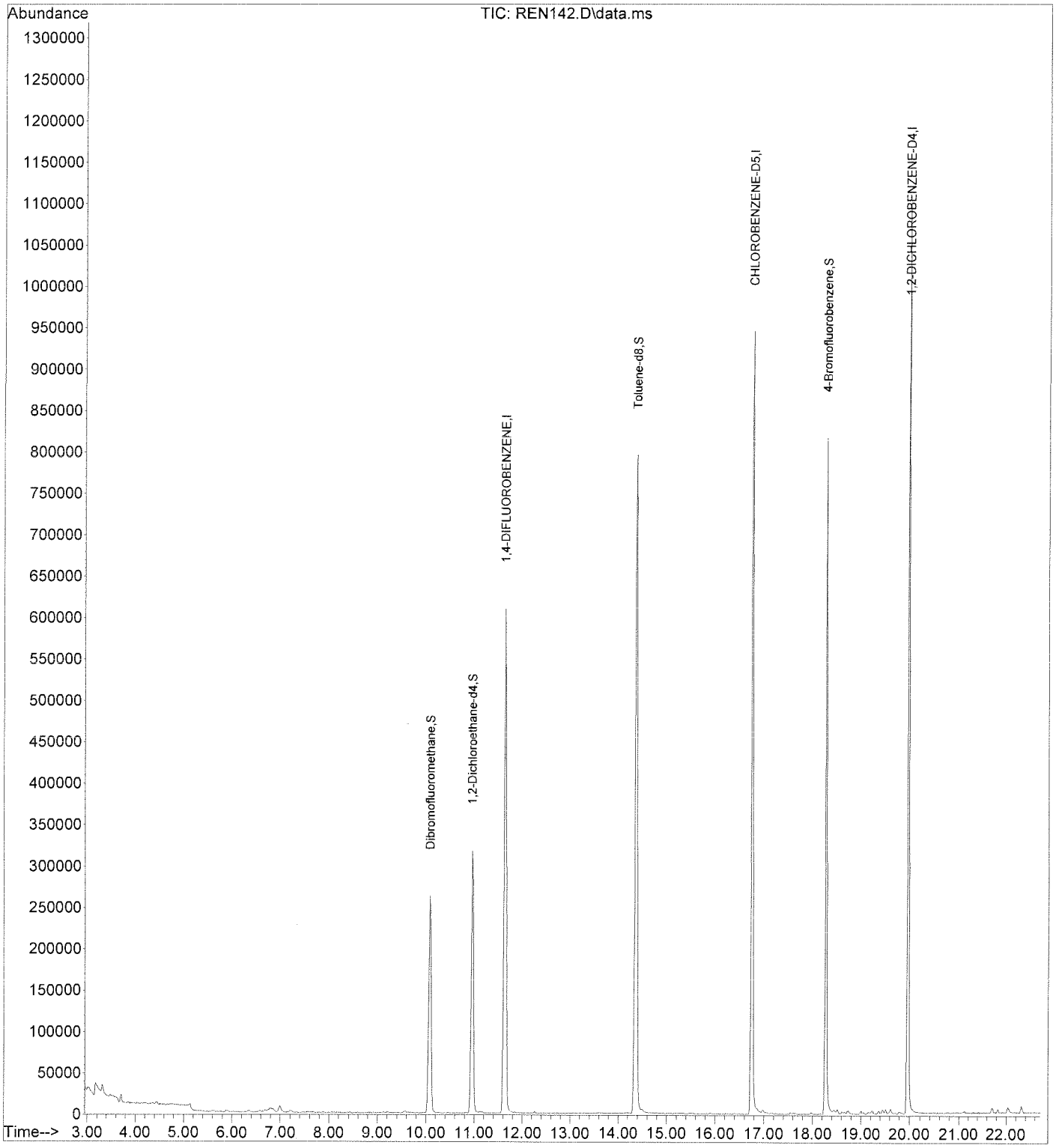
Target Compounds Qvalue

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN142.D
Acq On : 26 May 2016 11:35 am
Operator : DNguye
Sample : VSF4E08B 5.0mL
Misc : DF=1.0
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 01 14:34:41 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN140.D
Acq On : 26 May 2016 10:40 am
Operator : DNguye
Sample : VSF4E08L 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 01 14:35:13 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.631	114	851481	50.00	ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	740824	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	347884	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	309307	49.95	ug/l	0.00
Spiked Amount 50.000			Recovery = 99.90%			
44) 1,2-Dichloroethane-d4	10.948	65	395605	43.46	ug/l	-0.01
Spiked Amount 50.000			Recovery = 86.92%			
57) Toluene-d8	14.360	98	1014753	50.07	ug/l	0.00
Spiked Amount 50.000			Recovery = 100.14%			
77) 4-Bromofluorobenzene	18.267	95	387808	46.54	ug/l	0.00
Spiked Amount 50.000			Recovery = 93.08%			
Target Compounds						Qvalue
3) Dichlorodifluoromethane	3.080	85	327642	44.39	ug/l	100
4) Chloromethane	3.476	50	420414	44.49	ug/l	99
6) Vinyl chloride	3.674	62	331357	50.57	ug/l	89
7) Bromomethane	4.433	94	255843	55.19	ug/l	99
8) Chloroethane	4.566	64	240791	51.41	ug/L	98
9) Dichlorofluoromethane	4.632	67	813356	55.40	ug/L	100
10) Trichlorofluoromethane	5.017	101	515319	56.74	ug/l	100
11) Acrolein	5.754	56	367040	208.14	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.798	151	221850	49.40	ug/l	100
13) Acetone	5.875	43	743870	189.73	ug/l	95
14) 1,1-Dichloroethene	6.117	61	546586	48.77	ug/L	99
15) tert-Butyl alcohol	6.282	59	258934	214.54	ug/L	96
16) Acetonitrile	6.337	41	726943	450.43	ug/L	99
17) Methyl acetate	6.723	43	411676	43.20	ug/L	97
18) Allyl chloride	6.789	76	172215	51.83	ug/L	99
19) Methylene chloride	6.987	49	564320	49.73	ug/l	96
20) Carbon disulfide	7.042	76	1027838	62.52	ug/L	100
21) Acrylonitrile	7.207	53	896398	204.73	ug/l	99
22) tert-Butyl methyl ethe...	7.317	73	812055	45.52	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	299705	51.78	ug/l	96
24) Isopropyl ether (DIPE)	8.131	45	1201062	46.73	ug/l	99
25) Vinyl acetate	8.307	43	605256	36.45	ug/l	98
26) 1,1-Dichloroethane	8.318	63	710469	56.09	ug/l	100
27) 2-Butanol	8.747	45	281918	241.31	ug/L	99
28) tert-Butyl ethyl ether...	8.869	59	1043066	45.63	ug/l	98
29) 2-Butanone	9.067	43	1206387	208.81	ug/l	98
30) Propionitrile	9.177	54	795450	463.43	ug/L	99
31) 2,2-Dichloropropane	9.342	77	443268	57.21	ug/L	99
32) cis-1,2-Dichloroethene	9.419	96	352089	53.30	ug/L	98
33) Methacrylonitrile	9.540	52	895315	464.14	ug/L	92
34) Isobutyl alcohol	9.617	43	599345	797.50	ug/L	75
35) Chloroform	9.694	83	664440	56.47	ug/l	97
36) Bromochloromethane	9.980	49	389979	49.78	ug/l	98
37) Tetrahydrofuran	10.090	42	153139	45.55	ug/L	99
39) 1,1,1-Trichloroethane	10.420	97	495922	55.37	ug/l	98
40) Cyclohexane	10.475	56	860078	61.06	ug/L	99
41) 1,1-Dichloropropene	10.695	110	143259	51.17	ug/L	97
42) tert-Amyl methyl ether...	10.904	87	177044	48.65	ug/l	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN140.D
Acq On : 26 May 2016 10:40 am
Operator : DNguye
Sample : VSF4E08L 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 01 14:35:13 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

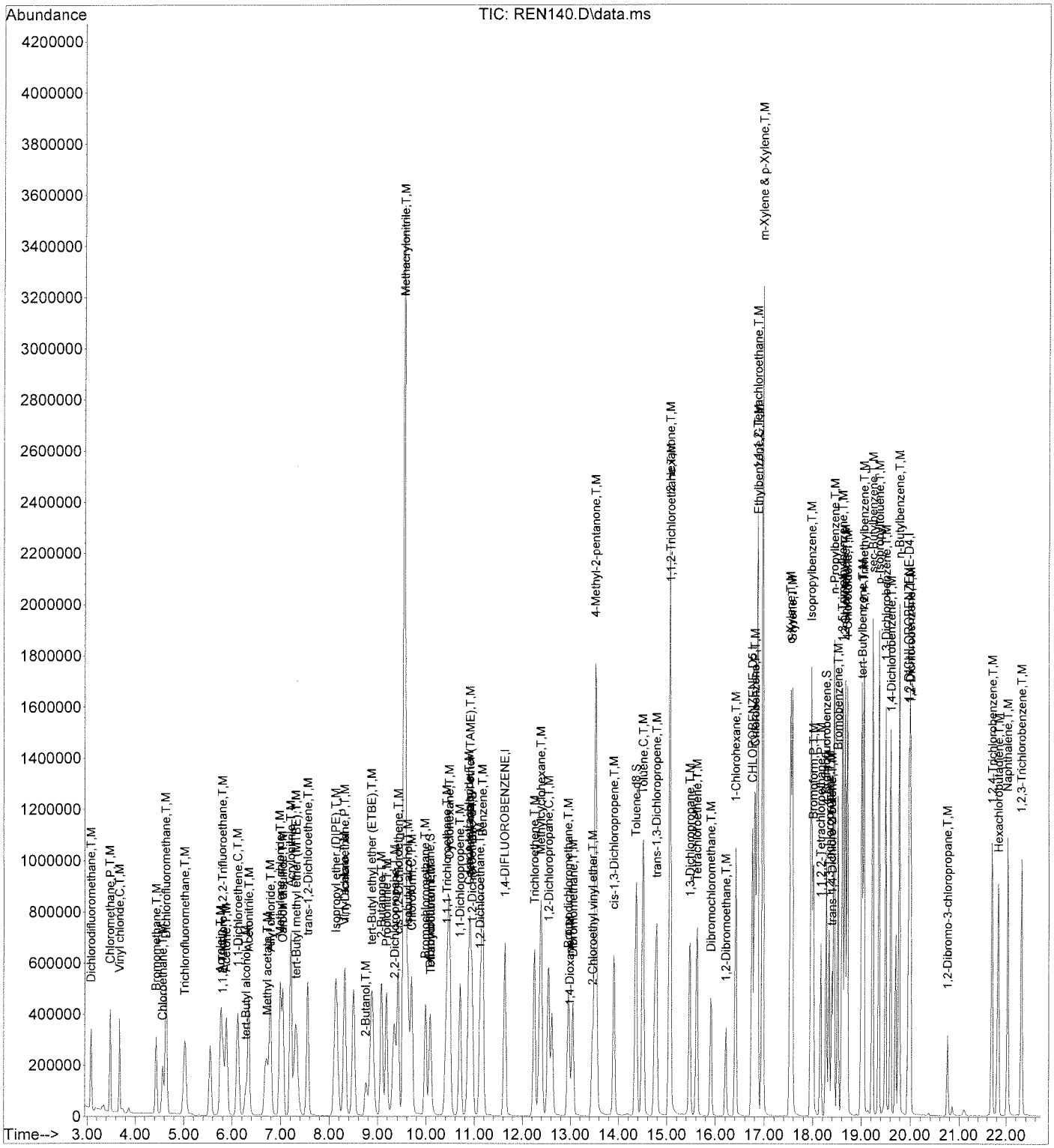
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Carbon tetrachloride	10.882	119	408065	54.31	ug/L	99
45) 1,2-Dichloroethane	11.114	62	546495	47.61	ug/L	99
46) Benzene	11.169	78	1327973	56.37	ug/L	99
47) Trichloroethene	12.247	130	334342	55.48	ug/L	99
48) Methylcyclohexane	12.379	83	627558	64.33	ug/L	98
49) 1,2-Dichloropropane	12.544	63	410138	55.62	ug/L	89
50) 1,4-Dioxane	12.984	88	98062	918.55	ug/L	99
51) Bromodichloromethane	12.951	83	479221	55.54	ug/L	100
52) Dibromomethane	13.050	93	226710	48.96	ug/L	99
53) 2-Chloroethyl vinyl ether	13.458	63	219821	53.30	ug/L	97
54) 4-Methyl-2-pentanone	13.513	43	2593847	223.08	ug/L	99
55) cis-1,3-Dichloropropene	13.898	75	525087	53.86	ug/L	93
58) Toluene	14.503	91	1325967	54.98	ug/L	99
59) trans-1,3-Dichloropropene	14.778	75	483067	53.76	ug/l	85
60) 2-Hexanone	15.053	43	1860189	220.66	ug/l	96
61) 1,1,2-Trichloroethane	15.064	97	309165	52.76	ug/l	94
62) 1,3-Dichloropropane	15.472	76	547510	52.74	ug/l	99
63) Tetrachloroethene	15.615	164	237620	53.28	ug/l	98
64) Dibromochloromethane	15.901	129	325132	53.43	ug/l	100
65) 1,2-Dibromoethane	16.209	107	304617	49.20	ug/l	100
66) 1-Chlorohexane	16.407	91	395985	54.28	ug/l	98
67) Chlorobenzene	16.803	112	848990	55.13	ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	298017	55.66	ug/l	99
69) Ethylbenzene	16.858	91	1519503	56.07	ug/l	99
70) m-Xylene & p-Xylene	16.957	91	2377022	111.86	ug/l	100
71) o-Xylene	17.530	91	1176542	53.85	ug/l	100
72) Styrene	17.563	104	961424	57.53	ug/l	98
73) Isopropylbenzene	17.959	105	1415090	59.40	ug/L	98
75) Bromoform	18.003	173	238919	57.14	ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	408680	46.53	ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	127375	49.02	ug/l	98
79) trans-1,4-Dichloro-2-b...	18.388	53	167360	45.78	ug/l	99
80) n-Propylbenzene	18.432	91	1779911	55.88	ug/l	99
81) Bromobenzene	18.509	156	355862	57.22	ug/l	99
82) 1,3,5-Trimethylbenzene	18.597	105	1160292	55.29	ug/l	100
83) 2-Chlorotoluene	18.652	126	341052	54.75	ug/l	97
84) 4-Chlorotoluene	18.696	126	341629	58.43	ug/l	98
85) tert-Butylbenzene	19.004	134	228790	54.29	ug/l	96
86) 1,2,4-Trimethylbenzene	19.037	105	1194339	54.94	ug/l	99
87) sec-Butylbenzene	19.224	105	1562819	57.81	ug/l	100
88) p-Isopropyltoluene	19.356	119	1205695	56.07	ug/l	99
89) 1,3-Dichlorobenzene	19.500	146	659834	57.30	ug/l	99
91) 1,4-Dichlorobenzene	19.610	146	660557	55.25	ug/l	99
92) n-Butylbenzene	19.775	91	1269879	57.47	ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	639330	55.03	ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	86373	53.75	ug/l	96
95) 1,2,4-Trichlorobenzene	21.701	180	419734	55.27	ug/l	98
96) Hexachlorobutadiene	21.833	225	227513	61.72	ug/l	99
97) Naphthalene	22.020	128	1037073	46.61	ug/l	100
98) 1,2,3-Trichlorobenzene	22.306	180	395731	51.62	ug/l	98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN140.D
Acq On : 26 May 2016 10:40 am
Operator : DNguye
Sample : VSF4E08L 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 01 14:35:13 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN141.D
Acq On : 26 May 2016 11:08 am
Operator : DNguye
Sample : VSF4E08C 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 01 14:35:33 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.631	114	793184	50.00	ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	685156	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	324898	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	282771	49.02	ug/l	0.00
Spiked Amount 50.000			Recovery = 98.04%			
44) 1,2-Dichloroethane-d4	10.948	65	363720	42.89	ug/l	-0.01
Spiked Amount 50.000			Recovery = 85.78%			
57) Toluene-d8	14.360	98	942531	50.28	ug/l	0.00
Spiked Amount 50.000			Recovery = 100.56%			
77) 4-Bromofluorobenzene	18.267	95	363776	46.75	ug/l	0.00
Spiked Amount 50.000			Recovery = 93.50%			
Target Compounds						Qvalue
3) Dichlorodifluoromethane	3.080	85	280858	40.85	ug/l	99
4) Chloromethane	3.476	50	380258	43.20	ug/l	99
6) Vinyl chloride	3.674	62	285301	46.74	ug/l	90
7) Bromomethane	4.433	94	227281	52.57	ug/l	98
8) Chloroethane	4.565	64	210033	48.14	ug/L	97
9) Dichlorofluoromethane	4.631	67	773144	56.53	ug/L	99
10) Trichlorofluoromethane	5.017	101	440602	52.07	ug/l	100
11) Acrolein	5.765	56	396717	241.50	ug/l	100
12) 1,1,2-Trichloro-1,2,2-...	5.798	151	224828	53.74	ug/l	99
13) Acetone	5.875	43	860237	235.54	ug/l	95
14) 1,1-Dichloroethene	6.117	61	534088	51.16	ug/L	98
15) tert-Butyl alcohol	6.293	59	326804	290.68	ug/L	85
16) Acetonitrile	6.337	41	851033	566.08	ug/L	98
17) Methyl acetate	6.722	43	444547	50.08	ug/L	97
18) Allyl chloride	6.789	76	164691	53.21	ug/L	99
19) Methylene chloride	6.987	49	527458	49.90	ug/l	95
20) Carbon disulfide	7.042	76	918316	59.97	ug/L	100
21) Acrylonitrile	7.207	53	994647	243.86	ug/l	99
22) tert-Butyl methyl ethe...	7.317	73	764652	46.02	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	291750	54.11	ug/l	96
24) Isopropyl ether (DIPE)	8.131	45	1113058	46.49	ug/l	99
25) Vinyl acetate	8.307	43	522555	33.94	ug/l	99
26) 1,1-Dichloroethane	8.318	63	671093	56.87	ug/l	100
27) 2-Butanol	8.747	45	344994	317.00	ug/L	98
28) tert-Butyl ethyl ether...	8.868	59	977294	45.89	ug/l	99
29) 2-Butanone	9.067	43	1406254	261.29	ug/l	98
30) Propionitrile	9.177	54	913252	571.16	ug/L	99
31) 2,2-Dichloropropane	9.342	77	425106	58.90	ug/L	100
32) cis-1,2-Dichloroethene	9.408	96	336276	54.64	ug/L	98
33) Methacrylonitrile	9.540	52	924312	514.39	ug/L	93
34) Isobutyl alcohol	9.617	43	746240	1058.25	ug/L	79
35) Chloroform	9.694	83	632055	57.67	ug/l	98
36) Bromochloromethane	9.980	49	365382	50.07	ug/l	97
37) Tetrahydrofuran	10.090	42	172880	55.21	ug/L	99
39) 1,1,1-Trichloroethane	10.420	97	479035	57.41	ug/l	98
40) Cyclohexane	10.464	56	787767	60.04	ug/L	100
41) 1,1-Dichloropropene	10.695	110	141385	54.22	ug/L	98
42) tert-Amyl methyl ether...	10.904	87	165930	48.95	ug/l	95

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN141.D
Acq On : 26 May 2016 11:08 am
Operator : DNguye
Sample : VSF4E08C 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 01 14:35:33 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

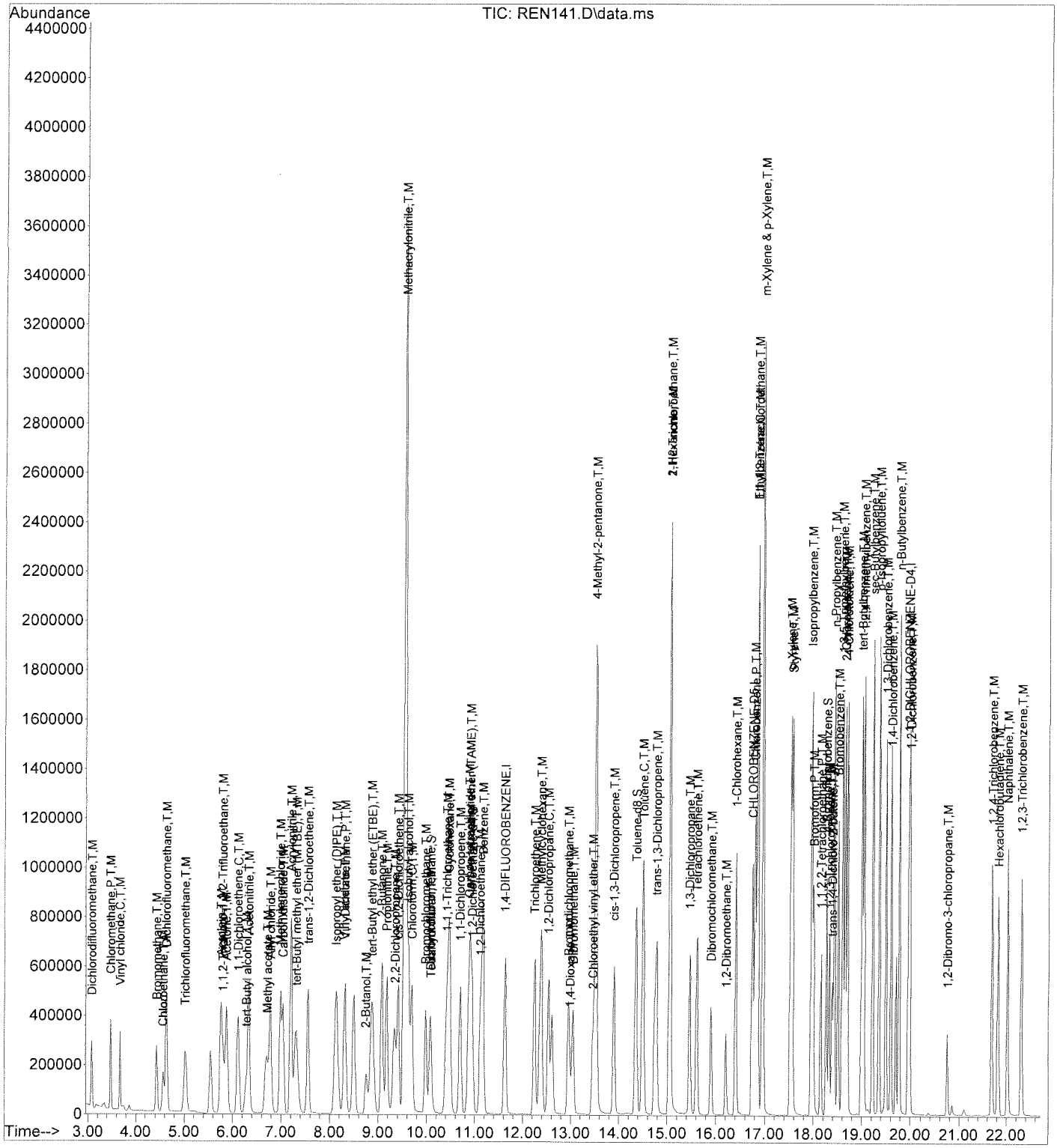
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Carbon tetrachloride	10.882	119	395688	56.54	ug/L	99
45) 1,2-Dichloroethane	11.114	62	516328	48.29	ug/L	100
46) Benzene	11.169	78	1268825	57.81	ug/L	99
47) Trichloroethene	12.247	130	325269	57.94	ug/L	100
48) Methylcyclohexane	12.379	83	561366	61.78	ug/L	98
49) 1,2-Dichloropropane	12.533	63	382879	55.74	ug/L	91
50) 1,4-Dioxane	12.984	88	117994	1186.48	ug/L	98
51) Bromodichloromethane	12.951	83	445535	55.43	ug/L	100
52) Dibromomethane	13.050	93	214520	49.73	ug/L	100
53) 2-Chloroethyl vinyl ether	13.458	63	205647	53.52	ug/L	98
54) 4-Methyl-2-pentanone	13.513	43	2772001	255.92	ug/L	98
55) cis-1,3-Dichloropropene	13.898	75	495640	54.58	ug/L	92
58) Toluene	14.503	91	1281020	57.43	ug/L	99
59) trans-1,3-Dichloropropene	14.778	75	454850	54.73	ug/l	85
60) 2-Hexanone	15.053	43	2069636	265.45	ug/l	96
61) 1,1,2-Trichloroethane	15.053	97	292234	53.92	ug/l	96
62) 1,3-Dichloropropane	15.461	76	513057	53.43	ug/l	100
63) Tetrachloroethene	15.615	164	236568	57.35	ug/l	99
64) Dibromochloromethane	15.901	129	305868	54.35	ug/l	100
65) 1,2-Dibromoethane	16.209	107	291790	50.95	ug/l	99
66) 1-Chlorohexane	16.407	91	402144	59.60	ug/l	98
67) Chlorobenzene	16.792	112	810875	56.94	ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	282726	57.10	ug/l	99
69) Ethylbenzene	16.847	91	1479766	59.04	ug/l	99
70) m-Xylene & p-Xylene	16.957	91	2318479	117.97	ug/l	99
71) o-Xylene	17.530	91	1141401	56.48	ug/l	100
72) Styrene	17.563	104	918398	59.42	ug/l	98
73) Isopropylbenzene	17.959	105	1402024	63.63	ug/L	98
75) Bromoform	18.003	173	224910	57.60	ug/l	99
76) 1,1,2,2-Tetrachloroethane	18.157	83	397452	48.46	ug/l	100
78) 1,2,3-Trichloropropane	18.333	110	124947	51.49	ug/l	95
79) trans-1,4-Dichloro-2-b...	18.388	53	162600	47.63	ug/l	99
80) n-Propylbenzene	18.432	91	1772269	59.57	ug/l	99
81) Bromobenzene	18.509	156	339323	58.42	ug/l	98
82) 1,3,5-Trimethylbenzene	18.597	105	1135298	57.93	ug/l	100
83) 2-Chlorotoluene	18.652	126	336181	57.79	ug/l	96
84) 4-Chlorotoluene	18.696	126	328356	60.13	ug/l	100
85) tert-Butylbenzene	18.993	134	229376	58.28	ug/l	95
86) 1,2,4-Trimethylbenzene	19.037	105	1161032	57.19	ug/l	99
87) sec-Butylbenzene	19.224	105	1564109	61.95	ug/l	100
88) p-Isopropyltoluene	19.356	119	1201968	59.85	ug/l	99
89) 1,3-Dichlorobenzene	19.499	146	636633	59.19	ug/l	99
91) 1,4-Dichlorobenzene	19.610	146	636606	57.02	ug/l	99
92) n-Butylbenzene	19.775	91	1265472	61.32	ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	612008	56.40	ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	90311	60.18	ug/l	96
95) 1,2,4-Trichlorobenzene	21.701	180	402593	56.76	ug/l	98
96) Hexachlorobutadiene	21.833	225	224607	65.25	ug/l	99
97) Naphthalene	22.020	128	1023623	49.26	ug/l	100
98) 1,2,3-Trichlorobenzene	22.306	180	379587	53.02	ug/l	99

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN141.D
Acq On : 26 May 2016 11:08 am
Operator : DNguye
Sample : VSF4E08C 5.0ml
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 01 14:35:33 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN143.D
Acq On : 26 May 2016 12:03 pm
Operator : DNguye
Sample : TVE003SB 0.5mL
Misc : DF=10
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 03 10:52:52 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

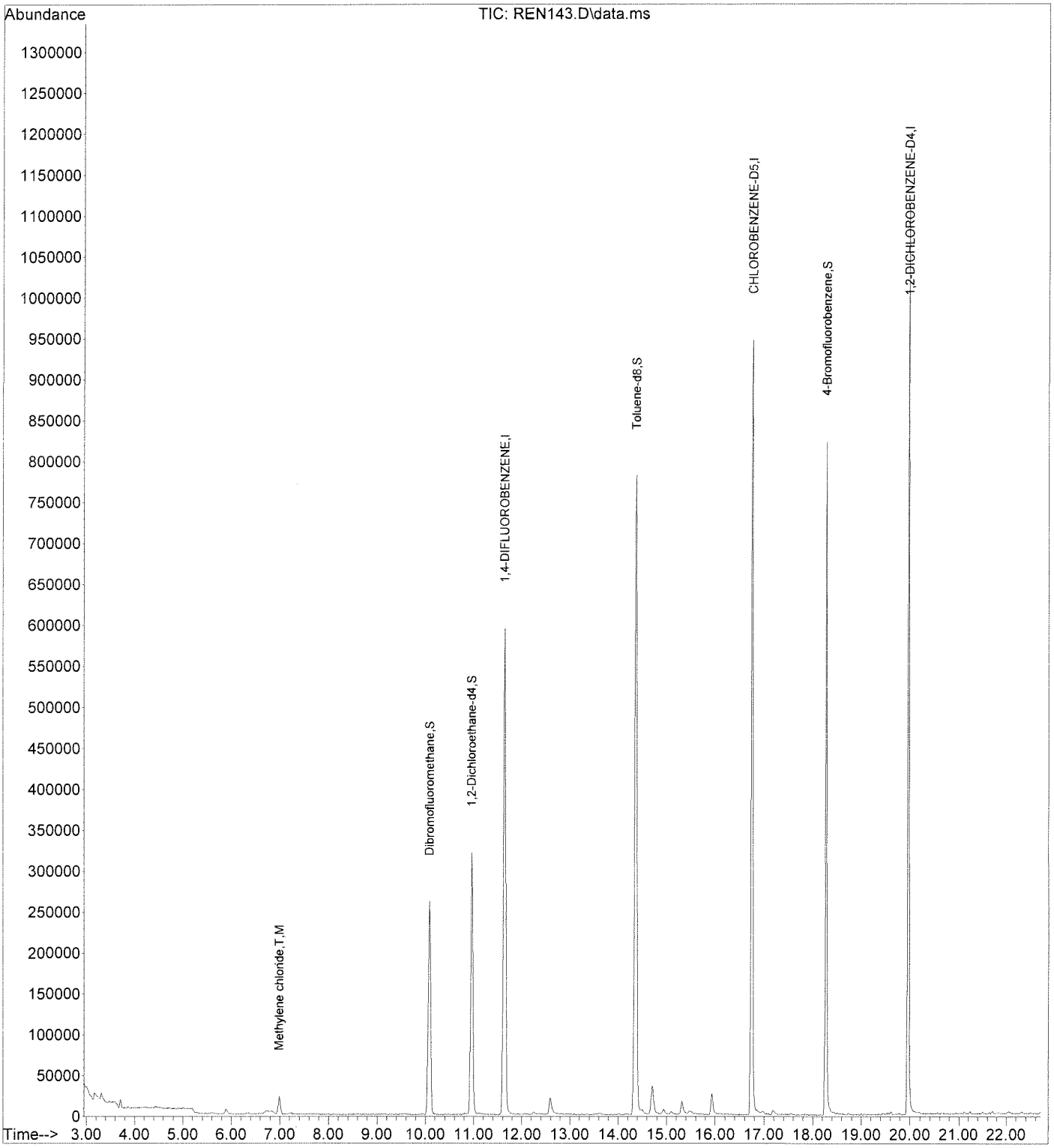
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-DIFLUOROBENZENE	11.631	114	739972	50.00 ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	657293	50.00 ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	289614	50.00 ug/l	0.00
System Monitoring Compounds					
38) Dibromofluoromethane	10.079	111	272634	50.66 ug/l	0.00
Spiked Amount 50.000			Recovery	= 101.32%	
44) 1,2-Dichloroethane-d4	10.949	65	364084	46.02 ug/l	-0.01
Spiked Amount 50.000			Recovery	= 92.04%	
57) Toluene-d8	14.360	98	873101	48.55 ug/l	0.00
Spiked Amount 50.000			Recovery	= 97.10%	
77) 4-Bromofluorobenzene	18.267	95	315843	45.53 ug/l	0.00
Spiked Amount 50.000			Recovery	= 91.06%	
Target Compounds					Qvalue
19) Methylene chloride	6.987	49	22785	2.31 ug/l	97

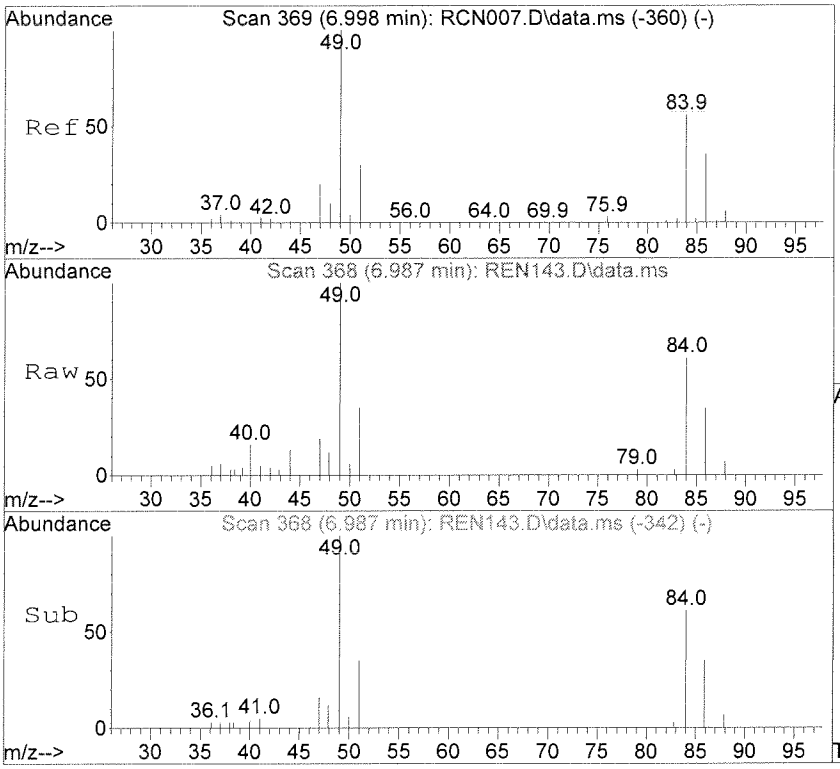
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN143.D
Acq On : 26 May 2016 12:03 pm
Operator : DNguye
Sample : TVE003SB 0.5mL
Misc : DF=10
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 03 10:52:52 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

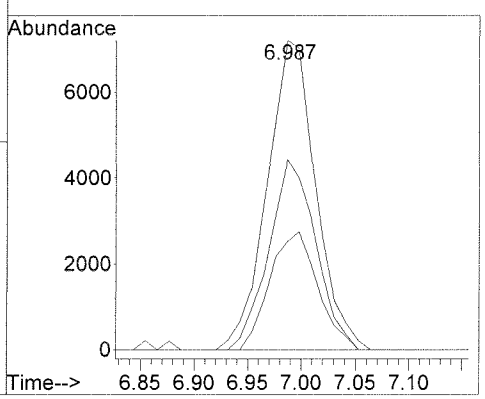




#19
Methylene chloride
Concen: 2.31 ug/l
RT: 6.987 min Scan# 368
Delta R.T. -0.011 min
Lab File: REN143.D
Acq: 26 May 2016 12:03 pm

Tgt Ion: 49 Resp: 22785

Ion	Ratio	Lower	Upper
49	100		
84	59.5	27.1	87.1
86	37.7	6.6	66.6



INITIAL CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Contract: CANNON AFB PBR
Lab Code: EMXT Case No.:
SAS No.: SDG No.: 16E133
Lab File ID: RCN001
BFB Injection Date : 03/07/16
Instrument ID: F4
BFB Injection Time : 10:59
GC Column:RTX502.2ID:0.32mm (mm)
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	26.57
75	30.0 - 60.0% of mass 95	53.35
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.80
173	Less than 2.0% of mass 174	0.73(1.1)1
174	Greater than 50% of mass 95	66.86
175	5.0 - 9.0% of mass 174	5.12(7.7)1
176	95.0 - 101.0% of mass 174	64.76(96.9)1
177	5.0 - 9.0% of mass 176	4.39(6.8)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD01	VOF4C071	RCN002	03/07/16	11:38
2	VSTD02	VOF4C072	RCN003	03/07/16	12:06
3	VSTD04	VOF4C073	RCN004	03/07/16	12:33
4	VSTD010	VOF4C074	RCN005	03/07/16	13:01
5	VSTD020	VOF4C075	RCN006	03/07/16	13:29
6	VSTD050	VOF4C076	RCN007	03/07/16	13:56
7	VSTD100	VOF4C077	RCN008	03/07/16	14:24
8	VSTD200	VOF4C078	RCN009	03/07/16	14:52
9	VSTD300	VOF4C079	RCN010	03/07/16	15:19
10	VSTD500	VOF4C0710	RCN011	03/07/16	15:47
11	VSTD050	IVOF4C071	RCN014	03/07/16	17:10

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :F4
Beginning DateTime :03/07/16 11:38
Spike Units :PPB
IC File :RCN007

Column Spec :RTX-502.2 ID :0.32MM
Ending DateTime :03/07/16 15:47
HPChem Method :VOF4C07

	M IDX	Parameters	1 11:38 RCN002	2 12:06 RCN003	4 12:33 RCN004	10 13:01 RCN005	20 13:29 RCN006	50 13:56 RCN007	100 14:24 RCN008	200 14:52 RCN009	300 15:19 RCN010	500 15:47 RCN011	Av_RRF	%_RSD	Av_Rt_M
	1	1,4-DIFLUOROBENZENE	1	1	1	1	1	1	1	1	1	1	1	0	11.6419
	2	Chlorotrifluoroethylene	0.150	0.169	0.151	0.159	0.170	0.157	0.172	0.170	0.153	0.160	0.161	5.36	3.0161
	3	Dichlorodifluoromethane	0.485	0.392	0.394	0.465	0.440	0.442	0.434	0.449	0.415	0.418	0.433	6.83	3.0898
	4	Chloromethane	0.594	0.519	0.542	0.614	0.530	0.518	0.528	0.572	0.551	0.581	0.555	6.03	3.4882
	5	2-Chloro-1,1,1-trifluoroethane	0.243	0.299	0.263	0.266	0.286	0.253	0.277	0.247	0.207	0.190	0.253	13.28	3.6830
	6	Vinyl chloride	0.403	0.377	0.382	0.445	0.419	0.418	0.383	0.346	0.290	------	0.385	11.94	3.6900
	7	Bromomethane	0.437	0.365	0.379	0.406	0.373	0.310	0.285	0.275	0.264	0.253	0.335	19.45	4.4445
	8	Chloroethane	0.273	0.258	0.271	0.316	0.292	0.291	0.278	0.282	0.251	0.238	0.275	8.20	4.5821
	9	Dichlorofluoromethane	0.904	0.894	0.920	0.902	0.909	0.770	0.902	0.830	0.803	0.787	0.862	6.69	4.6503
	10	Trichlorofluoromethane	0.553	0.485	0.507	0.598	0.559	0.559	0.541	0.549	0.498	0.485	0.533	7.09	5.0344
5	11	Acrolein	0.101	0.102	0.101	0.106	0.102	0.103	0.104	0.102	0.106	0.108	0.104	2.28	5.7707
	12	1,1,2-Trichloro-1,2,2-Trifluoroethane	0.288	0.270	0.275	0.269	0.275	0.211	0.279	0.242	0.260	0.270	0.264	8.38	5.8103
5	13	Acetone	0.272	0.258	0.233	0.230	0.219	0.218	0.221	0.211	0.220	0.220	0.230	8.53	5.8928
	14	1,1-Dichloroethene	0.691	0.635	0.671	0.673	0.678	0.563	0.693	0.644	0.657	0.676	0.658	5.82	6.1239
5	15	tert-Butyl alcohol	0.061	0.069	0.074	0.066	0.069	0.061	0.075	0.070	0.079	0.085	0.071	11.00	6.3088
10	16	Acetonitrile	0.074	0.091	0.102	0.092	0.098	0.088	0.102	0.094	0.102	0.105	0.095	9.76	6.3484
	17	Methyl acetate	------	0.597	0.520	0.542	0.547	0.559	0.550	0.549	0.579	0.592	0.560	4.49	6.7324
	18	Allyl chloride	0.185	0.183	0.200	0.196	0.194	0.170	0.207	0.200	0.206	0.210	0.195	6.50	6.7963
	19	Methylene chloride	------	0.758	0.728	0.670	0.670	0.573	0.667	0.637	0.642	0.651	0.666	7.96	6.9977
	20	Carbon disulfide	0.867	0.831	0.825	0.977	0.949	1.011	1.036	1.047	1.033	1.076	0.965	9.67	7.0527
5	21	Acrylonitrile	0.254	0.248	0.249	0.260	0.258	0.255	0.259	0.255	0.264	0.269	0.257	2.48	7.2123
	22	tert-Butyl methyl ether (MTBE)	0.938	0.983	1.067	1.006	1.072	0.925	1.128	1.090	1.125	1.141	1.048	7.58	7.3235
	23	trans-1,2-Dichloroethene	0.345	0.334	0.356	0.343	0.344	0.292	0.357	0.334	0.341	0.352	0.340	5.48	7.5645
	24	Isopropyl ether (DIPE)	1.481	1.421	1.517	1.477	1.538	1.313	1.606	1.543	1.583	1.612	1.509	6.07	8.1456
	25	Vinyl acetate	------	------	0.652	0.786	0.855	0.946	0.954	1.070	------	------	0.877	16.71	8.3183
	26	1,1-Dichloroethane	0.738	0.695	0.768	0.731	0.760	0.643	0.786	0.751	0.772	0.795	0.744	6.12	8.3249
5	27	2-Butanol	------	0.066	0.062	0.061	0.062	0.068	0.072	0.074	0.084	------	0.069	11.43	8.7709
	28	tert-Butyl ethyl ether (ETBE)	1.242	1.242	1.345	1.305	1.403	1.157	1.419	1.399	1.437	1.473	1.342	7.66	8.8818
5	29	2-Butanone	0.264	0.310	0.322	0.345	0.343	0.348	0.362	0.352	0.371	0.376	0.339	9.81	9.0876
10	30	Propionitrile	0.084	0.094	0.104	0.096	0.102	0.092	0.110	0.103	0.110	0.114	0.101	9.22	9.1888
	31	2,2-Dichloropropane	0.437	0.396	0.431	0.434	0.452	0.380	0.508	0.480	0.507	0.524	0.455	10.72	9.3429
	32	cis-1,2-Dichloroethene	0.398	0.372	0.383	0.388	0.393	0.338	0.410	0.390	0.399	0.409	0.388	5.38	9.4211
10	33	Methacrylonitrile	0.096	0.105	0.115	0.111	0.118	0.103	0.126	0.119	0.122	0.117	0.113	8.24	9.5520
20	34	Isobutyl alcohol	0.026	0.025	0.027	0.029	0.034	0.033	0.044	0.041	0.046	0.049	0.035	24.74	9.6379
	35	Chloroform	0.672	0.675	0.721	0.687	0.704	0.602	0.739	0.698	0.703	0.707	0.691	5.35	9.7050
	36	Bromochloromethane	0.453	0.457	0.477	0.462	0.473	0.417	0.492	0.466	0.460	0.444	0.460	4.35	9.9911
	37	Tetrahydrofuran	------	0.204	0.164	0.188	0.189	0.177	0.218	0.203	0.217	0.217	0.197	9.75	10.1036
	38	Dibromofluoromethane	------	------	0.297	0.404	0.344	0.350	0.379	0.387	0.368	0.379	0.364	9.10	10.0833
	39	1,1,1-Trichloroethane	0.539	0.485	0.517	0.518	0.544	0.439	0.576	0.525	0.553	0.564	0.526	7.65	10.4225
	40	Cyclohexane	0.851	0.800	0.718	0.857	0.840	0.840	0.867	0.836	0.813	0.851	0.827	5.22	10.4754
	41	1,1-Dichloropropene	0.168	0.161	0.175	0.170	0.172	0.133	0.175	0.156	0.165	0.169	0.164	7.55	10.7065
	42	tert-Amyl methyl ether (TAME)	0.189	0.197	0.209	0.202	0.214	0.187	0.234	0.228	0.237	0.241	0.214	9.43	10.9200
	43	Carbon tetrachloride	0.426	0.418	0.443	0.427	0.454	0.362	0.490	0.442	0.470	0.480	0.441	8.31	10.8870
	44	1,2-Dichloroethane-d4	------	------	0.475	0.599	0.519	0.519	0.554	0.551	0.528	0.531	0.535	6.65	10.9596
	45	1,2-Dichloroethane	0.662	0.640	0.699	0.667	0.701	0.602	0.722	0.678	0.689	0.680	0.674	5.07	11.1247
	46	Benzene	1.435	1.351	1.445	1.368	1.417	1.178	1.455	1.356	1.399	1.431	1.383	5.88	11.1720
	47	Trichloroethene	0.407	0.350	0.369	0.353	0.369	0.288	0.369	0.331	0.349	0.354	0.354	8.68	12.2527
	48	Methylcyclohexane	0.595	0.543	0.507	0.596	0.592	0.578	0.603	0.572	0.559	0.583	0.573	5.15	12.3815
	49	1,2-Dichloropropane	0.443	0.405	0.437	0.428	0.449	0.376	0.462	0.431	0.449	0.451	0.433	5.92	12.5454
20	50	1,4-Dioxane	0.004	0.006	0.007	0.006	0.007	0.006	0.007	0.006	0.007	0.007	0.006	13.69	12.9999
	51	Bromodichloromethane	0.462	0.465	0.498	0.489	0.518	0.444	0.558	0.530	0.551	0.551	0.507	8.15	12.9625
	52	Dibromomethane	0.258	0.254	0.281	0.267	0.285	0.241	0.294	0.276	0.283	0.280	0.272	6.06	13.0572
	53	2-Chloroethyl vinyl ether	0.203	0.227	0.251	0.250	0.291	0.201	0.252	0.241	0.252	0.255	0.242	10.99	13.4666
5	54	4-Methyl-2-pentanone	0.515	0.588	0.623	0.684	0.707	0.712	0.759	0.730	0.744	0.766	0.683	12.03	13.5293
	55	cis-1,3-Dichloropropene	0.429	0.489	0.516	0.546	0.590	0.518	0.665	0.635	0.666	0.669	0.572	14.87	13.9068
	56	CHLOROBENZENE-D5	1	1	1	1	1	1	1	1	1	1	1	0	16.7483
	57	Toluene-d8	------	------	1.185	1.602	1.294	1.300	1.401	1.420	1.368	1.374	1.368	8.83	14.3616
	58	Toluene	1.677	1.548	1.640	1.647	1.703	1.340	1.737	1.580	1.720	1.685	1.628	7.20	14.5065

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	59	trans-1,3-Dichloropropene	------	------	0.515	0.540	0.612	0.548	0.721	0.704	------	------	0.607	14.53	14.7912
5	60	2-Hexanone	------	0.429	0.451	0.548	0.575	0.603	0.631	0.605	0.641	0.638	0.569	13.96	15.0621
	61	1,1,2-Trichloroethane	0.358	0.363	0.404	0.391	0.409	0.347	0.430	0.405	0.429	0.420	0.396	7.59	15.0667
	62	1,3-Dichloropropane	0.637	0.663	0.731	0.711	0.733	0.616	0.753	0.701	0.742	0.720	0.701	6.65	15.4739
	63	Tetrachloroethene	0.344	0.290	0.316	0.310	0.309	0.237	0.319	0.277	0.306	0.301	0.301	9.47	15.6159
	64	Dibromochloromethane	0.330	0.351	0.375	0.384	0.425	0.365	0.469	0.450	0.479	0.480	0.411	13.78	15.9108
	65	1,2-Dibromoethane	0.358	0.392	0.423	0.410	0.440	0.373	0.461	0.428	0.455	0.440	0.418	8.21	16.2135
	66	1-Chlorohexane	0.507	0.467	0.480	0.471	0.521	0.388	0.549	0.474	0.539	0.528	0.492	9.64	16.4137
	67	Chlorobenzene	1.060	0.996	1.064	1.043	1.084	0.859	1.109	1.002	1.088	1.088	1.039	7.06	16.8033
	68	1,1,1,2-Tetrachloroethane	0.326	0.319	0.332	0.344	0.374	0.304	0.406	0.379	0.413	0.416	0.361	11.51	16.8495
	69	Ethylbenzene	1.845	1.691	1.841	1.808	1.912	1.465	2.001	1.779	1.982	1.967	1.829	8.82	16.8606
2	70	m-Xylene & p-Xylene	1.457	1.441	1.447	1.410	1.491	1.139	1.556	1.386	1.547	1.467	1.434	8.13	16.9618
	71	o-Xylene	1.519	1.401	1.497	1.460	1.524	1.169	1.575	1.408	1.583	1.609	1.475	8.70	17.5330
	72	Styrene	1.029	0.981	1.063	1.105	1.176	0.930	1.251	1.143	1.285	1.316	1.128	11.55	17.5759
	73	Isopropylbenzene	1.706	1.557	1.589	1.542	1.661	1.250	1.745	1.529	1.738	1.763	1.608	9.60	17.9633
	74	1,2-DICHLOROBENZENE-D4	1	1	1	1	1	1	1	1	1	1	1	0	19.9651
	75	Bromoform	------	------	0.511	0.535	0.611	0.536	0.723	0.690	------	------	0.601	14.80	18.0139
	76	1,1,2,2-Tetrachloroethane	1.125	1.246	1.285	1.270	1.328	1.107	1.384	1.241	1.350	1.288	1.262	7.07	18.1581
	77	4-Bromofluorobenzene	------	------	1.057	1.440	1.136	1.133	1.210	1.240	1.181	1.184	1.198	9.42	18.2698
	78	1,2,3-Trichloropropane	0.378	0.378	0.383	0.370	0.393	0.319	0.405	0.356	0.387	0.367	0.373	6.36	18.3342
	79	trans-1,4-Dichloro-2-butene	0.459	0.476	0.493	0.485	0.540	0.466	0.607	0.543	0.607	0.578	0.525	10.93	18.3947
	80	n-Propylbenzene	4.989	4.630	4.532	4.551	4.806	3.571	4.942	4.305	4.814	4.642	4.578	8.94	18.4343
	81	Bromobenzene	0.936	0.908	0.887	0.890	0.929	0.731	0.959	0.859	0.934	0.903	0.894	7.17	18.5201
	82	1,3,5-Trimethylbenzene	3.331	3.072	2.958	2.995	3.156	2.332	3.223	2.795	3.174	3.125	3.016	9.39	18.6093
	83	2-Chlorotoluene	0.970	0.847	0.836	0.887	0.938	0.725	1.006	0.887	0.985	0.872	0.895	9.37	18.6599
	84	4-Chlorotoluene	0.926	0.918	0.895	0.875	0.864	0.620	0.839	0.739	0.828	0.899	0.840	11.23	18.7094
	85	tert-Butylbenzene	0.743	0.592	0.601	0.586	0.614	0.459	0.647	0.560	0.631	0.626	0.606	11.77	19.0044
	86	1,2,4-Trimethylbenzene	3.281	3.062	3.089	3.118	3.260	2.442	3.398	2.955	3.351	3.285	3.124	8.90	19.0484
	87	sec-Butylbenzene	4.439	4.055	3.981	3.751	3.956	2.923	4.144	3.595	4.050	3.961	3.886	10.43	19.2300
	88	p-Isopropyltoluene	3.431	3.055	3.064	2.967	3.223	2.389	3.342	2.899	3.302	3.234	3.091	9.70	19.3664
	89	1,3-Dichlorobenzene	1.761	1.622	1.641	1.631	1.725	1.327	1.795	1.558	1.764	1.729	1.655	8.36	19.5051
	90	1,2,3-Trimethylbenzene	2.528	2.461	2.154	2.575	2.492	2.394	2.536	2.522	2.545	2.536	2.474	4.99	19.5557
	91	1,4-Dichlorobenzene	1.980	1.701	1.709	1.669	1.797	1.365	1.824	1.580	1.794	1.763	1.718	9.51	19.6118
	92	n-Butylbenzene	3.351	3.155	3.079	3.090	3.396	2.560	3.518	2.988	3.366	3.256	3.176	8.60	19.7813
	93	1,2-Dichlorobenzene	1.884	1.712	1.684	1.625	1.726	1.334	1.755	1.529	1.744	1.706	1.670	8.93	19.9948
	94	1,2-Dibromo-3-chloropropane	0.211	0.206	0.219	0.211	0.242	0.213	0.287	0.258	------	------	0.231	12.58	20.7597
	95	1,2,4-Trichlorobenzene	1.188	1.091	1.061	1.030	1.176	0.897	1.179	0.998	1.173	1.124	1.092	8.81	21.7017
	96	Hexachlorobutadiene	0.582	0.556	0.551	0.514	0.571	0.412	0.569	0.466	0.540	0.537	0.530	10.05	21.8327
	97	Naphthalene	2.868	2.998	3.003	2.868	3.413	2.713	3.660	3.140	3.752	3.563	3.198	11.58	22.0297
	98	1,2,3-Trichlorobenzene	1.261	1.104	1.082	1.030	1.150	0.895	1.184	1.008	1.179	1.125	1.102	9.46	22.3158

Spike Amount = Nominal Amount * M
Ave_%RSD : 9 Max_%RSD : 24.7

Use Least Square Linear Regression with weighting factor of inverse concentration for comps with %_RSD > 15
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
7	Bromomethane	0.00710	0.26576	0.9968
25	Vinyl acetate	-0.04341	1.03454	0.9983
34	Isobutyl alcohol	-0.02075	0.04543	0.9960

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Compound List Report F4

Method Path : C:\MSDCHEM\1\METHODS\
Method File : VOF4C07.M
Title : METHOD 8260 5mL
Last Update : Tue Mar 08 12:52:04 2016
Response Via : Initial Calibration

Total Cpnds : 98

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-DIFLUOROBENZENE	114	11.642	1.000	A	1	A	B
2	T	Chlorotrifluoroethylene	116	3.014	0.259	A	2	A	B
3	T	Dichlorodifluoromethane	85	3.091	0.265	A	1	A	B
4	T	Chloromethane	50	3.487	0.300	A	1	A	B
5	T	2-Chloro-1,1,1-trifluoroethane	118	3.685	0.317	A	2	A	B
6	T	Vinyl chloride	62	3.685	0.317	A	1	A	B
7	T	Bromomethane	94	4.445	0.382	L	1	A	B
8	T	Chloroethane	64	4.588	0.394	A	2	A	B
9	T	Dichlorofluoromethane	67	4.654	0.400	A	1	A	B
10	T	Trichlorofluoromethane	101	5.039	0.433	A	1	A	B
11	T	Acrolein	56	5.776	0.496	A	1	A	B
12	T	1,1,2-Trichloro-1,2,2-Trifl...	151	5.809	0.499	A	1	A	B
13	T	Acetone	43	5.886	0.506	A	2	A	B
14	T	1,1-Dichloroethene	61	6.128	0.526	A	2	A	B
15	T	tert-Butyl alcohol	59	6.304	0.541	A	1	A	B
16	T	Acetonitrile	41	6.348	0.545	A	2	A	B
17	T	Methyl acetate	43	6.734	0.578	A	1	A	B
18	T	Allyl chloride	76	6.800	0.584	A	1	A	B
19	T	Methylene chloride	49	6.998	0.601	A	2	A	B
20	T	Carbon disulfide	76	7.053	0.606	A	1	A	B
21	T	Acrylonitrile	53	7.207	0.619	A	2	A	B
22	T	tert-Butyl methyl ether (MTBE)	73	7.317	0.629	A	1	A	B
23	T	trans-1,2-Dichloroethene	96	7.570	0.650	A	2	A	B
24	T	Isopropyl ether (DIPE)	45	8.142	0.699	A	1	A	B
25	T	Vinyl acetate	43	8.318	0.714	L	1	A	B
26	T	1,1-Dichloroethane	63	8.329	0.715	A	2	A	B
27	T	2-Butanol	45	8.759	0.752	A	1	A	B
28	T	tert-Butyl ethyl ether (ETBE)	59	8.880	0.763	A	1	A	B
29	T	2-Butanone	43	9.078	0.780	A	1	A	B
30	T	Propionitrile	54	9.188	0.789	A	1	A	B
31	T	2,2-Dichloropropane	77	9.342	0.802	A	2	A	B
32	T	cis-1,2-Dichloroethene	96	9.419	0.809	A	2	A	B
33	T	Methacrylonitrile	52	9.551	0.820	A	2	A	B
34	T	Isobutyl alcohol	43	9.628	0.827	L	1	A	B
35	T	Chloroform	83	9.705	0.834	A	2	A	B
36	T	Bromochloromethane	49	9.991	0.858	A	2	A	B
37	T	Tetrahydrofuran	42	10.101	0.868	A	2	A	B
38	S	Dibromofluoromethane	111	10.079	0.866	A	2	A	B
39	T	1,1,1-Trichloroethane	97	10.420	0.895	A	2	A	B
40	T	Cyclohexane	56	10.475	0.900	A	2	A	B
41	T	1,1-Dichloropropene	110	10.706	0.920	A	1	A	B
42	T	tert-Amyl methyl ether (TAME)	87	10.916	0.938	A	2	A	B
43	T	Carbon tetrachloride	119	10.894	0.936	A	1	A	B
44	S	1,2-Dichloroethane-d4	65	10.960	0.941	A	1	A	B
45	T	1,2-Dichloroethane	62	11.125	0.956	A	1	A	B
46	T	Benzene	78	11.169	0.959	A	2	A	B
47	T	Trichloroethene	130	12.258	1.053	A	3	A	B
48	T	Methylcyclohexane	83	12.379	1.063	A	2	A	B
49	T	1,2-Dichloropropane	63	12.544	1.077	A	2	A	B
50	T	1,4-Dioxane	88	12.996	1.116	A	1	A	B
51	T	Bromodichloromethane	83	12.963	1.113	A	1	A	B
52	T	Dibromomethane	93	13.062	1.122	A	2	A	B
53	T	2-Chloroethyl vinyl ether	63	13.458	1.156	A	1	A	B
54	T	4-Methyl-2-pentanone	43	13.524	1.162	A	3	A	B
55	T	cis-1,3-Dichloropropene	75	13.909	1.195	A	3	A	B

S
5/4/16

56	I	CHLOROBENZENE-D5	117	16.748	1.000	A	2	A	B
57	S	Toluene-d8	98	14.360	0.857	A	1	A	B
58	T	Toluene	91	14.503	0.866	A	1	A	B
59	T	trans-1,3-Dichloropropene	75	14.789	0.883	A	2	A	B
60	T	2-Hexanone	43	15.054	0.899	A	2	A	B
61	T	1,1,2-Trichloroethane	97	15.065	0.900	A	3	A	B
62	T	1,3-Dichloropropane	76	15.472	0.924	A	1	A	B
63	T	Tetrachloroethene	164	15.615	0.932	A	3	A	B
64	T	Dibromochloromethane	129	15.912	0.950	A	1	A	B
65	T	1,2-Dibromoethane	107	16.209	0.968	A	1	A	B
66	T	1-Chlorohexane	91	16.418	0.980	A	3	A	B
67	T	Chlorobenzene	112	16.803	1.003	A	3	A	B
68	T	1,1,1,2-Tetrachloroethane	131	16.847	1.006	A	3	A	B
69	T	Ethylbenzene	91	16.858	1.007	A	1	A	B
70	T	m-Xylene & p-Xylene	91	16.957	1.012	A	1	A	B
71	T	o-Xylene	91	17.530	1.047	A	1	A	B
72	T	Styrene	104	17.574	1.049	A	2	A	B
73	T	Isopropylbenzene	105	17.959	1.072	A	3	A	B
74	I	1,2-DICHLOROBENZENE-D4	152	19.962	1.000	A	1	A	B
75	T	Bromoform	173	18.014	0.902	A	2	A	B
76	T	1,1,2,2-Tetrachloroethane	83	18.157	0.910	A	1	A	B
77	S	4-Bromofluorobenzene	95	18.267	0.915	A	2	A	B
78	T	1,2,3-Trichloropropane	110	18.333	0.918	A	1	A	B
79	T	trans-1,4-Dichloro-2-butene	53	18.388	0.921	A	1	A	B
80	T	n-Propylbenzene	91	18.432	0.923	A	2	A	B
81	T	Bromobenzene	156	18.520	0.928	A	2	A	B
82	T	1,3,5-Trimethylbenzene	105	18.608	0.932	A	2	A	B
83	T	2-Chlorotoluene	126	18.663	0.935	A	1	A	B
84	T	4-Chlorotoluene	126	18.707	0.937	A	1	A	B
85	T	tert-Butylbenzene	134	19.004	0.952	A	2	A	B
86	T	1,2,4-Trimethylbenzene	105	19.048	0.954	A	1	A	B
87	T	sec-Butylbenzene	105	19.224	0.963	A	1	A	B
88	T	p-Isopropyltoluene	119	19.368	0.970	A	2	A	B
89	T	1,3-Dichlorobenzene	146	19.500	0.977	A	2	A	B
90	T	1,2,3-Trimethylbenzene	105	19.555	0.980	A	2	A	B
91	T	1,4-Dichlorobenzene	146	19.610	0.982	A	2	A	B
92	T	n-Butylbenzene	91	19.786	0.991	A	2	A	B
93	T	1,2-Dichlorobenzene	146	19.995	1.002	A	2	A	B
94	T	1,2-Dibromo-3-chloropropane	157	20.754	1.040	A	2	A	B
95	T	1,2,4-Trichlorobenzene	180	21.701	1.087	A	2	A	B
96	T	Hexachlorobutadiene	225	21.833	1.094	A	2	A	B
97	T	Naphthalene	128	22.031	1.104	A	1	A	B
98	T	1,2,3-Trichlorobenzene	180	22.317	1.118	A	2	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

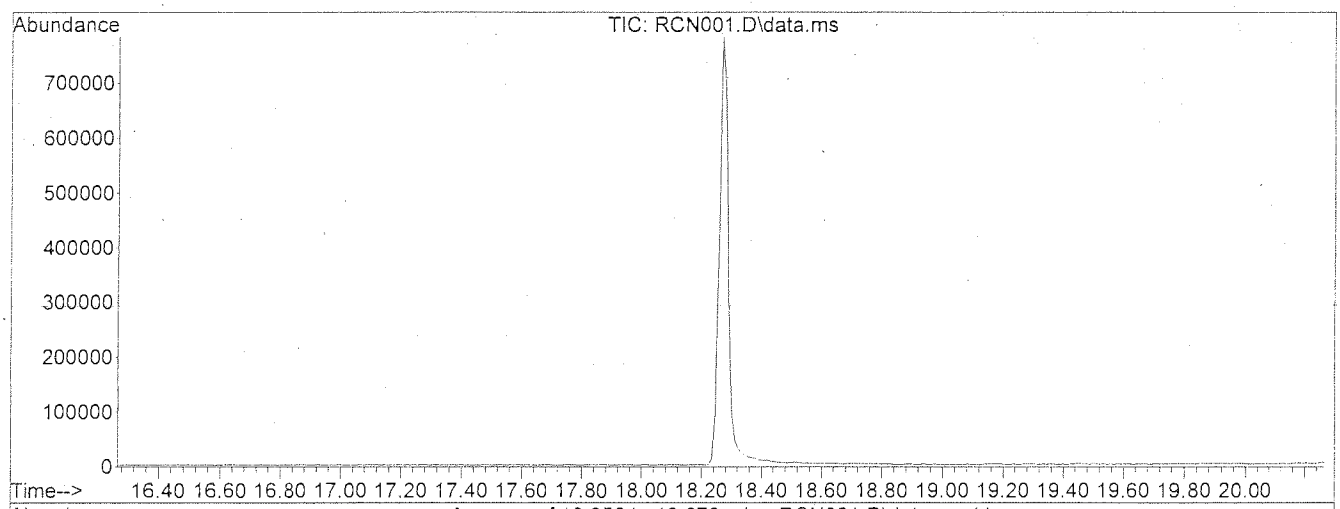
VOF4C07.M Thu Apr 28 15:06:23 2016 F4

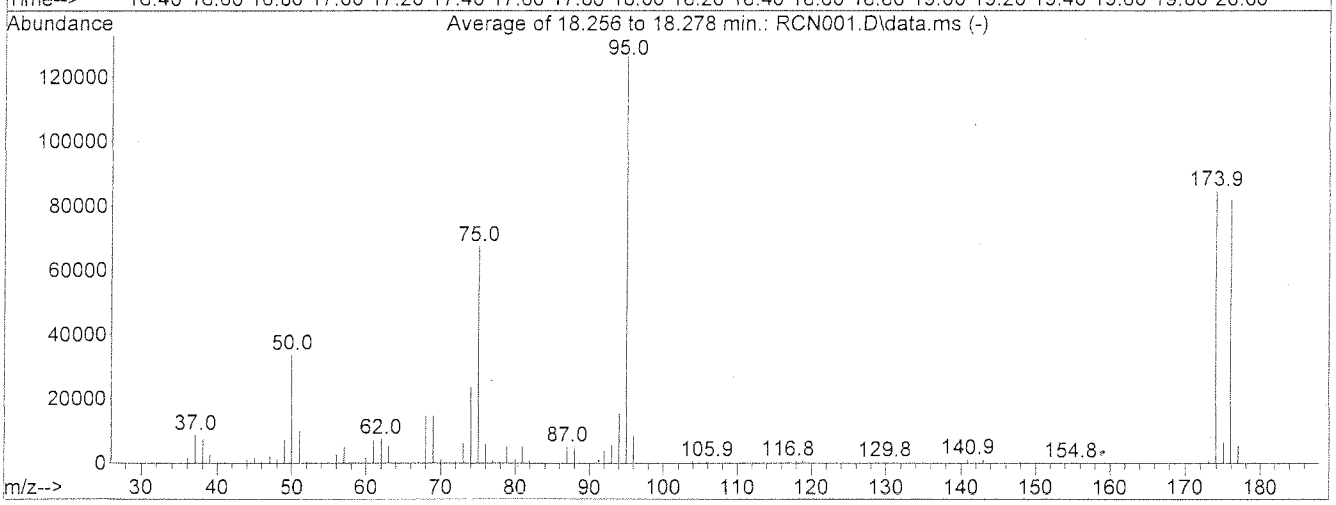
SU
5/4/16

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN001.D
Acq On : 7 Mar 2016 10:59 am
Operator : CMendo
Sample : BFBF4C01
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTE.P

Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Title : METHOD 8260 5mL
Last Update : Tue Mar 08 12:52:04 2016





AutoFind: Scans 1392, 1393, 1394; Background Corrected with Scan 1387

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	26.6	33619	PASS
75	95	30	60	53.4	67512	PASS
95	95	100	100	100.0	126539	PASS
96	95	5	9	6.8	8609	PASS
173	174	0.00	2	1.1	927	PASS
174	95	50	100	66.9	84603	PASS
175	174	5	9	7.7	6484	PASS
176	174	95	101	96.9	81944	PASS
177	176	5	9	6.8	5550	PASS

SC 5/19/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN002.D
Acq On : 7 Mar 2016 11:38 am
Operator : CMendo
Sample : VOF4C071
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 14:04:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	751829	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	628225	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.973	152	284520	50.00	ug/l	0.01
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	9803	1.79	ug/l	0.01
Spiked Amount 50.000			Recovery	=	3.58%	
44) 1,2-Dichloroethane-d4	10.960	65	14854	1.85	ug/l	0.00
Spiked Amount 50.000			Recovery	=	3.70%	
57) Toluene-d8	14.371	98	36573	2.13	ug/l	0.01
Spiked Amount 50.000			Recovery	=	4.26%	
77) 4-Bromofluorobenzene	18.278	95	16758	2.46	ug/l	0.01
Spiked Amount 50.000			Recovery	=	4.92%	
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	2248	0.93	ug/L	92
3) Dichlorodifluoromethane	3.091	85	7298	1.12	ug/l	97
4) Chloromethane	3.487	50	8926	1.07	ug/l	95
5) 2-Chloro-1,1,1-trifluo...	3.685	118	3661	0.96	ug/L	96
6) Vinyl chloride	3.696	62	6061	1.05	ug/l #	1
7) Bromomethane	4.455	94	6570	0.31	ug/l	94
8) Chloroethane	4.588	64	4103	0.99	ug/L	81
9) Dichlorofluoromethane	4.654	67	13593	1.05	ug/L	83
10) Trichlorofluoromethane	5.039	101	8315	1.04	ug/l	95
11) Acrolein	5.776	56	7592	4.88	ug/l	93
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	4325	1.09	ug/l	98
13) Acetone	5.908	43	20438	5.90	ug/l	84
14) 1,1-Dichloroethene	6.128	61	10394	1.05	ug/L	97
15) tert-Butyl alcohol	6.315	59	4550	4.27	ug/L #	77
16) Acetonitrile	6.348	41	11136	7.81	ug/L	95
17) Methyl acetate	6.734	43	13904	1.65	ug/L	87
18) Allyl chloride	6.800	76	2776	0.95	ug/L #	40
19) Methylene chloride	7.009	49	14664	1.46	ug/l	97
20) Carbon disulfide	7.064	76	13033	0.90	ug/L	89
21) Acrylonitrile	7.218	53	19127	4.95	ug/l	93
22) tert-Butyl methyl ethe...	7.339	73	14106	0.90	ug/L	90
23) trans-1,2-Dichloroethene	7.559	96	5194	1.02	ug/l	97
24) Isopropyl ether (DIPE)	8.175	45	22272	0.98	ug/l	97
25) Vinyl acetate	8.340	43	10440	2.77	ug/l	95
26) 1,1-Dichloroethane	8.329	63	11097	0.99	ug/l	97
27) 2-Butanol	8.814	45	4093	3.97	ug/L #	60
28) tert-Butyl ethyl ether...	8.902	59	18675	0.93	ug/l	96
29) 2-Butanone	9.122	43	19881	3.90	ug/l	100
30) Propionitrile	9.199	54	12675	8.36	ug/L	88
31) 2,2-Dichloropropane	9.342	77	6564	0.96	ug/L	92
32) cis-1,2-Dichloroethene	9.430	96	5980	1.03	ug/L	98
33) Methacrylonitrile	9.562	52	14419	8.47	ug/L	88
34) Isobutyl alcohol	9.672	43	7740	34.17	ug/L	76
35) Chloroform	9.705	83	10105	0.97	ug/l	83
36) Bromochloromethane	9.991	49	6817	0.99	ug/l	98
37) Tetrahydrofuran	10.145	42	4483	1.51	ug/L	67
39) 1,1,1-Trichloroethane	10.420	97	8100	1.02	ug/l	99
40) Cyclohexane	10.475	56	12789	1.03	ug/L	96

Su 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN002.D
Acq On : 7 Mar 2016 11:38 am
Operator : CMendo
Sample : VOF4C071
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 14:04:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	2528	1.02 ug/L	96
42) tert-Amyl methyl ether...	10.949	87	2841	0.88 ug/l #	76
43) Carbon tetrachloride	10.894	119	6411	0.97 ug/L	98
45) 1,2-Dichloroethane	11.125	62	9951	0.98 ug/L	87
46) Benzene	11.180	78	21579	1.04 ug/L	98
47) Trichloroethene	12.258	130	6124	1.15 ug/L	96
48) Methylcyclohexane	12.390	83	8954	1.04 ug/L	95
49) 1,2-Dichloropropane	12.544	63	6658	1.02 ug/L	95
50) 1,4-Dioxane	13.029	88	1322	14.02 ug/L	71
51) Bromodichloromethane	12.963	83	6952	0.91 ug/L	98
52) Dibromomethane	13.062	93	3884	0.95 ug/L	91
53) 2-Chloroethyl vinyl ether	13.491	63	3053	0.84 ug/L	85
54) 4-Methyl-2-pentanone	13.557	43	38738	3.77 ug/L	96
55) cis-1,3-Dichloropropene	13.920	75	6455	0.75 ug/L	95
58) Toluene	14.514	91	21072	1.03 ug/L	99
59) trans-1,3-Dichloropropene	14.811	75	5668	0.74 ug/l #	72
60) 2-Hexanone	15.109	43	18052	2.53 ug/l	94
61) 1,1,2-Trichloroethane	15.076	97	4498	0.91 ug/l #	86
62) 1,3-Dichloropropane	15.483	76	7998	0.91 ug/l	94
63) Tetrachloroethene	15.626	164	4318	1.14 ug/l	95
64) Dibromochloromethane	15.912	129	4145	0.80 ug/l	93
65) 1,2-Dibromoethane	16.220	107	4498	0.86 ug/l	95
66) 1-Chlorohexane	16.418	91	6364	1.03 ug/l	88
67) Chlorobenzene	16.803	112	13318	1.02 ug/l #	82
68) 1,1,1,2-Tetrachloroethane	16.858	131	4095	0.90 ug/l #	1
69) Ethylbenzene	16.869	91	23187	1.01 ug/l	96
70) m-Xylene & p-Xylene	16.968	91	36615	2.03 ug/l	95
71) o-Xylene	17.541	91	19090	1.03 ug/l	99
72) Styrene	17.585	104	12933	0.91 ug/l	93
73) Isopropylbenzene	17.970	105	21433	1.06 ug/L	98
75) Bromoform	18.014	173	2564	0.75 ug/l	95
76) 1,1,2,2-Tetrachloroethane	18.168	83	6400	0.89 ug/l	94
78) 1,2,3-Trichloropropane	18.344	110	2150	1.01 ug/l	95
79) trans-1,4-Dichloro-2-b...	18.421	53	2612	0.87 ug/l	79
80) n-Propylbenzene	18.443	91	28392	1.09 ug/l	98
81) Bromobenzene	18.531	156	5325	1.05 ug/l	94
82) 1,3,5-Trimethylbenzene	18.619	105	18956	1.10 ug/l	96
83) 2-Chlorotoluene	18.663	126	5521	1.08 ug/l	89
84) 4-Chlorotoluene	18.718	126	5268	1.10 ug/l	91
85) tert-Butylbenzene	19.004	134	4226	1.23 ug/l #	87
86) 1,2,4-Trimethylbenzene	19.059	105	18672	1.05 ug/l	97
87) sec-Butylbenzene	19.235	105	25261	1.14 ug/l	97
88) p-Isopropyltoluene	19.368	119	19523	1.11 ug/l	95
89) 1,3-Dichlorobenzene	19.511	146	10023	1.06 ug/l	99
90) 1,2,3-Trimethylbenzene	19.566	105	14386	1.02 ug/L	97
91) 1,4-Dichlorobenzene	19.621	146	11267	1.15 ug/l	94
92) n-Butylbenzene	19.786	91	19071	1.06 ug/l	95
93) 1,2-Dichlorobenzene	19.995	146	10722	1.13 ug/l #	61
94) 1,2-Dibromo-3-chloropr...	20.765	157	1202	0.91 ug/l	96
95) 1,2,4-Trichlorobenzene	21.712	180	6758	1.09 ug/l	98
96) Hexachlorobutadiene	21.833	225	3313	1.10 ug/l	95
97) Naphthalene	22.042	128	16319	0.90 ug/l	99
98) 1,2,3-Trichlorobenzene	22.317	180	7174	1.14 ug/l	98

SW 5/4/16

300

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN002.D
Acq On : 7 Mar 2016 11:38 am
Operator : CMendo
Sample : VOF4C071
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 14:04:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

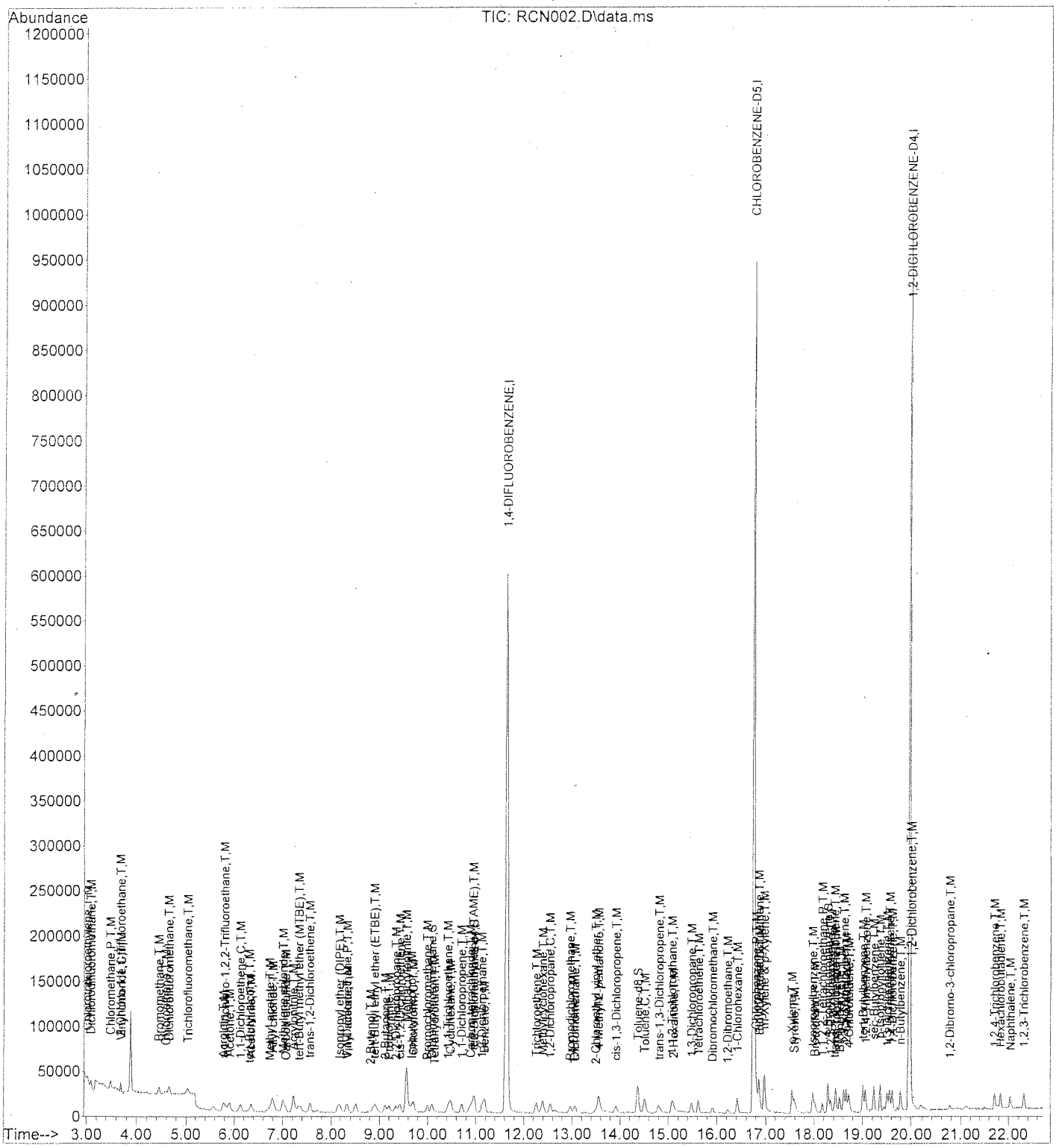
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN002.D
Acq On : 7 Mar 2016 11:38 am
Operator : CMendo
Sample : VOF4C071
Misc : 1.0ppb 8260/5.0ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Apr 28 14:04:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN003.D
Acq On : 7 Mar 2016 12:06 pm
Operator : CMendo
Sample : VOF4C072
Misc : 2.0ppb 8260/10.0ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 28 14:07:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	747321	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	629562	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.973	152	284148	50.00	ug/l	0.01
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	14889	2.74	ug/l	0.01
Spiked Amount 50.000			Recovery	=	5.48%	
44) 1,2-Dichloroethane-d4	10.960	65	22288	2.79	ug/l	0.00
Spiked Amount 50.000			Recovery	=	5.58%	
57) Toluene-d8	14.371	98	48784	2.83	ug/l	0.01
Spiked Amount 50.000			Recovery	=	5.66%	
77) 4-Bromofluorobenzene	18.278	95	20819	3.06	ug/l	0.01
Spiked Amount 50.000			Recovery	=	6.12%	
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.025	116	5040	2.09	ug/L	88
3) Dichlorodifluoromethane	3.091	85	11721	1.81	ug/l	98
4) Chloromethane	3.498	50	15525	1.87	ug/l	97
5) 2-Chloro-1,1,1-trifluo...	3.685	118	8951	2.36	ug/L	96
6) Vinyl chloride	3.696	62	11274	1.96	ug/l	64
7) Bromomethane	4.456	94	10919	1.41	ug/l	92
8) Chloroethane	4.588	64	7703	1.87	ug/L	89
9) Dichlorofluoromethane	4.654	67	26719	2.07	ug/L	92
10) Trichlorofluoromethane	5.050	101	14485	1.82	ug/l	95
11) Acrolein	5.776	56	15272	9.87	ug/l	92
12) 1,1,2-Trichloro-1,2,2-...	5.820	151	8065	2.05	ug/l	98
13) Acetone	5.897	43	38602	11.22	ug/l	93
14) 1,1-Dichloroethene	6.117	61	18980	1.93	ug/L	94
15) tert-Butyl alcohol	6.315	59	10288	9.71	ug/L	88
16) Acetonitrile	6.348	41	27092	19.13	ug/L	95
17) Methyl acetate	6.745	43	17857	2.14	ug/L	100
18) Allyl chloride	6.800	76	5478	1.88	ug/L #	69
19) Methylene chloride	6.998	49	22655	2.27	ug/l	99
20) Carbon disulfide	7.053	76	24850	1.72	ug/L	93
21) Acrylonitrile	7.218	53	37122	9.66	ug/l	99
22) tert-Butyl methyl ethe...	7.339	73	29390	1.88	ug/L	95
23) trans-1,2-Dichloroethene	7.570	96	9997	1.97	ug/l	98
24) Isopropyl ether (DIPE)	8.153	45	42485	1.88	ug/l	99
25) Vinyl acetate	8.329	43	18059	3.27	ug/l	100
26) 1,1-Dichloroethane	8.329	63	20777	1.87	ug/l	98
27) 2-Butanol	8.803	45	9853	9.61	ug/L #	1
28) tert-Butyl ethyl ether...	8.902	59	37133	1.85	ug/l	99
29) 2-Butanone	9.111	43	46291	9.13	ug/l	99
30) Propionitrile	9.199	54	28068	18.63	ug/L	96
31) 2,2-Dichloropropane	9.353	77	11851	1.74	ug/L	98
32) cis-1,2-Dichloroethene	9.430	96	11121	1.92	ug/L	98
33) Methacrylonitrile	9.562	52	31465	18.59	ug/L	93
34) Isobutyl alcohol	9.672	43	15148	45.15	ug/L	84
35) Chloroform	9.705	83	20174	1.95	ug/l	96
36) Bromochloromethane	9.991	49	13674	1.99	ug/l	95
37) Tetrahydrofuran	10.145	42	6107	2.07	ug/L	96
39) 1,1,1-Trichloroethane	10.431	97	14508	1.85	ug/l	94
40) Cyclohexane	10.475	56	23902	1.93	ug/L	98

SV 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN003.D
Acq On : 7 Mar 2016 12:06 pm
Operator : CMendo
Sample : VOF4C072
Misc : 2.0ppb 8260/10.0ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 28 14:07:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	4816	1.96 ug/L	95
42) tert-Amyl methyl ether...	10.927	87	5891	1.84 ug/l	95
43) Carbon tetrachloride	10.894	119	12484	1.89 ug/L	99
45) 1,2-Dichloroethane	11.125	62	19121	1.90 ug/L	91
46) Benzene	11.180	78	40400	1.95 ug/L	97
47) Trichloroethene	12.258	130	10455	1.98 ug/L	99
48) Methylcyclohexane	12.379	83	16246	1.90 ug/L	96
49) 1,2-Dichloropropane	12.544	63	12104	1.87 ug/L	88
50) 1,4-Dioxane	13.029	88	3332	35.56 ug/L	81
51) Bromodichloromethane	12.963	83	13907	1.84 ug/L	98
52) Dibromomethane	13.062	93	7590	1.87 ug/L	96
53) 2-Chloroethyl vinyl ether	13.480	63	6771	1.87 ug/L	96
54) 4-Methyl-2-pentanone	13.546	43	87898	8.61 ug/L	97
55) cis-1,3-Dichloropropene	13.909	75	14617	1.71 ug/L	97
58) Toluene	14.514	91	38982	1.90 ug/L	100
59) trans-1,3-Dichloropropene	14.800	75	10927	1.43 ug/l	77
60) 2-Hexanone	15.087	43	53977	7.53 ug/l	91
61) 1,1,2-Trichloroethane	15.076	97	9143	1.84 ug/l	89
62) 1,3-Dichloropropane	15.483	76	16702	1.89 ug/l	97
63) Tetrachloroethene	15.615	164	7310	1.93 ug/l	97
64) Dibromochloromethane	15.912	129	8844	1.71 ug/l	100
65) 1,2-Dibromoethane	16.220	107	9875	1.88 ug/l	96
66) 1-Chlorohexane	16.418	91	11772	1.90 ug/l	94
67) Chlorobenzene	16.803	112	25091	1.92 ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.858	131	8033	1.77 ug/l #	1
69) Ethylbenzene	16.869	91	42577	1.85 ug/l	98
70) m-Xylene & p-Xylene	16.968	91	72592	4.02 ug/l	96
71) o-Xylene	17.541	91	35293	1.90 ug/l	98
72) Styrene	17.585	104	24710	1.74 ug/l	97
73) Isopropylbenzene	17.970	105	39210	1.94 ug/L	99
75) Bromoform	18.014	173	5538	1.62 ug/l	96
76) 1,1,2,2-Tetrachloroethane	18.157	83	14164	1.97 ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	4292	2.02 ug/l	81
79) trans-1,4-Dichloro-2-b...	18.410	53	5406	1.81 ug/l	81
80) n-Propylbenzene	18.443	91	52627	2.02 ug/l	99
81) Bromobenzene	18.520	156	10324	2.03 ug/l	98
82) 1,3,5-Trimethylbenzene	18.608	105	34916	2.04 ug/l	100
83) 2-Chlorotoluene	18.663	126	9632	1.89 ug/l	91
84) 4-Chlorotoluene	18.718	126	10432	2.18 ug/l	92
85) tert-Butylbenzene	19.004	134	6727	1.95 ug/l #	90
86) 1,2,4-Trimethylbenzene	19.048	105	34802	1.96 ug/l	100
87) sec-Butylbenzene	19.235	105	46091	2.09 ug/l	98
88) p-Isopropyltoluene	19.368	119	34724	1.98 ug/l	99
89) 1,3-Dichlorobenzene	19.511	146	18430	1.96 ug/l	99
90) 1,2,3-Trimethylbenzene	19.555	105	27966	1.99 ug/L	97
91) 1,4-Dichlorobenzene	19.621	146	19334	1.98 ug/l	98
92) n-Butylbenzene	19.786	91	35859	1.99 ug/l	99
93) 1,2-Dichlorobenzene	19.995	146	19454	2.05 ug/l	80
94) 1,2-Dibromo-3-chloropr...	20.765	157	2342	1.78 ug/l	89
95) 1,2,4-Trichlorobenzene	21.712	180	12400	2.00 ug/l	98
96) Hexachlorobutadiene	21.833	225	6323	2.10 ug/l #	46
97) Naphthalene	22.031	128	34074	1.87 ug/l	97
98) 1,2,3-Trichlorobenzene	22.317	180	12552	2.00 ug/l	96

SO 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN003.D
Acq On : 7 Mar 2016 12:06 pm
Operator : CMendo
Sample : VOF4C072
Misc : 2.0ppb 8260/10.0ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 28 14:07:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

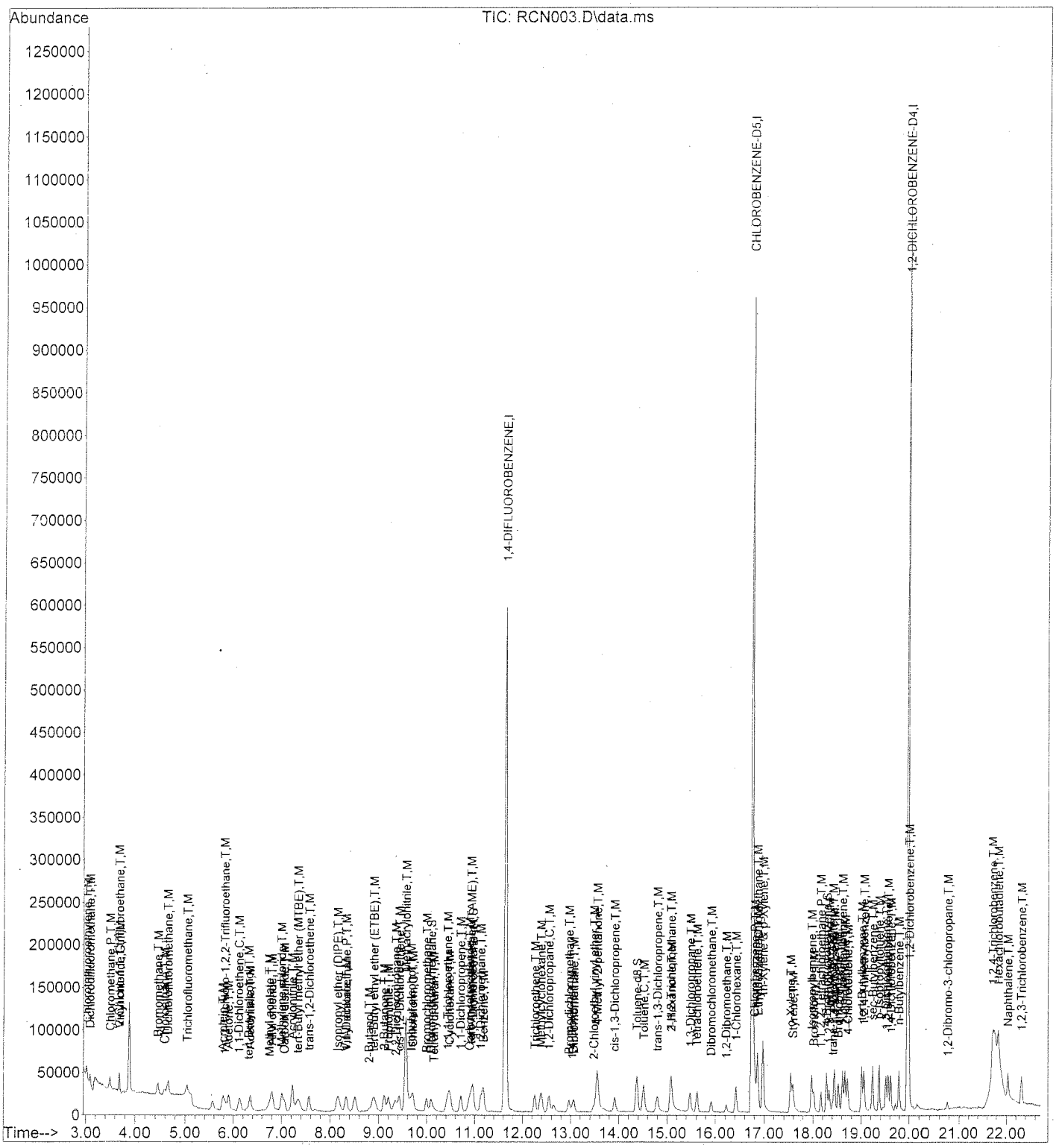
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN003.D
Acq On : 7 Mar 2016 12:06 pm
Operator : CMendo
Sample : VOF4C072
Misc : 2.0ppb 8260/10.0ppb KET-AA-TBA-2Butanol
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Apr 28 14:07:35 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



5w 5/9/16

306

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN004.D
Acq On : 7 Mar 2016 12:33 pm
Operator : CMendo
Sample : VOF4C073
Misc : 4.0ppb 8260/20.0ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 14:09:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	703877	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	592240	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	276348	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	16729	3.27	ug/l	0.01
Spiked Amount 50.000			Recovery = 6.54%			
44) 1,2-Dichloroethane-d4	10.960	65	26775	3.56	ug/l	0.00
Spiked Amount 50.000			Recovery = 7.12%			
57) Toluene-d8	14.371	98	56139	3.46	ug/l	0.01
Spiked Amount 50.000			Recovery = 6.92%			
77) 4-Bromofluorobenzene	18.278	95	23359	3.53	ug/l	0.01
Spiked Amount 50.000			Recovery = 7.06%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.025	116	8525	3.76	ug/L	94
3) Dichlorodifluoromethane	3.091	85	22169	3.63	ug/l	98
4) Chloromethane	3.487	50	30533	3.91	ug/l	98
5) 2-Chloro-1,1,1-trifluo...	3.685	118	14785	4.15	ug/L	98
6) Vinyl chloride	3.696	62	21528	3.97	ug/l #	47
7) Bromomethane	4.456	94	21331	4.36	ug/l	97
8) Chloroethane	4.588	64	15243	3.94	ug/L	92
9) Dichlorofluoromethane	4.654	67	51786	4.27	ug/L	95
10) Trichlorofluoromethane	5.039	101	28545	3.80	ug/l	100
11) Acrolein	5.776	56	28429	19.50	ug/l	95
12) 1,1,2-Trichloro-1,2,2-...	5.820	151	15476	4.17	ug/l	99
13) Acetone	5.897	43	65668	20.26	ug/l	94
14) 1,1-Dichloroethene	6.128	61	37788	4.08	ug/L	98
15) tert-Butyl alcohol	6.326	59	20889	20.94	ug/L	93
16) Acetonitrile	6.348	41	57441	43.06	ug/L	96
17) Methyl acetate	6.745	43	29304	3.72	ug/L	99
18) Allyl chloride	6.800	76	11284	4.11	ug/L	93
19) Methylene chloride	6.998	49	41006	4.37	ug/l	99
20) Carbon disulfide	7.053	76	46451	3.42	ug/L	98
21) Acrylonitrile	7.218	53	70014	19.34	ug/l	99
22) tert-Butyl methyl ethe...	7.339	73	60111	4.08	ug/L	98
23) trans-1,2-Dichloroethene	7.570	96	20027	4.19	ug/l	97
24) Isopropyl ether (DIPE)	8.153	45	85438	4.02	ug/l	98
25) Vinyl acetate	8.329	43	36694	4.62	ug/l	100
26) 1,1-Dichloroethane	8.329	63	43255	4.13	ug/l	99
27) 2-Butanol	8.803	45	17356	17.97	ug/L #	1
28) tert-Butyl ethyl ether...	8.891	59	75759	4.01	ug/l	100
29) 2-Butanone	9.111	43	90548	18.96	ug/l	99
30) Propionitrile	9.199	54	58442	41.19	ug/L	97
31) 2,2-Dichloropropane	9.342	77	24265	3.79	ug/L	98
32) cis-1,2-Dichloroethene	9.419	96	21580	3.95	ug/L	94
33) Methacrylonitrile	9.551	52	64806	40.64	ug/L	95
34) Isobutyl alcohol	9.650	43	30782	70.97	ug/L	91
35) Chloroform	9.705	83	40614	4.18	ug/l	99
36) Bromochloromethane	9.991	49	26833	4.14	ug/l	100
37) Tetrahydrofuran	10.123	42	9226	3.32	ug/L	89
39) 1,1,1-Trichloroethane	10.420	97	29115	3.93	ug/l	98
40) Cyclohexane	10.475	56	40452	3.47	ug/L	99

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN004.D
Acq On : 7 Mar 2016 12:33 pm
Operator : CMendo
Sample : VOF4C073
Misc : 4.0ppb 8260/20.0ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 14:09:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.707	110	9853	4.26 ug/L	99
42) tert-Amyl methyl ether...	10.938	87	11768	3.91 ug/l	95
43) Carbon tetrachloride	10.883	119	24933	4.01 ug/L	100
45) 1,2-Dichloroethane	11.125	62	39369	4.15 ug/L	94
46) Benzene	11.180	78	81371	4.18 ug/L	98
47) Trichloroethene	12.258	130	20763	4.17 ug/L	99
48) Methylcyclohexane	12.379	83	28529	3.54 ug/L	98
49) 1,2-Dichloropropane	12.555	63	24632	4.04 ug/L	98
50) 1,4-Dioxane	13.018	88	7550	85.55 ug/L	99
51) Bromodichloromethane	12.963	83	28038	3.93 ug/L	98
52) Dibromomethane	13.062	93	15835	4.14 ug/L	96
53) 2-Chloroethyl vinyl ether	13.469	63	14137	4.15 ug/L	99
54) 4-Methyl-2-pentanone	13.546	43	175423	18.25 ug/L	98
55) cis-1,3-Dichloropropene	13.909	75	29060	3.61 ug/L	98
58) Toluene	14.514	91	77718	4.03 ug/L	99
59) trans-1,3-Dichloropropene	14.800	75	24398	3.40 ug/l	96
60) 2-Hexanone	15.076	43	106796	15.85 ug/l	100
61) 1,1,2-Trichloroethane	15.065	97	19139	4.09 ug/l	91
62) 1,3-Dichloropropane	15.472	76	34624	4.17 ug/l	97
63) Tetrachloroethene	15.615	164	14986	4.20 ug/l	98
64) Dibromochloromethane	15.912	129	17747	3.65 ug/l	95
65) 1,2-Dibromoethane	16.220	107	20038	4.05 ug/l	99
66) 1-Chlorohexane	16.418	91	22735	3.90 ug/l	94
67) Chlorobenzene	16.803	112	50419	4.10 ug/l	84
68) 1,1,1,2-Tetrachloroethane	16.847	131	15752	3.68 ug/l #	68
69) Ethylbenzene	16.858	91	87237	4.03 ug/l	100
70) m-Xylene & p-Xylene	16.968	91	137142	8.07 ug/l	99
71) o-Xylene	17.541	91	70947	4.06 ug/l	98
72) Styrene	17.585	104	50383	3.77 ug/l	96
73) Isopropylbenzene	17.970	105	75289	3.95 ug/L	99
75) Bromoform	18.014	173	11292	3.40 ug/l	99
76) 1,1,2,2-Tetrachloroethane	18.157	83	28412	4.07 ug/l	98
78) 1,2,3-Trichloropropane	18.333	110	8461	4.10 ug/l	87
79) trans-1,4-Dichloro-2-b...	18.399	53	10898	3.75 ug/l	86
80) n-Propylbenzene	18.432	91	100203	3.96 ug/l	100
81) Bromobenzene	18.520	156	19614	3.97 ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	65402	3.92 ug/l	100
83) 2-Chlorotoluene	18.663	126	18484	3.74 ug/l	99
84) 4-Chlorotoluene	18.707	126	19794	4.26 ug/l	92
85) tert-Butylbenzene	19.004	134	13281	3.97 ug/l	98
86) 1,2,4-Trimethylbenzene	19.048	105	68284	3.95 ug/l	100
87) sec-Butylbenzene	19.235	105	88006	4.10 ug/l	99
88) p-Isopropyltoluene	19.368	119	67739	3.97 ug/l	99
89) 1,3-Dichlorobenzene	19.511	146	36270	3.96 ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	47622	3.48 ug/L	98
91) 1,4-Dichlorobenzene	19.610	146	37780	3.98 ug/l	98
92) n-Butylbenzene	19.786	91	68071	3.88 ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	37238	4.03 ug/l	88
94) 1,2-Dibromo-3-chloropr...	20.765	157	4833	3.79 ug/l	94
95) 1,2,4-Trichlorobenzene	21.701	180	23454	3.89 ug/l	99
96) Hexachlorobutadiene	21.833	225	12175	4.16 ug/l	96
97) Naphthalene	22.031	128	66385	3.76 ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	23923	3.93 ug/l	99

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN004.D
Acq On : 7 Mar 2016 12:33 pm
Operator : CMendo
Sample : VOF4C073
Misc : 4.0ppb 8260/20.0ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 14:09:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

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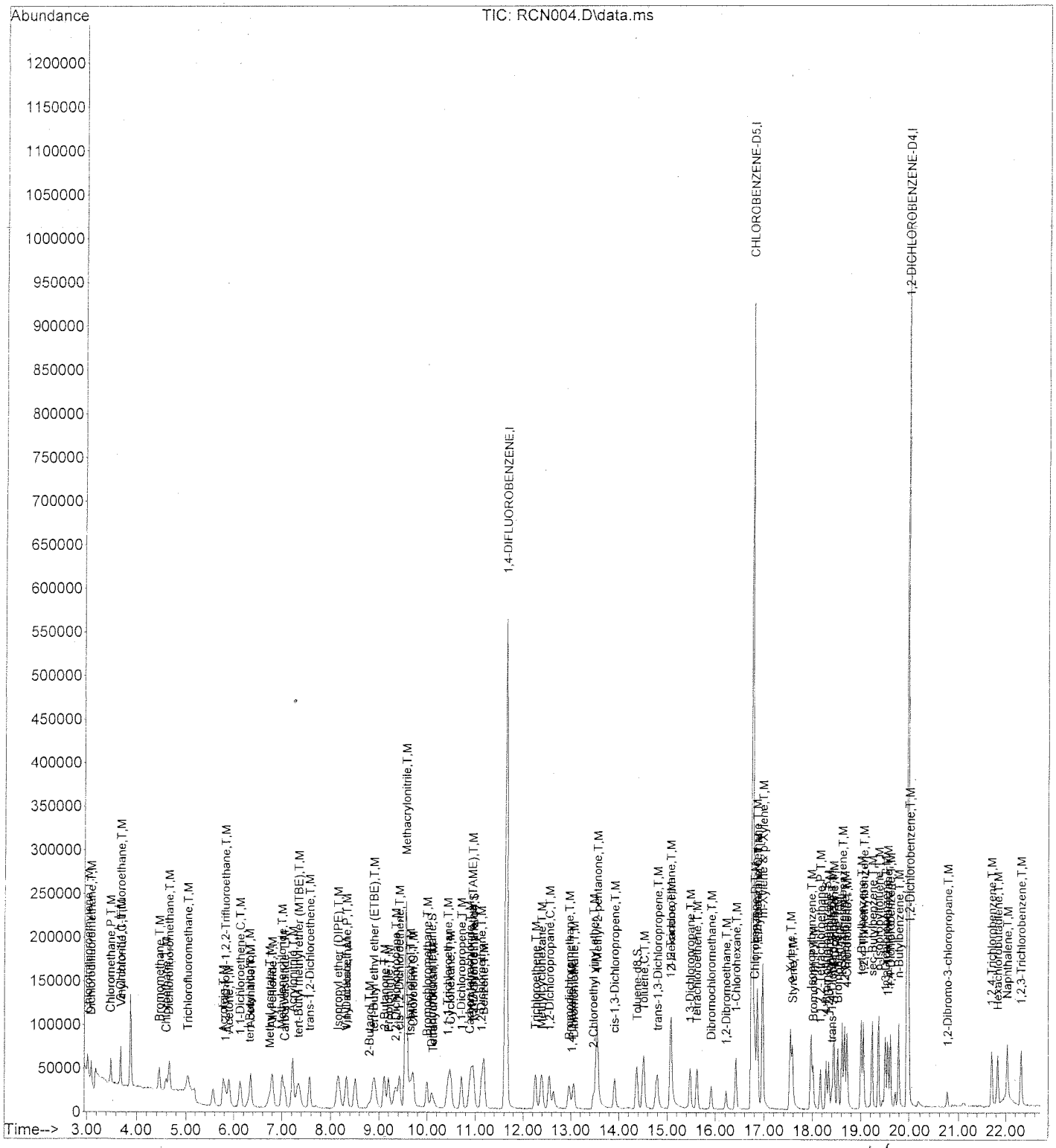
Sm

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN004.D
Acq On : 7 Mar 2016 12:33 pm
Operator : CMendo
Sample : VOF4C073
Misc : 4.0ppb 8260/20.0ppb KET-AA-TBA-2Butanol
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Apr 28 14:09:31 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



VOF4C07.M Thu Apr 28 14:09:53 2016 F4

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN005.D
Acq On : 7 Mar 2016 1:01 pm
Operator : CMendo
Sample : VOF4C074
Misc : 10ppb 8260/50ppb KET-AA-TBA-2Butanol
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 14:09:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	728210	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	607747	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.973	152	279872	50.00	ug/l	0.01
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	58881	11.12	ug/l	0.01
Spiked Amount 50.000			Recovery = 22.24%			
44) 1,2-Dichloroethane-d4	10.959	65	87226	11.20	ug/l	0.00
Spiked Amount 50.000			Recovery = 22.40%			
57) Toluene-d8	14.360	98	194729	11.71	ug/l	0.00
Spiked Amount 50.000			Recovery = 23.42%			
77) 4-Bromofluorobenzene	18.278	95	80604	12.02	ug/l	0.01
Spiked Amount 50.000			Recovery = 24.04%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	23168	9.88	ug/L	100
3) Dichlorodifluoromethane	3.091	85	67734	10.73	ug/l	99
4) Chloromethane	3.487	50	89383	11.06	ug/l	99
5) 2-Chloro-1,1,1-trifluo...	3.685	118	38740	10.50	ug/L	99
6) Vinyl chloride	3.696	62	64865	11.57	ug/l	98
7) Bromomethane	4.455	94	59144	13.94	ug/l	100
8) Chloroethane	4.587	64	46004	11.49	ug/L	97
9) Dichlorofluoromethane	4.654	67	131313	10.46	ug/L	100
10) Trichlorofluoromethane	5.039	101	87161	11.22	ug/l	99
11) Acrolein	5.776	56	77263	51.23	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	39134	10.19	ug/l	99
13) Acetone	5.897	43	167587	49.98	ug/l	98
14) 1,1-Dichloroethene	6.128	61	97978	10.22	ug/L	99
15) tert-Butyl alcohol	6.315	59	48192	46.69	ug/L	95
16) Acetonitrile	6.348	41	134283	97.29	ug/L	99
17) Methyl acetate	6.733	43	78891	9.68	ug/L	99
18) Allyl chloride	6.800	76	28547	10.05	ug/L	98
19) Methylene chloride	6.998	49	97547	10.05	ug/l	100
20) Carbon disulfide	7.053	76	142360	10.13	ug/L	99
21) Acrylonitrile	7.218	53	188991	50.47	ug/l	99
22) tert-Butyl methyl ethe...	7.339	73	146510	9.60	ug/L	99
23) trans-1,2-Dichloroethene	7.570	96	49998	10.10	ug/l	99
24) Isopropyl ether (DIPE)	8.153	45	215078	9.79	ug/l	100
25) Vinyl acetate	8.318	43	114512	9.70	ug/l	99
26) 1,1-Dichloroethane	8.329	63	106419	9.82	ug/l	99
27) 2-Butanol	8.780	45	44387	44.42	ug/L #	1
28) tert-Butyl ethyl ether...	8.890	59	190034	9.72	ug/l	98
29) 2-Butanone	9.089	43	251095	50.82	ug/l	100
30) Propionitrile	9.188	54	139676	95.15	ug/L	100
31) 2,2-Dichloropropane	9.342	77	63226	9.54	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	56475	10.00	ug/L	99
33) Methacrylonitrile	9.551	52	161786	98.07	ug/L	96
34) Isobutyl alcohol	9.639	43	85147	151.52	ug/L	92
35) Chloroform	9.705	83	100123	9.95	ug/l	99
36) Bromochloromethane	9.991	49	67269	10.04	ug/l	99
37) Tetrahydrofuran	10.123	42	27323	9.50	ug/L	98
39) 1,1,1-Trichloroethane	10.420	97	75400	9.84	ug/l	98
40) Cyclohexane	10.475	56	124825	10.36	ug/L	100

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN005.D
Acq On : 7 Mar 2016 1:01 pm
Operator : CMendo
Sample : VOF4C074
Misc : 10ppb 8260/50ppb KET-AA-TBA-2Butanol
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 14:09:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	24760	10.34 ug/L	98
42) tert-Amyl methyl ether...	10.926	87	29358	9.43 ug/l	96
43) Carbon tetrachloride	10.882	119	62243	9.69 ug/L	99
45) 1,2-Dichloroethane	11.125	62	97128	9.89 ug/L	100
46) Benzene	11.169	78	199263	9.89 ug/L	99
47) Trichloroethene	12.258	130	51388	9.97 ug/L	99
48) Methylcyclohexane	12.390	83	86737	10.40 ug/L	99
49) 1,2-Dichloropropane	12.544	63	62300	9.88 ug/L	98
50) 1,4-Dioxane	13.006	88	17697	193.83 ug/L	96
51) Bromodichloromethane	12.962	83	71213	9.65 ug/L	98
52) Dibromomethane	13.061	93	38858	9.81 ug/L	99
53) 2-Chloroethyl vinyl ether	13.469	63	36395	10.32 ug/L	98
54) 4-Methyl-2-pentanone	13.535	43	497803	50.06 ug/L	99
55) cis-1,3-Dichloropropene	13.909	75	79574	9.54 ug/L	100
58) Toluene	14.503	91	200185	10.12 ug/L	100
59) trans-1,3-Dichloropropene	14.789	75	65630	8.90 ug/l	98
60) 2-Hexanone	15.064	43	332840	48.13 ug/l	99
61) 1,1,2-Trichloroethane	15.064	97	47478	9.88 ug/l	95
62) 1,3-Dichloropropane	15.472	76	86376	10.14 ug/l	98
63) Tetrachloroethene	15.615	164	37698	10.30 ug/l	98
64) Dibromochloromethane	15.912	129	46631	9.34 ug/l	98
65) 1,2-Dibromoethane	16.220	107	49792	9.80 ug/l	99
66) 1-Chlorohexane	16.418	91	57279	9.57 ug/l	96
67) Chlorobenzene	16.803	112	126774	10.04 ug/l	93
68) 1,1,1,2-Tetrachloroethane	16.847	131	41775	9.51 ug/l	94
69) Ethylbenzene	16.858	91	219773	9.89 ug/l	100
70) m-Xylene & p-Xylene	16.968	91	342740	19.66 ug/l	99
71) o-Xylene	17.530	91	177420	9.90 ug/l	98
72) Styrene	17.574	104	134298	9.80 ug/l	99
73) Isopropylbenzene	17.970	105	187388	9.59 ug/L	99
75) Bromoform	18.014	173	29941	8.90 ug/l	99
76) 1,1,2,2-Tetrachloroethane	18.157	83	71076	10.06 ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	20708	9.91 ug/l	96
79) trans-1,4-Dichloro-2-b...	18.388	53	27124	9.22 ug/l	93
80) n-Propylbenzene	18.432	91	254731	9.94 ug/l	99
81) Bromobenzene	18.520	156	49834	9.96 ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	167657	9.93 ug/l	98
83) 2-Chlorotoluene	18.663	126	49646	9.91 ug/l	94
84) 4-Chlorotoluene	18.707	126	48969	10.41 ug/l	94
85) tert-Butylbenzene	19.004	134	32808	9.68 ug/l	98
86) 1,2,4-Trimethylbenzene	19.048	105	174545	9.98 ug/l	98
87) sec-Butylbenzene	19.235	105	209983	9.65 ug/l	99
88) p-Isopropyltoluene	19.367	119	166069	9.60 ug/l	99
89) 1,3-Dichlorobenzene	19.510	146	91281	9.85 ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	144116	10.41 ug/L	99
91) 1,4-Dichlorobenzene	19.610	146	93447	9.72 ug/l	98
92) n-Butylbenzene	19.786	91	172961	9.73 ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	90957	9.73 ug/l	95
94) 1,2-Dibromo-3-chloropr...	20.765	157	11786	9.12 ug/l	97
95) 1,2,4-Trichlorobenzene	21.701	180	57667	9.44 ug/l	100
96) Hexachlorobutadiene	21.833	225	28794	9.71 ug/l	98
97) Naphthalene	22.031	128	160561	8.97 ug/l	99
98) 1,2,3-Trichlorobenzene	22.317	180	57632	9.34 ug/l	100

S 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN005.D
Acq On : 7 Mar 2016 1:01 pm
Operator : CMendo
Sample : VOF4C074
Misc : 10ppb 8260/50ppb KET-AA-TBA-2Butanol
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 14:09:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

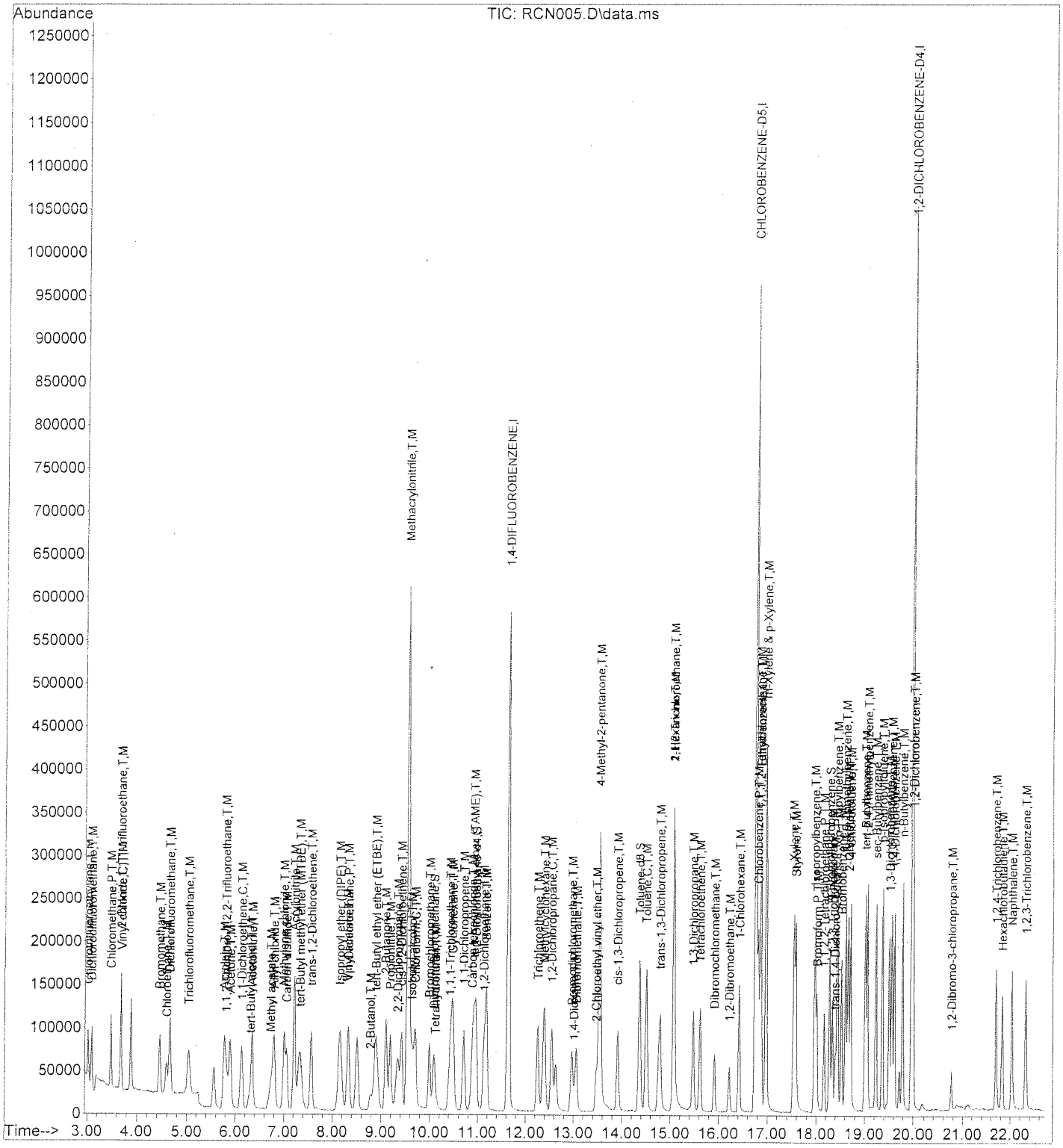
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN005.D
Acq On : 7 Mar 2016 1:01 pm
Operator : CMendo
Sample : VOF4C074
Misc : 10ppb 8260/50ppb KET-AA-TBA-2Butanol
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Apr 28 14:09:57 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SW 5/4/16

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN006.D
Acq On : 7 Mar 2016 1:29 pm
Operator : CMendo
Sample : VOF4C075
Misc : 20ppb 8260/100ppb KET-AA-TBA-2Butanol
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 28 14:10:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	752074	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	639608	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	301688	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	103566	18.93	ug/l	0.01
Spiked Amount 50.000			Recovery = 37.86%			
44) 1,2-Dichloroethane-d4	10.960	65	156116	19.42	ug/l	0.00
Spiked Amount 50.000			Recovery = 38.84%			
57) Toluene-d8	14.360	98	331067	18.92	ug/l	0.00
Spiked Amount 50.000			Recovery = 37.84%			
77) 4-Bromofluorobenzene	18.267	95	137104	18.97	ug/l	0.00
Spiked Amount 50.000			Recovery = 37.94%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	51220	21.15	ug/L	98
3) Dichlorodifluoromethane	3.091	85	132510	20.33	ug/l	100
4) Chloromethane	3.487	50	159358	19.09	ug/l	100
5) 2-Chloro-1,1,1-trifluo...	3.685	118	85907	22.55	ug/L	99
6) Vinyl chloride	3.685	62	126141	21.79	ug/l	92
7) Bromomethane	4.445	94	112087	26.70	ug/l	98
8) Chloroethane	4.588	64	87980	21.27	ug/L	98
9) Dichlorofluoromethane	4.654	67	273371	21.08	ug/L	98
10) Trichlorofluoromethane	5.039	101	168154	20.96	ug/l	100
11) Acrolein	5.765	56	153973	98.86	ug/l	100
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	82642	20.83	ug/l	100
13) Acetone	5.897	43	329808	95.24	ug/l	99
14) 1,1-Dichloroethene	6.128	61	204021	20.61	ug/L	99
15) tert-Butyl alcohol	6.304	59	103652	97.23	ug/L	98
16) Acetonitrile	6.348	41	295841	207.54	ug/L	99
17) Methyl acetate	6.734	43	164637	19.56	ug/L	100
18) Allyl chloride	6.800	76	58245	19.85	ug/L	98
19) Methylene chloride	6.998	49	201668	20.12	ug/l	100
20) Carbon disulfide	7.053	76	285525	19.66	ug/L	99
21) Acrylonitrile	7.207	53	387872	100.29	ug/l	99
22) tert-Butyl methyl ethe...	7.328	73	322613	20.48	ug/L	100
23) trans-1,2-Dichloroethene	7.570	96	103399	20.23	ug/l	99
24) Isopropyl ether (DIPE)	8.142	45	462744	20.38	ug/l	100
25) Vinyl acetate	8.318	43	257263	18.63	ug/l	99
26) 1,1-Dichloroethane	8.329	63	228568	20.43	ug/l	100
27) 2-Butanol	8.770	45	93048	90.17	ug/L #	1
28) tert-Butyl ethyl ether...	8.880	59	422094	20.91	ug/l	98
29) 2-Butanone	9.089	43	516258	101.17	ug/l	100
30) Propionitrile	9.188	54	307203	202.63	ug/L	98
31) 2,2-Dichloropropane	9.342	77	135959	19.87	ug/L	99
32) cis-1,2-Dichloroethene	9.419	96	118257	20.27	ug/L	98
33) Methacrylonitrile	9.551	52	354347	207.98	ug/L	99
34) Isobutyl alcohol	9.639	43	201710	318.01	ug/L	96
35) Chloroform	9.705	83	211932	20.39	ug/l	99
36) Bromochloromethane	9.991	49	142185	20.55	ug/l	100
37) Tetrahydrofuran	10.112	42	56721	19.10	ug/L	98
39) 1,1,1-Trichloroethane	10.431	97	163684	20.69	ug/l	99
40) Cyclohexane	10.475	56	252636	20.31	ug/L	100

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN006.D
Acq On : 7 Mar 2016 1:29 pm
Operator : CMendo
Sample : VOF4C075
Misc : 20ppb 8260/100ppb KET-AA-TBA-2Butanol
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 28 14:10:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.707	110	51632	20.88 ug/L	96
42) tert-Amyl methyl ether...	10.927	87	64434	20.05 ug/l	97
43) Carbon tetrachloride	10.894	119	136532	20.57 ug/L	99
45) 1,2-Dichloroethane	11.125	62	210952	20.81 ug/L	100
46) Benzene	11.169	78	426154	20.48 ug/L	99
47) Trichloroethene	12.247	130	111003	20.85 ug/L	98
48) Methylcyclohexane	12.379	83	177986	20.66 ug/L	99
49) 1,2-Dichloropropane	12.544	63	135111	20.74 ug/L	98
50) 1,4-Dioxane	12.996	88	39649	420.48 ug/L	96
51) Bromodichloromethane	12.963	83	155926	20.46 ug/L	100
52) Dibromomethane	13.062	93	85612	20.93 ug/L	98
53) 2-Chloroethyl vinyl ether	13.469	63	87489	24.02 ug/L	97
54) 4-Methyl-2-pentanone	13.524	43	1063649	103.57 ug/L	99
55) cis-1,3-Dichloropropene	13.909	75	177471	20.61 ug/L	99
58) Toluene	14.503	91	435670	20.92 ug/L	100
59) trans-1,3-Dichloropropene	14.789	75	156452	20.16 ug/l	99
60) 2-Hexanone	15.065	43	735396	101.04 ug/l	100
61) 1,1,2-Trichloroethane	15.065	97	104767	20.71 ug/l	96
62) 1,3-Dichloropropane	15.472	76	187651	20.93 ug/l	100
63) Tetrachloroethene	15.615	164	79013	20.52 ug/l	99
64) Dibromochloromethane	15.912	129	108691	20.69 ug/l	100
65) 1,2-Dibromoethane	16.209	107	112464	21.04 ug/l	100
66) 1-Chlorohexane	16.418	91	133309	21.17 ug/l	98
67) Chlorobenzene	16.803	112	277228	20.85 ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	95739	20.71 ug/l	99
69) Ethylbenzene	16.858	91	489174	20.91 ug/l	100
70) m-Xylene & p-Xylene	16.957	91	762674	41.57 ug/l	99
71) o-Xylene	17.530	91	390031	20.68 ug/l	99
72) Styrene	17.574	104	300876	20.85 ug/l	100
73) Isopropylbenzene	17.959	105	425027	20.66 ug/L	99
75) Bromoform	18.014	173	73703	20.33 ug/l	99
76) 1,1,2,2-Tetrachloroethane	18.157	83	160197	21.03 ug/l	100
78) 1,2,3-Trichloropropane	18.333	110	47409	21.04 ug/l	94
79) trans-1,4-Dichloro-2-b...	18.388	53	65208	20.57 ug/l	93
80) n-Propylbenzene	18.432	91	579973	20.99 ug/l	100
81) Bromobenzene	18.520	156	112152	20.79 ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	380866	20.93 ug/l	100
83) 2-Chlorotoluene	18.663	126	113138	20.94 ug/l	98
84) 4-Chlorotoluene	18.707	126	104219	20.55 ug/l	98
85) tert-Butylbenzene	19.004	134	74105	20.28 ug/l	99
86) 1,2,4-Trimethylbenzene	19.048	105	393460	20.87 ug/l	100
87) sec-Butylbenzene	19.236	105	477331	20.36 ug/l	100
88) p-Isopropyltoluene	19.368	119	388938	20.86 ug/l	99
89) 1,3-Dichlorobenzene	19.511	146	208113	20.84 ug/l	99
90) 1,2,3-Trimethylbenzene	19.555	105	300668	20.14 ug/L	99
91) 1,4-Dichlorobenzene	19.610	146	216852	20.92 ug/l	99
92) n-Butylbenzene	19.786	91	409853	21.39 ug/l	99
93) 1,2-Dichlorobenzene	19.995	146	208245	20.67 ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	29232	20.98 ug/l	94
95) 1,2,4-Trichlorobenzene	21.701	180	141860	21.54 ug/l	99
96) Hexachlorobutadiene	21.833	225	68848	21.54 ug/l	99
97) Naphthalene	22.031	128	411911	21.35 ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	138729	20.87 ug/l	98

SU 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN006.D
Acq On : 7 Mar 2016 1:29 pm
Operator : CMendo
Sample : VOF4C075
Misc : 20ppb 8260/100ppb KET-AA-TBA-2Butanol
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 28 14:10:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

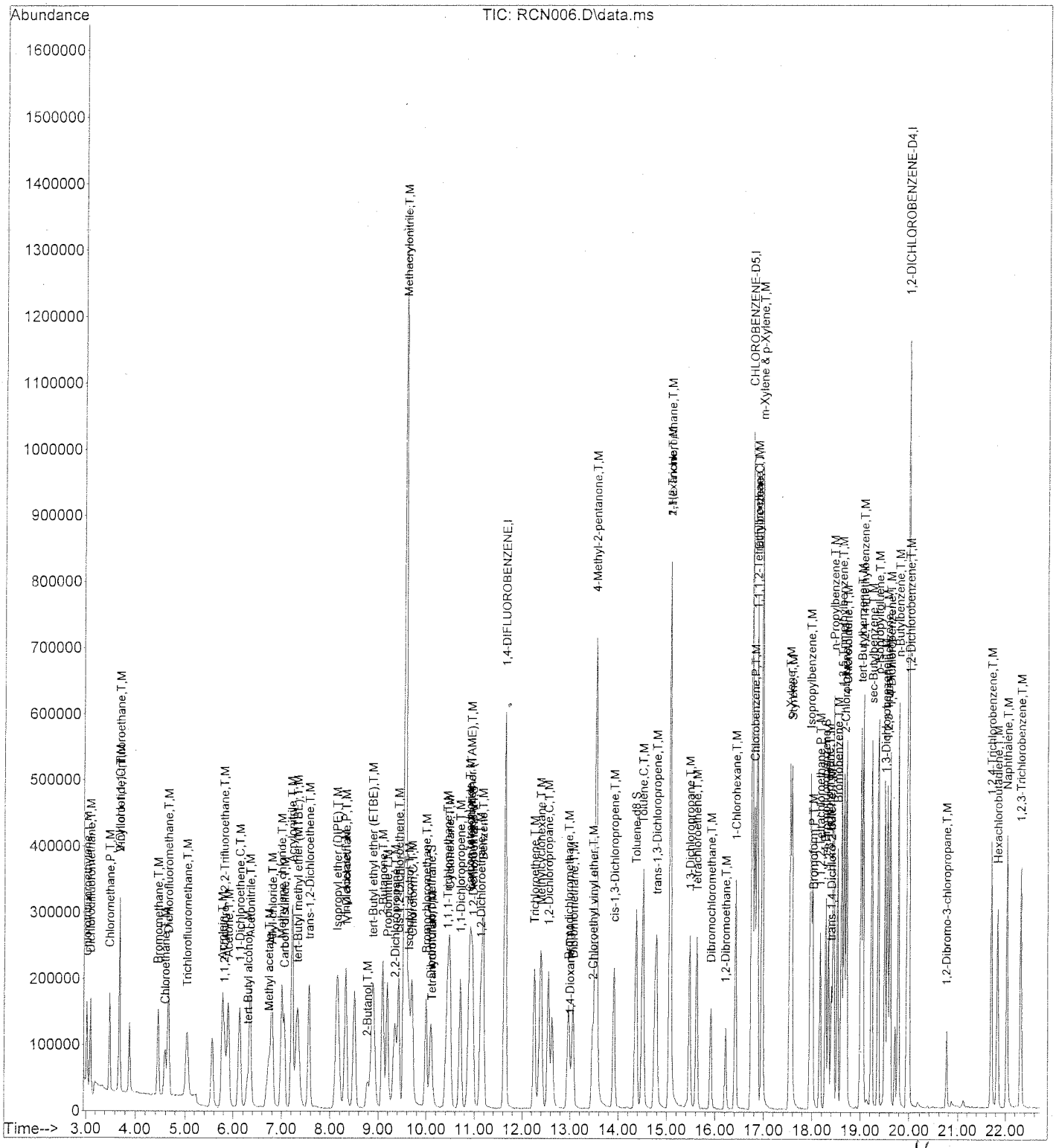
(#) = qualifier out of range (m) = manual integration (+) = signals summed

S 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN006.D
Acq On : 7 Mar 2016 1:29 pm
Operator : CMendo
Sample : VOF4C075
Misc : 20ppb 8260/100ppb KET-AA-TBA-2Butanol
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Apr 28 14:10:20 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SW 5/9/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN007.D
Acq On : 7 Mar 2016 1:56 pm
Operator : CMendo
Sample : VOF4C076
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 28 14:10:34 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	769634	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	660710	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	315457	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	269688	48.18	ug/l	0.00
Spiked Amount 50.000			Recovery = 96.36%			
44) 1,2-Dichloroethane-d4	10.960	65	399227	48.52	ug/l	0.00
Spiked Amount 50.000			Recovery = 97.04%			
57) Toluene-d8	14.360	98	858768	47.51	ug/l	0.00
Spiked Amount 50.000			Recovery = 95.02%			
77) 4-Bromofluorobenzene	18.267	95	357405	47.30	ug/l	0.00
Spiked Amount 50.000			Recovery = 94.60%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	120493	48.61	ug/L	100
3) Dichlorodifluoromethane	3.091	85	340072	50.97	ug/l	100
4) Chloromethane	3.487	50	399005	46.71	ug/l	100
5) 2-Chloro-1,1,1-trifluo...	3.685	118	194801	49.97	ug/L	100
6) Vinyl chloride	3.685	62	321338	54.25	ug/l	100
7) Bromomethane	4.445	94	238607	56.99	ug/l	100
8) Chloroethane	4.588	64	224195	52.96	ug/L	100
9) Dichlorofluoromethane	4.654	67	592565	44.65	ug/L	100
10) Trichlorofluoromethane	5.039	101	430062	52.38	ug/l	100
11) Acrolein	5.776	56	396114	248.51	ug/l	100
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	162338	39.99	ug/l	100
13) Acetone	5.886	43	838075	236.49	ug/l	100
14) 1,1-Dichloroethene	6.128	61	433434	42.79	ug/L	100
15) tert-Butyl alcohol	6.304	59	233468	214.01	ug/L	100
16) Acetonitrile	6.348	41	673775	461.89	ug/L	100
17) Methyl acetate	6.734	43	430066	49.93	ug/L	100
18) Allyl chloride	6.800	76	130637	43.50	ug/L	100
19) Methylene chloride	6.998	49	441322	43.03	ug/l	100
20) Carbon disulfide	7.053	76	778218	52.37	ug/L	100
21) Acrylonitrile	7.207	53	980228	247.68	ug/l	100
22) tert-Butyl methyl ethe...	7.317	73	711724	44.14	ug/L	100
23) trans-1,2-Dichloroethene	7.570	96	224550	42.92	ug/l	100
24) Isopropyl ether (DIPE)	8.142	45	1010407	43.49	ug/l	100
25) Vinyl acetate	8.318	43	728175	47.82	ug/l	100
26) 1,1-Dichloroethane	8.329	63	495199	43.25	ug/l	100
27) 2-Butanol	8.759	45	263456	249.49	ug/L	100
28) tert-Butyl ethyl ether...	8.880	59	890140	43.08	ug/l	100
29) 2-Butanone	9.078	43	1338094	256.23	ug/l	100
30) Propionitrile	9.188	54	704650	454.19	ug/L	100
31) 2,2-Dichloropropane	9.342	77	292501	41.76	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	260161	43.57	ug/L	100
33) Methacrylonitrile	9.551	52	795312	456.14	ug/L	100
34) Isobutyl alcohol	9.628	43	512346	755.48	ug/L	100
35) Chloroform	9.705	83	463703	43.60	ug/l	100
36) Bromochloromethane	9.991	49	321194	45.36	ug/l	100
37) Tetrahydrofuran	10.101	42	136582	44.95	ug/L	100
39) 1,1,1-Trichloroethane	10.420	97	337686	41.71	ug/l	100
40) Cyclohexane	10.475	56	646158	50.75	ug/L	100

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN007.D
Acq On : 7 Mar 2016 1:56 pm
Operator : CMendo
Sample : VOF4C076
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 28 14:10:34 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	102471	40.50 ug/L	100
42) tert-Amyl methyl ether...	10.916	87	143754	43.70 ug/l	100
43) Carbon tetrachloride	10.894	119	278584	41.02 ug/L	100
45) 1,2-Dichloroethane	11.125	62	463302	44.66 ug/L	100
46) Benzene	11.169	78	906442	42.56 ug/L	100
47) Trichloroethene	12.258	130	221372	40.64 ug/L	100
48) Methylcyclohexane	12.379	83	444547	50.42 ug/L	100
49) 1,2-Dichloropropane	12.544	63	288998	43.36 ug/L	100
50) 1,4-Dioxane	12.996	88	89739	929.98 ug/L	100
51) Bromodichloromethane	12.963	83	341375	43.77 ug/L	100
52) Dibromomethane	13.062	93	185576	44.34 ug/L	100
53) 2-Chloroethyl vinyl ether	13.458	63	154315	41.39 ug/L	100
54) 4-Methyl-2-pentanone	13.524	43	2740795	260.78 ug/L	100
55) cis-1,3-Dichloropropene	13.909	75	398704	45.25 ug/L	100
58) Toluene	14.503	91	885628	41.17 ug/L	100
59) trans-1,3-Dichloropropene	14.789	75	362055	45.17 ug/l	100
60) 2-Hexanone	15.054	43	1992797	265.05 ug/l	100
61) 1,1,2-Trichloroethane	15.065	97	229044	43.82 ug/l	100
62) 1,3-Dichloropropane	15.472	76	407212	43.98 ug/l	100
63) Tetrachloroethene	15.615	164	156718	39.40 ug/l	100
64) Dibromochloromethane	15.912	129	241127	44.43 ug/l	100
65) 1,2-Dibromoethane	16.209	107	246490	44.64 ug/l	100
66) 1-Chlorohexane	16.418	91	256034	39.35 ug/l	100
67) Chlorobenzene	16.803	112	567459	41.32 ug/l	100
68) 1,1,1,2-Tetrachloroethane	16.847	131	201153	42.13 ug/l	100
69) Ethylbenzene	16.858	91	967882	40.04 ug/l	100
70) m-Xylene & p-Xylene	16.957	91	1505570	79.44 ug/l	100
71) o-Xylene	17.530	91	772614	39.65 ug/l	100
72) Styrene	17.574	104	614239	41.21 ug/l	100
73) Isopropylbenzene	17.959	105	825575	38.85 ug/L	100
75) Bromoform	18.014	173	169204	44.63 ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	349132	43.84 ug/l	100
78) 1,2,3-Trichloropropane	18.333	110	100543	42.67 ug/l	100
79) trans-1,4-Dichloro-2-b...	18.388	53	147074	44.37 ug/l	100
80) n-Propylbenzene	18.432	91	1126484	39.00 ug/l	100
81) Bromobenzene	18.520	156	230640	40.90 ug/l	100
82) 1,3,5-Trimethylbenzene	18.608	105	735773	38.66 ug/l	100
83) 2-Chlorotoluene	18.663	126	228582	40.47 ug/l	100
84) 4-Chlorotoluene	18.707	126	195740	36.92 ug/l	100
85) tert-Butylbenzene	19.004	134	144865	37.91 ug/l	100
86) 1,2,4-Trimethylbenzene	19.048	105	770194	39.07 ug/l	100
87) sec-Butylbenzene	19.224	105	922205	37.62 ug/l	100
88) p-Isopropyltoluene	19.368	119	753537	38.64 ug/l	100
89) 1,3-Dichlorobenzene	19.500	146	418534	40.08 ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	755130	48.38 ug/L	100
91) 1,4-Dichlorobenzene	19.610	146	430614	39.72 ug/l	100
92) n-Butylbenzene	19.786	91	807545	40.30 ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	420747	39.94 ug/l	100
94) 1,2-Dibromo-3-chloropr...	20.754	157	67339	46.22 ug/l	100
95) 1,2,4-Trichlorobenzene	21.701	180	282831	41.07 ug/l	100
96) Hexachlorobutadiene	21.833	225	129913	38.87 ug/l	100
97) Naphthalene	22.031	128	855880	42.42 ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	282481	40.64 ug/l	100

SV 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN007.D
Acq On : 7 Mar 2016 1:56 pm
Operator : CMendo
Sample : VOF4C076
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 28 14:10:34 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

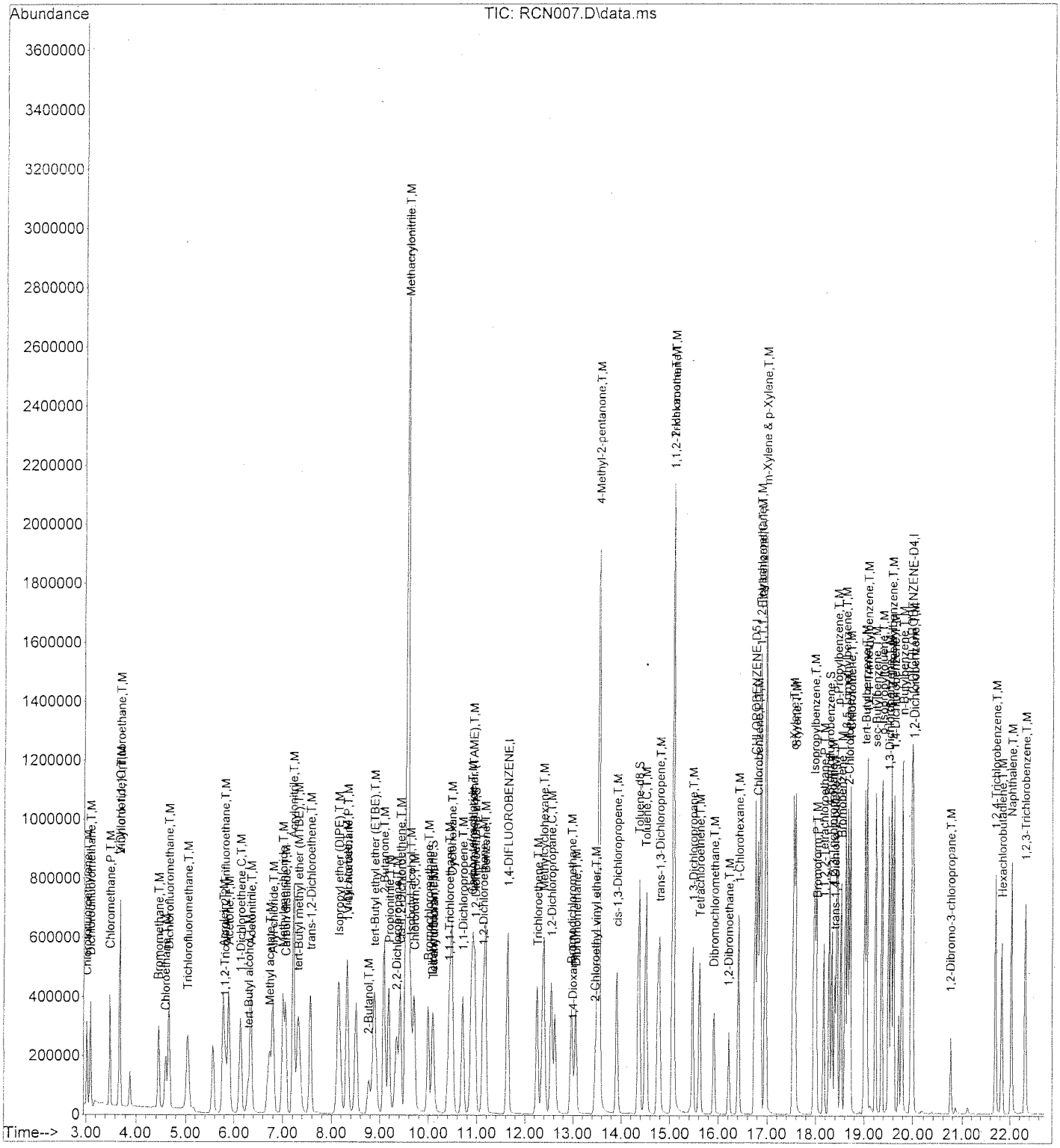
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN007.D
Acq On : 7 Mar 2016 1:56 pm
Operator : CMendo
Sample : VOF4C076
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Apr 28 14:10:34 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



VOF4C07.M Thu Apr 28 15:07:37 2016 F4

SW 5/19/16

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Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN008.D
Acq On : 7 Mar 2016 2:24 pm
Operator : CMendo
Sample : VOF4C077
Misc : 100ppb 8260/500ppb KET-AA-TBA-2Butanol
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 28 14:10:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	781036	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	681416	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	326244	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	592764	104.36	ug/l	0.00
Spiked Amount 50.000			Recovery	=	208.72%	
44) 1,2-Dichloroethane-d4	10.959	65	865530	103.65	ug/l	0.00
Spiked Amount 50.000			Recovery	=	207.30%	
57) Toluene-d8	14.360	98	1908985	102.40	ug/l	0.00
Spiked Amount 50.000			Recovery	=	204.80%	
77) 4-Bromofluorobenzene	18.267	95	789731	101.07	ug/l	0.00
Spiked Amount 50.000			Recovery	=	202.14%	
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	269262	107.05	ug/L	99
3) Dichlorodifluoromethane	3.091	85	677228	100.03	ug/l	99
4) Chloromethane	3.487	50	824038	95.07	ug/l	100
5) 2-Chloro-1,1,1-trifluo...	3.685	118	432810	109.41	ug/L	99
6) Vinyl chloride	3.685	62	598189	99.52	ug/l	98
7) Bromomethane	4.444	94	444789	105.81	ug/l	100
8) Chloroethane	4.576	64	434713	101.19	ug/L	98
9) Dichlorofluoromethane	4.654	67	1409211	104.65	ug/L	100
10) Trichlorofluoromethane	5.028	101	844346	101.34	ug/l	100
11) Acrolein	5.765	56	816047	504.50	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	435043	105.60	ug/l	99
13) Acetone	5.886	43	1725925	479.92	ug/l	100
14) 1,1-Dichloroethene	6.128	61	1083259	105.38	ug/L	100
15) tert-Butyl alcohol	6.293	59	587377	530.57	ug/L	91
16) Acetonitrile	6.348	41	1595600	1077.85	ug/L	100
17) Methyl acetate	6.733	43	859855	98.38	ug/L	98
18) Allyl chloride	6.800	76	323507	106.14	ug/L	99
19) Methylene chloride	6.998	49	1041497	100.06	ug/l	100
20) Carbon disulfide	7.053	76	1618371	107.33	ug/L	100
21) Acrylonitrile	7.207	53	2025985	504.44	ug/l	99
22) tert-Butyl methyl ethe...	7.317	73	1762015	107.68	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	557008	104.92	ug/l	99
24) Isopropyl ether (DIPE)	8.142	45	2509149	106.43	ug/l	100
25) Vinyl acetate	8.318	43	1490533	94.33	ug/l	100
26) 1,1-Dichloroethane	8.318	63	1227074	105.61	ug/l	100
27) 2-Butanol	8.758	45	564933	527.17	ug/L #	1
28) tert-Butyl ethyl ether...	8.868	59	2216617	105.71	ug/l	99
29) 2-Butanone	9.078	43	2829500	533.91	ug/l	100
30) Propionitrile	9.177	54	1713037	1088.03	ug/L	100
31) 2,2-Dichloropropane	9.342	77	793266	111.61	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	640467	105.69	ug/L	99
33) Methacrylonitrile	9.540	52	1974187	1115.75	ug/L	98
34) Isobutyl alcohol	9.617	43	1369394	1952.44	ug/L	75
35) Chloroform	9.705	83	1153710	106.90	ug/l	99
36) Bromochloromethane	9.991	49	767806	106.85	ug/l	99
37) Tetrahydrofuran	10.090	42	340628	110.47	ug/L	98
39) 1,1,1-Trichloroethane	10.420	97	899176	109.45	ug/l	99
40) Cyclohexane	10.475	56	1354558	104.84	ug/L	100

S 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN008.D
Acq On : 7 Mar 2016 2:24 pm
Operator : CMendo
Sample : VOF4C077
Misc : 100ppb 8260/500ppb KET-AA-TBA-2Butanol
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 28 14:10:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	272724	106.21 ug/L	98
42) tert-Amyl methyl ether...	10.904	87	364843	109.30 ug/l	97
43) Carbon tetrachloride	10.882	119	765465	111.07 ug/L	99
45) 1,2-Dichloroethane	11.125	62	1127913	107.13 ug/L	100
46) Benzene	11.169	78	2273240	105.19 ug/L	99
47) Trichloroethene	12.247	130	577056	104.39 ug/L	99
48) Methylcyclohexane	12.379	83	941689	105.25 ug/L	100
49) 1,2-Dichloropropane	12.544	63	721439	106.66 ug/L	98
50) 1,4-Dioxane	12.984	88	216676	2212.67 ug/L	100
51) Bromodichloromethane	12.962	83	872384	110.23 ug/L	99
52) Dibromomethane	13.050	93	459903	108.28 ug/L	99
53) 2-Chloroethyl vinyl ether	13.458	63	392999	103.88 ug/L	98
54) 4-Methyl-2-pentanone	13.513	43	5927808	555.79 ug/L	100
55) cis-1,3-Dichloropropene	13.909	75	1038895	116.18 ug/L	99
58) Toluene	14.503	91	2367315	106.71 ug/L	100
59) trans-1,3-Dichloropropene	14.789	75	982400	118.85 ug/l	97
60) 2-Hexanone	15.053	43	4301188	554.69 ug/l	99
61) 1,1,2-Trichloroethane	15.064	97	585983	108.71 ug/l	96
62) 1,3-Dichloropropane	15.472	76	1026137	107.45 ug/l	100
63) Tetrachloroethene	15.615	164	434856	106.00 ug/l	99
64) Dibromochloromethane	15.912	129	639237	114.20 ug/l	100
65) 1,2-Dibromoethane	16.209	107	627622	110.20 ug/l	100
66) 1-Chlorohexane	16.407	91	748804	111.60 ug/l	98
67) Chlorobenzene	16.803	112	1511427	106.71 ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	553485	112.39 ug/l	98
69) Ethylbenzene	16.858	91	2726809	109.39 ug/l	100
70) m-Xylene & p-Xylene	16.957	91	4242234	217.04 ug/l	100
71) o-Xylene	17.530	91	2146766	106.82 ug/l	100
72) Styrene	17.574	104	1705413	110.94 ug/l	99
73) Isopropylbenzene	17.959	105	2378140	108.52 ug/L	99
75) Bromoform	18.014	173	471835	120.33 ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	902927	109.63 ug/l	100
78) 1,2,3-Trichloropropane	18.333	110	264463	108.54 ug/l	93
79) trans-1,4-Dichloro-2-b...	18.388	53	395858	115.48 ug/l	96
80) n-Propylbenzene	18.432	91	3224883	107.95 ug/l	99
81) Bromobenzene	18.520	156	626003	107.33 ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	2102719	106.84 ug/l	100
83) 2-Chlorotoluene	18.652	126	656321	112.35 ug/l	98
84) 4-Chlorotoluene	18.707	126	547749	99.90 ug/l	99
85) tert-Butylbenzene	19.004	134	421859	106.74 ug/l	97
86) 1,2,4-Trimethylbenzene	19.048	105	2217286	108.77 ug/l	99
87) sec-Butylbenzene	19.224	105	2704058	106.66 ug/l	99
88) p-Isopropyltoluene	19.367	119	2180294	108.12 ug/l	100
89) 1,3-Dichlorobenzene	19.499	146	1170984	108.43 ug/l	99
90) 1,2,3-Trimethylbenzene	19.555	105	1654667	102.50 ug/L	99
91) 1,4-Dichlorobenzene	19.610	146	1190113	106.15 ug/l	100
92) n-Butylbenzene	19.775	91	2295639	110.78 ug/l	99
93) 1,2-Dichlorobenzene	19.995	146	1145370	105.12 ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	187333	124.32 ug/l	99
95) 1,2,4-Trichlorobenzene	21.701	180	769180	108.00 ug/l	99
96) Hexachlorobutadiene	21.833	225	371022	107.33 ug/l	100
97) Naphthalene	22.031	128	2387839	114.44 ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	772470	107.45 ug/l	100

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN008.D
Acq On : 7 Mar 2016 2:24 pm
Operator : CMendo
Sample : VOF4C077
Misc : 100ppb 8260/500ppb KET-AA-TBA-2Butanol
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 28 14:10:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

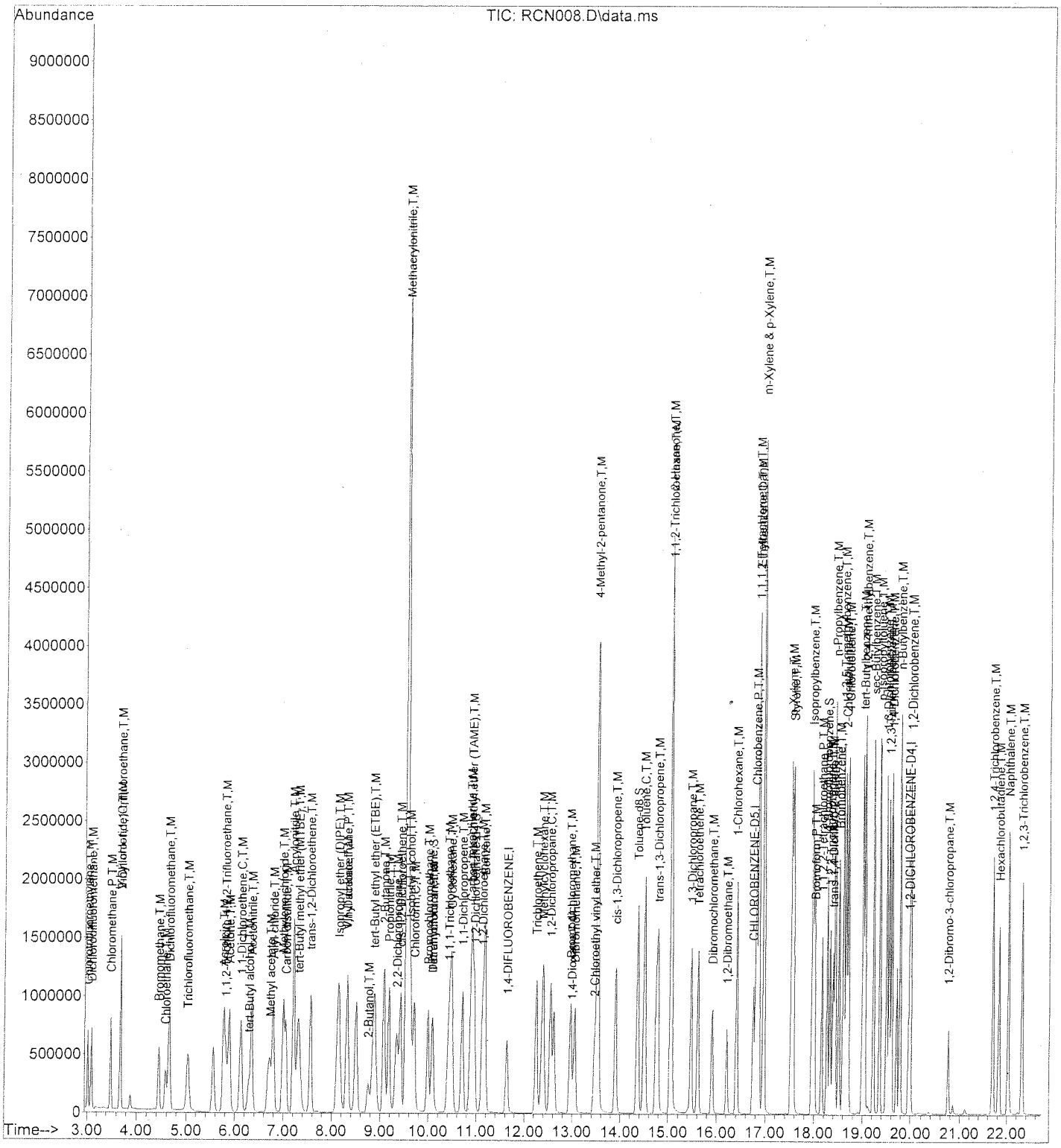
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN008.D
Acq On : 7 Mar 2016 2:24 pm
Operator : CMendo
Sample : VOF4C077
Misc : 100ppb 8260/500ppb KET-AA-TBA-2Butanol
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Apr 28 14:10:40 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



S 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN009.D
Acq On : 7 Mar 2016 2:52 pm
Operator : CMendo
Sample : VOF4C078
Misc : 200ppb 8260/1000ppb KET-AA-TBA-2Butanol
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 28 14:10:44 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	821453	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	714570	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	337689	50.00	ug/l	# 0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	1270264	212.63	ug/l	0.00
Spiked Amount 50.000			Recovery	=	425.26%	
44) 1,2-Dichloroethane-d4	10.960	65	1811372	206.25	ug/l	0.00
Spiked Amount 50.000			Recovery	=	412.50%	
57) Toluene-d8	14.360	98	4057917	207.56	ug/l	0.00
Spiked Amount 50.000			Recovery	=	415.12%	
77) 4-Bromofluorobenzene	18.267	95	1674453	207.03	ug/l	0.00
Spiked Amount 50.000			Recovery	=	414.06%	
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	558082	210.95	ug/L	100
3) Dichlorodifluoromethane	3.091	85	1473873	206.99	ug/l	99
4) Chloromethane	3.487	50	1879870	206.20	ug/l	99
5) 2-Chloro-1,1,1-trifluo...	3.674	118	812763	195.35	ug/L	99
6) Vinyl chloride	3.685	62	1135274	179.59	ug/l	97
7) Bromomethane	4.434	94	904598	205.85	ug/l	99
8) Chloroethane	4.577	64	926819	205.12	ug/L	98
9) Dichlorofluoromethane	4.643	67	2728049	192.61	ug/L	99
10) Trichlorofluoromethane	5.028	101	1803851	205.86	ug/l	100
11) Acrolein	5.765	56	1673861	983.90	ug/l	100
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	795194	183.53	ug/l	99
13) Acetone	5.886	43	3466624	916.52	ug/l	100
14) 1,1-Dichloroethene	6.117	61	2114446	195.58	ug/L	99
15) tert-Butyl alcohol	6.293	59	1149618	987.34	ug/L	90
16) Acetonitrile	6.348	41	3103108	1993.05	ug/L	99
17) Methyl acetate	6.723	43	1803824	196.23	ug/L	99
18) Allyl chloride	6.789	76	656903	204.92	ug/L	98
19) Methylene chloride	6.998	49	2093336	191.22	ug/l	100
20) Carbon disulfide	7.053	76	3439564	216.88	ug/L	100
21) Acrylonitrile	7.207	53	4189205	991.73	ug/l	100
22) tert-Butyl methyl ethe...	7.306	73	3581551	208.11	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	1097889	196.63	ug/l	100
24) Isopropyl ether (DIPE)	8.131	45	5070418	204.50	ug/l	100
25) Vinyl acetate	8.307	43	3514878	208.90	ug/l	100
26) 1,1-Dichloroethane	8.318	63	2468076	201.96	ug/l	100
27) 2-Butanol	8.748	45	1214703	1077.74	ug/L #	1
28) tert-Butyl ethyl ether...	8.869	59	4598161	208.50	ug/l	100
29) 2-Butanone	9.067	43	5775771	1036.24	ug/l	100
30) Propionitrile	9.177	54	3378295	2040.14	ug/L	100
31) 2,2-Dichloropropane	9.342	77	1578342	211.14	ug/L	99
32) cis-1,2-Dichloroethene	9.419	96	1281800	201.12	ug/L	99
33) Methacrylonitrile	9.551	52	3905734	2098.79	ug/L	96
34) Isobutyl alcohol	9.617	43	2699532	3639.56	ug/L	74
35) Chloroform	9.705	83	2292054	201.92	ug/l	99
36) Bromochloromethane	9.991	49	1531684	202.67	ug/l	99
37) Tetrahydrofuran	10.079	42	667369	205.78	ug/L	98
39) 1,1,1-Trichloroethane	10.420	97	1724481	199.57	ug/l	98
40) Cyclohexane	10.475	56	2745890	202.06	ug/L	100

SV 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN009.D
Acq On : 7 Mar 2016 2:52 pm
Operator : CMendo
Sample : VOF4C078
Misc : 200ppb 8260/1000ppb KET-AA-TBA-2Butanol
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 28 14:10:44 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
41) 1,1-Dichloropropene	10.707	110	513484	190.13	ug/L		97
42) tert-Amyl methyl ether...	10.905	87	749911	213.61	ug/l		96
43) Carbon tetrachloride	10.883	119	1453063	200.47	ug/L		100
45) 1,2-Dichloroethane	11.125	62	2228213	201.23	ug/L		99
46) Benzene	11.169	78	4453983	195.96	ug/L		100
47) Trichloroethene	12.247	130	1086987	186.96	ug/L		100
48) Methylcyclohexane	12.379	83	1879681	199.74	ug/L		100
49) 1,2-Dichloropropane	12.544	63	1416293	199.08	ug/L		97
50) 1,4-Dioxane	12.985	88	415282	4032.15	ug/L		100
51) Bromodichloromethane	12.963	83	1741526	209.21	ug/L		100
52) Dibromomethane	13.051	93	906839	203.00	ug/L		100
53) 2-Chloroethyl vinyl ether	13.458	63	793179	199.34	ug/L		98
54) 4-Methyl-2-pentanone	13.513	43	11985007	1068.43	ug/L		100
55) cis-1,3-Dichloropropene	13.898	75	2088100	222.03	ug/L		99
58) Toluene	14.503	91	4515929	194.12	ug/L		100
59) trans-1,3-Dichloropropene	14.789	75	2011821	232.10	ug/l		94
60) 2-Hexanone	15.054	43	8640220	1062.57	ug/l		98
61) 1,1,2-Trichloroethane	15.065	97	1158009	204.86	ug/l		97
62) 1,3-Dichloropropane	15.472	76	2004060	200.12	ug/l		100
63) Tetrachloroethene	15.615	164	791912	184.08	ug/l		99
64) Dibromochloromethane	15.912	129	1287272	219.30	ug/l		100
65) 1,2-Dibromoethane	16.209	107	1224112	204.96	ug/l		100
66) 1-Chlorohexane	16.407	91	1353512	192.36	ug/l		98
67) Chlorobenzene	16.803	112	2864182	192.83	ug/l		99
68) 1,1,1,2-Tetrachloroethane	16.847	131	1081991	209.52	ug/l		99
69) Ethylbenzene	16.858	91	5083780	194.48	ug/l		100
70) m-Xylene & p-Xylene	16.958	91	7922251	386.52	ug/l		99
71) o-Xylene	17.530	91	4023781	190.92	ug/l		100
72) Styrene	17.574	104	3268199	202.74	ug/l		98
73) Isopropylbenzene	17.959	105	4369523	190.14	ug/L		99
75) Bromoform	18.014	173	931610	229.54	ug/l		100
76) 1,1,2,2-Tetrachloroethane	18.157	83	1676686	196.67	ug/l		100
78) 1,2,3-Trichloropropane	18.333	110	480196	190.40	ug/l		98
79) trans-1,4-Dichloro-2-b...	18.388	53	733923	206.84	ug/l		94
80) n-Propylbenzene	18.432	91	5815085	188.06	ug/l		99
81) Bromobenzene	18.520	156	1160809	192.28	ug/l		99
82) 1,3,5-Trimethylbenzene	18.608	105	3774880	185.31	ug/l		100
83) 2-Chlorotoluene	18.652	126	1197997	198.13	ug/l	#	80
84) 4-Chlorotoluene	18.707	126	998163	175.87	ug/l	#	78
85) tert-Butylbenzene	19.004	134	755768	184.75	ug/l		98
86) 1,2,4-Trimethylbenzene	19.048	105	3991715	189.18	ug/l		99
87) sec-Butylbenzene	19.225	105	4856063	185.05	ug/l		99
88) p-Isopropyltoluene	19.368	119	3916395	187.63	ug/l		100
89) 1,3-Dichlorobenzene	19.500	146	2104641	188.27	ug/l		100
90) 1,2,3-Trimethylbenzene	19.555	105	3406241	203.85	ug/L		100
91) 1,4-Dichlorobenzene	19.610	146	2134759	183.96	ug/l		100
92) n-Butylbenzene	19.775	91	4035642	188.14	ug/l		99
93) 1,2-Dichlorobenzene	19.995	146	2064918	183.09	ug/l		99
94) 1,2-Dibromo-3-chloropr...	20.754	157	348902	223.69	ug/l		98
95) 1,2,4-Trichlorobenzene	21.701	180	1347678	182.81	ug/l		99
96) Hexachlorobutadiene	21.833	225	628943	175.78	ug/l		99
97) Naphthalene	22.031	128	4241541	196.39	ug/l		100
98) 1,2,3-Trichlorobenzene	22.317	180	1361470	182.96	ug/l		99

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN009.D
Acq On : 7 Mar 2016 2:52 pm
Operator : CMendo
Sample : VOF4C078
Misc : 200ppb 8260/1000ppb KET-AA-TBA-2Butanol
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 28 14:10:44 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

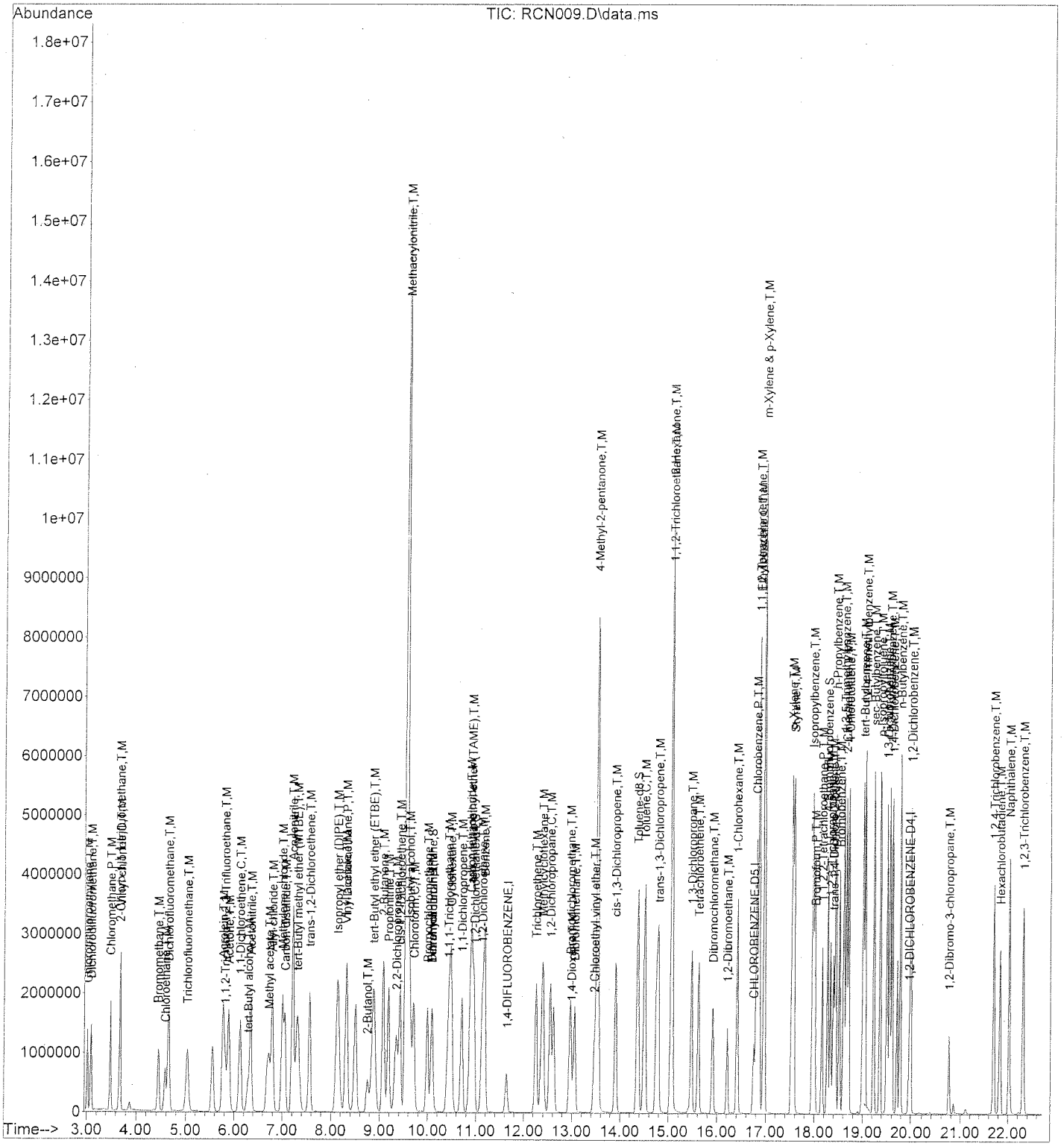
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SV 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN009.D
Acq On : 7 Mar 2016 2:52 pm
Operator : CMendo
Sample : VOF4C078
Misc : 200ppb 8260/1000ppb KET-AA-TBA-2Butanol
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Apr 28 14:10:44 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN010.D
Acq On : 7 Mar 2016 3:19 pm
Operator : CMendo
Sample : VOF4C079
Misc : 300ppb 8260/1500ppb KET-AA-TBA-2Butanol
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 28 14:10:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	836613	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	715898	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	342194	50.00	ug/l	# 0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	1848000	303.73	ug/l	0.00
Spiked Amount 50.000			Recovery	=	607.46%	
44) 1,2-Dichloroethane-d4	10.960	65	2648725	296.12	ug/l	0.00
Spiked Amount 50.000			Recovery	=	592.24%	
57) Toluene-d8	14.360	98	5877859	300.10	ug/l	0.00
Spiked Amount 50.000			Recovery	=	600.20%	
77) 4-Bromofluorobenzene	18.267	95	2423840	295.74	ug/l	0.00
Spiked Amount 50.000			Recovery	=	591.48%	
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	765704	284.19	ug/L	100
3) Dichlorodifluoromethane	3.091	85	2085325	287.55	ug/l	99
4) Chloromethane	3.487	50	2768273	298.15	ug/l	99
5) 2-Chloro-1,1,1-trifluo...	3.685	118	1040593	245.58	ug/L	99
6) Vinyl chloride	3.685	62	1454888	225.97	ug/l	98
7) Bromomethane	4.434	94	1324083	296.43	ug/l	99
8) Chloroethane	4.577	64	1261924	274.23	ug/L	99
9) Dichlorofluoromethane	4.643	67	4032974	279.59	ug/L	99
10) Trichlorofluoromethane	5.028	101	2501642	280.32	ug/l	100
11) Acrolein	5.765	56	2657408	1533.73	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.809	151	1307554	296.31	ug/l	100
13) Acetone	5.886	43	5525861	1434.48	ug/l	100
14) 1,1-Dichloroethene	6.117	61	3296112	299.36	ug/L	99
15) tert-Butyl alcohol	6.304	59	1977586	1667.65	ug/L #	84
16) Acetonitrile	6.348	41	5099004	3215.63	ug/L	99
17) Methyl acetate	6.723	43	2905025	310.29	ug/L	99
18) Allyl chloride	6.789	76	1035360	317.13	ug/L	98
19) Methylene chloride	6.998	49	3224231	289.18	ug/l	99
20) Carbon disulfide	7.053	76	5187580	321.17	ug/L	100
21) Acrylonitrile	7.207	53	6636875	1542.71	ug/l	100
22) tert-Butyl methyl ethe...	7.306	73	5645094	322.08	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	1713136	301.25	ug/l	99
24) Isopropyl ether (DIPE)	8.131	45	7947336	314.72	ug/l	100
25) Vinyl acetate	8.307	43	5406429	314.42	ug/l	100
26) 1,1-Dichloroethane	8.318	63	3874402	311.30	ug/l	99
27) 2-Butanol	8.748	45	2101102	1830.41	ug/L	99
28) tert-Butyl ethyl ether...	8.869	59	7214793	321.23	ug/l	99
29) 2-Butanone	9.067	43	9306980	1639.52	ug/l	100
30) Propionitrile	9.188	54	5527191	3277.36	ug/L	99
31) 2,2-Dichloropropane	9.342	77	2546692	334.51	ug/L	99
32) cis-1,2-Dichloroethene	9.419	96	2000841	308.26	ug/L	99
33) Methacrylonitrile	9.551	52	6113029	3225.38	ug/L	94
34) Isobutyl alcohol	9.617	43	4589749	6060.57	ug/L	75
35) Chloroform	9.705	83	3529169	305.27	ug/l	99
36) Bromochloromethane	9.991	49	2307116	299.75	ug/l	99
37) Tetrahydrofuran	10.079	42	1087731	329.32	ug/L	98
39) 1,1,1-Trichloroethane	10.420	97	2776704	315.52	ug/l	98
40) Cyclohexane	10.475	56	4079631	294.77	ug/L	100

SV 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN010.D
Acq On : 7 Mar 2016 3:19 pm
Operator : CMendo
Sample : VOF4C079
Misc : 300ppb 8260/1500ppb KET-AA-TBA-2Butanol
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 28 14:10:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) 1,1-Dichloropropene	10.706	110	829724	301.66	ug/L	98
42) tert-Amyl methyl ether...	10.905	87	1188125	332.30	ug/l	94
43) Carbon tetrachloride	10.883	119	2360279	319.73	ug/L	100
45) 1,2-Dichloroethane	11.125	62	3457276	306.57	ug/L	100
46) Benzene	11.169	78	7022765	303.37	ug/L	100
47) Trichloroethene	12.247	130	1753305	296.10	ug/L	99
48) Methylcyclohexane	12.379	83	2807549	292.93	ug/L	100
49) 1,2-Dichloropropane	12.544	63	2252964	310.95	ug/L	96
50) 1,4-Dioxane	12.985	88	686643	6546.10	ug/L	99
51) Bromodichloromethane	12.963	83	2766109	326.28	ug/L	99
52) Dibromomethane	13.051	93	1421507	312.44	ug/L	100
53) 2-Chloroethyl vinyl ether	13.458	63	1264111	311.93	ug/L	98
54) 4-Methyl-2-pentanone	13.513	43	18663823	1633.68	ug/L	99
55) cis-1,3-Dichloropropene	13.898	75	3341308	348.85	ug/L	98
58) Toluene	14.503	91	7389469	317.05	ug/L	100
59) trans-1,3-Dichloropropene	14.789	75	3230478	372.00	ug/l	92
60) 2-Hexanone	15.054	43	13774209	1690.80	ug/l	97
61) 1,1,2-Trichloroethane	15.065	97	1841299	325.14	ug/l	97
62) 1,3-Dichloropropane	15.472	76	3188672	317.82	ug/l	99
63) Tetrachloroethene	15.615	164	1315701	305.26	ug/l	99
64) Dibromochloromethane	15.912	129	2058314	350.01	ug/l	100
65) 1,2-Dibromoethane	16.209	107	1952820	326.37	ug/l	100
66) 1-Chlorohexane	16.407	91	2315247	328.43	ug/l	97
67) Chlorobenzene	16.803	112	4672491	313.99	ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	1775173	343.10	ug/l	99
69) Ethylbenzene	16.858	91	8513136	325.06	ug/l	100
70) m-Xylene & p-Xylene	16.957	91	13288854	647.15	ug/l	99
71) o-Xylene	17.530	91	6798994	322.01	ug/l	100
72) Styrene	17.574	104	5517544	341.65	ug/l	98
73) Isopropylbenzene	17.959	105	7466483	324.31	ug/L	99
75) Bromoform	18.014	173	1531711	372.43	ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	2771871	320.85	ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	794765	310.98	ug/l	97
79) trans-1,4-Dichloro-2-b...	18.388	53	1245443	346.38	ug/l	93
80) n-Propylbenzene	18.432	91	9883294	315.42	ug/l	99
81) Bromobenzene	18.520	156	1918655	313.63	ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	6517184	315.72	ug/l	100
83) 2-Chlorotoluene	18.663	126	2022718	330.12	ug/l	98
84) 4-Chlorotoluene	18.707	126	1700977	295.76	ug/l	99
85) tert-Butylbenzene	19.004	134	1294529	312.28	ug/l	98
86) 1,2,4-Trimethylbenzene	19.048	105	6880935	321.81	ug/l	100
87) sec-Butylbenzene	19.224	105	8314908	312.68	ug/l	99
88) p-Isopropyltoluene	19.368	119	6779575	320.52	ug/l	99
89) 1,3-Dichlorobenzene	19.500	146	3622483	319.79	ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	5224872	308.58	ug/L	100
91) 1,4-Dichlorobenzene	19.610	146	3683038	313.20	ug/l	100
92) n-Butylbenzene	19.775	91	6910029	317.91	ug/l	99
93) 1,2-Dichlorobenzene	19.995	146	3580914	313.33	ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	636121	402.46	ug/l	98
95) 1,2,4-Trichlorobenzene	21.701	180	2408921	322.46	ug/l	99
96) Hexachlorobutadiene	21.833	225	1108894	305.84	ug/l	99
97) Naphthalene	22.020	128	7704211	352.02	ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	2420816	321.04	ug/l	99

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN010.D
Acq On : 7 Mar 2016 3:19 pm
Operator : CMendo
Sample : VOF4C079
Misc : 300ppb 8260/1500ppb KET-AA-TBA-2Butanol
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 28 14:10:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

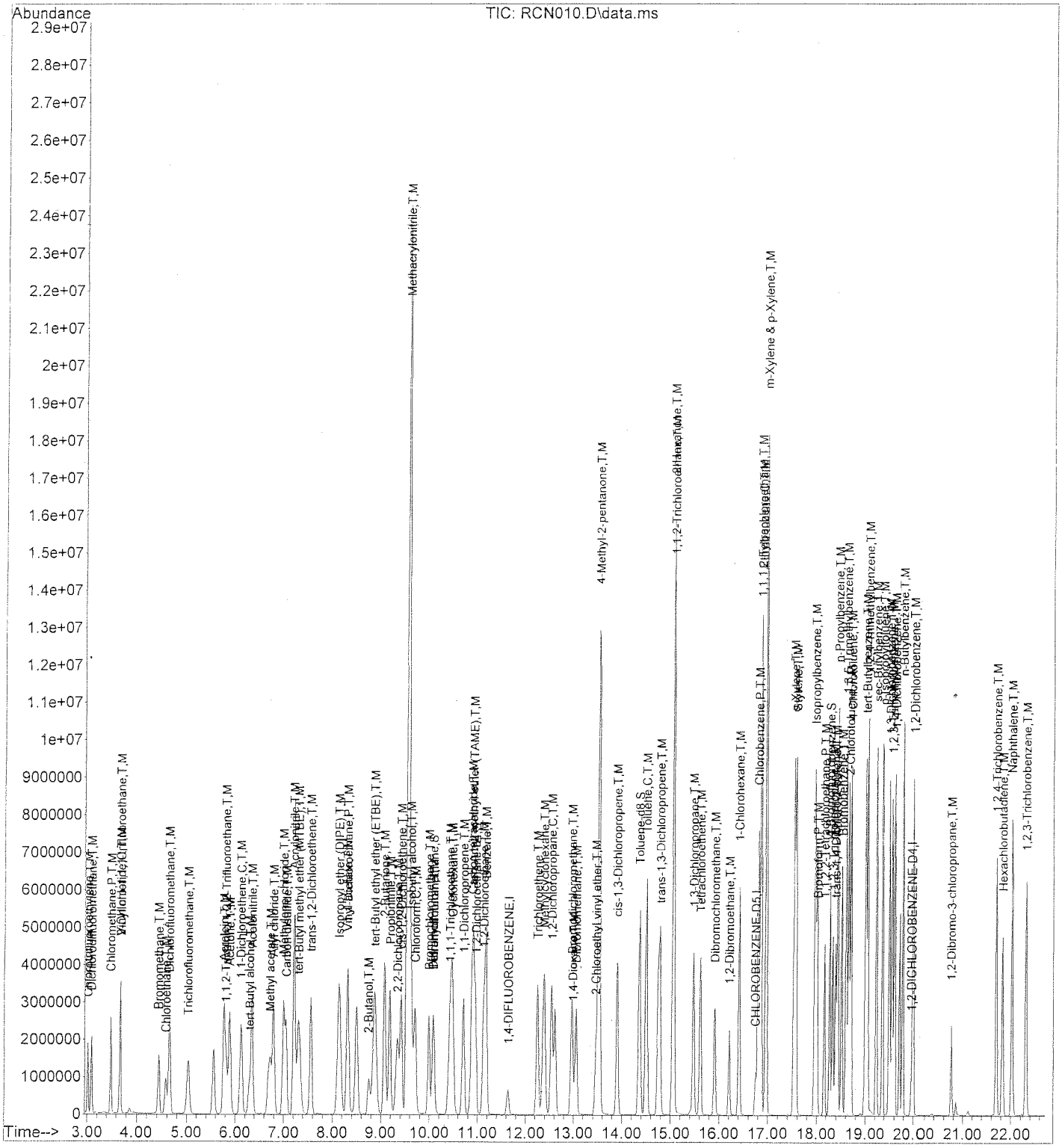
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN010.D
Acq On : 7 Mar 2016 3:19 pm
Operator : CMendo
Sample : VOF4C079
Misc : 300ppb 8260/1500ppb KET-AA-TBA-2Butanol
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Apr 28 14:10:49 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN011.D
Acq On : 7 Mar 2016 3:47 pm
Operator : CMendo
Sample : VOF4C0710
Misc : 500ppb 8260/2500ppb KET-AA-TBA-2Butanol
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 28 14:10:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	778951	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	686006	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	344096	50.00	ug/l	# 0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	2950607	520.85	ug/l	0.00
Spiked Amount 50.000			Recovery	= 1041.70%		
44) 1,2-Dichloroethane-d4	10.960	65	4140109	497.12	ug/l	0.00
Spiked Amount 50.000			Recovery	= 994.24%		
57) Toluene-d8	14.360	98	9427125	502.28	ug/l	0.00
Spiked Amount 50.000			Recovery	= 1004.56%		
77) 4-Bromofluorobenzene	18.267	95	4073952	494.34	ug/l	0.00
Spiked Amount 50.000			Recovery	= 988.68%		
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	1247164	497.15	ug/L	100
3) Dichlorodifluoromethane	3.080	85	3256540	482.29	ug/l	99
4) Chloromethane	3.487	50	4524656	523.39	ug/l	99
5) 2-Chloro-1,1,1-trifluo...	3.674	118	1483863	376.12	ug/L	98
6) Vinyl chloride	3.685	62	1874218	312.66	ug/l	96
7) Bromomethane	4.423	94	1972956	475.19	ug/l	99
8) Chloroethane	4.566	64	1850569	431.92	ug/L	99
9) Dichlorofluoromethane	4.643	67	6133348	456.67	ug/L	99
10) Trichlorofluoromethane	5.017	101	3778073	454.69	ug/l	100
11) Acrolein	5.765	56	4195839	2600.91	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.798	151	2100816	511.31	ug/l	99
13) Acetone	5.886	43	8551070	2384.13	ug/l	99
14) 1,1-Dichloroethene	6.117	61	5262216	513.30	ug/L	100
15) tert-Butyl alcohol	6.316	59	3327872	3014.05	ug/L #	77
16) Acetonitrile	6.349	41	8158438	5525.88	ug/L	99
17) Methyl acetate	6.723	43	4612022	529.09	ug/L	99
18) Allyl chloride	6.789	76	1637928	538.84	ug/L	98
19) Methylene chloride	6.998	49	5073156	488.70	ug/l	98
20) Carbon disulfide	7.042	76	8383104	557.43	ug/L	100
21) Acrylonitrile	7.218	53	10466870	2613.08	ug/l	100
22) tert-Butyl methyl ethe...	7.306	73	8884365	544.41	ug/L	100
23) trans-1,2-Dichloroethene	7.559	96	2744668	518.38	ug/l	99
24) Isopropyl ether (DIPE)	8.131	45	12554451	533.97	ug/l	99
25) Vinyl acetate	8.307	43	8372069	521.55	ug/l	99
26) 1,1-Dichloroethane	8.318	63	6190206	534.18	ug/l	100
27) 2-Butanol	8.759	45	3586961	3356.16	ug/L	100
28) tert-Butyl ethyl ether...	8.869	59	11477469	548.84	ug/l	99
29) 2-Butanone	9.067	43	14663186	2774.27	ug/l	99
30) Propionitrile	9.188	54	8862439	5644.01	ug/L	99
31) 2,2-Dichloropropane	9.342	77	4085383	576.34	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	3183134	526.71	ug/L	99
33) Methacrylonitrile	9.551	52	9131912	5174.89	ug/L	92
34) Isobutyl alcohol	9.628	43	7565713	10712.13	ug/L	78
35) Chloroform	9.705	83	5510255	511.92	ug/l	99
36) Bromochloromethane	9.991	49	3454942	482.11	ug/l	98
37) Tetrahydrofuran	10.079	42	1690252	549.62	ug/L	98
39) 1,1,1-Trichloroethane	10.420	97	4395378	536.42	ug/l	97
40) Cyclohexane	10.475	56	6628824	514.41	ug/L	100

S 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN011.D
Acq On : 7 Mar 2016 3:47 pm
Operator : CMendo
Sample : VOF4C0710
Misc : 500ppb 8260/2500ppb KET-AA-TBA-2Butanol
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 28 14:10:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
41) 1,1-Dichloropropene	10.707	110	1314048	513.11 ug/L	98
42) tert-Amyl methyl ether...	10.905	87	1876098	563.55 ug/l #	93
43) Carbon tetrachloride	10.883	119	3735109	543.42 ug/L	100
45) 1,2-Dichloroethane	11.125	62	5298987	504.66 ug/L	99
46) Benzene	11.169	78	11145469	517.11 ug/L	99
47) Trichloroethene	12.247	130	2759038	500.43 ug/L	99
48) Methylcyclohexane	12.379	83	4544325	509.24 ug/L	100
49) 1,2-Dichloropropane	12.544	63	3512465	520.68 ug/L	96
50) 1,4-Dioxane	12.974	88	1156968	11846.42 ug/L	99
51) Bromodichloromethane	12.963	83	4290699	543.58 ug/L	100
52) Dibromomethane	13.051	93	2177827	514.11 ug/L	100
53) 2-Chloroethyl vinyl ether	13.458	63	1988810	527.09 ug/L	98
54) 4-Methyl-2-pentanone	13.524	43	29846313	2805.89 ug/L	98
55) cis-1,3-Dichloropropene	13.898	75	5214824	584.75 ug/L	97
58) Toluene	14.503	91	11558413	517.54 ug/L	99
59) trans-1,3-Dichloropropene	14.778	75	5081890	610.70 ug/l	90
60) 2-Hexanone	15.054	43	21895864	2804.86 ug/l	95
61) 1,1,2-Trichloroethane	15.065	97	2879310	530.58 ug/l	98
62) 1,3-Dichloropropane	15.472	76	4937346	513.56 ug/l	100
63) Tetrachloroethene	15.615	164	2067473	500.59 ug/l	99
64) Dibromochloromethane	15.901	129	3289803	583.79 ug/l	100
65) 1,2-Dibromoethane	16.209	107	3019682	526.67 ug/l	100
66) 1-Chlorohexane	16.407	91	3621629	536.13 ug/l	97
67) Chlorobenzene	16.803	112	7466465	523.61 ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	2852901	575.43 ug/l	99
69) Ethylbenzene	16.858	91	13495859	537.78 ug/l	99
70) m-Xylene & p-Xylene	16.958	91	20130564	1023.05 ug/l	94
71) o-Xylene	17.530	91	11039338	545.61 ug/l	100
72) Styrene	17.563	104	9024612	583.16 ug/l	97
73) Isopropylbenzene	17.959	105	12096454	548.30 ug/L	99
75) Bromoform	18.003	173	2489384	601.94 ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	4431148	510.09 ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	1261786	490.98 ug/l	100
79) trans-1,4-Dichloro-2-b...	18.388	53	1990214	550.45 ug/l	93
80) n-Propylbenzene	18.432	91	15972594	506.94 ug/l	99
81) Bromobenzene	18.509	156	3108587	505.33 ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	10753261	518.05 ug/l	100
83) 2-Chlorotoluene	18.652	126	3001082	487.08 ug/l	99
84) 4-Chlorotoluene	18.707	126	3092087	534.67 ug/l	99
85) tert-Butylbenzene	19.004	134	2153736	516.67 ug/l	96
86) 1,2,4-Trimethylbenzene	19.037	105	11304034	525.75 ug/l	100
87) sec-Butylbenzene	19.225	105	13631138	509.76 ug/l	100
88) p-Isopropyltoluene	19.357	119	11129773	523.28 ug/l	99
89) 1,3-Dichlorobenzene	19.500	146	5949032	522.27 ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	8724643	512.42 ug/L	99
91) 1,4-Dichlorobenzene	19.610	146	6065348	512.94 ug/l	99
92) n-Butylbenzene	19.775	91	11204826	512.65 ug/l	98
93) 1,2-Dichlorobenzene	19.995	146	5871332	510.90 ug/l	99
94) 1,2-Dibromo-3-chloropr...	20.754	157	1024224	644.43 ug/l	98
95) 1,2,4-Trichlorobenzene	21.690	180	3867222	514.81 ug/l	99
96) Hexachlorobutadiene	21.833	225	1849439	507.26 ug/l	99
97) Naphthalene	22.020	128	12261523	557.15 ug/l	100
98) 1,2,3-Trichlorobenzene	22.306	180	3871949	510.64 ug/l	99

5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN011.D
Acq On : 7 Mar 2016 3:47 pm
Operator : CMendo
Sample : VOF4C0710
Misc : 500ppb 8260/2500ppb KET-AA-TBA-2Butanol
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 28 14:10:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

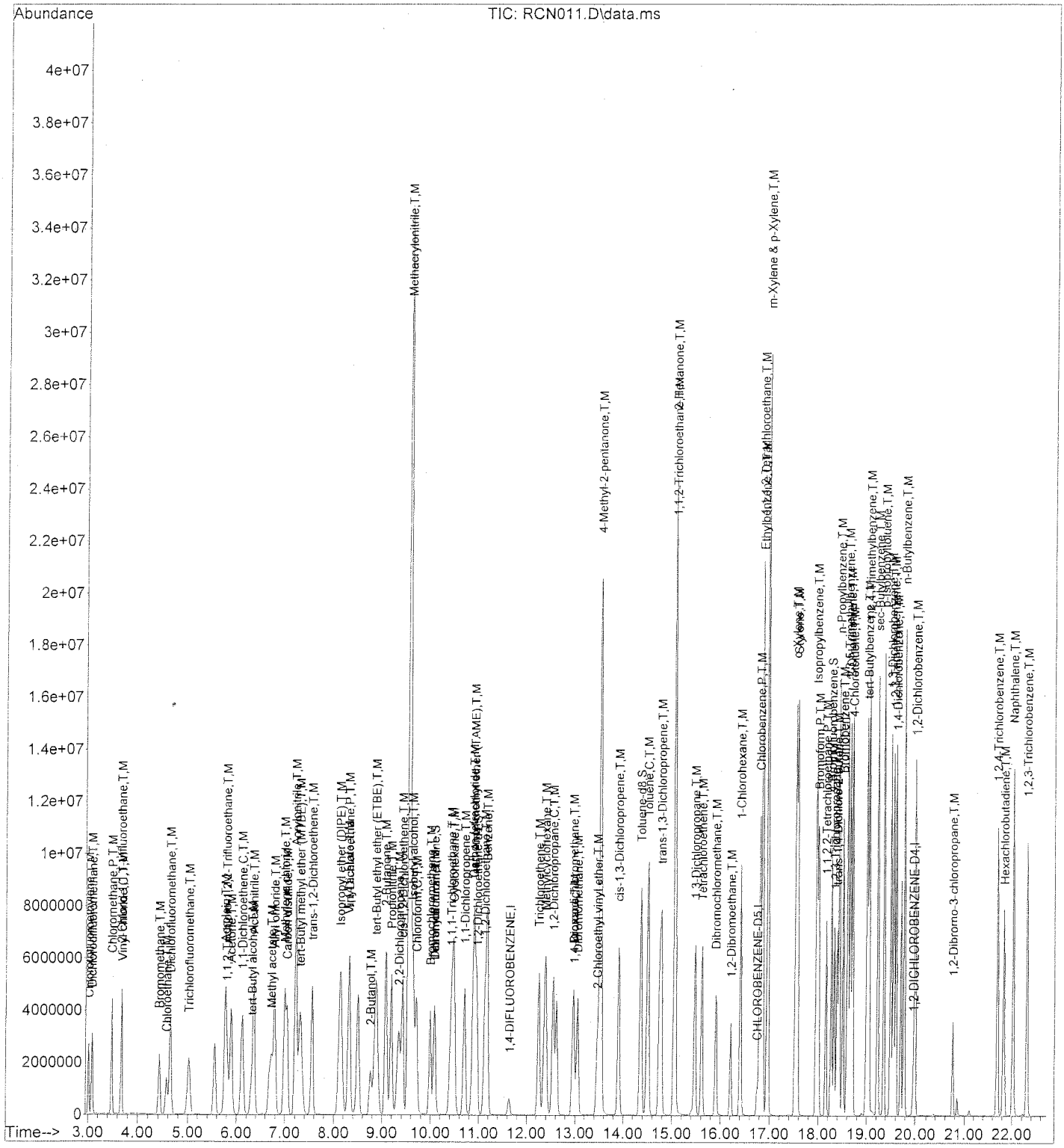
(#) = qualifier out of range (m) = manual integration (+) = signals summed

SY 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN011.D
Acq On : 7 Mar 2016 3:47 pm
Operator : CMendo
Sample : VOF4C0710
Misc : 500ppb 8260/2500ppb KET-AA-TBA-2Butanol
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Apr 28 14:10:54 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



5a 5/9/16

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SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :F4
IC_Beginning DateTime :03/07/16 11:38
Spike Amount :50 PPB
CC/CV File :RCN014
IC File :RCN007

Column Spec :RTX-502.2 ID :0.32MM
IC_Ending DateTime :03/07/16 15:47
HPChem Method :VOF4C07
Date_Time :03/07/16 17:10

M	IDX	Parameters	CC_Con	CC%_D	CC_Resp	CCRRF	AvRRF	CC_Rtm	AvRtm	%_RSD	Co_X0	Co_X1	Co_X2	Co_Cor
	1	1,4-DIFLUOROBENZENE	50.000	0	735322	1	1	11.642	11.642	0				
	2	Chlorotrifluoroethylene	44.767	-10.5	106013	0.144	0.161	3.014	3.016	5.36				
	3	Dichlorodifluoromethane	40.716	-18.6	259527	0.353	0.433	3.091	3.090	6.83				
	4	Chloromethane	40.386	-19.2	329579	0.448	0.555	3.487	3.488	6.03				
	5	2-Chloro-1,1,1-trifluoroethane	46.354	-7.3	172633	0.235	0.253	3.685	3.683	13.28				
	6	Vinyl chloride	45.077	-9.8	255083	0.347	0.385	3.685	3.690	11.94				
	7	Bromomethane	57.060	14.1	228234	0.310	0.335	4.445	4.444	19.45	0.0071	0.2658		0.9968
	8	Chloroethane	44.203	-11.6	178781	0.243	0.275	4.588	4.582	8.20				
	9	Dichlorofluoromethane	49.776	-0.4	631077	0.858	0.862	4.654	4.650	6.69				
	10	Trichlorofluoromethane	41.672	-16.7	326867	0.445	0.533	5.039	5.034	7.09				
5	11	Acrolein	205.679	-17.7	313222	0.085	0.104	5.765	5.771	2.28				
	12	1,1,2-Trichloro-1,2,2-Trifluoroethane	45.642	-8.7	177024	0.241	0.264	5.820	5.810	8.38				
5	13	Acetone	223.253	-10.7	755885	0.206	0.230	5.886	5.893	8.53				
	14	1,1-Dichloroethene	48.183	-3.6	466296	0.634	0.658	6.128	6.124	5.82				
5	15	tert-Butyl alcohol	248.551	-0.6	259059	0.070	0.071	6.293	6.309	11.00				
10	16	Acetonitrile	525.673	5.1	732637	0.100	0.095	6.348	6.348	9.76				
	17	Methyl acetate	48.109	-3.8	395873	0.538	0.560	6.734	6.732	4.49				
	18	Allyl chloride	49.232	-1.5	141271	0.192	0.195	6.800	6.796	6.50				
	19	Methylene chloride	49.004	-2.0	480216	0.653	0.666	6.998	6.998	7.96				
	20	Carbon disulfide	49.926	-0.1	708776	0.964	0.965	7.053	7.053	9.67				
5	21	Acrylonitrile	230.540	-7.8	871720	0.237	0.257	7.207	7.212	2.48				
	22	tert-Butyl methyl ether (MTBE)	49.938	-0.1	769306	1.046	1.048	7.317	7.324	7.58				
	23	trans-1,2-Dichloroethene	48.919	-2.2	244506	0.333	0.340	7.570	7.564	5.48				
	24	Isopropyl ether (DIPE)	50.441	0.9	1119528	1.523	1.509	8.142	8.146	6.07				
	25	Vinyl acetate	40.106	-19.8	578275	0.786	0.877	8.318	8.318	16.71	-0.0434	1.0345		0.9983
	26	1,1-Dichloroethane	49.899	-0.2	545850	0.742	0.744	8.329	8.325	6.12				
5	27	2-Butanol	250.681	0.3	252914	0.069	0.069	8.759	8.771	11.43				
	28	tert-Butyl ethyl ether (ETBE)	49.418	-1.2	975552	1.327	1.342	8.880	8.882	7.66				
5	29	2-Butanone	236.609	-5.4	1180530	0.321	0.339	9.078	9.088	9.81				
10	30	Propionitrile	519.144	3.8	769521	0.105	0.101	9.177	9.189	9.22				
	31	2,2-Dichloropropane	46.889	-6.2	313754	0.427	0.455	9.342	9.343	10.72				
	32	cis-1,2-Dichloroethene	49.500	-1.0	282396	0.384	0.388	9.419	9.421	5.38				
10	33	Methacrylonitrile	523.956	4.8	872816	0.119	0.113	9.551	9.552	8.24				
20	34	Isobutyl alcohol	886.432	-11.4	577001	0.039	0.035	9.628	9.638	24.74	-0.0207	0.0454		0.9960
	35	Chloroform	50.109	0.2	509155	0.692	0.691	9.705	9.705	5.35				
	36	Bromochloromethane	51.728	3.5	349938	0.476	0.460	9.991	9.991	4.35				
	37	Tetrahydrofuran	52.189	4.4	151508	0.206	0.197	10.101	10.104	9.75				
	38	Dibromofluoromethane	51.759	3.5	276792	0.376	0.364	10.090	10.083	9.10				
	39	1,1,1-Trichloroethane	48.405	-3.2	374409	0.509	0.526	10.420	10.422	7.65				
	40	Cyclohexane	46.172	-7.7	561660	0.764	0.827	10.476	10.475	5.22				
	41	1,1-Dichloropropene	47.456	-5.1	114726	0.156	0.164	10.707	10.707	7.55				
	42	tert-Amyl methyl ether (TAME)	49.772	-0.5	156412	0.213	0.214	10.916	10.920	9.43				
	43	Carbon tetrachloride	48.064	-3.9	311856	0.424	0.441	10.894	10.887	8.31				
	44	1,2-Dichloroethane-d4	51.684	3.4	406322	0.553	0.535	10.960	10.960	6.65				
	45	1,2-Dichloroethane	51.120	2.2	506697	0.689	0.674	11.125	11.125	5.07				
	46	Benzene	49.348	-1.3	1004034	1.365	1.383	11.169	11.172	5.88				
	47	Trichloroethene	47.246	-5.5	245891	0.334	0.354	12.247	12.253	8.68				
	48	Methylcyclohexane	43.910	-12.2	369894	0.503	0.573	12.390	12.382	5.15				
	49	1,2-Dichloropropane	50.881	1.8	324017	0.441	0.433	12.544	12.545	5.92				
20	50	1,4-Dioxane	1061.417	6.1	97856	0.007	0.006	12.996	13.000	13.69				
	51	Bromodichloromethane	51.256	2.5	381923	0.519	0.507	12.963	12.962	8.15				
	52	Dibromomethane	51.123	2.2	204431	0.278	0.272	13.062	13.057	6.06				
	53	2-Chloroethyl vinyl ether	47.297	-5.4	168463	0.229	0.242	13.458	13.467	10.99				
5	54	4-Methyl-2-pentanone	238.843	-4.5	2398277	0.652	0.683	13.524	13.529	12.03				
	55	cis-1,3-Dichloropropene	52.013	4.0	437874	0.595	0.572	13.909	13.907	14.87				
	56	CHLOROBENZENE-D5	50.000	0	625871	1	1	16.748	16.748	0				
	57	Toluene-d8	50.128	0.3	858361	1.371	1.368	14.360	14.362	8.83				
	58	Toluene	49.307	-1.4	1004661	1.605	1.628	14.503	14.507	7.20				
	59	trans-1,3-Dichloropropene	52.882	5.8	401484	0.641	0.607	14.790	14.791	14.53				
5	60	2-Hexanone	241.497	-3.4	1719960	0.550	0.569	15.054	15.062	13.96				
	61	1,1,2-Trichloroethane	50.415	0.8	249605	0.399	0.396	15.065	15.067	7.59				
	62	1,3-Dichloropropane	51.536	3.1	452026	0.722	0.701	15.472	15.474	6.65				
	63	Tetrachloroethene	46.011	-8.0	173370	0.277	0.301	15.615	15.616	9.47				
	64	Dibromochloromethane	53.066	6.1	272825	0.436	0.411	15.912	15.911	13.78				
	65	1,2-Dibromoethane	51.986	4.0	271937	0.434	0.418	16.209	16.213	8.21				
	66	1-Chlorohexane	46.310	-7.4	285412	0.456	0.492	16.407	16.414	9.64				
	67	Chlorobenzene	49.143	-1.7	639327	1.021	1.039	16.803	16.803	7.06				
	68	1,1,1,2-Tetrachloroethane	50.960	1.9	230505	0.368	0.361	16.847	16.850	11.51				
	69	Ethylbenzene	48.537	-2.9	1111296	1.776	1.829	16.858	16.861	8.82				
2	70	m-Xylene & p-Xylene	95.559	-4.4	1715502	1.370	1.434	16.958	16.962	8.13				
	71	o-Xylene	48.179	-3.6	889355	1.421	1.475	17.530	17.533	8.70				
	72	Styrene	49.731	-0.5	702143	1.122	1.128	17.574	17.576	11.55				
	73	Isopropylbenzene	47.001	-6.0	946018	1.512	1.608	17.959	17.963	9.60				
	74	1,2-DICHLOROBENZENE-D4	50.000	0	299200	1	1	19.962	19.965	0				
	75	Bromoform	53.201	6.4	191310	0.639	0.601	18.014	18.014	14.80				
	76	1,1,2,2-Tetrachloroethane	51.000	2.0	385233	1.288	1.262	18.157	18.158	7.07				
	77	4-Bromofluorobenzene	49.746	-0.5	356483	1.191	1.198	18.267	18.270	9.42				
	78	1,2,3-Trichloropropane	50.793	1.6	113502	0.379	0.373	18.333	18.334	6.36				
	79	trans-1,4-Dichloro-2-butene	49.581	-0.8	155876	0.521	0.525	18.388	18.395	10.93				

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80	n-Propylbenzene	46.458	-7.1	1272784	4.254	4.578	18.432	18.434	8.94				
81	Bromobenzene	48.998	-2.0	262087	0.876	0.894	18.520	18.520	7.17				
82	1,3,5-Trimethylbenzene	46.333	-7.3	836257	2.795	3.016	18.608	18.609	9.39				
83	2-Chlorotoluene	48.594	-2.8	260338	0.870	0.895	18.663	18.660	9.37				
84	4-Chlorotoluene	44.149	-11.7	222009	0.742	0.840	18.707	18.709	11.23				
85	tert-Butylbenzene	45.584	-8.8	165224	0.552	0.606	19.004	19.004	11.77				
86	1,2,4-Trimethylbenzene	47.257	-5.5	883490	2.953	3.124	19.049	19.048	8.90				
87	sec-Butylbenzene	45.093	-9.8	1048489	3.504	3.886	19.225	19.230	10.43				
88	p-Isopropyltoluene	45.156	-9.7	835123	2.791	3.091	19.368	19.366	9.70				
89	1,3-Dichlorobenzene	47.033	-5.9	465836	1.557	1.655	19.500	19.505	8.36				
90	1,2,3-Trimethylbenzene	48.090	-3.8	711965	2.380	2.474	19.555	19.556	4.99				
91	1,4-Dichlorobenzene	46.194	-7.6	474964	1.587	1.718	19.610	19.612	9.51				
92	n-Butylbenzene	45.026	-9.9	855723	2.860	3.176	19.786	19.781	8.60				
93	1,2-Dichlorobenzene	47.156	-5.7	471221	1.575	1.670	19.995	19.995	8.93				
94	1,2-Dibromo-3-chloropropane	54.292	8.6	75031	0.251	0.231	20.754	20.760	12.58				
95	1,2,4-Trichlorobenzene	44.342	-11.3	289639	0.968	1.092	21.701	21.702	8.81				
96	Hexachlorobutadiene	42.565	-14.9	134939	0.451	0.530	21.833	21.833	10.05				
97	Naphthalene	49.231	-1.5	942095	3.149	3.198	22.031	22.030	11.58				
98	1,2,3-Trichlorobenzene	45.047	-9.9	297004	0.993	1.102	22.317	22.316	9.46				

Spike Amount = Nominal Amount * M

SU 5/4/16

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	96	0.00
2	T,M	Chlorotrifluoroethylene	50.000	44.767	10.5	88	0.00
3	T,M	Dichlorodifluoromethane	50.000	40.716	18.6	76	0.00
4	P,T,M	Chloromethane	50.000	40.386	19.2	83	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	50.000	46.354	7.3	89	0.00
6	C,T,M	Vinyl chloride	50.000	45.077	9.8	79	0.00
7	T,M	Bromomethane	50.000	57.060	-14.1	96	0.00
8	T,M	Chloroethane	50.000	44.203	11.6	80	0.00
9	T,M	Dichlorofluoromethane	50.000	49.776	0.4	106	0.00
10	T,M	Trichlorofluoromethane	50.000	41.672	16.7	76	0.00
11	T,M	Acrolein	250.000	205.679	17.7	79	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-Trifl	50.000	45.642	8.7	109	0.01
13	T,M	Acetone	250.000	223.253	10.7	90	0.00
14	C,T,M	1,1-Dichloroethene	50.000	48.183	3.6	108	0.00
15	T,M	tert-Butyl alcohol	250.000	248.551	0.6	111	-0.01
16	T,M	Acetonitrile	500.000	525.673	-5.1	109	0.00
17	T,M	Methyl acetate	50.000	48.109	3.8	92	0.00
18	T,M	Allyl chloride	50.000	49.232	1.5	108	0.00
19	T,M	Methylene chloride	50.000	49.004	2.0	109	0.00
20	T,M	Carbon disulfide	50.000	49.926	0.1	91	0.00
21	T,M	Acrylonitrile	250.000	230.540	7.8	89	0.00
22	T,M	tert-Butyl methyl ether (MT	50.000	49.938	0.1	108	0.00
23	T,M	trans-1,2-Dichloroethene	50.000	48.919	2.2	109	0.00
24	T,M	Isopropyl ether (DIPE)	50.000	50.441	-0.9	111	0.00
25	T,M	Vinyl acetate	50.000	40.106	19.8	79	0.00
26	P,T,M	1,1-Dichloroethane	50.000	49.899	0.2	110	0.00
27	T,M	2-Butanol	250.000	250.681	-0.3	96	0.00
28	T,M	tert-Butyl ethyl ether (ETB	50.000	49.418	1.2	110	0.00
29	T,M	2-Butanone	250.000	236.609	5.4	88	0.00
30	T,M	Propionitrile	500.000	519.144	-3.8	109	-0.01
31	T,M	2,2-Dichloropropane	50.000	46.889	6.2	107	0.00
32	T,M	cis-1,2-Dichloroethene	50.000	49.500	1.0	109	0.00
33	T,M	Methacrylonitrile	500.000	523.956	-4.8	110	0.00
34	T,M	Isobutyl alcohol	1000.000	886.432	11.4	113	0.00
35	C,T,M	Chloroform	50.000	50.109	-0.2	110	0.00
36	T,M	Bromochloromethane	50.000	51.728	-3.5	109	0.00
37	T,M	Tetrahydrofuran	50.000	52.189	-4.4	111	0.00
38	S	Dibromofluoromethane	50.000	51.759	-3.5	103	0.01
39	T,M	1,1,1-Trichloroethane	50.000	48.405	3.2	111	0.00
40	T,M	Cyclohexane	50.000	46.172	7.7	87	0.00
41	T,M	1,1-Dichloropropene	50.000	47.456	5.1	112	0.00
42	T,M	tert-Amyl methyl ether (TAM	50.000	49.772	0.5	109	0.00
43	T,M	Carbon tetrachloride	50.000	48.064	3.9	112	0.00
44	S	1,2-Dichloroethane-d4	50.000	51.684	-3.4	102	0.00
45	T,M	1,2-Dichloroethane	50.000	51.120	-2.2	109	0.00
46	T,M	Benzene	50.000	49.348	1.3	111	0.00
47	T,M	Trichloroethene	50.000	47.246	5.5	111	-0.01
48	T,M	Methylcyclohexane	50.000	43.910	12.2	83	0.01
49	C,T,M	1,2-Dichloropropane	50.000	50.881	-1.8	112	0.00
50	T,M	1,4-Dioxane	1000.000	1061.417	-6.1	109	0.00

SW 5/4/16

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Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51	T,M	Bromodichloromethane	50.000	51.256	-2.5	112	0.00
52	T,M	Dibromomethane	50.000	51.123	-2.2	110	0.00
53	T,M	2-Chloroethyl vinyl ether	50.000	47.297	5.4	109	0.00
54	T,M	4-Methyl-2-pentanone	250.000	238.843	4.5	88	0.00
55	T,M	cis-1,3-Dichloropropene	50.000	52.013	-4.0	110	0.00
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	95	0.00
57	S	Toluene-d8	50.000	50.128	-0.3	100	0.00
58	C,T,M	Toluene	50.000	49.307	1.4	113	0.00
59	T,M	trans-1,3-Dichloropropene	50.000	52.882	-5.8	111	0.00
60	T,M	2-Hexanone	250.000	241.497	3.4	86	0.00
61	T,M	1,1,2-Trichloroethane	50.000	50.415	-0.8	109	0.00
62	T,M	1,3-Dichloropropane	50.000	51.536	-3.1	111	0.00
63	T,M	Tetrachloroethene	50.000	46.010	8.0	111	0.00
64	T,M	Dibromochloromethane	50.000	53.066	-6.1	113	0.00
65	T,M	1,2-Dibromoethane	50.000	51.986	-4.0	110	0.00
66	T,M	1-Chlorohexane	50.000	46.310	7.4	111	-0.01
67	P,T,M	Chlorobenzene	50.000	49.143	1.7	113	0.00
68	T,M	1,1,1,2-Tetrachloroethane	50.000	50.960	-1.9	115	0.00
69	C,T,M	Ethylbenzene	50.000	48.537	2.9	115	0.00
70	T,M	m-Xylene & p-Xylene	100.000	95.559	4.4	114	0.00
71	T,M	o-Xylene	50.000	48.179	3.6	115	0.00
72	T,M	Styrene	50.000	49.731	0.5	114	0.00
73	T,M	Isopropylbenzene	50.000	47.001	6.0	115	0.00
74	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	95	0.00
75	P,T,M	Bromoform	50.000	53.200	-6.4	113	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	50.000	51.000	-2.0	110	0.00
77	S	4-Bromofluorobenzene	50.000	49.747	0.5	100	0.00
78	T,M	1,2,3-Trichloropropane	50.000	50.793	-1.6	113	0.00
79	T,M	trans-1,4-Dichloro-2-butene	50.000	49.581	0.8	106	0.00
80	T,M	n-Propylbenzene	50.000	46.458	7.1	113	0.00
81	T,M	Bromobenzene	50.000	48.998	2.0	114	0.00
82	T,M	1,3,5-Trimethylbenzene	50.000	46.333	7.3	114	0.00
83	T,M	2-Chlorotoluene	50.000	48.594	2.8	114	0.00
84	T,M	4-Chlorotoluene	50.000	44.149	11.7	113	0.00
85	T,M	tert-Butylbenzene	50.000	45.584	8.8	114	0.00
86	T,M	1,2,4-Trimethylbenzene	50.000	47.257	5.5	115	0.00
87	T,M	sec-Butylbenzene	50.000	45.093	9.8	114	0.00
88	T,M	p-Isopropyltoluene	50.000	45.156	9.7	111	0.00
89	T,M	1,3-Dichlorobenzene	50.000	47.033	5.9	111	0.00
90	T,M	1,2,3-Trimethylbenzene	50.000	48.090	3.8	94	0.00
91	T,M	1,4-Dichlorobenzene	50.000	46.194	7.6	110	0.00
92	T,M	n-Butylbenzene	50.000	45.026	9.9	106	0.00
93	T,M	1,2-Dichlorobenzene	50.000	47.156	5.7	112	0.00
94	T,M	1,2-Dibromo-3-chloropropane	50.000	54.292	-8.6	111	0.00
95	T,M	1,2,4-Trichlorobenzene	50.000	44.342	11.3	102	0.00
96	T,M	Hexachlorobutadiene	50.000	42.565	14.9	104	0.00
97	T,M	Naphthalene	50.000	49.231	1.5	110	0.00
98	T,M	1,2,3-Trichlorobenzene	50.000	45.047	9.9	105	0.00

Su 5/4/16

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Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

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

SW
5/4/16

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	96	0.00
2	T,M	Chlorotrifluoroethylene	0.161	0.144	10.6	88	0.00
3	T,M	Dichlorodifluoromethane	0.433	0.353	18.5	76	0.00
4	P,T,M	Chloromethane	0.555	0.448	19.3	83	0.00
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.253	0.235	7.1	89	0.00
6	C,T,M	Vinyl chloride	0.385	0.347	9.9	79	0.00
7	T,M	Bromomethane	0.335	0.310	7.5	96	0.00
8	T,M	Chloroethane	0.275	0.243	11.6	80	0.00
9	T,M	Dichlorofluoromethane	0.862	0.858	0.5	106	0.00
10	T,M	Trichlorofluoromethane	0.533	0.445	16.5	76	0.00
11	T,M	Acrolein	0.104	0.085	18.3	79	-0.01
12	T,M	1,1,2-Trichloro-1,2,2-Trifl	0.264	0.241	8.7	109	0.01
13	T,M	Acetone	0.230	0.206	10.4	90	0.00
14	C,T,M	1,1-Dichloroethene	0.658	0.634	3.6	108	0.00
15	T,M	tert-Butyl alcohol	0.071	0.070	1.4	111	-0.01
16	T,M	Acetonitrile	0.095	0.100	-5.3	109	0.00
17	T,M	Methyl acetate	0.560	0.538	3.9	92	0.00
18	T,M	Allyl chloride	0.195	0.192	1.5	108	0.00
19	T,M	Methylene chloride	0.666	0.653	2.0	109	0.00
20	T,M	Carbon disulfide	0.965	0.964	0.1	91	0.00
21	T,M	Acrylonitrile	0.257	0.237	7.8	89	0.00
22	T,M	tert-Butyl methyl ether (MT	1.048	1.046	0.2	108	0.00
23	T,M	trans-1,2-Dichloroethene	0.340	0.333	2.1	109	0.00
24	T,M	Isopropyl ether (DIPE)	1.509	1.523	-0.9	111	0.00
25	T,M	Vinyl acetate	0.877	0.786	10.4	79	0.00
26	P,T,M	1,1-Dichloroethane	0.744	0.742	0.3	110	0.00
27	T,M	2-Butanol	0.069	0.069	0.0	96	0.00
28	T,M	tert-Butyl ethyl ether (ETB	1.342	1.327	1.1	110	0.00
29	T,M	2-Butanone	0.339	0.321	5.3	88	0.00
30	T,M	Propionitrile	0.101	0.105	-4.0	109	-0.01
31	T,M	2,2-Dichloropropane	0.455	0.427	6.2	107	0.00
32	T,M	cis-1,2-Dichloroethene	0.388	0.384	1.0	109	0.00
33	T,M	Methacrylonitrile	0.113	0.119	-5.3	110	0.00
34	T,M	Isobutyl alcohol	0.035	0.039	-11.4	113	0.00
35	C,T,M	Chloroform	0.691	0.692	-0.1	110	0.00
36	T,M	Bromochloromethane	0.460	0.476	-3.5	109	0.00
37	T,M	Tetrahydrofuran	0.197	0.206	-4.6	111	0.00
38	S	Dibromofluoromethane	0.364	0.376	-3.3	103	0.01
39	T,M	1,1,1-Trichloroethane	0.526	0.509	3.2	111	0.00
40	T,M	Cyclohexane	0.827	0.764	7.6	87	0.00
41	T,M	1,1-Dichloropropene	0.164	0.156	4.9	112	0.00
42	T,M	tert-Amyl methyl ether (TAM	0.214	0.213	0.5	109	0.00
43	T,M	Carbon tetrachloride	0.441	0.424	3.9	112	0.00
44	S	1,2-Dichloroethane-d4	0.535	0.553	-3.4	102	0.00
45	T,M	1,2-Dichloroethane	0.674	0.689	-2.2	109	0.00
46	T,M	Benzene	1.383	1.365	1.3	111	0.00
47	T,M	Trichloroethene	0.354	0.334	5.6	111	-0.01
48	T,M	Methylcyclohexane	0.573	0.503	12.2	83	0.01
49	C,T,M	1,2-Dichloropropane	0.433	0.441	-1.8	112	0.00
50	T,M	1,4-Dioxane	0.006	0.007	-16.7	109	0.00

Su 5/4/16

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T,M	Bromodichloromethane	0.507	0.519	-2.4	112	0.00
52	T,M	Dibromomethane	0.272	0.278	-2.2	110	0.00
53	T,M	2-Chloroethyl vinyl ether	0.242	0.229	5.4	109	0.00
54	T,M	4-Methyl-2-pentanone	0.683	0.652	4.5	88	0.00
55	T,M	cis-1,3-Dichloropropene	0.572	0.595	-4.0	110	0.00
56	I	CHLOROBENZENE-D5	1.000	1.000	0.0	95	0.00
57	S	Toluene-d8	1.368	1.371	-0.2	100	0.00
58	C,T,M	Toluene	1.628	1.605	1.4	113	0.00
59	T,M	trans-1,3-Dichloropropene	0.607	0.641	-5.6	111	0.00
60	T,M	2-Hexanone	0.569	0.550	3.3	86	0.00
61	T,M	1,1,2-Trichloroethane	0.396	0.399	-0.8	109	0.00
62	T,M	1,3-Dichloropropane	0.701	0.722	-3.0	111	0.00
63	T,M	Tetrachloroethene	0.301	0.277	8.0	111	0.00
64	T,M	Dibromochloromethane	0.411	0.436	-6.1	113	0.00
65	T,M	1,2-Dibromoethane	0.418	0.434	-3.8	110	0.00
66	T,M	1-Chlorohexane	0.492	0.456	7.3	111	-0.01
67	P,T,M	Chlorobenzene	1.039	1.021	1.7	113	0.00
68	T,M	1,1,1,2-Tetrachloroethane	0.361	0.368	-1.9	115	0.00
69	C,T,M	Ethylbenzene	1.829	1.776	2.9	115	0.00
70	T,M	m-Xylene & p-Xylene	1.434	1.370	4.5	114	0.00
71	T,M	o-Xylene	1.475	1.421	3.7	115	0.00
72	T,M	Styrene	1.128	1.122	0.5	114	0.00
73	T,M	Isopropylbenzene	1.608	1.512	6.0	115	0.00
74	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	95	0.00
75	P,T,M	Bromoform	0.601	0.639	-6.3	113	0.00
76	P,T,M	1,1,2,2-Tetrachloroethane	1.262	1.288	-2.1	110	0.00
77	S	4-Bromofluorobenzene	1.198	1.191	0.6	100	0.00
78	T,M	1,2,3-Trichloropropane	0.373	0.379	-1.6	113	0.00
79	T,M	trans-1,4-Dichloro-2-butene	0.525	0.521	0.8	106	0.00
80	T,M	n-Propylbenzene	4.578	4.254	7.1	113	0.00
81	T,M	Bromobenzene	0.894	0.876	2.0	114	0.00
82	T,M	1,3,5-Trimethylbenzene	3.016	2.795	7.3	114	0.00
83	T,M	2-Chlorotoluene	0.895	0.870	2.8	114	0.00
84	T,M	4-Chlorotoluene	0.840	0.742	11.7	113	0.00
85	T,M	tert-Butylbenzene	0.606	0.552	8.9	114	0.00
86	T,M	1,2,4-Trimethylbenzene	3.124	2.953	5.5	115	0.00
87	T,M	sec-Butylbenzene	3.886	3.504	9.8	114	0.00
88	T,M	p-Isopropyltoluene	3.091	2.791	9.7	111	0.00
89	T,M	1,3-Dichlorobenzene	1.655	1.557	5.9	111	0.00
90	T,M	1,2,3-Trimethylbenzene	2.474	2.380	3.8	94	0.00
91	T,M	1,4-Dichlorobenzene	1.718	1.587	7.6	110	0.00
92	T,M	n-Butylbenzene	3.176	2.860	9.9	106	0.00
93	T,M	1,2-Dichlorobenzene	1.670	1.575	5.7	112	0.00
94	T,M	1,2-Dibromo-3-chloropropane	0.231	0.251	-8.7	111	0.00
95	T,M	1,2,4-Trichlorobenzene	1.092	0.968	11.4	102	0.00
96	T,M	Hexachlorobutadiene	0.530	0.451	14.9	104	0.00
97	T,M	Naphthalene	3.198	3.149	1.5	110	0.00
98	T,M	1,2,3-Trichlorobenzene	1.102	0.993	9.9	105	0.00

Sw 5/4/16

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

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

Sw 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.642	114	735322	50.00	ug/l	0.00
56) CHLOROBENZENE-D5	16.748	117	625871	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	299200	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.090	111	276792	51.76	ug/l	0.01
Spiked Amount 50.000			Recovery = 103.52%			
44) 1,2-Dichloroethane-d4	10.960	65	406322	51.68	ug/l	0.00
Spiked Amount 50.000			Recovery = 103.36%			
57) Toluene-d8	14.360	98	858361	50.13	ug/l	0.00
Spiked Amount 50.000			Recovery = 100.26%			
77) 4-Bromofluorobenzene	18.267	95	356483	49.75	ug/l	0.00
Spiked Amount 50.000			Recovery = 99.50%			
Target Compounds						Qvalue
2) Chlorotrifluoroethylene	3.014	116	106013	44.77	ug/L	98
3) Dichlorodifluoromethane	3.091	85	259527	40.72	ug/l	100
4) Chloromethane	3.487	50	329579	40.39	ug/l	98
5) 2-Chloro-1,1,1-trifluo...	3.685	118	172633	46.35	ug/L	100
6) Vinyl chloride	3.685	62	255083	45.08	ug/l	91
7) Bromomethane	4.445	94	228234	57.06	ug/l	99
8) Chloroethane	4.588	64	178781	44.20	ug/L	98
9) Dichlorofluoromethane	4.654	67	631077	49.78	ug/L	99
10) Trichlorofluoromethane	5.039	101	326867	41.67	ug/l	99
11) Acrolein	5.765	56	313222	205.68	ug/l	97
12) 1,1,2-Trichloro-1,2,2-...	5.820	151	177024	45.64	ug/l	99
13) Acetone	5.886	43	755885	223.25	ug/l	99
14) 1,1-Dichloroethene	6.128	61	466296	48.18	ug/L	99
15) tert-Butyl alcohol	6.293	59	259059	248.55	ug/L	97
16) Acetonitrile	6.349	41	732637	525.67	ug/L	100
17) Methyl acetate	6.734	43	395873	48.11	ug/L	99
18) Allyl chloride	6.800	76	141271	49.23	ug/L	98
19) Methylene chloride	6.998	49	480216	49.00	ug/l	100
20) Carbon disulfide	7.053	76	708776	49.93	ug/L	100
21) Acrylonitrile	7.207	53	871720	230.54	ug/l	99
22) tert-Butyl methyl ethe...	7.317	73	769306	49.94	ug/L	100
23) trans-1,2-Dichloroethene	7.570	96	244506	48.92	ug/l	99
24) Isopropyl ether (DIPE)	8.142	45	1119528	50.44	ug/l	100
25) Vinyl acetate	8.318	43	578275	40.11	ug/l	100
26) 1,1-Dichloroethane	8.329	63	545850	49.90	ug/l	100
27) 2-Butanol	8.759	45	252914	250.68	ug/L #	1
28) tert-Butyl ethyl ether...	8.880	59	975552	49.42	ug/l	99
29) 2-Butanone	9.078	43	1180530	236.61	ug/l	100
30) Propionitrile	9.177	54	769521	519.14	ug/L	100
31) 2,2-Dichloropropane	9.342	77	313754	46.89	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	282396	49.50	ug/L	98
33) Methacrylonitrile	9.551	52	872816	523.96	ug/L	99
34) Isobutyl alcohol	9.628	43	577001	886.43	ug/L	98
35) Chloroform	9.705	83	509155	50.11	ug/l	100
36) Bromochloromethane	9.991	49	349938	51.73	ug/l	100
37) Tetrahydrofuran	10.101	42	151508	52.19	ug/L	99
39) 1,1,1-Trichloroethane	10.420	97	374409	48.41	ug/l	99
40) Cyclohexane	10.475	56	561660	46.17	ug/L	100

SA 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
41) 1,1-Dichloropropene	10.707	110	114726	47.46	ug/L	97
42) tert-Amyl methyl ether...	10.916	87	156412	49.77	ug/l	99
43) Carbon tetrachloride	10.894	119	311856	48.06	ug/L	99
45) 1,2-Dichloroethane	11.125	62	506697	51.12	ug/L	100
46) Benzene	11.169	78	1004034	49.35	ug/L	99
47) Trichloroethene	12.247	130	245891	47.25	ug/L	100
48) Methylcyclohexane	12.390	83	369894	43.91	ug/L	99
49) 1,2-Dichloropropane	12.544	63	324017	50.88	ug/L	99
50) 1,4-Dioxane	12.996	88	97856	1061.42	ug/L	98
51) Bromodichloromethane	12.963	83	381923	51.26	ug/L	100
52) Dibromomethane	13.062	93	204431	51.12	ug/L	99
53) 2-Chloroethyl vinyl ether	13.458	63	168463	47.30	ug/L	96
54) 4-Methyl-2-pentanone	13.524	43	2398277	238.84	ug/L	99
55) cis-1,3-Dichloropropene	13.909	75	437874	52.01	ug/L	100
58) Toluene	14.503	91	1004661	49.31	ug/L	99
59) trans-1,3-Dichloropropene	14.789	75	401484	52.88	ug/l	99
60) 2-Hexanone	15.054	43	1719960	241.50	ug/l	100
61) 1,1,2-Trichloroethane	15.065	97	249605	50.42	ug/l	95
62) 1,3-Dichloropropane	15.472	76	452026	51.54	ug/l	99
63) Tetrachloroethene	15.615	164	173370	46.01	ug/l	99
64) Dibromochloromethane	15.912	129	272825	53.07	ug/l	100
65) 1,2-Dibromoethane	16.209	107	271937	51.99	ug/l	99
66) 1-Chlorohexane	16.407	91	285412	46.31	ug/l	100
67) Chlorobenzene	16.803	112	639327	49.14	ug/l	100
68) 1,1,1,2-Tetrachloroethane	16.847	131	230505	50.96	ug/l	100
69) Ethylbenzene	16.858	91	1111296	48.54	ug/l	100
70) m-Xylene & p-Xylene	16.958	91	1715502	95.56	ug/l	99
71) o-Xylene	17.530	91	889355	48.18	ug/l	99
72) Styrene	17.574	104	702143	49.73	ug/l	99
73) Isopropylbenzene	17.959	105	946018	47.00	ug/L	100
75) Bromoform	18.014	173	191310	53.20	ug/l	99
76) 1,1,2,2-Tetrachloroethane	18.157	83	385233	51.00	ug/l	99
78) 1,2,3-Trichloropropane	18.333	110	113502	50.79	ug/l	93
79) trans-1,4-Dichloro-2-b...	18.388	53	155876	49.58	ug/l	99
80) n-Propylbenzene	18.432	91	1272784	46.46	ug/l	100
81) Bromobenzene	18.520	156	262087	49.00	ug/l	100
82) 1,3,5-Trimethylbenzene	18.608	105	836257	46.33	ug/l	100
83) 2-Chlorotoluene	18.663	126	260338	48.59	ug/l	99
84) 4-Chlorotoluene	18.707	126	222009	44.15	ug/l	98
85) tert-Butylbenzene	19.004	134	165224	45.58	ug/l	100
86) 1,2,4-Trimethylbenzene	19.048	105	883490	47.26	ug/l	99
87) sec-Butylbenzene	19.225	105	1048489	45.09	ug/l	99
88) p-Isopropyltoluene	19.368	119	835123	45.16	ug/l	100
89) 1,3-Dichlorobenzene	19.500	146	465836	47.03	ug/l	100
90) 1,2,3-Trimethylbenzene	19.555	105	711965	48.09	ug/L	100
91) 1,4-Dichlorobenzene	19.610	146	474964	46.19	ug/l	100
92) n-Butylbenzene	19.786	91	855723	45.03	ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	471221	47.16	ug/l	100
94) 1,2-Dibromo-3-chloropr...	20.754	157	75031	54.29	ug/l	98
95) 1,2,4-Trichlorobenzene	21.701	180	289639	44.34	ug/l	99
96) Hexachlorobutadiene	21.833	225	134939	42.56	ug/l	100
97) Naphthalene	22.031	128	942095	49.23	ug/l	100
98) 1,2,3-Trichlorobenzene	22.317	180	297004	45.05	ug/l	99

SW 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
Sample : IVOF4C071
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Apr 28 14:13:12 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)

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

Sw 5/4/16

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16C07\
Data File : RCN014.D
Acq On : 7 Mar 2016 5:10 pm
Operator : CMendo
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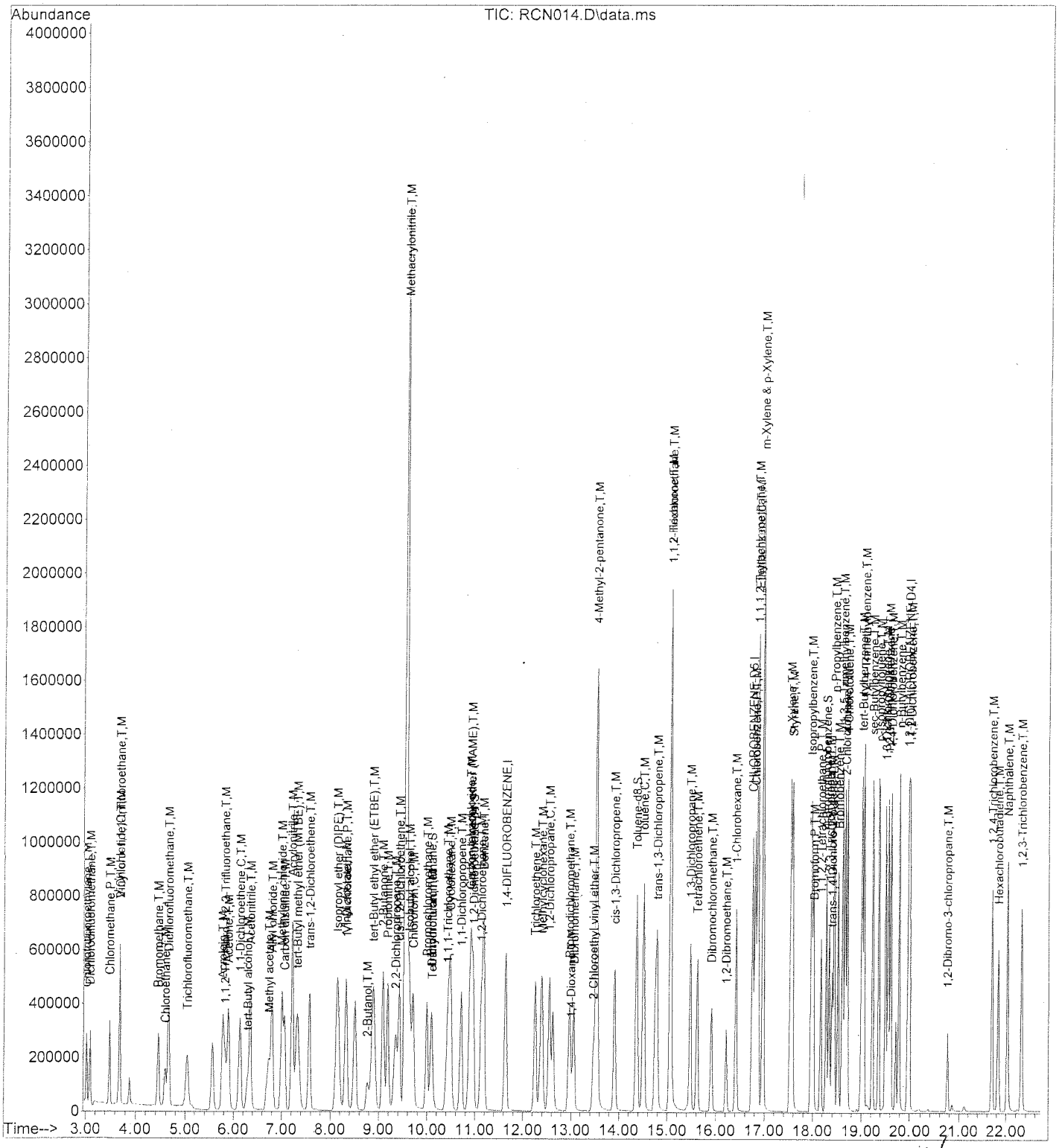
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



SA 5/4/16

DAILY CALIBRATION(S)

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

BROMOFLUOROBENZENE (BFB)

Lab Name: EMAX Inc
Lab Code: EMXT Case No.:
Lab File ID: REN138
Instrument ID: F4
GC Column:RTX502.2ID:0.32mm (mm)

Contract: CANNON AFB PBR
SAS No.: SDG No.: 16E133
BFB Injection Date : 05/26/16
BFB Injection Time : 09:03
Heated Purge: (Y/N) Y

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	15.0 - 40.0% of mass 95	23.19
75	30.0 - 60.0% of mass 95	47.57
95	Base peak, 100% relative abundance	100.00
96	5.0 - 9.0% of mass 95	6.51
173	Less than 2.0% of mass 174	1.49(1.9)1
174	Greater than 50% of mass 95	76.79
175	5.0 - 9.0% of mass 174	6.35(8.3)1
176	95.0 - 101.0% of mass 174	75.88(98.8)1
177	5.0 - 9.0% of mass 176	6.09(8.0)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	VSTD050	CVOF4C0706	REN139	05/26/16	10:01
2	MBLK1W	VSF4E08B	REN142	05/26/16	11:35
3	LCS1W	VSF4E08L	REN140	05/26/16	10:40
4	LCD1W	VSF4E08C	REN141	05/26/16	11:08
5	MBLK2W	TVE003SB	REN143	05/26/16	12:03
6	CAFB-IDW-S-05132016	E133-03	REN144	05/26/16	12:31

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : EMAX INC.
Lab Code : EMXT
Lab File ID : RCN007
Instrument ID: F4
GC Column : RTX502.2ID:0.32mm (mm)

Project : CANNON AFB PBR
SDG No. : 16E133
Date Analyzed : 03/07/16
Time Analyzed : 13:56
Heated Purge : Yes

		IS1(DBF)		IS2(CBZ)		IS3(DCB)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	769634	11.64	660710	16.75	315457	19.96
	UPPER LIMIT	1539268	12.14	1321420	17.25	630914	20.46
	LOWER LIMIT	384817	11.14	330355	16.25	157729	19.46
	SAMPLE ID						
1	VSTD050	847861	11.63	737608	16.75	340549	19.96
2	MBLK1W	756910	11.63	654157	16.75	288570	19.96
3	LCS1W	851481	11.63	740824	16.75	347884	19.96
4	LCD1W	793184	11.63	685156	16.75	324898	19.96
5	MBLK2W	739972	11.63	657293	16.75	289614	19.96
6	CAFB-IDW-S-05132016	716258	11.63	630721	16.75	277231	19.96

IS1 (DFB) = 1,4-Difluorobenzene
IS2 (CBZ) = Chlorobenzene-d5
IS3 (DCB) = 1,2-Dichlorobenzene-d4

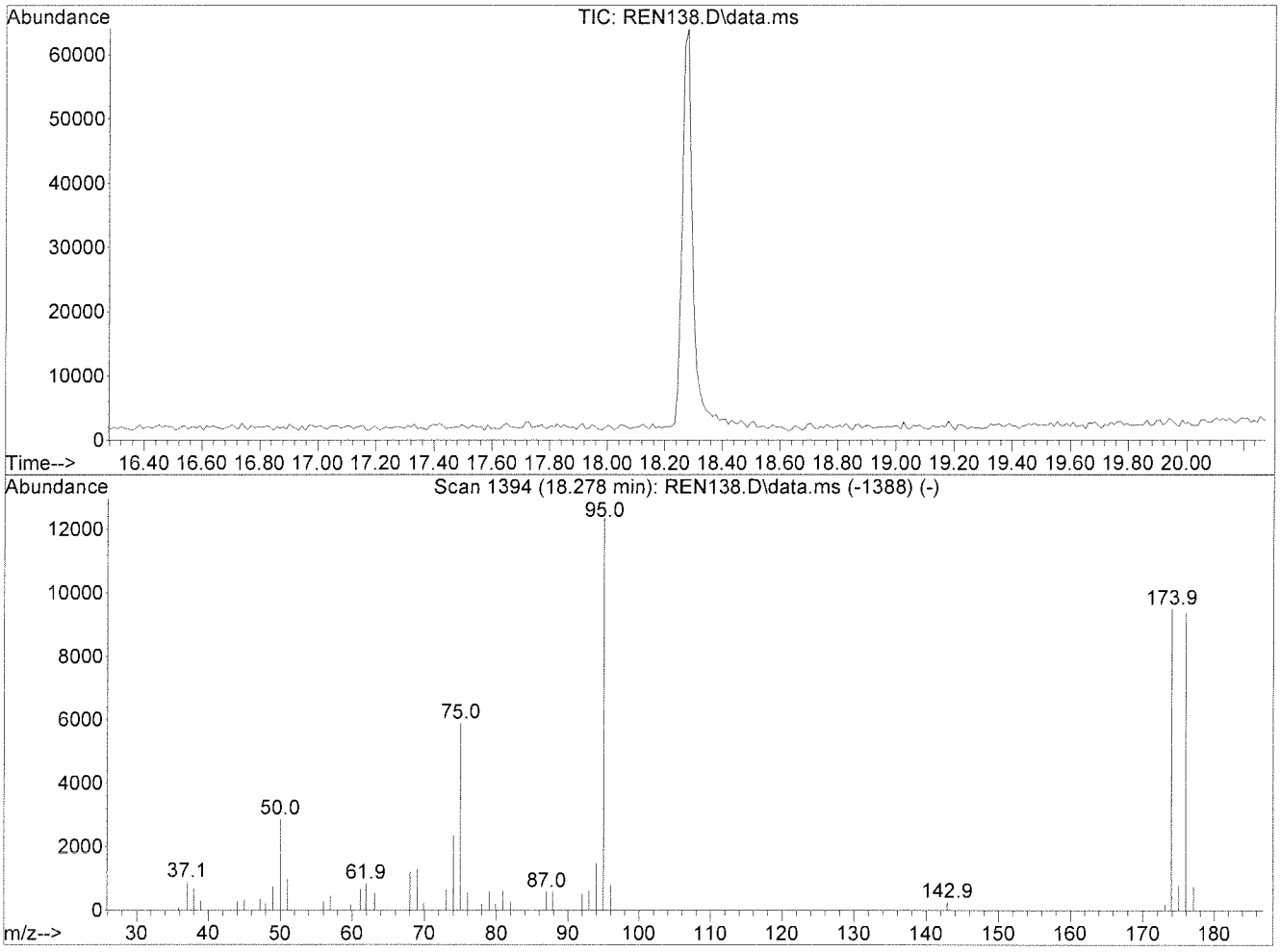
AREA UPPER LIMIT = + 100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = + 0.5 minutes (30 sec) of internal standard RT
RT LOWER LIMIT = - 0.5 minutes (30 sec) of internal standard RT

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

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN138.D
Acq On : 26 May 2016 9:03 am
Operator : DNguye
Sample : BFBF4E08
Misc : T/CHK
ALS Vial : 1 Sample Multiplier: 1

Integration File: RTE.P

Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Title : METHOD 8260 5mL
Last Update : Tue Mar 08 12:52:04 2016



Spectrum Information: Scan 1394 — Scan 1388- CGM 6/3/16

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	23.2	2865	PASS
75	95	30	60	47.6	5877	PASS
95	95	100	100	100.0	12354	PASS
96	95	5	9	6.5	804	PASS
173	174	0.00	2	1.9	184	PASS
174	95	50	100	76.8	9486	PASS
175	174	5	9	8.3	785	PASS
176	174	95	101	98.8	9374	PASS
177	176	5	9	8.0	753	PASS

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	50.000	50.000	0.0	110	-0.01
2	T,M	Chlorotrifluoroethylene	50.000	0.000	100.0#	0	-3.01#
3	T,M	Dichlorodifluoromethane	50.000	49.157	1.7	106	-0.01
4	P,T,M	Chloromethane	50.000	46.680	6.6	110	-0.01
5	T,M	2-Chloro-1,1,1-trifluoroeth	50.000	0.000	100.0#	0	-3.69#
6	C,T,M	Vinyl chloride	50.000	51.975	-4.0	106	-0.01
7	T,M	Bromomethane	50.000	58.090	-16.2	112	-0.01
8	T,M	Chloroethane	50.000	52.231	-4.5	109	-0.02
9	T,M	Dichlorofluoromethane	50.000	56.961	-13.9	141	-0.02
10	T,M	Trichlorofluoromethane	50.000	56.181	-12.4	118	-0.01
11	T,M	Acrolein	250.000	213.423	14.6	95	-0.02
12	T,M	1,1,2-Trichloro-1,2,2-Trifl	50.000	49.936	0.1	138	-0.01
13	T,M	Acetone	250.000	196.738	21.3#	92	-0.01
14	C,T,M	1,1-Dichloroethene	50.000	47.997	4.0	124	-0.01
15	T,M	tert-Butyl alcohol	250.000	211.039	15.6	109	-0.01
16	T,M	Acetonitrile	500.000	456.694	8.7	109	-0.01
17	T,M	Methyl acetate	50.000	40.700	18.6	90	-0.01
18	T,M	Allyl chloride	50.000	50.247	-0.5	127	-0.01
19	T,M	Methylene chloride	50.000	49.838	0.3	128	-0.01
20	T,M	Carbon disulfide	50.000	57.016	-14.0	120	-0.01
21	T,M	Acrylonitrile	250.000	210.775	15.7	94	0.00
22	T,M	tert-Butyl methyl ether (MT	50.000	44.358	11.3	111	-0.01
23	T,M	trans-1,2-Dichloroethene	50.000	51.315	-2.6	132	-0.01
24	T,M	Isopropyl ether (DIPE)	50.000	45.832	8.3	116	-0.01
25	T,M	Vinyl acetate	50.000	35.014	30.0#	79	-0.01
26	P,T,M	1,1-Dichloroethane	50.000	55.130	-10.3	140	-0.01
27	T,M	2-Butanol	250.000	224.549	10.2	99	-0.01
28	T,M	tert-Butyl ethyl ether (ETB	50.000	44.599	10.8	114	0.00
29	T,M	2-Butanone	250.000	214.615	14.2	92	-0.01
30	T,M	Propionitrile	500.000	464.822	7.0	113	-0.01
31	T,M	2,2-Dichloropropane	50.000	54.828	-9.7	145	0.00
32	T,M	cis-1,2-Dichloroethene	50.000	52.583	-5.2	133	0.00
33	T,M	Methacrylonitrile	500.000	465.553	6.9	112	-0.01
34	T,M	Isobutyl alcohol	1000.000	791.699	20.8#	116	-0.01
35	C,T,M	Chloroform	50.000	55.597	-11.2	140	-0.01
36	T,M	Bromochloromethane	50.000	49.478	1.0	120	-0.01
37	T,M	Tetrahydrofuran	50.000	44.797	10.4	110	-0.01
38	S	Dibromofluoromethane	50.000	50.111	-0.2	115	0.00
39	T,M	1,1,1-Trichloroethane	50.000	54.318	-8.6	143	0.00
40	T,M	Cyclohexane	50.000	51.308	-2.6	111	0.00
41	T,M	1,1-Dichloropropene	50.000	50.847	-1.7	138	-0.01
42	T,M	tert-Amyl methyl ether (TAM	50.000	47.480	5.0	120	-0.01
43	T,M	Carbon tetrachloride	50.000	53.664	-7.3	144	-0.01
44	S	1,2-Dichloroethane-d4	50.000	43.647	12.7	99	-0.01
45	T,M	1,2-Dichloroethane	50.000	47.348	-5.3	117	-0.01
46	T,M	Benzene	50.000	55.512	-11.0	144	0.00
47	T,M	Trichloroethene	50.000	55.299	-10.6	150	-0.01
48	T,M	Methylcyclohexane	50.000	52.370	-4.7	114	0.00
49	C,T,M	1,2-Dichloropropane	50.000	54.334	-8.7	138	0.00
50	T,M	1,4-Dioxane	1000.000	907.503	9.2	108	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
51	T,M	Bromodichloromethane	50.000	54.845	-9.7	138	-0.01
52	T,M	Dibromomethane	50.000	48.918	2.2	122	-0.01
53	T,M	2-Chloroethyl vinyl ether	50.000	52.916	-5.8	141	0.00
54	T,M	4-Methyl-2-pentanone	250.000	227.239	9.1	96	-0.01
55	T,M	cis-1,3-Dichloropropene	50.000	53.260	-6.5	130	-0.01
56	I	CHLOROBENZENE-D5	50.000	50.000	0.0	112	0.00
57	S	Toluene-d8	50.000	50.105	-0.2	118	0.00
58	C,T,M	Toluene	50.000	54.691	-9.4	148	0.00
59	T,M	trans-1,3-Dichloropropene	50.000	53.762	-7.5	133	-0.01
60	T,M	2-Hexanone	250.000	224.222	10.3	94	0.00
61	T,M	1,1,2-Trichloroethane	50.000	51.880	-3.8	132	0.00
62	T,M	1,3-Dichloropropane	50.000	51.862	-3.7	132	0.00
63	T,M	Tetrachloroethene	50.000	53.594	-7.2	152	0.00
64	T,M	Dibromochloromethane	50.000	53.054	-6.1	133	-0.01
65	T,M	1,2-Dibromoethane	50.000	48.736	2.5	122	0.00
66	T,M	1-Chlorohexane	50.000	55.264	-10.5	157	-0.01
67	P,T,M	Chlorobenzene	50.000	54.886	-9.8	148	0.00
68	T,M	1,1,1,2-Tetrachloroethane	50.000	55.899	-11.8	148	0.00
69	C,T,M	Ethylbenzene	50.000	55.956	-11.9	156	0.00
70	T,M	m-Xylene & p-Xylene	100.000	112.150	-12.2	158	0.00
71	T,M	o-Xylene	50.000	53.668	-7.3	151	0.00
72	T,M	Styrene	50.000	56.944	-13.9	154	0.00
73	T,M	Isopropylbenzene	50.000	59.995	-20.0	172	0.00
74	I	1,2-DICHLOROBENZENE-D4	50.000	50.000	0.0	108	0.00
75	P,T,M	Bromoform	50.000	56.883	-13.8	138	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	50.000	46.034	7.9	113	0.00
77	S	4-Bromofluorobenzene	50.000	47.302	5.4	108	0.00
78	T,M	1,2,3-Trichloropropane	50.000	49.038	1.9	124	0.00
79	T,M	trans-1,4-Dichloro-2-butene	50.000	45.224	9.6	110	0.00
80	T,M	n-Propylbenzene	50.000	57.624	-15.2	160	0.00
81	T,M	Bromobenzene	50.000	57.874	-15.7	153	-0.01
82	T,M	1,3,5-Trimethylbenzene	50.000	56.456	-12.9	158	0.00
83	T,M	2-Chlorotoluene	50.000	55.117	-10.2	147	-0.01
84	T,M	4-Chlorotoluene	50.000	60.325	-20.7#	176	0.00
85	T,M	tert-Butylbenzene	50.000	56.243	-12.5	160	0.00
86	T,M	1,2,4-Trimethylbenzene	50.000	56.110	-12.2	155	0.00
87	T,M	sec-Butylbenzene	50.000	59.679	-19.4	171	0.00
88	T,M	p-Isopropyltoluene	50.000	57.887	-15.8	162	-0.01
89	T,M	1,3-Dichlorobenzene	50.000	58.550	-17.1	158	0.00
90	T,M	1,2,3-Trimethylbenzene	50.000	0.000	100.0#	0	-19.56#
91	T,M	1,4-Dichlorobenzene	50.000	56.371	-12.7	153	0.00
92	T,M	n-Butylbenzene	50.000	59.379	-18.8	159	-0.01
93	T,M	1,2-Dichlorobenzene	50.000	55.716	-11.4	151	0.00
94	T,M	1,2-Dibromo-3-chloropropane	50.000	52.801	-5.6	123	0.00
95	T,M	1,2,4-Trichlorobenzene	50.000	55.903	-11.8	147	0.00
96	T,M	Hexachlorobutadiene	50.000	63.242	-26.5#	176	0.00
97	T,M	Naphthalene	50.000	46.933	6.1	119	-0.01
98	T,M	1,2,3-Trichlorobenzene	50.000	52.964	-5.9	141	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	Amount	Calc.	%Dev	Area%	Dev(min)

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

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-DIFLUOROBENZENE	1.000	1.000	0.0	110	-0.01
2	T,M	Chlorotrifluoroethylene	0.161	0.000	100.0#	0#	-3.01#
3	T,M	Dichlorodifluoromethane	0.433	0.426	1.6	106	-0.01
4	P,T,M	Chloromethane	0.555	0.518	6.7	110	-0.01
5	T,M	2-Chloro-1,1,1-trifluoroeth	0.253	0.000	100.0#	0#	-3.69#
6	C,T,M	Vinyl chloride	0.385	0.400	-3.9	106	-0.01
7	T,M	Bromomethane	0.335	0.316	5.7	112	-0.01
8	T,M	Chloroethane	0.275	0.287	-4.4	109	-0.02
9	T,M	Dichlorofluoromethane	0.862	0.982	-13.9	141	-0.02
10	T,M	Trichlorofluoromethane	0.533	0.599	-12.4	118	-0.01
11	T,M	Acrolein	0.104	0.088	15.4	95	-0.02
12	T,M	1,1,2-Trichloro-1,2,2-Trifl	0.264	0.263	0.4	138	-0.01
13	T,M	Acetone	0.230	0.181	21.3#	92	-0.01
14	C,T,M	1,1-Dichloroethene	0.658	0.632	4.0	124	-0.01
15	T,M	tert-Butyl alcohol	0.071	0.060	15.5	109	-0.01
16	T,M	Acetonitrile	0.095	0.087	8.4	109	-0.01
17	T,M	Methyl acetate	0.560	0.455	18.8	90	-0.01
18	T,M	Allyl chloride	0.195	0.196	-0.5	127	-0.01
19	T,M	Methylene chloride	0.666	0.664	0.3	128	-0.01
20	T,M	Carbon disulfide	0.965	1.101	-14.1	120	-0.01
21	T,M	Acrylonitrile	0.257	0.217	15.6	94	0.00
22	T,M	tert-Butyl methyl ether (MT	1.048	0.929	11.4	111	-0.01
23	T,M	trans-1,2-Dichloroethene	0.340	0.349	-2.6	132	-0.01
24	T,M	Isopropyl ether (DIPE)	1.509	1.383	8.3	116	-0.01
25	T,M	Vinyl acetate	0.877	0.681	22.3#	79	-0.01
26	P,T,M	1,1-Dichloroethane	0.744	0.820	-10.2	140	-0.01
27	T,M	2-Butanol	0.069	0.062	10.1	99	-0.01
28	T,M	tert-Butyl ethyl ether (ETB	1.342	1.197	10.8	114	0.00
29	T,M	2-Butanone	0.339	0.291	14.2	92	-0.01
30	T,M	Propionitrile	0.101	0.094	6.9	113	-0.01
31	T,M	2,2-Dichloropropane	0.455	0.499	-9.7	145	0.00
32	T,M	cis-1,2-Dichloroethene	0.388	0.408	-5.2	133	0.00
33	T,M	Methacrylonitrile	0.113	0.105	7.1	112	-0.01
34	T,M	Isobutyl alcohol	0.035	0.035	0.0	116	-0.01
35	C,T,M	Chloroform	0.691	0.768	-11.1	140	-0.01
36	T,M	Bromochloromethane	0.460	0.455	1.1	120	-0.01
37	T,M	Tetrahydrofuran	0.197	0.177	10.2	110	-0.01
38	S	Dibromofluoromethane	0.364	0.364	0.0	115	0.00
39	T,M	1,1,1-Trichloroethane	0.526	0.571	-8.6	143	0.00
40	T,M	Cyclohexane	0.827	0.849	-2.7	111	0.00
41	T,M	1,1-Dichloropropene	0.164	0.167	-1.8	138	-0.01
42	T,M	tert-Amyl methyl ether (TAM	0.214	0.203	5.1	120	-0.01
43	T,M	Carbon tetrachloride	0.441	0.474	-7.5	144	-0.01
44	S	1,2-Dichloroethane-d4	0.535	0.467	12.7	99	-0.01
45	T,M	1,2-Dichloroethane	0.674	0.638	5.3	117	-0.01
46	T,M	Benzene	1.383	1.536	-11.1	144	0.00
47	T,M	Trichloroethene	0.354	0.391	-10.5	150	-0.01
48	T,M	Methylcyclohexane	0.573	0.600	-4.7	114	0.00
49	C,T,M	1,2-Dichloropropane	0.433	0.471	-8.8	138	0.00
50	T,M	1,4-Dioxane	0.006	0.006	0.0	108	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
51	T,M	Bromodichloromethane	0.507	0.556	-9.7	138	-0.01
52	T,M	Dibromomethane	0.272	0.266	2.2	122	-0.01
53	T,M	2-Chloroethyl vinyl ether	0.242	0.256	-5.8	141	0.00
54	T,M	4-Methyl-2-pentanone	0.683	0.621	9.1	96	-0.01
55	T,M	cis-1,3-Dichloropropene	0.572	0.610	-6.6	130	-0.01
56	I	CHLOROBENZENE-D5	1.000	1.000	0.0	112	0.00
57	S	Toluene-d8	1.368	1.371	-0.2	118	0.00
58	C,T,M	Toluene	1.628	1.780	-9.3	148	0.00
59	T,M	trans-1,3-Dichloropropene	0.607	0.652	-7.4	133	-0.01
60	T,M	2-Hexanone	0.569	0.510	10.4	94	0.00
61	T,M	1,1,2-Trichloroethane	0.396	0.410	-3.5	132	0.00
62	T,M	1,3-Dichloropropane	0.701	0.727	-3.7	132	0.00
63	T,M	Tetrachloroethene	0.301	0.323	-7.3	152	0.00
64	T,M	Dibromochloromethane	0.411	0.436	-6.1	133	-0.01
65	T,M	1,2-Dibromoethane	0.418	0.407	2.6	122	0.00
66	T,M	1-Chlorohexane	0.492	0.544	-10.6	157	-0.01
67	P,T,M	Chlorobenzene	1.039	1.141	-9.8	148	0.00
68	T,M	1,1,1,2-Tetrachloroethane	0.361	0.404	-11.9	148	0.00
69	C,T,M	Ethylbenzene	1.829	2.047	-11.9	156	0.00
70	T,M	m-Xylene & p-Xylene	1.434	1.608	-12.1	158	0.00
71	T,M	o-Xylene	1.475	1.583	-7.3	151	0.00
72	T,M	Styrene	1.128	1.285	-13.9	154	0.00
73	T,M	Isopropylbenzene	1.608	1.929	-20.0	172	0.00
74	I	1,2-DICHLOROBENZENE-D4	1.000	1.000	0.0	108	0.00
75	P,T,M	Bromoform	0.601	0.684	-13.8	138	-0.01
76	P,T,M	1,1,2,2-Tetrachloroethane	1.262	1.162	7.9	113	0.00
77	S	4-Bromofluorobenzene	1.198	1.133	5.4	108	0.00
78	T,M	1,2,3-Trichloropropane	0.373	0.366	1.9	124	0.00
79	T,M	trans-1,4-Dichloro-2-butene	0.525	0.475	9.5	110	0.00
80	T,M	n-Propylbenzene	4.578	5.276	-15.2	160	0.00
81	T,M	Bromobenzene	0.894	1.035	-15.8	153	-0.01
82	T,M	1,3,5-Trimethylbenzene	3.016	3.406	-12.9	158	0.00
83	T,M	2-Chlorotoluene	0.895	0.987	-10.3	147	-0.01
84	T,M	4-Chlorotoluene	0.840	1.014	-20.7#	176	0.00
85	T,M	tert-Butylbenzene	0.606	0.681	-12.4	160	0.00
86	T,M	1,2,4-Trimethylbenzene	3.124	3.506	-12.2	155	0.00
87	T,M	sec-Butylbenzene	3.886	4.638	-19.4	171	0.00
88	T,M	p-Isopropyltoluene	3.091	3.578	-15.8	162	-0.01
89	T,M	1,3-Dichlorobenzene	1.655	1.938	-17.1	158	0.00
90	T,M	1,2,3-Trimethylbenzene	2.474	0.000	100.0#	0#	-19.56#
91	T,M	1,4-Dichlorobenzene	1.718	1.937	-12.7	153	0.00
92	T,M	n-Butylbenzene	3.176	3.772	-18.8	159	-0.01
93	T,M	1,2-Dichlorobenzene	1.670	1.861	-11.4	151	0.00
94	T,M	1,2-Dibromo-3-chloropropane	0.231	0.244	-5.6	123	0.00
95	T,M	1,2,4-Trichlorobenzene	1.092	1.220	-11.7	147	0.00
96	T,M	Hexachlorobutadiene	0.530	0.670	-26.4#	176	0.00
97	T,M	Naphthalene	3.198	3.002	6.1	119	-0.01
98	T,M	1,2,3-Trichlorobenzene	1.102	1.167	-5.9	141	-0.01

Evaluate Continuing Calibration Report

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.16min
Max. RRF Dev : 20% Max. Rel. Area : 200%

Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
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Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-DIFLUOROBENZENE	11.631	114	847861	50.00	ug/l	-0.01
56) CHLOROBENZENE-D5	16.748	117	737608	50.00	ug/l	0.00
74) 1,2-DICHLOROBENZENE-D4	19.962	152	340549	50.00	ug/l	0.00
System Monitoring Compounds						
38) Dibromofluoromethane	10.079	111	308993	50.11	ug/l	0.00
Spiked Amount 50.000			Recovery	=	100.22%	
44) 1,2-Dichloroethane-d4	10.949	65	395658	43.65	ug/l	-0.01
Spiked Amount 50.000			Recovery	=	87.30%	
57) Toluene-d8	14.360	98	1011152	50.11	ug/l	0.00
Spiked Amount 50.000			Recovery	=	100.22%	
77) 4-Bromofluorobenzene	18.267	95	385808	47.30	ug/l	0.00
Spiked Amount 50.000			Recovery	=	94.60%	
Target Compounds						Qvalue
3) Dichlorodifluoromethane	3.080	85	361283	49.16	ug/l	99
4) Chloromethane	3.476	50	439240	46.68	ug/l	99
6) Vinyl chloride	3.674	62	339126	51.97	ug/l	90
7) Bromomethane	4.434	94	267809	58.09	ug/l	99
8) Chloroethane	4.566	64	243586	52.23	ug/L	98
9) Dichlorofluoromethane	4.632	67	832705	56.96	ug/L	99
10) Trichlorofluoromethane	5.028	101	508119	56.18	ug/l	100
11) Acrolein	5.754	56	374758	213.42	ug/l	99
12) 1,1,2-Trichloro-1,2,2-...	5.798	151	223321	49.94	ug/l	99
13) Acetone	5.875	43	768059	196.74	ug/l	95
14) 1,1-Dichloroethene	6.117	61	535591	48.00	ug/L	98
15) tert-Butyl alcohol	6.294	59	253626	211.04	ug/L	100
16) Acetonitrile	6.338	41	733914	456.69	ug/L	98
17) Methyl acetate	6.723	43	386163	40.70	ug/L	97
18) Allyl chloride	6.789	76	166251	50.25	ug/L	100
19) Methylene chloride	6.987	49	563131	49.84	ug/l	97
20) Carbon disulfide	7.042	76	933308	57.02	ug/L	100
21) Acrylonitrile	7.207	53	918962	210.77	ug/l	100
22) tert-Butyl methyl ethe...	7.306	73	787925	44.36	ug/L	99
23) trans-1,2-Dichloroethene	7.559	96	295734	51.31	ug/l	96
24) Isopropyl ether (DIPE)	8.131	45	1172917	45.83	ug/l	99
25) Vinyl acetate	8.307	43	577442	35.01	ug/l	98
26) 1,1-Dichloroethane	8.318	63	695368	55.13	ug/l	100
27) 2-Butanol	8.748	45	261222	224.55	ug/L	98
28) tert-Butyl ethyl ether...	8.880	59	1015174	44.60	ug/l	99
29) 2-Butanone	9.067	43	1234680	214.62	ug/l	98
30) Propionitrile	9.177	54	794450	464.82	ug/L	98
31) 2,2-Dichloropropane	9.342	77	423027	54.83	ug/L	100
32) cis-1,2-Dichloroethene	9.419	96	345892	52.58	ug/L	98
33) Methacrylonitrile	9.540	52	894220	465.55	ug/L	92
34) Isobutyl alcohol	9.617	43	592327	791.70	ug/L	75
35) Chloroform	9.694	83	651376	55.60	ug/l	97
36) Bromochloromethane	9.980	49	385945	49.48	ug/l	98
37) Tetrahydrofuran	10.090	42	149952	44.80	ug/L	99
39) 1,1,1-Trichloroethane	10.420	97	484448	54.32	ug/l	98
40) Cyclohexane	10.475	56	719659	51.31	ug/L	99
41) 1,1-Dichloropropene	10.696	110	141736	50.85	ug/L	96
42) tert-Amyl methyl ether...	10.905	87	172047	47.48	ug/l	96

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration

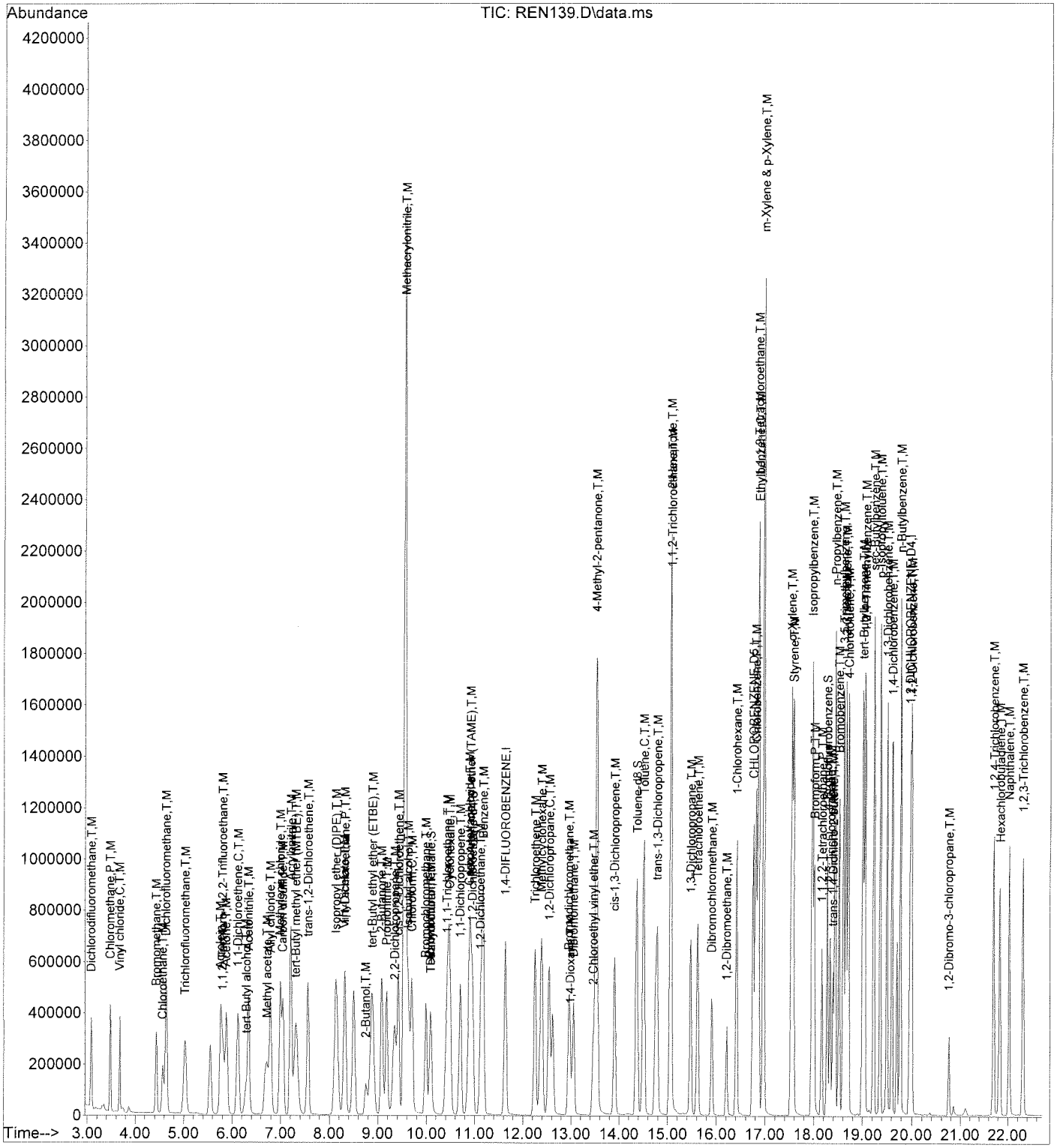
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
43) Carbon tetrachloride	10.883	119	401485	53.66	ug/L	99
45) 1,2-Dichloroethane	11.114	62	541145	47.35	ug/L	100
46) Benzene	11.169	78	1302303	55.51	ug/L	99
47) Trichloroethene	12.247	130	331853	55.30	ug/L	99
48) Methylcyclohexane	12.379	83	508679	52.37	ug/L	98
49) 1,2-Dichloropropane	12.544	63	398957	54.33	ug/L	95
50) 1,4-Dioxane	12.985	88	96471	907.50	ug/L	99
51) Bromodichloromethane	12.952	83	471209	54.84	ug/L	100
52) Dibromomethane	13.051	93	225553	48.92	ug/L	99
53) 2-Chloroethyl vinyl ether	13.458	63	217323	52.92	ug/L	98
54) 4-Methyl-2-pentanone	13.513	43	2630983	227.24	ug/L	99
55) cis-1,3-Dichloropropene	13.898	75	516993	53.26	ug/L	93
58) Toluene	14.503	91	1313307	54.69	ug/L	99
59) trans-1,3-Dichloropropene	14.778	75	481028	53.76	ug/l	84
60) 2-Hexanone	15.054	43	1882028	224.22	ug/l	96
61) 1,1,2-Trichloroethane	15.065	97	302715	51.88	ug/l	94
62) 1,3-Dichloropropane	15.472	76	536102	51.86	ug/l	99
63) Tetrachloroethene	15.615	164	237999	53.59	ug/l	99
64) Dibromochloromethane	15.901	129	321457	53.05	ug/l	100
65) 1,2-Dibromoethane	16.209	107	300449	48.74	ug/l	100
66) 1-Chlorohexane	16.407	91	401399	55.26	ug/l	98
67) Chlorobenzene	16.803	112	841525	54.89	ug/l	99
68) 1,1,1,2-Tetrachloroethane	16.847	131	297984	55.90	ug/l	99
69) Ethylbenzene	16.858	91	1509869	55.96	ug/l	99
70) m-Xylene & p-Xylene	16.958	91	2372774	112.15	ug/l	100
71) o-Xylene	17.530	91	1167539	53.67	ug/l	99
72) Styrene	17.574	104	947513	56.94	ug/l	98
73) Isopropylbenzene	17.959	105	1423154	60.00	ug/L	98
75) Bromoform	18.003	173	232820	56.88	ug/l	100
76) 1,1,2,2-Tetrachloroethane	18.157	83	395774	46.03	ug/l	100
78) 1,2,3-Trichloropropane	18.333	110	124726	49.04	ug/l	97
79) trans-1,4-Dichloro-2-b...	18.388	53	161826	45.22	ug/l	98
80) n-Propylbenzene	18.432	91	1796888	57.62	ug/l	99
81) Bromobenzene	18.509	156	352351	57.87	ug/l	99
82) 1,3,5-Trimethylbenzene	18.608	105	1159786	56.46	ug/l	99
83) 2-Chlorotoluene	18.652	126	336097	55.12	ug/l	97
84) 4-Chlorotoluene	18.707	126	345272	60.32	ug/l	98
85) tert-Butylbenzene	19.005	134	232031	56.24	ug/l	95
86) 1,2,4-Trimethylbenzene	19.049	105	1193960	56.11	ug/l	99
87) sec-Butylbenzene	19.225	105	1579400	59.68	ug/l	99
88) p-Isopropyltoluene	19.357	119	1218525	57.89	ug/l	99
89) 1,3-Dichlorobenzene	19.500	146	660054	58.55	ug/l	99
91) 1,4-Dichlorobenzene	19.610	146	659697	56.37	ug/l	98
92) n-Butylbenzene	19.775	91	1284441	59.38	ug/l	100
93) 1,2-Dichlorobenzene	19.995	146	633703	55.72	ug/l	98
94) 1,2-Dibromo-3-chloropr...	20.754	157	83054	52.80	ug/l	96
95) 1,2,4-Trichlorobenzene	21.701	180	415616	55.90	ug/l	98
96) Hexachlorobutadiene	21.833	225	228198	63.24	ug/l	99
97) Naphthalene	22.020	128	1022241	46.93	ug/l	100
98) 1,2,3-Trichlorobenzene	22.306	180	397462	52.96	ug/l	98

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

Quantitation Report (QT Reviewed)

Data Path : C:\msdchem\1\DATA\16E26\
Data File : REN139.D
Acq On : 26 May 2016 10:01 am
Operator : DNguye
Sample : CVOF4C0706
Misc : 50ppb 8260/250ppb KET-AA-TBA-2Butanol
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 01 14:31:55 2016
Quant Method : C:\MSDCHEM\1\METHODS\VOF4C07.M
Quant Title : METHOD 8260 5mL
QLast Update : Tue Mar 08 12:52:04 2016
Response via : Initial Calibration



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

SOP ☑ EMAX-8260 Rev.No. 10 ☐ EMAX-8260C Rev. No. 0 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

Start Date: 3/7/16 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: AF4-009

BATCH VOF4C07

	Sample Prep ID	Data File Name	Lab Sample ID	* Sample Amount (ML)	DF	Matrix W pH < 2	Matrix W Cl_2 < 5ppm	Matrix S	Notes
01		RCN001	BFBF4C01 ✓		1.0	NA	NA	NA	8260 TBA KetHAlAm 17:10
02		02	VOF4C071 ✓	.02					1 5 100
03		03	2 ✓	.04					2 10
04		04	3 ✓	.08					4 20
05		05	4 ✓	.2					10 50
06		06	5 ✓	.4					20 100
07		07	6 CGM 3/7/16 ✓	1					50 250
08		08	7 ✓	2					100 500
09		09	8 ✓	4					200 1000
10		10	9 ✓	6					300 1500
11		11	10 ✓	10					500 2500
12		12	Rinse						
13		13	↓						
14		14	VOF4C071 ✓ (**)						50 250
15		15	Rinse						8260 TBA KetHAlAm
16		16	LOQ Verf. ✓						5 25 10 18:06
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									CGM 3/7/16

Instrument No.	F4
INITIAL CALIBRATION REFERENCE	
DATE	3/7/16
ICAL ID	VOF4C07

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SVI-26-39-02	*	
DCC	33-01	*	
DCC	35-02	*	
DCC	39-03	*	
DCC	41-03	*	50
BFB	29-01	1	25
IS/SURR.	06-03 CGM 3/7/16	* 5	100
IS/SURR.	38-03	*	
ICV/LCS	20-02	1	
ICV/LCS	27-02	1	
ICV/LCS	31-03	5	
ICV/LCS	22-01	5	
ICV/LCS	28-01	5	
ICV/LCS	SVI-12-49-16	1.25	
Data File Folder	16 C07		

	LOT #	Syringe Lot #
pH strip		MSV-01-02-23
Chlorine strip		10-20
Methanol		10-23
$NaHSO_4$		21
Reagent Water	RWS-14-001	
Sand		

Electronic Data Archival Location	Date
HPCHEM_VOA/TOF4	3/14/16

Comments:

** Not valid for AA

SVI-25-03-04 0.25 µl 1000 ppm

03-05 0.25 µl ↓

☐ Refer to sample weight log

Analyzed By: CGM

Date Disposed: 3/8/16 Disposed By: CGM

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR VOLATILES

☑ EMAX-8260, Rev.No. 10 ☐ EMAX-8260C Rev. No. 0 ☐ EMAX-8260SIM Rev.No. 1 ☐ EMAX-M8260SIM Rev.No. 0 ☐ EMAX-TCPSIM Rev.No. 2 ☐ EMAX-624 Rev.No. 4

t Date: 5/26/16 ☑ 5-mL Purge ☐ 10-mL Purge ☐ 25-mL Purge

Book #: AF4-009

Sample Prep ID	Data File Name	Lab Sample ID	Sample Amount	DF	Matrix W pH < 2	Matrix W Cl_2 < 5ppm	Matrix S	Notes
01	12EN138	BFB5F4E08						9:03
02	139	CLOF4L0706						
03	140	VSF4E08L	50mL					
04	141	C						
05	142	B		1.0				
06	143	TVE003SB	0.5mL	10	5	✓		
07	144	16E133-03	0.5mL	10	7	✓		
08	145	16E588-02	5.0mL	1.0	✓	✓		
09	146	-01			✓	✓		
10	147	RINSE						
11	148	16E767-01	0.5mL	10	6	✓		
12	149	VSF4E09L	5.0g	1.0			✓	
13	150	C					✓	
14	151	B					✓	
15	152	VSE003SB	*	*			✓	
16	153	16E230-01					✓	
17	154	-02					✓	
18	155	-03					✓	
19	156	-04					✓	6:33
20	157	RINSE						
21								
22								
23								
24								
25								
26								
27								
28								DM 5/27/16
29								
30								

Instrument No.	F4
INITIAL CALIBRATION REFERENCE	
DATE	3/7/16
ICAL ID	VOF4C07

STANDARDS

NAME	ID	Amount (µl)	Conc. (mg/L)
DCC	SV1-26-41-01	1	50/40
DCC	-59-02	5	
DCC	-61-03	5	
DCC	-55-01 -67-02	1 1	
BFB	-29-01	1	
IS/SURR.	-70-02	5	
ICV/LCS	-57-01	1	
ICV/LCS	-58-03 -28-02	5 5	
ICV/LCS	-56-03	1	
ICV/LCS	-31-03 -63-03	5 5	
Data File Folder	16E26		

	LOT #	Syringe Lot #
pH strip	HC574756	MSV-01-02-10-3
Chlorine strip	6021	-5
Methanol		MSV-01-02-25-15
$NaHSO_4$		-14
Reagent Water	RW3-16-001	MSV-01-01-10
Sand	SWB-002-69-15	MSV-01-02-18
Electronic Data Archival Location		Date
HPCHEM_VOA/TOF4		

Comments:

☑ Refer to sample weight log *

Analyzed By: DM

Date Disposed: 5/27/16 Disposed By: DM

EXTRACTION LOG(S)

FileID: TVE003S

EMAX LABORATORIES, INC.

VOLATILES TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vessel#	TCLPSolnVol	Pressure(psi) Before Agitation	Pressure(psi) After Agitation
16TVE003S01	TVE003SB	0	g	5/24/16 14:38	11	400	10	10
16TVE003S02	E133-03	20	g	5/24/16 14:39	12	400	10	9
16TVE003S03	E767-01	20	g	5/24/16 14:40	13	400	10	10

Calibration of pH Meter — InstrumentID: 96

BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/24/16 14:24
SW1-01-794	7	7	5/24/16 14:23
SW1A-005-12-24	CalVer 5	5.03	5/24/16 14:25
	4		
	7		
	CalVer 5		

TCLP Soln ID	Desc	pH	Expiration Date
SP1B-08-60-04	TCLP (VOA)	4.92	09/14/16

Rotary Agitator #	Criteria	rpm	DateTime
3	30 ± 2 rpm	30	5/24/16 14:26

Thermostat Setting (°F):	72.0	Thermometer ID:	122273417
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	22.7	5/24/16 20:02
Room Temp (°C) Low	23 ± 2 °C	21.6	5/25/16 8:24

Balance ID: 25451062. Calibration check was verified prior to use.

☑ Thermometer Reset on: 5/24/16 15:30

Filter Lot No. 104754-6014

☑ DateTimeStarted 5/24/2016 15:30 Comment:

☑ DateTimeEnded 5/25/2016 9:30

Extract Location: vw05 Prepared By: Dfelic

Received by: DM Checked By: ML

Date: 5/25/16 Date: 5/25/16

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SEMI VOLATILE ORGANICS

METHOD SW3520C/8270D
SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 15:14
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/23/16 17:47
Lab Samp ID:	E133-02	Dilution Factor:	5
Lab File ID:	REJ350	Matrix :	WATER
Ext Btch ID:	SVE025W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	50	12	25
2,4,6-TRICHLOROPHENOL	ND	50	12	25
2,4-DINITROTOLUENE	ND	50	12	25
2-METHYLPHENOL	ND	50	12	25
4-METHYLPHENOL (1)	ND	50	12	25
HEXACHLOROBENZENE	ND	50	12	25
HEXACHLOROBUTADIENE	ND	50	12	25
HEXACHLOROETHANE	ND	50	12	25
NITROBENZENE	ND	50	12	25
PENTACHLOROPHENOL	ND	100	12	25
PYRIDINE	ND	200	57	100

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	142	150.0	94.7	40-125
2-FLUOROBIPHENYL	30.2	50.00	60.4	50-110
2-FLUOROPHENOL	73.3	150.0	48.9	20-110
NITROBENZENE-D5	30.3	50.00	60.6	40-110
PHENOL-D5	98.5	150.0	65.7	10-115
TERPHENYL-D14	22.3	50.00	44.6*	50-135

(1): 4-Methylphenol cannot be separated from 3-Methylphenol

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ350.D
Acq On : 23 May 2016 17:47
Sample : 16E133-02 2X
Misc :
Integrator: RTE
Quant Time: May 24 08:37:28 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 30
Operator: KVu
Inst : E4
Multiplr: 1.00

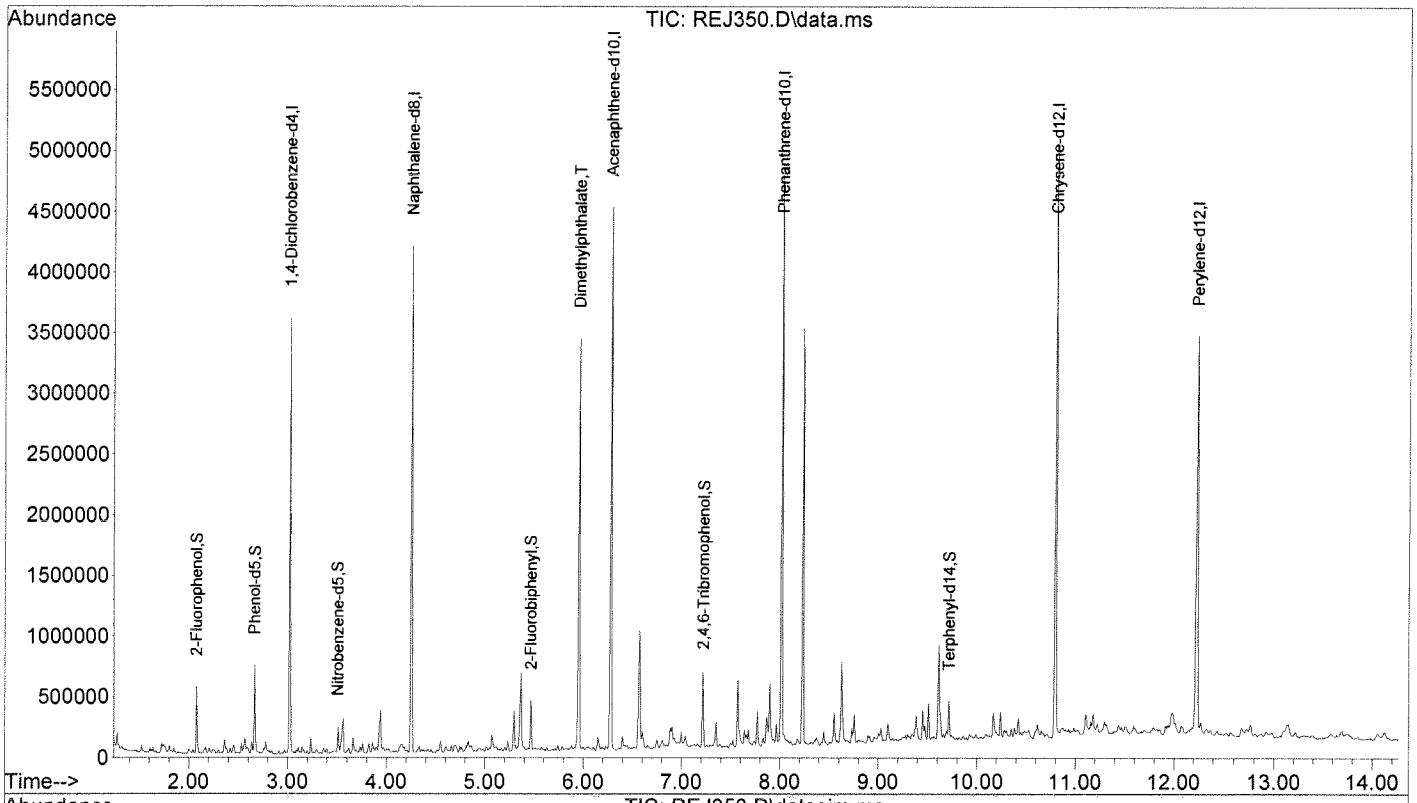
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.020	152	433855	40.00 ppm	0.00
21) Naphthalene-d8	4.253	136	1515397	40.00 ppm	0.00
41) Acenaphthene-d10	6.279	164	955460	40.00 ppm	0.00
71) Phenanthrene-d10	8.014	188	1736430	40.00 ppm	0.00
87) Chrysene-d12	10.797	240	1817510	40.00 ppm	0.00
97) Perylene-d12	12.228	264	1498877	40.00 ppm	0.01
System Monitoring Compounds					
5) 2-Fluorophenol	2.075	112	104512	7.33 ppm	0.00
Spiked Amount 30.000			Recovery	= 24.43%	
6) Phenol-d5	2.665	99	173344	9.85 ppm	0.00
Spiked Amount 30.000			Recovery	= 32.83%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
22) Nitrobenzene-d5	3.509	82	51883	3.03 ppm	0.00
Spiked Amount 10.000			Recovery	= 30.30%	
46) 2-Fluorobiphenyl	5.466	172	115114	3.02 ppm	0.00
Spiked Amount 10.000			Recovery	= 30.20%	
75) 2,4,6-Tribromophenol	7.220	330	59275	14.20 ppm	0.00
Spiked Amount 30.000			Recovery	= 47.33%	
90) Terphenyl-d14	9.716	244	86882	2.23 ppm	0.00
Spiked Amount 10.000			Recovery	= 22.30%	
Target Compounds					Qvalue
53) Dimethylphthalate	5.956	163	1375916	39.11 ppm	100

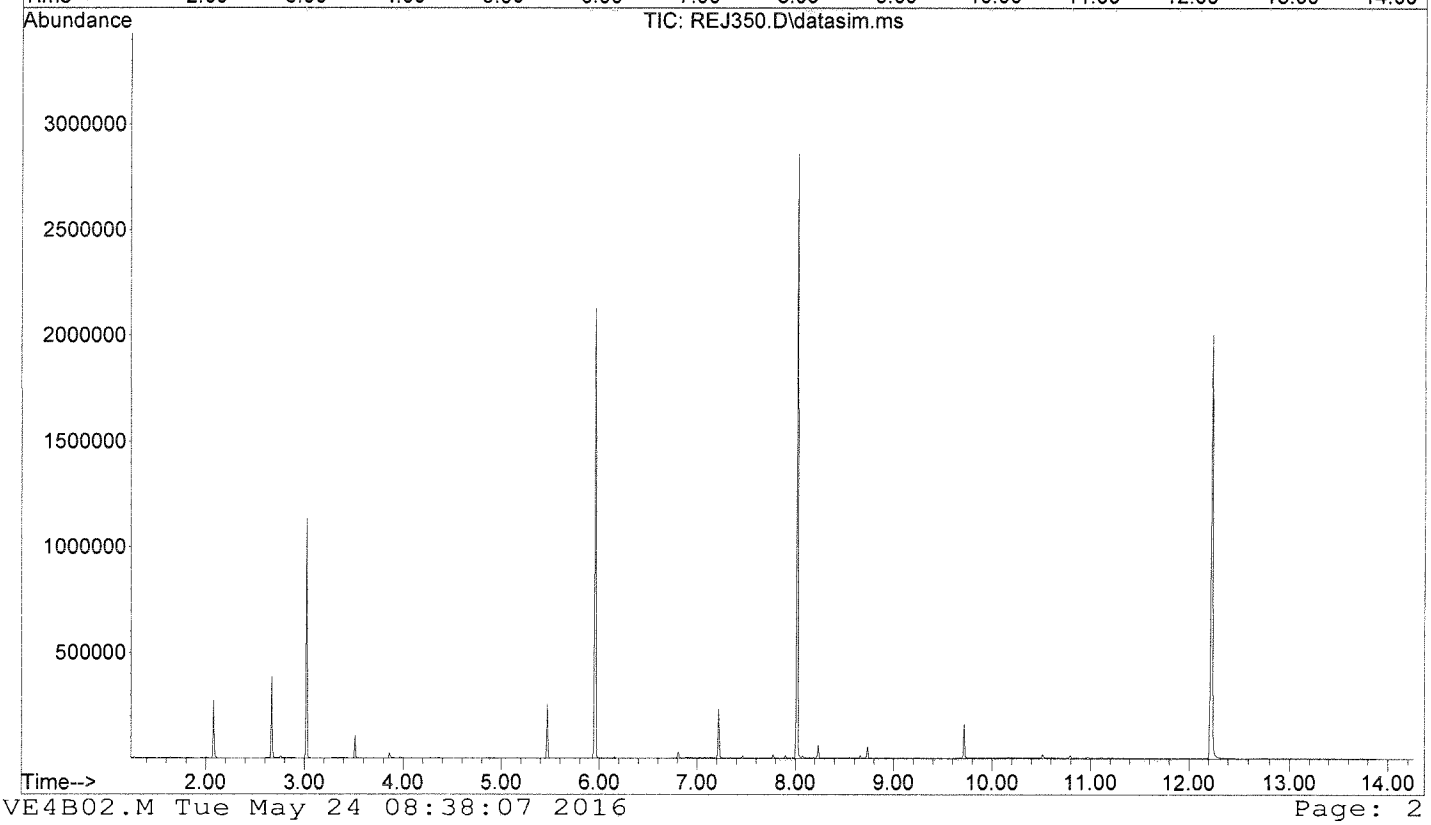
(#) = qualifier out of range (m) = manual integration (+) = signals summed

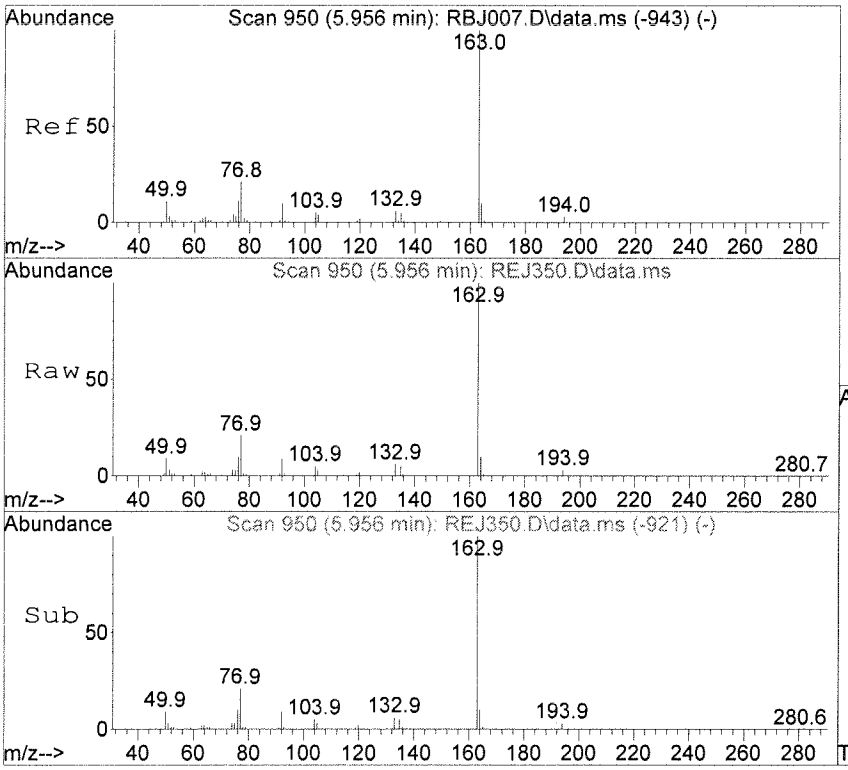
Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ350.D
Acq On : 23 May 2016 17:47
Sample : 16E133-02 2X
Misc :
Integrator: RTE
Quant Time: May 24 08:37:28 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 30
Operator: KVu
Inst : E4
Multiplr: 1.00



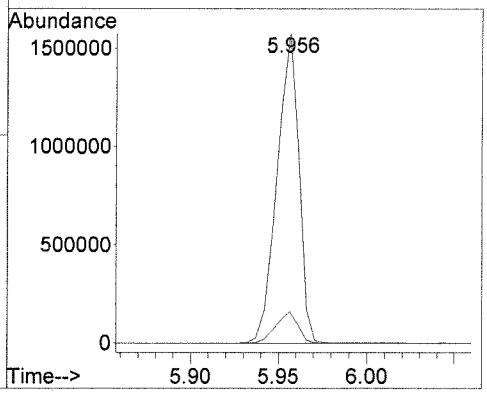




#53
Dimethylphthalate
Concen: 39.11 ppm
RT: 5.956 min Scan# 950
Delta R.T. 0.000 min
Lab File: REJ350.D
Acq: 23 May 2016 17:47

Tgt Ion:163 Resp: 1375916

Ion	Ratio	Lower	Upper
163	100		
164	10.2	0.0	40.1



QC SUMMARIES

METHOD SW3520C/8270D
SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/18/16
Batch No.	: 16E133	Date Extracted:	05/18/16 15:14
Sample ID:	MBLK1W	Date Analyzed:	05/23/16 11:17
Lab Samp ID:	SVE025WB	Dilution Factor:	1
Lab File ID:	REJ330	Matrix :	WATER
Ext Btch ID:	SVE025W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4,6-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4-DINITROTOLUENE	ND	10	2.5	5.0
2-METHYLPHENOL	ND	10	2.5	5.0
4-METHYLPHENOL (1)	ND	10	2.5	5.0
HEXACHLOROBENZENE	ND	10	2.5	5.0
HEXACHLOROBUTADIENE	ND	10	2.5	5.0
HEXACHLOROETHANE	ND	10	2.5	5.0
NITROBENZENE	ND	10	2.5	5.0
PENTACHLOROPHENOL	ND	20	2.5	5.0
PYRIDINE	ND	40	11	20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	51.5	60.00	85.9	40-125
2-FLUOROBIPHENYL	14.9	20.00	74.4	50-110
2-FLUOROPHENOL	38.9	60.00	64.8	20-110
NITROBENZENE-D5	15.8	20.00	78.9	40-110
PHENOL-D5	45.2	60.00	75.3	10-115
TERPHENYL-D14	16.7	20.00	83.5	50-135

(1): 4-Methylphenol cannot be separated from 3-Methylphenol

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3520C/8270D

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVE025WB	SVE025WL	SVE025WC		
LAB FILE ID:	REJ330	REJ328	REJ329		
DATE EXTRACTED:	05/18/1615:14	05/18/1615:14	05/18/1615:14	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1611:17	05/23/1610:39	05/23/1610:58	DATE RECEIVED:	05/18/16
PREP. BATCH:	SVE025W	SVE025W	SVE025W		
CALIB. REF:	RBJ007	RBJ007	RBJ007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4,5-Trichlorophenol	ND	40.0	27.8	70	40.0	30.5	76	9	50-110	30
2,4,6-Trichlorophenol	ND	40.0	26.4	66	40.0	28.9	72	9	50-115	30
2,4-Dinitrotoluene	ND	40.0	34.0	85	40.0	36.8	92	8	50-120	30
2-Methylphenol	ND	40.0	23.1	58	40.0	23.4	58	1	40-110	30
4-Methylphenol	ND	40.0	23.4	58	40.0	24.3	61	4	30-110	30
Hexachlorobenzene	ND	40.0	30.3	76	40.0	33.3	83	9	50-110	30
Hexachlorobutadiene	ND	40.0	24.2	61	40.0	24.2	61	0	25-105	30
Hexachloroethane	ND	40.0	23.4	59	40.0	22.2	56	5	30-100	30
Nitrobenzene	ND	40.0	24.4	61	40.0	24.6	62	1	45-110	30
Pentachlorophenol	ND	40.0	33.2	83	40.0	37.0	93	11	40-115	30
Pyridine	ND	80.0	40.7	51	80.0	39.2J	49	4	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	60.0	46.5	77	60.0	48.6	81	40-125
2-Fluorobiphenyl	20.0	10.7	53	20.0	11.3	57	50-110
2-Fluorophenol	60.0	28.5	48	60.0	27.0	45	20-110
Nitrobenzene-d5	20.0	11.3	57	20.0	11.4	57	40-110
Phenol-d5	60.0	32.8	55	60.0	32.7	54	10-115
Terphenyl-d14	20.0	14.6	73	20.0	15.4	77	50-135

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ330.D
Acq On : 23 May 2016 11:17
Sample : SVE025WB
Misc :
Integrator: RTE
Quant Time: May 23 11:55:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.020	152	465147	40.00	ppm	0.00
21) Naphthalene-d8	4.253	136	1624263	40.00	ppm	0.00
41) Acenaphthene-d10	6.278	164	1032254	40.00	ppm	0.00
71) Phenanthrene-d10	8.014	188	1964228	40.00	ppm	0.00
87) Chrysene-d12	10.796	240	2074380	40.00	ppm	0.00
97) Perylene-d12	12.232	264	1757068	40.00	ppm	0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	297200	19.45	ppm	0.00
Spiked Amount 30.000			Recovery = 64.83%			
6) Phenol-d5	2.664	99	426009	22.58	ppm	0.00
Spiked Amount 30.000			Recovery = 75.27%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	144654	7.89	ppm	0.00
Spiked Amount 10.000			Recovery = 78.90%			
46) 2-Fluorobiphenyl	5.471	172	306785	7.44	ppm	0.00
Spiked Amount 10.000			Recovery = 74.40%			
75) 2,4,6-Tribromophenol	7.215	330	121658	25.77	ppm	0.00
Spiked Amount 30.000			Recovery = 85.90%			
90) Terphenyl-d14	9.716	244	370706	8.35	ppm	0.00
Spiked Amount 10.000			Recovery = 83.50%			

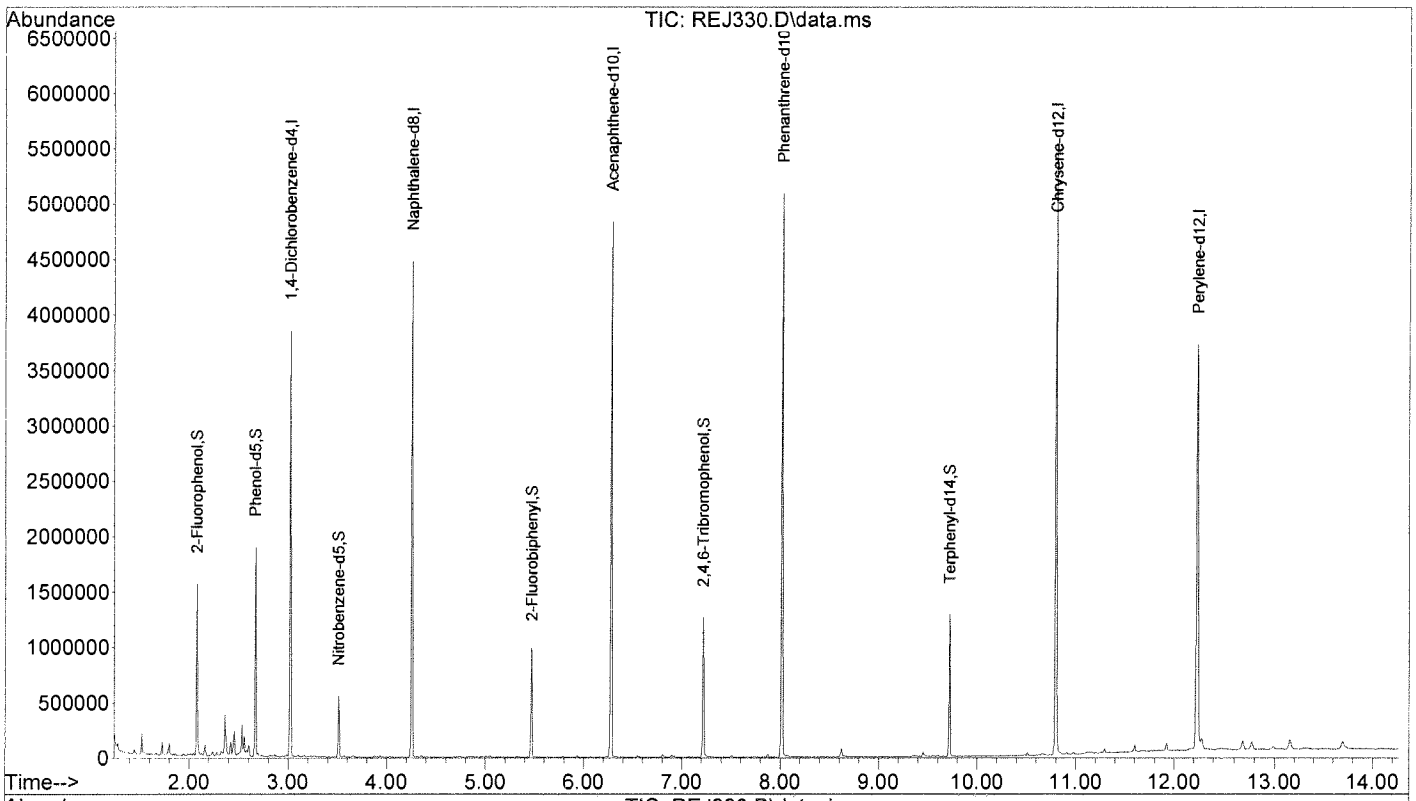
Target Compounds Qvalue

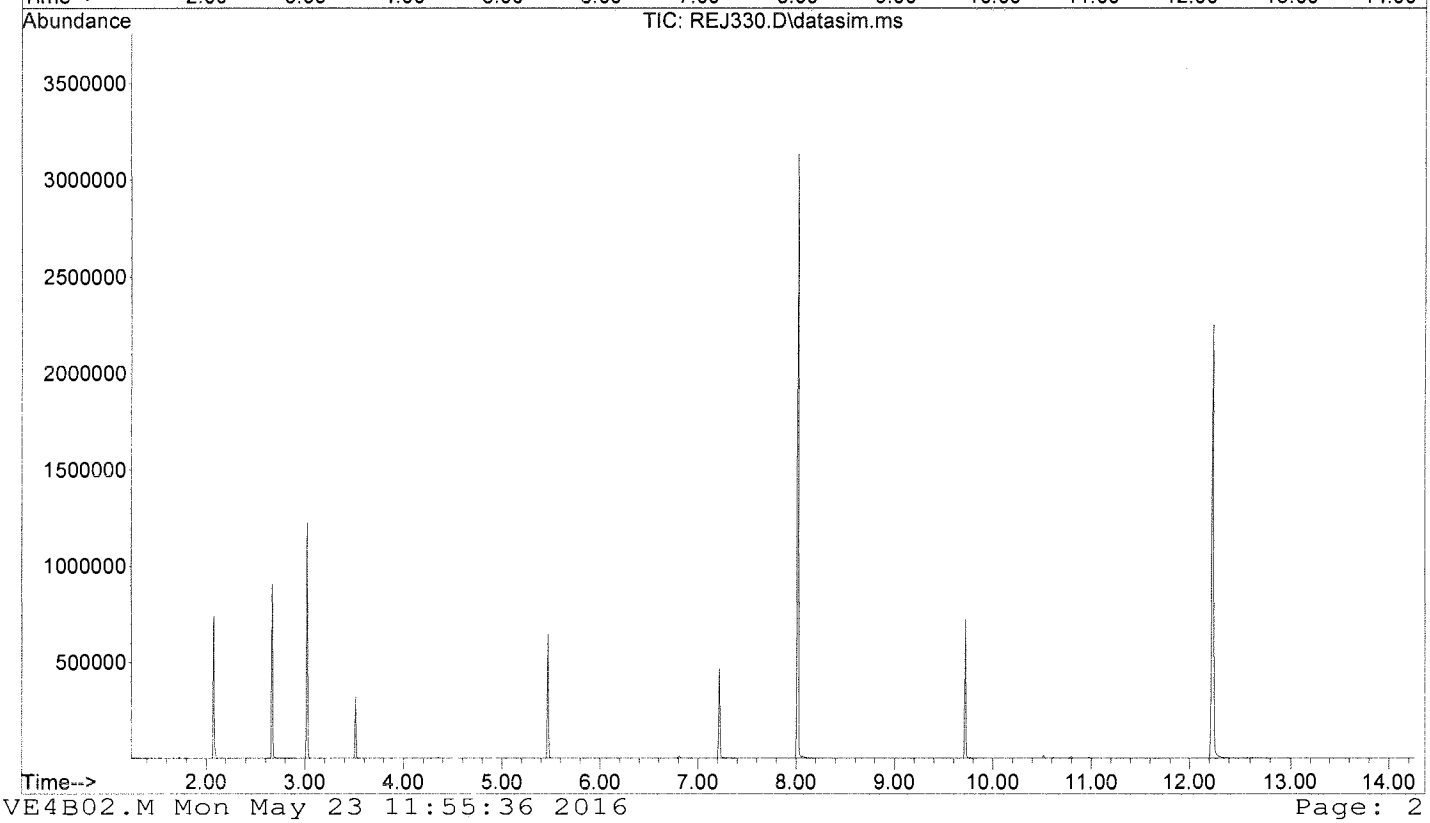
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ330.D
Acq On : 23 May 2016 11:17
Sample : SVE025WB
Misc :
Integrator: RTE
Quant Time: May 23 11:55:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ328.D
Acq On : 23 May 2016 10:39
Sample : SVE025WL
Misc :
Integrator: RTE
Quant Time: May 23 11:24:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.020	152	461555	40.00	ppm	0.00
21) Naphthalene-d8	4.253	136	1642077	40.00	ppm	0.00
41) Acenaphthene-d10	6.279	164	1031101	40.00	ppm	0.00
71) Phenanthrene-d10	8.018	188	1940388	40.00	ppm	0.00
87) Chrysene-d12	10.801	240	2014866	40.00	ppm	0.01
97) Perylene-d12	12.233	264	1728112	40.00	ppm	0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	216333	14.27	ppm	0.00
Spiked Amount 30.000			Recovery = 47.57%			
6) Phenol-d5	2.664	99	307100	16.40	ppm	0.00
Spiked Amount 30.000			Recovery = 54.67%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.514	82	104696	5.65	ppm	0.00
Spiked Amount 10.000			Recovery = 56.50%			
46) 2-Fluorobiphenyl	5.471	172	219846	5.34	ppm	0.00
Spiked Amount 10.000			Recovery = 53.40%			
75) 2,4,6-Tribromophenol	7.219	330	108405	23.25	ppm	0.00
Spiked Amount 30.000			Recovery = 77.50%			
90) Terphenyl-d14	9.716	244	314380	7.29	ppm	0.00
Spiked Amount 10.000			Recovery = 72.90%			
Target Compounds						Qvalue
3) N-nitrosodimethylamine	1.477	74	113891	11.61	ppm	93
4) Pyridine	1.505	79	358749	20.33	ppm	96
7) Phenol	2.675	94	216746	11.17	ppm	98
8) Aniline	2.748	93	269872	10.93	ppm	98
9) bis(2-chloroethyl)ether	2.774	93	175367	11.92	ppm	97
10) 2-Chlorophenol	2.842	128	193131	11.80	ppm	82
11) 1,3-Dichlorobenzene	2.977	146	230454	12.07	ppm	99
13) 1,4-Dichlorobenzene	3.034	146	235438	12.15	ppm	99
14) Benzyl alcohol	3.111	108	126930	12.06	ppm	96
15) 1,2-Dichlorobenzene	3.169	146	220431	11.91	ppm	99
16) 2-Methylphenol	3.188	107	152725	11.53	ppm	100
17) bis(2-chloroisopropyl)...	3.231	45	337301	11.01	ppm	99
18) 4-Methylphenol	3.327	107	205158	11.69	ppm	99
19) N-Nitroso-di-n-propyla...	3.351	70	137676	11.21	ppm	99
20) Hexachloroethane	3.480	117	86696	11.71	ppm	90
23) Nitrobenzene	3.533	77	227300	12.22	ppm	98
24) Isophorone	3.758	82	413514	11.60	ppm	98
25) 2-Nitrophenol	3.844	139	99126	13.20	ppm	94
26) 2,4-Dimethylphenol	3.859	107	198489	11.51	ppm	98
27) Benzoic acid	3.950	105	329656	30.86	ppm	97
28) bis(2-Chloroethoxy)met...	3.969	93	225009	12.07	ppm	98
29) 3,5-Dimethylphenol	3.998	107	235788	12.68	ppm	95
30) 2,4-Dichlorophenol	4.084	162	172844	11.83	ppm	99
31) 3,4-Dimethylphenol	4.176	107	256498	12.64	ppm	99
32) 1,2,4-Trichlorobenzene	4.186	180	206381	12.37	ppm	96
33) Naphthalene	4.277	128	557606	12.19	ppm	100
34) 4-Chloroaniline	4.321	127	224603	11.53	ppm	100
35) 2,6-Dichlorophenol	4.330	162	172974	12.51	ppm	98
36) Hexachlorobutadiene	4.398	225	135002	12.11	ppm	99
38) 4-Chloro-3-methylphenol	4.846	107	184963	13.34	ppm	100

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ328.D
Acq On : 23 May 2016 10:39
Sample : SVE025WL
Misc :
Integrator: RTE
Quant Time: May 23 11:24:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

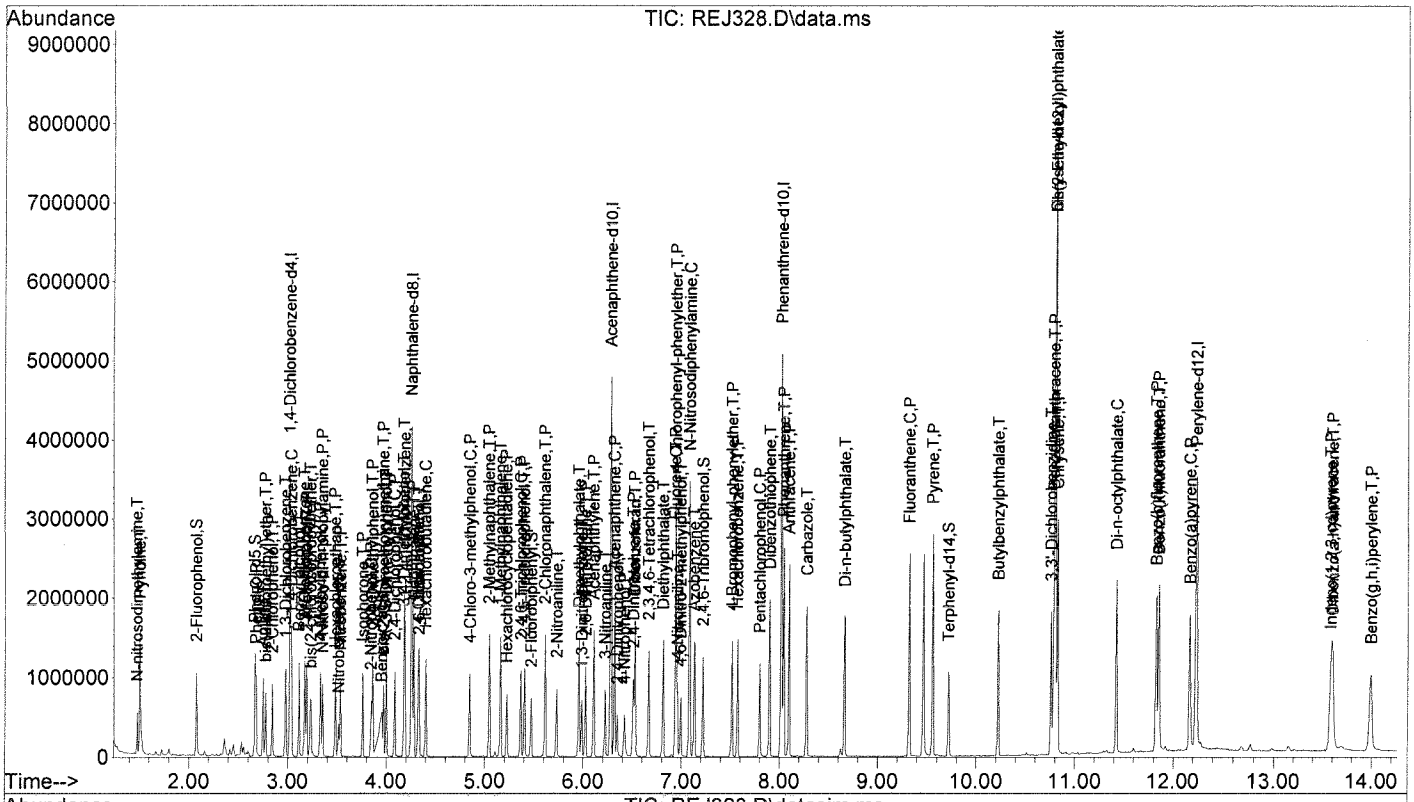
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39)	2-Methylnaphthalene	5.043	142	373599	11.60	ppm	99
40)	1-Methylnaphthalene	5.158	142	354668	12.58	ppm	99
42)	Hexachlorocyclopentadiene	5.220	237	116822	9.02	ppm	99
44)	2,4,6-Trichlorophenol	5.364	196	154729	13.20	ppm	98
45)	2,4,5-Trichlorophenol	5.398	196	171566	13.91	ppm	98
49)	2-Chloronaphthalene	5.610	162	459777	13.31	ppm	95
50)	2-Nitroaniline	5.730	65	144850	14.87	ppm	98
53)	Dimethylphthalate	5.956	163	559480	14.74	ppm	98
54)	1,3-Dinitrobenzene	5.985	168	77025	15.21	ppm	78
55)	2,6-Dinitrotoluene	6.024	165	129023	16.62	ppm	93
57)	Acenaphthylene	6.106	152	732241	13.39	ppm	99
58)	3-Nitroaniline	6.221	138	126722	15.61	ppm	97
59)	Acenaphthene	6.317	153	440909	12.88	ppm	100
60)	2,4-Dinitrophenol	6.346	184	59103	18.11	ppm	98
61)	4-Nitrophenol	6.418	109	80866	15.21	ppm	93
62)	2,4-Dinitrotoluene	6.509	165	171486	16.99	ppm	92
63)	Dibenzofuran	6.523	168	629978	12.96	ppm	100
65)	2,3,4,6-Tetrachlorophenol	6.667	232	174984	15.79	ppm	90
67)	Diethylphthalate	6.814	149	563435	14.65	ppm	96
68)	Fluorene	6.936	166	523305	13.82	ppm	96
69)	4-Chlorophenyl-phenyle...	6.940	204	277083	14.37	ppm	97
70)	4-Nitroaniline	6.959	138	139702	16.73	ppm	100
72)	4,6-Dinitro-2-methylph...	6.992	198	108101	18.55	ppm	96
73)	N-Nitrosodiphenylamine	7.082	169	474974	14.33	ppm	97
74)	Azobenzene	7.129	77	536472	13.79	ppm	100
76)	4-Bromophenyl-phenylether	7.514	248	195683	16.80	ppm	100
77)	Hexachlorobenzene	7.570	284	179786	15.17	ppm	97
78)	Pentachlorophenol	7.797	266	112553	16.61	ppm	100
79)	Dibenzothiophene	7.901	184	883837	14.77	ppm	99
80)	Phenanthrene	8.042	178	864547	14.20	ppm	100
82)	Anthracene	8.098	178	893376	14.57	ppm	99
83)	Carbazole	8.277	167	754667	14.48	ppm	100
84)	Di-n-butylphthalate	8.664	149	902800	14.29	ppm	99
86)	Fluoranthene	9.321	202	1039384	15.15	ppm	98
89)	Pyrene	9.557	202	1101615	15.99	ppm	100
91)	Butylbenzylphthalate	10.223	149	408599	17.49	ppm	99
93)	3,3'-Dichlorobenzidine	10.758	252	349297	16.83	ppm	99
94)	Benzo(a)anthracene	10.787	228	970650	15.59	ppm	92
95)	Chrysene	10.826	228	936608	16.28	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.801	149	573253	15.89	ppm	98
98)	Di-n-octylphthalate	11.422	149	1021184	17.40	ppm	99
99)	Benzo(b)fluoranthene	11.826	252	867815	15.66	ppm	99
100)	Benzo(k)fluoranthene	11.850	252	929905	16.65	ppm	95
102)	Benzo(a)pyrene	12.169	252	840574	15.98	ppm	97
104)	Indeno(1,2,3-cd)pyrene	13.583	276	877190	15.05	ppm	99
105)	Dibenzo(a,h)anthracene	13.602	278	755170	15.56	ppm	97
106)	Benzo(g,h,i)perylene	13.995	276	773066	15.44	ppm	98

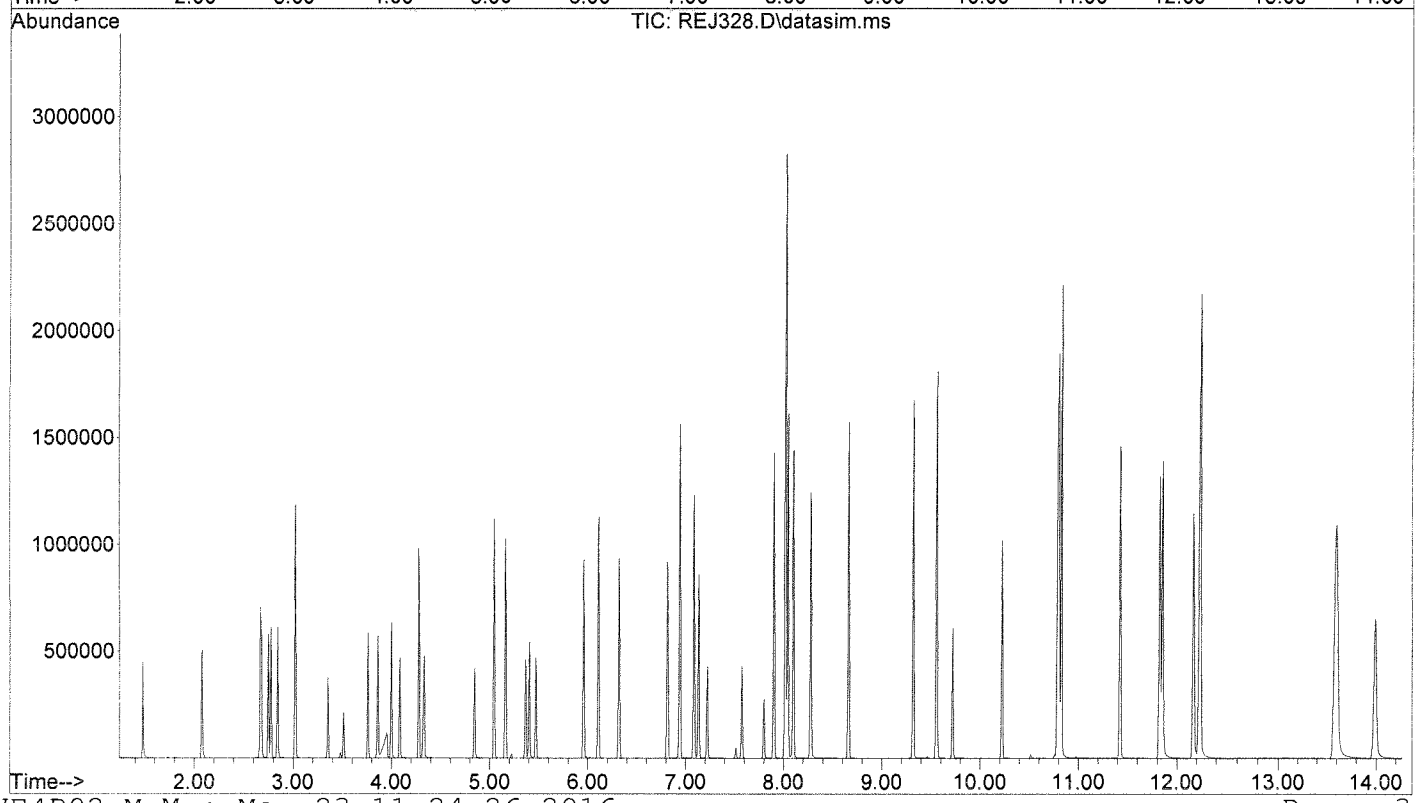
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ328.D
Acq On : 23 May 2016 10:39
Sample : SVE025WL
Misc :
Integrator: RTE
Quant Time: May 23 11:24:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ329.D
Acq On : 23 May 2016 10:58
Sample : SVE025WC
Misc :
Integrator: RTE
Quant Time: May 23 11:25:27 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.020	152	471551	40.00	ppm	0.00
21) Naphthalene-d8	4.253	136	1669087	40.00	ppm	0.00
41) Acenaphthene-d10	6.279	164	1050678	40.00	ppm	0.00
71) Phenanthrene-d10	8.019	188	1954913	40.00	ppm	0.00
87) Chrysene-d12	10.802	240	2034807	40.00	ppm	0.01
97) Perylene-d12	12.238	264	1764822	40.00	ppm	0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	208767	13.48	ppm	0.00
Spiked Amount 30.000			Recovery = 44.93%			
6) Phenol-d5	2.665	99	312637	16.34	ppm	0.00
Spiked Amount 30.000			Recovery = 54.47%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.514	82	107197	5.69	ppm	0.00
Spiked Amount 10.000			Recovery = 56.90%			
46) 2-Fluorobiphenyl	5.466	172	237971	5.67	ppm	0.00
Spiked Amount 10.000			Recovery = 56.70%			
75) 2,4,6-Tribromophenol	7.220	330	114071	24.28	ppm	0.00
Spiked Amount 30.000			Recovery = 80.93%			
90) Terphenyl-d14	9.716	244	335156	7.69	ppm	0.00
Spiked Amount 10.000			Recovery = 76.90%			
Target Compounds						Qvalue
3) N-nitrosodimethylamine	1.477	74	113487	11.32	ppm	95
4) Pyridine	1.505	79	353044	19.58	ppm	97
7) Phenol	2.675	94	220015	11.10	ppm	99
8) Aniline	2.748	93	278397	11.04	ppm	97
9) bis(2-chloroethyl)ether	2.774	93	171460	11.41	ppm	99
10) 2-Chlorophenol	2.842	128	175848	10.51	ppm	89
11) 1,3-Dichlorobenzene	2.977	146	225483	11.56	ppm	99
13) 1,4-Dichlorobenzene	3.034	146	232634	11.75	ppm	99
14) Benzyl alcohol	3.111	108	136050	12.65	ppm	99
15) 1,2-Dichlorobenzene	3.169	146	224574	11.88	ppm	99
16) 2-Methylphenol	3.188	107	158244	11.70	ppm	99
17) bis(2-chloroisopropyl)...	3.226	45	339699	10.85	ppm	99
18) 4-Methylphenol	3.327	107	217622	12.14	ppm	100
19) N-Nitroso-di-n-propyla...	3.351	70	147492	11.76	ppm	99
20) Hexachloroethane	3.480	117	84152	11.12	ppm	85
23) Nitrobenzene	3.533	77	232775	12.31	ppm	100
24) Isophorone	3.758	82	491831	13.57	ppm	99
25) 2-Nitrophenol	3.845	139	103254	13.53	ppm	95
26) 2,4-Dimethylphenol	3.859	107	216368	12.35	ppm	99
27) Benzoic acid	3.960	105	363675	33.33	ppm	96
28) bis(2-Chloroethoxy)met...	3.969	93	244951	12.93	ppm	99
29) 3,5-Dimethylphenol	3.998	107	262773	13.90	ppm	100
30) 2,4-Dichlorophenol	4.084	162	186158	12.54	ppm	96
31) 3,4-Dimethylphenol	4.181	107	290719	14.09	ppm	99
32) 1,2,4-Trichlorobenzene	4.186	180	214522	12.65	ppm	96
33) Naphthalene	4.277	128	571345	12.29	ppm	100
34) 4-Chloroaniline	4.321	127	248324	12.54	ppm	99
35) 2,6-Dichlorophenol	4.331	162	188301	13.40	ppm	99
36) Hexachlorobutadiene	4.398	225	137070	12.10	ppm	100
38) 4-Chloro-3-methylphenol	4.847	107	208661	14.81	ppm	99

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ329.D
Acq On : 23 May 2016 10:58
Sample : SVE025WC
Misc :
Integrator: RTE
Quant Time: May 23 11:25:27 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

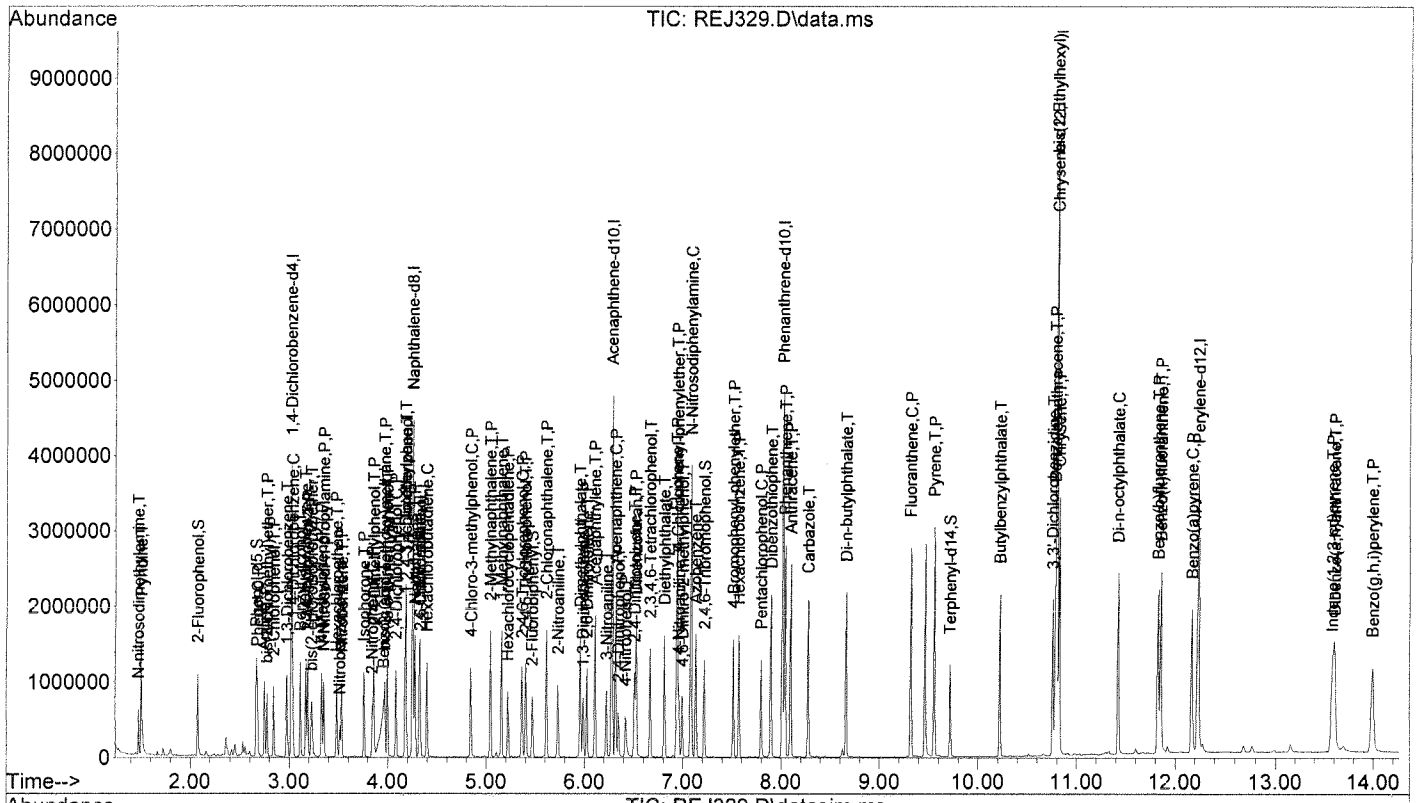
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39)	2-Methylnaphthalene	5.043	142	406055	12.41	ppm	99
40)	1-Methylnaphthalene	5.158	142	379306	13.24	ppm	100
42)	Hexachlorocyclopentadiene	5.220	237	127836	9.69	ppm	99
44)	2,4,6-Trichlorophenol	5.365	196	172600	14.44	ppm	100
45)	2,4,5-Trichlorophenol	5.398	196	191972	15.27	ppm	97
49)	2-Chloronaphthalene	5.610	162	517801	14.71	ppm	98
50)	2-Nitroaniline	5.730	65	158224	15.94	ppm	96
53)	Dimethylphthalate	5.956	163	606930	15.69	ppm	100
54)	1,3-Dinitrobenzene	5.985	168	84066	16.29	ppm	80
55)	2,6-Dinitrotoluene	6.024	165	136876	17.30	ppm	92
57)	Acenaphthylene	6.106	152	838821	15.05	ppm	98
58)	3-Nitroaniline	6.226	138	134922	16.31	ppm	97
59)	Acenaphthene	6.317	153	495639	14.21	ppm	100
60)	2,4-Dinitrophenol	6.346	184	71373	20.96	ppm	93
61)	4-Nitrophenol	6.418	109	91708	16.93	ppm	94
62)	2,4-Dinitrotoluene	6.509	165	189245	18.40	ppm	92
63)	Dibenzofuran	6.523	168	694849	14.03	ppm	100
65)	2,3,4,6-Tetrachlorophenol	6.667	232	172079	15.24	ppm	100
67)	Diethylphthalate	6.814	149	659476	16.82	ppm	99
68)	Fluorene	6.936	166	572869	14.85	ppm	98
69)	4-Chlorophenyl-phenyle...	6.945	204	300894	15.31	ppm	98
70)	4-Nitroaniline	6.959	138	157993	18.56	ppm	98
72)	4,6-Dinitro-2-methylph...	6.997	198	119272	20.10	ppm	99
73)	N-Nitrosodiphenylamine	7.082	169	509493	15.25	ppm	96
74)	Azobenzene	7.129	77	575838	14.69	ppm	99
76)	4-Bromophenyl-phenylether	7.514	248	215243	18.34	ppm	97
77)	Hexachlorobenzene	7.570	284	198778	16.64	ppm	95
78)	Pentachlorophenol	7.797	266	126492	18.52	ppm	100
79)	Dibenzothiophene	7.901	184	953337	15.81	ppm	96
80)	Phenanthrene	8.042	178	950605	15.50	ppm	100
82)	Anthracene	8.099	178	962511	15.58	ppm	100
83)	Carbazole	8.277	167	831878	15.85	ppm	100
84)	Di-n-butylphthalate	8.659	149	1014974	15.95	ppm	99
86)	Fluoranthene	9.316	202	1141339	16.51	ppm	98
89)	Pyrene	9.557	202	1192631	17.14	ppm	100
91)	Butylbenzylphthalate	10.223	149	452871	19.20	ppm	99
93)	3,3'-Dichlorobenzidine	10.758	252	389995	18.61	ppm	99
94)	Benzo(a)anthracene	10.787	228	1066093	16.96	ppm	93
95)	Chrysene	10.826	228	1056060	18.17	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.797	149	630662	17.32	ppm	98
98)	Di-n-octylphthalate	11.423	149	1141211	19.04	ppm	99
99)	Benzo(b)fluoranthene	11.826	252	1018316	17.99	ppm	98
100)	Benzo(k)fluoranthene	11.855	252	970226	17.01	ppm	97
102)	Benzo(a)pyrene	12.170	252	938254	17.46	ppm	96
104)	Indeno(1,2,3-cd)pyrene	13.583	276	986946	16.59	ppm	99
105)	Dibenzo(a,h)anthracene	13.608	278	849345	17.13	ppm	95
106)	Benzo(g,h,i)perylene	13.996	276	873076	17.07	ppm	98

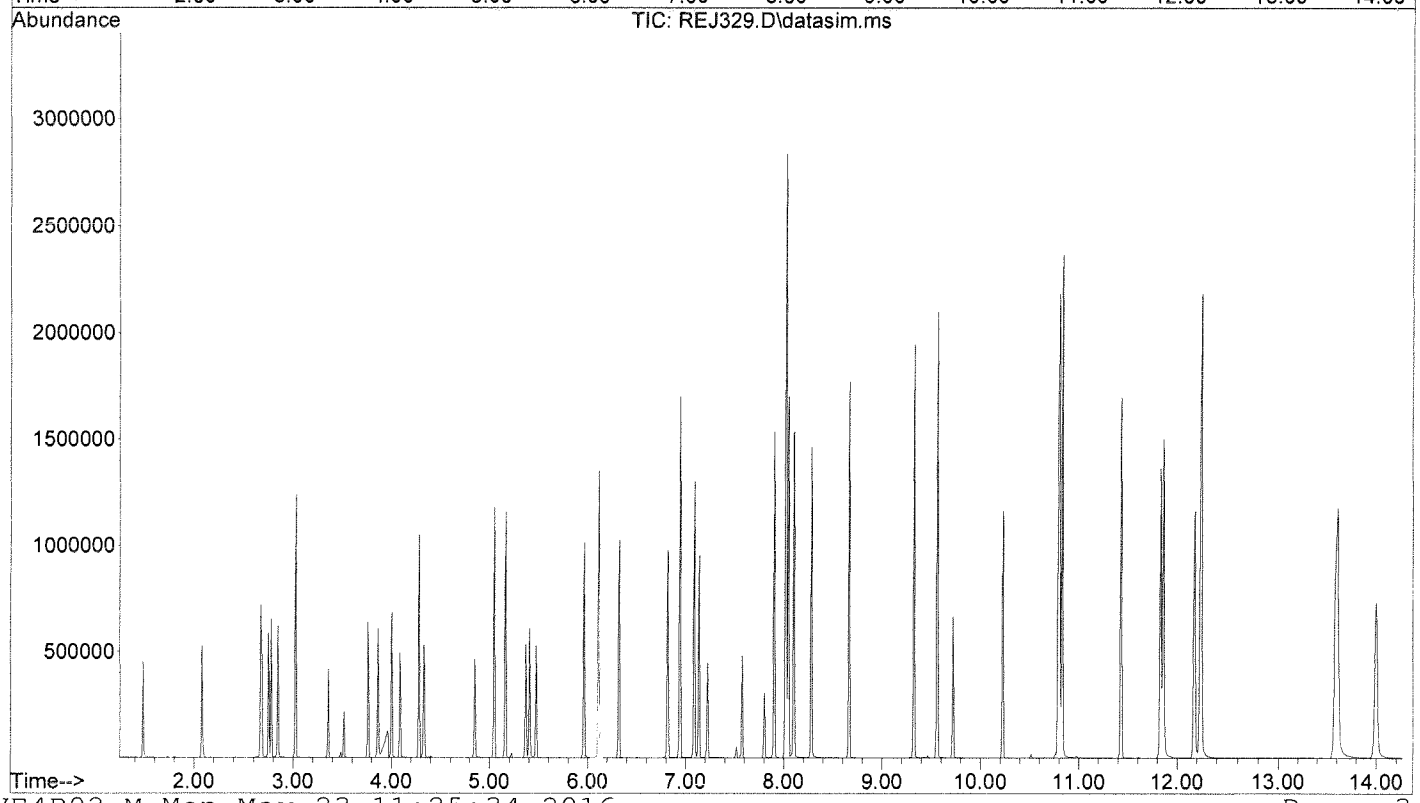
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ329.D
Acq On : 23 May 2016 10:58
Sample : SVE025WC
Misc :
Integrator: RTE
Quant Time: May 23 11:25:27 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00





INITIAL CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ002
Instrument ID: TOE4

Project: CANNON AFB PBR
SDG No.: 16E133
DFTPP Injection Date: 02/02/16
DFTPP Injection Time: 08:58

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.04
68	Less than 2% of mass 69	0.76(1.8)1
69	% of mass 198	41.36
70	Less than 2% of mass 69	0.32(0.8)1
127	10.0 - 80.0% of mass 198	47.03
197	Less than 2.0% of mass 198	0.14
198	Base Peak, 100	100.00
199	5.0 - 9.0% of mass 198	6.68
275	10.0 - 60.0% of mass 198	22.97
365	Greater than 1.00% of mass 198	2.42
441	Present, but less than 24% of mass 442	8.85(15.5)2
442	Greater than 50% of mass 198	57.16
443	15.0 - 24.0% of mass 442	11.27(19.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD100	SVE4B021	RBJ003	02/02/16	09:09
2	SSTD080	SVE4B022	RBJ004	02/02/16	09:28
3	SSTD050	SVE4B023	RBJ005	02/02/16	09:47
4	SSTD040	SVE4B024	RBJ006	02/02/16	10:06
5	SSTD025	SVE4B025	RBJ007	02/02/16	10:25
6	SSTD020	SVE4B026	RBJ008	02/02/16	10:44
7	SSTD010	SVE4B027	RBJ009	02/02/16	11:04
8	SSTD004	SVE4B028	RBJ010	02/02/16	11:23
9	SSTD025	ISVE4B022	RBJ033	02/02/16	18:46

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 1
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 1

IDX	Parameters	ON COL MG/L	WATER UG/L	SOIL MG/KG	R FILE
1	1,4-Dichlorobenzene-d4	IntSTD	IntSTD	IntSTD	IntSTD
2	1,4-Dioxane	4	4	.1333	RBJ010
3	N-nitrosodimethylamine	4	4	.1333	RBJ010
4	Pyridine	4	4	.1333	RBJ010
5	2-Fluorophenol	4	4	.1333	RBJ010
6	Phenol-d5	4	4	.1333	RBJ010
7	Phenol	4	4	.1333	RBJ010
8	Aniline	4	4	.1333	RBJ010
9	bis(2-chloroethyl)ether	4	4	.1333	RBJ010
10	2-Chlorophenol	4	4	.1333	RBJ010
11	1,3-Dichlorobenzene	4	4	.1333	RBJ010
12	1,2-Dichlorobenzene-d4	NA	NA	NA	NA
13	1,4-Dichlorobenzene	4	4	.1333	RBJ010
14	Benzyl alcohol	4	4	.1333	RBJ010
15	1,2-Dichlorobenzene	4	4	.1333	RBJ010
16	2-Methylphenol	4	4	.1333	RBJ010
17	bis(2-chloroisopropyl)ether	4	4	.1333	RBJ010
18	4-Methylphenol	4	4	.1333	RBJ010
19	N-Nitroso-di-n-propylamine	4	4	.1333	RBJ010
20	Hexachloroethane	4	4	.1333	RBJ010
21	Naphthalene-d8	IntSTD	IntSTD	IntSTD	IntSTD
22	Nitrobenzene-d5	4	4	.1333	RBJ010
23	Nitrobenzene	4	4	.1333	RBJ010
24	Isophorone	4	4	.1333	RBJ010
25	2-Nitrophenol	4	4	.1333	RBJ010
26	2,4-Dimethylphenol	4	4	.1333	RBJ010
27	Benzoic acid	4	4	.1333	RBJ010
28	bis(2-Chloroethoxy)methane	4	4	.1333	RBJ010
29	3,5-Dimethylphenol	4	4	.1333	RBJ010
30	2,4-Dichlorophenol	4	4	.1333	RBJ010
31	2,4-Dimethylphenol	4	4	.1333	RBJ010
32	1,2,4-Trichlorobenzene	4	4	.1333	RBJ010
33	Naphthalene	4	4	.1333	RBJ010
34	4-Chloroaniline	4	4	.1333	RBJ010
35	2,6-Dichlorophenol	4	4	.1333	RBJ010
36	Hexachlorobutadiene	4	4	.1333	RBJ010
37	Hydroquinone	NA	NA	NA	NA
38	4-Chloro-3-methylphenol	4	4	.1333	RBJ010
39	2-Methylnaphthalene	4	4	.1333	RBJ010
40	1-Methylnaphthalene	4	4	.1333	RBJ010
41	Acenaphthene-d10	IntSTD	IntSTD	IntSTD	IntSTD
42	Hexachlorocyclopentadiene	4	4	.1333	RBJ010
43	2,3,5-Trichlorophenol	4	4	.1333	RBJ010
44	2,4,6-Trichlorophenol	4	4	.1333	RBJ010
45	2,4,5-Trichlorophenol	4	4	.1333	RBJ010
46	2-Fluorobiphenyl	4	4	.1333	RBJ010
47	2,3,4-Trichlorophenol	4	4	.1333	RBJ010
48	Biphenyl	4	4	.1333	RBJ010
49	2-Chloronaphthalene	4	4	.1333	RBJ010
50	2-Nitroaniline	4	4	.1333	RBJ010
51	2,6-Dimethylnaphthalene	4	4	.1333	RBJ010
52	1,4-Dinitrobenzene	4	4	.1333	RBJ010
53	Dimethylphthalate	4	4	.1333	RBJ010
54	1,3-Dinitrobenzene	4	4	.1333	RBJ010
55	2,6-Dinitrotoluene	4	4	.1333	RBJ010
56	1,2-Dinitrobenzene	4	4	.1333	RBJ010
57	Acenaphthylene	4	4	.1333	RBJ010
58	3-Nitroaniline	4	4	.1333	RBJ010
59	Acenaphthene	4	4	.1333	RBJ010
60	2,4-Dinitrophenol	4	4	.1333	RBJ010
61	4-Nitrophenol	4	4	.1333	RBJ010
62	2,4-Dinitrotoluene	4	4	.1333	RBJ010
63	Dibenzofuran	4	4	.1333	RBJ010
64	2,3,5,6-Tetrachlorophenol	4	4	.1333	RBJ010
65	2,3,4,6-Tetrachlorophenol	4	4	.1333	RBJ010
66	2,3,5-Trimethylnaphthalene	4	4	.1333	RBJ010
67	Diethylphthalate	4	4	.1333	RBJ010
68	Fluorene	4	4	.1333	RBJ010
69	4-Chlorophenyl-phenylether	4	4	.1333	RBJ010
70	4-Nitroaniline	4	4	.1333	RBJ010
71	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
72	4,6-Dinitro-2-methylphenol	4	4	.1333	RBJ010
73	N-Nitrosodiphenylamine	4	4	.1333	RBJ010
74	Azobenzene	4	4	.1333	RBJ010
75	2,4,6-Tribromophenol	4	4	.1333	RBJ010
76	4-Bromophenyl-phenylether	4	4	.1333	RBJ010
77	Hexachlorobenzene	4	4	.1333	RBJ010
78	Pentachlorophenol	4	4	.1333	RBJ010
79	Dibenzothiophene	4	4	.1333	RBJ010
80	Phenanthrene	4	4	.1333	RBJ010
81	Dinoseb	NA	NA	NA	NA
82	Anthracene	4	4	.1333	RBJ010
83	Carbazole	4	4	.1333	RBJ010
84	Di-n-butylphthalate	4	4	.1333	RBJ010
85	1-Methylphenanthrene	4	4	.1333	RBJ010
86	Fluoranthene	4	4	.1333	RBJ010
87	Chrysene-d12	IntSTD	IntSTD	IntSTD	IntSTD
88	Benzidine	NA	NA	NA	NA
89	Pyrene	4	4	.1333	RBJ010
90	Terphenyl-d14	4	4	.1333	RBJ010
91	Butylbenzylphthalate	4	4	.1333	RBJ010
92	bis(2-ethylhexyl)adipate	4	4	.1333	RBJ010
93	3,3'-Dichlorobenzidine	4	4	.1333	RBJ010
94	Benzo(a)anthracene	4	4	.1333	RBJ010
95	Chrysene	4	4	.1333	RBJ010
96	bis(2-Ethylhexyl)phthalate	4	4	.1333	RBJ010
97	Perylene-d12	IntSTD	IntSTD	IntSTD	IntSTD
98	Di-n-octylphthalate	4	4	.1333	RBJ010
99	Benzo(b)fluoranthene	4	4	.1333	RBJ010
100	Benzo(k)fluoranthene	4	4	.1333	RBJ010
101	Benzo(e)pyrene	4	4	.1333	RBJ010
102	Benzo(a)pyrene	4	4	.1333	RBJ010
103	Perylene	4	4	.1333	RBJ010
104	Indeno(1,2,3-cd)pyrene	4	4	.1333	RBJ010
105	Dibenzo(a,h)anthracene	4	4	.1333	RBJ010
106	Benzo(g,h,i)perylene	4	4	.1333	RBJ010

TM 02-08-16

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :E4 Column Spec :ZB-SEMI ID :0.18MM
Beginning DateTime :02/02/16 09:09 Ending DateTime :02/02/16 11:23
IC File :RBJ007 HPChem Method :SVE4B02

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 2
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 2

IDX	Parameters	ON COL MG/L	WATER UG/L	SOIL MG/KG	R FILE
1	1,4-Dichlorobenzene-d4	IntSTD	IntSTD	IntSTD	IntSTD
2	1,4-Dioxane	4	8	.2667	RBJ010
3	N-nitrosodimethylamine	4	8	.2667	RBJ010
4	Pyridine	4	8	.2667	RBJ010
5	2-Fluorophenol	4	8	.2667	RBJ010
6	Phenol-d5	4	8	.2667	RBJ010
7	Phenol	4	8	.2667	RBJ010
8	Aniline	4	8	.2667	RBJ010
9	bis(2-chloroethyl)ether	4	8	.2667	RBJ010
10	2-Chlorophenol	4	8	.2667	RBJ010
11	1,3-Dichlorobenzene	4	8	.2667	RBJ010
12	1,2-Dichlorobenzene-d4	NA	NA	NA	NA
13	1,4-Dichlorobenzene	4	8	.2667	RBJ010
14	Benzyl alcohol	4	8	.2667	RBJ010
15	1,2-Dichlorobenzene	4	8	.2667	RBJ010
16	2-Methylphenol	4	8	.2667	RBJ010
17	bis(2-chloroisopropyl)ether	4	8	.2667	RBJ010
18	4-Methylphenol	4	8	.2667	RBJ010
19	N-Nitroso-di-n-propylamine	4	8	.2667	RBJ010
20	Hexachloroethane	4	8	.2667	RBJ010
21	Naphthalene-d8	IntSTD	IntSTD	IntSTD	IntSTD
22	Nitrobenzene-d5	4	8	.2667	RBJ010
23	Nitrobenzene	4	8	.2667	RBJ010
24	Isophorone	4	8	.2667	RBJ010
25	2-Nitrophenol	4	8	.2667	RBJ010
26	2,4-Dimethylphenol	4	8	.2667	RBJ010
27	Benzoic acid	4	8	.2667	RBJ010
28	bis(2-Chloroethoxy)methane	4	8	.2667	RBJ010
29	3,5-Dimethylphenol	4	8	.2667	RBJ010
30	2,4-Dichlorophenol	4	8	.2667	RBJ010
31	3,4-Dimethylphenol	4	8	.2667	RBJ010
32	1,2,4-Trichlorobenzene	4	8	.2667	RBJ010
33	Naphthalene	4	8	.2667	RBJ010
34	4-Chloroaniline	4	8	.2667	RBJ010
35	2,6-Dichlorophenol	4	8	.2667	RBJ010
36	Hexachlorobutadiene	4	8	.2667	RBJ010
37	Hydroquinone	NA	NA	NA	NA
38	4-Chloro-3-methylphenol	4	8	.2667	RBJ010
39	2-Methylnaphthalene	4	8	.2667	RBJ010
40	1-Methylnaphthalene	4	8	.2667	RBJ010
41	Acenaphthene-d10	IntSTD	IntSTD	IntSTD	IntSTD
42	Hexachlorocyclopentadiene	4	8	.2667	RBJ010
43	2,3,5-Trichlorophenol	4	8	.2667	RBJ010
44	2,4,6-Trichlorophenol	4	8	.2667	RBJ010
45	2,4,5-Trichlorophenol	4	8	.2667	RBJ010
46	2-Fluorobiphenyl	4	8	.2667	RBJ010
47	2,3,4-Trichlorophenol	4	8	.2667	RBJ010
48	Biphenyl	4	8	.2667	RBJ010
49	2-Chloronaphthalene	4	8	.2667	RBJ010
50	2-Nitroaniline	4	8	.2667	RBJ010
51	2,6-Dimethylnaphthalene	4	8	.2667	RBJ010
52	1,4-Dinitrobenzene	4	8	.2667	RBJ010
53	Dimethylphthalate	4	8	.2667	RBJ010
54	1,3-Dinitrobenzene	4	8	.2667	RBJ010
55	2,6-Dinitrotoluene	4	8	.2667	RBJ010
56	1,2-Dinitrobenzene	4	8	.2667	RBJ010
57	Acenaphthylene	4	8	.2667	RBJ010
58	3-Nitroaniline	4	8	.2667	RBJ010
59	Acenaphthene	4	8	.2667	RBJ010
60	2,4-Dinitrophenol	4	8	.2667	RBJ010
61	4-Nitrophenol	4	8	.2667	RBJ010
62	2,4-Dinitrotoluene	4	8	.2667	RBJ010
63	Dibenzofuran	4	8	.2667	RBJ010
64	2,3,5,6-Tetrachlorophenol	4	8	.2667	RBJ010
65	2,3,4,6-Tetrachlorophenol	4	8	.2667	RBJ010
66	2,3,5-Trimethylnaphthalene	4	8	.2667	RBJ010
67	Diethylphthalate	4	8	.2667	RBJ010
68	Fluorene	4	8	.2667	RBJ010
69	4-Chlorophenyl-phenylether	4	8	.2667	RBJ010
70	4-Nitroaniline	4	8	.2667	RBJ010
71	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
72	4,6-Dinitro-2-methylphenol	4	8	.2667	RBJ010
73	N-Nitrosodiphenylamine	4	8	.2667	RBJ010
74	Azobenzene	4	8	.2667	RBJ010
75	2,4,6-Tribromophenol	4	8	.2667	RBJ010
76	4-Bromophenyl-phenylether	4	8	.2667	RBJ010
77	Hexachlorobenzene	4	8	.2667	RBJ010
78	Pentachlorophenol	4	8	.2667	RBJ010
79	Dibenzothiophene	4	8	.2667	RBJ010
80	Phenanthrene	4	8	.2667	RBJ010
81	Dinoseb	NA	NA	NA	NA
82	Anthracene	4	8	.2667	RBJ010
83	Carbazole	4	8	.2667	RBJ010
84	Di-n-butylphthalate	4	8	.2667	RBJ010
85	1-Methylphenanthrene	4	8	.2667	RBJ010
86	Fluoranthene	4	8	.2667	RBJ010
87	Chrysene-d12	IntSTD	IntSTD	IntSTD	IntSTD
88	Benzidine	NA	NA	NA	NA
89	Pyrene	4	8	.2667	RBJ010
90	Terphenyl-d14	4	8	.2667	RBJ010
91	Butylbenzylphthalate	4	8	.2667	RBJ010
92	bis(2-ethylhexyl)adipate	4	8	.2667	RBJ010
93	3,3'-Dichlorobenzidine	4	8	.2667	RBJ010
94	Benzo(a)anthracene	4	8	.2667	RBJ010
95	Chrysene	4	8	.2667	RBJ010
96	bis(2-Ethylhexyl)phthalate	4	8	.2667	RBJ010
97	Perylene-d12	IntSTD	IntSTD	IntSTD	IntSTD
98	Di-n-octylphthalate	4	8	.2667	RBJ010
99	Benzo(b)fluoranthene	4	8	.2667	RBJ010
100	Benzo(k)fluoranthene	4	8	.2667	RBJ010
101	Benzo(e)pyrene	4	8	.2667	RBJ010
102	Benzo(a)pyrene	4	8	.2667	RBJ010
103	Perylene	4	8	.2667	RBJ010
104	Indeno(1,2,3-cd)pyrene	4	8	.2667	RBJ010
105	Dibenzo(a,h)anthracene	4	8	.2667	RBJ010
106	Benzo(g,h,i)perylene	4	8	.2667	RBJ010

pc 02-08-16

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
Spike Units :PPM
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

IDX	Parameters	4 11:23 RBJ010	10 11:04 RBJ009	20 10:44 RBJ008	25 10:25 RBJ007	40 10:06 RBJ006	50 09:47 RBJ005	80 09:28 RBJ004	100 09:09 RBJ003	Av_RRF	%_RSD	Av_Rt_M
1	1,4-Dichlorobenzene-d4	1	1	1	1	1	1	1	1	1	0	3.0151
2	1,4-Dioxane	0.674	0.610	0.588	0.582	0.567	0.573	------	------	0.599	6.63	1.3665
3	N-nitrosodimethylamine	0.841	0.841	0.860	0.872	0.838	0.848	------	------	0.850	1.57	1.4766
4	Pyridine	1.586	1.584	1.608	1.627	1.588	1.574	1.340	1.328	1.529	7.97	1.5023
5	2-Fluorophenol	1.302	1.298	1.322	1.339	1.311	1.311	------	------	1.314	1.13	2.0717
6	Phenol-d5	1.606	1.589	1.631	1.678	1.615	1.617	------	------	1.623	1.86	2.6593
7	Phenol	1.694	1.658	1.714	1.717	1.655	1.651	------	------	1.682	1.81	2.6706
8	Aniline	2.170	2.144	2.173	2.187	2.095	2.069	------	------	2.140	2.23	2.7436
9	bis(2-chloroethyl)ether	1.285	1.266	1.283	1.319	1.259	1.237	------	------	1.275	2.19	2.7723
10	2-Chlorophenol	1.363	1.366	1.404	1.413	1.481	1.487	------	------	1.419	3.81	2.8383
11	1,3-Dichlorobenzene	1.661	1.654	1.661	1.685	1.647	1.618	------	------	1.654	1.34	2.9719
12	1,2-Dichlorobenzene-d4	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
13	1,4-Dichlorobenzene	1.696	1.667	1.707	1.704	1.664	1.642	------	------	1.680	1.55	3.0303
14	Benzyl alcohol	0.883	0.910	0.943	0.933	0.905	0.898	------	------	0.912	2.45	3.1095
15	1,2-Dichlorobenzene	1.627	1.620	1.616	1.641	1.567	1.554	------	------	1.604	2.20	3.1647
16	2-Methylphenol	1.171	1.138	1.164	1.166	1.130	1.118	------	------	1.148	1.93	3.1839
17	bis(2-chloroisopropyl)ether	2.773	2.650	2.695	2.690	2.588	2.531	------	------	2.655	3.22	3.2287
18	4-Methylphenol	1.459	1.474	1.533	1.547	1.626	1.487	------	------	1.521	4.06	3.3213
19	N-Nitroso-di-n-propylamine	0.989	1.017	1.056	1.066	1.152	1.106	------	------	1.064	5.54	3.3508
20	Hexachloroethane	0.631	0.626	0.654	0.660	0.641	0.638	------	------	0.642	2.07	3.4769
21	Naphthalene-d8	1	1	1	1	1	1	1	1	1	0	4.2468
22	Nitrobenzene-d5	0.443	0.446	0.449	0.462	0.457	0.451	------	------	0.451	1.58	3.5081
23	Nitrobenzene	0.454	0.448	0.457	0.462	0.454	0.445	------	------	0.453	1.42	3.5281
24	Isophorone	0.876	0.861	0.865	0.885	0.884	0.840	------	------	0.868	1.97	3.7583
25	2-Nitrophenol	0.158	0.178	0.188	0.196	0.194	0.184	------	------	0.183	7.64	3.8390
26	2,4-Dimethylphenol	0.418	0.419	0.422	0.430	0.421	0.410	------	------	0.420	1.54	3.8542
27	Benzoic acid	0.177	0.193	0.243	0.255	0.267	0.264	0.278	0.270	0.243	15.58	3.9464
28	bis(2-Chloroethoxy)methane	0.467	0.453	0.457	0.462	0.448	0.438	------	------	0.454	2.26	3.9652
29	3,5-Dimethylphenol	0.416	0.410	0.472	0.481	0.481	0.458	------	------	0.453	7.12	3.9931
30	2,4-Dichlorophenol	0.345	0.351	0.360	0.365	0.360	0.354	------	------	0.356	2.03	4.0773
31	3,4-Dimethylphenol	0.500	0.493	0.498	0.505	0.490	0.481	------	------	0.495	1.72	4.1722
32	1,2,4-Trichlorobenzene	0.418	0.413	0.408	0.408	0.400	0.391	------	------	0.406	2.33	4.1786
33	Naphthalene	1.155	1.115	1.111	1.128	1.097	1.081	------	------	1.115	2.29	4.2703
34	4-Chloroaniline	0.472	0.478	0.482	0.486	0.469	0.461	------	------	0.475	1.94	4.3154
35	2,6-Dichlorophenol	0.332	0.338	0.340	0.344	0.337	0.329	------	------	0.337	1.66	4.3242
36	Hexachlorobutadiene	0.270	0.268	0.268	0.276	0.275	0.272	------	------	0.271	1.22	4.3950
37	Hydroquinone	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
38	4-Chloro-3-methylphenol	0.323	0.322	0.344	0.347	0.349	0.341	------	------	0.338	3.57	4.8362
39	2-Methylnaphthalene	0.815	0.786	0.785	0.796	0.770	0.754	------	------	0.784	2.67	5.0390
40	1-Methylnaphthalene	0.713	0.685	0.693	0.695	0.676	0.657	------	------	0.687	2.73	5.1532
41	Acenaphthene-d10	1	1	1	1	1	1	1	1	1	0	6.2716
42	Hexachlorocyclopentadiene	0.465	0.487	0.508	0.511	0.525	0.518	------	------	0.502	4.45	5.2179
43	2,3,5-Trichlorophenol	0.358	0.434	0.410	0.446	0.461	0.457	------	------	0.428	9.04	5.2235
44	2,4,6-Trichlorophenol	0.424	0.441	0.463	0.463	0.470	0.468	------	------	0.455	4.02	5.3558
45	2,4,5-Trichlorophenol	0.446	0.471	0.474	0.493	0.496	0.490	------	------	0.478	3.93	5.3912
46	2-Fluorobiphenyl	1.648	1.617	1.609	1.595	1.563	1.556	------	------	1.598	2.17	5.4661
47	2,3,4-Trichlorophenol	0.409	0.425	0.423	0.423	0.420	0.417	------	------	0.419	1.40	5.4692
48	Biphenyl	1.697	1.650	1.630	1.637	1.593	1.566	------	------	1.629	2.80	5.5847
49	2-Chloronaphthalene	1.356	1.337	1.319	1.317	1.291	1.420	------	------	1.340	3.36	5.6063
50	2-Nitroaniline	0.335	0.367	0.388	0.395	0.395	0.387	------	------	0.378	6.20	5.7214
51	2,6-Dimethylnaphthalene	1.180	1.162	1.148	1.168	1.142	1.123	------	------	1.154	1.76	5.7709
52	1,4-Dinitrobenzene	0.137	0.153	0.169	0.177	0.181	0.178	------	------	0.166	10.58	5.8904
53	Dimethylphthalate	1.479	1.464	1.499	1.478	1.474	1.443	------	------	1.473	1.25	5.9547
54	1,3-Dinitrobenzene	0.163	0.190	0.205	0.209	0.208	0.205	------	------	0.197	9.11	5.9788
55	2,6-Dinitrotoluene	0.284	0.294	0.304	0.309	0.309	0.307	------	------	0.301	3.30	6.0190
56	1,2-Dinitrobenzene	0.113	0.124	0.130	0.134	0.131	0.130	------	------	0.127	6.06	6.0793
57	Acenaphthylene	2.073	2.087	2.085	2.274	2.032	2.179	------	------	2.122	4.18	6.1010
58	3-Nitroaniline	0.292	0.317	0.318	0.322	0.321	0.320	------	------	0.315	3.68	6.2157

RW 02-18-16

59	Acenaphthene	1.364	1.337	1.327	1.337	1.316	1.287	------	------	1.328	1.93	6.3123
60	2,4-Dinitrophenol	0.067	0.091	0.122	0.132	0.142	0.143	------	------	0.116	26.38	6.3387
61	4-Nitrophenol	0.167	0.198	0.213	0.215	0.216	0.227	------	------	0.206	10.34	6.4058
62	2,4-Dinitrotoluene	0.337	0.387	0.399	0.413	0.406	0.408	------	------	0.392	7.16	6.5025
63	Dibenzofuran	1.937	1.905	1.886	1.893	1.864	1.830	------	------	1.886	1.94	6.5193
64	2,3,5,6-Tetrachlorophenol	0.272	0.293	0.319	0.328	0.335	0.327	------	------	0.312	7.84	6.6087
65	2,3,4,6-Tetrachlorophenol	0.400	0.418	0.430	0.438	0.449	0.444	------	------	0.430	4.25	6.6606
66	2,3,5-Trimethylnaphthalene	1.088	1.078	1.093	1.088	1.075	1.056	------	------	1.080	1.25	6.7738
67	Diethylphthalate	1.480	1.480	1.501	1.519	1.488	1.485	------	------	1.492	1.03	6.8113
68	Fluorene	1.499	1.484	1.477	1.480	1.445	1.428	------	------	1.469	1.82	6.9332
69	4-Chlorophenyl-phenylether	0.761	0.751	0.754	0.751	0.740	0.733	------	------	0.748	1.34	6.9387
70	4-Nitroaniline	0.287	0.305	0.312	0.347	0.342	0.351	------	------	0.324	8.12	6.9512
71	Phenanthrene-d10	1	1	1	1	1	1	1	1	1	0	8.0076
72	4,6-Dinitro-2-methylphenol	0.067	0.100	0.120	0.125	0.129	0.131	------	------	0.112	21.93	6.9879
73	N-Nitrosodiphenylamine	0.690	0.675	0.698	0.686	0.682	0.670	------	------	0.683	1.47	7.0776
74	Azobenzene	0.813	0.798	0.819	0.800	0.796	0.785	------	------	0.802	1.51	7.1275
75	2,4,6-Tribromophenol	0.083	0.093	0.098	0.100	0.102	0.101	------	------	0.096	7.59	7.2113
76	4-Bromophenyl-phenylether	0.247	0.232	0.244	0.239	0.240	0.240	------	------	0.240	2.11	7.5077
77	Hexachlorobenzene	0.249	0.240	0.246	0.242	0.246	0.243	------	------	0.244	1.23	7.5659
78	Pentachlorophenol	0.109	0.130	0.145	0.148	0.154	0.152	------	------	0.140	12.24	7.7887
79	Dibenzothiophene	1.276	1.233	1.252	1.230	1.207	1.205	------	------	1.234	2.20	7.8910
80	Phenanthrene	1.292	1.249	1.271	1.254	1.239	1.225	------	------	1.255	1.91	8.0338
81	Dinoseb	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
82	Anthracene	1.253	1.264	1.276	1.279	1.256	1.255	------	------	1.264	0.90	8.0902
83	Carbazole	1.091	1.079	1.086	1.075	1.048	1.065	------	------	1.074	1.46	8.2665
84	Di-n-butylphthalate	1.212	1.304	1.332	1.345	1.311	1.309	------	------	1.302	3.60	8.6604
85	1-Methylphenanthrene	0.884	0.895	0.900	0.898	0.874	0.889	------	------	0.890	1.11	8.7023
86	Fluoranthene	1.397	1.408	1.439	1.418	1.399	1.424	------	------	1.414	1.15	9.3110
87	Chrysene-d12	1	1	1	1	1	1	1	1	1	0	10.7882
88	Benzidine	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
89	Pyrene	1.341	1.325	1.351	1.452	1.391	1.346	------	------	1.368	3.42	9.5470
90	Terphenyl-d14	0.859	0.845	0.866	0.867	0.863	0.838	------	------	0.856	1.41	9.7126
91	Butylbenzylphthalate	0.361	0.439	0.490	0.499	0.502	0.491	------	------	0.464	11.98	10.2192
92	bis(2-ethylhexyl)adipate	0.306	0.373	0.403	0.407	0.405	0.394	------	------	0.381	10.19	10.2976
93	3,3'-Dichlorobenzidine	0.366	0.400	0.419	0.427	0.429	0.432	------	------	0.412	6.19	10.7475
94	Benzo(a)anthracene	1.234	1.206	1.235	1.249	1.248	1.243	------	------	1.236	1.31	10.7766
95	Chrysene	1.171	1.136	1.145	1.146	1.130	1.126	------	------	1.142	1.42	10.8139
96	bis(2-Ethylhexyl)phthalate	0.628	0.701	0.743	0.748	0.746	0.730	------	------	0.716	6.46	10.7985
97	Perylene-d12	1	1	1	1	1	1	1	1	1	0	12.2145
98	Di-n-octylphthalate	1.051	1.308	1.442	1.446	1.469	1.437	------	------	1.359	11.88	11.4203
99	Benzo(b)fluoranthene	1.264	1.219	1.280	1.341	1.275	1.317	------	------	1.283	3.32	11.8092
100	Benzo(k)fluoranthene	1.263	1.301	1.333	1.267	1.338	1.254	------	------	1.293	2.85	11.8374
101	Benzo(e)pyrene	1.149	1.165	1.198	1.205	1.194	1.193	------	------	1.184	1.87	12.0937
102	Benzo(a)pyrene	1.173	1.183	1.231	1.234	1.248	1.238	------	------	1.218	2.59	12.1520
103	Perylene	1.194	1.235	1.246	1.232	1.214	1.212	------	------	1.222	1.55	12.2451
104	Indeno(1,2,3-cd)pyrene	1.230	1.304	1.372	1.385	1.400	1.400	------	------	1.349	5.04	13.5598
105	Dibenzo(a,h)anthracene	1.051	1.074	1.140	1.158	1.166	1.153	------	------	1.124	4.34	13.5841
106	Benzo(g,h,i)perylene	1.149	1.113	1.158	1.176	1.185	1.174	------	------	1.159	2.24	13.9660

Ave_%RSD : 4.2 Max_%RSD : 26.4

Use Least Square Linear Regression with weighting factor of inverse concentration
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
27	Benzoic acid	-0.01353	0.27777	0.9993
60	2,4-Dinitrophenol	-0.01006	0.14884	0.9982
72	4,6-Dinitro-2-methylphenol	-0.00746	0.13623	0.9998

PM
02-08-16

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
Spike Units :PPM
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

IDX	Parameters	4 11:23 RBJ010	10 11:04 RBJ009	20 10:44 RBJ008	25 10:25 RBJ007	40 10:06 RBJ006	50 09:47 RBJ005	80 09:28 RBJ004	100 09:09 RBJ003	AvDRec	% RSD	Av Rt M
1	1,4-Dichlorobenzene-d4	1	1	1	1	1	1	1	1	1	0	3.0151
2	1,4-Dioxane	113	102	98	97	95	96	------	------	4.8	6.63	1.3665
3	N-nitrosodimethylamine	99	99	101	103	99	100	------	------	1.3	1.57	1.4766
4	Pyridine	104	104	105	106	104	103	88	87	6.4	7.97	1.5023
5	2-Fluorophenol	99	99	101	102	100	100	------	------	.8	1.13	2.0717
6	Phenol-d5	99	98	100	103	100	100	------	------	1.3	1.86	2.6593
7	Phenol	101	99	102	102	98	98	------	------	1.6	1.81	2.6706
8	Aniline	101	100	102	102	98	97	------	------	1.8	2.23	2.7436
9	bis(2-chloroethyl)ether	101	99	101	103	99	97	------	------	1.6	2.19	2.7723
10	2-Chlorophenol	96	96	99	100	104	105	------	------	3.1	3.81	2.8383
11	1,3-Dichlorobenzene	100	100	100	102	100	98	------	------	.9	1.34	2.9719
12	1,2-Dichlorobenzene-d4	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
13	1,4-Dichlorobenzene	101	99	102	101	99	98	------	------	1.3	1.55	3.0303
14	Benzyl alcohol	97	100	103	102	99	98	------	------	1.9	2.45	3.1095
15	1,2-Dichlorobenzene	101	101	101	102	98	97	------	------	1.8	2.20	3.1647
16	2-Methylphenol	102	99	101	102	98	97	------	------	1.7	1.93	3.1839
17	bis(2-chloroisopropyl)ether	104	100	102	101	97	95	------	------	2.4	3.22	3.2287
18	4-Methylphenol	96	97	101	102	107	98	------	------	3.1	4.06	3.3513
19	N-Nitroso-di-n-propylamine	93	96	99	100	108	104	------	------	4.1	5.54	3.3508
20	Hexachloroethane	98	98	102	103	100	99	------	------	1.6	2.07	3.4769
21	Naphthalene-d8	1	1	1	1	1	1	1	1	1	0	4.2468
22	Nitrobenzene-d5	98	99	100	102	101	100	------	------	1.2	1.58	3.5081
23	Nitrobenzene	100	99	101	102	100	98	------	------	1	1.42	3.5281
24	Isophorone	101	99	100	102	102	97	------	------	1.5	1.97	3.7583
25	2-Nitrophenol	86	97	103	107	106	101	------	------	5.5	7.64	3.8390
26	2,4-Dimethylphenol	100	100	100	102	100	98	------	------	1	1.54	3.8542
27	Benzoic acid	113	89	97	99	101	99	114	111	12.1	15.58	3.9464
28	bis(2-Chloroethoxy)methane	103	100	101	102	99	96	------	------	1.7	2.26	3.9652
29	2,5-Dimethylphenol	92	91	104	106	106	101	------	------	5.9	7.12	3.9931
30	2,4-Dichlorophenol	97	99	101	103	101	99	------	------	1.6	2.03	4.0773
31	3,4-Dimethylphenol	101	100	101	102	99	97	------	------	1.3	1.72	4.1722
32	1,2,4-Trichlorobenzene	103	102	100	100	99	96	------	------	1.8	2.33	4.1786
33	Naphthalene	104	100	100	101	98	97	------	------	1.9	2.38	4.2703
34	4-Chloroaniline	99	101	101	102	99	97	------	------	1.5	1.94	4.3154
35	2,6-Dichlorophenol	99	100	101	102	100	98	------	------	1.2	1.66	4.3242
36	Hexachlorobutadiene	100	99	99	102	101	100	------	------	1	1.22	4.3950
37	Hydroquinone	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
38	4-Chloro-3-methylphenol	96	95	102	103	103	101	------	------	3	3.57	4.8362
39	2-Methylnaphthalene	104	100	100	102	98	96	------	------	1.9	2.27	5.0390
40	1-Methylnaphthalene	104	100	101	101	98	96	------	------	2	2.73	5.1532
41	Acenaphthene-d10	1	1	1	1	1	1	1	1	1	0	5.2716
42	Hexachlorocyclopentadiene	93	97	101	102	105	103	------	------	3.5	4.45	5.2179
43	2,3,5-Trichlorophenol	84	101	96	104	108	107	------	------	6.8	9.04	5.2235
44	2,4,6-Trichlorophenol	93	97	102	102	103	103	------	------	3.3	4.02	5.3558
45	2,4,5-Trichlorophenol	93	99	99	103	104	103	------	------	3.1	3.93	5.3912
46	2-Fluorobiphenyl	103	101	101	100	98	97	------	------	1.7	2.17	5.4661
47	2,3,4-Trichlorophenol	98	101	101	101	100	100	------	------	1.1	1.40	5.4692
48	Biphenyl	104	101	100	100	98	96	------	------	2	2.80	5.5847
49	2-Chloronaphthalene	101	100	98	98	96	106	------	------	2.4	3.36	5.6063
50	2-Nitroaniline	89	97	103	104	104	102	------	------	4.7	6.20	5.7214
51	2,6-Dimethylnaphthalene	102	101	99	101	99	97	------	------	1.4	1.76	5.7709
52	1,4-Dinitrobenzene	83	92	102	107	109	107	------	------	8.3	10.58	5.8904
53	Dimethylphthalate	100	99	102	100	100	98	------	------	.9	1.25	5.9547
54	1,3-Dinitrobenzene	83	96	104	106	106	104	------	------	6.8	9.11	5.9788
55	2,6-Dinitrotoluene	92	98	101	103	103	102	------	------	2.7	3.30	6.0190
56	1,2-Dinitrobenzene	89	98	102	106	103	102	------	------	4.5	6.06	6.0793
57	Acenaphthylene	98	98	98	107	96	103	------	------	3.3	4.18	6.1010
58	3-Nitroaniline	93	101	101	102	102	102	------	------	2.4	3.68	6.2157
59	Acenaphthene	103	101	100	101	99	97	------	------	1.4	1.93	6.3123
60	2,4-Dinitrophenol	113	89	96	100	102	102	------	------	21.4	26.38	6.3387
61	4-Nitrophenol	81	96	103	104	105	110	------	------	7.9	10.34	6.4058
62	2,4-Dinitrotoluene	86	99	102	105	104	104	------	------	5	7.16	6.5065
63	Dibenzofuran	103	101	100	100	99	97	------	------	1.4	1.94	6.5193
64	2,3,5,6-Tetrachlorophenol	87	94	102	105	107	105	------	------	6.4	7.84	6.6087
65	2,3,4,6-Tetrachlorophenol	93	97	100	102	104	103	------	------	3.2	4.25	6.6606
66	2,3,5-Trimethylnaphthalene	101	100	101	101	100	98	------	------	.9	1.25	6.7738
67	Diethylphthalate	99	99	101	102	100	100	------	------	.8	1.03	6.8113
68	Fluorene	102	101	101	101	98	97	------	------	1.5	1.82	6.8332
69	4-Chlorophenyl-phenylether	102	100	101	100	99	98	------	------	1.1	1.34	6.9387
70	4-Nitroaniline	89	94	96	107	106	108	------	------	7	8.12	6.9512
71	Phenanthrene-d10	1	1	1	1	1	1	1	1	1	0	8.0076
72	4,6-Dinitro-2-methylphenol	104	96	99	101	100	101	------	------	17	21.93	6.9879
73	N-Nitrosodiphenylamine	101	99	102	100	100	98	------	------	1.1	1.47	7.0776
74	Azobenzene	101	100	105	100	99	98	------	------	1.2	1.51	7.1275
75	2,4,6-Tribromophenol	86	97	105	104	106	105	------	------	5.7	7.59	7.2113
76	4-Bromophenyl-phenylether	103	97	102	100	100	100	------	------	1.4	2.11	7.2077
77	Hexachlorobenzene	102	98	101	99	101	100	------	------	1.1	1.23	7.5659
78	Pentachlorophenol	78	93	104	106	110	109	------	------	9.5	12.24	7.7887
79	Dibenzothiophene	103	100	101	100	98	98	------	------	1.6	2.20	7.8910
80	Phenanthrene	103	100	101	100	99	98	------	------	1.4	1.91	8.0338
81	Dinoseb	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
82	Anthracene	99	100	101	101	99	99	------	------	.7	0.90	8.0902
83	Carbazole	102	100	101	100	98	99	------	------	1.1	1.46	8.2665
84	Di-n-butylphthalate	93	100	102	103	101	101	------	------	2.3	3.60	8.6604
85	1-Methylphenanthrene	99	101	101	101	98	100	------	------	.9	1.11	8.7023
86	Fluoranthene	99	100	102	100	99	101	------	------	.9	1.15	9.3110
87	Chrysene-d12	1	1	1	1	1	1	1	1	1	0	10.7882
88	Benzidine	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
89	Pyrene	98	97	99	106	102	98	------	------	2.6	3.42	9.5470
90	Terphenyl-d14	100	99	101	101	101	98	------	------	1.2	1.41	9.7126
91	Butylbenzylphthalate	78	95	106	108	108	106	------	------	9.1	11.98	10.2192
92	bis(2-ethylhexyl)adipate	80	98	106	107	106	103	------	------	7.3	10.19	10.2976
93	3,3'-Dichlorobenzidine	89	97	102	104	104	105	------	------	4.7	6.19	10.7475
94	Benzo(a)anthracene	100	98	100	101	101	101	------	------	.9	1.31	10.7766
95	Chrysene	103	99	100	100	99	99	------	------	1	1.42	10.8139
96	bis(2-Ethylhexyl)phthalate	88	98	104	104	104	102	------	------	4.8	6.46	10.7985
97	Perylene-d12	1	1	1	1	1	1	1	1	1	0	12.2145
98	Di-n-octylphthalate	77	96	106	106	108	106	------	------	8.8	11.88	11.4203
99	Benzo(b)fluoranthene	99	95	100	105	99	103	------	------	2.4	3.32	11.8092
100	Benzo(k)fluoranthene	98	101	103	98	103	97	------	------	2.4	2.85	11.8374
101	Benzo(e)pyrene	97	98	101	102	101	101	------	------	1.5	1.87	12.0937
102	Benzo(a)pyrene	96	97	101	101	102	102	------	------	2.2	2.59	12.1520
103	Perylene	98	101	102	101	99	99	------	------	1.3	1.55	12.2451
104	Indeno(1,2,3-cd)pyrene	91	97	102	103	104	104	------	------	4	5.04	13.5598
105	Dibenzo(a,h)anthracene	94	96	101	103	104	103	------	------	3.6	4.34	13.5841
106	Benzo(g,h,i)perylene	99	96	100	101	102	101	------	------	1.7	2.24	13.9660

TM 02-08-16

Compound List Report E4

Method Path : C:\msdchem\1\METHODS\
Method File : SVE4B02.M
Title : SEMIVOLATILES
Last Update : Tue Feb 02 13:41:58 2016
Response Via : Initial Calibration

Total Cpnds : 106

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-Dichlorobenzene-d4	152	3.015	1.000	A	1	A	B
2	T	1,4-Dioxane	88	1.366	0.453	A	1	A	B
3	T	N-nitrosodimethylamine	74	1.476	0.490	A	1	A	B
4	T	Pyridine	79	1.505	0.499	A	1	A	B
5	S	2-Fluorophenol	112	2.070	0.687	A	1	A	B
6	S	Phenol-d5	99	2.659	0.882	A	1	A	B
7	C,P	Phenol	94	2.670	0.886	A	1	A	B
8	T	Aniline	93	2.743	0.910	A	1	A	B
9	T	bis(2-chloroethyl)ether	93	2.774	0.920	A	1	A	B
10	T	2-Chlorophenol	128	2.836	0.941	A	1	A	B
11	T	1,3-Dichlorobenzene	146	2.972	0.986	A	1	A	B
12	S	1,2-Dichlorobenzene-d4	152	0.000	0.000	A	1	A	B
13	C	1,4-Dichlorobenzene	146	3.029	1.005	A	1	A	B
14	T	Benzyl alcohol	108	3.111	1.032	A	1	A	B
15	T	1,2-Dichlorobenzene	146	3.164	1.049	A	1	A	B
16	T	2-Methylphenol	107	3.183	1.056	A	1	A	B
17	T	bis(2-chloroisopropyl)ether	45	3.231	1.072	A	1	A	B
18	T	4-Methylphenol	107	3.322	1.102	A	1	A	B
19	P,P	N-Nitroso-di-n-propylamine	70	3.351	1.111	A	1	A	B
20	T	Hexachloroethane	117	3.475	1.153	A	1	A	B
21	I	Naphthalene-d8	136	4.248	1.000	A	1	A	B
22	S	Nitrobenzene-d5	82	3.509	0.826	A	1	A	B
23	T	Nitrobenzene	77	3.528	0.831	A	1	A	B
24	T	Isophorone	82	3.758	0.885	A	1	A	B
25	C,P	2-Nitrophenol	139	3.840	0.904	A	1	A	B
26	T	2,4-Dimethylphenol	107	3.854	0.907	A	1	A	B
27	T	Benzoic acid	105	3.936	0.927	L	1	A	B
28	T	bis(2-Chloroethoxy)methane	93	3.964	0.933	A	1	A	B
29	T	3,5-Dimethylphenol	107	3.993	0.940	A	1	A	B
30	C,P	2,4-Dichlorophenol	162	4.080	0.960	A	1	A	B
31	T	3,4-Dimethylphenol	107	4.171	0.982	A	1	A	B
32	T	1,2,4-Trichlorobenzene	180	4.181	0.984	A	1	A	B
33	T	Naphthalene	128	4.273	1.006	A	1	A	B
34	T	4-Chloroaniline	127	4.316	1.016	A	1	A	B
35	T	2,6-Dichlorophenol	162	4.326	1.018	A	1	A	B
36	C	Hexachlorobutadiene	225	4.393	1.034	A	1	A	B
37	T	Hydroquinone	110	0.000	0.000	A	1	A	B
38	C,P	4-Chloro-3-methylphenol	107	4.837	1.139	A	1	A	B
39	T	2-Methylnaphthalene	142	5.038	1.186	A	1	A	B
40	T	1-Methylnaphthalene	142	5.153	1.213	A	1	A	B
41	I	Acenaphthene-d10	164	6.274	1.000	A	1	A	B
42	P	Hexachlorocyclopentadiene	237	5.220	0.832	A	1	A	B
43	T	2,3,5-Trichlorophenol	196	5.225	0.833	A	1	A	B
44	C,P	2,4,6-Trichlorophenol	196	5.355	0.854	A	1	A	B
45	T	2,4,5-Trichlorophenol	196	5.393	0.860	A	1	A	B
46	S	2-Fluorobiphenyl	172	5.466	0.871	A	1	A	B
47	T	2,3,4-Trichlorophenol	196	5.471	0.872	A	1	A	B
48	T	Biphenyl	154	5.586	0.890	A	1	A	B
49	T	2-Chloronaphthalene	162	5.605	0.893	A	1	A	B
50	T	2-Nitroaniline	65	5.720	0.912	A	1	A	B
51	T	2,6-Dimethylnaphthalene	156	5.773	0.920	A	1	A	B
52	T	1,4-Dinitrobenzene	168	5.889	0.939	A	1	A	B
53	T	Dimethylphthalate	163	5.956	0.949	A	1	A	B
54	T	1,3-Dinitrobenzene	168	5.980	0.953	A	1	A	B

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55	T	2,6-Dinitrotoluene	165	6.019	0.959	A	1	A	B
56	T	1,2-Dinitrobenzene	168	6.082	0.969	A	1	A	B
57	T	Acenaphthylene	152	6.101	0.972	A	1	A	B
58	T	3-Nitroaniline	138	6.216	0.991	A	1	A	B
59	C,P	Acenaphthene	153	6.312	1.006	A	1	A	B
60	P	2,4-Dinitrophenol	184	6.341	1.011	L	1	A	B
61	P	4-Nitrophenol	109	6.408	1.021	A	1	A	B
62	T	2,4-Dinitrotoluene	165	6.504	1.037	A	1	A	B
63	T	Dibenzofuran	168	6.518	1.039	A	1	A	B
64	T	2,3,5,6-Tetrachlorophenol	230	6.609	1.053	A	1	A	B
65	T	2,3,4,6-Tetrachlorophenol	232	6.662	1.062	A	1	A	B
66	T	2,3,5-Trimethylnaphthalene	170	6.776	1.080	A	1	A	B
67	T	Diethylphthalate	149	6.813	1.086	A	1	A	B
68	T	Fluorene	166	6.935	1.105	A	1	A	B
69	T	4-Chlorophenyl-phenylether	204	6.940	1.106	A	1	A	B
70	T	4-Nitroaniline	138	6.954	1.108	A	1	A	B
71	I	Phenanthrene-d10	188	8.009	1.000	A	1	A	B
72	T	4,6-Dinitro-2-methylphenol	198	6.987	0.872	L	1	A	B
73	C	N-Nitrosodiphenylamine	169	7.077	0.884	A	1	A	B
74	T	Azobenzene	77	7.129	0.890	A	1	A	B
75	S	2,4,6-Tribromophenol	330	7.210	0.900	A	1	A	B
76	T	4-Bromophenyl-phenylether	248	7.508	0.937	A	1	A	B
77	T	Hexachlorobenzene	284	7.565	0.945	A	1	A	B
78	C,P	Pentachlorophenol	266	7.787	0.972	A	1	A	B
79	T	Dibenzothiophene	184	7.891	0.985	A	1	A	B
80	T	Phenanthrene	178	8.032	1.003	A	1	A	B
81	T	Dinoseb	211	0.000	0.000	A	1	A	B
82	T	Anthracene	178	8.089	1.010	A	1	A	B
83	T	Carbazole	167	8.267	1.032	A	1	A	B
84	T	Di-n-butylphthalate	149	8.659	1.081	A	1	A	B
85	T	1-Methylphenanthrene	192	8.702	1.087	A	1	A	B
86	C,P	Fluoranthene	202	9.311	1.163	A	1	A	B
87	I	Chrysene-d12	240	10.791	1.000	A	1	A	B
88	T	Benzidine	184	0.000	0.000	A	1	A	B
89	T	Pyrene	202	9.547	0.885	A	1	A	B
90	S	Terphenyl-d14	244	9.716	0.900	A	1	A	B
91	T	Butylbenzylphthalate	149	10.218	0.947	A	1	A	B
92	T	bis(2-ethylhexyl)adipate	129	10.299	0.954	A	1	A	B
93	T	3,3'-Dichlorobenzidine	252	10.748	0.996	A	1	A	B
94	T	Benzo(a)anthracene	228	10.777	0.999	A	1	A	B
95	T	Chrysene	228	10.816	1.002	A	1	A	B
96	T	bis(2-Ethylhexyl)phthalate	149	10.801	1.001	A	1	A	B
97	I	Perylene-d12	264	12.218	1.000	A	1	A	B
98	C	Di-n-octylphthalate	149	11.422	0.935	A	1	A	B
99	T	Benzo(b)fluoranthene	252	11.811	0.967	A	1	A	B
100	T	Benzo(k)fluoranthene	252	11.840	0.969	A	1	A	B
101	T	Benzo(e)pyrene	252	12.096	0.990	A	1	A	B
102	C,P	Benzo(a)pyrene	252	12.155	0.995	A	1	A	B
103	T	Perylene	252	12.247	1.002	A	1	A	B
104	T	Indeno(1,2,3-cd)pyrene	276	13.563	1.110	A	1	A	B
105	T	Dibenzo(a,h)anthracene	278	13.587	1.112	A	1	A	B
106	T	Benzo(g,h,i)perylene	276	13.971	1.143	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

SVE4B02.M Tue Feb 02 13:45:46 2016

mc 02-08-16

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:ICAL
SDG No.:ICAL
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	424119	3.02	1535126	4.25	929909	6.27
	UPPER LIMIT	848238	3.52	3070252	4.75	1859818	6.77
	LOWER LIMIT	212060	2.52	767563	3.75	464955	5.77
	SAMPLE ID						
1	SVE4B021	461215	3.02	1653283	4.24	975500	6.27
2	SVE4B022	457524	3.02	1635246	4.24	965543	6.27
3	SVE4B023	438355	3.02	1557201	4.25	920177	6.27
4	SVE4B024	455852	3.02	1618791	4.25	966999	6.27
5	SVE4B026	428154	3.02	1558094	4.25	937266	6.27
6	SVE4B027	432450	3.02	1552213	4.25	916662	6.27
7	SVE4B028	432154	3.02	1547249	4.24	918028	6.27
8	ISVE4B022	489141	3.02	1779787	4.25	1073834	6.27

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

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

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

FORM VIII SV-1 OLM02.0

pc 02-08-16

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:ICAL
SDG No.:ICAL
Date Analyzed: 02/02/16
Time Analyzed: 10:25

	IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
12 HOUR STD	1694673	8.01	1850796	10.79	1601653	12.22
UPPER LIMIT	3389346	8.51	3701592	11.29	3203306	12.72
LOWER LIMIT	847337	7.51	925398	10.29	800827	11.72
SAMPLE ID						
1 SVE4B021	1717161	8.00	1841322	10.79	1572144	12.21
2 SVE4B022	1710410	8.00	1882885	10.79	1627440	12.21
3 SVE4B023	1669203	8.01	1936700	10.79	1696912	12.22
4 SVE4B024	1728695	8.01	1903162	10.79	1635198	12.22
5 SVE4B026	1665411	8.01	1881471	10.79	1593531	12.21
6 SVE4B027	1649622	8.01	1883963	10.79	1610421	12.21
7 SVE4B028	1630524	8.01	1830134	10.79	1579900	12.21
8 ISVE4B022	1895693	8.01	2074726	10.79	1806442	12.21

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

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

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

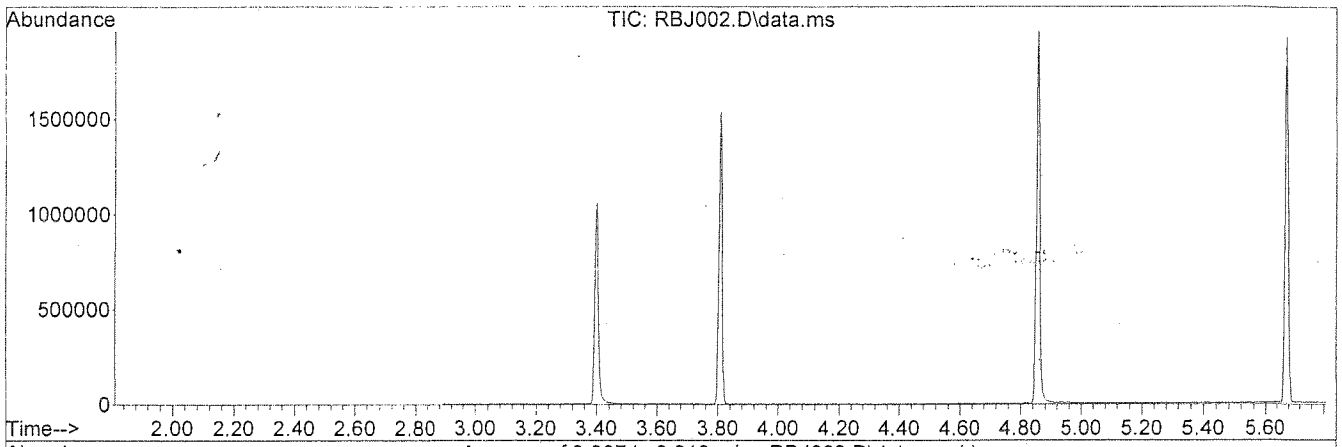
FORM VIII SV-2 OLM02.0

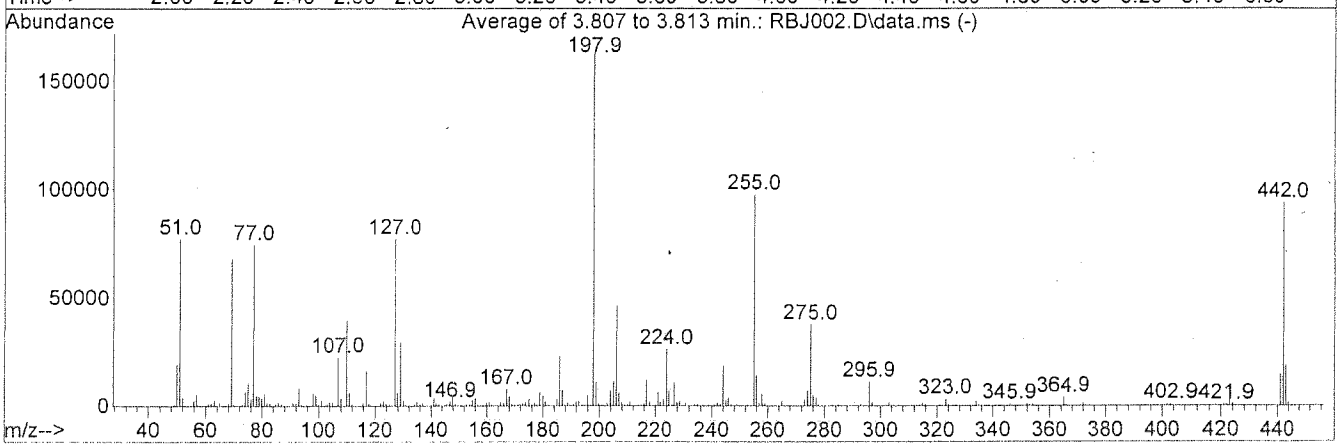
02-08-16

Data Path : D:\DATA\16B02\
Data File : RBJ002.D
Acq On : 2 Feb 2016 8:58
Operator : KVu
Sample : DFTE4B0201
Misc :
ALS Vial : 2, Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP.M
Title : DFTPP
Last Update : Tue Feb 02 13:54:37 2016





AutoFind: Scans 327, 328, 329; Background Corrected with Scan 319

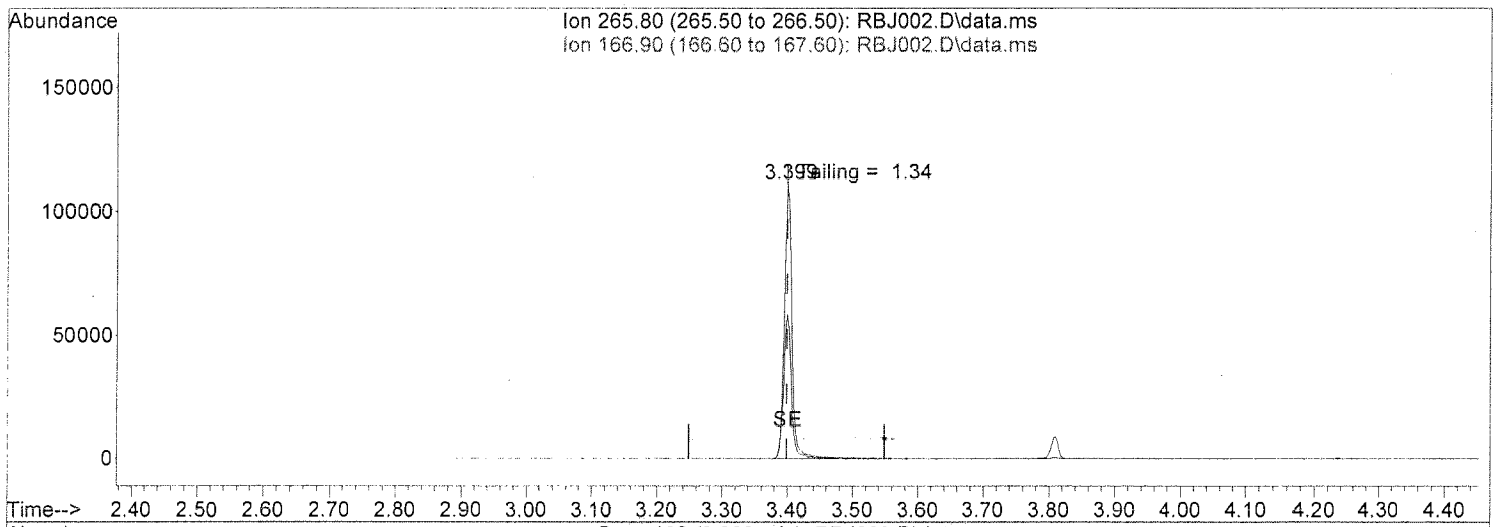
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.0	77064	PASS
68	69	0.00	2	1.8	1246	PASS
69	198	0.00	100	41.4	67760	PASS
70	69	0.00	2	0.8	530	PASS
127	198	40	60	47.0	77040	PASS
197	198	0.00	1	0.1	238	PASS
198	198	100	100	100.0	163819	PASS
199	198	5	9	6.7	10948	PASS
275	198	10	30	23.0	37632	PASS
365	198	1	100	2.4	3963	PASS
441	443	0.01	100	78.6	14505	PASS
442	198	40	100	57.2	93643	PASS
443	442	17	23	19.7	18463	PASS

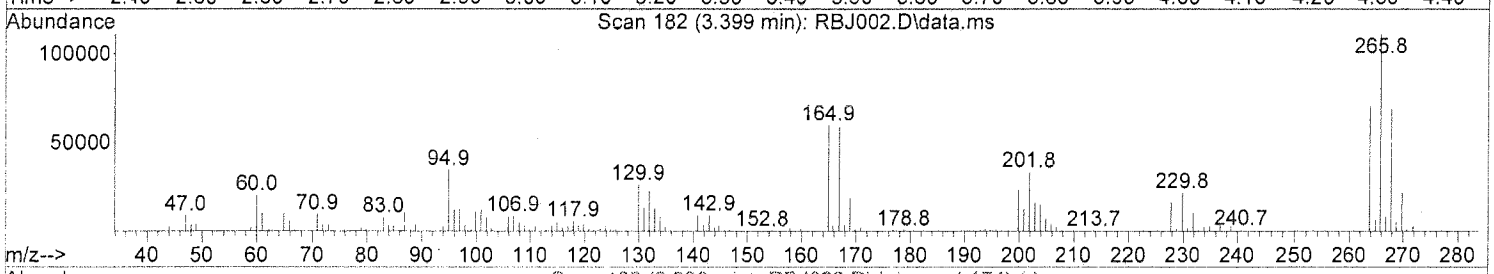
02-08-16

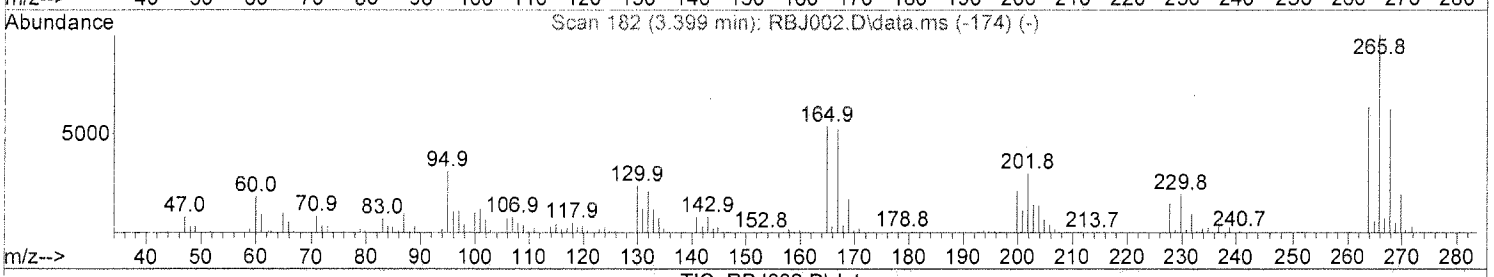
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(1) Pentachlorophenol (T)

3.399min (+0.000) 50.00 ppm

response 91472

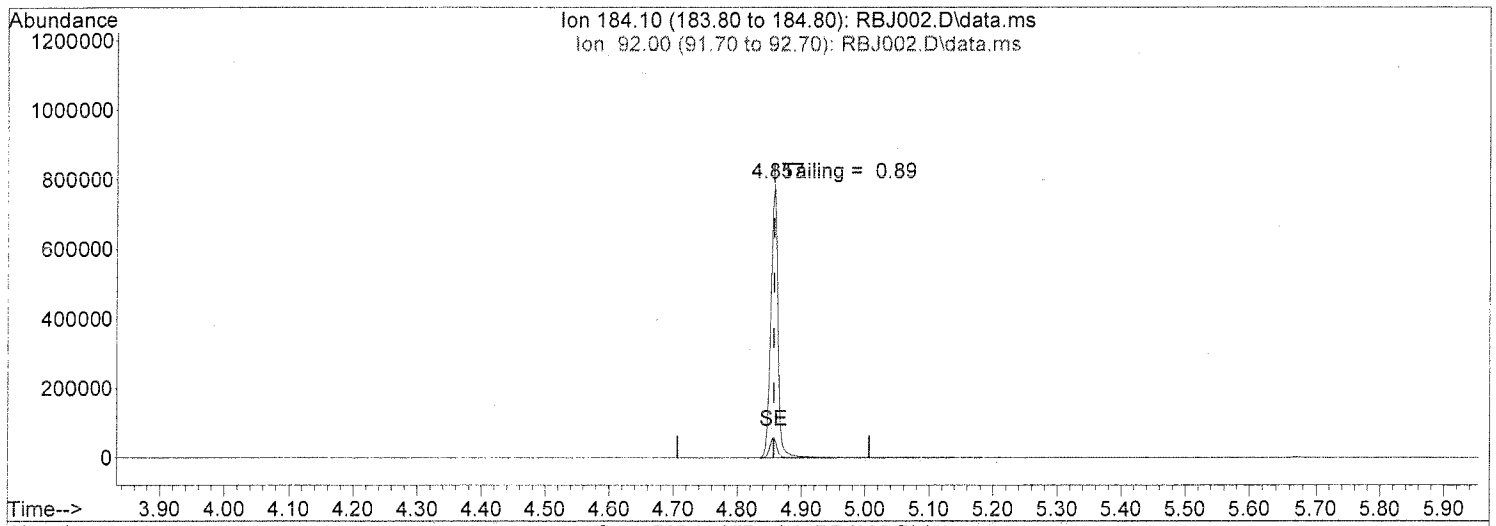
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	53.80
0.00	0.00	0.00
0.00	0.00	0.00

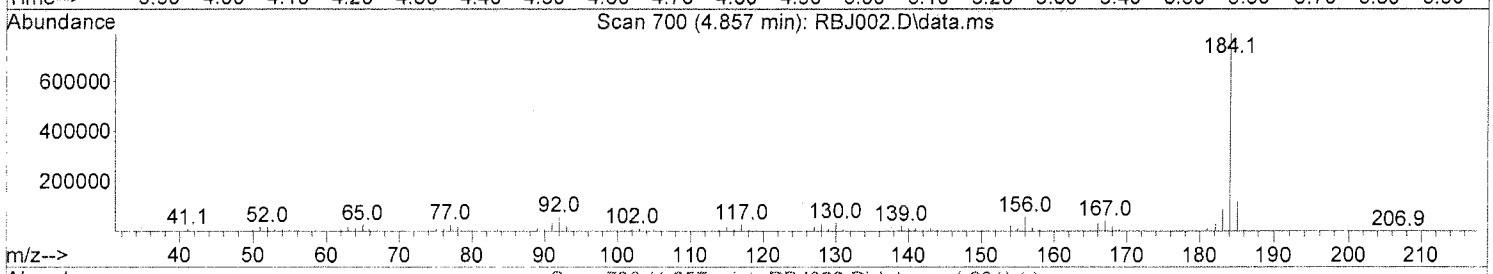
KV 02-08-16

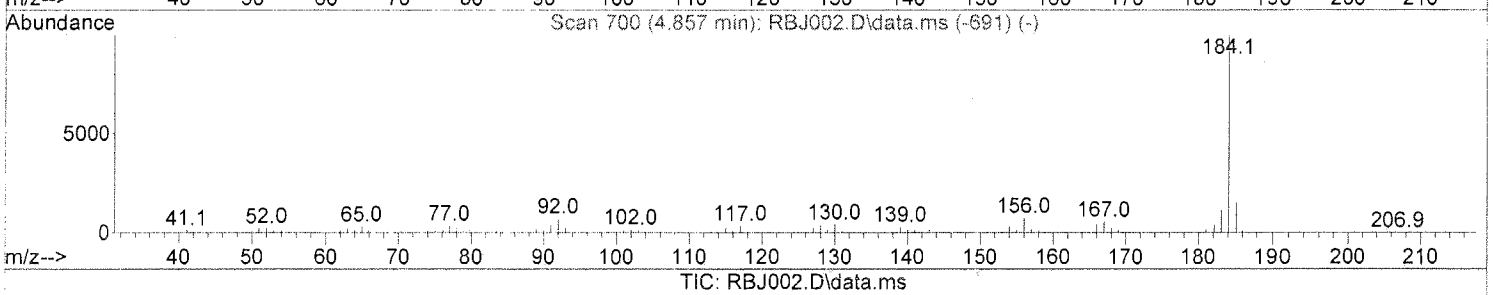
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(3) Benzidine (T)

4.857min (0.000) 50.00 ppm

response 619113

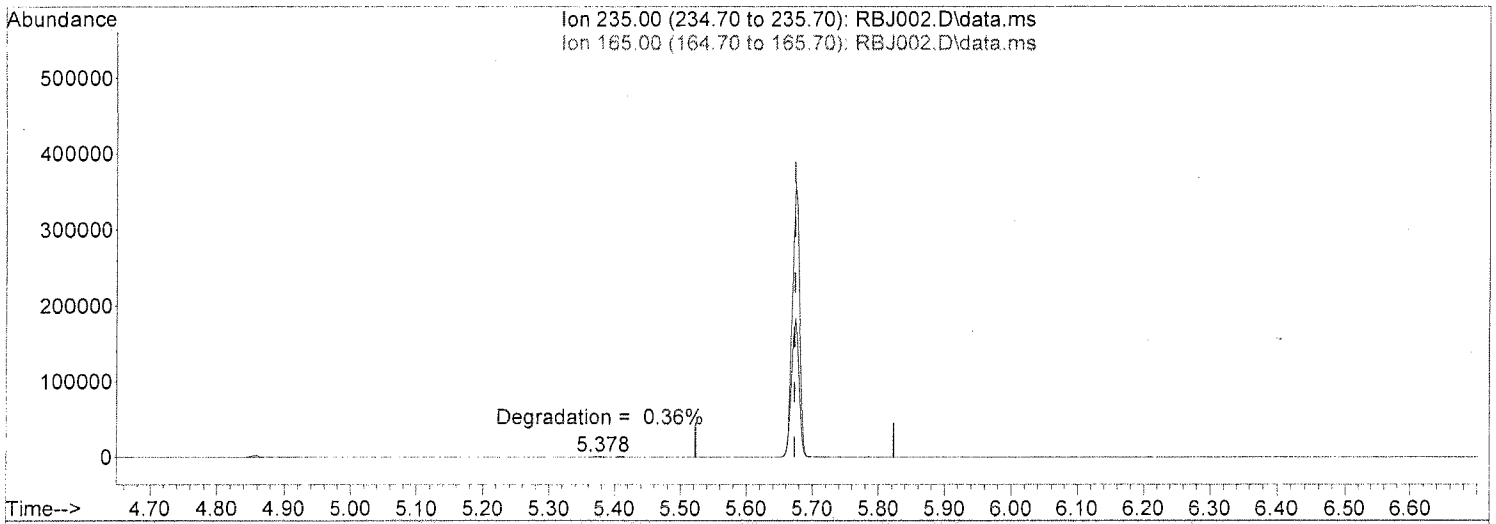
Ion	Exp%	Act%
184.10	100	100
92.00	7.50	7.46
0.00	0.00	0.00
0.00	0.00	0.00

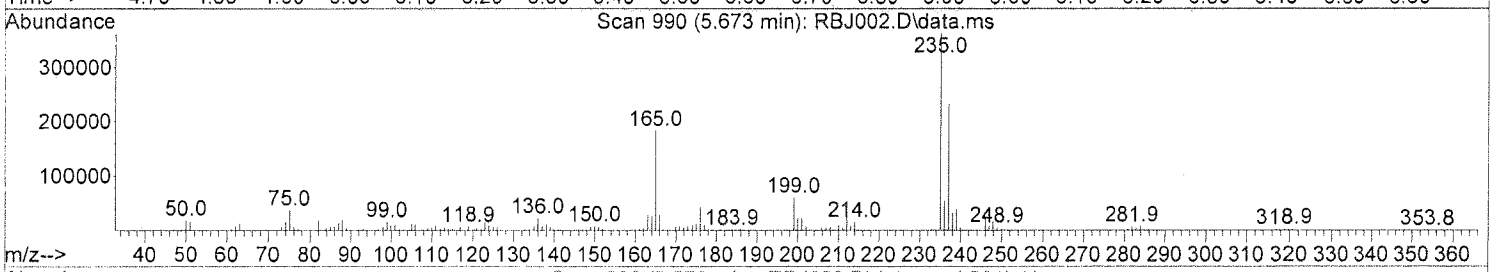
KV 02-08-16

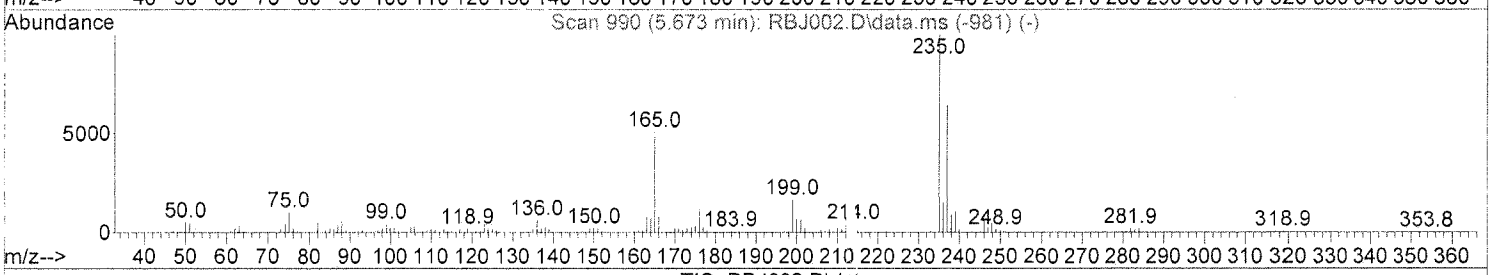
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(6) DDT (T)

5.673min (0.000) 50.00 ppm

response 287336

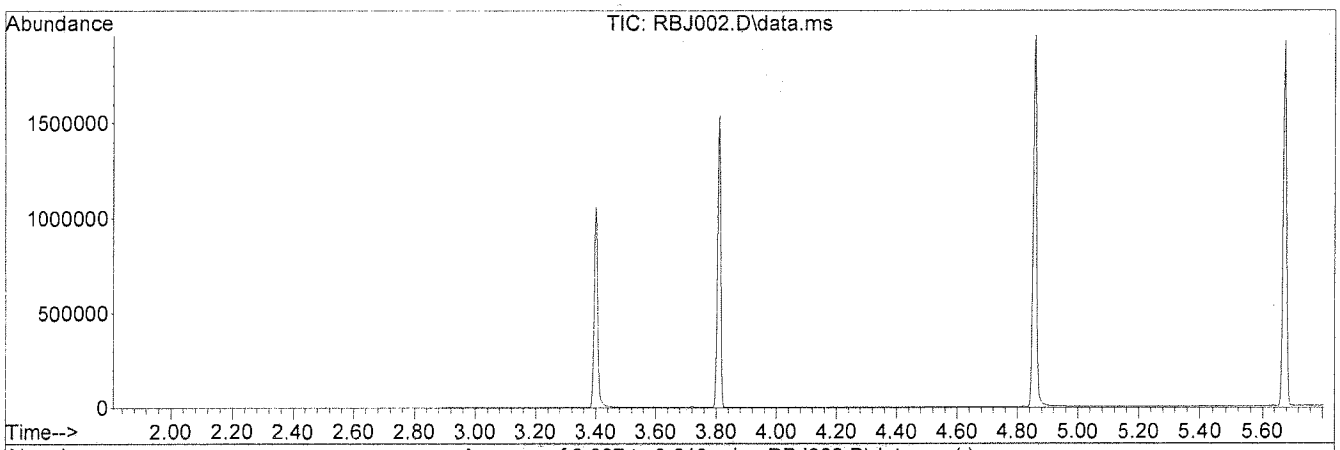
Ion	Exp%	Act%
235.00	100	100
165.00	51.10	51.13
0.00	0.00	0.00
0.00	0.00	0.00

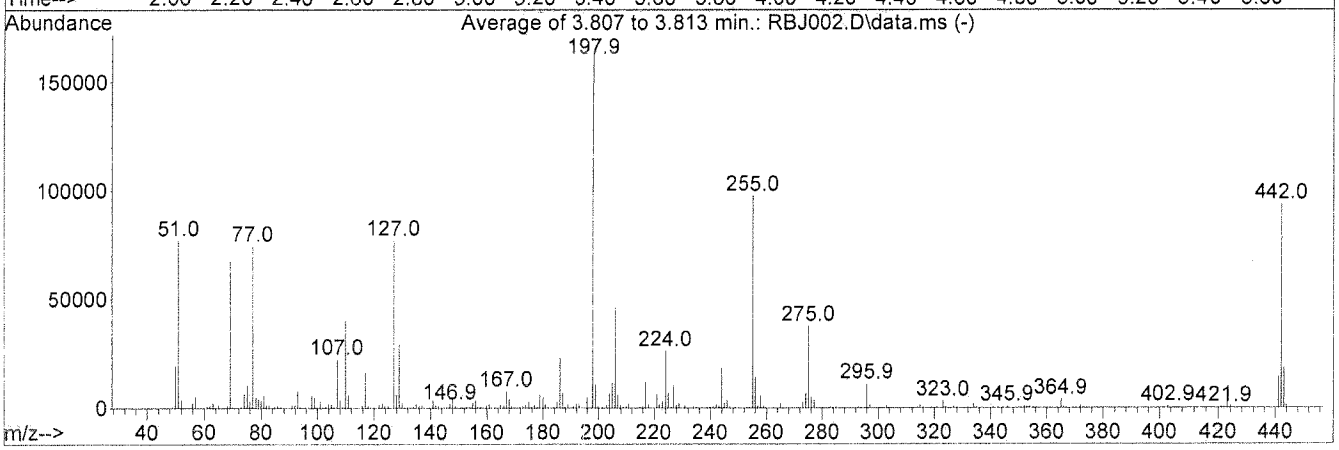
JW 02-08-16

Data Path : D:\DATA\16B02\
Data File : RBJ002.D
Acq On : 2 Feb 2016 8:58
Operator : KVu
Sample : DFTE4B0201
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : Semivolatiles DFTPP 8270D
Last Update : Tue Feb 02 13:55:35 2016





AutoFind: Scans 327, 328, 329; Background Corrected with Scan 319

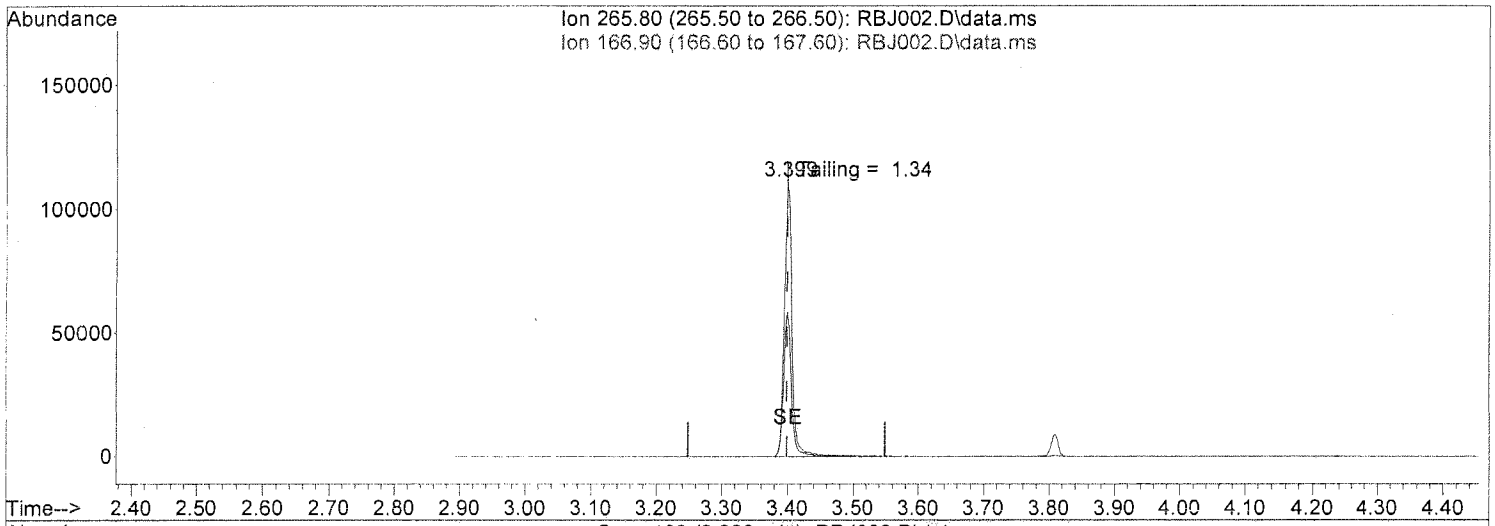
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	47.0	77064	PASS
68	69	0.00	2	1.8	1246	PASS
69	198	0.00	100	41.4	67760	PASS
70	69	0.00	2	0.8	530	PASS
127	198	10	80	47.0	77040	PASS
197	198	0.00	2	0.1	238	PASS
198	198	100	100	100.0	163819	PASS
199	198	5	9	6.7	10948	PASS
275	198	10	60	23.0	37632	PASS
365	198	1	100	2.4	3963	PASS
441	442	0.01	24	15.5	14505	PASS
442	198	50	100	57.2	93643	PASS
443	442	15	24	19.7	18463	PASS

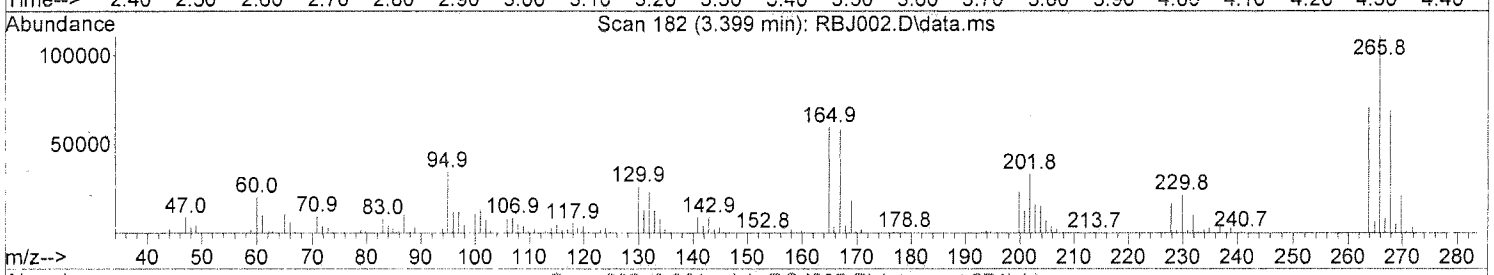
pu 02-08-16

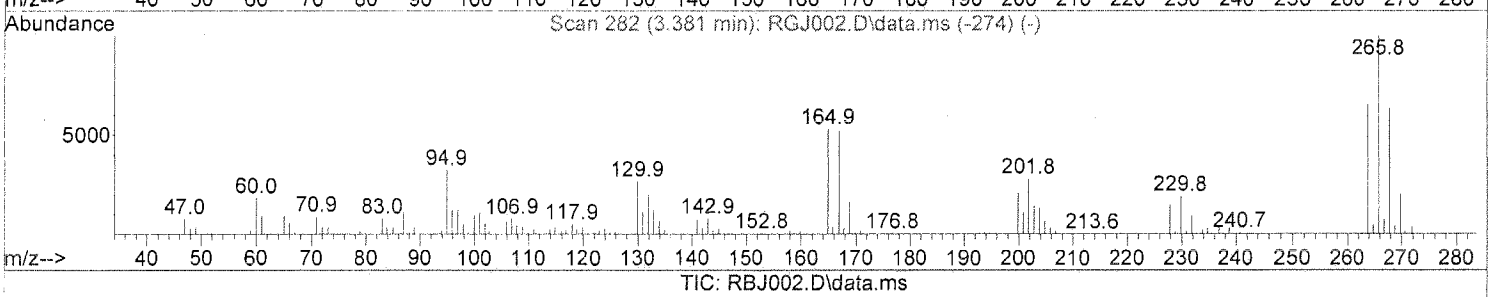
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(1) Pentachlorophenol (T)

3.399min (+0.000) 50.00 ppm

response 91472

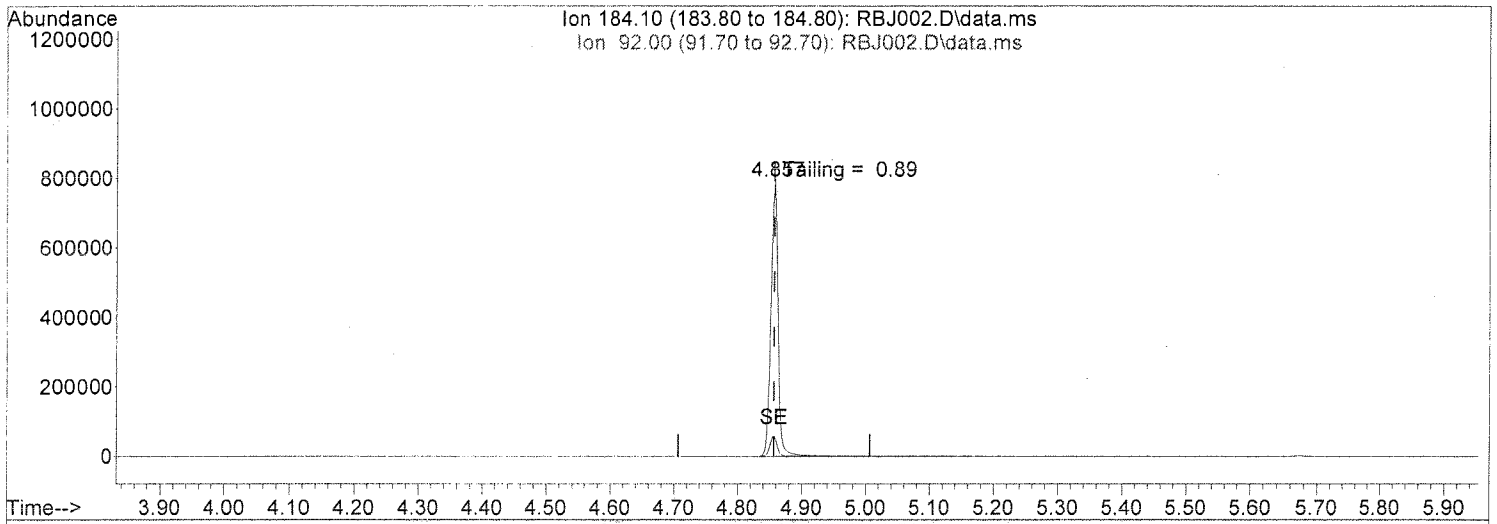
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	53.80
0.00	0.00	0.00
0.00	0.00	0.00

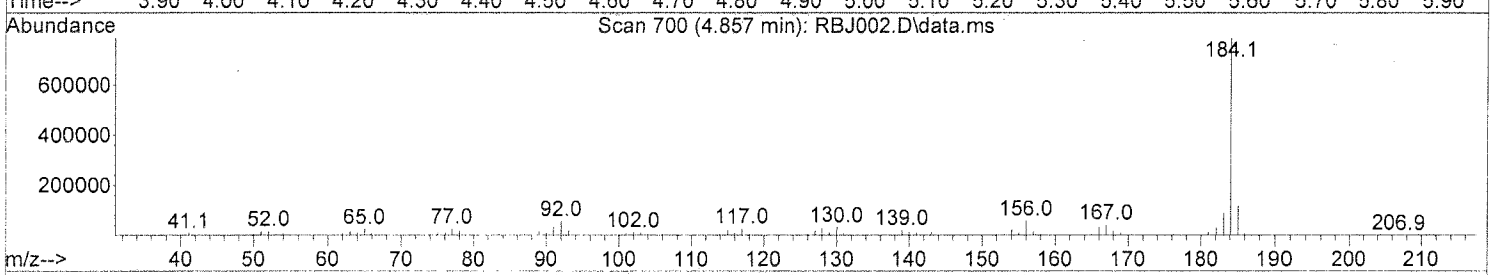
02-08-16

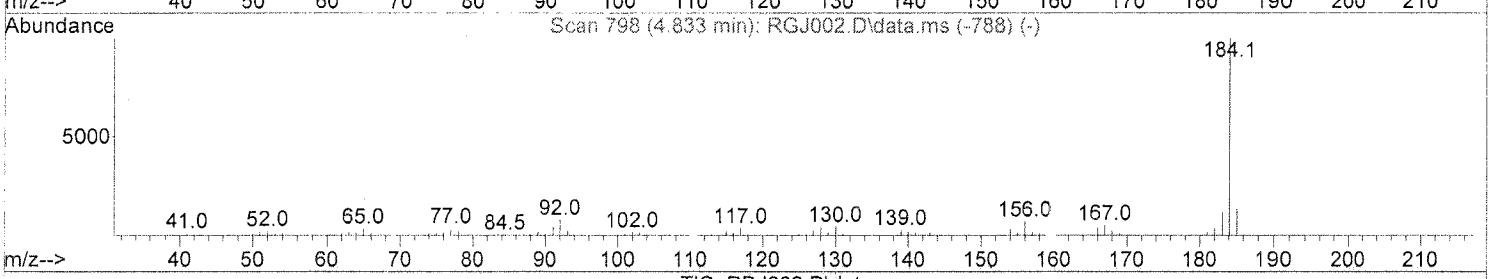
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(3) Benzidine (T)

4.857min (0.000) 50.00 ppm

response 619113

Ion	Exp%	Act%
184.10	100	100
92.00	7.50	7.46
0.00	0.00	0.00
0.00	0.00	0.00

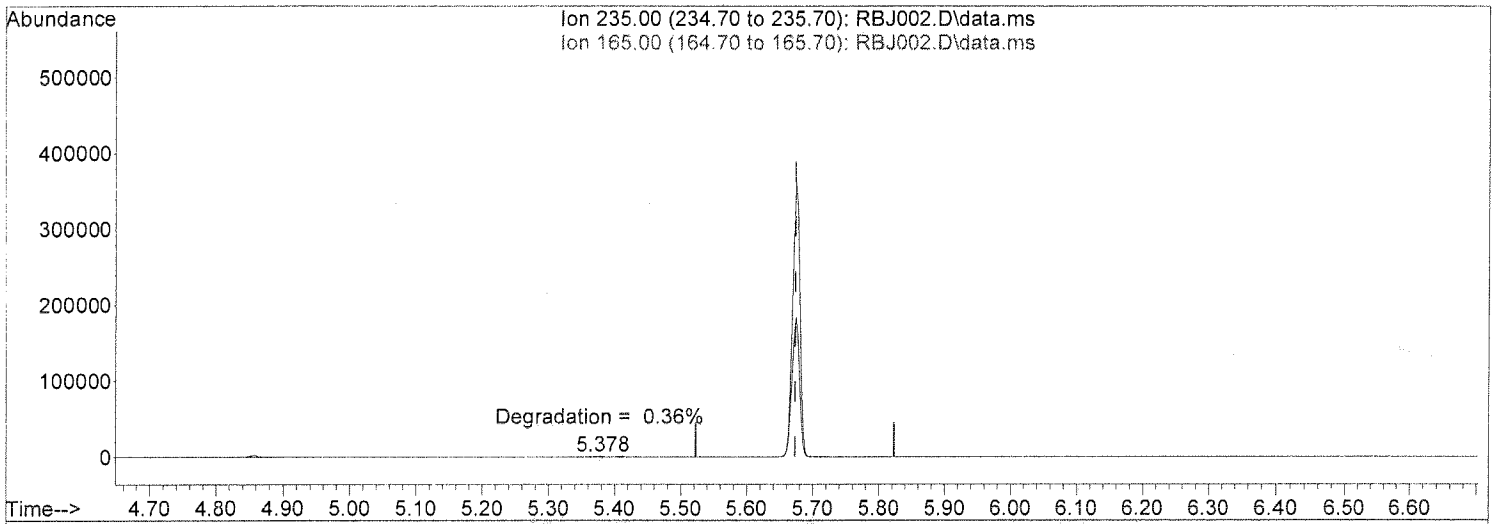
pw 02-08-16

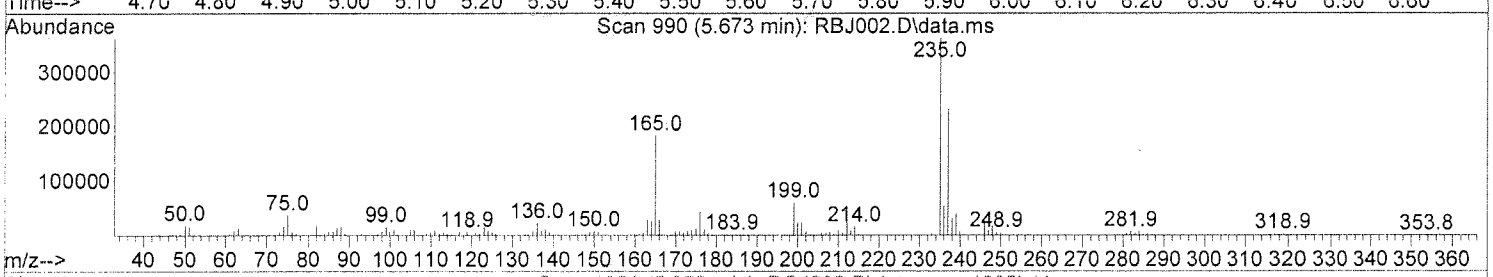
404

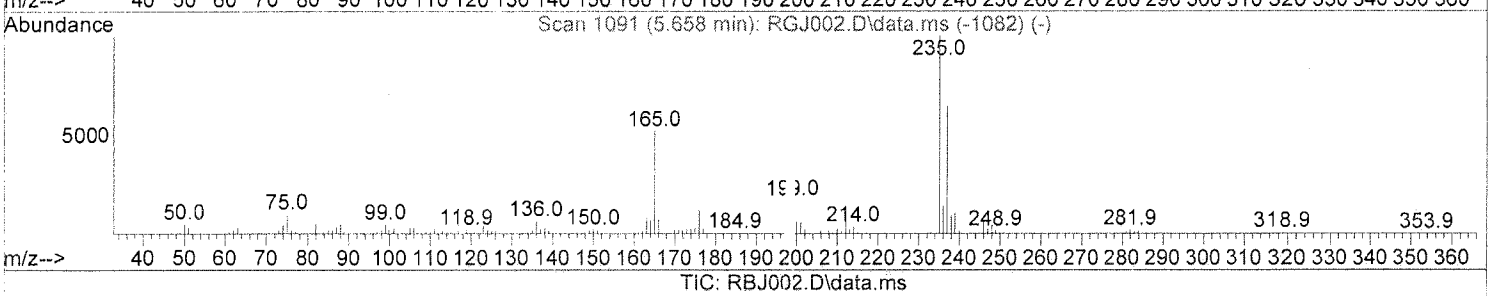
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(6) DDT (T)

5.673min (0.000) 50.00 ppm

response 287336

Ion	Exp%	Act%
235.00	100	100
165.00	51.10	51.13
0.00	0.00	0.00
0.00	0.00	0.00

02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	432154	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1547249	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	918028	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1630524	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1830134	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1579900	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	56270	3.96	ppm	0.00
Spiked Amount 30.000			Recovery	=	13.20%	
6) Phenol-d5	2.654	99	69411	3.96	ppm	0.00
Spiked Amount 30.000			Recovery	=	13.20%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.504	82	68600	3.93	ppm	0.00
Spiked Amount 10.000			Recovery	=	39.30%	
46) 2-Fluorobiphenyl	5.461	172	151292	4.13	ppm	0.00
Spiked Amount 10.000			Recovery	=	41.30%	
75) 2,4,6-Tribromophenol	7.210	330	13483	3.44	ppm	0.00
Spiked Amount 30.000			Recovery	=	11.47%	
90) Terphenyl-d14	9.707	244	157297	4.01	ppm	0.00
Spiked Amount 10.000			Recovery	=	40.10%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	29143	4.50	ppm	91
3) N-nitrosodimethylamine	1.477	74	36345	3.96	ppm	94
4) Pyridine	1.505	79	68558	4.15	ppm	97
7) Phenol	2.665	94	73224	4.03	ppm	100
8) Aniline	2.738	93	93791	4.06	ppm	99
9) bis(2-chloroethyl)ether	2.769	93	55513	4.03	ppm	97
10) 2-Chlorophenol	2.837	128	58899	3.84	ppm	93
11) 1,3-Dichlorobenzene	2.972	146	71797	4.02	ppm	96
13) 1,4-Dichlorobenzene	3.030	146	73287	4.04	ppm	98
14) Benzyl alcohol	3.106	108	38157	3.87	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	70328	4.06	ppm	98
16) 2-Methylphenol	3.178	107	50591	4.08	ppm	98
17) bis(2-chloroisopropyl)...	3.226	45	119827	4.18	ppm	99
18) 4-Methylphenol	3.317	107	63038	3.84	ppm	99
19) N-Nitroso-di-n-propyla...	3.341	70	42751	3.72	ppm	91
20) Hexachloroethane	3.475	117	27260	3.93	ppm	95
23) Nitrobenzene	3.523	77	70208	4.01	ppm	97
24) Isophorone	3.749	82	135494	4.03	ppm	95
25) 2-Nitrophenol	3.835	139	24398	3.45	ppm	92
26) 2,4-Dimethylphenol	3.849	107	64645	3.98	ppm	91
27) Benzoic acid	3.878	105	27390	4.50	ppm	77
28) bis(2-Chloroethoxy)met...	3.960	93	72181	4.11	ppm	99
29) 3,5-Dimethylphenol	3.988	107	64358	3.67	ppm	88
30) 2,4-Dichlorophenol	4.075	162	53393	3.88	ppm	99
31) 3,4-Dimethylphenol	4.167	107	77288	4.04	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	64711	4.12	ppm	100
33) Naphthalene	4.268	128	178696	4.15	ppm	100
34) 4-Chloroaniline	4.311	127	73097	3.98	ppm	99
35) 2,6-Dichlorophenol	4.321	162	51295	3.94	ppm	100
36) Hexachlorobutadiene	4.393	225	41700	3.97	ppm	99

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.832	107	49964	3.83	ppm	98
39)	2-Methylnaphthalene	5.034	142	126083	4.16	ppm	100
40)	1-Methylnaphthalene	5.149	142	110276	4.15	ppm	98
42)	Hexachlorocyclopentadiene	5.216	237	42680	3.70	ppm	99
43)	2,3,5-Trichlorophenol	5.220	196	32884	3.35	ppm	98
44)	2,4,6-Trichlorophenol	5.350	196	38949	3.73	ppm	100
45)	2,4,5-Trichlorophenol	5.389	196	40981	3.73	ppm	99
47)	2,3,4-Trichlorophenol	5.466	196	37526	3.90	ppm	92
48)	Biphenyl	5.582	154	155802	4.17	ppm	100
49)	2-Chloronaphthalene	5.601	162	124512	4.05	ppm	99
50)	2-Nitroaniline	5.716	65	30748	3.55	ppm	100
51)	2,6-Dimethylnaphthalene	5.769	156	108318	4.09	ppm	100
52)	1,4-Dinitrobenzene	5.884	168	12540	3.29	ppm	99
53)	Dimethylphthalate	5.947	163	135780	4.02	ppm	99
54)	1,3-Dinitrobenzene	5.971	168	14934	3.31	ppm	88
55)	2,6-Dinitrotoluene	6.009	165	26092	3.77	ppm	98
56)	1,2-Dinitrobenzene	6.067	168	10358	3.56	ppm	99
57)	Acenaphthylene	6.096	152	190343	3.91	ppm	96
58)	3-Nitroaniline	6.207	138	26777	3.70	ppm	98
59)	Acenaphthene	6.308	153	125181	4.11	ppm	100
60)	2,4-Dinitrophenol	6.332	184	6150	4.50	ppm	97
61)	4-Nitrophenol	6.394	109	15334	3.24	ppm	99
62)	2,4-Dinitrotoluene	6.495	165	30972	3.45	ppm	97
63)	Dibenzofuran	6.514	168	177830	4.11	ppm	99
64)	2,3,5,6-Tetrachlorophenol	6.605	230	25009	3.49	ppm	96
65)	2,3,4,6-Tetrachlorophenol	6.657	232	36700	3.72	ppm	88
66)	2,3,5-Trimethylnaphtha...	6.767	170	99855	4.03	ppm	99
67)	Diethylphthalate	6.804	149	135865	3.97	ppm	99
68)	Fluorene	6.926	166	137588	4.08	ppm	99
69)	4-Chlorophenyl-phenyle...	6.936	204	69827	4.07	ppm	99
70)	4-Nitroaniline	6.936	138	26352	3.54	ppm	92
72)	4,6-Dinitro-2-methylph...	6.978	198	10957	4.16	ppm	99
73)	N-Nitrosodiphenylamine	7.072	169	112554	4.04	ppm	100
74)	Azobenzene	7.124	77	132536	4.05	ppm	99
76)	4-Bromophenyl-phenylether	7.504	248	40235	4.11	ppm	95
77)	Hexachlorobenzene	7.560	284	40522	4.07	ppm	98
78)	Pentachlorophenol	7.787	266	17804	3.13	ppm	98
79)	Dibenzothiophene	7.886	184	208037	4.14	ppm	99
80)	Phenanthrene	8.032	178	210651	4.12	ppm	100
82)	Anthracene	8.084	178	204329	3.97	ppm	100
83)	Carbazole	8.263	167	177876	4.06	ppm	100
84)	Di-n-butylphthalate	8.659	149	197641	3.72	ppm	100
85)	1-Methylphenanthrene	8.697	192	144115	3.97	ppm	100
86)	Fluoranthene	9.306	202	227717	3.95	ppm	99
89)	Pyrene	9.542	202	245502	3.92	ppm	96
91)	Butylbenzylphthalate	10.218	149	65997	3.11	ppm	98
92)	bis(2-ethylhexyl)adipate	10.295	129	56046	3.21	ppm	94
93)	3,3'-Dichlorobenzidine	10.743	252	66927	3.55	ppm	95
94)	Benzo(a)anthracene	10.772	228	225775	3.99	ppm	99
95)	Chrysene	10.806	228	214346	4.10	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.796	149	115001	3.51	ppm	99
98)	Di-n-octylphthalate	11.417	149	166019	3.09	ppm	99
99)	Benzo(b)fluoranthene	11.801	252	199736	3.94	ppm	98
100)	Benzo(k)fluoranthene	11.830	252	199481	3.91	ppm	97
101)	Benzo(e)pyrene	12.086	252	181471	3.88	ppm	96

pm 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.140	252	185290	3.85	ppm	97
103) Perylene	12.237	252	188683	3.91	ppm	97
104) Indeno(1,2,3-cd)pyrene	13.544	276	194400	3.65	ppm	95
105) Dibenzo(a,h)anthracene	13.568	278	165976	3.74	ppm	98
106) Benzo(g,h,i)perylene	13.942	276	181505	3.96	ppm	96

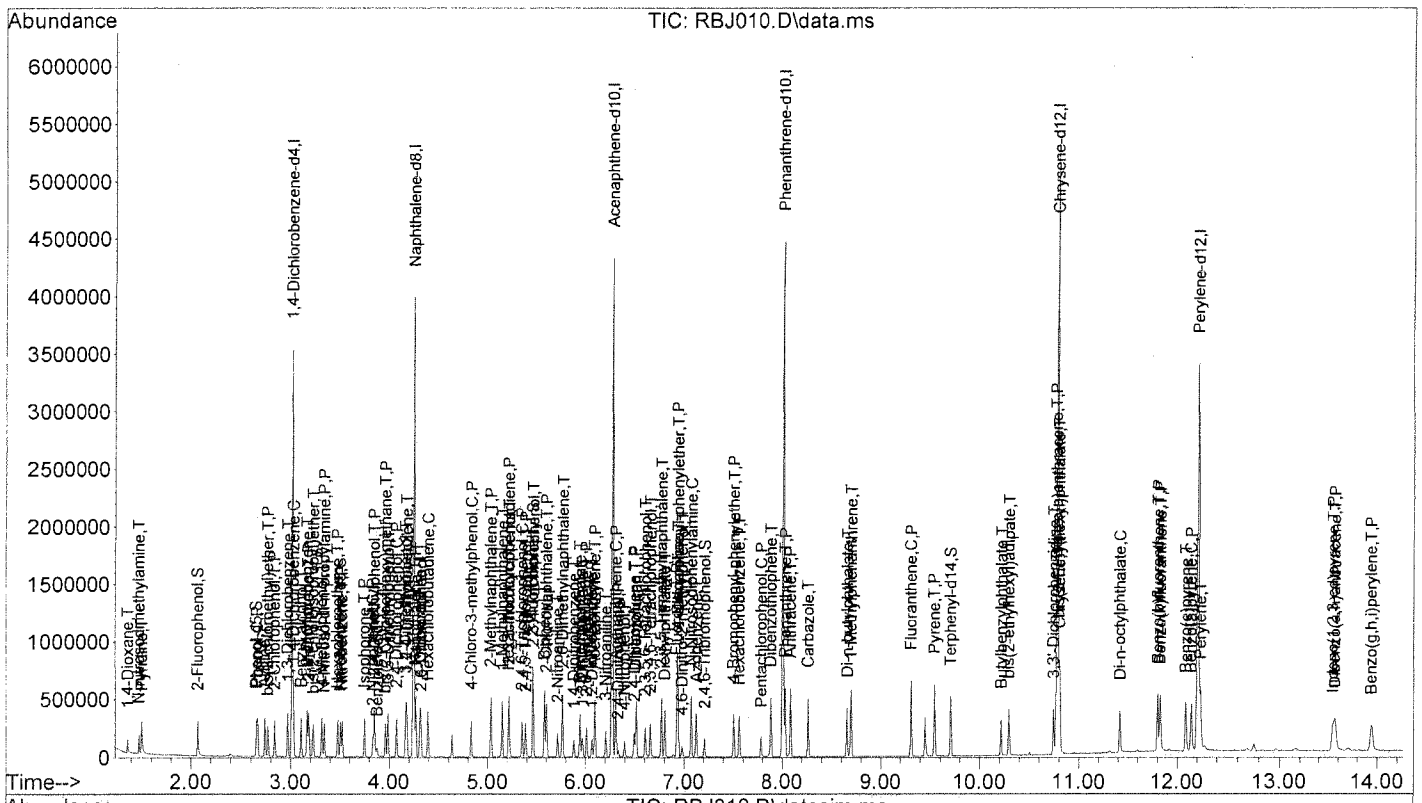
(#) = qualifier out of range (m) = manual integration (+) = signals summed

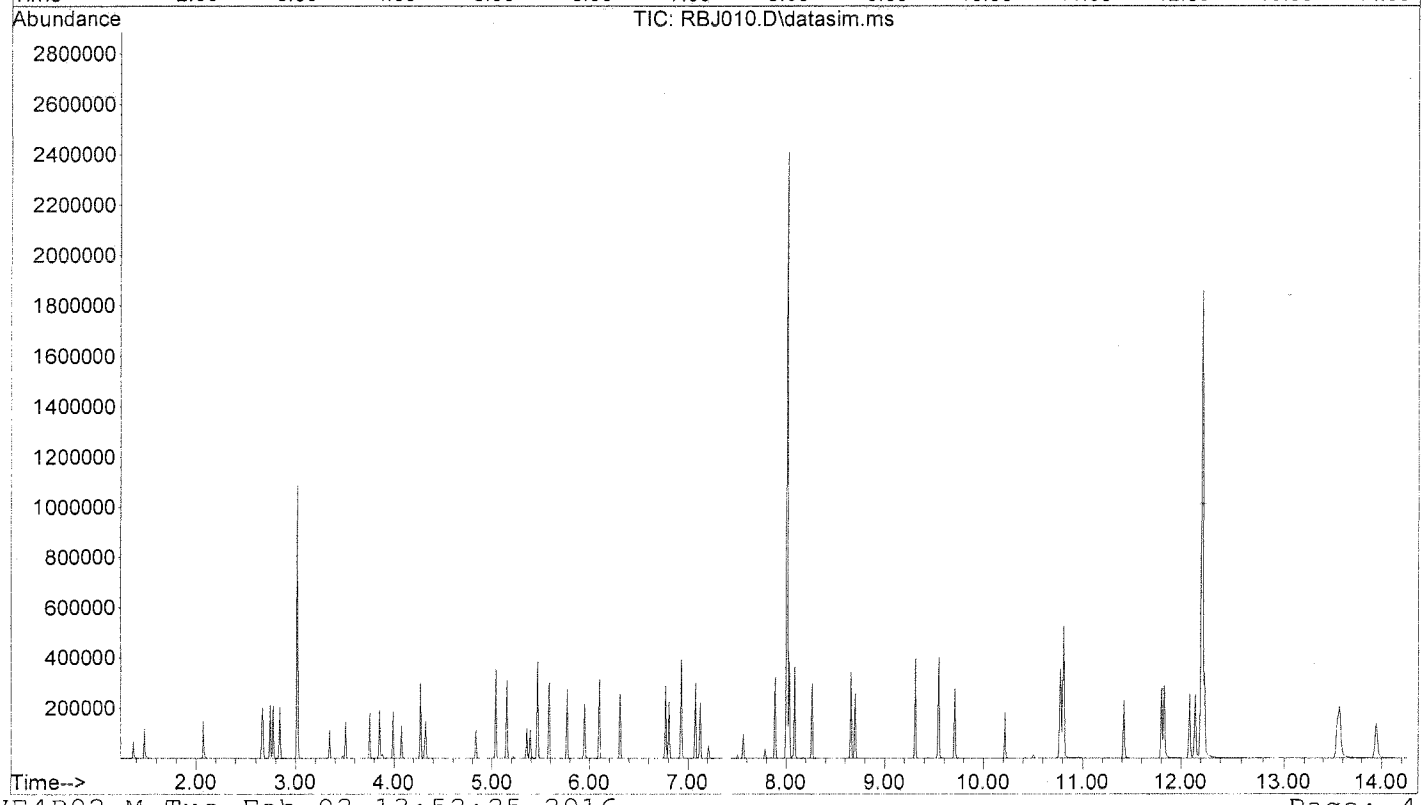
pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00





M 02-08-16

409

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	432450	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1552213	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	916662	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1649622	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1883963	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1610421	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	140279	9.88	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.93%	
6) Phenol-d5	2.654	99	171821	9.79	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.63%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.504	82	172971	9.88	ppm	0.00
Spiked Amount 10.000			Recovery	=	98.80%	
46) 2-Fluorobiphenyl	5.461	172	370670	10.12	ppm	0.00
Spiked Amount 10.000			Recovery	=	101.20%	
75) 2,4,6-Tribromophenol	7.210	330	38436	9.70	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.33%	
90) Terphenyl-d14	9.711	244	397992	9.87	ppm	0.00
Spiked Amount 10.000			Recovery	=	98.70%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	65915	10.18	ppm	94
3) N-nitrosodimethylamine	1.477	74	90964	9.90	ppm	96
4) Pyridine	1.501	79	171264	10.36	ppm	100
7) Phenol	2.670	94	179267	9.86	ppm	100
8) Aniline	2.743	93	231796	10.02	ppm	98
9) bis(2-chloroethyl)ether	2.769	93	136883	9.93	ppm	97
10) 2-Chlorophenol	2.837	128	147732	9.63	ppm	91
11) 1,3-Dichlorobenzene	2.972	146	178852	10.00	ppm	100
13) 1,4-Dichlorobenzene	3.030	146	180267	9.93	ppm	100
14) Benzyl alcohol	3.106	108	98381	9.98	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	175135	10.10	ppm	99
16) 2-Methylphenol	3.183	107	123043	9.92	ppm	97
17) bis(2-chloroisopropyl)...	3.226	45	286526	9.98	ppm	99
18) 4-Methylphenol	3.317	107	159309	9.69	ppm	100
19) N-Nitroso-di-n-propyla...	3.346	70	109909	9.55	ppm	99
20) Hexachloroethane	3.475	117	67693	9.76	ppm	97
23) Nitrobenzene	3.523	77	173735	9.88	ppm	100
24) Isophorone	3.75[illegible]	82	334210	9.92	ppm	95
25) 2-Nitrophenol	3.835	139	69035	9.73	ppm	100
26) 2,4-Dimethylphenol	3.84[illegible]	107	162468	9.97	ppm	100
27) Benzoic acid	3.90[illegible]	105	74723	8.88	ppm	96
28) bis(2-Chloroethoxy)met...	3.96[illegible]	93	175670	9.97	ppm	99
29) 3,5-Dimethylphenol	3.98[illegible]	107	159077	9.05	ppm	89
30) 2,4-Dichlorophenol	4.075	162	136150	9.86	ppm	100
31) 3,4-Dimethylphenol	4.16[illegible]	107	191207	9.96	ppm	100
32) 1,2,4-Trichlorobenzene	4.17[illegible]	180	160111	10.15	ppm	98
33) Naphthalene	4.26[illegible]	128	432811	10.01	ppm	99
34) 4-Chloroaniline	4.31[illegible]	127	185544	10.07	ppm	99
35) 2,6-Dichlorophenol	4.32[illegible]	162	130994	10.02	ppm	100
36) Hexachlorobutadiene	4.39[illegible]	225	104042	9.88	ppm	100

AM 02-08-16

410

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.832	107	125029	9.54	ppm	100
39) 2-Methylnaphthalene	5.038	142	304959	10.02	ppm	99
40) 1-Methylnaphthalene	5.153	142	265903	9.98	ppm	100
42) Hexachlorocyclopentadiene	5.216	237	111546	9.69	ppm	98
43) 2,3,5-Trichlorophenol	5.220	196	99382	10.14	ppm	93
44) 2,4,6-Trichlorophenol	5.355	196	101021	9.69	ppm	100
45) 2,4,5-Trichlorophenol	5.389	196	107898	9.84	ppm	100
47) 2,3,4-Trichlorophenol	5.466	196	97362	10.13	ppm	92
48) Biphenyl	5.582	154	378136	10.13	ppm	100
49) 2-Chloronaphthalene	5.606	162	306309	9.97	ppm	100
50) 2-Nitroaniline	5.716	65	84104	9.71	ppm	98
51) 2,6-Dimethylnaphthalene	5.769	156	266195	10.07	ppm	99
52) 1,4-Dinitrobenzene	5.889	168	35109	9.24	ppm	97
53) Dimethylphthalate	5.947	163	335476	9.94	ppm	99
54) 1,3-Dinitrobenzene	5.971	168	43557	9.67	ppm	84
55) 2,6-Dinitrotoluene	6.014	165	67449	9.77	ppm	100
56) 1,2-Dinitrobenzene	6.072	168	28363	9.75	ppm	95
57) Acenaphthylene	6.096	152	478275	9.84	ppm	97
58) 3-Nitroaniline	6.212	138	72590	10.06	ppm	99
59) Acenaphthene	6.308	153	306337	10.07	ppm	100
60) 2,4-Dinitrophenol	6.332	184	20968	8.85	ppm	95
61) 4-Nitrophenol	6.399	109	45441	9.62	ppm	98
62) 2,4-Dinitrotoluene	6.495	165	88726	9.89	ppm	100
63) Dibenzofuran	6.519	168	436604	10.10	ppm	99
64) 2,3,5,6-Tetrachlorophenol	6.605	230	67143	9.38	ppm	96
65) 2,3,4,6-Tetrachlorophenol	6.658	232	95767	9.72	ppm	98
66) 2,3,5-Trimethylnaphtha...	6.772	170	246984	9.98	ppm	100
67) Diethylphthalate	6.809	149	339260	9.92	ppm	100
68) Fluorene	6.931	166	339996	10.10	ppm	99
69) 4-Chlorophenyl-phenyle...	6.936	204	172024	10.03	ppm	100
70) 4-Nitroaniline	6.945	138	69865	9.41	ppm	93
72) 4,6-Dinitro-2-methylph...	6.983	198	41439	9.57	ppm	91
73) N-Nitrosodiphenylamine	7.072	169	278207	9.87	ppm	100
74) Azobenzene	7.124	77	329221	9.96	ppm	100
76) 4-Bromophenyl-phenylether	7.504	248	95585	9.65	ppm	100
77) Hexachlorobenzene	7.565	284	99183	9.84	ppm	99
78) Pentachlorophenol	7.787	266	53727	9.32	ppm	100
79) Dibenzothiophene	7.886	184	508550	9.99	ppm	99
80) Phenanthrene	8.032	178	514891	9.95	ppm	100
82) Anthracene	8.089	178	521480	10.00	ppm	100
83) Carbazole	8.263	167	445140	10.05	ppm	99
84) Di-n-butylphthalate	8.659	149	537668	10.01	ppm	100
85) 1-Methylphenanthrene	8.697	192	368981	10.05	ppm	99
86) Fluoranthene	9.306	202	580678	9.96	ppm	100
89) Pyrene	9.542	202	624119	9.69	ppm	97
91) Butylbenzylphthalate	10.218	149	206790	9.47	ppm	99
92) bis(2-ethylhexyl)adipate	10.295	129	175717	9.78	ppm	99
93) 3,3'-Dichlorobenzidine	10.743	252	188298	9.70	ppm	99
94) Benzo(a)anthracene	10.772	228	567854	9.76	ppm	100
95) Chrysene	10.811	228	534898	9.94	ppm	100
96) bis(2-Ethylhexyl)phtha...	10.796	149	330326	9.80	ppm	99
98) Di-n-octylphthalate	11.417	149	526484	9.62	ppm	100
99) Benzo(b)fluoranthene	11.806	252	490757	9.50	ppm	97
100) Benzo(k)fluoranthene	11.830	252	523980	10.07	ppm	99
101) Benzo(e)pyrene	12.086	252	68874	9.84	ppm	99

02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.145	252	476447	9.72	ppm	99
103) Perylene	12.237	252	497379	10.11	ppm	99
104) Indeno(1,2,3-cd)pyrene	13.548	276	525166	9.67	ppm	97
105) Dibenzo(a,h)anthracene	13.573	278	432511	9.56	ppm	99
106) Benzo(g,h,i)perylene	13.952	276	448274	9.60	ppm	99

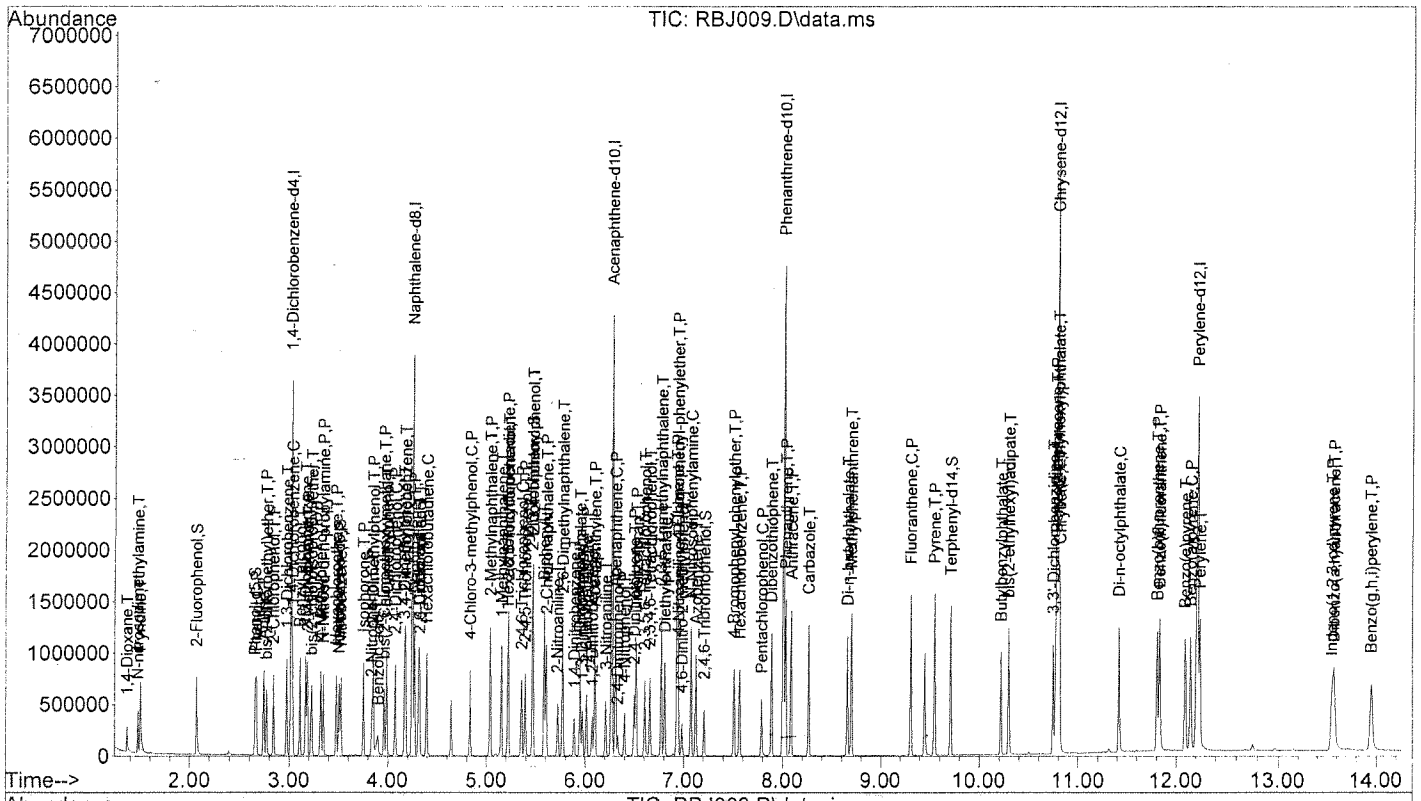
(#) = qualifier out of range (m) = manual integration (+) = signals summed

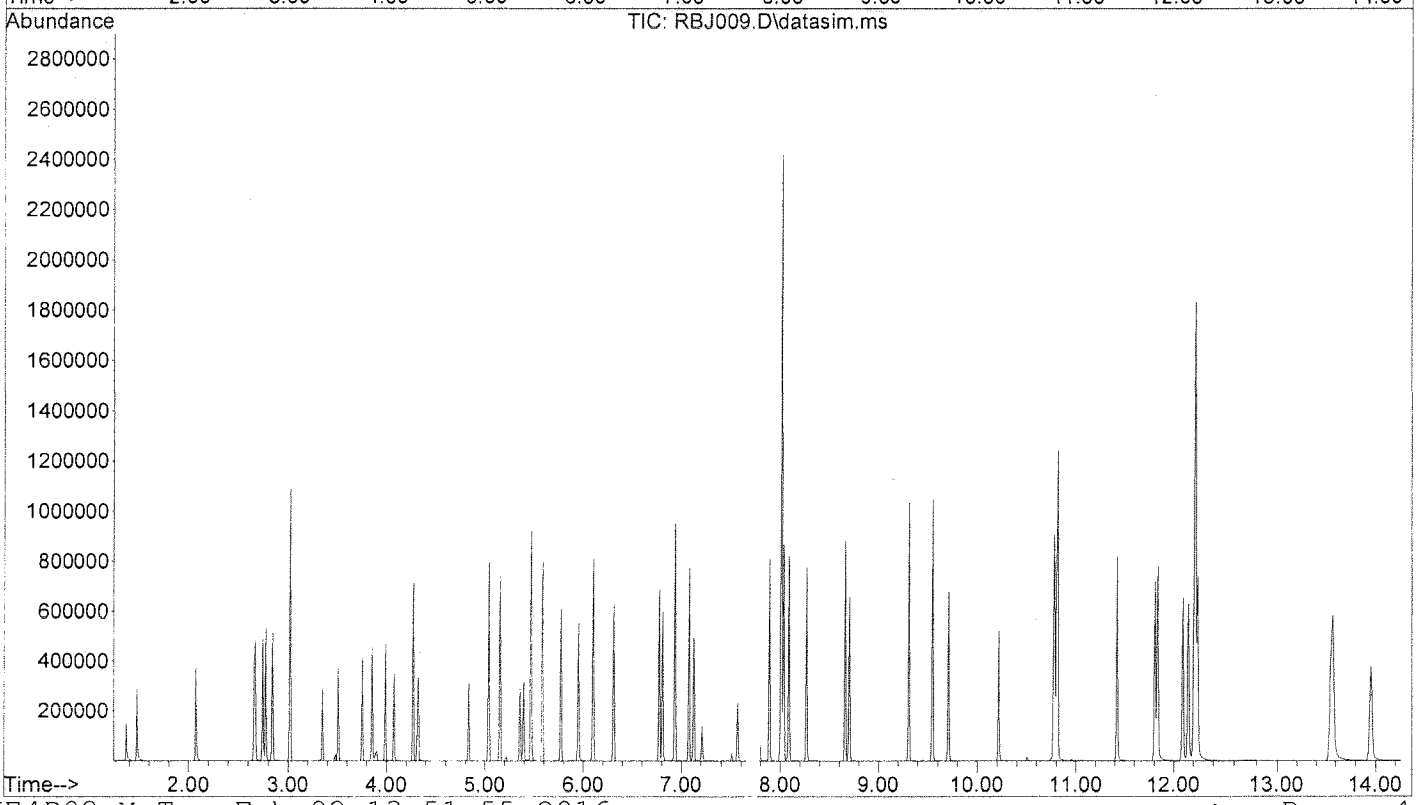
Pu
02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

413

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	428154	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1558094	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	937266	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1665411	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1881471	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1593531	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	283094	20.13	ppm	0.00
Spiked Amount 30.000			Recovery = 67.10%			
6) Phenol-d5	2.659	99	349111	20.10	ppm	0.00
Spiked Amount 30.000			Recovery = 67.00%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	349734	19.89	ppm	0.00
Spiked Amount 10.000			Recovery = 198.90%			
46) 2-Fluorobiphenyl	5.466	172	754125	20.14	ppm	0.00
Spiked Amount 10.000			Recovery = 201.40%			
75) 2,4,6-Tribromophenol	7.210	330	81476	20.36	ppm	0.00
Spiked Amount 30.000			Recovery = 67.87%			
90) Terphenyl-d14	9.711	244	814806	20.23	ppm	0.00
Spiked Amount 10.000			Recovery = 202.30%			
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	125790	19.62	ppm	97
3) N-nitrosodimethylamine	1.477	74	184133	20.23	ppm	100
4) Pyridine	1.505	79	344170	21.02	ppm	100
7) Phenol	2.670	94	366939	20.38	ppm	99
8) Aniline	2.743	93	465184	20.31	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	274624	20.13	ppm	97
10) 2-Chlorophenol	2.837	128	300545	19.79	ppm	92
11) 1,3-Dichlorobenzene	2.972	146	355670	20.08	ppm	99
13) 1,4-Dichlorobenzene	3.030	146	365340	20.32	ppm	98
14) Benzyl alcohol	3.106	108	201878	20.68	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	345956	20.15	ppm	100
16) 2-Methylphenol	3.183	107	249283	20.29	ppm	98
17) bis(2-chloroisopropyl)...	3.226	45	577025	20.31	ppm	100
18) 4-Methylphenol	3.322	107	328221	20.16	ppm	99
19) N-Nitroso-di-n-propyla...	3.351	70	226081	19.85	ppm	89
20) Hexachloroethane	3.475	117	140037	20.39	ppm	99
23) Nitrobenzene	3.528	77	356221	20.18	ppm	99
24) Isophorone	3.758	82	673516	19.91	ppm	96
25) 2-Nitrophenol	3.840	139	146825	20.61	ppm	100
26) 2,4-Dimethylphenol	3.854	107	328997	20.11	ppm	100
27) Benzoic acid	3.926	105	189390	19.45	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	355943	20.12	ppm	100
29) 3,5-Dimethylphenol	3.993	107	367404	20.82	ppm	98
30) 2,4-Dichlorophenol	4.075	162	280702	20.25	ppm	99
31) 3,4-Dimethylphenol	4.171	107	388185	20.15	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	318145	20.10	ppm	99
33) Naphthalene	4.268	128	865405	19.93	ppm	99
34) 4-Chloroaniline	4.311	127	375483	20.31	ppm	100
35) 2,6-Dichlorophenol	4.321	162	265287	20.22	ppm	100
36) Hexachlorobutadiene	4.393	225	209039	19.77	ppm	100

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.837	107	267867	20.37	ppm	99
39) 2-Methylnaphthalene	5.038	142	611361	20.01	ppm	100
40) 1-Methylnaphthalene	5.153	142	539702	20.18	ppm	100
42) Hexachlorocyclopentadiene	5.216	237	237957	20.22	ppm	99
43) 2,3,5-Trichlorophenol	5.225	196	192179	19.18	ppm	98
44) 2,4,6-Trichlorophenol	5.355	196	217047	20.36	ppm	100
45) 2,4,5-Trichlorophenol	5.389	196	222289	19.83	ppm	97
47) 2,3,4-Trichlorophenol	5.466	196	198111	20.16	ppm	99
48) Biphenyl	5.582	154	764093	20.02	ppm	100
49) 2-Chloronaphthalene	5.606	162	618208	19.69	ppm	100
50) 2-Nitroaniline	5.721	65	181708	20.52	ppm	99
51) 2,6-Dimethylnaphthalene	5.769	156	538153	19.91	ppm	100
52) 1,4-Dinitrobenzene	5.889	168	79245	20.39	ppm	100
53) Dimethylphthalate	5.952	163	702261	20.35	ppm	100
54) 1,3-Dinitrobenzene	5.976	168	95871	20.82	ppm	100
55) 2,6-Dinitrotoluene	6.019	165	142468	20.19	ppm	98
56) 1,2-Dinitrobenzene	6.077	168	60772	20.44	ppm	96
57) Acenaphthylene	6.101	152	977048	19.65	ppm	97
58) 3-Nitroaniline	6.212	138	149163	20.21	ppm	100
59) Acenaphthene	6.312	153	621920	19.99	ppm	100
60) 2,4-Dinitrophenol	6.336	184	57236	19.12	ppm	98
61) 4-Nitrophenol	6.403	109	99934	20.68	ppm	99
62) 2,4-Dinitrotoluene	6.499	165	186930	20.37	ppm	98
63) Dibenzofuran	6.518	168	883647	20.00	ppm	100
64) 2,3,5,6-Tetrachlorophenol	6.610	230	149307	20.40	ppm	100
65) 2,3,4,6-Tetrachlorophenol	6.657	232	201661	20.02	ppm	99
66) 2,3,5-Trimethylnaphtha...	6.771	170	512432	20.26	ppm	98
67) Diethylphthalate	6.809	149	703583	20.12	ppm	100
68) Fluorene	6.931	166	692140	20.11	ppm	100
69) 4-Chlorophenyl-phenyle...	6.940	204	353455	20.16	ppm	100
70) 4-Nitroaniline	6.950	138	146240	19.26	ppm	92
72) 4,6-Dinitro-2-methylph...	6.987	198	99852	19.79	ppm	99
73) N-Nitrosodiphenylamine	7.077	169	580914	20.41	ppm	99
74) Azobenzene	7.124	77	681791	20.42	ppm	99
76) 4-Bromophenyl-phenylether	7.509	248	202916	20.29	ppm	97
77) Hexachlorobenzene	7.565	284	204970	20.14	ppm	99
78) Pentachlorophenol	7.787	266	120819	20.77	ppm	97
79) Dibenzothiophene	7.891	184	1042782	20.30	ppm	100
80) Phenanthrene	8.032	178	1058636	20.26	ppm	100
82) Anthracene	8.089	178	1062373	20.19	ppm	100
83) Carbazole	8.267	167	904501	20.23	ppm	100
84) Di-n-butylphthalate	8.659	149	1109535	20.47	ppm	100
85) 1-Methylphenanthrene	8.702	192	749657	20.23	ppm	100
86) Fluoranthene	9.311	202	1198440	20.36	ppm	100
89) Pyrene	9.547	202	1270820	19.75	ppm	98
91) Butylbenzylphthalate	10.218	149	461082	21.14	ppm	99
92) bis(2-ethylhexyl)adipate	10.299	129	379082	21.13	ppm	99
93) 3,3'-Dichlorobenzidine	10.747	252	393987	20.33	ppm	100
94) Benzo(a)anthracene	10.777	228	1161369	19.98	ppm	99
95) Chrysene	10.811	228	1077310	20.05	ppm	100
96) bis(2-Ethylhexyl)phtha...	10.796	149	698693	20.75	ppm	100
98) Di-n-octylphthalate	11.422	149	1148944	21.23	ppm	100
99) Benzo(b)fluoranthene	11.806	252	1020241	19.96	ppm	98
100) Benzo(k)fluoranthene	11.835	252	1062346	20.63	ppm	98
101) Benzo(e)pyrene	12.091	252	954148	20.23	ppm	100

KM 02-08-16

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Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.150	252	980871	20.22 ppm	100
103) Perylene	12.242	252	992878	20.39 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.558	276	1092772	20.34 ppm	99
105) Dibenzo(a,h)anthracene	13.578	278	908152	20.29 ppm	96
106) Benzo(g,h,i)perylene	13.961	276	922591	19.98 ppm	99

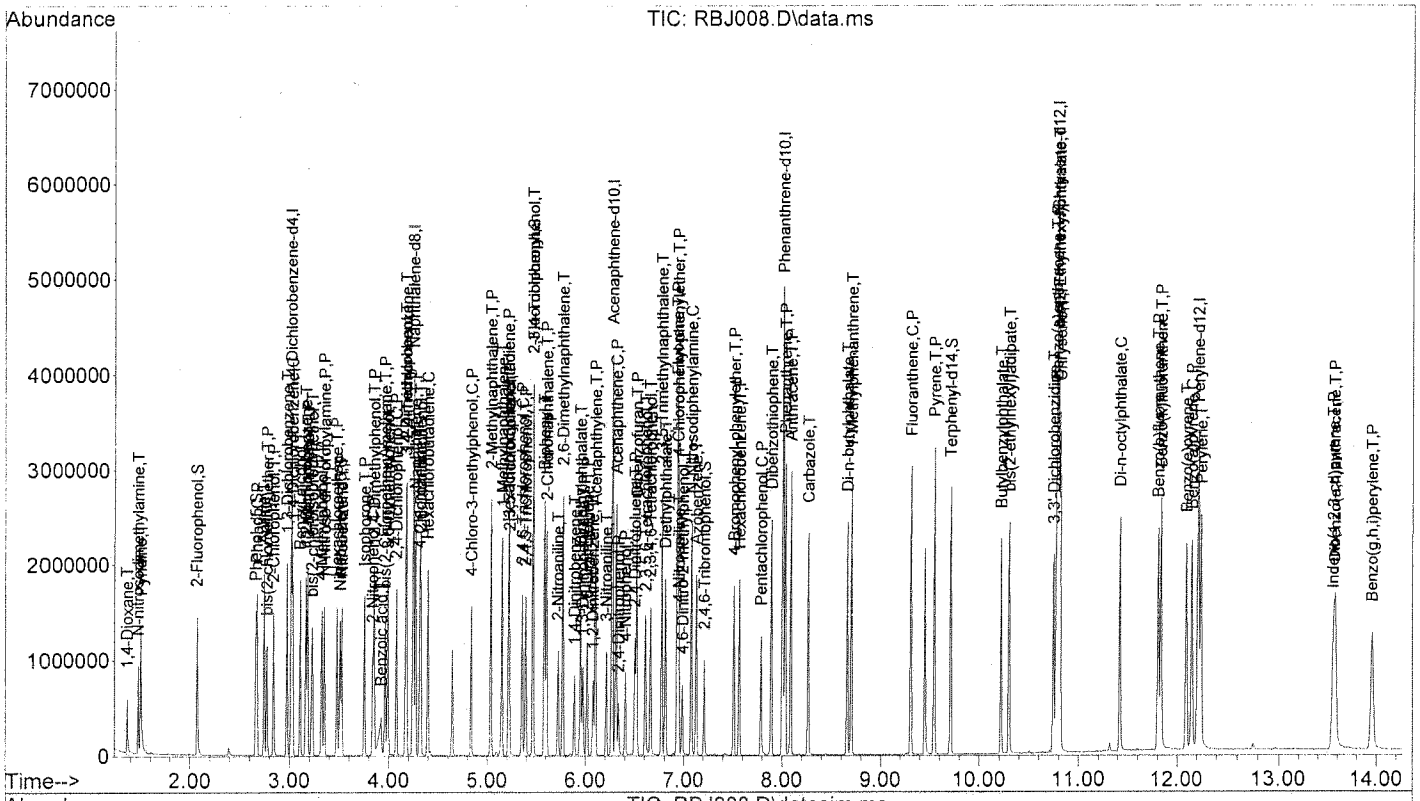
(#) = qualifier out of range (m) = manual integration (+) = signals summed

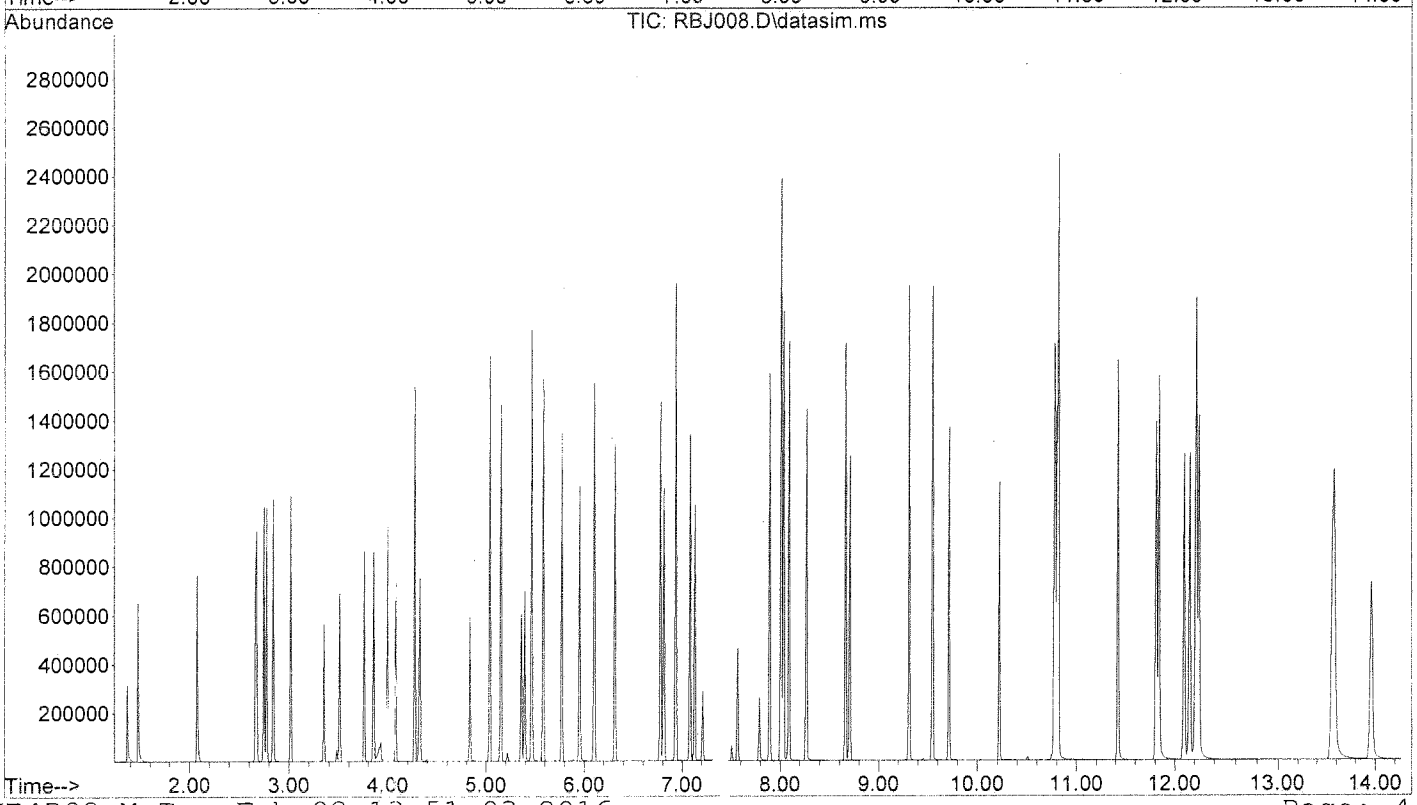
KVu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

417

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	424119	40.00	ppm	0.00
21) Naphthalene-d8	4.248	136	1535126	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	929909	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1694673	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1850796	40.00	ppm	0.00
97) Perylene-d12	12.218	264	1601653	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	354826	25.47	ppm	0.00
Spiked Amount 30.000			Recovery = 84.90%			
6) Phenol-d5	2.659	99	444707	25.85	ppm	0.00
Spiked Amount 30.000			Recovery = 86.17%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	443426	25.60	ppm	0.00
Spiked Amount 10.000			Recovery = 256.00%			
46) 2-Fluorobiphenyl	5.466	172	926819	24.95	ppm	0.00
Spiked Amount 10.000			Recovery = 249.50%			
75) 2,4,6-Tribromophenol	7.210	330	105926	26.01	ppm	0.00
Spiked Amount 30.000			Recovery = 86.70%			
90) Terphenyl-d14	9.716	244	1002718	25.31	ppm	0.00
Spiked Amount 10.000			Recovery = 253.10%			
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	154397	24.31	ppm	100
3) N-nitrosodimethylamine	1.476	74	231180	25.65	ppm	100
4) Pyridine	1.505	79	431323	26.60	ppm	100
7) Phenol	2.670	94	455147	25.53	ppm	100
8) Aniline	2.743	93	579830	25.56	ppm	100
9) bis(2-chloroethyl)ether	2.774	93	349605	25.87	ppm	100
10) 2-Chlorophenol	2.836	128	374480	24.89	ppm	100
11) 1,3-Dichlorobenzene	2.972	146	446663	25.46	ppm	100
13) 1,4-Dichlorobenzene	3.029	146	451681	25.36	ppm	100
14) Benzyl alcohol	3.111	108	247443	25.59	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	434934	25.57	ppm	100
16) 2-Methylphenol	3.183	107	309070	25.40	ppm	100
17) bis(2-chloroisopropyl)...	3.231	45	713143	25.34	ppm	100
18) 4-Methylphenol	3.322	107	410016	25.43	ppm	100
19) N-Nitroso-di-n-propyla...	3.351	70	282588	25.04	ppm	100
20) Hexachloroethane	3.475	117	175072	25.73	ppm	100
23) Nitrobenzene	3.528	77	443600	25.51	ppm	100
24) Isophorone	3.758	82	848649	25.47	ppm	100
25) 2-Nitrophenol	3.840	139	187889	26.77	ppm	100
26) 2,4-Dimethylphenol	3.854	107	412636	25.60	ppm	100
27) Benzoic acid	3.936	105	244315	24.87	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	443423	25.44	ppm	100
29) 3,5-Dimethylphenol	3.993	107	461551	26.55	ppm	100
30) 2,4-Dichlorophenol	4.080	162	35[illegible]246	25.64	ppm	100
31) 3,4-Dimethylphenol	4.171	107	48[illegible]984	25.55	ppm	100
32) 1,2,4-Trichlorobenzene	4.181	180	39 350	25.09	ppm	100
33) Naphthalene	4.273	128	1082083	25.30	ppm	100
34) 4-Chloroaniline	4.316	127	46[illegible]212	25.59	ppm	100
35) 2,6-Dichlorophenol	4.326	162	33 379	25.56	ppm	100
36) Hexachlorobutadiene	4.393	225	26 825	25.42	ppm	100

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.837	107	332581	25.67	ppm	100
39) 2-Methylnaphthalene	5.038	142	763316	25.36	ppm	100
40) 1-Methylnaphthalene	5.153	142	667130	25.32	ppm	100
42) Hexachlorocyclopentadiene	5.220	237	296837	25.43	ppm	100
43) 2,3,5-Trichlorophenol	5.225	196	259286	26.08	ppm	100
44) 2,4,6-Trichlorophenol	5.355	196	269089	25.44	ppm	100
45) 2,4,5-Trichlorophenol	5.393	196	286388	25.75	ppm	100
47) 2,3,4-Trichlorophenol	5.471	196	245575	25.19	ppm	100
48) Biphenyl	5.586	154	951236	25.12	ppm	100
49) 2-Chloronaphthalene	5.605	162	765314	24.57	ppm	100
50) 2-Nitroaniline	5.720	65	229569	26.13	ppm	100
51) 2,6-Dimethylnaphthalene	5.773	156	678941	25.31	ppm	100
52) 1,4-Dinitrobenzene	5.889	168	102809	26.66	ppm	100
53) Dimethylphthalate	5.956	163	859276	25.10	ppm	100
54) 1,3-Dinitrobenzene	5.980	168	121237	26.54	ppm	100
55) 2,6-Dinitrotoluene	6.019	165	179361	25.62	ppm	100
56) 1,2-Dinitrobenzene	6.082	168	78075	26.47	ppm	100
57) Acenaphthylene	6.101	152	1321731	26.80	ppm	100
58) 3-Nitroaniline	6.216	138	187414	25.59	ppm	100
59) Acenaphthene	6.312	153	777060	25.17	ppm	100
60) 2,4-Dinitrophenol	6.341	184	76766	24.89	ppm	100
61) 4-Nitrophenol	6.408	109	125188	26.11	ppm	100
62) 2,4-Dinitrotoluene	6.504	165	239877	26.35	ppm	100
63) Dibenzofuran	6.518	168	1100450	25.10	ppm	100
64) 2,3,5,6-Tetrachlorophenol	6.609	230	190633	26.25	ppm	100
65) 2,3,4,6-Tetrachlorophenol	6.662	232	254771	25.50	ppm	100
66) 2,3,5-Trimethylnaphtha...	6.776	170	632123	25.19	ppm	100
67) Diethylphthalate	6.813	149	882992	25.45	ppm	100
68) Fluorene	6.935	166	860095	25.19	ppm	100
69) 4-Chlorophenyl-phenyle...	6.940	204	436210	25.08	ppm	100
70) 4-Nitroaniline	6.954	138	201632	26.77	ppm	100
72) 4,6-Dinitro-2-methylph...	6.987	198	132589	25.16	ppm	100
73) N-Nitrosodiphenylamine	7.077	169	726507	25.09	ppm	100
74) Azobenzene	7.129	77	847806	24.96	ppm	100
76) 4-Bromophenyl-phenylether	7.508	248	252950	24.86	ppm	100
77) Hexachlorobenzene	7.565	284	256084	24.73	ppm	100
78) Pentachlorophenol	7.787	266	157240	26.56	ppm	100
79) Dibenzothiophene	7.891	184	1303111	24.93	ppm	100
80) Phenanthrene	8.032	178	1328491	24.99	ppm	100
82) Anthracene	8.089	178	1355084	25.31	ppm	100
83) Carbazole	8.267	167	1138959	25.03	ppm	100
84) Di-n-butylphthalate	8.659	149	1424955	25.83	ppm	100
85) 1-Methylphenanthrene	8.702	192	950870	25.22	ppm	100
86) Fluoranthene	9.311	202	1501837	25.07	ppm	100
89) Pyrene	9.547	202	1679485	26.54	ppm	100
91) Butylbenzylphthalate	10.218	149	577299	26.91	ppm	100
92) bis(2-ethylhexyl)adipate	10.299	129	471027	26.69	ppm	100
93) 3,3'-Dichlorobenzidine	10.748	252	494507	25.94	ppm	100
94) Benzo(a)anthracene	10.777	228	1445279	25.28	ppm	100
95) Chrysene	10.816	228	1325857	25.08	ppm	100
96) bis(2-Ethylhexyl)phtha..	10.801	149	865260	26.12	ppm	100
98) Di-n-octylphthalate	11.422	149	1447152	26.60	ppm	100
99) Benzo(b)fluoranthene	11.811	252	1343364	26.13	ppm	100
100) Benzo(k)fluoranthene	11.840	252	1263363	24.50	ppm	100
101) Benzo(e)pyrene	12.096	252	1205708	25.46	ppm	100

RU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.155	252	1235377	25.33	ppm	100
103) Perylene	12.247	252	1233135	25.20	ppm	100
104) Indeno(1,2,3-cd)pyrene	13.563	276	1386533	25.68	ppm	100
105) Dibenzo(a,h)anthracene	13.587	278	1159025	25.76	ppm	100
106) Benzo(g,h,i)perylene	13.971	276	1177656	25.37	ppm	100

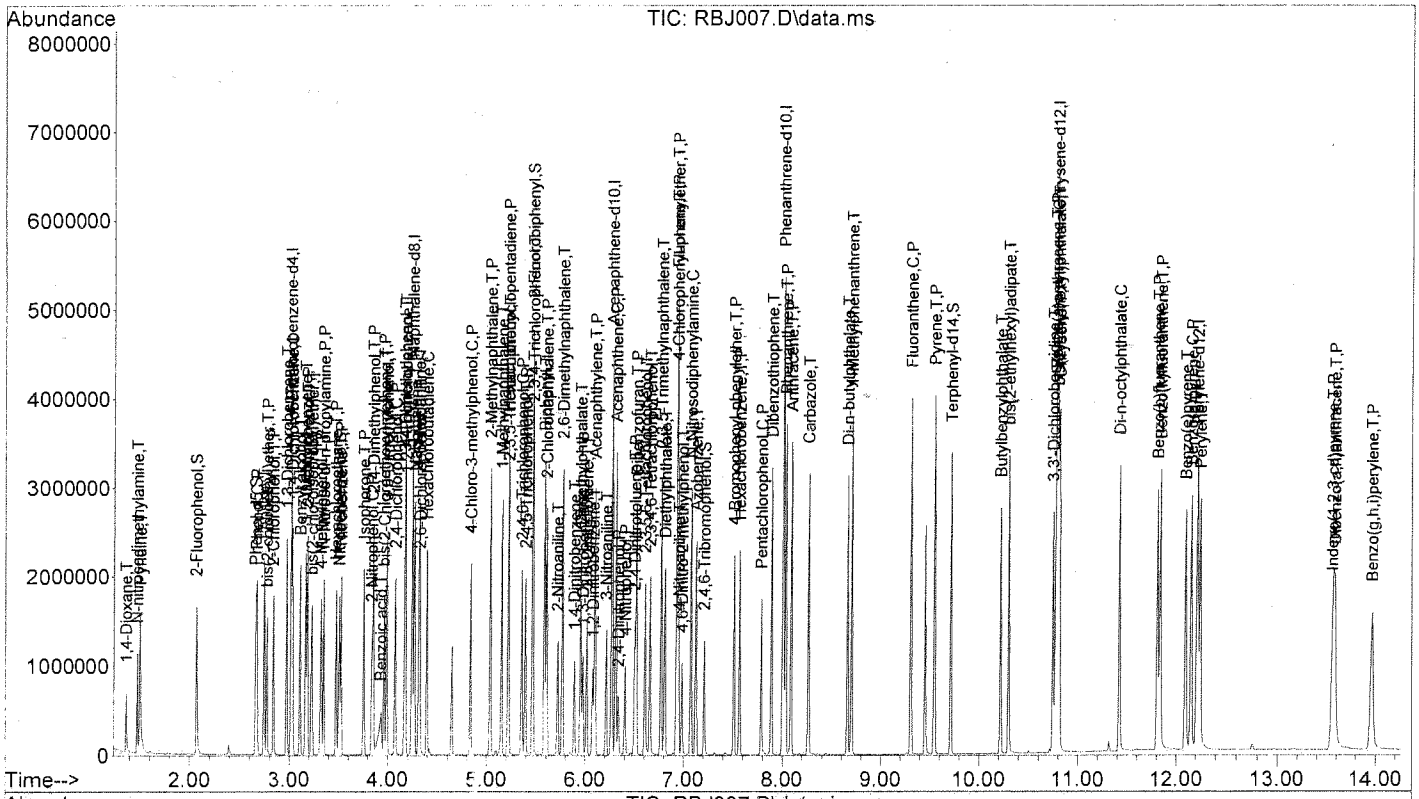
(#) = qualifier out of range (m) = manual integration (+) = signals summed

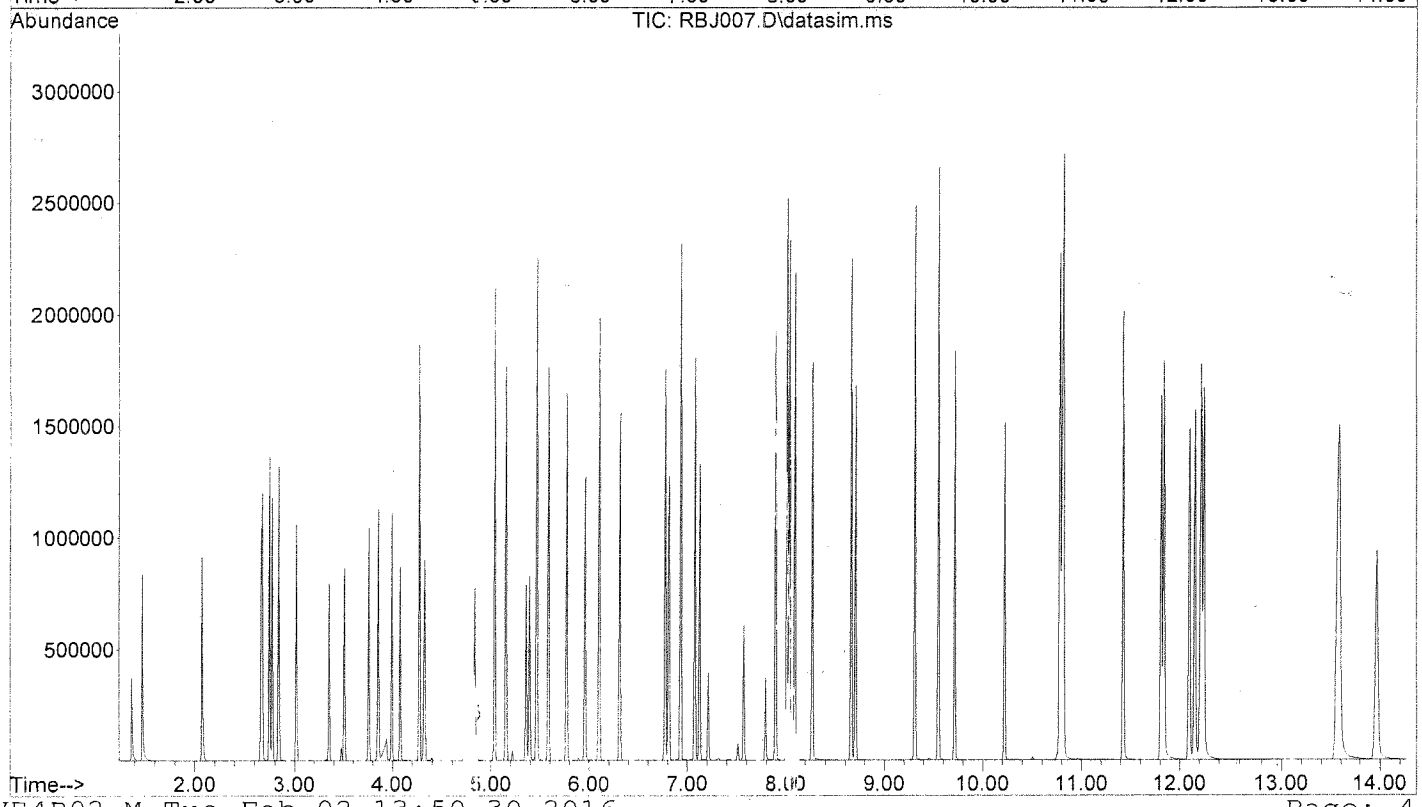
pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00





PW 02-08-16

421

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	455852	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1618791	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	966999	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1728695	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1903162	40.00	ppm	0.00
97) Perylene-d12	12.217	264	1635198	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	597502	39.91	ppm	0.00
Spiked Amount 30.000			Recovery	=	133.03%	
6) Phenol-d5	2.664	99	736322	39.82	ppm	0.00
Spiked Amount 30.000			Recovery	=	132.73%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.509	82	740214	40.52	ppm	0.00
Spiked Amount 10.000			Recovery	=	405.20%	
46) 2-Fluorobiphenyl	5.471	172	1511033	39.11	ppm	0.00
Spiked Amount 10.000			Recovery	=	391.10%	
75) 2,4,6-Tribromophenol	7.214	330	176721	42.54	ppm	0.00
Spiked Amount 30.000			Recovery	=	141.80%	
90) Terphenyl-d14	9.716	244	1641579	40.29	ppm	0.00
Spiked Amount 10.000			Recovery	=	402.90%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	258378	37.85	ppm	97
3) N-nitrosodimethylamine	1.477	74	382077	39.43	ppm	100
4) Pyridine	1.500	79	723731	41.53	ppm	100
7) Phenol	2.675	94	754581	39.37	ppm	100
8) Aniline	2.748	93	954883	39.16	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	573719	39.50	ppm	99
10) 2-Chlorophenol	2.842	128	675096	41.75	ppm	94
11) 1,3-Dichlorobenzene	2.972	146	750710	39.82	ppm	100
13) 1,4-Dichlorobenzene	3.029	146	758428	39.61	ppm	99
14) Benzyl alcohol	3.111	108	412504	39.68	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	714240	39.07	ppm	99
16) 2-Methylphenol	3.188	107	514968	39.37	ppm	99
17) bis(2-chloroisopropyl)...	3.231	45	1179656	38.99	ppm	100
18) 4-Methylphenol	3.327	107	741045	42.76	ppm	93
19) N-Nitroso-di-n-propyla...	3.356	70	525189	43.30	ppm	100
20) Hexachloroethane	3.480	117	291976	39.93	ppm	97
23) Nitrobenzene	3.533	77	734167	40.03	ppm	99
24) Isophorone	3.763	82	1431467	40.74	ppm	99
25) 2-Nitrophenol	3.840	139	313641	42.38	ppm	99
26) 2,4-Dimethylphenol	3.859	107	681106	40.07	ppm	98
27) Benzoic acid	3.964	105	432819	40.45	ppm	99
28) bis(2-Chloroethoxy)met...	3.969	93	725913	39.50	ppm	99
29) 3,5-Dimethylphenol	3.998	107	779383	42.51	ppm	97
30) 2,4-Dichlorophenol	4.080	162	582172	40.42	ppm	100
31) 3,4-Dimethylphenol	4.176	107	792777	39.61	ppm	99
32) 1,2,4-Trichlorobenzene	4.181	180	647830	39.38	ppm	99
33) Naphthalene	4.273	128	1775939	39.37	ppm	100
34) 4-Chloroaniline	4.321	127	759311	39.53	ppm	100
35) 2,6-Dichlorophenol	4. 26	162	546132	40.07	ppm	99
36) Hexachlorobutadiene	4. 98	225	444406	40.45	ppm	99

JM 02-08-16

422

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.837	107	565737	41.40	ppm	99
39)	2-Methylnaphthalene	5.043	142	1247141	39.30	ppm	100
40)	1-Methylnaphthalene	5.153	142	1094524	39.39	ppm	100
42)	Hexachlorocyclopentadiene	5.220	237	507703	41.82	ppm	100
43)	2,3,5-Trichlorophenol	5.225	196	445511	43.09	ppm	92
44)	2,4,6-Trichlorophenol	5.360	196	454187	41.30	ppm	100
45)	2,4,5-Trichlorophenol	5.394	196	479889	41.49	ppm	99
47)	2,3,4-Trichlorophenol	5.471	196	406310	40.08	ppm	98
48)	Biphenyl	5.586	154	1540616	39.12	ppm	100
49)	2-Chloronaphthalene	5.610	162	1248171	38.53	ppm	100
50)	2-Nitroaniline	5.725	65	382441	41.86	ppm	100
51)	2,6-Dimethylnaphthalene	5.773	156	1103888	39.58	ppm	100
52)	1,4-Dinitrobenzene	5.894	168	175498	43.76	ppm	98
53)	Dimethylphthalate	5.961	163	1424930	40.02	ppm	100
54)	1,3-Dinitrobenzene	5.985	168	201145	42.34	ppm	99
55)	2,6-Dinitrotoluene	6.024	165	298897	41.05	ppm	97
56)	1,2-Dinitrobenzene	6.087	168	126747	41.32	ppm	92
57)	Acenaphthylene	6.106	152	1965201	38.31	ppm	96
58)	3-Nitroaniline	6.221	138	310362	40.76	ppm	96
59)	Acenaphthene	6.317	153	1272674	39.65	ppm	100
60)	2,4-Dinitrophenol	6.346	184	137386	40.89	ppm	96
61)	4-Nitrophenol	6.413	109	209011	41.92	ppm	99
62)	2,4-Dinitrotoluene	6.509	165	392257	41.43	ppm	99
63)	Dibenzofuran	6.523	168	1802631	39.54	ppm	100
64)	2,3,5,6-Tetrachlorophenol	6.609	230	323981	42.90	ppm	99
65)	2,3,4,6-Tetrachlorophenol	6.662	232	433866	41.76	ppm	100
66)	2,3,5-Trimethylnaphtha...	6.776	170	1039615	39.83	ppm	98
67)	Diethylphthalate	6.814	149	1438543	39.88	ppm	100
68)	Fluorene	6.935	166	1397315	39.36	ppm	99
69)	4-Chlorophenyl-phenyle...	6.940	204	716025	39.59	ppm	99
70)	4-Nitroaniline	6.959	138	330600	42.21	ppm	99
72)	4,6-Dinitro-2-methylph...	6.996	198	222458	39.97	ppm	96
73)	N-Nitrosodiphenylamine	7.082	169	1179136	39.92	ppm	100
74)	Azobenzene	7.129	77	1375496	39.69	ppm	100
76)	4-Bromophenyl-phenylether	7.508	248	414926	39.98	ppm	99
77)	Hexachlorobenzene	7.570	284	425171	40.26	ppm	98
78)	Pentachlorophenol	7.792	266	265467	43.96	ppm	99
79)	Dibenzothiophene	7.896	184	2087183	39.14	ppm	96
80)	Phenanthrene	8.037	178	2141125	39.48	ppm	100
82)	Anthracene	8.093	178	2171274	39.75	ppm	100
83)	Carbazole	8.267	167	1811495	39.03	ppm	99
84)	Di-n-butylphthalate	8.663	149	2265847	40.26	ppm	100
85)	1-Methylphenanthrene	8.707	192	1510806	39.28	ppm	100
86)	Fluoranthene	9.316	202	2417949	39.56	ppm	100
89)	Pyrene	9.552	202	2647993	40.69	ppm	100
91)	Butylbenzylphthalate	10.222	149	956176	43.34	ppm	100
92)	bis(2-ethylhexyl)adipate	10.299	129	770126	42.44	ppm	100
93)	3,3'-Dichlorobenzidine	10.752	252	815601	41.60	ppm	100
94)	Benzo(a)anthracene	10.781	228	2375285	40.40	ppm	100
95)	Chrysene	10.820	228	2149749	39.55	ppm	99
96)	bis(2-Ethylhexyl)phtha...	10.801	149	1418818	41.65	ppm	100
98)	Di-n-octylphthalate	11.422	149	2402172	43.25	ppm	100
99)	Benzo(b)fluoranthene	11.816	252	2084476	39.75	ppm	98
100)	Benzo(k)fluoranthene	11.84	252	2187101	41.39	ppm	98
101)	Benzo(e)pyrene	12.10	252	1952148	40.34	ppm	99

pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.159	252	2040196	40.98	ppm	99
103) Perylene	12.251	252	1985264	39.73	ppm	99
104) Indeno(1,2,3-cd)pyrene	13.573	276	2290053	41.54	ppm	100
105) Dibenzo(a,h)anthracene	13.597	278	1906773	41.51	ppm	97
106) Benzo(g,h,i)perylene	13.980	276	1937273	40.88	ppm	99

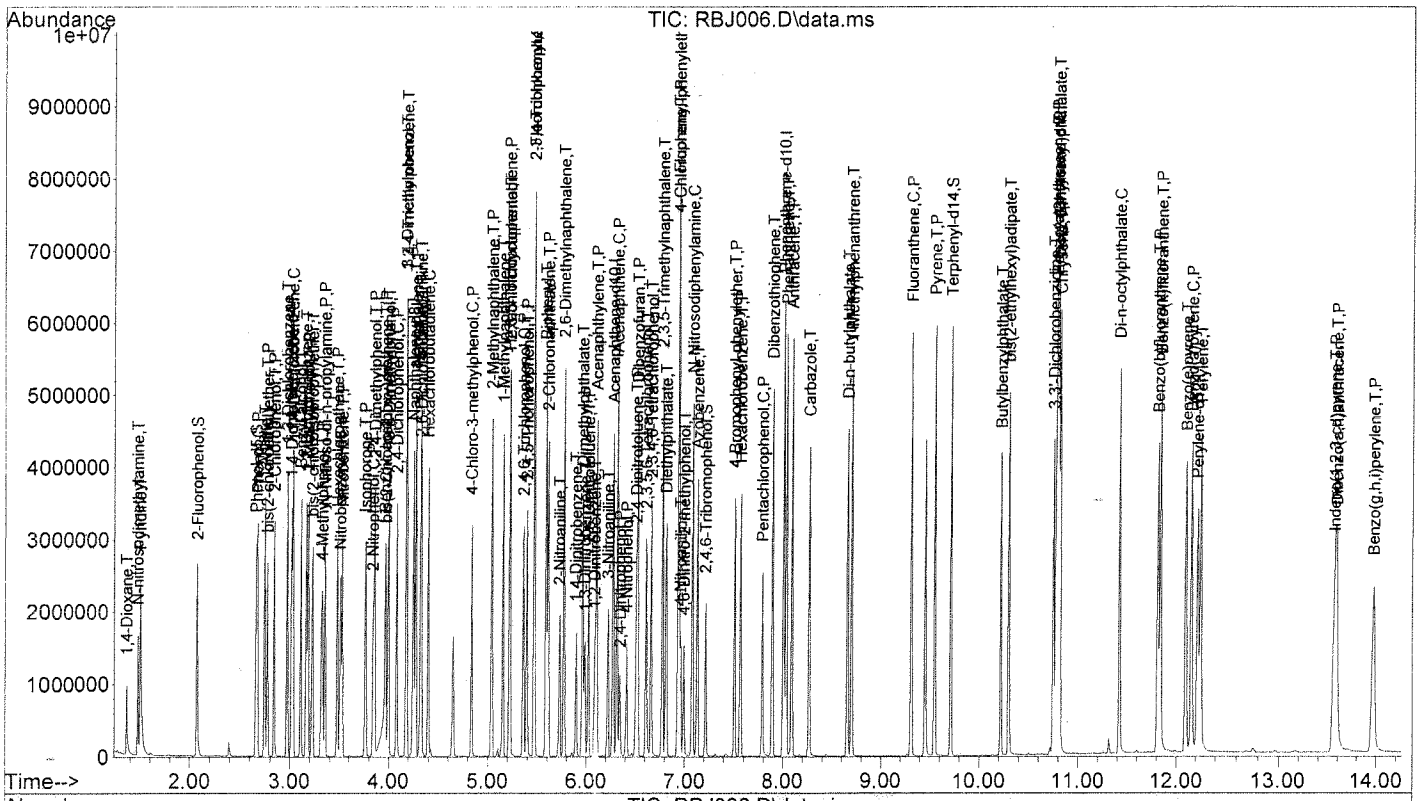
(#) = qualifier out of range (m) = manual integration (+) = signals summed

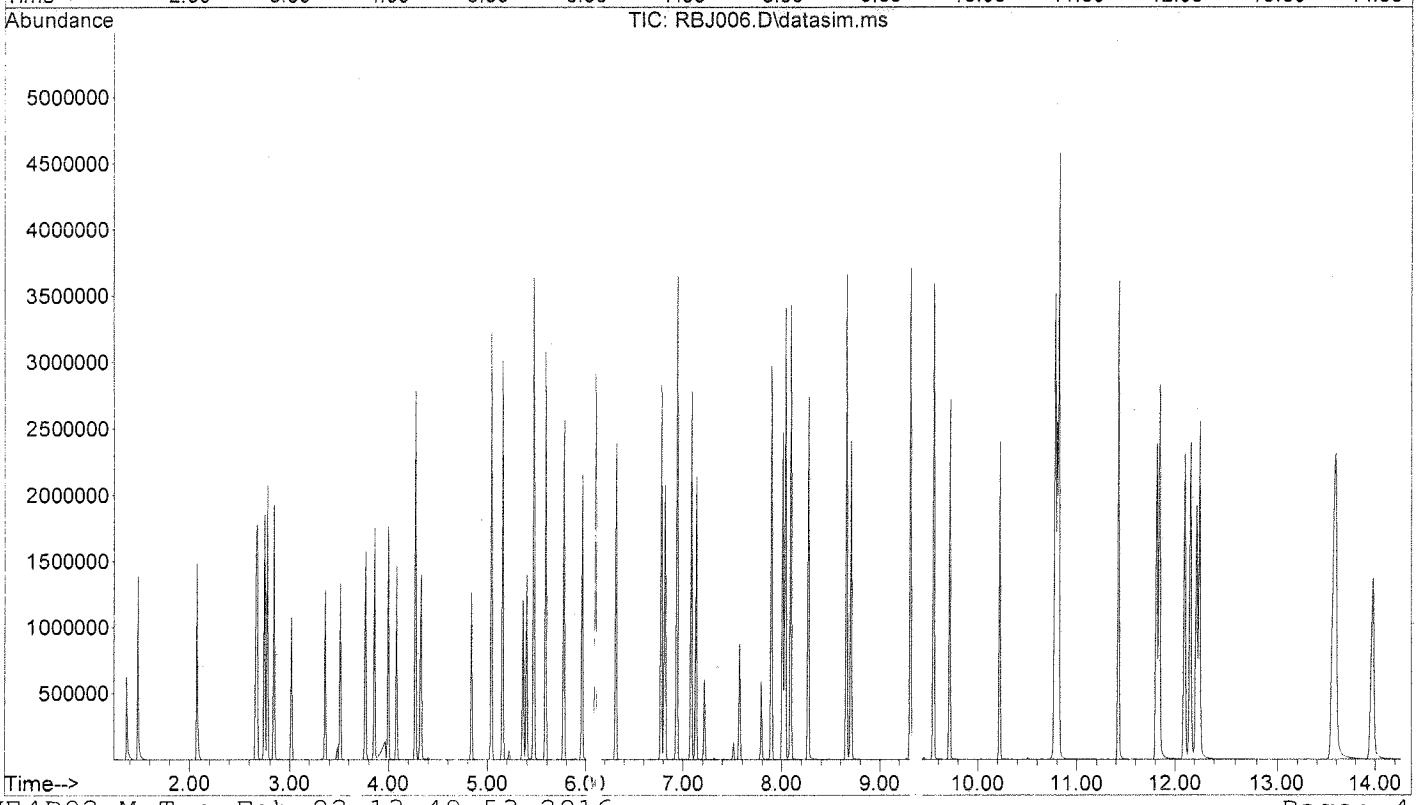
KM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

125

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	438355	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1557201	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	920177	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1669203	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1936700	40.00	ppm	0.00
97) Perylene-d12	12.218	264	1696912	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	718535	49.91	ppm	0.00
Spiked Amount 30.000			Recovery	=	166.37%	
6) Phenol-d5	2.665	99	886063	49.83	ppm	0.00
Spiked Amount 30.000			Recovery	=	166.10%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.514	82	877327	49.93	ppm	0.00
Spiked Amount 10.000			Recovery	=	499.30%	
46) 2-Fluorobiphenyl	5.471	172	1790042	48.69	ppm	0.00
Spiked Amount 10.000			Recovery	=	486.90%	
75) 2,4,6-Tribromophenol	7.214	330	210341	52.43	ppm	0.00
Spiked Amount 30.000			Recovery	=	174.77%	
90) Terphenyl-d14	9.716	241	2027883	48.91	ppm	0.00
Spiked Amount 10.000			Recovery	=	489.10%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	314172	47.86	ppm	97
3) N-nitrosodimethylamine	1.477	74	464848	49.89	ppm	99
4) Pyridine	1.500	79	862577	51.47	ppm	99
7) Phenol	2.675	94	904804	49.10	ppm	100
8) Aniline	2.748	93	1133572	48.34	ppm	100
9) bis(2-chloroethyl)ether	2.774	93	677686	48.52	ppm	99
10) 2-Chlorophenol	2.842	128	814683	52.39	ppm	91
11) 1,3-Dichlorobenzene	2.972	146	886416	48.89	ppm	100
13) 1,4-Dichlorobenzene	3.034	146	899802	48.87	ppm	99
14) Benzyl alcohol	3.116	108	492274	49.25	ppm	99
15) 1,2-Dichlorobenzene	3.169	146	851391	48.43	ppm	100
16) 2-Methylphenol	3.188	107	612392	48.69	ppm	98
17) bis(2-chloroisopropyl)...	3.231	45	1386911	47.67	ppm	99
18) 4-Methylphenol	3.322	107	814882	48.89	ppm	100
19) N-Nitroso-di-n-propyla...	3.360	70	605868	51.95	ppm	97
20) Hexachloroethane	3.480	117	349638	49.72	ppm	97
23) Nitrobenzene	3.533	77	865261	49.04	ppm	99
24) Isophorone	3.768	82	1634116	48.34	ppm	99
25) 2-Nitrophenol	3.845	139	357386	50.20	ppm	99
26) 2,4-Dimethylphenol	3.859	107	798601	48.84	ppm	98
27) Benzoic acid	3.974	105	514321	49.51	ppm	100
28) bis(2-Chloroethoxy)met...	3.969	93	852190	48.21	ppm	99
29) 3,5-Dimethylphenol	3.998	107	891313	50.54	ppm	98
30) 2,4-Dichlorophenol	4.080	162	690029	49.80	ppm	99
31) 3,4-Dimethylphenol	4.181	107	936836	48.66	ppm	100
32) 1,2,4-Trichlorobenzene	4.181	180	761823	48.15	ppm	99
33) Naphthalene	4.273	128	2104347	48.50	ppm	100
34) 4-Chloroaniline	4.321	127	896667	48.52	ppm	100
35) 2,6-Dichlorophenol	4.331	162	640786	48.88	ppm	100
36) Hexachlorobutadiene	4.398	225	529942	50.14	ppm	100

TM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38)	4-Chloro-3-methylphenol	4.842	107	663448	50.47	ppm		99
39)	2-Methylnaphthalene	5.043	142	1467243	48.06	ppm		100
40)	1-Methylnaphthalene	5.158	142	1279732	47.88	ppm		100
42)	Hexachlorocyclopentadiene	5.220	237	595649	51.56	ppm		100
43)	2,3,5-Trichlorophenol	5.225	196	525919	53.46	ppm		99
44)	2,4,6-Trichlorophenol	5.360	196	538847	51.49	ppm		99
45)	2,4,5-Trichlorophenol	5.394	196	564006	51.24	ppm		99
47)	2,3,4-Trichlorophenol	5.476	196	479411	49.70	ppm		100
48)	Biphenyl	5.591	154	1801506	48.07	ppm		100
49)	2-Chloronaphthalene	5.610	162	1633747	53.00	ppm		94
50)	2-Nitroaniline	5.730	65	445297	51.22	ppm		98
51)	2,6-Dimethylnaphthalene	5.773	156	1291814	48.67	ppm		100
52)	1,4-Dinitrobenzene	5.898	168	204754	53.66	ppm		100
53)	Dimethylphthalate	5.966	163	1660063	49.00	ppm		100
54)	1,3-Dinitrobenzene	5.990	168	235929	52.19	ppm		100
55)	2,6-Dinitrotoluene	6.029	165	352991	50.95	ppm		98
56)	1,2-Dinitrobenzene	6.091	168	149128	51.09	ppm	#	32
57)	Acenaphthylene	6.106	152	2505873	51.34	ppm		100
58)	3-Nitroaniline	6.226	138	367814	50.76	ppm		97
59)	Acenaphthene	6.317	153	1479879	48.45	ppm		99
60)	2,4-Dinitrophenol	6.346	184	164500	50.75	ppm		97
61)	4-Nitrophenol	6.418	109	261383	55.10	ppm		96
62)	2,4-Dinitrotoluene	6.514	165	469332	52.09	ppm		99
63)	Dibenzofuran	6.523	168	2104499	48.51	ppm		99
64)	2,3,5,6-Tetrachlorophenol	6.614	230	376682	52.41	ppm		100
65)	2,3,4,6-Tetrachlorophenol	6.667	232	510475	51.63	ppm		100
66)	2,3,5-Trimethylnaphtha...	6.781	170	1214381	48.90	ppm		100
67)	Diethylphthalate	6.818	149	1707916	49.75	ppm		100
68)	Fluorene	6.940	166	1642236	48.61	ppm		100
69)	4-Chlorophenyl-phenyle...	6.940	204	842803	48.97	ppm		99
70)	4-Nitroaniline	6.964	138	404059	54.21	ppm		100
72)	4,6-Dinitro-2-methylph...	6.997	198	273709	50.34	ppm		100
73)	N-Nitrosodiphenylamine	7.086	169	1398870	49.04	ppm		100
74)	Azobenzene	7.134	77	1638405	48.96	ppm		100
76)	4-Bromophenyl-phenylether	7.513	248	500611	49.95	ppm		98
77)	Hexachlorobenzene	7.570	284	507947	49.81	ppm		99
78)	Pentachlorophenol	7.792	266	316657	54.31	ppm		98
79)	Dibenzothiophene	7.896	184	2513390	48.81	ppm		96
80)	Phenanthrene	8.037	178	2554954	48.79	ppm		99
82)	Anthracene	8.098	178	2618283	49.64	ppm		100
83)	Carbazole	8.272	167	2221148	49.56	ppm		100
84)	Di-n-butylphthalate	8.664	149	2730384	50.25	ppm		100
85)	1-Methylphenanthrene	8.707	192	1854855	49.95	ppm		100
86)	Fluoranthene	9.316	202	2971362	50.35	ppm		99
89)	Pyrene	9.552	202	3257655	49.19	ppm		100
91)	Butylbenzylphthalate	10.222	149	1188907	52.95	ppm		99
92)	bis(2-ethylhexyl)adipate	10.299	129	954536	51.69	ppm		100
93)	3,3'-Dichlorobenzidine	10.752	252	1045654	52.41	ppm		99
94)	Benzo(a)anthracene	10.781	228	3009999	50.31	ppm		98
95)	Chrysene	10.820	228	2726827	49.30	ppm		100
96)	bis(2-Ethylhexyl)phtha...	10.801	149	1767206	50.98	ppm		100
98)	Di-n-octylphthalate	11.422	149	3048798	52.89	ppm		100
99)	Benzo(b)fluoranthene	11.816	252	2794385	51.35	ppm		99
100)	Benzo(k)fluoranthene	11.845	252	2659941	48.50	ppm		97
101)	Benzo(e)pyrene	12.101	252	1530641	50.39	ppm		98

KU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.164	252	2626741	50.84	ppm	99
103) Perylene	12.256	252	2570491	49.57	ppm	99
104) Indeno(1,2,3-cd)pyrene	13.573	276	2969853	51.91	ppm	100
105) Dibenzo(a,h)anthracene	13.602	278	2445773	51.31	ppm	97
106) Benzo(g,h,i)perylene	13.990	276	2490760	50.65	ppm	99

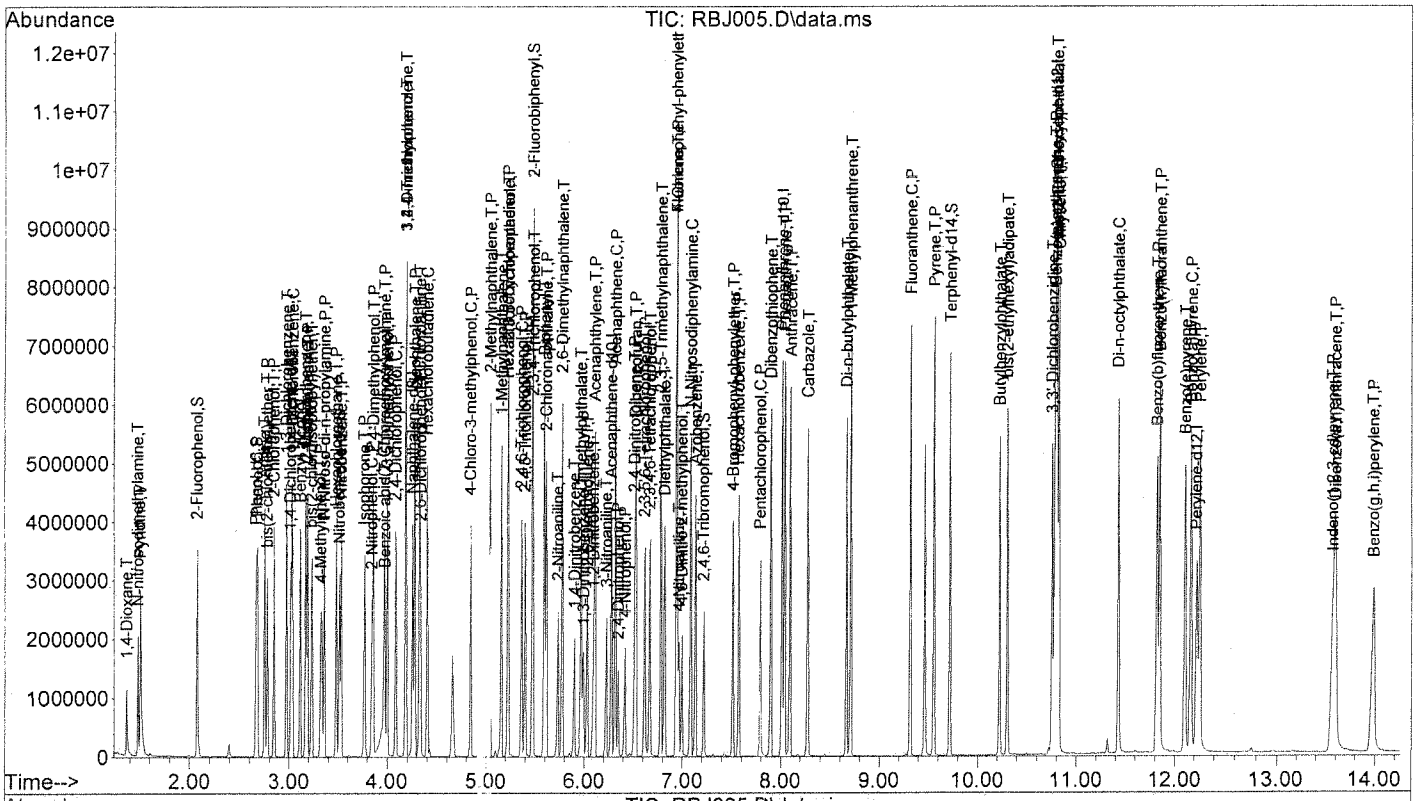
(#) = qualifier out of range (m) = manual integration (+) = signals summed

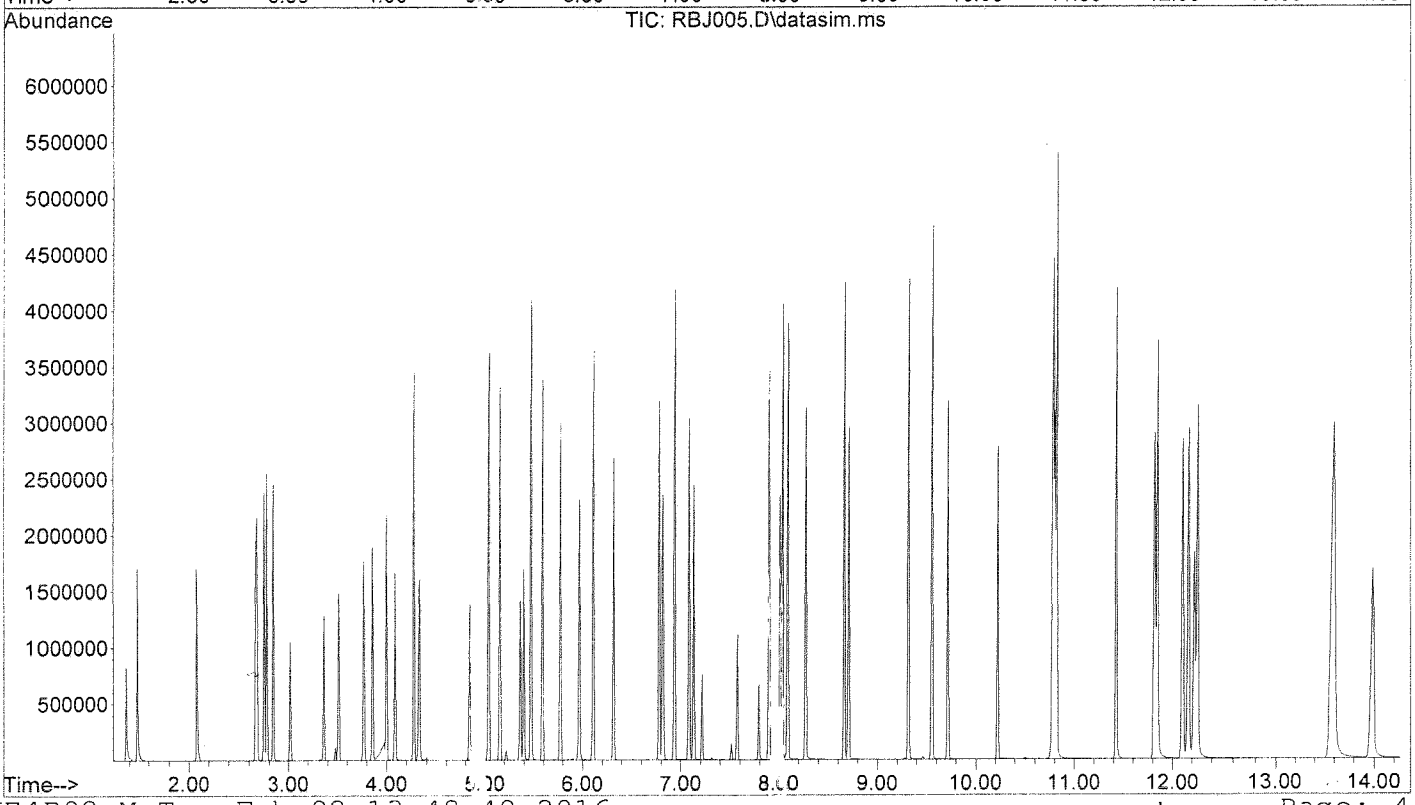
M 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00





JM 02-08-16

429

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ004.D
Acq On : 2 Feb 2016 9:28
Sample : SVE4B022
Misc : 80PPM
Integrator: RTE
Quant Time: Feb 02 13:47:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 4
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	457524	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1635246	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	965543	40.00	ppm	0.00
71) Phenanthrene-d10	8.004	188	1710410	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1882885	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1627440	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
6) Phenol-d5	0.000	99	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	0.000	82	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
46) 2-Fluorobiphenyl	0.000	172	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
75) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
90) Terphenyl-d14	0.000	244	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
Target Compounds						Qvalue
4) Pyridine	1.500	79	1225737	70.07	ppm	100
27) Benzoic acid	3.988	105	910377	82.12	ppm	99

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

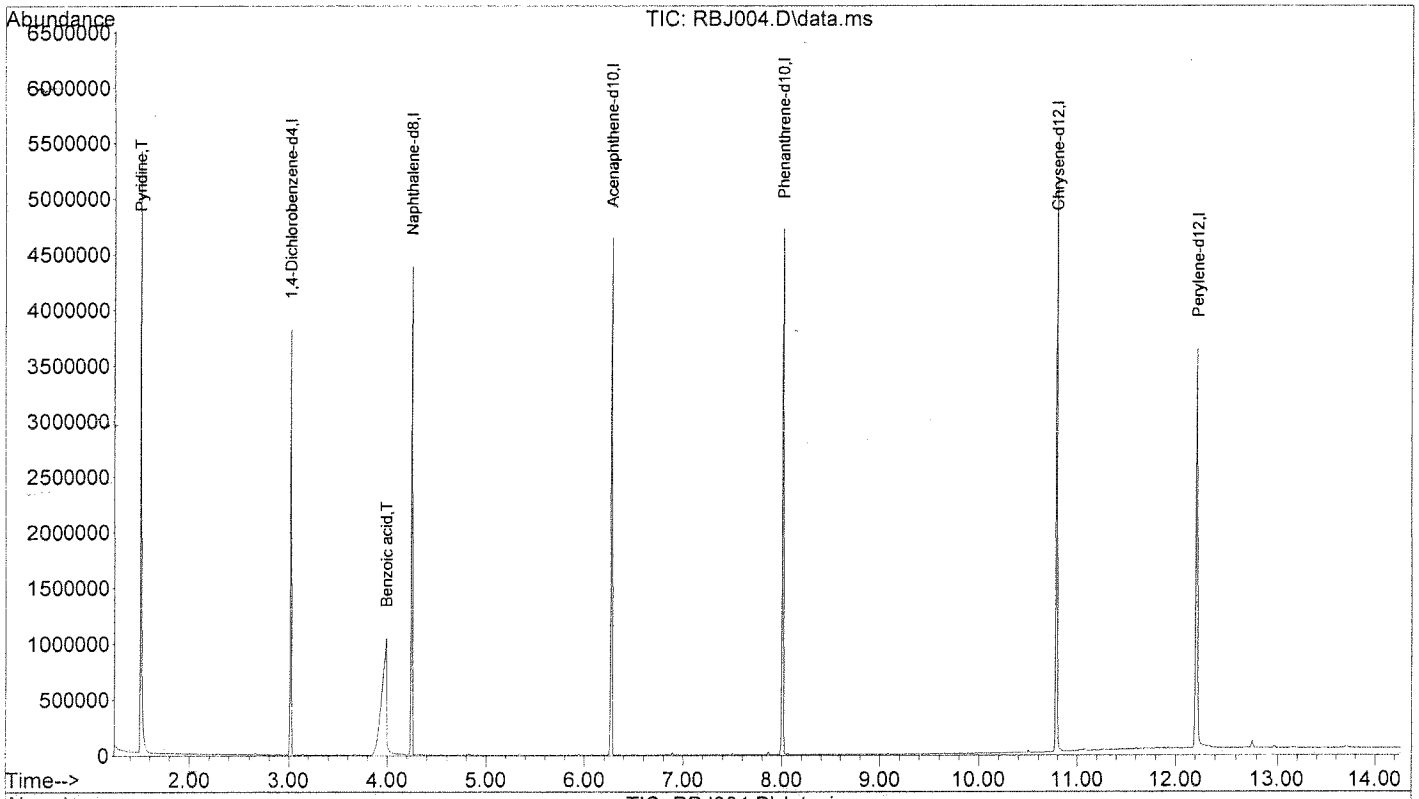
KV 02-08-16

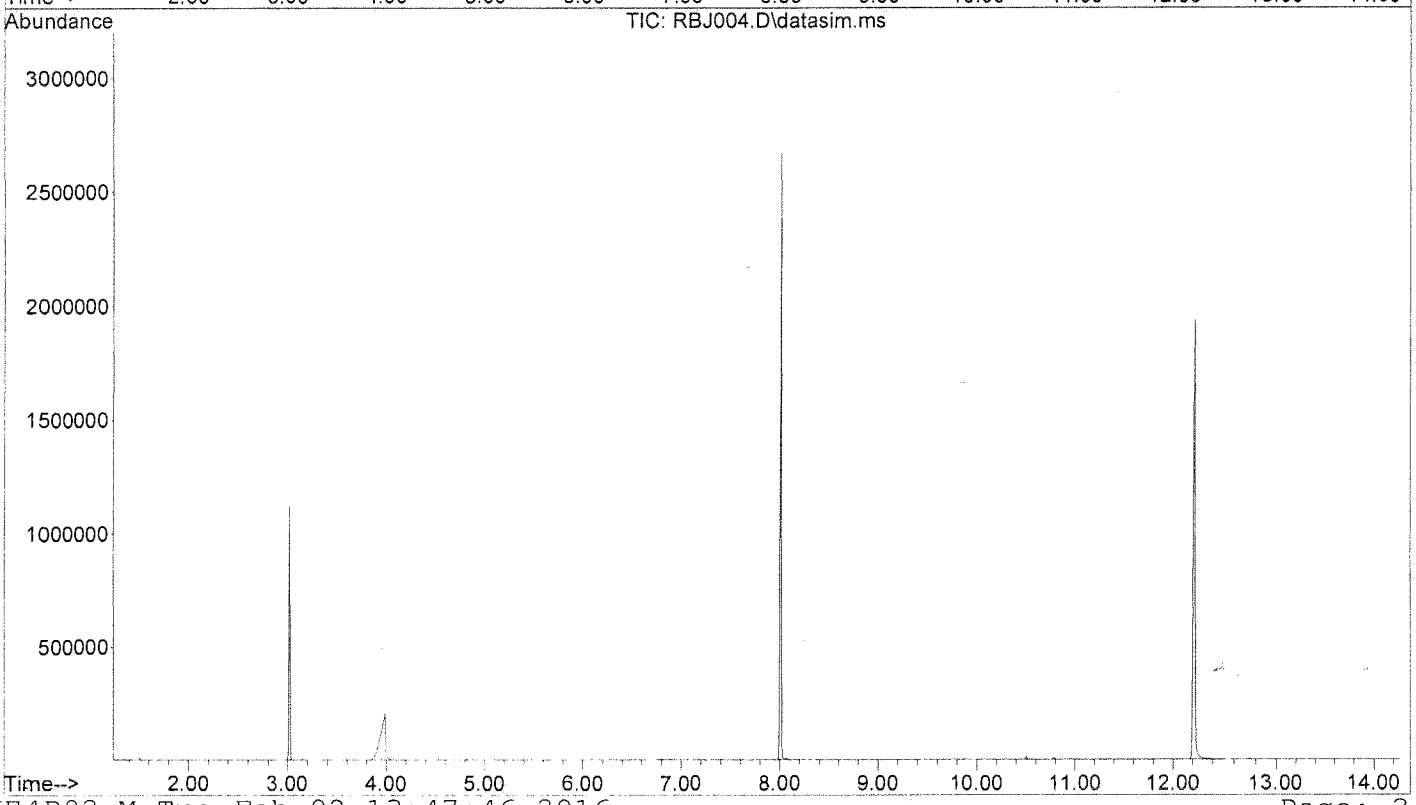
430

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ004.D
Acq On : 2 Feb 2016 9:28
Sample : SVE4B022
Misc : 80PPM
Integrator: RTE
Quant Time: Feb 02 13:47:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 4
Operator: KVu
Inst : E4
Multiplr: 1.00





PM 02-08-16

431

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ003.D
Acq On : 2 Feb 2016 9:09
Sample : SVE4B021
Misc : 100PPM
Integrator: RTE
Quant Time: Feb 02 13:46:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	461215	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1653283	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	975500	40.00	ppm	0.00
71) Phenanthrene-d10	8.004	188	1717161	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1841322	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1572144	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	0.000	112	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
6) Phenol-d5	0.000	99	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	0.000	82	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
46) 2-Fluorobiphenyl	0.000	172	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
75) 2,4,6-Tribromophenol	0.000	330	0	0.00	ppm	
Spiked Amount 30.000			Recovery	=	0.00%	
90) Terphenyl-d14	0.000	244	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
Target Compounds						Qvalue
4) Pyridine	1.500	79	1530996	86.82	ppm	100
27) Benzoic acid	4.003	105	1116737	99.22	ppm	99

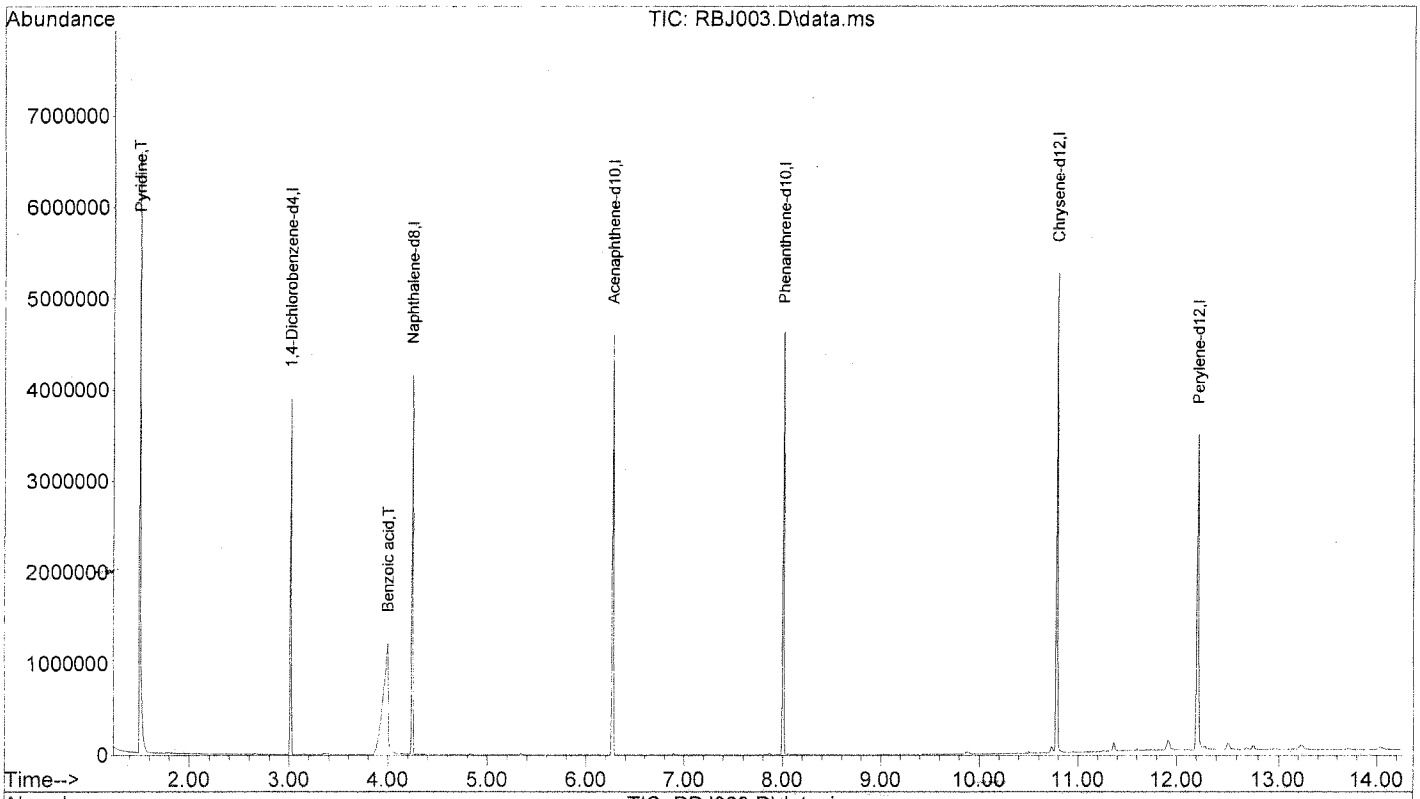
(#) = qualifier out of range (m) = manual integration (+) = signals summed

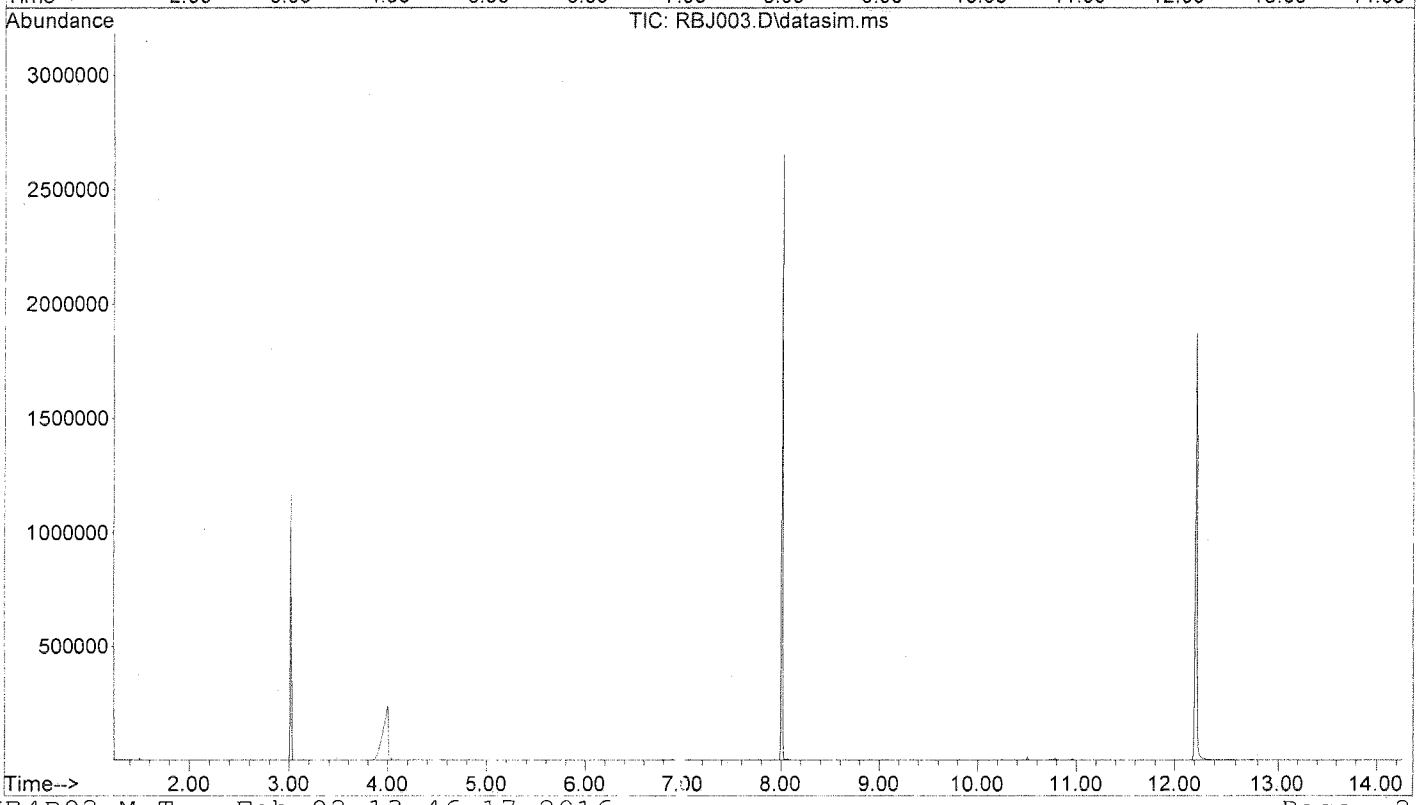
TW 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ003.D
Acq On : 2 Feb 2016 9:09
Sample : SVE4B021
Misc : 100PPM
Integrator: RTE
Quant Time: Feb 02 13:46:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E4
IC Beginning DateTime :02/02/16 09:09
Sptke Amount :25 PPM
CC/CV File :RBJ033
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
IC Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02
Date_Time :02/02/16 18:46

M IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
1	1,4-Dichlorobenzene-d4	40.000	0	489141	1	1	3.015	3.015	0				
2	1,4-Dioxane	22.596	-9.6	165529	0.541	0.599	1.366	1.367	6.63				
3	N-nitrosodimethylamine	26.445	5.8	274941	0.899	0.850	1.477	1.477	1.57				
4	Pyridine	26.398	5.6	493685	1.615	1.529	1.510	1.502	7.97				
5	2-Fluorophenol	24.462	-2.1	393116	1.286	1.314	2.075	2.072	1.13				
6	Phenol-d5	23.855	-4.6	473365	1.548	1.623	2.664	2.657	1.86				
7	Phenol	24.760	-1.0	509189	1.666	1.682	2.675	2.671	1.81				
8	Aniline	24.691	-1.2	646048	2.113	2.140	2.743	2.744	2.23				
9	bis(2-chloroethyl)ether	24.841	-0.6	387198	1.267	1.275	2.774	2.772	2.19				
10	2-Chlorophenol	27.267	9.1	473123	1.548	1.419	2.842	2.838	3.81				
11	1,3-Dichlorobenzene	25.348	1.4	512821	1.677	1.654	2.972	2.972	1.34				
12	1,2-Dichlorobenzene-d4												
13	1,4-Dichlorobenzene	25.192	0.8	517539	1.693	1.680	3.030	3.030	1.55				
14	Benzyl alcohol	27.443	9.8	306097	1.001	0.912	3.111	3.109	2.45				
15	1,2-Dichlorobenzene	24.965	-0.1	489716	1.602	1.604	3.164	3.165	2.20				
16	2-Methylphenol	24.960	-0.2	350318	1.146	1.148	3.188	3.184	1.93				
17	bis(2-chloroisopropyl)ether	26.044	4.2	845452	2.766	2.655	3.226	3.229	3.22				
18	4-Methylphenol	25.055	0.2	465958	1.524	1.521	3.327	3.321	4.06				
19	N-Nitroso-di-n-propylamine	23.620	-5.5	307409	1.006	1.064	3.351	3.351	5.54				
20	Hexachloroethane	25.382	1.5	199174	0.652	0.642	3.475	3.477	2.07				
21	Naphthalene-d8	40.000	0	1779787	1	1	4.249	4.247	0				
22	Nitrobenzene-d5	7.760	-6.9	155855	0.420	0.451	3.509	3.508	1.58				
23	Nitrobenzene	24.472	-2.1	493471	0.444	0.453	3.528	3.528	1.42				
24	Isophorone	25.043	0.2	967528	0.870	0.868	3.758	3.758	1.97				
25	2-Nitrophenol	25.474	1.6	207281	0.186	0.183	3.840	3.839	7.64				
26	2,4-Dimethylphenol	24.571	-1.7	459153	0.413	0.420	3.854	3.854	1.54				
27	Benzoic acid	26.627	-2.2	255365	0.230	0.243	3.947	3.946	15.58	-0.0135	0.2778		0.9993
28	bis(2-Chloroethoxy)methane	25.630	2.5	517829	0.466	0.454	3.964	3.965	2.26				
29	3,5-Dimethylphenol	25.458	1.8	513128	0.461	0.453	3.993	3.993	7.12				
30	2,4-Dichlorophenol	24.247	-3.0	383974	0.345	0.356	4.080	4.077	2.03				
31	2,4-Dimethylphenol	25.620	2.5	563717	0.507	0.495	4.176	4.172	1.72				
32	1,2,4-Trichlorobenzene	25.352	1.4	458482	0.412	0.406	4.181	4.179	2.33				
33	Naphthalene	27.826	-0.7	1231112	1.107	1.115	4.273	4.270	2.29				
34	4-Chloroaniline	24.264	-2.9	512483	0.461	0.475	4.316	4.317	1.94				
35	2,6-Dichlorophenol	25.411	1.6	380739	0.342	0.337	4.326	4.324	1.66				
36	Hexachlorobutadiene	25.421	1.7	307063	0.276	0.271	4.398	4.395	1.22				
37	Hydroquinone												
38	4-Chloro-3-methylphenol	24.974	-0.1	375198	0.337	0.338	4.837	4.836	3.57				
39	2-Methylnaphthalene	24.288	-2.8	847484	0.762	0.784	5.038	5.039	2.67				
40	1-Methylnaphthalene	25.838	3.4	789365	0.710	0.687	5.153	5.153	2.73				
41	Acenaphthene-d10	40.000	0	1073834	1	1	5.274	5.272	0				
42	Hexachlorocyclopentadiene	20.676	-17.3	278733	0.415	0.502	5.525	5.519	4.45				
43	2,3,5-Trichlorophenol	27.570	10.3	316541	0.472	0.428	5.525	5.523	9.04				
44	2,4,6-Trichlorophenol	25.565	2.3	312201	0.465	0.455	5.355	5.356	4.02				
45	2,4,5-Trichlorophenol	25.260	1.0	324477	0.483	0.478	5.394	5.391	3.93				
46	2-Fluorobiphenyl	7.647	-8.2	328057	1.467	1.598	5.466	5.466	2.17				
47	2,3,4-Trichlorophenol	25.644	2.6	288666	0.430	0.419	5.471	5.469	1.40				
48	Biphenyl	27.704	-1.2	1080316	1.610	1.629	5.586	5.585	2.80				
49	2-Chloronaphthalene	24.696	-1.5	888400	1.324	1.340	5.606	5.606	3.36				
50	2-Nitroaniline	26.040	4.2	264162	0.394	0.378	5.725	5.721	6.20				
51	2,6-Dimethylnaphthalene	25.700	2.8	796029	1.186	1.154	5.773	5.771	1.76				
52	1,4-Dinitrobenzene	25.502	2.0	113568	0.169	0.166	5.894	5.890	10.58				
53	Dimethylphthalate	26.053	4.2	1030100	1.535	1.473	5.956	5.955	1.25				
54	1,3-Dinitrobenzene	25.873	3.4	136331	0.203	0.197	5.981	5.979	9.11				
55	2,6-Dinitrotoluene	27.310	1.2	204254	0.305	0.301	6.019	6.019	3.30				
56	1,2-Dinitrobenzene	24.911	-0.4	84858	0.126	0.127	6.082	6.079	6.06				
57	Acenaphthylene	24.325	-2.7	1385515	2.064	2.122	6.101	6.101	4.18				
58	3-Nitroaniline	25.467	1.9	215352	0.321	0.315	6.216	6.216	3.68				
59	Acenaphthene	24.757	-1.0	882531	1.315	1.328	6.312	6.312	1.93				
60	2,4-Dinitrophenol	20.741	-17.0	72069	0.107	0.116	6.341	6.339	26.38	-0.0101	0.1488		0.9982
61	4-Nitrophenol	24.859	-0.6	137625	0.205	0.206	6.408	6.406	10.34				
62	2,4-Dinitrotoluene	24.327	-2.7	255173	0.381	0.392	6.504	6.503	7.16				
63	Dibenzofuran	24.476	-2.1	1239160	1.846	1.886	6.518	6.519	1.94				
64	2,3,5,6-Tetrachlorophenol	24.251	-3.0	203399	0.303	0.312	6.609	6.609	7.84				
65	2,3,4,6-Tetrachlorophenol	25.478	1.9	293976	0.438	0.430	6.662	6.661	4.22				
66	2,3,5-Trimethylnaphthalene	25.699	2.8	744817	1.110	1.080	6.776	6.774	1.25				
67	Diethylphthalate	26.275	5.1	1052601	1.568	1.492	6.814	6.811	1.03				
68	Fluorene	27.822	-0.7	978678	1.458	1.469	6.936	6.933	1.82				
69	4-Chlorophenyl-phenylether	24.457	-2.2	491256	0.732	0.748	6.940	6.939	1.34				
70	4-Nitroaniline	24.202	-3.2	210521	0.314	0.324	6.954	6.951	8.12				
71	Phenanthrene-d10	40.000	0	1895693	1	1	8.009	8.008	0				
72	4,6-Dinitro-2-methylphenol	22.982	-8.1	134236	0.113	0.112	6.992	6.988	21.93	-0.0075	0.1362		0.9998
73	N-Nitrosodiphenylamine	23.192	-7.2	751234	0.634	0.683	7.077	7.078	1.47				
74	Azobenzene	27.138	4.6	993325	0.838	0.802	7.129	7.128	1.51				
75	2,4,6-Tribromophenol	23.765	-6.1	106904	0.090	0.096	7.214	7.211	7.59				
76	4-Bromophenyl-phenylether	25.078	0.3	285435	0.241	0.240	7.509	7.508	2.11				
77	Hexachlorobenzene	25.072	0.3	290392	0.245	0.244	7.565	7.566	1.23				
78	Pentachlorophenol	26.123	4.5	172981	0.146	0.140	7.792	7.789	12.24				
79	Dibenzothiophene	25.813	3.3	1509521	1.274	1.234	7.891	7.891	2.20				
80	Phenanthrene	25.056	0.2	1490080	1.258	1.255	8.037	8.034	1.91				
81	Dinoseb												
82	Anthracene	24.300	-2.8	1455584	1.229	1.264	8.089	8.090	0.90				
83	Carbazole	25.060	0.2	1275569	1.077	1.074	8.267	8.267	1.46				
84	Di-n-butylphthalate	26.829	7.6	1660019	1.401	1.302	8.659	8.660	3.60				
85	1-Methylphenanthrene	25.075	0.3	1057563	0.893	0.890	8.702	8.702	1.11				
86	Fluoranthene	24.447	-2.2	1638390	1.383	1.414	9.311	9.311	1.15				
87	Chrysene-d12	40.000	0	2074726	1	1	10.786	10.788	0				
88	Benzidine												
89	Pyrene	25.759	3.0	1827352	1.409	1.368	9.547	9.547	3.42				
90	Terphenyl-d14	7.582	-9.0	336765	0.780	0.856	9.707	9.713	1.71				
91	Butylbenzylphthalate	28.554	14.2	686803	0.530	0.464	10.218	10.219	11.98				
92	bis(2-ethylhexyl)adipate	26.227	4.9	518849	0.400	0.381	10.295	10.298	10.19				
93	3,3'-Dichlorobenzidine	23.966	-4.1	512206	0.395	0.412	10.748	10.748	6.19				
94	Benzo(a)anthracene	24.744	-1.0	1586069	1.223	1.236	10.777	10.777	1.31				
95	Chrysene	25.777	3.1	1527372	1.178	1.142	10.811	10.814	1.42				
96	bis(2-Ethylhexyl)phthalate	26.820	7.3	996004	0.768	0.716	10.796	10.799	6.46				
97	Perylene-d12	40.000	0	1806442	1	1	12.213	12.215	0				
98	Di-n-octylphthalate	28.056	12.2	1721627	1.525	1.359	11.417	11.420	11.88				
99	Benzo(b)fluoranthene	25.330	1.3	1467439	1.300	1.283	11.806	11.809	3.32				
100	Benzo(k)fluoranthene	24.587	-1.7	1435344	1.271	1.293	11.835	11.837	2.85				
101	Benzo(e)pyrene	24.928	-0.3	1332727	1.180	1.184	12.091	12.094	1.87				
102	Benzo(a)pyrene	24.577	-1.8	1350115	1.196	1.218	12.150	12.152	2.59				
103	Perylene	24.626	-1.5	1358345	1.204	1.222	12.242	12.245	1.55				
104	Indeno(1,2,3-cd)pyrene	25.485	1.9	1522623	1.375	1.347	13.253	13.260	5.04				
105	Dibenzo(a,h)anthracene	24.749	-1.0	1255853	1.112	1.124	13.578	13.584	4.34				
106	Benzo(g,h,i)perylene	25.986	3.9	1360492	1.205	1.159	13.966	13.966	2.24				

TM 02-08-16

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	115	0.00
2	T	1,4-Dioxane	25.000	22.596	9.6	107	0.00
3	T	N-nitrosodimethylamine	25.000	26.445	-5.8	119	0.00
4	T	Pyridine	25.000	26.398	-5.6	114	0.00
5	S	2-Fluorophenol	25.000	24.469	2.1	111	0.00
6	S	Phenol-d5	25.000	23.855	4.6	106	0.00
7	C,P	Phenol	25.000	24.760	1.0	112	0.00
8	T	Aniline	25.000	24.691	1.2	111	0.00
9	T,P	bis(2-chloroethyl)ether	25.000	24.841	0.6	111	0.00
10	T,P	2-Chlorophenol	25.000	27.266	-9.1	126	0.00
11	T	1,3-Dichlorobenzene	25.000	25.348	-1.4	115	0.00
12	S	1,2-Dichlorobenzene-d4	25.000	0.000	100.0#	0	0.00
13	C	1,4-Dichlorobenzene	25.000	25.193	-0.8	115	0.00
14	T	Benzyl alcohol	25.000	27.443	-9.8	124	0.00
15	T	1,2-Dichlorobenzene	25.000	24.965	0.1	113	0.00
16	T,P	2-Methylphenol	25.000	24.960	0.2	113	0.00
17	T	bis(2-chloroisopropyl)ether	25.000	26.044	-4.2	119	0.00
18	T,P	4-Methylphenol	25.000	25.055	-0.2	114	0.00
19	P,P	N-Nitroso-di-n-propylamine	25.000	23.620	5.5	109	0.00
20	T,P	Hexachloroethane	25.000	25.382	-1.5	114	0.00
21	I	Naphthalene-d8	40.000	40.000	0.0	116	0.00
22	S	Nitrobenzene-d5 8.333	25.000	7.760	6.9 ~~69~~.0#	~~35~~ 105	0.00
23	T,P	Nitrobenzene	25.000	24.472	2.1	111	0.00
24	T,P	Isophorone	25.000	25.043	-0.2	114	0.00
25	C,P	2-Nitrophenol	25.000	25.474	-1.9	110	0.00
26	T,P	2,4-Dimethylphenol	25.000	24.571	1.7	111	0.00
27	T	Benzoic acid	25.000	22.627	9.5	105	0.00
28	T,P	bis(2-Chloroethoxy)methane	25.000	25.630	-2.5	117	0.00
29	T	3,5-Dimethylphenol	25.000	25.459	-1.8	111	0.00
30	C,P	2,4-Dichlorophenol	25.000	24.247	3.0	110	0.00
31	T	3,4-Dimethylphenol	25.000	25.620	-2.5	116	0.00
32	T	1,2,4-Trichlorobenzene	25.000	25.352	-1.4	117	0.00
33	T,P	Naphthalene	25.000	24.826	0.7	114	0.00
34	T	4-Chloroaniline	25.000	24.264	2.9	110	0.00
35	T	2,6-Dichlorophenol	25.000	25.411	-1.6	115	0.00
36	C	Hexachlorobutadiene	25.000	25.421	-1.7	116	0.00
37	T	Hydroquinone	25.000	0.000	100.0#	0	0.00
38	C,P	4-Chloro-3-methylphenol	25.000	24.974	0.1	113	0.00
39	T,P	2-Methylnaphthalene	25.000	24.288	2.8	111	0.00
40	T	1-Methylnaphthalene	25.000	25.838	-3.4	118	0.00
41	I	Acenaphthene-d10	40.000	40.000	0.0	115	0.00
42	P	Hexachlorocyclopentadiene	25.000	20.676	17.3	94	0.00
43	T	2,3,5-Trichlorophenol	25.000	27.570	-10.3	122	0.00
44	C,P	2,4,6-Trichlorophenol	25.000	25.565	-2.3	116	0.00
45	T,P	2,4,5-Trichlorophenol	25.000	25.260	-1.0	113	0.00
46	S	2-Fluorobiphenyl 8.333	25.000	7.647	8.2 ~~69~~.4#	~~35~~ 105	0.00
47	T	2,3,4-Trichlorophenol	25.000	25.644	-2.6	118	0.00
48	T	Biphenyl	25.000	24.704	1.2	114	0.00
49	T,P	2-Chloronaphthalene	25.000	24.696	1.2	116	0.00

KV 2/3/16

02-08-16

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Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	25.000	26.040	-4.2	115	0.00
51	T	2,6-Dimethylnaphthalene	25.000	25.700	-2.8	117	0.00
52	T	1,4-Dinitrobenzene	25.000	25.502	-2.0	110	0.00
53	T	Dimethylphthalate	25.000	26.053	-4.2	120	0.00
54	T	1,3-Dinitrobenzene	25.000	25.843	-3.4	112	0.00
55	T,P	2,6-Dinitrotoluene	25.000	25.311	-1.2	114	0.00
56	T	1,2-Dinitrobenzene	25.000	24.911	0.4	109	0.00
57	T,P	Acenaphthylene	25.000	24.325	2.7	105	0.00
58	T	3-Nitroaniline	25.000	25.467	-1.9	115	0.00
59	C,P	Acenaphthene	25.000	24.757	1.0	114	0.00
60	P	2,4-Dinitrophenol	25.000	20.741	17.0	94	0.00
61	P	4-Nitrophenol	25.000	24.859	0.6	110	0.00
62	T,P	2,4-Dinitrotoluene	25.000	24.327	2.7	107	0.00
63	T,P	Dibenzofuran	25.000	24.476	2.1	113	0.00
64	T	2,3,5,6-Tetrachlorophenol	25.000	24.251	3.0	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	25.000	25.478	-1.9	115	0.00
66	T	2,3,5-Trimethylnaphthalene	25.000	25.699	-2.8	118	0.00
67	T	Diethylphthalate	25.000	26.275	-5.1	119	0.00
68	T,P	Fluorene	25.000	24.822	0.7	114	0.00
69	T,P	4-Chlorophenyl-phenylether	25.000	24.457	2.2	113	0.00
70	T	4-Nitroaniline	25.000	24.202	3.2	104	0.00
71	I	Phenanthrene-d10	40.000	40.000	0.0	112	0.00
72	T	4,6-Dinitro-2-methylphenol	25.000	22.982	8.1	101	0.00
73	C	N-Nitrosodiphenylamine	25.000	23.192	7.2	103	0.00
74	T	Azobenzene	25.000	26.138	-4.6	117	0.00
75	S	2,4,6-Tribromophenol	25.000	23.465	6.1	101	0.00
76	T,P	4-Bromophenyl-phenylether	25.000	25.078	-0.3	113	0.00
77	T,P	Hexachlorobenzene	25.000	25.072	-0.3	113	0.00
78	C,P	Pentachlorophenol	25.000	26.123	-4.5	110	0.00
79	T	Dibenzothiophene	25.000	25.813	-3.3	116	0.00
80	T,P	Phenanthrene	25.000	25.056	-0.2	112	0.00
81	T	Dinoseb	25.000	0.000	100.0#	0	0.00
82	T,P	Anthracene	25.000	24.300	2.8	107	0.00
83	T	Carbazole	25.000	25.060	-0.2	112	0.00
84	T	Di-n-butylphthalate	25.000	26.899	-7.6	116	0.00
85	T	1-Methylphenanthrene	25.000	25.075	-0.3	111	0.00
86	C,P	Fluoranthene	25.000	24.447	2.2	109	0.00
87	I	Chrysene-d12	40.000	40.000	0.0	112	0.00
88	T	Benzidine	25.000	0.000	100.0#	0	0.00
89	T,P	Pyrene	25.000	25.759	-3.0	109	0.00
90	S	Terphenyl-d14 8.333	~~25.000~~	7.582	9.0 ~~69.7#~~	~~34~~ 1620	0.00
91	T	Butylbenzylphthalate	25.000	28.554	-14.2	119	0.00
92	T	bis(2-ethylhexyl)adipate	25.000	26.227	-4.9	110	0.00
93	T	3,3'-Dichlorobenzidine	25.000	23.966	4.1	104	0.00
94	T,P	Benzo(a)anthracene	25.000	24.745	1.0	110	0.00
95	T,P	Chrysene	25.000	25.777	-3.1	115	0.00
96	T	bis(2-Ethylhexyl)phthalate	25.000	26.820	-7.3	115	0.00
97	I	Perylene-d12	40.000	40.000	0.0	113	0.00

KV 2/3/16

pm 02-08-16

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Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	25.000	28.056	-12.2	119	0.00
99	T,P	Benzo(b)fluoranthene	25.000	25.330	-1.3	109	0.00
100	T,P	Benzo(k)fluoranthene	25.000	24.587	1.7	113	0.00
101	T	Benzo(e)pyrene	25.000	24.928	0.3	110	0.00
102	C,P	Benzo(a)pyrene	25.000	24.547	1.8	109	0.00
103	T	Perylene	25.000	24.626	1.5	110	0.00
104	T,P	Indeno(1,2,3-cd)pyrene	25.000	25.485	-1.9	112	0.00
105	T,P	Dibenzo(a,h)anthracene	25.000	24.749	1.0	108	0.00
106	T,P	Benzo(g,h,i)perylene	25.000	25.986	-3.9	116	0.00

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

pu 02-08-16

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.00	
2	T	1,4-Dioxane	0.599	0.541	9.7	107	0.00	
3	T	N-nitrosodimethylamine	0.850	0.899	-5.8	119	0.00	
4	T	Pyridine	1.529	1.615	-5.6	114	0.00	
5	S	2-Fluorophenol	1.314	1.286	2.1	111	0.00	
6	S	Phenol-d5	1.623	1.548	4.6	106	0.00	
7	C,P	Phenol	1.682	1.666	1.0	112	0.00	
8	T	Aniline	2.140	2.113	1.3	111	0.00	
9	T,P	bis(2-chloroethyl)ether	1.275	1.267	0.6	111	0.00	
10	T,P	2-Chlorophenol	1.419	1.548	-9.1	126	0.00	
11	T	1,3-Dichlorobenzene	1.654	1.677	-1.4	115	0.00	
12	S	1,2-Dichlorobenzene-d4	0.000	0.000#	0.0	0#	0.00	
13	C	1,4-Dichlorobenzene	1.680	1.693	-0.8	115	0.00	
14	T	Benzyl alcohol	0.912	1.001	-9.8	124	0.00	
15	T	1,2-Dichlorobenzene	1.604	1.602	0.1	113	0.00	
16	T,P	2-Methylphenol	1.148	1.146	0.2	113	0.00	
17	T	bis(2-chloroisopropyl)ether	2.655	2.766	-4.2	119	0.00	
18	T,P	4-Methylphenol	1.521	1.524	-0.2	114	0.00	
19	P,P	N-Nitroso-di-n-propylamine	1.064	1.006	5.5	109	0.00	
20	T,P	Hexachloroethane	0.642	0.652	-1.6	114	0.00	
21	I	Naphthalene-d8	1.000	1.000	0.0	116	0.00	
22	S	Nitrobenzene-d5	0.451	~~0.140~~ 0.42	~~69~~ 6.9 .0#	~~35~~ 105 #	0.00	
23	T,P	Nitrobenzene	0.453	0.444	2.0	111	0.00	
24	T,P	Isophorone	0.868	0.870	-0.2	114	0.00	
25	C,P	2-Nitrophenol	0.183	0.186	-1.6	110	0.00	
26	T,P	2,4-Dimethylphenol	0.420	0.413	1.7	111	0.00	
27	T	Benzoic acid	0.243	0.230	5.3	105	0.00	
28	T,P	bis(2-Chloroethoxy)methane	0.454	0.466	-2.6	117	0.00	
29	T	3,5-Dimethylphenol	0.453	0.461	-1.8	111	0.00	
30	C,P	2,4-Dichlorophenol	0.356	0.345	3.1	110	0.00	
31	T	3,4-Dimethylphenol	0.495	0.507	-2.4	116	0.00	
32	T	1,2,4-Trichlorobenzene	0.406	0.412	-1.5	117	0.00	
33	T,P	Naphthalene	1.115	1.107	0.7	114	0.00	
34	T	4-Chloroaniline	0.475	0.461	2.9	110	0.00	
35	T	2,6-Dichlorophenol	0.337	0.342	-1.5	115	0.00	
36	C	Hexachlorobutadiene	0.271	0.276	-1.8	116	0.00	KV
37	T	Hydroquinone	0.000	0.000#	0.0	0#	0.00	2/3/16
38	C,P	4-Chloro-3-methylphenol	0.338	0.337	0.3	113	0.00	
39	T,P	2-Methylnaphthalene	0.784	0.762	2.8	111	0.00	
40	T	1-Methylnaphthalene	0.687	0.710	-3.3	118	0.00	
41	I	Acenaphthene-d10	1.000	1.000	0.0	115	0.00	
42	P	Hexachlorocyclopentadiene	0.502	0.415	17.3	94	0.00	
43	T	2,3,5-Trichlorophenol	0.428	0.472	-10.3	122	0.00	
44	C,P	2,4,6-Trichlorophenol	0.455	0.465	-2.2	8.2 116	0.00	
45	T,P	2,4,5-Trichlorophenol	0.478	0.483	-1.0	113 105	0.00	
46	S	2-Fluorobiphenyl	1.598	~~0.489~~ 1.467	~~69~~ .4#	~~35~~ #	0.00	
47	T	2,3,4-Trichlorophenol	0.419	0.430	-2.6	118	0.00	RW
48	T	Biphenyl	1.629	1.610	1.2	114	0.00	02-08-16
49	T,P	2-Chloronaphthalene	1.340	1.324	1.2	116	0.00	

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	0.378	0.394	-4.2	115	0.00
51	T	2,6-Dimethylnaphthalene	1.154	1.186	-2.8	117	0.00
52	T	1,4-Dinitrobenzene	0.166	0.169	-1.8	110	0.00
53	T	Dimethylphthalate	1.473	1.535	-4.2	120	0.00
54	T	1,3-Dinitrobenzene	0.197	0.203	-3.0	112	0.00
55	T,P	2,6-Dinitrotoluene	0.301	0.305	-1.3	114	0.00
56	T	1,2-Dinitrobenzene	0.127	0.126	0.8	109	0.00
57	T,P	Acenaphthylene	2.122	2.064	2.7	105	0.00
58	T	3-Nitroaniline	0.315	0.321	-1.9	115	0.00
59	C,P	Acenaphthene	1.328	1.315	1.0	114	0.00
60	P	2,4-Dinitrophenol	0.116	0.107	7.8	94	0.00
61	P	4-Nitrophenol	0.206	0.205	0.5	110	0.00
62	T,P	2,4-Dinitrotoluene	0.392	0.381	2.8	107	0.00
63	T,P	Dibenzofuran	1.886	1.846	2.1	113	0.00
64	T	2,3,5,6-Tetrachlorophenol	0.312	0.303	2.9	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.430	0.438	-1.9	115	0.00
66	T	2,3,5-Trimethylnaphthalene	1.080	1.110	-2.8	118	0.00
67	T	Diethylphthalate	1.492	1.568	-5.1	119	0.00
68	T,P	Fluorene	1.469	1.458	0.7	114	0.00
69	T,P	4-Chlorophenyl-phenylether	0.748	0.732	2.1	113	0.00
70	T	4-Nitroaniline	0.324	0.314	3.1	104	0.00
71	I	Phenanthrene-d10	1.000	1.000	0.0	112	0.00
72	T	4,6-Dinitro-2-methylphenol	0.112	0.113	-0.9	101	0.00
73	C	N-Nitrosodiphenylamine	0.683	0.634	7.2	103	0.00
74	T	Azobenzene	0.802	0.838	-4.5	117	0.00
75	S	2,4,6-Tribromophenol	0.096	0.090	6.3	101	0.00
76	T,P	4-Bromophenyl-phenylether	0.240	0.241	-0.4	113	0.00
77	T,P	Hexachlorobenzene	0.244	0.245	-0.4	113	0.00
78	C,P	Pentachlorophenol	0.140	0.146	-4.3	110	0.00
79	T	Dibenzothiophene	1.234	1.274	-3.2	116	0.00
80	T,P	Phenanthrene	1.255	1.258	-0.2	112	0.00
81	T	Dinoseb	0.000	0.000#	0.0	0#	0.00
82	T,P	Anthracene	1.264	1.229	2.8	107	0.00
83	T	Carbazole	1.074	1.077	-0.3	112	0.00
84	T	Di-n-butylphthalate	1.302	1.401	-7.6	116	0.00
85	T	1-Methylphenanthrene	0.890	0.893	-0.3	111	0.00
86	C,P	Fluoranthene	1.414	1.383	2.2	109	0.00
87	I	Chrysene-d12	1.000	1.000	0.0	112	0.00
88	T	Benzidine	0.000	0.000#	0.0	0#	0.00
89	T,P	Pyrene	1.368	1.409	-3.0	109	0.00
90	S	Terphenyl-d14	0.856	0.260	69.6#	34#	0.00
91	T	Butylbenzylphthalate	0.464	0.530	-14.2	119	0.00
92	T	bis(2-ethylhexyl)adipate	0.381	0.400	-5.0	110	0.00
93	T	3,3'-Dichlorobenzidine	0.412	0.395	4.1	104	0.00
94	T,P	Benzo(a)anthracene	1.236	1.223	1.1	110	0.00
95	T,P	Chrysene	1.142	1.178	-3.2	115	0.00
96	T	bis(2-Ethylhexyl)phthalate	0.716	0.768	-7.3	115	0.00
97	I	Perylene-d12	1.000	1.000	0.0	113	0.00

8.9 102 .78 KV 2/3/16

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Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	1.359	1.525	-12.2	119	0.00
99	T,P	Benzo(b)fluoranthene	1.283	1.300	-1.3	109	0.00
100	T,P	Benzo(k)fluoranthene	1.293	1.271	1.7	113	0.00
101	T	Benzo(e)pyrene	1.184	1.180	0.3	110	0.00
102	C,P	Benzo(a)pyrene	1.218	1.196	1.8	109	0.00
103	T	Perylene	1.222	1.204	1.5	110	0.00
104	T,P	Indeno(1,2,3-cd)pyrene	1.349	1.375	-1.9	112	0.00
105	T,P	Dibenzo(a,h)anthracene	1.124	1.112	1.1	108	0.00
106	T,P	Benzo(g,h,i)perylene	1.159	1.205	-4.0	116	0.00

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

KU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	489141	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1779787	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	1073834	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1895693	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	2074726	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1806442	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	393116	24.47	ppm	0.00
Spiked Amount 30.000			Recovery =	81.57%		
6) Phenol-d5	2.665	99	473365	23.86	ppm	0.00
Spiked Amount 30.000			Recovery =	79.53%		
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery =	0.00%		
22) Nitrobenzene-d5	3.509	82	155855	7.76	ppm	0.00
Spiked Amount 10.000			Recovery =	77.60%		
46) 2-Fluorobiphenyl	5.466	172	328057	7.65	ppm	0.00
Spiked Amount 10.000			Recovery =	76.50%		
75) 2,4,6-Tribromophenol	7.214	330	106904	23.47	ppm	0.00
Spiked Amount 30.000			Recovery =	78.23%		
90) Terphenyl-d14	9.707	244	336765	7.58	ppm	0.00
Spiked Amount 10.000			Recovery =	75.80%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	165529	22.60	ppm	97
3) N-nitrosodimethylamine	1.477	74	274941	26.45	ppm	99
4) Pyridine	1.510	79	493685	26.40	ppm	99
7) Phenol	2.675	94	509189	24.76	ppm	99
8) Aniline	2.743	93	646048	24.69	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	387198	24.84	ppm	98
10) 2-Chlorophenol	2.842	128	473123	27.27	ppm	85
11) 1,3-Dichlorobenzene	2.972	146	512821	25.35	ppm	99
13) 1,4-Dichlorobenzene	3.030	146	517539	25.19	ppm	100
14) Benzyl alcohol	3.111	108	306097	27.44	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	489716	24.96	ppm	99
16) 2-Methylphenol	3.188	107	350318	24.96	ppm	97
17) bis(2-chloroisopropyl)...	3.226	45	845452	26.04	ppm	99
18) 4-Methylphenol	3.327	107	465958	25.05	ppm	100
19) N-Nitroso-di-n-propyla...	3.351	70	307409	23.62	ppm	94
20) Hexachloroethane	3.475	117	199174	25.38	ppm	99
23) Nitrobenzene	3.528	77	493471	24.47	ppm	99
24) Isophorone	3.758	82	967528	25.04	ppm	100
25) 2-Nitrophenol	3.840	139	207281	25.47	ppm	99
26) 2,4-Dimethylphenol	3.854	107	459153	24.57	ppm	99
27) Benzoic acid	3.940	105	255565	22.63	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	517829	25.63	ppm	99
29) 3,5-Dimethylphenol	3.993	107	513128	25.46	ppm	100
30) 2,4-Dichlorophenol	4.080	162	383974	24.25	ppm	99
31) 3,4-Dimethylphenol	4.176	107	563717	25.62	ppm	99
32) 1,2,4-Trichlorobenzene	4.181	180	458482	25.35	ppm	99
33) Naphthalene	4.273	128	1231112	24.83	ppm	100
34) 4-Chloroaniline	4.316	127	512483	24.26	ppm	100
35) 2,6-Dichlorophenol	4.326	162	380739	25.41	ppm	99
36) Hexachlorobutadiene	4.398	225	307063	25.42	ppm	100

RU 02-08-16

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Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.837	107	375198	24.97	ppm	99
39)	2-Methylnaphthalene	5.038	142	847484	24.29	ppm	100
40)	1-Methylnaphthalene	5.153	142	789365	25.84	ppm	99
42)	Hexachlorocyclopentadiene	5.220	237	278733	20.68	ppm	99
43)	2,3,5-Trichlorophenol	5.225	196	316541	27.57	ppm	97
44)	2,4,6-Trichlorophenol	5.355	196	312201	25.56	ppm	99
45)	2,4,5-Trichlorophenol	5.394	196	324477	25.26	ppm	99
47)	2,3,4-Trichlorophenol	5.471	196	288666	25.64	ppm	99
48)	Biphenyl	5.586	154	1080316	24.70	ppm	99
49)	2-Chloronaphthalene	5.606	162	888400	24.70	ppm	100
50)	2-Nitroaniline	5.725	65	264162	26.04	ppm	99
51)	2,6-Dimethylnaphthalene	5.773	156	796029	25.70	ppm	100
52)	1,4-Dinitrobenzene	5.894	168	113568	25.50	ppm	97
53)	Dimethylphthalate	5.956	163	1030100	26.05	ppm	100
54)	1,3-Dinitrobenzene	5.980	168	136331	25.84	ppm	98
55)	2,6-Dinitrotoluene	6.019	165	204654	25.31	ppm	100
56)	1,2-Dinitrobenzene	6.082	168	84858	24.91	ppm	97
57)	Acenaphthylene	6.101	152	1385515	24.32	ppm	97
58)	3-Nitroaniline	6.216	138	215352	25.47	ppm	98
59)	Acenaphthene	6.312	153	882531	24.76	ppm	100
60)	2,4-Dinitrophenol	6.341	184	72069	20.74	ppm	97
61)	4-Nitrophenol	6.408	109	137625	24.86	ppm	99
62)	2,4-Dinitrotoluene	6.504	165	255773	24.33	ppm	98
63)	Dibenzofuran	6.518	168	1239160	24.48	ppm	100
64)	2,3,5,6-Tetrachlorophenol	6.610	230	203399	24.25	ppm	99
65)	2,3,4,6-Tetrachlorophenol	6.662	232	293976	25.48	ppm	98
66)	2,3,5-Trimethylnaphtha...	6.776	170	744817	25.70	ppm	99
67)	Diethylphthalate	6.814	149	1052601	26.28	ppm	100
68)	Fluorene	6.936	166	978678	24.82	ppm	99
69)	4-Chlorophenyl-phenyle...	6.940	204	491256	24.46	ppm	98
70)	4-Nitroaniline	6.954	138	210521	24.20	ppm	94
72)	4,6-Dinitro-2-methylph...	6.992	198	134236	22.98	ppm	97
73)	N-Nitrosodiphenylamine	7.077	169	751234	23.19	ppm	99
74)	Azobenzene	7.129	77	993325	26.14	ppm	100
76)	4-Bromophenyl-phenylether	7.509	248	285435	25.08	ppm	99
77)	Hexachlorobenzene	7.565	284	290392	25.07	ppm	99
78)	Pentachlorophenol	7.792	266	172981	26.12	ppm	97
79)	Dibenzothiophene	7.891	184	1509521	25.81	ppm	97
80)	Phenanthrene	8.037	178	1490080	25.06	ppm	100
82)	Anthracene	8.089	178	1455584	24.30	ppm	100
83)	Carbazole	8.267	167	1275569	25.06	ppm	99
84)	Di-n-butylphthalate	8.659	149	1660019	26.90	ppm	100
85)	1-Methylphenanthrene	8.702	192	1057563	25.08	ppm	99
86)	Fluoranthene	9.311	202	1638390	24.45	ppm	99
89)	Pyrene	9.547	202	1827352	25.76	ppm	99
91)	Butylbenzylphthalate	10.218	149	686803	28.55	ppm	99
92)	bis(2-ethylhexyl)adipate	10.295	129	518849	26.23	ppm	98
93)	3,3'-Dichlorobenzidine	10.747	252	512206	23.97	ppm	100
94)	Benzo(a)anthracene	10.777	228	1586069	24.74	ppm	99
95)	Chrysene	10.811	228	1527372	25.78	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.796	149	996004	26.82	ppm	99
98)	Di-n-octylphthalate	11.417	149	1721627	28.06	ppm	100
99)	Benzo(b)fluoranthene	11.806	252	1467439	25.33	ppm	96
100)	Benzo(k)fluoranthene	11.835	252	1435344	24.59	ppm	99
101)	Benzo(e)pyrene	12.091	252	1332727	24.93	ppm	98

PM 02-08-16

443

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.150	252	1350115	24.55 ppm	99
103) Perylene	12.242	252	1359345	24.63 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.553	276	1552263	25.49 ppm	96
105) Dibenzo(a,h)anthracene	13.578	278	1255853	24.75 ppm	99
106) Benzo(g,h,i)perylene	13.966	276	1360492	25.99 ppm	100

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

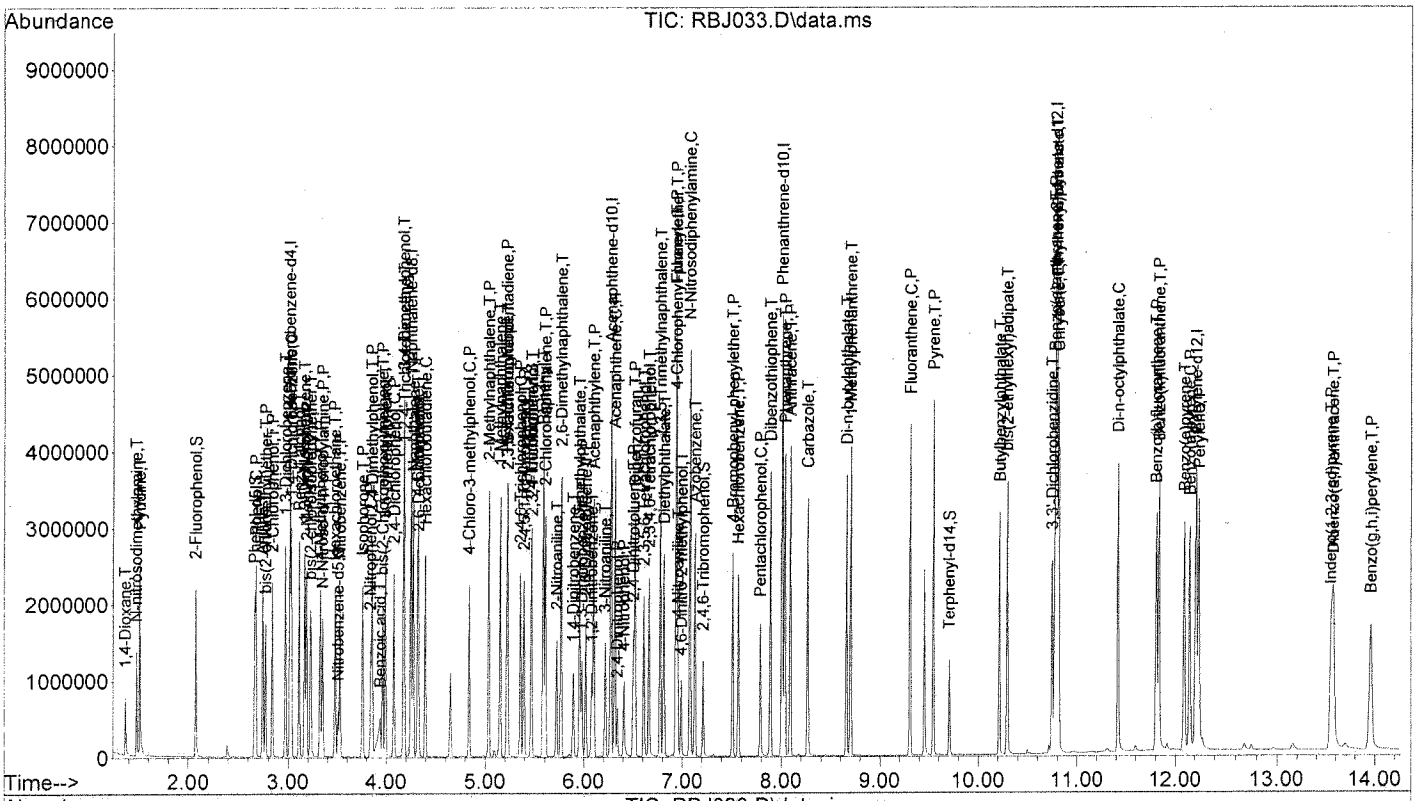
M 02-08-16

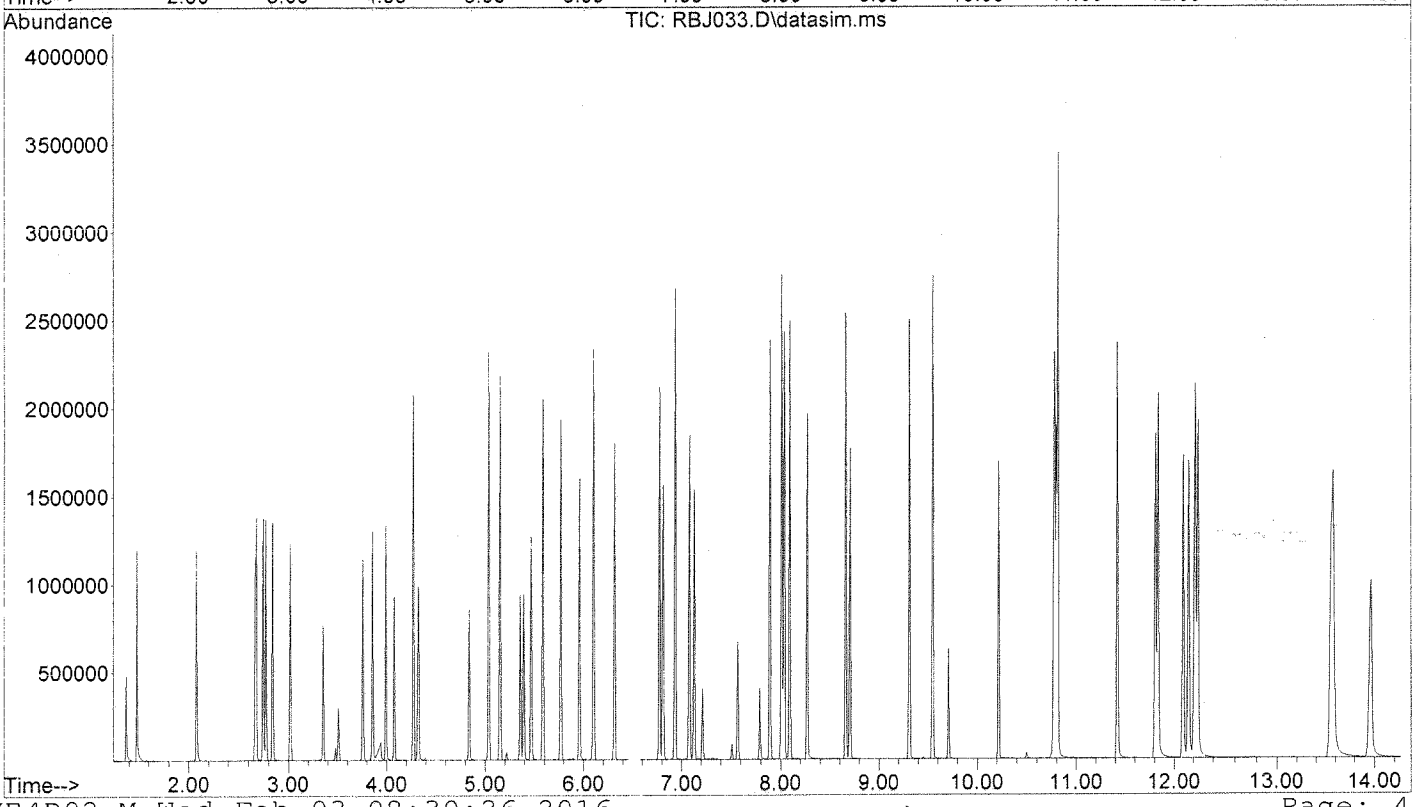
444

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

DAILY CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REJ322
Instrument ID: TOE4

Project: CANNON AFB PBR
SDG No.: 16E133
DFTPP Injection Date: 05/23/16
DFTPP Injection Time: 08:49

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	41.67
68	Less than 2% of mass 69	0.55(1.4)1
69	% of mass 198	38.43
70	Less than 2% of mass 69	0.00(0.0)1
127	10.0 - 80.0% of mass 198	43.98
197	Less than 2.0% of mass 198	0.36
198	Base Peak, 100	100.00
199	5.0 - 9.0% of mass 198	6.88
275	10.0 - 60.0% of mass 198	21.01
365	Greater than 1.00% of mass 198	1.78
441	Present, but less than 24% of mass 442	9.04(16.3)2
442	Greater than 50% of mass 198	55.47
443	15.0 - 24.0% of mass 442	10.79(19.4)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD025	CSVE4B0285	REJ323	05/23/16	09:01
2	LCS1W	SVE025WL	REJ328	05/23/16	10:39
3	LCD1W	SVE025WC	REJ329	05/23/16	10:58
4	MBLK1W	SVE025WB	REJ330	05/23/16	11:17
5	CAFB-IDW-W-05132016	E133-02	REJ350	05/23/16	17:47

FORM V SV OLM03.0

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:CANNON AFB PBR
SDG No.: 16E133
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS1(DCB)		IS2(NPT)		IS3(ANT)	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
	12 HOUR STD	424119	3.02	1535126	4.25	929909	6.27
	UPPER LIMIT	848238	3.52	3070252	4.75	1859818	6.77
	LOWER LIMIT	212060	2.52	767563	3.75	464955	5.77
	SAMPLE ID						
1	SSTD025	499430	3.02	1723484	4.25	1073903	6.28
2	LCS1W	461555	3.02	1642077	4.25	1031101	6.28
3	LCD1W	471551	3.02	1669087	4.25	1050678	6.28
4	MBLK1W	465147	3.02	1624263	4.25	1032254	6.28
5	CAFB-IDW-W-05132016	433855	3.02	1515397	4.25	955460	6.28

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

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

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:CANNON AFB PBR
SDG No.: 16E133
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	1694673	8.01	1850796	10.79	1601653	12.22
	UPPER LIMIT	3389346	8.51	3701592	11.29	3203306	12.72
	LOWER LIMIT	847337	7.51	925398	10.29	800827	11.72
	SAMPLE ID						
1	SSTD025	1929687	8.02	1858988	10.80	1558210	12.23
2	LCS1W	1940388	8.02	2014866	10.80	1728112	12.23
3	LCD1W	1954913	8.02	2034807	10.80	1764822	12.24
4	MBLK1W	1964228	8.01	2074380	10.80	1757068	12.23
5	CAFB-IDW-W-05132016	1736430	8.01	1817510	10.80	1498877	12.23

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

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

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

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E4
IC Beginning DateTime :02/02/16 09:09
Spike Amount :25 PPM
CC/CV File :REJ323
IC File :RBJ007

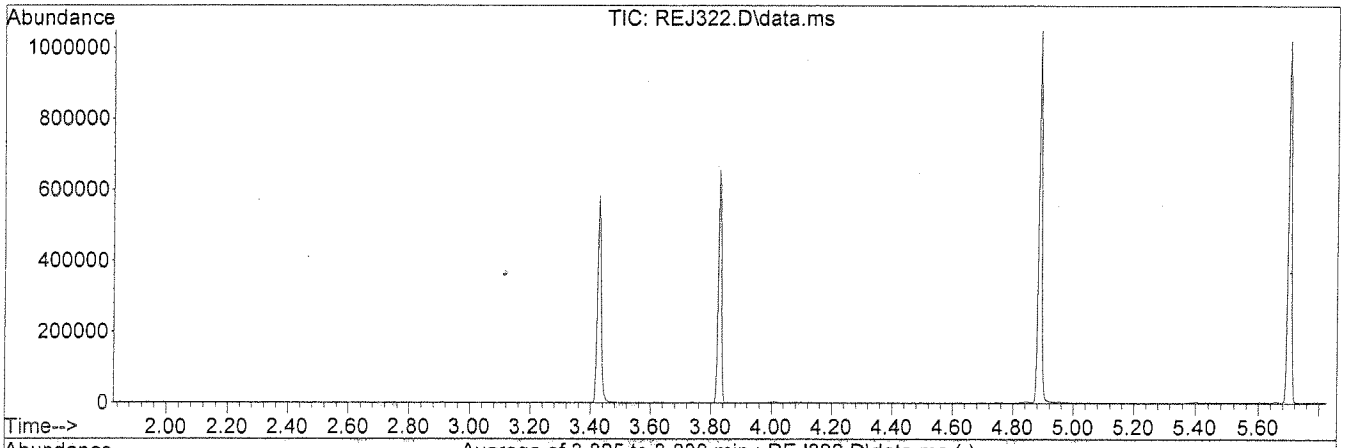
Column Spec :ZB-SEMIVOA ID :0.18MM
IC Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02
Date_Time :05/23/16 09:01

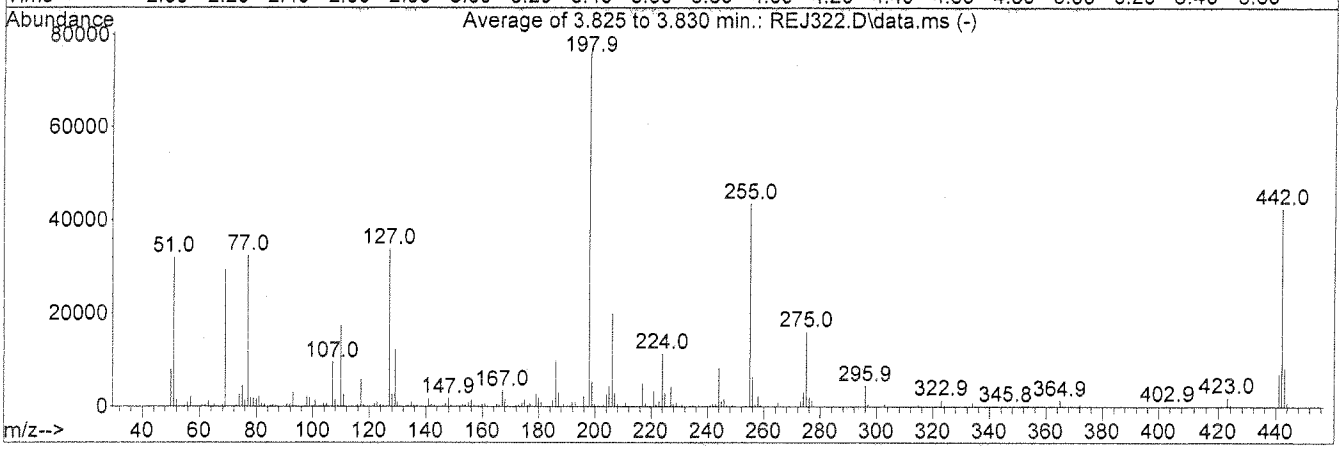
M IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
1	1,4-Dichlorobenzene-d4	40.000	0	499430	1	1	3.020	3.015	0				
2	1,4-Dioxane	23.070	-7.7	172551	0.553	0.599	1.367	1.367	6.63				
3	N-nitrosodimethylamine	23.608	-5.6	250604	0.803	0.850	1.477	1.477	1.37				
4	Pyridine	24.944	-0.2	476310	1.526	1.529	1.505	1.502	7.97				
5	2-Fluorophenol	24.608	-1.6	403661	1.293	1.314	2.075	2.072	1.13				
6	Phenol-d5	25.315	1.3	512897	1.643	1.623	2.665	2.659	1.86				
7	Phenol	24.878	-0.5	522366	1.673	1.682	2.680	2.671	1.81				
8	Aniline	24.313	-2.7	649541	2.081	2.140	2.748	2.744	2.23				
9	bis(2-chloroethyl)ether	24.845	-0.6	395399	1.267	1.275	2.774	2.772	2.19				
10	2-Chlorophenol	26.649	6.6	472130	1.513	1.419	2.846	2.838	3.81				
11	1,3-Dichlorobenzene	24.996	-0.0	516335	1.654	1.654	2.977	2.972	1.34				
12	1,2-Dichlorobenzene-d4												
13	1,4-Dichlorobenzene	25.002	0.0	524431	1.680	1.680	3.034	3.030	1.55				
14	Benzyl alcohol	24.504	-2.0	279070	0.894	0.912	3.116	3.109	2.45				
15	1,2-Dichlorobenzene	24.883	-0.5	498376	1.597	1.604	3.169	3.165	2.20				
16	2-Methylphenol	23.966	-4.1	343440	1.100	1.148	3.193	3.184	1.93				
17	bis(2-chloroisopropyl)ether	23.569	-5.7	781179	2.503	2.635	3.231	3.229	3.23				
18	4-Methylphenol	23.713	-5.1	450289	1.443	1.521	3.332	3.321	4.06				
19	N-Nitroso-di-n-propylamine	23.227	-7.1	308657	0.989	1.064	3.356	3.351	5.54				
20	Hexachloroethane	24.917	-0.3	199638	0.640	0.642	3.480	3.477	2.07				
21	Naphthalene-d8	40.000	0	1723484	1	1	4.253	4.247	0				
22	Nitrobenzene-d5	25.944	3.8	504560	0.468	0.451	3.519	3.508	1.58				
23	Nitrobenzene	25.275	1.8	496854	0.461	0.453	3.538	3.528	1.73				
24	Isophorone	25.442	1.9	977368	0.902	0.868	3.728	3.718	1.35				
25	2-Nitrophenol	25.964	3.7	236128	0.219	0.183	3.845	3.838	7.77				
26	2,4-Dimethylphenol	29.968	19.9	448928	0.417	0.420	3.864	3.854	7.64				
27	Benzoic acid	24.809	-0.8	330179	0.307	0.243	3.955	3.946	1.54				
28	bis(2-Chloroethoxy)methane	29.537	18.1	503265	0.467	0.454	3.974	3.965	15.58	-0.0135	0.2778		0.9993
29	2,5-Dimethylphenol	25.722	2.9	505160	0.469	0.453	4.003	3.993	2.26				
30	2,4-Dichlorophenol	25.882	3.5	397849	0.369	0.356	4.089	4.077	7.12				
31	3,4-Dimethylphenol	25.944	3.8	532417	0.494	0.495	4.181	4.172	2.03				
32	1,2,4-Trichlorobenzene	24.988	-0.0	442058	0.410	0.406	4.186	4.176	1.73				
33	Naphthalene	25.242	1.0	1194543	1.109	1.115	4.278	4.270	2.33				
34	4-Chloroaniline	24.875	-0.5	511992	0.475	0.475	4.326	4.315	2.29				
35	2,6-Dichlorophenol	25.032	0.1	379799	0.353	0.337	4.331	4.324	1.94				
36	Hexachlorobutadiene	26.176	4.7	304102	0.282	0.271	4.398	4.395	1.66				
37	Hydroquinone	25.999	4.0						1.22				
38	4-Chloro-3-methylphenol	25.937	3.7	377342	0.350	0.338	4.847	4.836	3.57				
39	2-Methylnaphthalene	24.796	-0.8	837861	0.778	0.784	5.048	5.032	2.67				
40	1-Methylnaphthalene	24.679	-1.3	730092	0.678	0.687	5.163	5.153	2.73				
41	Acenaphthene-d10	40.000	0	1073903	1	1	6.284	6.272	0				
42	Hexachlorocyclopentadiene	23.905	-4.4	322294	0.480	0.502	5.225	5.218	4.45				
43	2,3,5-Trichlorophenol	28.298	13.2	322614	0.484	0.428	5.235	5.223	9.04				
44	2,4,6-Trichlorophenol	26.347	5.4	321774	0.479	0.455	5.325	5.316	4.02				
45	2,4,5-Trichlorophenol	26.832	7.4	344783	0.514	0.478	5.403	5.391	3.93				
46	2-Fluorobiphenyl	26.537	6.1	1138509	1.696	1.598	5.471	5.466	2.17				
47	2,3,4-Trichlorophenol	26.828	7.3	302014	0.450	0.419	5.481	5.469	1.40				
48	Biphenyl	23.571	-5.7	1030866	1.536	1.629	5.591	5.585	2.80				
49	2-Chloronaphthalene	26.080	4.3	938248	1.398	1.340	5.615	5.606	3.38				
50	2-Nitroaniline	26.184	4.7	265644	0.396	0.378	5.735	5.721	6.20				
51	2,6-Dimethylnaphthalene	24.391	-2.4	755551	1.126	1.154	5.778	5.771	1.76				
52	1,4-Dinitrobenzene	28.122	12.8	125552	0.187	0.166	5.903	5.890	10.58				
53	Dimethylphthalate	24.754	-1.0	978806	1.458	1.473	5.961	5.955	1.25				
54	1,3-Dinitrobenzene	26.319	5.3	138851	0.207	0.197	5.990	5.979	9.11				
55	2,6-Dinitrotoluene	25.967	3.9	209977	0.313	0.301	6.029	6.019	3.30				
56	1,2-Dinitrobenzene	25.548	2.2	87033	0.130	0.127	6.091	6.079	6.06				
57	Acenaphthylene	25.812	3.5	1470332	2.191	2.122	6.111	6.101	4.18				
58	3-Nitroaniline	25.875	3.5	218788	0.326	0.315	6.231	6.216	3.68				
59	Acenaphthene	25.971	3.8	218798	0.261	0.328	6.332	6.319	1.93				
60	2,4-Dinitrophenol	24.311	-2.8	866676	1.291	1.328	6.351	6.336	1.38				
61	4-Nitrophenol	29.420	17.7	106754	0.159	0.116	6.351	6.339	26.38	-0.0101	0.1488		0.9982
62	2,4-Dinitrotoluene	25.292	1.2	140032	0.209	0.206	6.423	6.406	10.34				
63	Dibenzofuran	26.396	5.6	277547	0.414	0.392	6.514	6.503	7.16				
64	2,3,5,6-Tetrachlorophenol	23.778	-4.9	1203916	1.794	1.886	6.528	6.519	1.94				
65	2,3,4,6-Tetrachlorophenol	27.575	10.3	231290	0.345	0.312	6.619	6.609	7.84				
66	2,3,5-Trimethylnaphthalene	26.665	6.7	307689	0.458	0.430	6.672	6.661	4.55				
67	Diethylphthalate	27.444	9.8	725425	1.185	1.080	6.781	6.774	1.55				
68	Fluorene	24.786	-0.9	993018	1.479	1.492	6.814	6.811	1.03				
69	4-Chlorophenyl-phenylether	24.014	-3.9	946859	1.411	1.469	6.941	6.933	1.82				
70	4-Nitroaniline	24.026	-3.9	482621	0.719	0.748	6.945	6.939	1.34				
71	Phenanthrene-d10	26.834	7.3	233430	0.348	0.324	6.964	6.951	8.12				
72	4,6-Dinitro-2-methylphenol	40.000	0	1029687	1	1	8.019	8.008	0				
73	N-Nitrosodiphenylamine	28.324	13.3	171751	0.142	0.112	6.997	6.988	21.93	-0.0075	0.1362		0.9998
74	Azobenzene	24.212	-0.4	824419	0.681	0.683	7.087	7.078	1.47				
75	2,4,6-Tribromophenol	23.510	-6.0	909449	0.754	0.802	7.134	7.128	1.21				
76	4-Bromophenyl-phenylether	28.049	12.2	130078	0.108	0.096	7.225	7.211	7.59				
77	Hexachlorobenzene	28.552	14.2	330802	0.274	0.240	7.514	7.508	2.11				
78	Pentachlorophenol	24.111	-3.6	284261	0.236	0.244	7.575	7.566	1.23				
79	Dibenzothiophene	27.511	10.1	188512	0.154	0.140	7.797	7.789	12.24				
80	Phenanthrene	23.682	-5.3	1409716	1.169	1.234	7.901	7.891	2.20				
81	Dinoseb	23.344	-6.6	1413182	1.172	1.255	8.042	8.034	1.91				
82	Anthracene	23.556	-5.8	1436340	1.191	1.264	8.099	8.090	0.90				
83	Carbazole	22.862	-8.6	1184588	0.982	1.074	8.278	8.267	1.46				
84	Di-n-butylphthalate	22.956	-8.2	1442052	1.196	1.302	8.664	8.660	3.60				
85	1-Methylphenanthrene	23.128	-7.5	992899	0.823	0.890	8.713	8.702	1.11				
86	Fluoranthene	23.073	-7.7	1574021	1.305	1.414	9.321	9.311	1.15				
87	Chrysene-d12	40.000	0	1858988	1	1	10.802	10.788	0				
88	Benzidine												
89	Pyrene	27.437	9.7	1744008	1.501	1.368	9.557	9.547	3.42				
90	Terphenyl-d14	26.303	5.2	1046723	0.901	0.856	9.721	9.713	1.41				
91	Butylbenzylphthalate	28.633	14.5	617103	0.531	0.464	10.223	10.219	11.98				
92	bis(2-ethylhexyl)adipate	27.966	11.9	495716	0.427	0.381	10.295	10.298	10.19				
93	3,3'-Dichlorobenzidine	27.718	10.9	530797	0.457	0.412	10.758	10.748	6.19				
94	Benzo(a)anthracene	25.052	0.2	1438803	1.238	1.236	10.787	10.777	1.31				
95	Chrysene	25.528	2.1	1355315	1.166	1.142	10.826	10.814	1.42				
96	bis(2-Ethylhexyl)phthalate	25.673	2.7	854284	0.735	0.716	10.797	10.799	6.46				
97	Perylene-d12	40.000	0	1558210	1	1	12.233	12.215	0				
98	Di-n-octylphthalate	28.976	15.9	1533724	1.575	1.359	11.423	11.420	11.88				
99	Benzo(b)fluoranthene	25.353	1.4	1266911	1.301	1.283	11.826	11.809	3.32				
100	Benzo(k)fluoranthene	25.307	1.2	1322727	1.360	1.293	11.855	11.837	2.85				
101	Benzo(e)pyrene	26.307	5.2	1164121	1.220	1.187	12.113	12.094	1.87				
102	Benzo(a)pyrene	25.774	3.1	1188601	1.276	1.218	12.176	12.154	2.26				
103	Perylene	26.199	4.8	1242969	1.236	1.222	12.262	12.245	1.55				
104	Indeno(1,2,3-cd)pyrene	25.286	1.1	1203951	1.339	1.349	13.588	13.560	5.04				
105	Dibenzo(a,h)anthracene	24.829	-0.7	1304489	1.112	1.124	13.608	13.584	4.34				
106	Benzo(g,h,i)perylene	24.736	-1.1	1082688	1.128	1.159	13.996	13.966	2.24				
		24.330	-2.7	1098734									

Data Path : D:\DATA\16E23\
Data File : REJ322.D
Acq On : 23 May 2016 8:49
Operator : KVu
Sample : DFTE4B0285
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : Semivolatiles DFTPP 8270D
Last Update : Wed Apr 20 08:56:50 2016





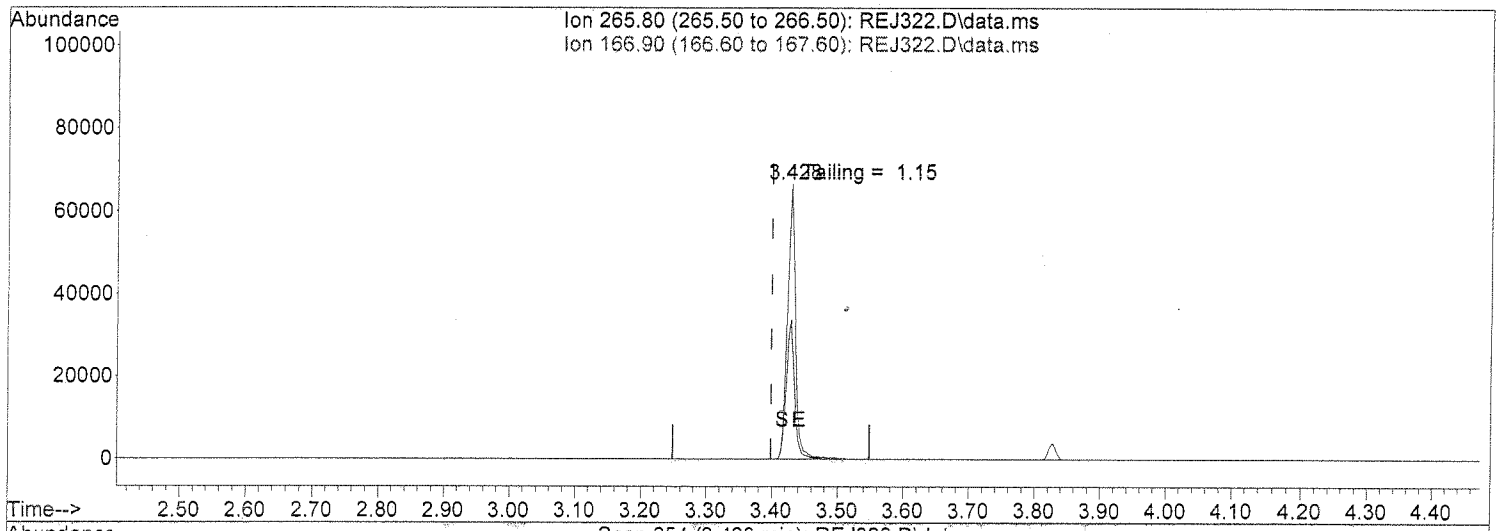
AutoFind: Scans 795, 796, 797; Background Corrected with Scan 787

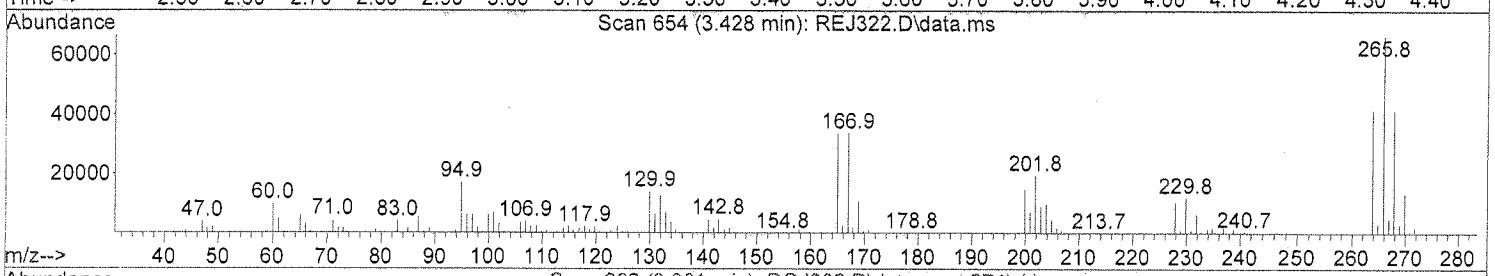
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	41.7	31968	PASS
68	69	0.00	2	1.4	425	PASS
69	198	0.00	100	38.4	29477	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	44.0	33739	PASS
197	198	0.00	2	0.4	277	PASS
198	198	100	100	100.0	76709	PASS
199	198	5	9	6.9	5275	PASS
275	198	10	60	21.0	16118	PASS
365	198	1	100	1.8	1363	PASS
441	442	0.01	24	16.3	6936	PASS
442	198	50	100	55.5	42549	PASS
443	442	15	24	19.4	8274	PASS

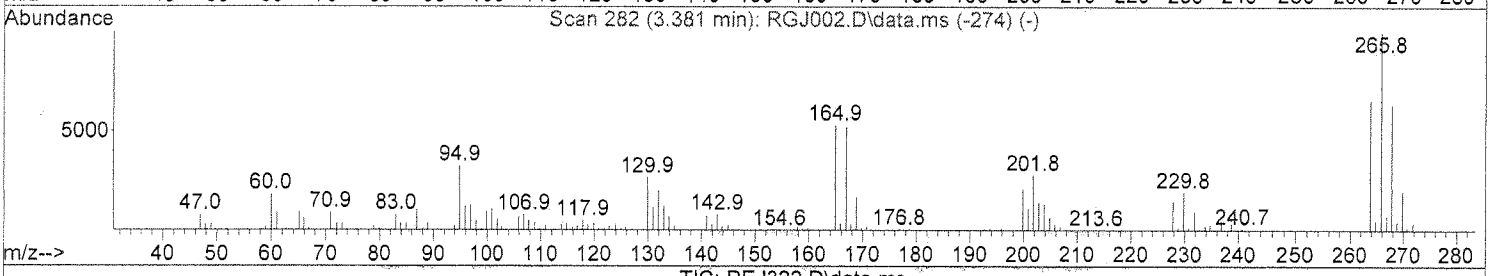
Quantitation Report (Qedit)

Data File : D:\DATA\16E23\REJ322.D
Acq On : 23 May 2016 8:49
Sample : DFTE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 08:55:14 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ322.D\data.ms

(1) Pentachlorophenol (T)

3.428min (+0.029) 30.51 ppm

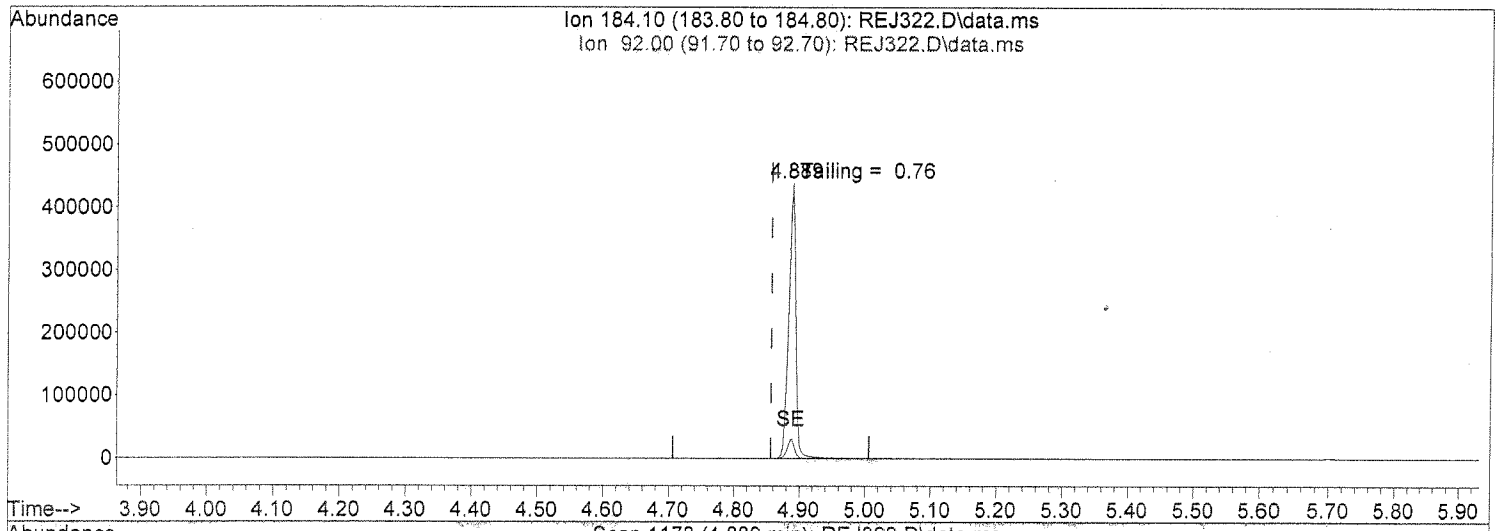
response 55808

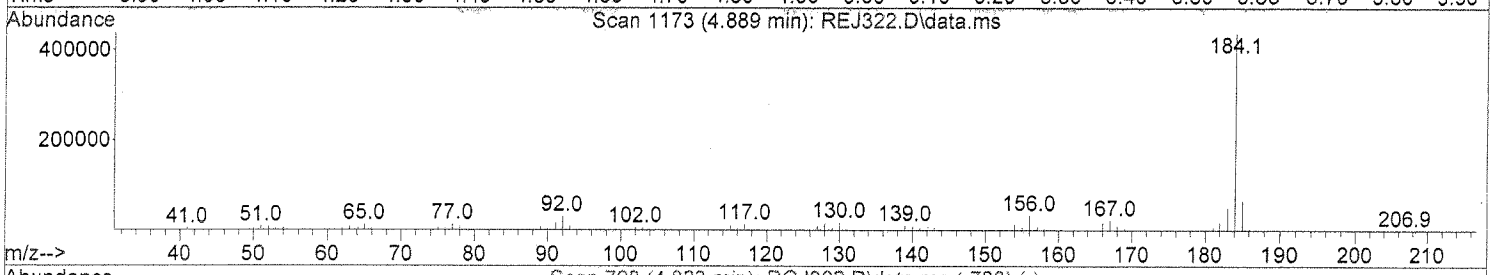
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	51.47
0.00	0.00	0.00
0.00	0.00	0.00

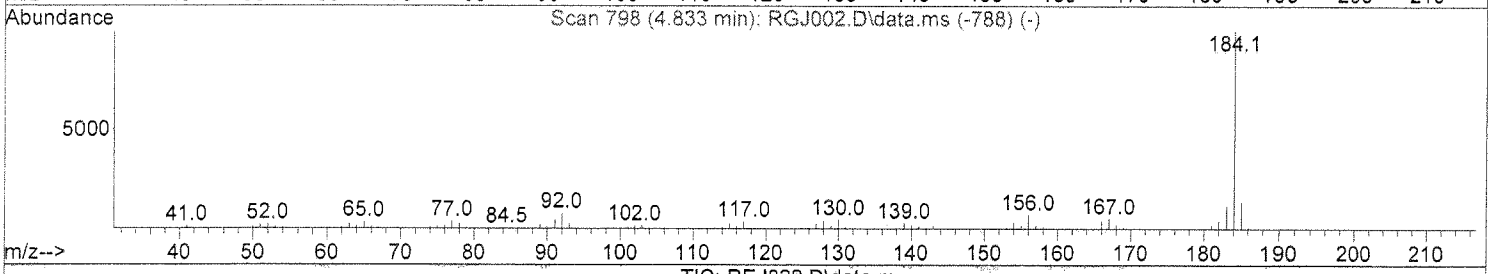
Quantitation Report (Qedit)

Data File : D:\DATA\16E23\REJ322.D
Acq On : 23 May 2016 8:49
Sample : DFTE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 08:55:14 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ322.D\data.ms

(3) Benzidine (T)

4.889min (+0.032) 26.28 ppm

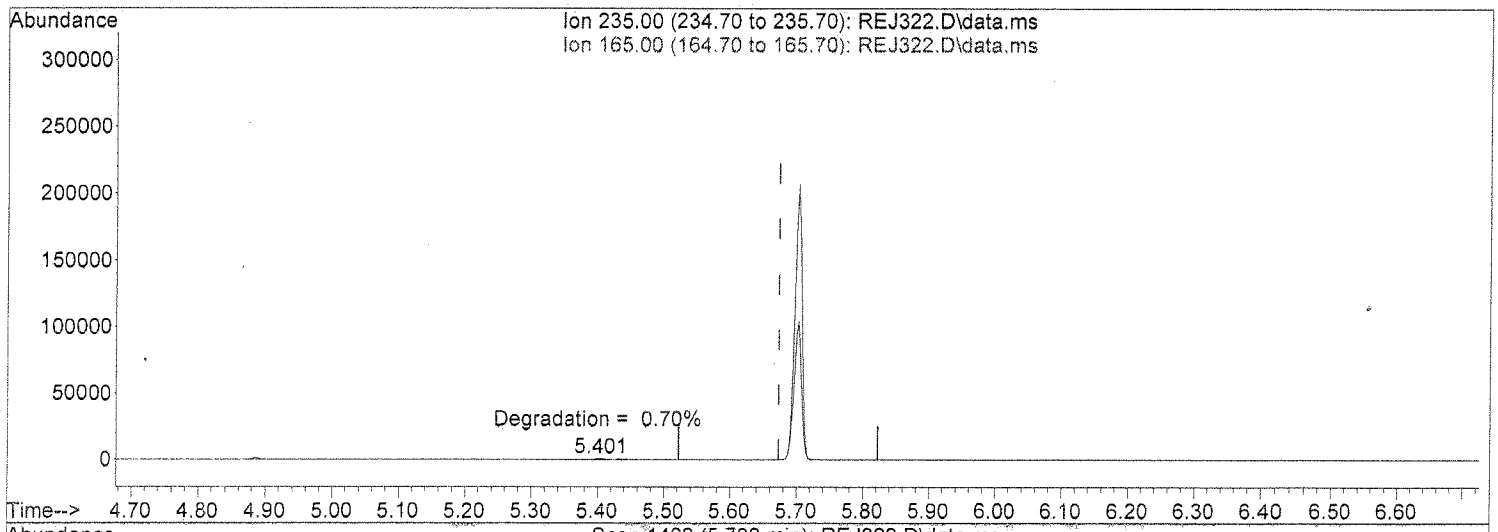
response 325418

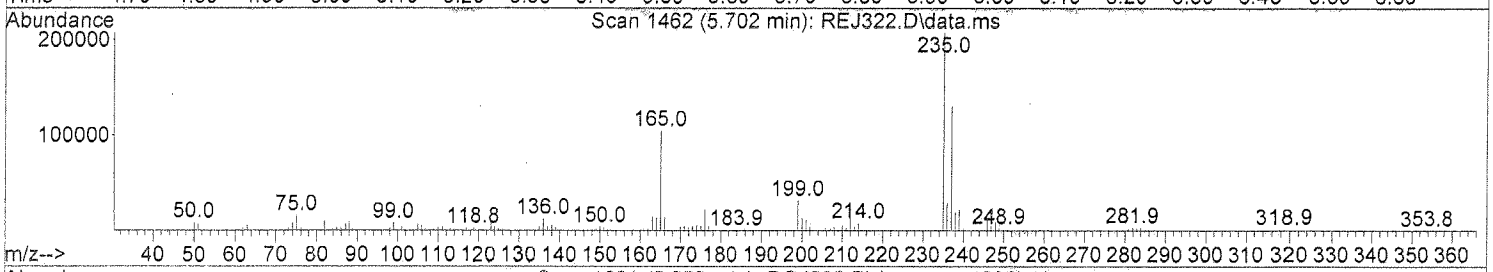
Ion	Exp%	Act%
184.10	100	100
92.00	7.50	7.16
0.00	0.00	0.00
0.00	0.00	0.00

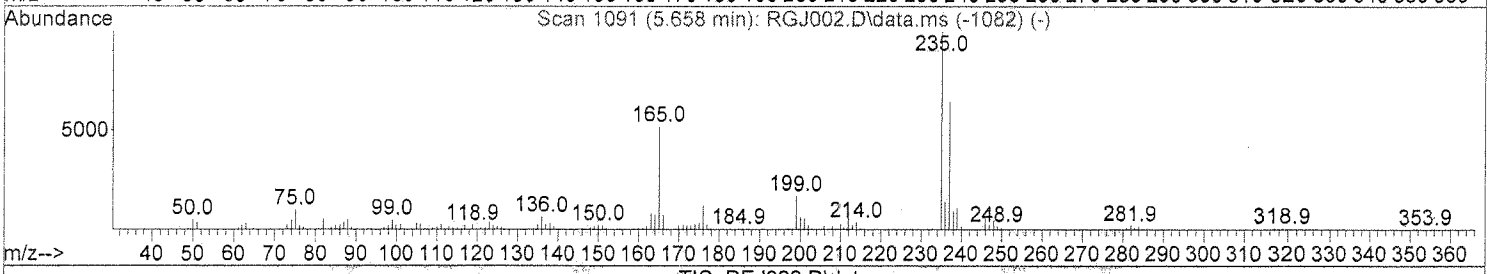
Quantitation Report (Qedit)

Data File : D:\DATA\16E23\REJ322.D
Acq On : 23 May 2016 8:49
Sample : DFTE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 08:55:14 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ322.D\data.ms

(6) DDT (T)

5.702min (+0.029) 27.41 ppm

response 157517

Ion	Exp%	Act%
235.00	100	100
165.00	51.10	50.57
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	118	0.00
2	T	1,4-Dioxane	25.000	23.070	7.7	112	0.00
3	T	N-nitrosodimethylamine	25.000	23.608	5.6	108	0.00
4	T	Pyridine	25.000	24.945	0.2	110	0.00
5	S	2-Fluorophenol	25.000	24.608	1.6	114	0.00
6	S	Phenol-d5	25.000	25.315	-1.3	115	0.00
7	C,P	Phenol	25.000	24.878	0.5	115	0.01
8	T	Aniline	25.000	24.313	2.7	112	0.00
9	T,P	bis(2-chloroethyl)ether	25.000	24.845	0.6	113	0.00
10	T,P	2-Chlorophenol	25.000	26.649	-6.6	126	0.00
11	T	1,3-Dichlorobenzene	25.000	24.996	0.0	116	0.00
12	S	1,2-Dichlorobenzene-d4	25.000	0.000	100.0#	0	0.00
13	C	1,4-Dichlorobenzene	25.000	25.002	-0.0	116	0.00
14	T	Benzyl alcohol	25.000	24.504	2.0	113	0.00
15	T	1,2-Dichlorobenzene	25.000	24.883	0.5	115	0.00
16	T,P	2-Methylphenol	25.000	23.966	4.1	111	0.00
17	T	bis(2-chloroisopropyl)ether	25.000	23.569	5.7	110	0.00
18	T,P	4-Methylphenol	25.000	23.713	5.1	110	0.00
19	P,P	N-Nitroso-di-n-propylamine	25.000	23.227	7.1	109	0.00
20	T,P	Hexachloroethane	25.000	24.917	0.3	114	0.00
21	I	Naphthalene-d8	40.000	40.000	0.0	112	0.00
22	S	Nitrobenzene-d5	25.000	25.944	-3.8	114	0.00
23	T,P	Nitrobenzene	25.000	25.445	-1.8	112	0.00
24	T,P	Isophorone	25.000	25.964	-3.9	114	0.01
25	C,P	2-Nitrophenol	25.000	29.968	-19.9	126	0.00
26	T,P	2,4-Dimethylphenol	25.000	24.808	0.8	109	0.00
27	T	Benzoic acid	25.000	29.537	-18.1	135	0.02
28	T,P	bis(2-Chloroethoxy)methane	25.000	25.723	-2.9	113	0.01
29	T	3,5-Dimethylphenol	25.000	25.882	-3.5	109	0.00
30	C,P	2,4-Dichlorophenol	25.000	25.944	-3.8	114	0.00
31	T	3,4-Dimethylphenol	25.000	24.988	0.0	110	0.01
32	T	1,2,4-Trichlorobenzene	25.000	25.242	-1.0	113	0.00
33	T,P	Naphthalene	25.000	24.875	0.5	110	0.00
34	T	4-Chloroaniline	25.000	25.032	-0.1	110	0.00
35	T	2,6-Dichlorophenol	25.000	26.176	-4.7	115	0.00
36	C	Hexachlorobutadiene	25.000	25.999	-4.0	115	0.00
37	T	Hydroquinone	25.000	0.000	100.0#	0	0.00
38	C,P	4-Chloro-3-methylphenol	25.000	25.937	-3.7	113	0.00
39	T,P	2-Methylnaphthalene	25.000	24.796	0.8	110	0.00
40	T	1-Methylnaphthalene	25.000	24.679	1.3	109	0.00
41	I	Acenaphthene-d10	40.000	40.000	0.0	115	0.00
42	P	Hexachlorocyclopentadiene	25.000	23.905	4.4	109	0.00
43	T	2,3,5-Trichlorophenol	25.000	28.298	-13.2	125	0.00
44	C,P	2,4,6-Trichlorophenol	25.000	26.347	-5.4	120	0.00
45	T,P	2,4,5-Trichlorophenol	25.000	26.839	-7.4	120	0.01
46	S	2-Fluorobiphenyl	25.000	26.537	-6.1	123	0.00
47	T	2,3,4-Trichlorophenol	25.000	26.828	-7.3	123	0.00
48	T	Biphenyl	25.000	23.571	5.7	108	0.00
49	T,P	2-Chloronaphthalene	25.000	26.080	-4.3	123	0.01

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	25.000	26.184	-4.7	116	0.02
51	T	2,6-Dimethylnaphthalene	25.000	24.391	2.4	111	0.00
52	T	1,4-Dinitrobenzene	25.000	28.192	-12.8	122	0.01
53	T	Dimethylphthalate	25.000	24.754	1.0	114	0.00
54	T	1,3-Dinitrobenzene	25.000	26.319	-5.3	115	0.01
55	T,P	2,6-Dinitrotoluene	25.000	25.967	-3.9	117	0.00
56	T	1,2-Dinitrobenzene	25.000	25.548	-2.2	111	0.00
57	T,P	Acenaphthylene	25.000	25.812	-3.2	111	0.00
58	T	3-Nitroaniline	25.000	25.872	-3.5	117	0.01
59	C,P	Acenaphthene	25.000	24.311	2.8	112	0.00
60	P	2,4-Dinitrophenol	25.000	29.420	-17.7	139	0.00
61	P	4-Nitrophenol	25.000	25.292	-1.2	112	0.01
62	T,P	2,4-Dinitrotoluene	25.000	26.396	-5.6	116	0.00
63	T,P	Dibenzofuran	25.000	23.778	4.9	109	0.01
64	T	2,3,5,6-Tetrachlorophenol	25.000	27.575	-10.3	121	0.01
65	T	2,3,4,6-Tetrachlorophenol	25.000	26.665	-6.7	121	0.00
66	T	2,3,5-Trimethylnaphthalene	25.000	27.444	-9.8	126	0.00
67	T	Diethylphthalate	25.000	24.786	0.9	112	0.00
68	T,P	Fluorene	25.000	24.014	3.9	110	0.00
69	T,P	4-Chlorophenyl-phenylether	25.000	24.026	3.9	111	0.00
70	T	4-Nitroaniline	25.000	26.834	-7.3	116	0.01
71	I	Phenanthrene-d10	40.000	40.000	0.0	114	0.00
72	T	4,6-Dinitro-2-methylphenol	25.000	28.324	-13.3	130	0.00
73	C	N-Nitrosodiphenylamine	25.000	24.912	0.4	113	0.00
74	T	Azobenzene	25.000	23.509	6.0	107	0.00
75	S	2,4,6-Tribromophenol	25.000	28.049	-12.2	123	0.01
76	T,P	4-Bromophenyl-phenylether	25.000	28.552	-14.2	131	0.00
77	T,P	Hexachlorobenzene	25.000	24.111	3.6	111	0.01
78	C,P	Pentachlorophenol	25.000	27.522	-10.1	118	0.01
79	T	Dibenzothiophene	25.000	23.682	5.3	108	0.01
80	T,P	Phenanthrene	25.000	23.344	6.6	106	0.01
81	T	Dinoseb	25.000	0.000	100.0#	0	0.00
82	T,P	Anthracene	25.000	23.556	5.8	106	0.00
83	T	Carbazole	25.000	22.862	8.6	104	0.01
84	T	Di-n-butylphthalate	25.000	22.956	8.2	101	0.00
85	T	1-Methylphenanthrene	25.000	23.127	7.5	104	0.01
86	C,P	Fluoranthene	25.000	23.073	7.7	105	0.01
87	I	Chrysene-d12	40.000	40.000	0.0	100	0.01
88	T	Benzidine	25.000	0.000	100.0#	0	0.00
89	T,P	Pyrene	25.000	27.437	-9.7	104	0.01
90	S	Terphenyl-d14	25.000	26.303	-5.2	104	0.00
91	T	Butylbenzylphthalate	25.000	28.634	-14.5	107	0.00
92	T	bis(2-ethylhexyl)adipate	25.000	27.966	-11.9	105	0.00
93	T	3,3'-Dichlorobenzidine	25.000	27.718	-10.9	107	0.01
94	T,P	Benzo(a)anthracene	25.000	25.052	-0.2	100	0.01
95	T,P	Chrysene	25.000	25.528	-2.1	102	0.01
96	T	bis(2-Ethylhexyl)phthalate	25.000	25.673	-2.7	99	0.00
97	I	Perylene-d12	40.000	40.000	0.0	97	0.02

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	25.000	28.976	-15.9	106	0.00
99	T,P	Benzo(b)fluoranthene	25.000	25.353	-1.4	94	0.02
100	T,P	Benzo(k)fluoranthene	25.000	26.307	-5.2	104	0.02
101	T	Benzo(e)pyrene	25.000	25.774	-3.1	98	0.02
102	C,P	Benzo(a)pyrene	25.000	26.199	-4.8	101	0.01
103	T	Perylene	25.000	25.286	-1.1	98	0.02
104	T,P	Indeno(1,2,3-cd)pyrene	25.000	24.829	0.7	94	0.03
105	T,P	Dibenzo(a,h)anthracene	25.000	24.736	1.1	93	0.02
106	T,P	Benzo(g,h,i)perylene	25.000	24.330	2.7	93	0.02

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

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
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Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	118	0.00
2	T	1,4-Dioxane	0.599	0.553	7.7	112	0.00
3	T	N-nitrosodimethylamine	0.850	0.803	5.5	108	0.00
4	T	Pyridine	1.529	1.526	0.2	110	0.00
5	S	2-Fluorophenol	1.314	1.293	1.6	114	0.00
6	S	Phenol-d5	1.623	1.643	-1.2	115	0.00
7	C,P	Phenol	1.682	1.673	0.5	115	0.01
8	T	Aniline	2.140	2.081	2.8	112	0.00
9	T,P	bis(2-chloroethyl)ether	1.275	1.267	0.6	113	0.00
10	T,P	2-Chlorophenol	1.419	1.513	-6.6	126	0.00
11	T	1,3-Dichlorobenzene	1.654	1.654	0.0	116	0.00
12	S	1,2-Dichlorobenzene-d4	0.000	0.000#	0.0	0#	0.00
13	C	1,4-Dichlorobenzene	1.680	1.680	0.0	116	0.00
14	T	Benzyl alcohol	0.912	0.894	2.0	113	0.00
15	T	1,2-Dichlorobenzene	1.604	1.597	0.4	115	0.00
16	T,P	2-Methylphenol	1.148	1.100	4.2	111	0.00
17	T	bis(2-chloroisopropyl)ether	2.655	2.503	5.7	110	0.00
18	T,P	4-Methylphenol	1.521	1.443	5.1	110	0.00
19	P,P	N-Nitroso-di-n-propylamine	1.064	0.989	7.0	109	0.00
20	T,P	Hexachloroethane	0.642	0.640	0.3	114	0.00
21	I	Naphthalene-d8	1.000	1.000	0.0	112	0.00
22	S	Nitrobenzene-d5	0.451	0.468	-3.8	114	0.00
23	T,P	Nitrobenzene	0.453	0.461	-1.8	112	0.00
24	T,P	Isophorone	0.868	0.902	-3.9	114	0.01
25	C,P	2-Nitrophenol	0.183	0.219	-19.7	126	0.00
26	T,P	2,4-Dimethylphenol	0.420	0.417	0.7	109	0.00
27	T	Benzoic acid	0.243	0.307	-26.3#	135	0.02
28	T,P	bis(2-Chloroethoxy)methane	0.454	0.467	-2.9	113	0.01
29	T	3,5-Dimethylphenol	0.453	0.469	-3.5	109	0.00
30	C,P	2,4-Dichlorophenol	0.356	0.369	-3.7	114	0.00
31	T	3,4-Dimethylphenol	0.495	0.494	0.2	110	0.01
32	T	1,2,4-Trichlorobenzene	0.406	0.410	-1.0	113	0.00
33	T,P	Naphthalene	1.115	1.109	0.5	110	0.00
34	T	4-Chloroaniline	0.475	0.475	0.0	110	0.00
35	T	2,6-Dichlorophenol	0.337	0.353	-4.7	115	0.00
36	C	Hexachlorobutadiene	0.271	0.282	-4.1	115	0.00
37	T	Hydroquinone	0.000	0.000#	0.0	0#	0.00
38	C,P	4-Chloro-3-methylphenol	0.338	0.350	-3.6	113	0.00
39	T,P	2-Methylnaphthalene	0.784	0.778	0.8	110	0.00
40	T	1-Methylnaphthalene	0.687	0.678	1.3	109	0.00
41	I	Acenaphthene-d10	1.000	1.000	0.0	115	0.00
42	P	Hexachlorocyclopentadiene	0.502	0.480	4.4	109	0.00
43	T	2,3,5-Trichlorophenol	0.428	0.484	-13.1	125	0.00
44	C,P	2,4,6-Trichlorophenol	0.455	0.479	-5.3	120	0.00
45	T,P	2,4,5-Trichlorophenol	0.478	0.514	-7.5	120	0.01
46	S	2-Fluorobiphenyl	1.598	1.696	-6.1	123	0.00
47	T	2,3,4-Trichlorophenol	0.419	0.450	-7.4	123	0.00
48	T	Biphenyl	1.629	1.536	5.7	108	0.00
49	T,P	2-Chloronaphthalene	1.340	1.398	-4.3	123	0.01

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	0.378	0.396	-4.8	116	0.02
51	T	2,6-Dimethylnaphthalene	1.154	1.126	2.4	111	0.00
52	T	1,4-Dinitrobenzene	0.166	0.187	-12.7	122	0.01
53	T	Dimethylphthalate	1.473	1.458	1.0	114	0.00
54	T	1,3-Dinitrobenzene	0.197	0.207	-5.1	115	0.01
55	T,P	2,6-Dinitrotoluene	0.301	0.313	-4.0	117	0.00
56	T	1,2-Dinitrobenzene	0.127	0.130	-2.4	111	0.00
57	T,P	Acenaphthylene	2.122	2.191	-3.3	111	0.00
58	T	3-Nitroaniline	0.315	0.326	-3.5	117	0.01
59	C,P	Acenaphthene	1.328	1.291	2.8	112	0.00
60	P	2,4-Dinitrophenol	0.116	0.159	-37.1#	139	0.00
61	P	4-Nitrophenol	0.206	0.209	-1.5	112	0.01
62	T,P	2,4-Dinitrotoluene	0.392	0.414	-5.6	116	0.00
63	T,P	Dibenzofuran	1.886	1.794	4.9	109	0.01
64	T	2,3,5,6-Tetrachlorophenol	0.312	0.345	-10.6	121	0.01
65	T	2,3,4,6-Tetrachlorophenol	0.430	0.458	-6.5	121	0.00
66	T	2,3,5-Trimethylnaphthalene	1.080	1.185	-9.7	126	0.00
67	T	Diethylphthalate	1.492	1.479	0.9	112	0.00
68	T,P	Fluorene	1.469	1.411	3.9	110	0.00
69	T,P	4-Chlorophenyl-phenylether	0.748	0.719	3.9	111	0.00
70	T	4-Nitroaniline	0.324	0.348	-7.4	116	0.01
71	I	Phenanthrene-d10	1.000	1.000	0.0	114	0.00
72	T	4,6-Dinitro-2-methylphenol	0.112	0.142	-26.8#	130	0.00
73	C	N-Nitrosodiphenylamine	0.683	0.681	0.3	113	0.00
74	T	Azobenzene	0.802	0.754	6.0	107	0.00
75	S	2,4,6-Tribromophenol	0.096	0.108	-12.5	123	0.01
76	T,P	4-Bromophenyl-phenylether	0.240	0.274	-14.2	131	0.00
77	T,P	Hexachlorobenzene	0.244	0.236	3.3	111	0.01
78	C,P	Pentachlorophenol	0.140	0.154	-10.0	118	0.01
79	T	Dibenzothiophene	1.234	1.169	5.3	108	0.01
80	T,P	Phenanthrene	1.255	1.172	6.6	106	0.01
81	T	Dinoseb	0.000	0.000#	0.0	0#	0.00
82	T,P	Anthracene	1.264	1.191	5.8	106	0.00
83	T	Carbazole	1.074	0.982	8.6	104	0.01
84	T	Di-n-butylphthalate	1.302	1.196	8.1	101	0.00
85	T	1-Methylphenanthrene	0.890	0.823	7.5	104	0.01
86	C,P	Fluoranthene	1.414	1.305	7.7	105	0.01
87	I	Chrysene-d12	1.000	1.000	0.0	100	0.01
88	T	Benzidine	0.000	0.000#	0.0	0#	0.00
89	T,P	Pyrene	1.368	1.501	-9.7	104	0.01
90	S	Terphenyl-d14	0.856	0.901	-5.3	104	0.00
91	T	Butylbenzylphthalate	0.464	0.531	-14.4	107	0.00
92	T	bis(2-ethylhexyl)adipate	0.381	0.427	-12.1	105	0.00
93	T	3,3'-Dichlorobenzidine	0.412	0.457	-10.9	107	0.01
94	T,P	Benzo(a)anthracene	1.236	1.238	-0.2	100	0.01
95	T,P	Chrysene	1.142	1.166	-2.1	102	0.01
96	T	bis(2-Ethylhexyl)phthalate	0.716	0.735	-2.7	99	0.00
97	I	Perylene-d12	1.000	1.000	0.0	97	0.02

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	1.359	1.575	-15.9	106	0.00
99	T,P	Benzo(b)fluoranthene	1.283	1.301	-1.4	94	0.02
100	T,P	Benzo(k)fluoranthene	1.293	1.360	-5.2	104	0.02
101	T	Benzo(e)pyrene	1.184	1.220	-3.0	98	0.02
102	C,P	Benzo(a)pyrene	1.218	1.276	-4.8	101	0.01
103	T	Perylene	1.222	1.236	-1.1	98	0.02
104	T,P	Indeno(1,2,3-cd)pyrene	1.349	1.339	0.7	94	0.03
105	T,P	Dibenzo(a,h)anthracene	1.124	1.112	1.1	93	0.02
106	T,P	Benzo(g,h,i)perylene	1.159	1.128	2.7	93	0.02

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.020	152	499430	40.00	ppm	0.00
21) Naphthalene-d8	4.253	136	1723484	40.00	ppm	0.00
41) Acenaphthene-d10	6.284	164	1073903	40.00	ppm	0.00
71) Phenanthrene-d10	8.019	188	1929687	40.00	ppm	0.00
87) Chrysene-d12	10.802	240	1858988	40.00	ppm	0.01
97) Perylene-d12	12.233	264	1558210	40.00	ppm	0.02
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	403661	24.61	ppm	0.00
Spiked Amount 30.000			Recovery =	82.03%		
6) Phenol-d5	2.665	99	512897	25.31	ppm	0.00
Spiked Amount 30.000			Recovery =	84.37%		
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery =	0.00%		
22) Nitrobenzene-d5	3.519	82	504560	25.94	ppm	0.00
Spiked Amount 10.000			Recovery =	259.40%		
46) 2-Fluorobiphenyl	5.471	172	1138509	26.54	ppm	0.00
Spiked Amount 10.000			Recovery =	265.40%		
75) 2,4,6-Tribromophenol	7.224	330	130078	28.05	ppm	0.01
Spiked Amount 30.000			Recovery =	93.50%		
90) Terphenyl-d14	9.721	244	1046723	26.30	ppm	0.00
Spiked Amount 10.000			Recovery =	263.00%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	172551	23.07	ppm	99
3) N-nitrosodimethylamine	1.477	74	250604	23.61	ppm	95
4) Pyridine	1.505	79	476310	24.94	ppm	96
7) Phenol	2.680	94	522366	24.88	ppm	97
8) Aniline	2.748	93	649541	24.31	ppm	98
9) bis(2-chloroethyl)ether	2.774	93	395399	24.84	ppm	97
10) 2-Chlorophenol	2.842	128	472130	26.65	ppm	81
11) 1,3-Dichlorobenzene	2.977	146	516335	25.00	ppm	99
13) 1,4-Dichlorobenzene	3.034	146	524431	25.00	ppm	100
14) Benzyl alcohol	3.116	108	279070	24.50	ppm	100
15) 1,2-Dichlorobenzene	3.169	146	498376	24.88	ppm	98
16) 2-Methylphenol	3.193	107	343440	23.97	ppm	100
17) bis(2-chloroisopropyl)...	3.231	45	781179	23.57	ppm	99
18) 4-Methylphenol	3.332	107	450289	23.71	ppm	99
19) N-Nitroso-di-n-propyla...	3.356	70	308657	23.23	ppm	99
20) Hexachloroethane	3.480	117	199638	24.92	ppm	88
23) Nitrobenzene	3.538	77	496854	25.45	ppm	100
24) Isophorone	3.768	82	971368	25.96	ppm	100
25) 2-Nitrophenol	3.845	139	236128	29.97	ppm	92
26) 2,4-Dimethylphenol	3.864	107	448928	24.81	ppm	99
27) Benzoic acid	3.955	105	330179	29.54	ppm	99
28) bis(2-Chloroethoxy)met...	3.974	93	503265	25.72	ppm	99
29) 3,5-Dimethylphenol	4.003	107	505160	25.88	ppm	99
30) 2,4-Dichlorophenol	4.089	162	397849	25.94	ppm	97
31) 3,4-Dimethylphenol	4.181	107	532417	24.99	ppm	98
32) 1,2,4-Trichlorobenzene	4.186	180	442058	25.24	ppm	96
33) Naphthalene	4.278	128	1194543	24.88	ppm	100
34) 4-Chloroaniline	4.326	127	511992	25.03	ppm	100
35) 2,6-Dichlorophenol	4.331	162	379799	26.18	ppm	98
36) Hexachlorobutadiene	4.398	225	304102	26.00	ppm	99

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.847	107	377342	25.94	ppm	98
39)	2-Methylnaphthalene	5.048	142	837861	24.80	ppm	100
40)	1-Methylnaphthalene	5.163	142	730092	24.68	ppm	99
42)	Hexachlorocyclopentadiene	5.225	237	322294	23.91	ppm	100
43)	2,3,5-Trichlorophenol	5.235	196	324914	28.30	ppm	88
44)	2,4,6-Trichlorophenol	5.365	196	321774	26.35	ppm	100
45)	2,4,5-Trichlorophenol	5.403	196	344783	26.84	ppm	98
47)	2,3,4-Trichlorophenol	5.481	196	302014	26.83	ppm	96
48)	Biphenyl	5.591	154	1030866	23.57	ppm	99
49)	2-Chloronaphthalene	5.615	162	938248	26.08	ppm	98
50)	2-Nitroaniline	5.735	65	265644	26.18	ppm	95
51)	2,6-Dimethylnaphthalene	5.778	156	755551	24.39	ppm	98
52)	1,4-Dinitrobenzene	5.903	168	125552	28.19	ppm	93
53)	Dimethylphthalate	5.961	163	978806	24.75	ppm	100
54)	1,3-Dinitrobenzene	5.990	168	138851	26.32	ppm	77
55)	2,6-Dinitrotoluene	6.029	165	209977	25.97	ppm	94
56)	1,2-Dinitrobenzene	6.091	168	87033	25.55	ppm	98
57)	Acenaphthylene	6.111	152	1470332	25.81	ppm	99
58)	3-Nitroaniline	6.231	138	218788	25.87	ppm	96
59)	Acenaphthene	6.322	153	866676	24.31	ppm	99
60)	2,4-Dinitrophenol	6.351	184	106754	29.42	ppm	93
61)	4-Nitrophenol	6.423	109	140032	25.29	ppm	94
62)	2,4-Dinitrotoluene	6.514	165	277547	26.40	ppm	92
63)	Dibenzofuran	6.528	168	1203916	23.78	ppm	100
64)	2,3,5,6-Tetrachlorophenol	6.619	230	231290	27.57	ppm	97
65)	2,3,4,6-Tetrachlorophenol	6.672	232	307689	26.66	ppm	98
66)	2,3,5-Trimethylnaphtha...	6.781	170	795425	27.44	ppm	83
67)	Diethylphthalate	6.814	149	993018	24.79	ppm	100
68)	Fluorene	6.941	166	946859	24.01	ppm	97
69)	4-Chlorophenyl-phenyle...	6.945	204	482621	24.03	ppm	98
70)	4-Nitroaniline	6.964	138	233430	26.83	ppm	97
72)	4,6-Dinitro-2-methylph...	6.997	198	171751	28.32	ppm	99
73)	N-Nitrosodiphenylamine	7.087	169	821419	24.91	ppm	97
74)	Azobenzene	7.134	77	909449	23.51	ppm	98
76)	4-Bromophenyl-phenylether	7.514	248	330802	28.55	ppm	97
77)	Hexachlorobenzene	7.575	284	284261	24.11	ppm	96
78)	Pentachlorophenol	7.797	266	185512	27.52	ppm	100
79)	Dibenzothiophene	7.901	184	1409719	23.68	ppm	97
80)	Phenanthrene	8.042	178	1413182	23.34	ppm	100
82)	Anthracene	8.099	178	1436340	23.56	ppm	100
83)	Carbazole	8.277	167	1184588	22.86	ppm	99
84)	Di-n-butylphthalate	8.664	149	1442052	22.96	ppm	99
85)	1-Methylphenanthrene	8.713	192	992899	23.13	ppm	100
86)	Fluoranthene	9.321	202	1574021	23.07	ppm	98
89)	Pyrene	9.557	202	1744008	27.44	ppm	99
91)	Butylbenzylphthalate	10.223	149	617103	28.63	ppm	100
92)	bis(2-ethylhexyl)adipate	10.295	129	495716	27.97	ppm	93
93)	3,3'-Dichlorobenzidine	10.758	252	530797	27.72	ppm	100
94)	Benzo(a)anthracene	10.787	228	1438803	25.05	ppm	92
95)	Chrysene	10.826	228	1355315	25.53	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.797	149	854284	25.67	ppm	98
98)	Di-n-octylphthalate	11.423	149	1533724	28.98	ppm	99
99)	Benzo(b)fluoranthene	11.826	252	1266911	25.35	ppm	100
100)	Benzo(k)fluoranthene	11.855	252	1324727	26.31	ppm	96
101)	Benzo(e)pyrene	12.112	252	1188601	25.77	ppm	97

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

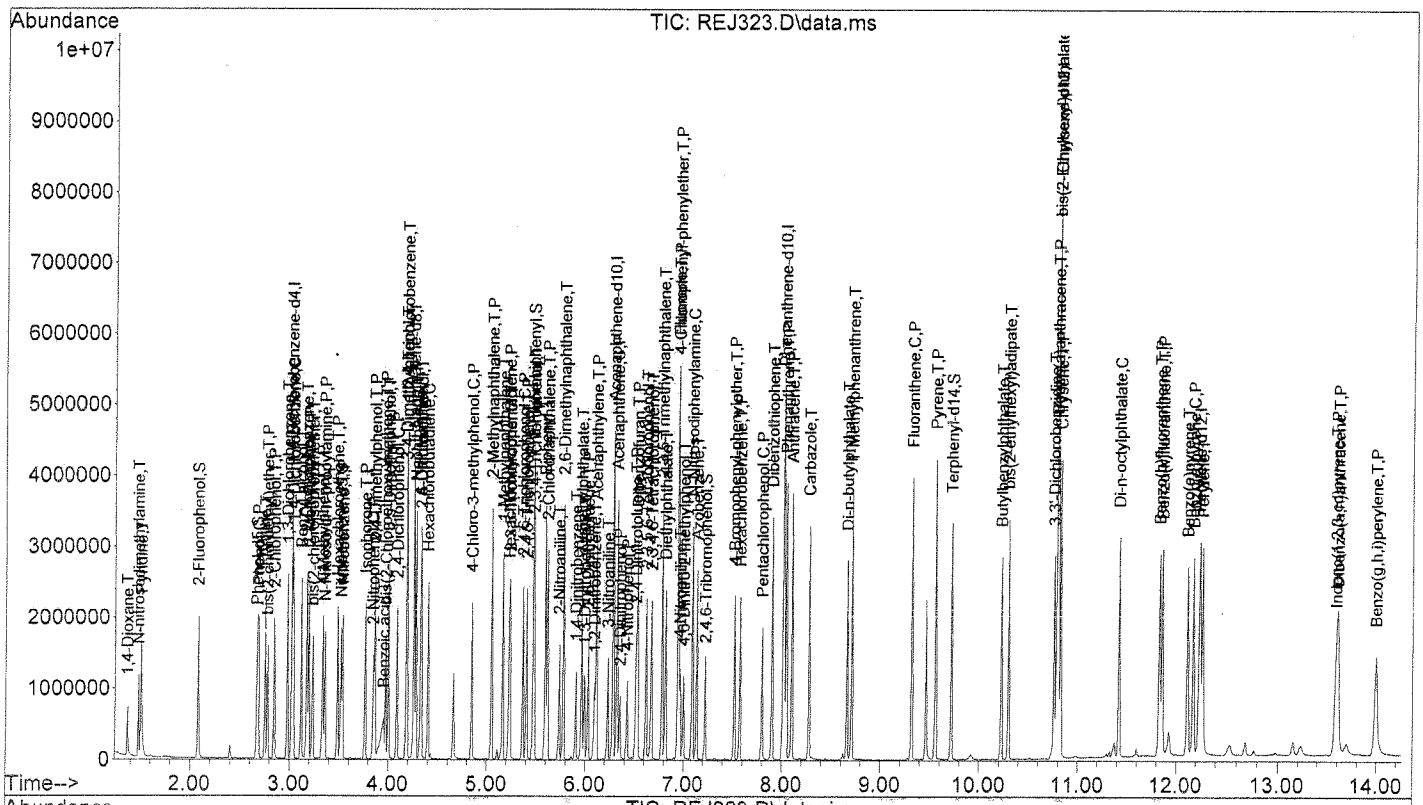
Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.170	252	1242969	26.20 ppm	96
103) Perylene	12.262	252	1203951	25.29 ppm	97
104) Indeno(1,2,3-cd)pyrene	13.588	276	1304489	24.83 ppm	99
105) Dibenzo(a,h)anthracene	13.608	278	1082688	24.74 ppm	96
106) Benzo(g,h,i)perylene	13.996	276	1098734	24.33 ppm	98

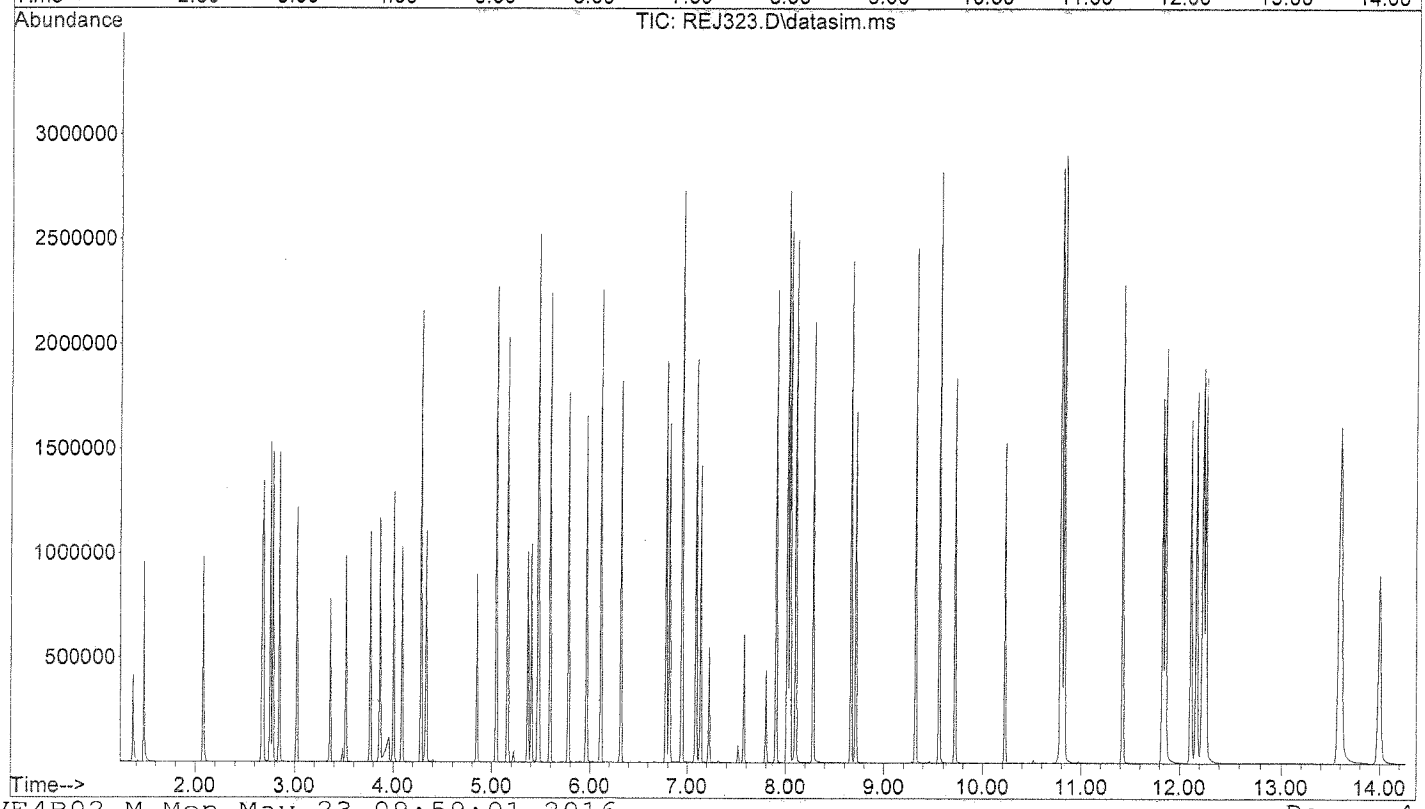
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E23\REJ323.D
Acq On : 23 May 2016 9:01
Sample : CSVE4B0285
Misc :
Integrator: RTE
Quant Time: May 23 09:14:21 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00





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ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐

Book #: AE4-020

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 5/23/16 8:49 End Date/Time: 5/23/16 18:26

ANALYTICAL BATCH: CSVE4B02 85

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
	REJ 321	IBE4B02 85				
	322	DFTE4B02 85				
	323	CSVE4B02 85				
	324	CSVE4B02A 85				Bem
SVE0285	325	SVE0285B	1	X		
	326	SL				
	327	SC				
SVE025W	328	SVE025 WL	1		X	
	329	WC				
	330	WB				
	331	16E133-02D	1			
SVE028S	332	16E149-01	1	X		
	333	02				
	334	03				
SVE027S	335	16E148-01	1	X		
	336	02				
	337	03				
	338	04				
	339	05				
	340	06				
	341	07				
	342	08				
	343	09				
	344	16E152-01				
	345	02				
	346	03				
	347	04				
	348	05				
	349	06				
SVE025W	350	16E133-02	2		X	
SVE024S	351	16E767-01I	100	X	X	KV 5/24/16
$	352	CSVE4B02 86	1			

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02A/02S
Standards	
Name	ID / Conc. (mg/L)
DFTPP	SS2C-14-23-01 / 50
INT. STD.	SS2B-12-19-03 / 2000
ICV	
DCC	SS2C-14-26-02 / 25
BENZIDINE	↓ 22-03 / 25
APP 9	
APP 9 ADD	
Solvent	ID
CH_2Cl_2	55219
DATA FILE	16E23
Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOE4	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments:

Analyzed By: KV

Date Disposed: 5/24/16

Disposed By: KV

This page is checked during data review.

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AE4-019

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 2/2/16 8:58 End Date/Time: 2/2/16 18:46

ANALYTICAL BATCH: SVE4B02S

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	RBJ001	IBE4B02C1	1			
	2	DFTE4B02C1				
	3	SVE4B02 1				100 ppm 8270
	4	2				80
	5	3				50
	6	4				40
	7	5				25
	8	6				20
	9	7				10
	10	8				4
	11	9				2
	12	10				0.5
	13	11				0.15
	14	12				0.075
	15	13				0.05
	16	ISVE4B02 1				ICV *
	17	SVE4B02A 1	1			100 ppm Ben
	18	2				80
	19	3				50
	20	4				40
	21	5				25
	22	6				10
	23	7				4
	24	ISVE4B02A 1				ICV
	25	SVE4B02C 1	1			140 ppm Add
	26	2				120
	27	3				100
	28	4				80
	29	5				50
	30	6				40
	31	7				20
	32	ISVE4B02C1				ICV

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02A/02C/02S

Standards

Name	ID	Conc. (mg/L)
DFTPP	SS2C-14-17-03	50
INT. STD.	SS2B-12-12-03	2000
ICV 8270	SS2C-14-17-02	25
DCC /ICAL	SS2C-14-15-01	.05-50
BENZIDINE ICAL	SS2C-14-16-02	4-100
APP 9 Add ICV	SS2C-14-21-01	50
APP 9 ADD ICAL	SS2C-14-20-03	20-140
8270 ICAL	SS2C-14-16-03	80-100
Ben ICV	SS2C-14-17-01	25
Solvent	ID	
CH_2Cl_2	55219	
DATA FILE	16B02	

Electronic Data Archival

Location	Date
HPCHEM_SVOA/TOE4	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments: * 2,4-Dinitrophenol low

Analyzed By: KV

Date Disposed: NA

Disposed By: NA

This page is checked during data review.

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AE4-019

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 2/2/16 8:58 End Date/Time: 2/2/16 18:46

ANALYTICAL BATCH: SVE4B02S

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	RBJ 033	ISVE4B022	1			ICV 8270
	~~034~~					
		KV 2/3/16				

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02S
Standards	
Name	ID	Conc. (mg/L)
DFTPP		
INT. STD.		
ICV 8270	SS2C - 14-17-02	25
DCC		
BENZIDINE		
APP 9		
APP 9 ADD		
Solvent	ID	
CH_2Cl_2	55219	
DATA FILE	16B02	
Electronic Data Archival		
Location	Date	
HPCHEM_SVOA/TOE4		

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments:

Analyzed By: KV

Date Disposed: NA

Disposed By: NA

This page is checked during data review.

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
SEMIVOLATILES

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-625	1

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

☑ MS/MSD can not be extracted due to insufficient amount of samples

Comments:

Book #: ESV-90
Preparation Batch: SVE025W
Matrix: WATER
Micropipette ID: PE 97A-01 (200M).
Micropipette ID:

Standards	ID	Amount Added (ml)
Surrogate	SS2A-13-01-13	0.4
LCS/MS Full List	SS2A-13-01-14	0.2
LCS/MS 3 comp	SS2B-12-20-01	0.2
LCS/MS		
LCS/MS		

Reagent	Lot# / ID
CH_2Cl_2	55219
Na_2SO_4	SW1B-003-10-19
H_2SO_4	3/13/22
NaOH	SP1B-08-68-04
Silica Sand	
Silica Gel	
Reagent Water	SW1A-006-01-02
Residual Chlorine Strip	6124
pH Strip	HC577678
Filter Paper	968320B

Lab Sample ID	Sonicator #	Cell #	Concentrator #
SVE025WB			1
WL			1
WC			1
E133-02			1
-02D			1

TUNING	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2		
3		
4		
5		
6		
8		

Thermometer ID = SVOC-T1

Prepared By: JM Witnessed By: ML
Standard Added By: JM Checked By: ML
Extract Received By: N 5/20/16 Location: SE01-01
Disposed By: Disposed On:

470

FileID: SVE025W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR SEMIVOLATILES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16SVE025W01	SVE025WB	1000	ml	5/18/16 15:12	2	1000	2	1	
16SVE025W02	SVE025WL	1000	ml	5/18/16 15:12	2	1000	2	1	Full list + 3 compounds
16SVE025W03	SVE025WC	1000	ml	5/18/16 15:12	2	1000	2	1	Full list + 3 compounds
16SVE025W04	E133-02	400	ml	5/18/16 15:12	2	1000	2	2.5	milky orange with bubbles
16SVE025W05	E133-02D	100	ml	5/18/16 15:12	2	1000	2	10	milky orange with bubbles Not used for dilution
									NOTE: E133-02 reduced volume due to matrix

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 5/18/16 15:14 ☑ pHAdj(≤2) @ 5/18/16 15:14 Prepared By: JMuert

☑ Extraction Ended @ 5/20/16 6:00 ☑ pHAdj(≥11) @ 5/19/16 12:02 Checked By: ML

Comments: volume entered after extraction started, chlorine not detected, pH is 7 Date 5/20/16

SOP EMAX-3520 Rev. 5

TCLP SEMI VOLATILE ORGANICS

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/25/16 14:39
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	REJ393	Matrix :	LEACHATE
Ext Btch ID:	SVE030W	% Moisture :	4.0
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	100	25	50
2,4,6-TRICHLOROPHENOL	ND	100	25	50
2,4-DINITROTOLUENE	ND	100	25	50
2-METHYLPHENOL	ND	100	25	50
4-METHYLPHENOL (1)	ND	100	25	50
HEXACHLOROBENZENE	ND	100	25	50
HEXACHLOROBUTADIENE	ND	100	25	50
HEXACHLOROETHANE	ND	100	25	50
NITROBENZENE	ND	100	25	50
PENTACHLOROPHENOL	ND	200	25	50
PYRIDINE	ND	400	110	200

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	348	600.0	58.1	40-125
2-FLUOROBIPHENYL	117	200.0	58.5	50-110
2-FLUOROPHENOL	281	600.0	46.9	20-110
NITROBENZENE-D5	114	200.0	57.0	40-110
PHENOL-D5	332	600.0	55.3	10-115
TERPHENYL-D14	144	200.0	72.0	50-135

(1): Cannot be separated from 3-Methylphenol
DateTime Leached: 05/20/16 18:30

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ393.D
Acq On : 25 May 2016 14:39
Sample : 16E133-03
Misc :
Integrator: RTE
Quant Time: May 26 07:45:16 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 14
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.010	152	418852	40.00 ppm	0.00
21) Naphthalene-d8	4.244	136	1476087	40.00 ppm	0.00
41) Acenaphthene-d10	6.269	164	961646	40.00 ppm	0.00
71) Phenanthrene-d10	8.009	188	1846921	40.00 ppm	0.00
87) Chrysene-d12	10.792	240	1830537	40.00 ppm	0.00
97) Perylene-d12	12.223	264	1550353	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	2.065	112	193608	14.07 ppm	0.00
Spiked Amount 30.000			Recovery	= 46.90%	
6) Phenol-d5	2.654	99	281979	16.59 ppm	0.00
Spiked Amount 30.000			Recovery	= 55.30%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
22) Nitrobenzene-d5	3.504	82	94937	5.70 ppm	0.00
Spiked Amount 10.000			Recovery	= 57.00%	
46) 2-Fluorobiphenyl	5.461	172	224815	5.85 ppm	0.00
Spiked Amount 10.000			Recovery	= 58.50%	
75) 2,4,6-Tribromophenol	7.210	330	77304	17.42 ppm	0.00
Spiked Amount 30.000			Recovery	= 58.07%	
90) Terphenyl-d14	9.711	244	282269	7.20 ppm	0.00
Spiked Amount 10.000			Recovery	= 72.00%	

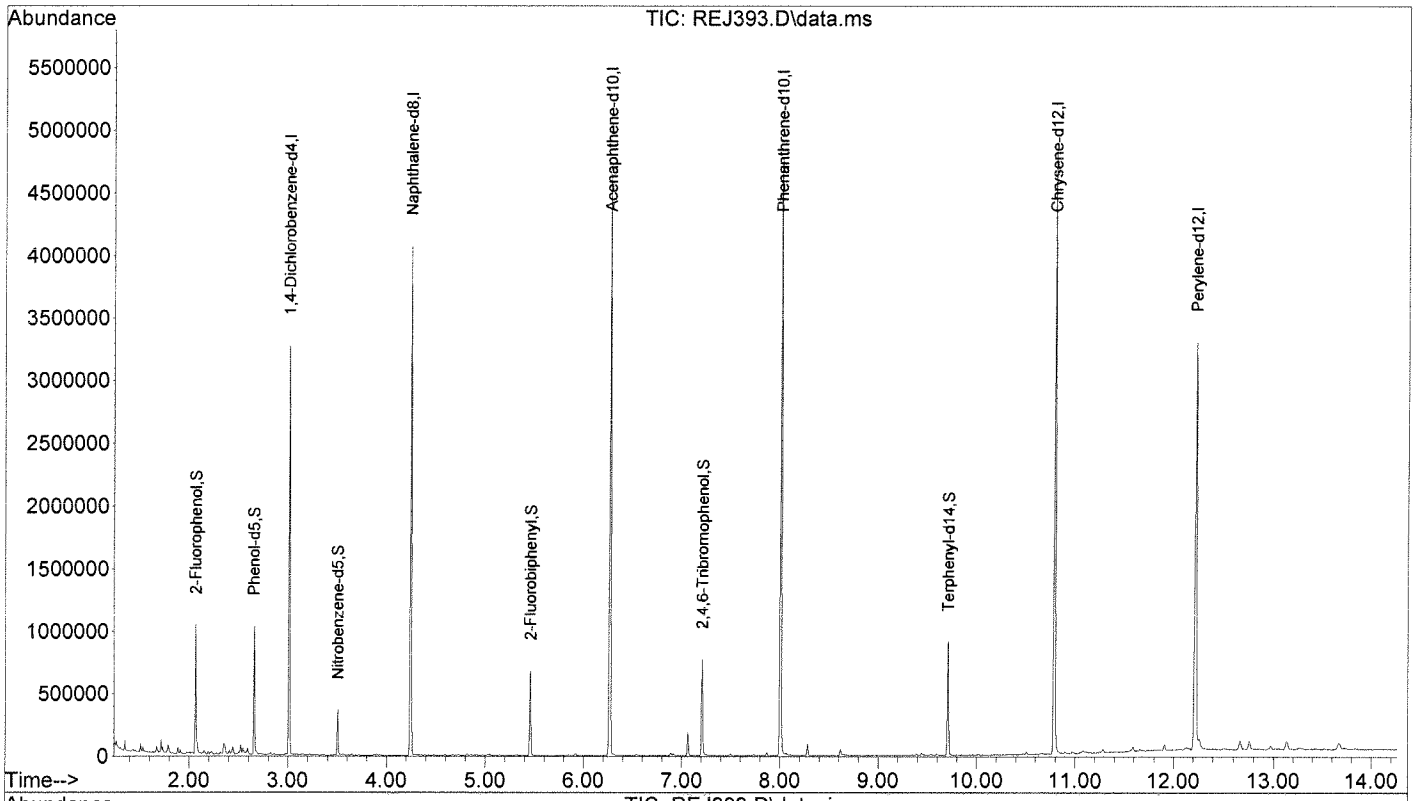
Target Compounds Qvalue

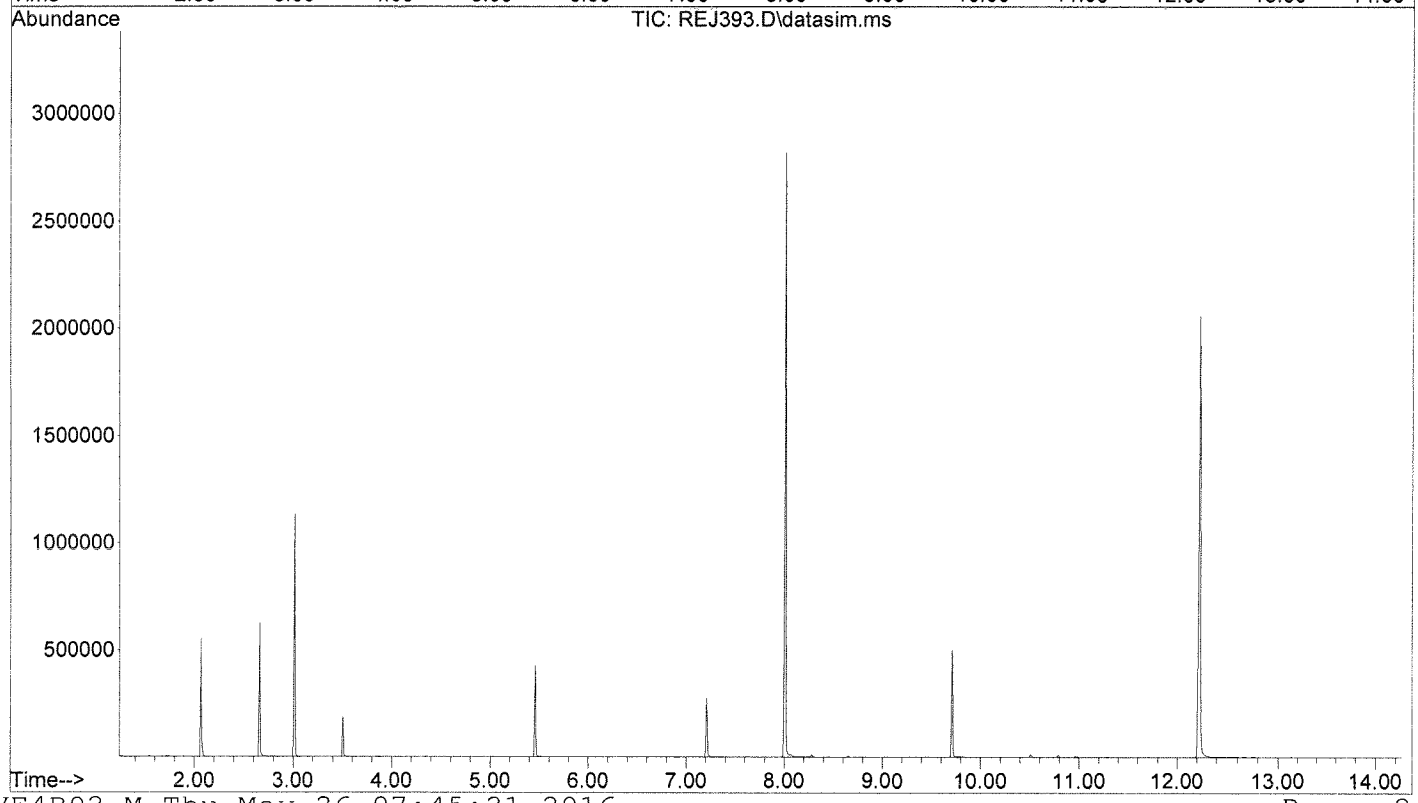
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ393.D
Acq On : 25 May 2016 14:39
Sample : 16E133-03
Misc :
Integrator: RTE
Quant Time: May 26 07:45:16 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 14
Operator: KVu
Inst : E4
Multiplr: 1.00





QC SUMMARIES

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	MBLK1W	Date Analyzed:	05/25/16 11:45
Lab Samp ID:	SVE030WB	Dilution Factor:	1
Lab File ID:	REJ384	Matrix :	WATER
Ext Btch ID:	SVE030W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4,6-TRICHLOROPHENOL	ND	10	2.5	5.0
2,4-DINITROTOLUENE	ND	10	2.5	5.0
2-METHYLPHENOL	ND	10	2.5	5.0
4-METHYLPHENOL (1)	ND	10	2.5	5.0
HEXACHLOROBENZENE	ND	10	2.5	5.0
HEXACHLOROBUTADIENE	ND	10	2.5	5.0
HEXACHLOROETHANE	ND	10	2.5	5.0
NITROBENZENE	ND	10	2.5	5.0
PENTACHLOROPHENOL	ND	20	2.5	5.0
PYRIDINE	ND	40	11	20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	33.8	60.00	56.3	40-125
2-FLUOROBIPHENYL	10.1	20.00	50.4	50-110
2-FLUOROPHENOL	27.4	60.00	45.6	20-110
NITROBENZENE-D5	10.9	20.00	54.6	40-110
PHENOL-D5	32.6	60.00	54.3	10-115
TERPHENYL-D14	14.7	20.00	73.2	50-135

(1): Cannot be separated from 3-Methylphenol

METHOD SW1311/3520C/8270D
TCLP SEMI VOLATILE ORGANICS BY GC/MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 12:45
Sample ID:	MBLK2W	Date Analyzed:	05/25/16 14:19
Lab Samp ID:	TXE014SB	Dilution Factor:	10
Lab File ID:	REJ392	Matrix :	LEACHATE
Ext Btch ID:	SVE030W	% Moisture :	NA
Calib. Ref.:	RBJ007	Instrument ID :	T-OE4

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4,5-TRICHLOROPHENOL	ND	100	25	50
2,4,6-TRICHLOROPHENOL	ND	100	25	50
2,4-DINITROTOLUENE	ND	100	25	50
2-METHYLPHENOL	ND	100	25	50
4-METHYLPHENOL (1)	ND	100	25	50
HEXACHLOROBENZENE	ND	100	25	50
HEXACHLOROBUTADIENE	ND	100	25	50
HEXACHLOROETHANE	ND	100	25	50
NITROBENZENE	ND	100	25	50
PENTACHLOROPHENOL	ND	200	25	50
PYRIDINE	ND	400	110	200

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4,6-TRIBROMOPHENOL	391	600.0	65.1	40-125
2-FLUOROBIPHENYL	116	200.0	58.1	50-110
2-FLUOROPHENOL	320	600.0	53.4	20-110
NITROBENZENE-D5	128	200.0	63.8	40-110
PHENOL-D5	373	600.0	62.1	10-115
TERPHENYL-D14	164	200.0	82.1	50-135

(1): Cannot be separated from 3-Methylphenol
DateTime Leached: 05/20/16 18:30

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3520C/8270D

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	SVE030WB	SVE030WL	SVE030WC		
LAB FILE ID:	REJ384	REJ385	REJ386		
DATE EXTRACTED:	05/23/1612:45	05/23/1612:45	05/23/1612:45	DATE COLLECTED:	NA
DATE ANALYZED:	05/25/1611:45	05/25/1612:04	05/25/1612:24	DATE RECEIVED:	05/23/16
PREP. BATCH:	SVE030W	SVE030W	SVE030W		
CALIB. REF:	RBJ007	RBJ007	RBJ007		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4,5-Trichlorophenol	ND	40.0	27.7	69	40.0	24.9	62	11	50-110	30
2,4,6-Trichlorophenol	ND	40.0	26.0	65	40.0	23.0	58	12	50-115	30
2,4-Dinitrotoluene	ND	40.0	32.8	82	40.0	34.0	85	4	50-120	30
2-Methylphenol	ND	40.0	23.2	58	40.0	19.5	49	17	40-110	30
4-Methylphenol	ND	40.0	23.2	58	40.0	20.0	50	15	30-110	30
Hexachlorobenzene	ND	40.0	29.7	74	40.0	29.8	74	0	50-110	30
Hexachlorobutadiene	ND	40.0	25.0	63	40.0	20.6	52	19	25-105	30
Hexachloroethane	ND	40.0	23.7	59	40.0	19.5	49	19	30-100	30
Nitrobenzene	ND	40.0	24.6	61	40.0	20.8	52	17	45-110	30
Pentachlorophenol	ND	40.0	31.3	78	40.0	32.7	82	5	40-115	30
Pyridine	ND	80.0	40.5	51	80.0	36.0J	45	12	30-160	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4,6-Tribromophenol	60.0	43.3	72	60.0	48.3	81	40-125
2-Fluorobiphenyl	20.0	10.4	52	20.0	9.79	49*	50-110
2-Fluorophenol	60.0	26.9	45	60.0	25.1	42	20-110
Nitrobenzene-d5	20.0	10.9	55	20.0	10.1	51	40-110
Phenol-d5	60.0	31.9	53	60.0	30.2	50	10-115
Terphenyl-d14	20.0	13.6	68	20.0	16.5	82	50-135

QC DATA

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ384.D
Acq On : 25 May 2016 11:45
Sample : SVE030WB
Misc :
Integrator: RTE
Quant Time: May 25 14:48:07 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.010	152	377102	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1329788	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	853411	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1665667	40.00	ppm	0.00
87) Chrysene-d12	10.792	240	1634132	40.00	ppm	0.00
97) Perylene-d12	12.223	264	1309526	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.065	112	169468	13.68	ppm	0.00
Spiked Amount 30.000			Recovery	=	45.60%	
6) Phenol-d5	2.654	99	249395	16.30	ppm	0.00
Spiked Amount 30.000			Recovery	=	54.33%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.504	82	81883	5.46	ppm	0.00
Spiked Amount 10.000			Recovery	=	54.60%	
46) 2-Fluorobiphenyl	5.461	172	171979	5.04	ppm	0.00
Spiked Amount 10.000			Recovery	=	50.40%	
75) 2,4,6-Tribromophenol	7.210	330	67655	16.90	ppm	0.00
Spiked Amount 30.000			Recovery	=	56.33%	
90) Terphenyl-d14	9.707	244	256243	7.33	ppm	0.00
Spiked Amount 10.000			Recovery	=	73.30%	

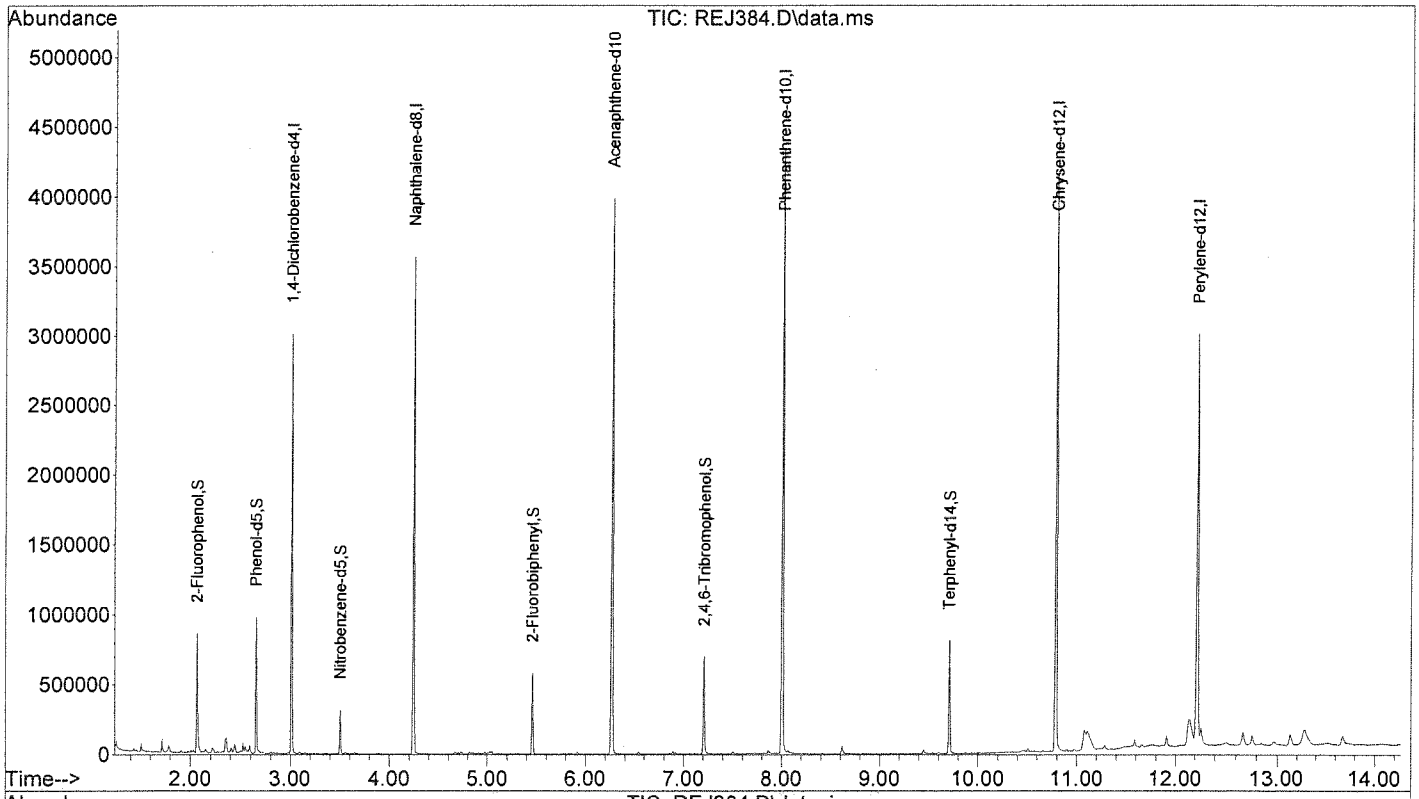
Target Compounds Qvalue

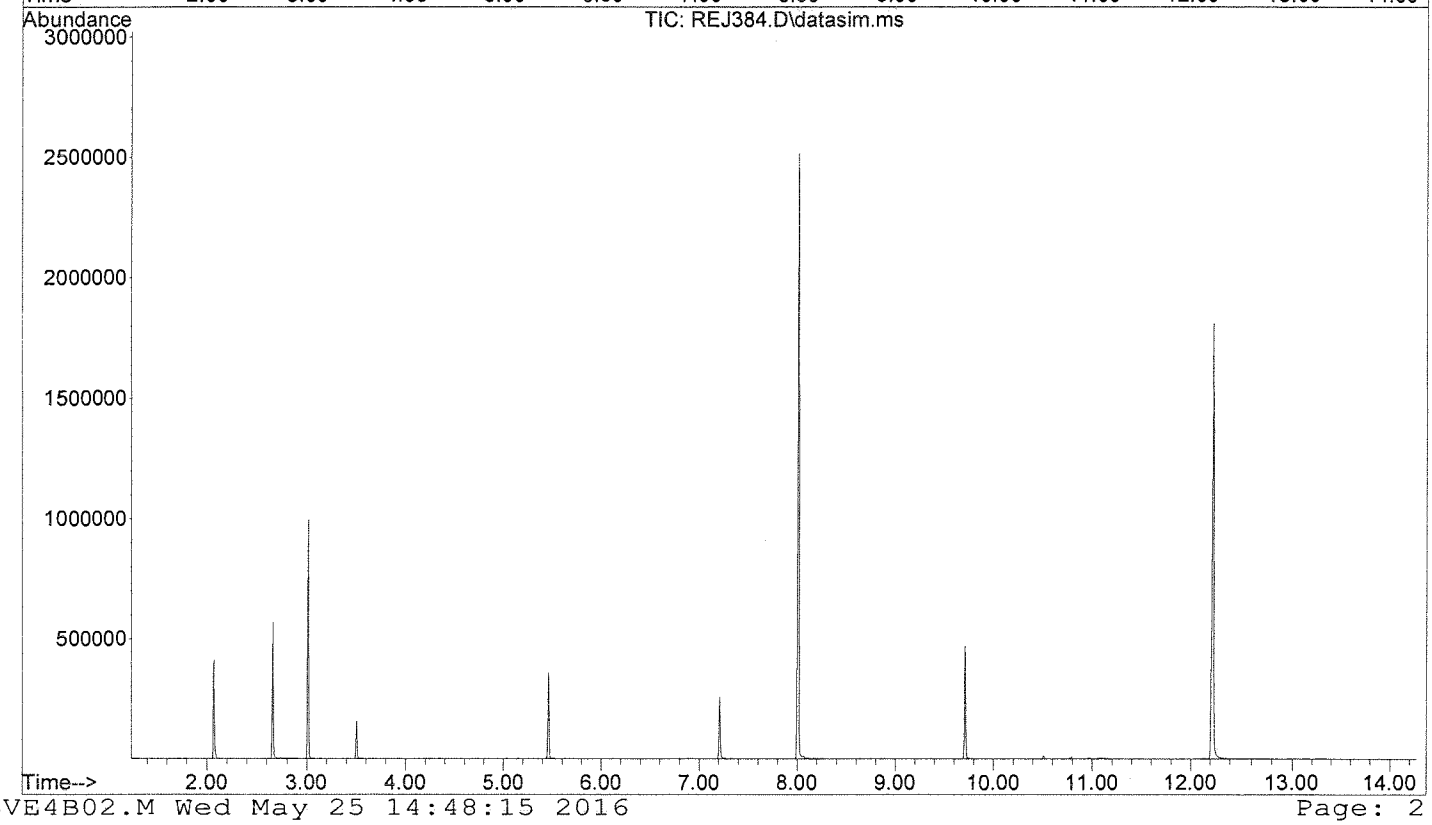
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ384.D
Acq On : 25 May 2016 11:45
Sample : SVE030WB
Misc :
Integrator: RTE
Quant Time: May 25 14:48:07 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ385.D
Acq On : 25 May 2016 12:04
Sample : SVE030WL
Misc :
Integrator: RTE
Quant Time: May 25 14:48:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.010	152	441932	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1558243	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	991303	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1859813	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1842101	40.00	ppm	0.00
97) Perylene-d12	12.227	264	1514156	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.065	112	195537	13.47	ppm	0.00
Spiked Amount 30.000			Recovery = 44.90%			
6) Phenol-d5	2.659	99	286039	15.95	ppm	0.00
Spiked Amount 30.000			Recovery = 53.17%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.504	82	96014	5.46	ppm	0.00
Spiked Amount 10.000			Recovery = 54.60%			
46) 2-Fluorobiphenyl	5.461	172	205132	5.18	ppm	0.00
Spiked Amount 10.000			Recovery = 51.80%			
75) 2,4,6-Tribromophenol	7.210	330	96739	21.64	ppm	0.00
Spiked Amount 30.000			Recovery = 72.13%			
90) Terphenyl-d14	9.711	244	267919	6.79	ppm	0.00
Spiked Amount 10.000			Recovery = 67.90%			
Target Compounds						Qvalue
3) N-nitrosodimethylamine	1.467	74	110523	11.77	ppm	94
4) Pyridine	1.496	79	341992	20.24	ppm	96
7) Phenol	2.670	94	204639	11.01	ppm	99
8) Aniline	2.737	93	261053	11.04	ppm	99
9) bis(2-chloroethyl)ether	2.769	93	164204	11.66	ppm	98
10) 2-Chlorophenol	2.836	128	168383	10.74	ppm	87
11) 1,3-Dichlorobenzene	2.967	146	214047	11.71	ppm	100
13) 1,4-Dichlorobenzene	3.025	146	223832	12.06	ppm	99
14) Benzyl alcohol	3.106	108	119204	11.83	ppm	98
15) 1,2-Dichlorobenzene	3.159	146	209583	11.83	ppm	99
16) 2-Methylphenol	3.183	107	147104	11.60	ppm	99
17) bis(2-chloroisopropyl)...	3.221	45	323038	11.01	ppm	99
18) 4-Methylphenol	3.322	107	194746	11.59	ppm	99
19) N-Nitroso-di-n-propyla...	3.341	70	135069	11.49	ppm	98
20) Hexachloroethane	3.470	117	83883	11.83	ppm	91
23) Nitrobenzene	3.523	77	216970	12.29	ppm	98
24) Isophorone	3.753	82	394682	11.67	ppm	97
25) 2-Nitrophenol	3.835	139	97346	13.66	ppm	92
26) 2,4-Dimethylphenol	3.854	107	187917	11.49	ppm	96
27) Benzoic acid	3.945	105	290018	28.75	ppm	99
28) bis(2-Chloroethoxy)met...	3.959	93	222416	12.57	ppm	99
29) 3,5-Dimethylphenol	3.993	107	222370	12.60	ppm	100
30) 2,4-Dichlorophenol	4.079	162	164060	11.83	ppm	98
31) 3,4-Dimethylphenol	4.171	107	247214	12.83	ppm	99
32) 1,2,4-Trichlorobenzene	4.176	180	199763	12.62	ppm	95
33) Naphthalene	4.268	128	537764	12.39	ppm	100
34) 4-Chloroaniline	4.311	127	217296	11.75	ppm	100
35) 2,6-Dichlorophenol	4.321	162	167666	12.78	ppm	98
36) Hexachlorobutadiene	4.388	225	132449	12.52	ppm	96
38) 4-Chloro-3-methylphenol	4.837	107	180293	13.71	ppm	96

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ385.D
Acq On : 25 May 2016 12:04
Sample : SVE030WL
Misc :
Integrator: RTE
Quant Time: May 25 14:48:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

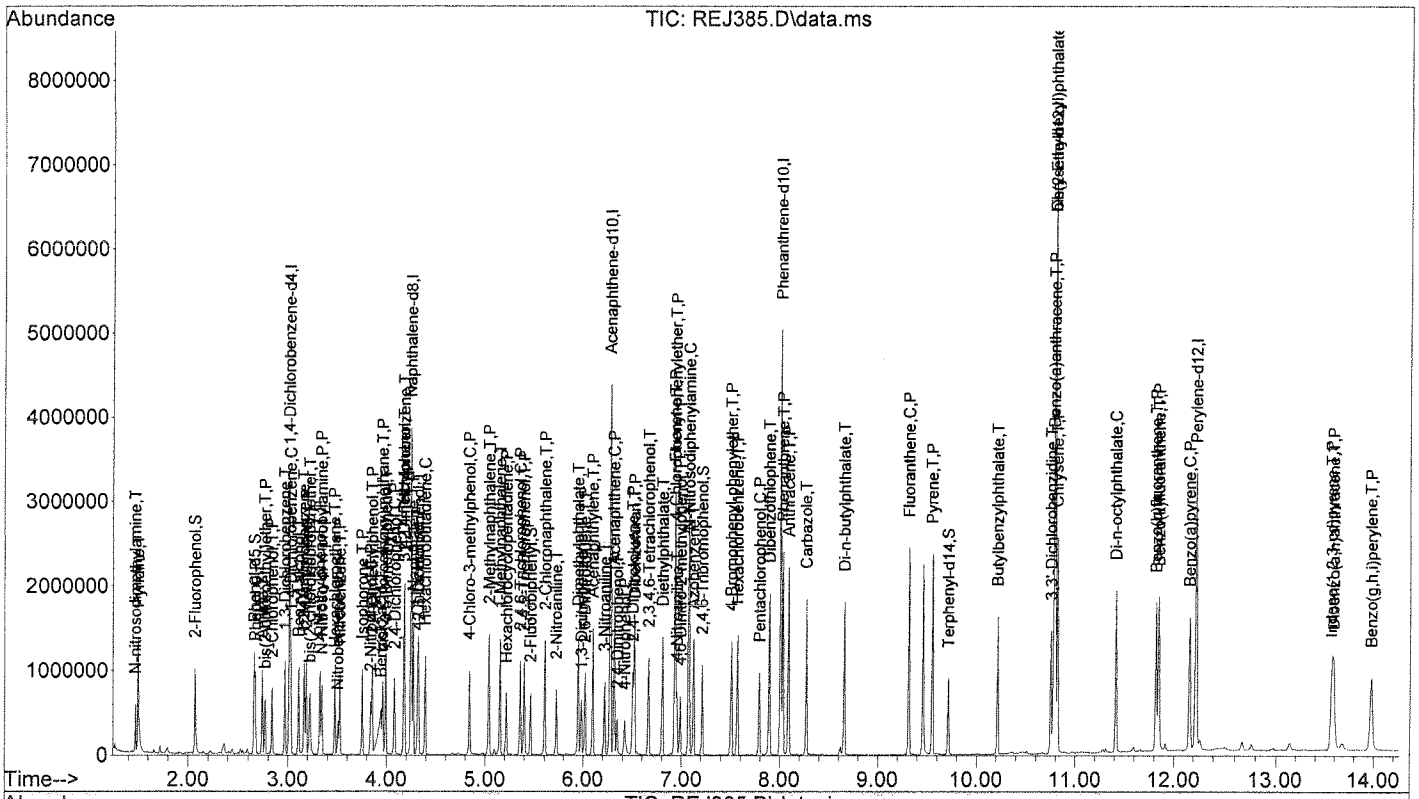
Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39) 2-Methylnaphthalene	5.038	142	362290	11.86	ppm	99
40) 1-Methylnaphthalene	5.148	142	335735	12.55	ppm	100
42) Hexachlorocyclopentadiene	5.215	237	113078	9.09	ppm	97
44) 2,4,6-Trichlorophenol	5.355	196	146665	13.01	ppm	99
45) 2,4,5-Trichlorophenol	5.393	196	164280	13.85	ppm	99
49) 2-Chloronaphthalene	5.605	162	440350	13.26	ppm	97
50) 2-Nitroaniline	5.720	65	133883	14.30	ppm	94
53) Dimethylphthalate	5.946	163	524066	14.36	ppm	99
54) 1,3-Dinitrobenzene	5.980	168	70129	14.40	ppm	81
55) 2,6-Dinitrotoluene	6.014	165	118734	15.91	ppm	93
57) Acenaphthylene	6.096	152	704205	13.39	ppm	98
58) 3-Nitroaniline	6.216	138	119430	15.30	ppm	96
59) Acenaphthene	6.307	153	427531	12.99	ppm	99
60) 2,4-Dinitrophenol	6.341	184	54869	17.58	ppm	94
61) 4-Nitrophenol	6.418	109	73318	14.35	ppm	93
62) 2,4-Dinitrotoluene	6.499	165	159054	16.39	ppm	92
63) Dibenzofuran	6.518	168	605637	12.96	ppm	100
65) 2,3,4,6-Tetrachlorophenol	6.662	232	146865	13.79	ppm	99
67) Diethylphthalate	6.804	149	511271	13.82	ppm	97
68) Fluorene	6.931	166	495268	13.61	ppm	97
69) 4-Chlorophenyl-phenyle...	6.936	204	257852	13.91	ppm	98
70) 4-Nitroaniline	6.950	138	119205	14.85	ppm	98
72) 4,6-Dinitro-2-methylph...	6.987	198	99418	17.89	ppm	98
73) N-Nitrosodiphenylamine	7.077	169	437821	13.78	ppm	99
74) Azobenzene	7.120	77	504174	13.52	ppm	99
76) 4-Bromophenyl-phenylether	7.504	248	184483	16.52	ppm	96
77) Hexachlorobenzene	7.565	284	168998	14.87	ppm	95
78) Pentachlorophenol	7.792	266	101578	15.64	ppm	100
79) Dibenzothiophene	7.891	184	814723	14.20	ppm	96
80) Phenanthrene	8.033	178	806538	13.82	ppm	100
82) Anthracene	8.089	178	823792	14.02	ppm	99
83) Carbazole	8.268	167	681839	13.65	ppm	100
84) Di-n-butylphthalate	8.654	149	823717	13.61	ppm	100
86) Fluoranthene	9.311	202	933725	14.20	ppm	97
89) Pyrene	9.547	202	984732	15.63	ppm	99
91) Butylbenzylphthalate	10.214	149	350662	16.42	ppm	99
93) 3,3'-Dichlorobenzidine	10.752	252	297587	15.68	ppm	98
94) Benzo(a)anthracene	10.781	228	843222	14.82	ppm	93
95) Chrysene	10.816	228	809104	15.38	ppm	99
96) bis(2-Ethylhexyl)phtha...	10.791	149	490382	14.87	ppm	98
98) Di-n-octylphthalate	11.412	149	862981	16.78	ppm	99
99) Benzo(b)fluoranthene	11.816	252	750454	15.45	ppm	99
100) Benzo(k)fluoranthene	11.845	252	753834	15.41	ppm	95
102) Benzo(a)pyrene	12.159	252	706355	15.32	ppm	97
104) Indeno(1,2,3-cd)pyrene	13.568	276	724301	14.19	ppm	99
105) Dibenzo(a,h)anthracene	13.587	278	619086	14.56	ppm	99
106) Benzo(g,h,i)perylene	13.976	276	641757	14.62	ppm	97

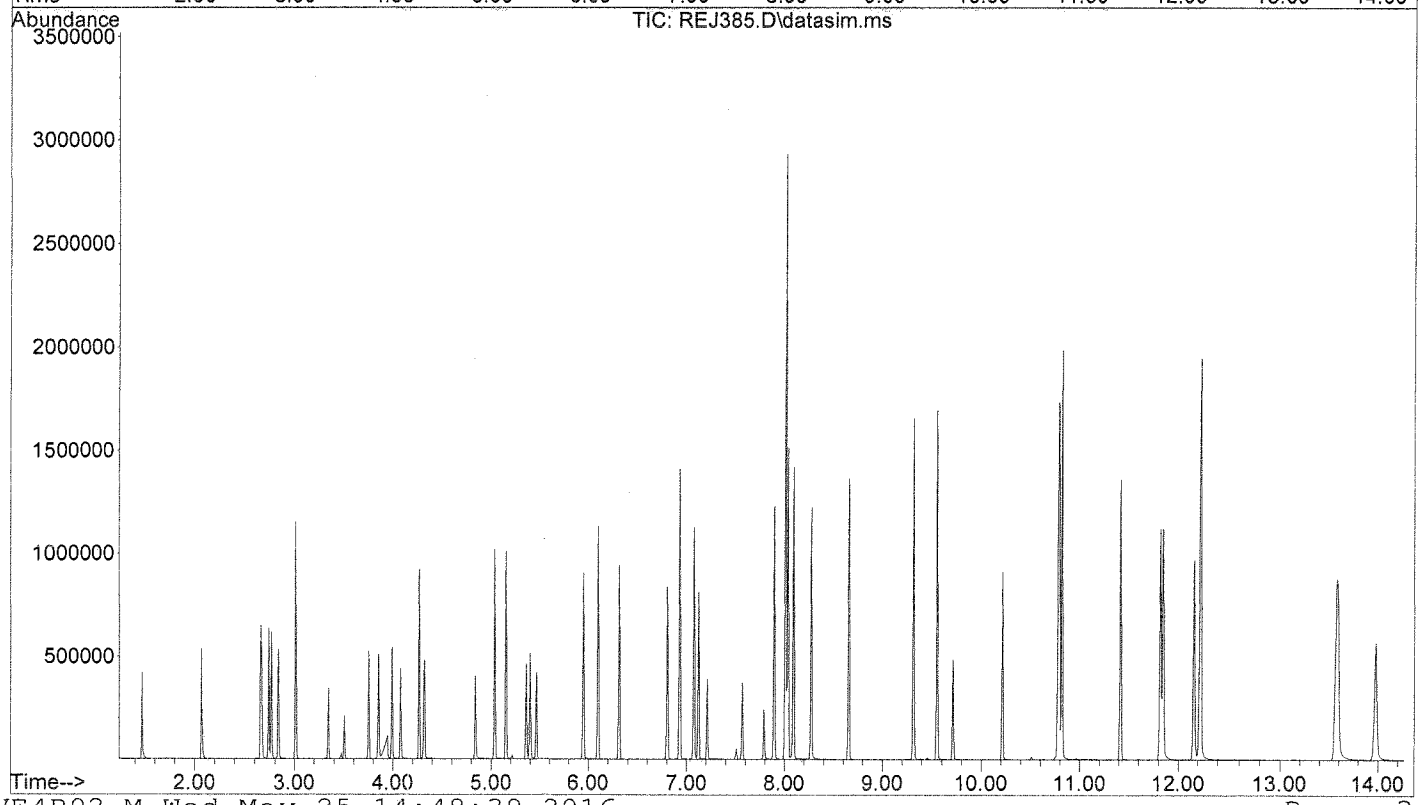
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ385.D
Acq On : 25 May 2016 12:04
Sample : SVE030WL
Misc :
Integrator: RTE
Quant Time: May 25 14:48:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ386.D
Acq On : 25 May 2016 12:24
Sample : SVE030WC
Misc :
Integrator: RTE
Quant Time: May 25 14:48:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.010	152	444814	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1585351	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	1003576	40.00	ppm	0.00
71) Phenanthrene-d10	8.010	188	1905313	40.00	ppm	0.00
87) Chrysene-d12	10.792	240	1861701	40.00	ppm	0.00
97) Perylene-d12	12.223	264	1536220	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.065	112	183611	12.57	ppm	0.00
Spiked Amount 30.000			Recovery = 41.90%			
6) Phenol-d5	2.659	99	272609	15.11	ppm	0.00
Spiked Amount 30.000			Recovery = 50.37%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.504	82	90473	5.06	ppm	0.00
Spiked Amount 10.000			Recovery = 50.60%			
46) 2-Fluorobiphenyl	5.461	172	196315	4.90	ppm	0.00
Spiked Amount 10.000			Recovery = 49.00%			
75) 2,4,6-Tribromophenol	7.210	330	110687	24.17	ppm	0.00
Spiked Amount 30.000			Recovery = 80.57%			
90) Terphenyl-d14	9.712	244	327875	8.23	ppm	0.00
Spiked Amount 10.000			Recovery = 82.30%			
Target Compounds						Qvalue
3) N-nitrosodimethylamine	1.467	74	96172	10.17	ppm	95
4) Pyridine	1.496	79	305924	17.99	ppm	96
7) Phenol	2.670	94	178020	9.52	ppm	98
8) Aniline	2.738	93	223529	9.39	ppm	97
9) bis(2-chloroethyl)ether	2.764	93	141859	10.01	ppm	98
10) 2-Chlorophenol	2.837	128	144084	9.13	ppm	88
11) 1,3-Dichlorobenzene	2.967	146	187699	10.20	ppm	100
13) 1,4-Dichlorobenzene	3.025	146	191181	10.23	ppm	99
14) Benzyl alcohol	3.106	108	105717	10.42	ppm	99
15) 1,2-Dichlorobenzene	3.159	146	183554	10.29	ppm	100
16) 2-Methylphenol	3.183	107	124496	9.75	ppm	87
17) bis(2-chloroisopropyl)...	3.222	45	277149	9.39	ppm	100
18) 4-Methylphenol	3.322	107	169411	10.02	ppm	100
19) N-Nitroso-di-n-propyla...	3.341	70	117709	9.95	ppm	100
20) Hexachloroethane	3.471	117	69637	9.76	ppm	85
23) Nitrobenzene	3.523	77	186970	10.41	ppm	99
24) Isophorone	3.749	82	318048	9.24	ppm	98
25) 2-Nitrophenol	3.835	139	82528	11.39	ppm	95
26) 2,4-Dimethylphenol	3.849	107	162890	9.79	ppm	99
27) Benzoic acid	3.945	105	283207	27.67	ppm	100
28) bis(2-Chloroethoxy)met...	3.960	93	193662	10.76	ppm	99
29) 3,5-Dimethylphenol	3.993	107	198428	11.05	ppm	97
30) 2,4-Dichlorophenol	4.075	162	144910	10.27	ppm	97
31) 3,4-Dimethylphenol	4.171	107	217197	11.08	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	172622	10.72	ppm	97
33) Naphthalene	4.268	128	463311	10.49	ppm	100
34) 4-Chloroaniline	4.311	127	189175	10.06	ppm	100
35) 2,6-Dichlorophenol	4.321	162	144586	10.83	ppm	97
36) Hexachlorobutadiene	4.389	225	110852	10.30	ppm	99
38) 4-Chloro-3-methylphenol	4.837	107	160417	11.99	ppm	99

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ386.D
Acq On : 25 May 2016 12:24
Sample : SVE030WC
Misc :
Integrator: RTE
Quant Time: May 25 14:48:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

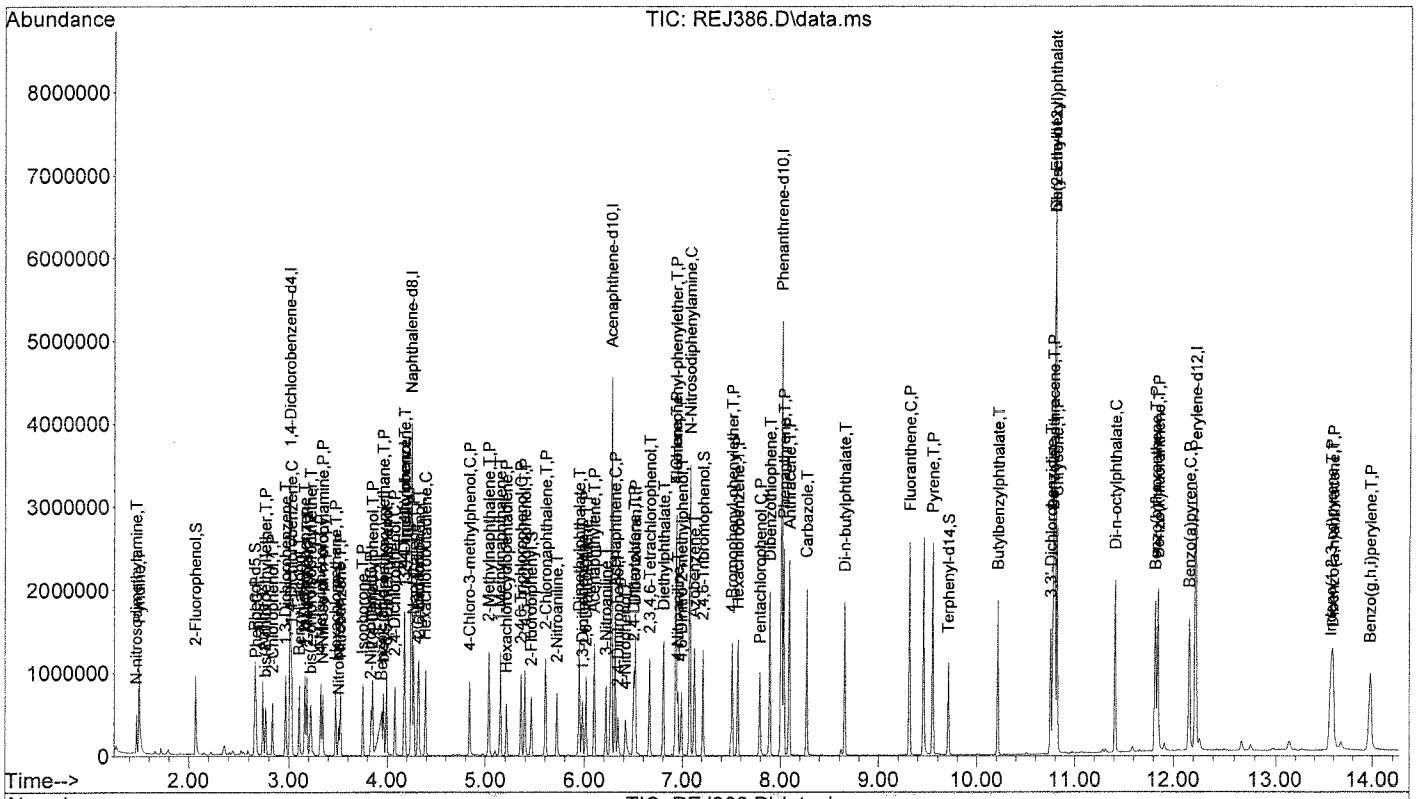
	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
39)	2-Methylnaphthalene	5.033	142	315327	10.15	ppm	99
40)	1-Methylnaphthalene	5.148	142	294178	10.81	ppm	99
42)	Hexachlorocyclopentadiene	5.211	237	96869	7.69	ppm	98
44)	2,4,6-Trichlorophenol	5.355	196	131364	11.51	ppm	98
45)	2,4,5-Trichlorophenol	5.394	196	149447	12.45	ppm	97
49)	2-Chloronaphthalene	5.606	162	390177	11.61	ppm	95
50)	2-Nitroaniline	5.721	65	128809	13.59	ppm	97
53)	Dimethylphthalate	5.947	163	515547	13.95	ppm	99
54)	1,3-Dinitrobenzene	5.980	168	74477	15.11	ppm	78
55)	2,6-Dinitrotoluene	6.014	165	115528	15.29	ppm	95
57)	Acenaphthylene	6.096	152	622669	11.70	ppm	100
58)	3-Nitroaniline	6.216	138	118076	14.94	ppm	98
59)	Acenaphthene	6.307	153	372315	11.18	ppm	100
60)	2,4-Dinitrophenol	6.336	184	60474	18.90	ppm	95
61)	4-Nitrophenol	6.413	109	80623	15.58	ppm	98
62)	2,4-Dinitrotoluene	6.499	165	167035	17.00	ppm	91
63)	Dibenzofuran	6.514	168	543625	11.49	ppm	100
65)	2,3,4,6-Tetrachlorophenol	6.662	232	148603	13.78	ppm	100
67)	Diethylphthalate	6.805	149	539608	14.41	ppm	97
68)	Fluorene	6.931	166	458863	12.45	ppm	96
69)	4-Chlorophenyl-phenyle...	6.931	204	243455	12.97	ppm	99
70)	4-Nitroaniline	6.950	138	138360	17.02	ppm	99
72)	4,6-Dinitro-2-methylph...	6.988	198	104889	18.35	ppm	99
73)	N-Nitrosodiphenylamine	7.073	169	451800	13.88	ppm	96
74)	Azobenzene	7.120	77	490329	12.84	ppm	100
76)	4-Bromophenyl-phenylether	7.504	248	183105	16.01	ppm	97
77)	Hexachlorobenzene	7.566	284	173263	14.88	ppm	95
78)	Pentachlorophenol	7.792	266	108953	16.37	ppm	100
79)	Dibenzothiophene	7.892	184	833804	14.19	ppm	96
80)	Phenanthrene	8.033	178	846933	14.17	ppm	100
82)	Anthracene	8.089	178	859000	14.27	ppm	99
83)	Carbazole	8.268	167	730637	14.28	ppm	99
84)	Di-n-butylphthalate	8.650	149	902103	14.54	ppm	99
86)	Fluoranthene	9.312	202	1025024	15.22	ppm	98
89)	Pyrene	9.548	202	1059958	16.65	ppm	99
91)	Butylbenzylphthalate	10.214	149	394215	18.26	ppm	99
93)	3,3'-Dichlorobenzidine	10.753	252	327306	17.07	ppm	100
94)	Benzo(a)anthracene	10.777	228	923600	16.06	ppm	93
95)	Chrysene	10.816	228	889800	16.74	ppm	99
96)	bis(2-Ethylhexyl)phtha...	10.792	149	553258	16.60	ppm	98
98)	Di-n-octylphthalate	11.413	149	974025	18.67	ppm	99
99)	Benzo(b)fluoranthene	11.817	252	846965	17.19	ppm	98
100)	Benzo(k)fluoranthene	11.846	252	805194	16.22	ppm	96
102)	Benzo(a)pyrene	12.160	252	782755	16.73	ppm	97
104)	Indeno(1,2,3-cd)pyrene	13.569	276	805988	15.56	ppm	99
105)	Dibenzo(a,h)anthracene	13.593	278	708852	16.43	ppm	99
106)	Benzo(g,h,i)perylene	13.977	276	705945	15.86	ppm	99

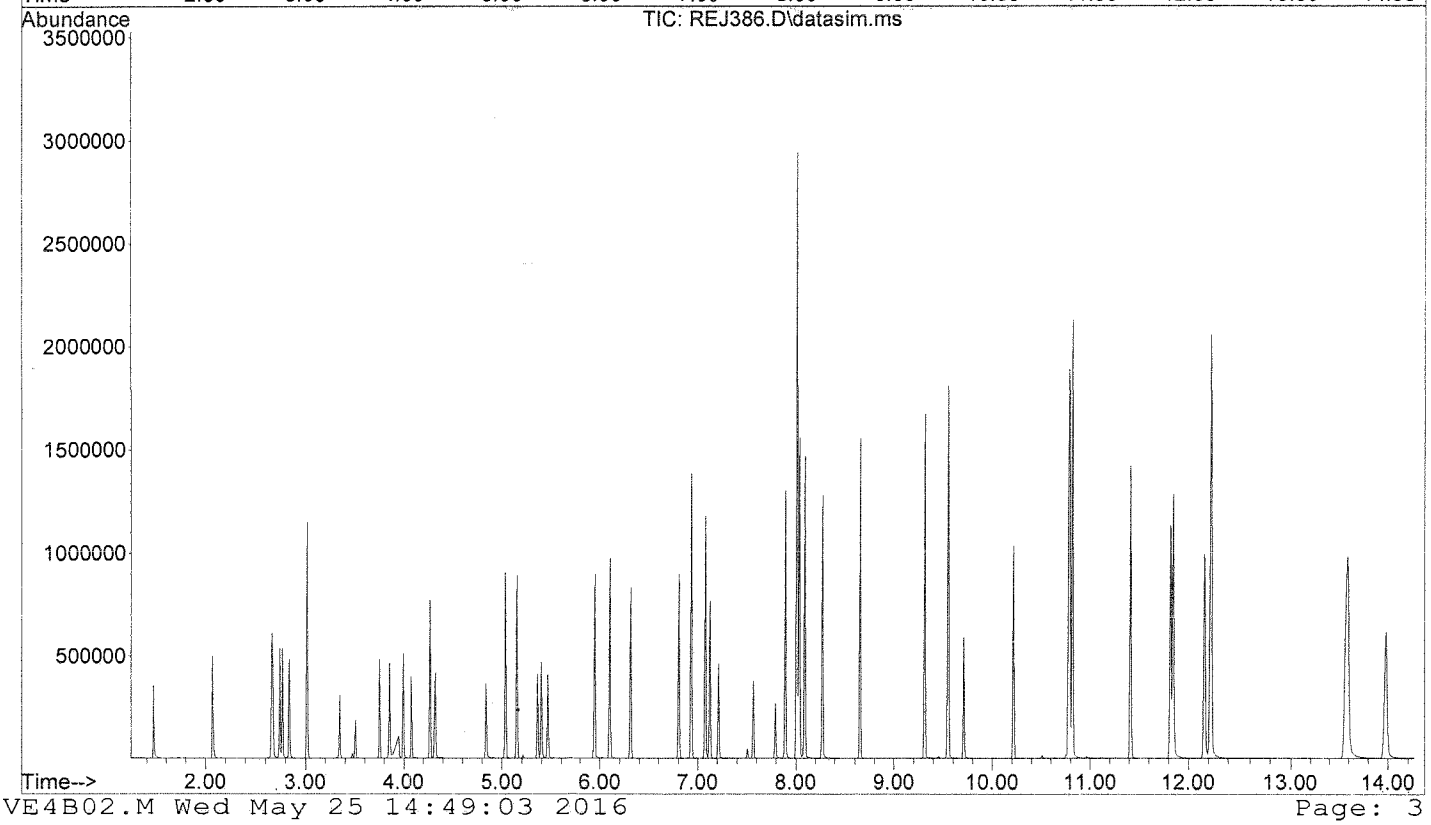
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ386.D
Acq On : 25 May 2016 12:24
Sample : SVE030WC
Misc :
Integrator: RTE
Quant Time: May 25 14:48:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00





Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ392.D
Acq On : 25 May 2016 14:19
Sample : TXE014SB
Misc :
Integrator: RTE
Quant Time: May 25 14:55:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 13
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.010	152	380441	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1376663	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	892711	40.00	ppm	0.00
71) Phenanthrene-d10	8.005	188	1727330	40.00	ppm	0.00
87) Chrysene-d12	10.787	240	1680730	40.00	ppm	0.00
97) Perylene-d12	12.223	264	1395417	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.065	112	200047	16.01	ppm	0.00
Spiked Amount 30.000			Recovery = 53.37%			
6) Phenol-d5	2.654	99	287458	18.63	ppm	0.00
Spiked Amount 30.000			Recovery = 62.10%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.504	82	99057	6.38	ppm	0.00
Spiked Amount 10.000			Recovery = 63.80%			
46) 2-Fluorobiphenyl	5.461	172	207271	5.81	ppm	0.00
Spiked Amount 10.000			Recovery = 58.10%			
75) 2,4,6-Tribromophenol	7.210	330	81093	19.53	ppm	0.00
Spiked Amount 30.000			Recovery = 65.10%			
90) Terphenyl-d14	9.707	244	295479	8.21	ppm	0.00
Spiked Amount 10.000			Recovery = 82.10%			

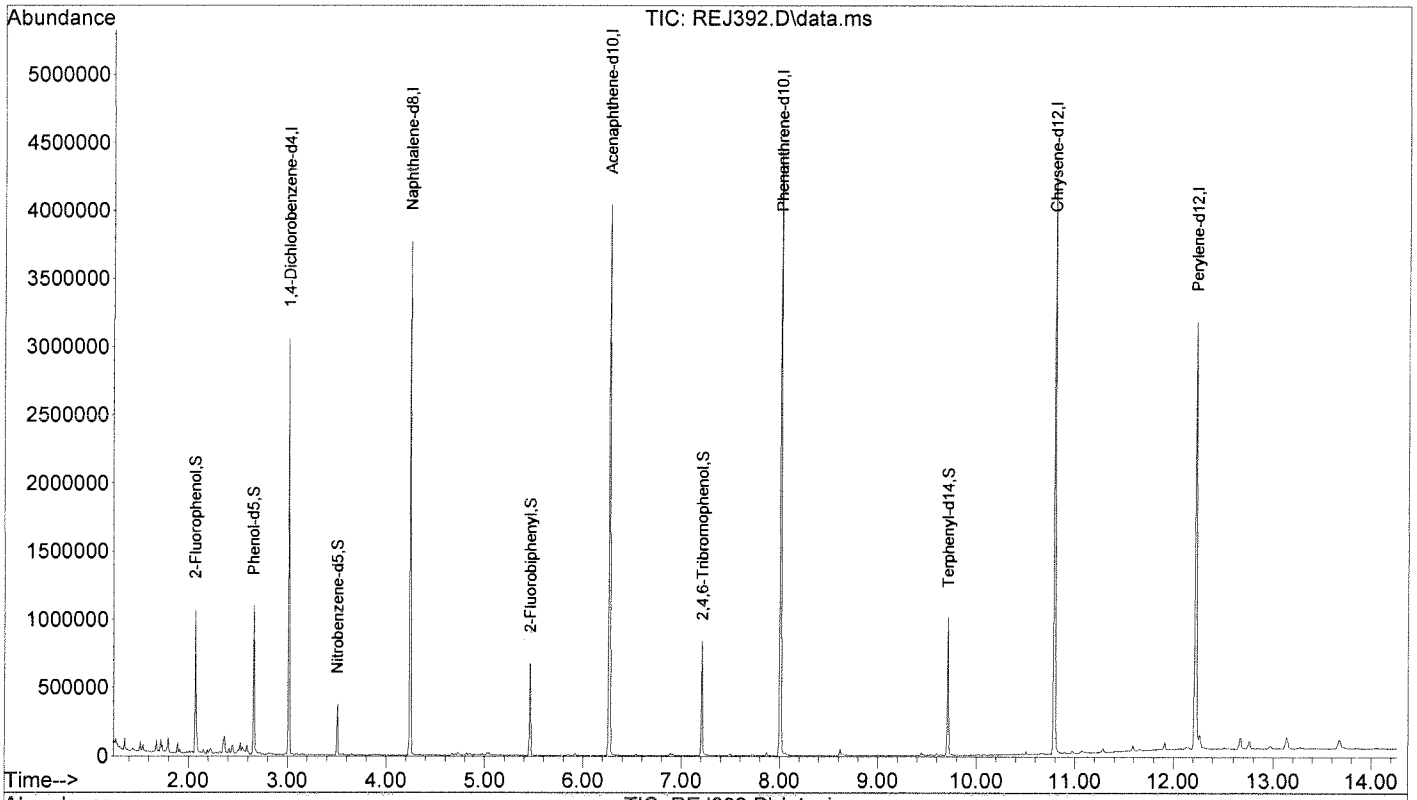
Target Compounds Qvalue

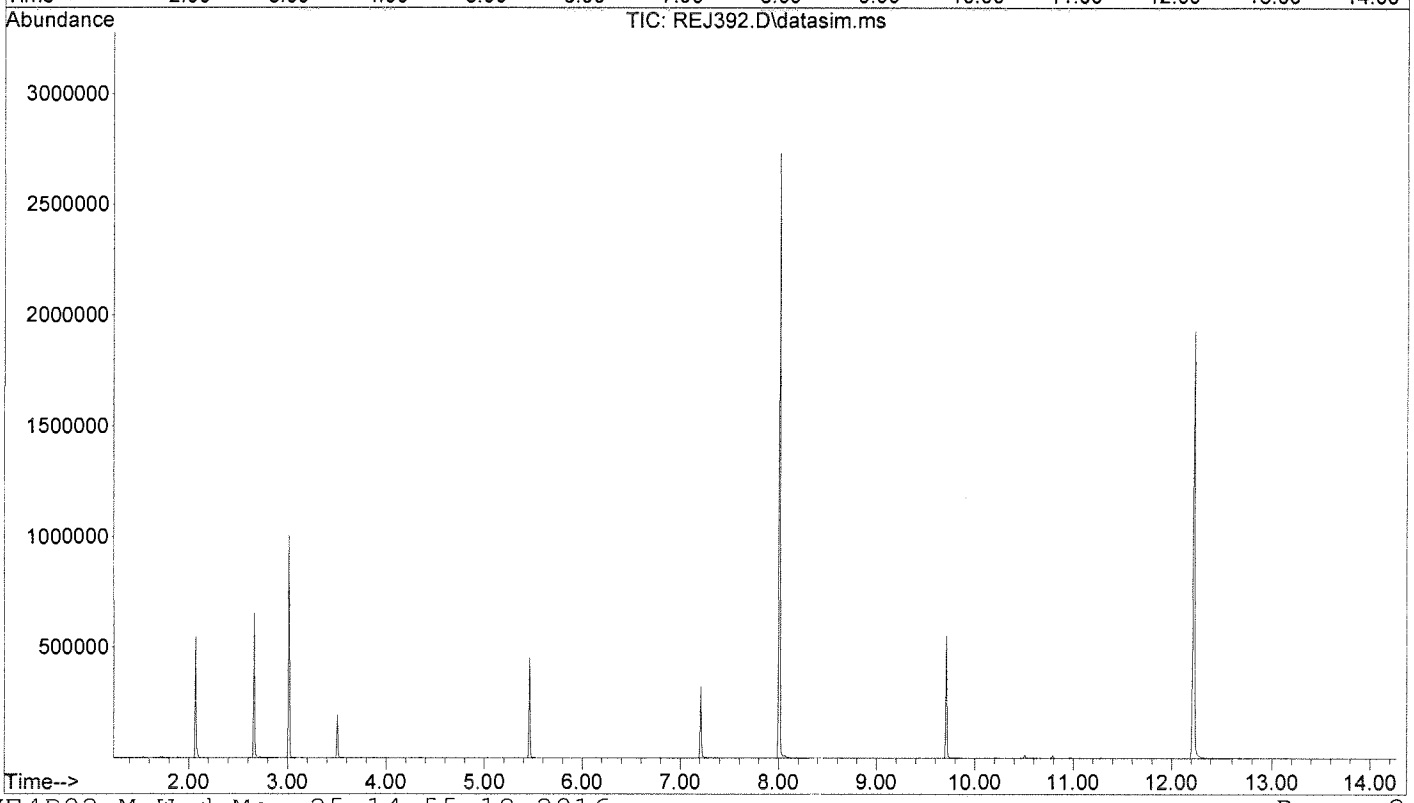
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ392.D
Acq On : 25 May 2016 14:19
Sample : TXE014SB
Misc :
Integrator: RTE
Quant Time: May 25 14:55:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 13
Operator: KVu
Inst : E4
Multiplr: 1.00





INITIAL CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ002
Instrument ID: TOE4

Project: CANNON AFB PBR
SDG No.: 16E133
DFTPP Injection Date: 02/02/16
DFTPP Injection Time: 08:58

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	47.04
68	Less than 2% of mass 69	0.76(1.8)1
69	% of mass 198	41.36
70	Less than 2% of mass 69	0.32(0.8)1
127	10.0 - 80.0% of mass 198	47.03
197	Less than 2.0% of mass 198	0.14
198	Base Peak, 100	100.00
199	5.0 - 9.0% of mass 198	6.68
275	10.0 - 60.0% of mass 198	22.97
365	Greater than 1.00% of mass 198	2.42
441	Present, but less than 24% of mass 442	8.85(15.5)2
442	Greater than 50% of mass 198	57.16
443	15.0 - 24.0% of mass 442	11.27(19.7)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD100	SVE4B021	RBJ003	02/02/16	09:09
2	SSTD080	SVE4B022	RBJ004	02/02/16	09:28
3	SSTD050	SVE4B023	RBJ005	02/02/16	09:47
4	SSTD040	SVE4B024	RBJ006	02/02/16	10:06
5	SSTD025	SVE4B025	RBJ007	02/02/16	10:25
6	SSTD020	SVE4B026	RBJ008	02/02/16	10:44
7	SSTD010	SVE4B027	RBJ009	02/02/16	11:04
8	SSTD004	SVE4B028	RBJ010	02/02/16	11:23
9	SSTD025	ISVE4B022	RBJ033	02/02/16	18:46

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:ICAL
SDG No.:ICAL
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	424119	3.02	1535126	4.25	929909	6.27
	UPPER LIMIT	848238	3.52	3070252	4.75	1859818	6.77
	LOWER LIMIT	212060	2.52	767563	3.75	464955	5.77
	SAMPLE ID						
1	SVE4B021	461215	3.02	1653283	4.24	975500	6.27
2	SVE4B022	457524	3.02	1635246	4.24	965543	6.27
3	SVE4B023	438355	3.02	1557201	4.25	920177	6.27
4	SVE4B024	455852	3.02	1618791	4.25	966999	6.27
5	SVE4B026	428154	3.02	1558094	4.25	937266	6.27
6	SVE4B027	432450	3.02	1552213	4.25	916662	6.27
7	SVE4B028	432154	3.02	1547249	4.24	918028	6.27
8	ISVE4B022	489141	3.02	1779787	4.25	1073834	6.27

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

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

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

FORM VIII SV-1 OLM02.0

ne 02-08-16

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:ICAL
SDG No.:ICAL
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	1694673	8.01	1850796	10.79	1601653	12.22
	UPPER LIMIT	3389346	8.51	3701592	11.29	3203306	12.72
	LOWER LIMIT	847337	7.51	925398	10.29	800827	11.72
	SAMPLE ID						
1	SVE4B021	1717161	8.00	1841322	10.79	1572144	12.21
2	SVE4B022	1710410	8.00	1882885	10.79	1627440	12.21
3	SVE4B023	1669203	8.01	1936700	10.79	1696912	12.22
4	SVE4B024	1728695	8.01	1903162	10.79	1635198	12.22
5	SVE4B026	1665411	8.01	1881471	10.79	1593531	12.21
6	SVE4B027	1649622	8.01	1883963	10.79	1610421	12.21
7	SVE4B028	1630524	8.01	1830134	10.79	1579900	12.21
8	ISVE4B022	1895693	8.01	2074726	10.79	1806442	12.21

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

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

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

FORM VIII SV-2 OLM02.0

02-08-16

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

WATER Init. Vol. (ml) : 1000 Final Vol. (ml) : 1
SOIL Init. Weight (gm) : 30 Final Vol. (ml) : 1

IDX	Parameters	ON COL MG/L	WATER UG/L	SOIL MG/KG	R FILE
1	1,4-Dichlorobenzene-d4	IntSTD	IntSTD	IntSTD	IntSTD
2	1,4-Dioxane	4	4	.1333	RBJ010
3	N-nitrosodimethylamine	4	4	.1333	RBJ010
4	Pyridine	4	4	.1333	RBJ010
5	2-Fluorophenol	4	4	.1333	RBJ010
6	Phenol-d5	4	4	.1333	RBJ010
7	Phenol	4	4	.1333	RBJ010
8	Aniline	4	4	.1333	RBJ010
9	bis(2-chloroethyl)ether	4	4	.1333	RBJ010
10	2-Chlorophenol	4	4	.1333	RBJ010
11	1,3-Dichlorobenzene	4	4	.1333	RBJ010
12	1,2-Dichlorobenzene-d4	NA	NA	NA	NA
13	1,4-Dichlorobenzene	4	4	.1333	RBJ010
14	Benzyl alcohol	4	4	.1333	RBJ010
15	1,2-Dichlorobenzene	4	4	.1333	RBJ010
16	2-Methylphenol	4	4	.1333	RBJ010
17	bis(2-chloroisopropyl)ether	4	4	.1333	RBJ010
18	4-Methylphenol	4	4	.1333	RBJ010
19	N-Nitroso-di-n-propylamine	4	4	.1333	RBJ010
20	Hexachloroethane	4	4	.1333	RBJ010
21	Naphthalene-d8	IntSTD	IntSTD	IntSTD	IntSTD
22	Nitrobenzene-d5	4	4	.1333	RBJ010
23	Nitrobenzene	4	4	.1333	RBJ010
24	Isophorone	4	4	.1333	RBJ010
25	2-Nitrophenol	4	4	.1333	RBJ010
26	2,4-Dimethylphenol	4	4	.1333	RBJ010
27	Benzoic acid	4	4	.1333	RBJ010
28	bis(2-Chloroethoxy)methane	4	4	.1333	RBJ010
29	3,5-Dimethylphenol	4	4	.1333	RBJ010
30	2,4-Dichlorophenol	4	4	.1333	RBJ010
31	3,4-Dimethylphenol	4	4	.1333	RBJ010
32	1,2,4-Trichlorobenzene	4	4	.1333	RBJ010
33	Naphthalene	4	4	.1333	RBJ010
34	4-Chloroaniline	4	4	.1333	RBJ010
35	2,6-Dichlorophenol	4	4	.1333	RBJ010
36	Hexachlorobutadiene	4	4	.1333	RBJ010
37	Hydroquinone	NA	NA	NA	NA
38	4-Chloro-3-methylphenol	4	4	.1333	RBJ010
39	2-Methylnaphthalene	4	4	.1333	RBJ010
40	1-Methylnaphthalene	4	4	.1333	RBJ010
41	Acenaphthene-d10	IntSTD	IntSTD	IntSTD	IntSTD
42	Hexachlorocyclopentadiene	4	4	.1333	RBJ010
43	2,3,5-Trichlorophenol	4	4	.1333	RBJ010
44	2,4,6-Trichlorophenol	4	4	.1333	RBJ010
45	2,4,5-Trichlorophenol	4	4	.1333	RBJ010
46	2-Fluorobiphenyl	4	4	.1333	RBJ010
47	2,3,4-Trichlorophenol	4	4	.1333	RBJ010
48	Biphenyl	4	4	.1333	RBJ010
49	2-Chloronaphthalene	4	4	.1333	RBJ010
50	2-Nitroaniline	4	4	.1333	RBJ010
51	2,6-Dimethylnaphthalene	4	4	.1333	RBJ010
52	1,4-Dinitrobenzene	4	4	.1333	RBJ010
53	Dimethylphthalate	4	4	.1333	RBJ010
54	1,3-Dinitrobenzene	4	4	.1333	RBJ010
55	2,6-Dinitrotoluene	4	4	.1333	RBJ010
56	1,2-Dinitrobenzene	4	4	.1333	RBJ010
57	Acenaphthylene	4	4	.1333	RBJ010
58	3-Nitroaniline	4	4	.1333	RBJ010
59	Acenaphthene	4	4	.1333	RBJ010
60	2,4-Dinitrophenol	4	4	.1333	RBJ010
61	4-Nitrophenol	4	4	.1333	RBJ010
62	2,4-Dinitrotoluene	4	4	.1333	RBJ010
63	Dibenzofuran	4	4	.1333	RBJ010
64	2,3,5,6-Tetrachlorophenol	4	4	.1333	RBJ010
65	2,3,4,6-Tetrachlorophenol	4	4	.1333	RBJ010
66	2,3,5-Trimethylnaphthalene	4	4	.1333	RBJ010
67	Diethylphthalate	4	4	.1333	RBJ010
68	Fluorene	4	4	.1333	RBJ010
69	4-Chlorophenyl-phenylether	4	4	.1333	RBJ010
70	4-Nitroaniline	4	4	.1333	RBJ010
71	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
72	4,6-Dinitro-2-methylphenol	4	4	.1333	RBJ010
73	N-Nitrosodiphenylamine	4	4	.1333	RBJ010
74	Azobenzene	4	4	.1333	RBJ010
75	2,4,6-Tribromophenol	4	4	.1333	RBJ010
76	4-Bromophenyl-phenylether	4	4	.1333	RBJ010
77	Hexachlorobenzene	4	4	.1333	RBJ010
78	Pentachlorophenol	4	4	.1333	RBJ010
79	Dibenzothiophene	4	4	.1333	RBJ010
80	Phenanthrene	4	4	.1333	RBJ010
81	Dinoseb	NA	NA	NA	NA
82	Anthracene	4	4	.1333	RBJ010
83	Carbazole	4	4	.1333	RBJ010
84	Di-n-butylphthalate	4	4	.1333	RBJ010
85	1-Methylphenanthrene	4	4	.1333	RBJ010
86	Fluoranthene	4	4	.1333	RBJ010
87	Chrysene-d12	IntSTD	IntSTD	IntSTD	IntSTD
88	Benzidine	NA	NA	NA	NA
89	Pyrene	4	4	.1333	RBJ010
90	Terphenyl-d14	4	4	.1333	RBJ010
91	Butylbenzylphthalate	4	4	.1333	RBJ010
92	bis(2-ethylhexyl)adipate	4	4	.1333	RBJ010
93	3,3'-Dichlorobenzidine	4	4	.1333	RBJ010
94	Benzo(a)anthracene	4	4	.1333	RBJ010
95	Chrysene	4	4	.1333	RBJ010
96	bis(2-Ethylhexyl)phthalate	4	4	.1333	RBJ010
97	Perylene-d12	IntSTD	IntSTD	IntSTD	IntSTD
98	Di-n-octylphthalate	4	4	.1333	RBJ010
99	Benzo(b)fluoranthene	4	4	.1333	RBJ010
100	Benzo(k)fluoranthene	4	4	.1333	RBJ010
101	Benzo(e)pyrene	4	4	.1333	RBJ010
102	Benzo(a)pyrene	4	4	.1333	RBJ010
103	Perylene	4	4	.1333	RBJ010
104	Indeno(1,2,3-cd)pyrene	4	4	.1333	RBJ010
105	Dibenzo(a,h)anthracene	4	4	.1333	RBJ010
106	Benzo(g,h,i)perylene	4	4	.1333	RBJ010

BL 02-08-16

Quantitation Limit from Lowest Initial Calibration Concentration

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

WATER Init. Vol. (ml) : 1000
SOIL Init. Weight (gm) : 30

Final Vol. (ml) : 2
Final Vol. (ml) : 2

IDX	Parameters	ON COL MG/L	WATER UG/L	SOIL MG/KG	R FILE
1	1,4-Dichlorobenzene-d4	IntSTD	IntSTD	IntSTD	IntSTD
2	1,4-Dioxane	4	8	.2667	RBJ010
3	N-nitrosodimethylamine	4	8	.2667	RBJ010
4	Pyridine	4	8	.2667	RBJ010
5	2-Fluorophenol	4	8	.2667	RBJ010
6	Phenol-d5	4	8	.2667	RBJ010
7	Phenol	4	8	.2667	RBJ010
8	Aniline	4	8	.2667	RBJ010
9	bis(2-chloroethyl)ether	4	8	.2667	RBJ010
10	2-Chlorophenol	4	8	.2667	RBJ010
11	1,3-Dichlorobenzene	4	8	.2667	RBJ010
12	1,2-Dichlorobenzene-d4	NA	NA	NA	NA
13	1,4-Dichlorobenzene	4	8	.2667	RBJ010
14	Benzyl alcohol	4	8	.2667	RBJ010
15	1,2-Dichlorobenzene	4	8	.2667	RBJ010
16	2-Methylphenol	4	8	.2667	RBJ010
17	bis(2-chloroisopropyl)ether	4	8	.2667	RBJ010
18	4-Methylphenol	4	8	.2667	RBJ010
19	N-Nitroso-di-n-propylamine	4	8	.2667	RBJ010
20	Hexachloroethane	4	8	.2667	RBJ010
21	Naphthalene-d8	IntSTD	IntSTD	IntSTD	IntSTD
22	Nitrobenzene-d5	4	8	.2667	RBJ010
23	Nitrobenzene	4	8	.2667	RBJ010
24	Isophorone	4	8	.2667	RBJ010
25	2-Nitrophenol	4	8	.2667	RBJ010
26	2,4-Dimethylphenol	4	8	.2667	RBJ010
27	Benzoic acid	4	8	.2667	RBJ010
28	bis(2-Chloroethoxy)methane	4	8	.2667	RBJ010
29	3,5-Dimethylphenol	4	8	.2667	RBJ010
30	2,4-Dichlorophenol	4	8	.2667	RBJ010
31	3,4-Dimethylphenol	4	8	.2667	RBJ010
32	1,2,4-Trichlorobenzene	4	8	.2667	RBJ010
33	Naphthalene	4	8	.2667	RBJ010
34	4-Chloroaniline	4	8	.2667	RBJ010
35	2,6-Dichlorophenol	4	8	.2667	RBJ010
36	Hexachlorobutadiene	4	8	.2667	RBJ010
37	Hydroquinone	NA	NA	NA	NA
38	4-Chloro-3-methylphenol	4	8	.2667	RBJ010
39	2-Methylnaphthalene	4	8	.2667	RBJ010
40	1-Methylnaphthalene	4	8	.2667	RBJ010
41	Acenaphthene-d10	IntSTD	IntSTD	IntSTD	IntSTD
42	Hexachlorocyclopentadiene	4	8	.2667	RBJ010
43	2,3,5-Trichlorophenol	4	8	.2667	RBJ010
44	2,4,6-Trichlorophenol	4	8	.2667	RBJ010
45	2,4,5-Trichlorophenol	4	8	.2667	RBJ010
46	2-Fluorobiphenyl	4	8	.2667	RBJ010
47	2,3,4-Trichlorophenol	4	8	.2667	RBJ010
48	Biphenyl	4	8	.2667	RBJ010
49	2-Chloronaphthalene	4	8	.2667	RBJ010
50	2-Nitroaniline	4	8	.2667	RBJ010
51	2,6-Dimethylnaphthalene	4	8	.2667	RBJ010
52	1,4-Dinitrobenzene	4	8	.2667	RBJ010
53	Dimethylphthalate	4	8	.2667	RBJ010
54	1,3-Dinitrobenzene	4	8	.2667	RBJ010
55	2,6-Dinitrotoluene	4	8	.2667	RBJ010
56	1,2-Dinitrobenzene	4	8	.2667	RBJ010
57	Acenaphthylene	4	8	.2667	RBJ010
58	3-Nitroaniline	4	8	.2667	RBJ010
59	Acenaphthene	4	8	.2667	RBJ010
60	2,4-Dinitrophenol	4	8	.2667	RBJ010
61	4-Nitrophenol	4	8	.2667	RBJ010
62	2,4-Dinitrotoluene	4	8	.2667	RBJ010
63	Dibenzofuran	4	8	.2667	RBJ010
64	2,3,5,6-Tetrachlorophenol	4	8	.2667	RBJ010
65	2,3,4,6-Tetrachlorophenol	4	8	.2667	RBJ010
66	2,3,5-Trimethylnaphthalene	4	8	.2667	RBJ010
67	Diethylphthalate	4	8	.2667	RBJ010
68	Fluorene	4	8	.2667	RBJ010
69	4-Chlorophenyl-phenylether	4	8	.2667	RBJ010
70	4-Nitroaniline	4	8	.2667	RBJ010
71	Phenanthrene-d10	IntSTD	IntSTD	IntSTD	IntSTD
72	4,6-Dinitro-2-methylphenol	4	8	.2667	RBJ010
73	N-Nitrosodiphenylamine	4	8	.2667	RBJ010
74	Azobenzene	4	8	.2667	RBJ010
75	2,4,6-Tribromophenol	4	8	.2667	RBJ010
76	4-Bromophenyl-phenylether	4	8	.2667	RBJ010
77	Hexachlorobenzene	4	8	.2667	RBJ010
78	Pentachlorophenol	4	8	.2667	RBJ010
79	Dibenzothiophene	4	8	.2667	RBJ010
80	Phenanthrene	4	8	.2667	RBJ010
81	Dinoseb	NA	NA	NA	NA
82	Anthracene	4	8	.2667	RBJ010
83	Carbazole	4	8	.2667	RBJ010
84	Di-n-butylphthalate	4	8	.2667	RBJ010
85	1-Methylphenanthrene	4	8	.2667	RBJ010
86	Fluoranthene	4	8	.2667	RBJ010
87	Chrysene-d12	IntSTD	IntSTD	IntSTD	IntSTD
88	Benzidine	NA	NA	NA	NA
89	Pyrene	4	8	.2667	RBJ010
90	Terphenyl-d14	4	8	.2667	RBJ010
91	Butylbenzylphthalate	4	8	.2667	RBJ010
92	bis(2-ethylhexyl)adipate	4	8	.2667	RBJ010
93	3,3'-Dichlorobenzidine	4	8	.2667	RBJ010
94	Benzo(a)anthracene	4	8	.2667	RBJ010
95	Chrysene	4	8	.2667	RBJ010
96	bis(2-Ethylhexyl)phthalate	4	8	.2667	RBJ010
97	Perylene-d12	IntSTD	IntSTD	IntSTD	IntSTD
98	Di-n-octylphthalate	4	8	.2667	RBJ010
99	Benzo(b)fluoranthene	4	8	.2667	RBJ010
100	Benzo(k)fluoranthene	4	8	.2667	RBJ010
101	Benzo(e)pyrene	4	8	.2667	RBJ010
102	Benzo(a)pyrene	4	8	.2667	RBJ010
103	Perylene	4	8	.2667	RBJ010
104	Indeno(1,2,3-cd)pyrene	4	8	.2667	RBJ010
105	Dibenzo(a,h)anthracene	4	8	.2667	RBJ010
106	Benzo(g,h,i)perylene	4	8	.2667	RBJ010

pu 02-08-16

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
Spike Units :PPM
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

IDX	Parameters	4 11:23 RBJ010	10 11:04 RBJ009	20 10:44 RBJ008	25 10:25 RBJ007	40 10:06 RBJ006	50 09:47 RBJ005	80 09:28 RBJ004	100 09:09 RBJ003	Av_RRF	%_RSD	Av_Rt_M
1	1,4-Dichlorobenzene-d4	1	1	1	1	1	1	1	1	1	0	3.0151
2	1,4-Dioxane	0.674	0.610	0.588	0.582	0.567	0.573	------	------	0.599	6.63	1.3665
3	N-nitrosodimethylamine	0.841	0.841	0.860	0.872	0.838	0.848	------	------	0.850	1.57	1.4766
4	Pyridine	1.586	1.584	1.608	1.627	1.588	1.574	1.340	1.328	1.529	7.97	1.5023
5	2-Fluorophenol	1.302	1.298	1.322	1.339	1.311	1.311	------	------	1.314	1.13	2.0717
6	Phenol-d5	1.606	1.589	1.631	1.678	1.615	1.617	------	------	1.623	1.86	2.6593
7	Phenol	1.694	1.658	1.714	1.717	1.655	1.651	------	------	1.682	1.81	2.6706
8	Aniline	2.170	2.144	2.173	2.187	2.095	2.069	------	------	2.140	2.23	2.7436
9	bis(2-chloroethyl)ether	1.285	1.266	1.283	1.319	1.259	1.237	------	------	1.275	2.19	2.7723
10	2-Chlorophenol	1.363	1.366	1.404	1.413	1.481	1.487	------	------	1.419	3.81	2.8383
11	1,3-Dichlorobenzene	1.661	1.654	1.661	1.685	1.647	1.618	------	------	1.654	1.34	2.9719
12	1,2-Dichlorobenzene-d4	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
13	1,4-Dichlorobenzene	1.696	1.667	1.707	1.704	1.664	1.642	------	------	1.680	1.55	3.0303
14	Benzyl alcohol	0.883	0.910	0.943	0.933	0.905	0.898	------	------	0.912	2.45	3.1095
15	1,2-Dichlorobenzene	1.627	1.620	1.616	1.641	1.567	1.554	------	------	1.604	2.20	3.1647
16	2-Methylphenol	1.171	1.138	1.164	1.166	1.130	1.118	------	------	1.148	1.93	3.1839
17	bis(2-chloroisopropyl)ether	2.773	2.650	2.695	2.690	2.588	2.531	------	------	2.655	3.22	3.2287
18	4-Methylphenol	1.459	1.474	1.533	1.547	1.626	1.487	------	------	1.521	4.06	3.3213
19	N-Nitroso-di-n-propylamine	0.989	1.017	1.056	1.066	1.152	1.106	------	------	1.064	5.54	3.3508
20	Hexachloroethane	0.631	0.626	0.654	0.660	0.641	0.638	------	------	0.642	2.07	3.4769
21	Naphthalene-d8	1	1	1	1	1	1	1	1	1	0	4.2468
22	Nitrobenzene-d5	0.443	0.446	0.449	0.462	0.457	0.451	------	------	0.451	1.58	3.5081
23	Nitrobenzene	0.454	0.448	0.457	0.462	0.454	0.445	------	------	0.453	1.42	3.5281
24	Isophorone	0.876	0.861	0.865	0.885	0.884	0.840	------	------	0.868	1.97	3.7583
25	2-Nitrophenol	0.158	0.178	0.188	0.196	0.194	0.184	------	------	0.183	7.64	3.8390
26	2,4-Dimethylphenol	0.418	0.419	0.422	0.430	0.421	0.410	------	------	0.420	1.54	3.8542
27	Benzoic acid	0.177	0.193	0.243	0.255	0.267	0.264	0.278	0.270	0.243	15.58	3.9464
28	bis(2-Chloroethoxy)methane	0.467	0.453	0.457	0.462	0.448	0.438	------	------	0.454	2.26	3.9652
29	3,5-Dimethylphenol	0.416	0.410	0.472	0.481	0.481	0.458	------	------	0.453	7.12	3.9931
30	2,4-Dichlorophenol	0.345	0.351	0.360	0.365	0.360	0.354	------	------	0.356	2.03	4.0773
31	3,4-Dimethylphenol	0.500	0.493	0.498	0.505	0.490	0.481	------	------	0.495	1.72	4.1722
32	1,2,4-Trichlorobenzene	0.418	0.413	0.408	0.408	0.400	0.391	------	------	0.406	2.33	4.1786
33	Naphthalene	1.155	1.115	1.111	1.128	1.097	1.081	------	------	1.115	2.29	4.2703
34	4-Chloroaniline	0.472	0.478	0.482	0.486	0.469	0.461	------	------	0.475	1.94	4.3154
35	2,6-Dichlorophenol	0.332	0.338	0.340	0.344	0.337	0.329	------	------	0.337	1.66	4.3242
36	Hexachlorobutadiene	0.270	0.268	0.268	0.276	0.275	0.272	------	------	0.271	1.22	4.3950
37	Hydroquinone	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
38	4-Chloro-3-methylphenol	0.323	0.322	0.344	0.347	0.349	0.341	------	------	0.338	3.57	4.8362
39	2-Methylnaphthalene	0.815	0.786	0.785	0.796	0.770	0.754	------	------	0.784	2.67	5.0390
40	1-Methylnaphthalene	0.713	0.685	0.693	0.695	0.676	0.657	------	------	0.687	2.73	5.1532
41	Acenaphthene-d10	1	1	1	1	1	1	1	1	1	0	6.2716
42	Hexachlorocyclopentadiene	0.465	0.487	0.508	0.511	0.525	0.518	------	------	0.502	4.45	5.2179
43	2,3,5-Trichlorophenol	0.358	0.434	0.410	0.446	0.461	0.457	------	------	0.428	9.04	5.2235
44	2,4,6-Trichlorophenol	0.424	0.441	0.463	0.463	0.470	0.468	------	------	0.455	4.02	5.3558
45	2,4,5-Trichlorophenol	0.446	0.471	0.474	0.493	0.496	0.490	------	------	0.478	3.93	5.3912
46	2-Fluorobiphenyl	1.648	1.617	1.609	1.595	1.563	1.556	------	------	1.598	2.17	5.4661
47	2,3,4-Trichlorophenol	0.409	0.425	0.423	0.423	0.420	0.417	------	------	0.419	1.40	5.4692
48	Biphenyl	1.697	1.650	1.630	1.637	1.593	1.566	------	------	1.629	2.80	5.5847
49	2-Chloronaphthalene	1.356	1.337	1.319	1.317	1.291	1.420	------	------	1.340	3.36	5.6063
50	2-Nitroaniline	0.335	0.367	0.388	0.395	0.395	0.387	------	------	0.378	6.20	5.7214
51	2,6-Dimethylnaphthalene	1.180	1.162	1.148	1.168	1.142	1.123	------	------	1.154	1.76	5.7709
52	1,4-Dinitrobenzene	0.137	0.153	0.169	0.177	0.181	0.178	------	------	0.166	10.58	5.8904
53	Dimethylphthalate	1.479	1.464	1.499	1.478	1.474	1.443	------	------	1.473	1.25	5.9547
54	1,3-Dinitrobenzene	0.163	0.190	0.205	0.209	0.208	0.205	------	------	0.197	9.11	5.9788
55	2,6-Dinitrotoluene	0.284	0.294	0.304	0.309	0.309	0.307	------	------	0.301	3.30	6.0190
56	1,2-Dinitrobenzene	0.113	0.124	0.130	0.134	0.131	0.130	------	------	0.127	6.06	6.0793
57	Acenaphthylene	2.073	2.087	2.085	2.274	2.032	2.179	------	------	2.122	4.18	6.1010
58	3-Nitroaniline	0.292	0.317	0.318	0.322	0.321	0.320	------	------	0.315	3.68	6.2157

02-08-16

59	Acenaphthene	1.364	1.337	1.327	1.337	1.316	1.287	------	------	1.328	1.93	6.3123
60	2,4-Dinitrophenol	0.067	0.091	0.122	0.132	0.142	0.143	------	------	0.116	26.38	6.3387
61	4-Nitrophenol	0.167	0.198	0.213	0.215	0.216	0.227	------	------	0.206	10.34	6.4058
62	2,4-Dinitrotoluene	0.337	0.387	0.399	0.413	0.406	0.408	------	------	0.392	7.16	6.5025
63	Dibenzofuran	1.937	1.905	1.886	1.893	1.864	1.830	------	------	1.886	1.94	6.5193
64	2,3,5,6-Tetrachlorophenol	0.272	0.293	0.319	0.328	0.335	0.327	------	------	0.312	7.84	6.6087
65	2,3,4,6-Tetrachlorophenol	0.400	0.418	0.430	0.438	0.449	0.444	------	------	0.430	4.25	6.6606
66	2,3,5-Trimethylnaphthalene	1.088	1.078	1.093	1.088	1.075	1.056	------	------	1.080	1.25	6.7738
67	Diethylphthalate	1.480	1.480	1.501	1.519	1.488	1.485	------	------	1.492	1.03	6.8113
68	Fluorene	1.499	1.484	1.477	1.480	1.445	1.428	------	------	1.469	1.82	6.9332
69	4-Chlorophenyl-phenylether	0.761	0.751	0.754	0.751	0.740	0.733	------	------	0.748	1.34	6.9387
70	4-Nitroaniline	0.287	0.305	0.312	0.347	0.342	0.351	------	------	0.324	8.12	6.9512
71	Phenanthrene-d10	1	1	1	1	1	1	1	1	1	0	8.0076
72	4,6-Dinitro-2-methylphenol	0.067	0.100	0.120	0.125	0.129	0.131	------	------	0.112	21.93	6.9879
73	N-Nitrosodiphenylamine	0.690	0.675	0.698	0.686	0.682	0.670	------	------	0.683	1.47	7.0776
74	Azobenzene	0.813	0.798	0.819	0.800	0.796	0.785	------	------	0.802	1.51	7.1275
75	2,4,6-Tribromophenol	0.083	0.093	0.098	0.100	0.102	0.101	------	------	0.096	7.59	7.2113
76	4-Bromophenyl-phenylether	0.247	0.232	0.244	0.239	0.240	0.240	------	------	0.240	2.11	7.5077
77	Hexachlorobenzene	0.249	0.240	0.246	0.242	0.246	0.243	------	------	0.244	1.23	7.5659
78	Pentachlorophenol	0.109	0.130	0.145	0.148	0.154	0.152	------	------	0.140	12.24	7.7887
79	Dibenzothiophene	1.276	1.233	1.252	1.230	1.207	1.205	------	------	1.234	2.20	7.8910
80	Phenanthrene	1.292	1.249	1.271	1.254	1.239	1.225	------	------	1.255	1.91	8.0338
81	Dinoseb	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
82	Anthracene	1.253	1.264	1.276	1.279	1.256	1.255	------	------	1.264	0.90	8.0902
83	Carbazole	1.091	1.079	1.086	1.075	1.048	1.065	------	------	1.074	1.46	8.2665
84	Di-n-butylphthalate	1.212	1.304	1.332	1.345	1.311	1.309	------	------	1.302	3.60	8.6604
85	1-Methylphenanthrene	0.884	0.895	0.900	0.898	0.874	0.889	------	------	0.890	1.11	8.7023
86	Fluoranthene	1.397	1.408	1.439	1.418	1.399	1.424	------	------	1.414	1.15	9.3110
87	Chrysene-d12	1	1	1	1	1	1	1	1	1	0	10.7882
88	Benzidine	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
89	Pyrene	1.341	1.325	1.351	1.452	1.391	1.346	------	------	1.368	3.42	9.5470
90	Terphenyl-d14	0.859	0.845	0.866	0.867	0.863	0.838	------	------	0.856	1.41	9.7126
91	Butylbenzylphthalate	0.361	0.439	0.490	0.499	0.502	0.491	------	------	0.464	11.98	10.2192
92	bis(2-ethylhexyl)adipate	0.306	0.373	0.403	0.407	0.405	0.394	------	------	0.381	10.19	10.2976
93	3,3'-Dichlorobenzidine	0.366	0.400	0.419	0.427	0.429	0.432	------	------	0.412	6.19	10.7475
94	Benzo(a)anthracene	1.234	1.206	1.235	1.249	1.248	1.243	------	------	1.236	1.31	10.7766
95	Chrysene	1.171	1.136	1.145	1.146	1.130	1.126	------	------	1.142	1.42	10.8139
96	bis(2-Ethylhexyl)phthalate	0.628	0.701	0.743	0.748	0.746	0.730	------	------	0.716	6.46	10.7985
97	Perylene-d12	1	1	1	1	1	1	1	1	1	0	12.2145
98	Di-n-octylphthalate	1.051	1.308	1.442	1.446	1.469	1.437	------	------	1.359	11.88	11.4203
99	Benzo(b)fluoranthene	1.264	1.219	1.280	1.341	1.275	1.317	------	------	1.283	3.32	11.8092
100	Benzo(k)fluoranthene	1.263	1.301	1.333	1.267	1.338	1.254	------	------	1.293	2.85	11.8374
101	Benzo(e)pyrene	1.149	1.165	1.198	1.205	1.194	1.193	------	------	1.184	1.87	12.0937
102	Benzo(a)pyrene	1.173	1.183	1.231	1.234	1.248	1.238	------	------	1.218	2.59	12.1520
103	Perylene	1.194	1.235	1.246	1.232	1.214	1.212	------	------	1.222	1.55	12.2451
104	Indeno(1,2,3-cd)pyrene	1.230	1.304	1.372	1.385	1.400	1.400	------	------	1.349	5.04	13.5598
105	Dibenzo(a,h)anthracene	1.051	1.074	1.140	1.158	1.166	1.153	------	------	1.124	4.34	13.5841
106	Benzo(g,h,i)perylene	1.149	1.113	1.158	1.176	1.185	1.174	------	------	1.159	2.24	13.9660

Ave_%RSD : 4.2 Max_%RSD : 26.4

Use Least Square Linear Regression with weighting factor of inverse concentration
Resp_Ratio = xo + x1 * Amt_Ratio

IDX	Parameter	x0	x1	CCF
27	Benzoic acid	-0.01353	0.27777	0.9993
60	2,4-Dinitrophenol	-0.01006	0.14884	0.9982
72	4,6-Dinitro-2-methylphenol	-0.00746	0.13623	0.9998

PM
08-08-16

INITIAL_CALIBRATION - RELATIVE_RESPONSE_FACTOR(%REC)

Instrument ID :E4
Beginning DateTime :02/02/16 09:09
Spike Units :PPM
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02

IDX	Parameters	4 11:23 RBJ010	10 11:04 RBJ009	20 10:44 RBJ008	25 10:25 RBJ007	40 10:06 RBJ006	50 09:47 RBJ005	80 09:28 RBJ004	100 09:09 RBJ003	AvDRec	% RSD	Av Rt M
1	1,4-Dichlorobenzene-d4	1	1	1	1	1	1	1	1	1	0	3.0151
2	1,4-Dioxane	113	102	98	97	95	96	------	------	4.8	6.63	1.3665
3	N-nitrosodimethylamine	99	99	101	103	99	100	------	------	1.3	1.57	1.4766
4	Pyridine	104	104	105	106	104	103	88	87	6.4	7.97	1.5093
5	2-Fluorophenol	99	99	101	102	100	100	------	------	.8	1.13	2.0717
6	Phenol-d5	99	98	100	103	100	100	------	------	1.3	1.86	2.6593
7	Phenol	101	99	102	102	98	98	------	------	1.6	1.81	2.6706
8	Aniline	101	100	102	102	98	97	------	------	1.8	2.23	2.7436
9	bis(2-chloroethyl)ether	101	99	101	103	99	97	------	------	1.6	2.19	2.7723
10	2-Chlorophenol	96	96	99	100	104	105	------	------	3.1	3.81	2.8383
11	1,3-Dichloropenzene	100	100	100	102	100	98	------	------	.9	1.34	2.9779
12	1,2-Dichlorobenzene-d4	------	------	------	------	------	------	------	------	0.000	0.00	0.0000
13	1,4-Dichlorobenzene	101	99	102	101	99	98	------	------	1.3	1.52	3.0303
14	Benzyl alcohol	97	100	103	102	99	98	------	------	1.9	2.45	3.1095
15	1,2-Dichlorobenzene	101	101	101	102	98	97	------	------	1.8	2.20	3.1647
16	2-Methylphenol	102	99	101	102	98	97	------	------	1.7	1.93	3.1839
17	bis(2-chloroisopropyl)ether	104	100	102	101	97	95	------	------	2.4	3.22	3.2287
18	4-Methylphenol	99	97	101	102	107	98	------	------	3.1	4.06	3.3513
19	N-Nitroso-di-n-propylamine	93	96	99	100	108	104	------	------	4.1	5.54	3.3508
20	Hexachloroethane	98	98	102	103	100	99	------	------	1.6	2.07	3.4769
21	Naphthalene-d8	1	1	1	1	1	1	1	1	1	0	4.2468
22	Nitrobenzene-d5	98	99	100	102	101	100	------	------	1.2	1.58	3.5081
23	Nitrobenzene	100	99	101	102	100	98	------	------	1	1.42	3.5281
24	Isophorone	101	99	100	102	102	97	------	------	1.5	1.97	3.7583
25	2-Nitrophenol	86	97	103	107	106	101	------	------	5.5	7.64	3.8390
26	2,4-Dimethylphenol	100	100	100	102	100	98	------	------	1	1.54	3.8542
27	Benzoic acid	113	89	97	99	101	99	114	111	12.1	15.58	3.9464
28	bis(2-Chloroethoxy)methane	103	100	101	102	99	96	------	------	1.7	2.26	3.9652
29	3,5-Dimethylphenol	92	91	104	106	106	101	------	------	5.9	7.12	3.9931
30	2,4-Dichlorophenol	97	99	101	103	101	99	------	------	1.6	2.03	4.0773
31	3,4-Dimethylphenol	101	100	101	102	99	97	------	------	1.3	1.72	4.1722
32	1,2,4-Trichlorobenzene	103	102	100	100	99	96	------	------	1.8	2.35	4.1786
33	Naphthalene	104	100	100	101	98	97	------	------	1.9	2.38	4.2703
34	4-Chloroaniline	99	101	101	102	99	97	------	------	1.6	2.67	4.3154
35	2,6-Dichlorophenol	99	100	101	102	100	98	------	------	1.5	1.94	4.3242
36	Hexachlorobutadiene	100	99	99	102	101	100	------	------	1.2	1.66	4.3950
37	Hydroquinone	------	------	------	------	------	------	------	------	1	1.22	4.3950
38	4-Chloro-3-methylphenol	96	95	102	103	103	101	------	------	0.000	0.00	0.0000
39	2-Methylnaphthalene	104	100	100	102	98	96	------	------	3	3.57	4.8362
40	1-Methylnaphthalene	104	100	101	101	98	96	------	------	1.9	2.67	5.0390
41	Acenaphthene-d10	1	1	1	1	1	1	1	1	2	2.73	5.1532
42	Hexachlorocyclopentadiene	93	97	101	102	105	103	------	------	1	0	5.2716
43	2,3,5-Trichlorophenol	84	101	96	104	108	107	------	------	3.5	4.45	5.2179
44	2,4,6-Trichlorophenol	93	97	102	102	103	103	------	------	6.8	9.04	5.2235
45	2,4,5-Trichlorophenol	93	99	99	103	104	103	------	------	3.3	4.02	5.3558
46	2-Fluorobiphenyl	103	101	101	100	98	97	------	------	3.1	3.93	5.3912
47	2,3,4-Trichlorophenol	98	101	101	101	100	100	------	------	1.7	2.17	5.4661
48	Biphenyl	104	101	100	100	98	96	------	------	1.1	1.40	5.4682
49	2-Chloronaphthalene	101	100	98	98	96	106	------	------	2	2.80	5.5847
50	2-Nitroaniline	89	97	103	104	104	102	------	------	2.4	3.36	5.6063
51	2,6-Dimethylnaphthalene	102	101	99	101	99	97	------	------	4.7	6.20	5.7214
52	1,4-Dinitrobenzene	83	92	102	107	109	107	------	------	1.4	1.76	5.7709
53	Dimethylphthalate	100	99	102	100	100	98	------	------	8.3	10.58	5.8904
54	1,3-Dinitrobenzene	83	96	104	106	106	104	------	------	.9	1.25	5.9547
55	2,6-Dinitrotoluene	94	98	101	103	103	102	------	------	.8	1.11	5.9788
56	1,2-Dinitrobenzene	89	98	102	106	103	102	------	------	6.9	9.11	6.0190
57	Acenaphthylene	98	98	98	107	96	103	------	------	2.2	3.30	6.0793
58	3-Nitroaniline	93	101	101	102	102	102	------	------	4.5	6.06	6.1010
59	Acenaphthene	103	101	100	101	99	97	------	------	3.3	4.18	6.2157
60	2,4-Dinitrophenol	113	89	96	100	102	102	------	------	2.4	3.68	6.3123
61	4-Nitrophenol	81	96	103	104	105	110	------	------	1.4	1.93	6.3387
62	2,4-Dinitrotoluene	86	99	102	105	104	104	------	------	21.4	26.38	6.4058
63	Dibenzofuran	103	101	100	100	99	97	------	------	7.9	10.34	6.4558
64	2,3,5,6-Tetrachlorophenol	87	94	102	105	107	105	------	------	5	7.16	6.5022
65	2,3,4,6-Tetrachlorophenol	93	97	100	102	104	103	------	------	1.4	1.94	6.5193
66	2,3,5-Trimethylnaphthalene	101	100	101	101	100	98	------	------	6.4	7.84	6.6087
67	Diethylphthalate	99	99	101	102	100	100	------	------	3.2	4.25	6.6606
68	Fluorene	102	101	101	101	98	97	------	------	.9	1.25	6.7738
69	4-Chlorophenyl-phenylether	102	100	101	100	99	98	------	------	.8	1.03	6.8113
70	4-Nitroaniline	89	94	96	107	106	106	------	------	1.5	1.82	6.8332
71	Phenanthrene-d10	1	1	1	1	1	1	1	1	1.1	1.34	6.9387
72	4,6-Dinitro-2-methylphenol	104	96	99	101	100	101	------	------	7	8.12	6.9512
73	N-Nitrosodiphenylamine	101	99	102	100	100	98	------	------	1	0	8.0076
74	Azobenzene	101	100	105	100	99	98	------	------	17	21.93	6.9879
75	2,4,6-Tribromophenol	86	97	102	104	106	105	------	------	1.1	1.47	7.0776
76	4-Bromophenyl-phenylether	103	97	102	100	100	100	------	------	1.2	1.51	7.1275
77	Hexachlorobenzene	102	98	101	99	101	100	------	------	5.7	7.59	7.2113
78	Pentachlorophenol	78	93	104	106	110	109	------	------	1.4	2.11	7.5077
79	Dibenzothiophene	103	100	101	100	98	98	------	------	1.1	1.23	7.5659
80	Phenanthrene	103	100	101	100	99	98	------	------	9.5	12.24	7.7887
81	Dinoseb	------	------	------	------	------	------	------	------	1.6	2.20	7.8910
82	Anthracene	99	100	101	101	99	99	------	------	1.4	1.91	8.0338
83	Carbazole	102	100	101	100	98	99	------	------	0.000	0.00	0.0000
84	Di-n-butylphthalate	93	100	102	103	101	101	------	------	.7	0.90	8.0902
85	1-Methylphenanthrene	99	101	101	101	98	100	------	------	1.1	1.46	8.2665
86	Fluoranthene	99	100	102	100	99	101	------	------	2.3	3.60	8.6604
87	Chrysene-d12	1	1	1	1	1	1	1	1	.9	1.11	8.7023
88	Benzidine	------	------	------	------	------	------	------	------	.9	1.15	9.3110
89	Pyrene	98	97	99	106	102	98	------	------	1	0	10.7882
90	Terphenyl-d14	100	99	101	101	101	98	------	------	0.000	0.00	0.0000
91	Butylbenzylphthalate	78	95	106	108	108	106	------	------	2.6	3.42	9.5470
92	bis(2-ethylhexyl)adipate	80	98	106	107	106	103	------	------	1.2	1.41	9.7126
93	3,3'-Dichlorobenzidine	89	97	102	104	104	105	------	------	9.1	11.98	10.2192
94	Benzo(a)anthracene	100	98	100	101	101	101	------	------	7.3	10.19	10.2976
95	Chrysene	103	99	100	100	99	99	------	------	4.7	6.19	10.7475
96	bis(2-Ethylhexyl)phthalate	88	98	104	104	104	102	------	------	.9	1.31	10.7766
97	Perylene-d12	1	1	1	1	1	1	1	1	1	1.42	10.8139
98	Di-n-octylphthalate	77	96	106	106	108	106	------	------	4.8	6.46	10.7985
99	Benzo(b)fluoranthene	99	95	100	105	99	103	------	------	1	0	12.2145
100	Benzo(k)fluoranthene	98	101	103	98	103	97	------	------	8.8	11.88	11.4203
101	Benzo(e)pyrene	97	98	101	102	101	101	------	------	2.4	3.32	11.8092
102	Benzo(a)pyrene	96	97	101	101	102	102	------	------	2.4	3.85	11.8374
103	Perylene	98	101	102	101	99	99	------	------	1.5	1.87	12.0937
104	Indeno(1,2,3-cd)pyrene	91	97	102	103	104	104	------	------	2.3	2.82	12.1520
105	Dibenzo(a,h)anthracene	94	96	101	103	104	103	------	------	1.3	1.55	12.2431
106	Benzo(g,h,i)perylene	99	96	100	101	102	101	------	------	4	5.04	13.5598
										3.6	4.34	13.5841
										1.7	2.24	13.9660

TM 02-08-16

Compound List Report E4

Method Path : C:\msdchem\1\METHODS\
Method File : SVE4B02.M
Title : SEMIVOLATILES
Last Update : Tue Feb 02 13:41:58 2016
Response Via : Initial Calibration

Total Cpnds : 106

PK#		Compound Name	QIon	Exp_RT	Rel_RT	Cal	#Qual	A/H	ID
1	I	1,4-Dichlorobenzene-d4	152	3.015	1.000	A	1	A	B
2	T	1,4-Dioxane	88	1.366	0.453	A	1	A	B
3	T	N-nitrosodimethylamine	74	1.476	0.490	A	1	A	B
4	T	Pyridine	79	1.505	0.499	A	1	A	B
5	S	2-Fluorophenol	112	2.070	0.687	A	1	A	B
6	S	Phenol-d5	99	2.659	0.882	A	1	A	B
7	C,P	Phenol	94	2.670	0.886	A	1	A	B
8	T	Aniline	93	2.743	0.910	A	1	A	B
9	T	bis(2-chloroethyl)ether	93	2.774	0.920	A	1	A	B
10	T	2-Chlorophenol	128	2.836	0.941	A	1	A	B
11	T	1,3-Dichlorobenzene	146	2.972	0.986	A	1	A	B
12	S	1,2-Dichlorobenzene-d4	152	0.000	0.000	A	1	A	B
13	C	1,4-Dichlorobenzene	146	3.029	1.005	A	1	A	B
14	T	Benzyl alcohol	108	3.111	1.032	A	1	A	B
15	T	1,2-Dichlorobenzene	146	3.164	1.049	A	1	A	B
16	T	2-Methylphenol	107	3.183	1.056	A	1	A	B
17	T	bis(2-chloroisopropyl)ether	45	3.231	1.072	A	1	A	B
18	T	4-Methylphenol	107	3.322	1.102	A	1	A	B
19	P,P	N-Nitroso-di-n-propylamine	70	3.351	1.111	A	1	A	B
20	T	Hexachloroethane	117	3.475	1.153	A	1	A	B
21	I	Naphthalene-d8	136	4.248	1.000	A	1	A	B
22	S	Nitrobenzene-d5	82	3.509	0.826	A	1	A	B
23	T	Nitrobenzene	77	3.528	0.831	A	1	A	B
24	T	Isophorone	82	3.758	0.885	A	1	A	B
25	C,P	2-Nitrophenol	139	3.840	0.904	A	1	A	B
26	T	2,4-Dimethylphenol	107	3.854	0.907	A	1	A	B
27	T	Benzoic acid	105	3.936	0.927	L	1	A	B
28	T	bis(2-Chloroethoxy)methane	93	3.964	0.933	A	1	A	B
29	T	3,5-Dimethylphenol	107	3.993	0.940	A	1	A	B
30	C,P	2,4-Dichlorophenol	162	4.080	0.960	A	1	A	B
31	T	3,4-Dimethylphenol	107	4.171	0.982	A	1	A	B
32	T	1,2,4-Trichlorobenzene	180	4.181	0.984	A	1	A	B
33	T	Naphthalene	128	4.273	1.006	A	1	A	B
34	T	4-Chloroaniline	127	4.316	1.016	A	1	A	B
35	T	2,6-Dichlorophenol	162	4.326	1.018	A	1	A	B
36	C	Hexachlorobutadiene	225	4.393	1.034	A	1	A	B
37	T	Hydroquinone	110	0.000	0.000	A	1	A	B
38	C,P	4-Chloro-3-methylphenol	107	4.837	1.139	A	1	A	B
39	T	2-Methylnaphthalene	142	5.038	1.186	A	1	A	B
40	T	1-Methylnaphthalene	142	5.153	1.213	A	1	A	B
41	I	Acenaphthene-d10	164	6.274	1.000	A	1	A	B
42	P	Hexachlorocyclopentadiene	237	5.220	0.832	A	1	A	B
43	T	2,3,5-Trichlorophenol	196	5.225	0.833	A	1	A	B
44	C,P	2,4,6-Trichlorophenol	196	5.355	0.854	A	1	A	B
45	T	2,4,5-Trichlorophenol	196	5.393	0.860	A	1	A	B
46	S	2-Fluorobiphenyl	172	5.466	0.871	A	1	A	B
47	T	2,3,4-Trichlorophenol	196	5.471	0.872	A	1	A	B
48	T	Biphenyl	154	5.586	0.890	A	1	A	B
49	T	2-Chloronaphthalene	162	5.605	0.893	A	1	A	B
50	T	2-Nitroaniline	65	5.720	0.912	A	1	A	B
51	T	2,6-Dimethylnaphthalene	156	5.773	0.920	A	1	A	B
52	T	1,4-Dinitrobenzene	168	5.889	0.939	A	1	A	B
53	T	Dimethylphthalate	163	5.956	0.949	A	1	A	B
54	T	1,3-Dinitrobenzene	168	5.980	0.953	A	1	A	B

PM 02-08-16

55	T	2,6-Dinitrotoluene	165	6.019	0.959	A	1	A	B
56	T	1,2-Dinitrobenzene	168	6.082	0.969	A	1	A	B
57	T	Acenaphthylene	152	6.101	0.972	A	1	A	B
58	T	3-Nitroaniline	138	6.216	0.991	A	1	A	B
59	C,P	Acenaphthene	153	6.312	1.006	A	1	A	B
60	P	2,4-Dinitrophenol	184	6.341	1.011	L	1	A	B
61	P	4-Nitrophenol	109	6.408	1.021	A	1	A	B
62	T	2,4-Dinitrotoluene	165	6.504	1.037	A	1	A	B
63	T	Dibenzofuran	168	6.518	1.039	A	1	A	B
64	T	2,3,5,6-Tetrachlorophenol	230	6.609	1.053	A	1	A	B
65	T	2,3,4,6-Tetrachlorophenol	232	6.662	1.062	A	1	A	B
66	T	2,3,5-Trimethylnaphthalene	170	6.776	1.080	A	1	A	B
67	T	Diethylphthalate	149	6.813	1.086	A	1	A	B
68	T	Fluorene	166	6.935	1.105	A	1	A	B
69	T	4-Chlorophenyl-phenylether	204	6.940	1.106	A	1	A	B
70	T	4-Nitroaniline	138	6.954	1.108	A	1	A	B
71	I	Phenanthrene-d10	188	8.009	1.000	A	1	A	B
72	T	4,6-Dinitro-2-methylphenol	198	6.987	0.872	L	1	A	B
73	C	N-Nitrosodiphenylamine	169	7.077	0.884	A	1	A	B
74	T	Azobenzene	77	7.129	0.890	A	1	A	B
75	S	2,4,6-Tribromophenol	330	7.210	0.900	A	1	A	B
76	T	4-Bromophenyl-phenylether	248	7.508	0.937	A	1	A	B
77	T	Hexachlorobenzene	284	7.565	0.945	A	1	A	B
78	C,P	Pentachlorophenol	266	7.787	0.972	A	1	A	B
79	T	Dibenzothiophene	184	7.891	0.985	A	1	A	B
80	T	Phenanthrene	178	8.032	1.003	A	1	A	B
81	T	Dinoseb	211	0.000	0.000	A	1	A	B
82	T	Anthracene	178	8.089	1.010	A	1	A	B
83	T	Carbazole	167	8.267	1.032	A	1	A	B
84	T	Di-n-butylphthalate	149	8.659	1.081	A	1	A	B
85	T	1-Methylphenanthrene	192	8.702	1.087	A	1	A	B
86	C,P	Fluoranthene	202	9.311	1.163	A	1	A	B
87	I	Chrysene-d12	240	10.791	1.000	A	1	A	B
88	T	Benzidine	184	0.000	0.000	A	1	A	B
89	T	Pyrene	202	9.547	0.885	A	1	A	B
90	S	Terphenyl-d14	244	9.716	0.900	A	1	A	B
91	T	Butylbenzylphthalate	149	10.218	0.947	A	1	A	B
92	T	bis(2-ethylhexyl)adipate	129	10.299	0.954	A	1	A	B
93	T	3,3'-Dichlorobenzidine	252	10.748	0.996	A	1	A	B
94	T	Benzo(a)anthracene	228	10.777	0.999	A	1	A	B
95	T	Chrysene	228	10.816	1.002	A	1	A	B
96	T	bis(2-Ethylhexyl)phthalate	149	10.801	1.001	A	1	A	B
97	I	Perylene-d12	264	12.218	1.000	A	1	A	B
98	C	Di-n-octylphthalate	149	11.422	0.935	A	1	A	B
99	T	Benzo(b)fluoranthene	252	11.811	0.967	A	1	A	B
100	T	Benzo(k)fluoranthene	252	11.840	0.969	A	1	A	B
101	T	Benzo(e)pyrene	252	12.096	0.990	A	1	A	B
102	C,P	Benzo(a)pyrene	252	12.155	0.995	A	1	A	B
103	T	Perylene	252	12.247	1.002	A	1	A	B
104	T	Indeno(1,2,3-cd)pyrene	276	13.563	1.110	A	1	A	B
105	T	Dibenzo(a,h)anthracene	278	13.587	1.112	A	1	A	B
106	T	Benzo(g,h,i)perylene	276	13.971	1.143	A	1	A	B

Cal A = Average L = Linear LO = Linear w/origin Q = Quad QO = Quad w/origin
#Qual = number of qualifiers
A/H = Area or Height
ID R = R.T. B = R.T. & Q Q = Qvalue L = Largest A = All

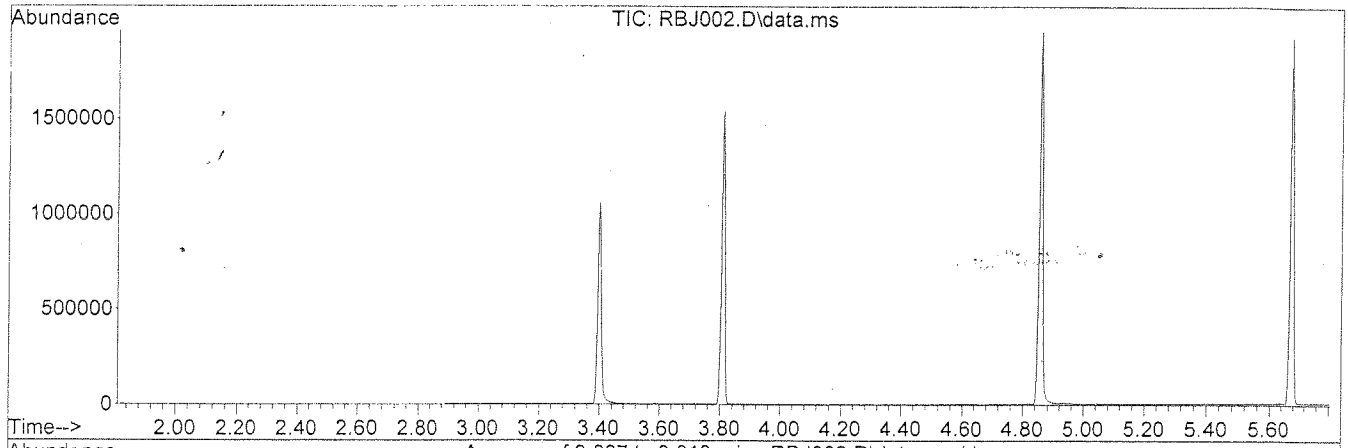
SVE4B02.M Tue Feb 02 13:45:46 2016

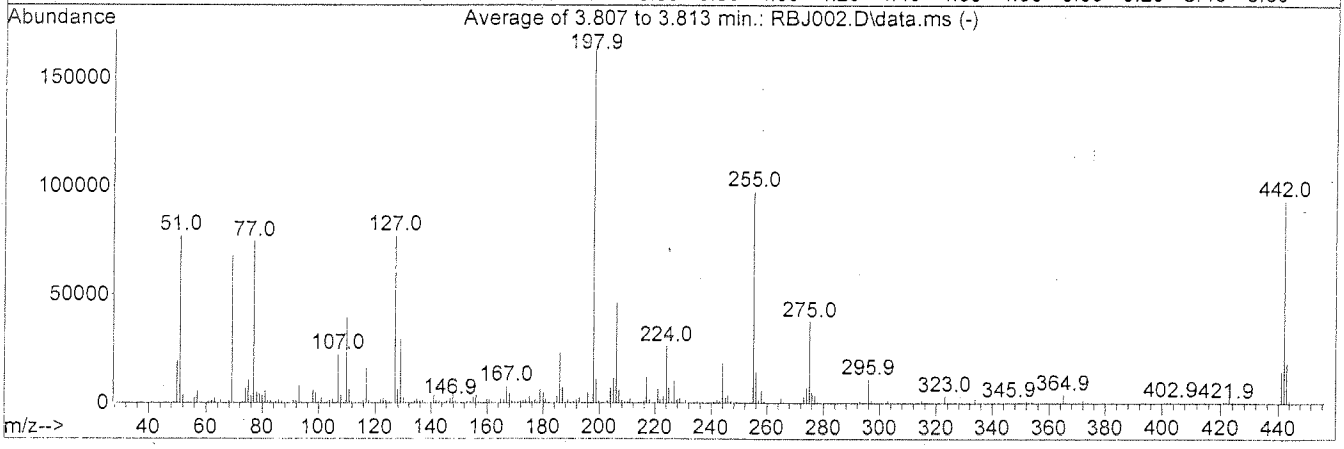
ne 02-08-16

Data Path : D:\DATA\16B02\
Data File : RBJ002.D
Acq On : 2 Feb 2016 8:58
Operator : KVu
Sample : DFTE4B0201
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPP.M
Title : DFTPP
Last Update : Tue Feb 02 13:54:37 2016





AutoFind: Scans 327, 328, 329; Background Corrected with Scan 319

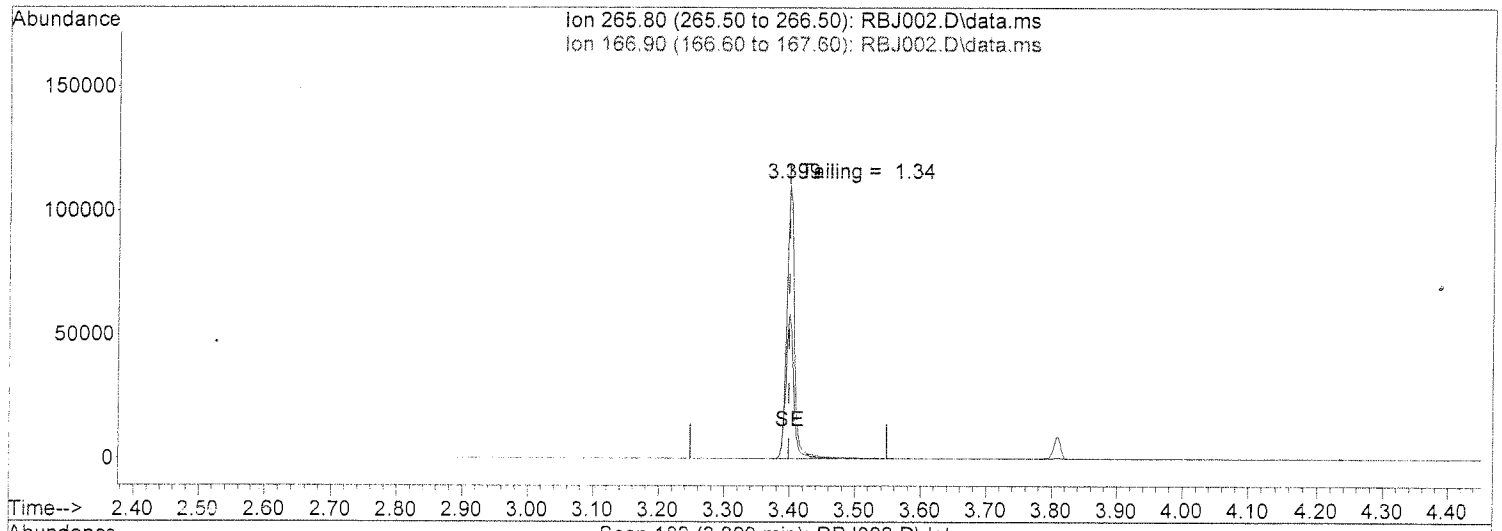
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	30	60	47.0	77064	PASS
68	69	0.00	2	1.8	1246	PASS
69	198	0.00	100	41.4	67760	PASS
70	69	0.00	2	0.8	530	PASS
127	198	40	60	47.0	77040	PASS
197	198	0.00	1	0.1	238	PASS
198	198	100	100	100.0	163819	PASS
199	198	5	9	6.7	10948	PASS
275	198	10	30	23.0	37632	PASS
365	198	1	100	2.4	3963	PASS
441	443	0.01	100	78.6	14505	PASS
442	198	40	100	57.2	93643	PASS
443	442	17	23	19.7	18463	PASS

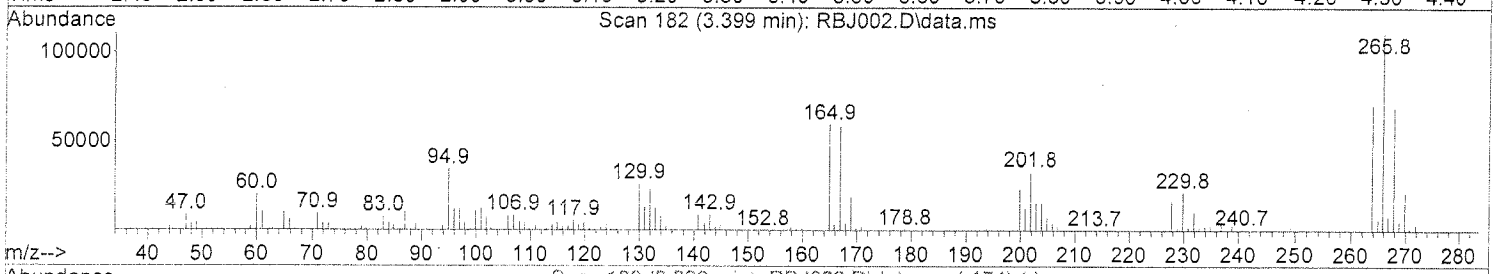
02-08-16

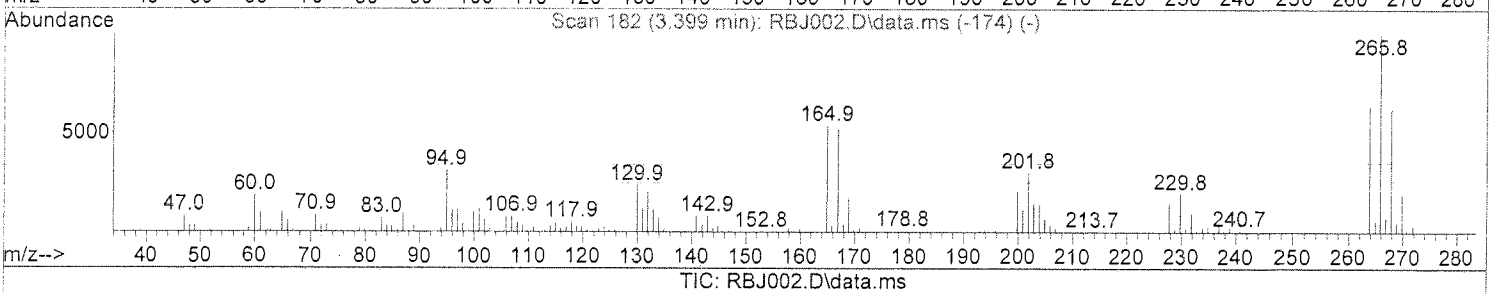
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(1) Pentachlorophenol (T)

3.399min (+0.000) 50.00 ppm

response 91472

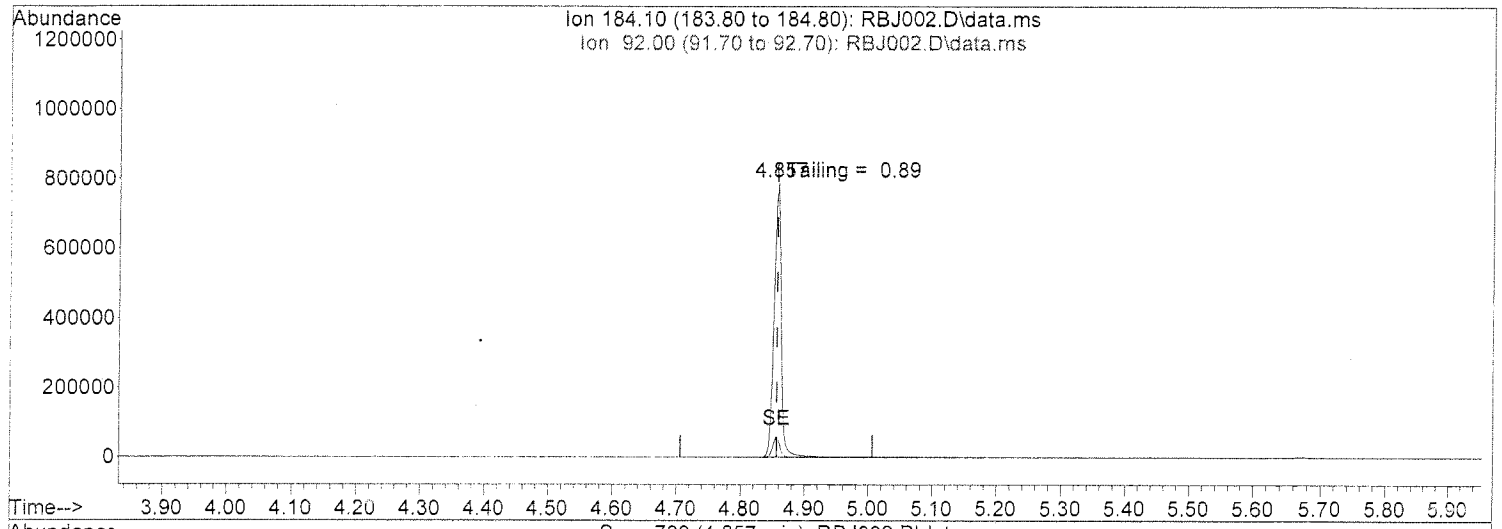
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	53.80
0.00	0.00	0.00
0.00	0.00	0.00

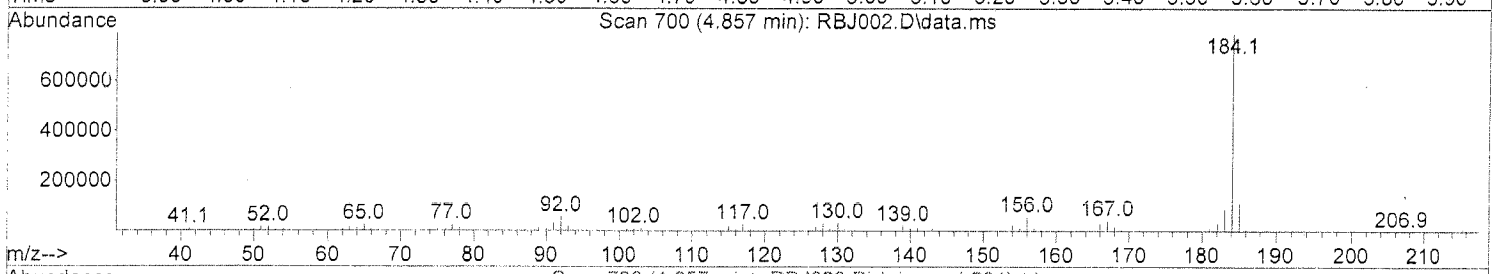
RU 02-08-16

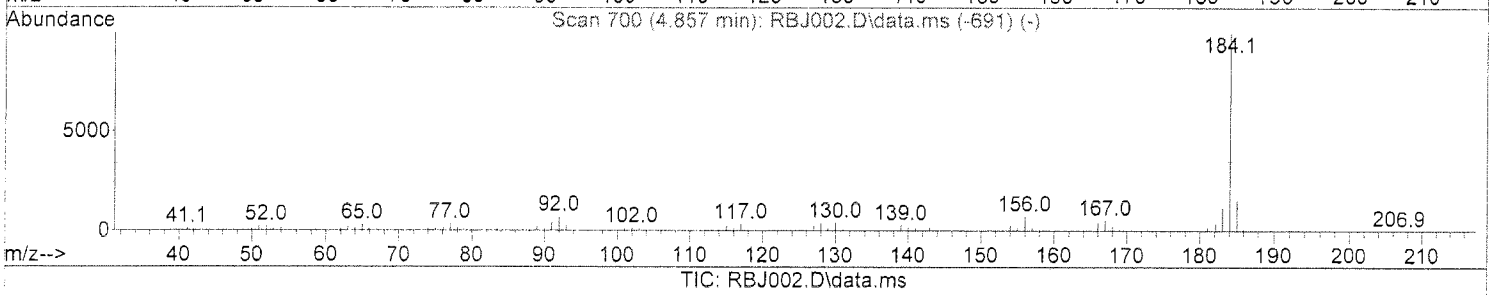
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(3) Benzidine (T)

4.857min (0.000) 50.00 ppm

response 619113

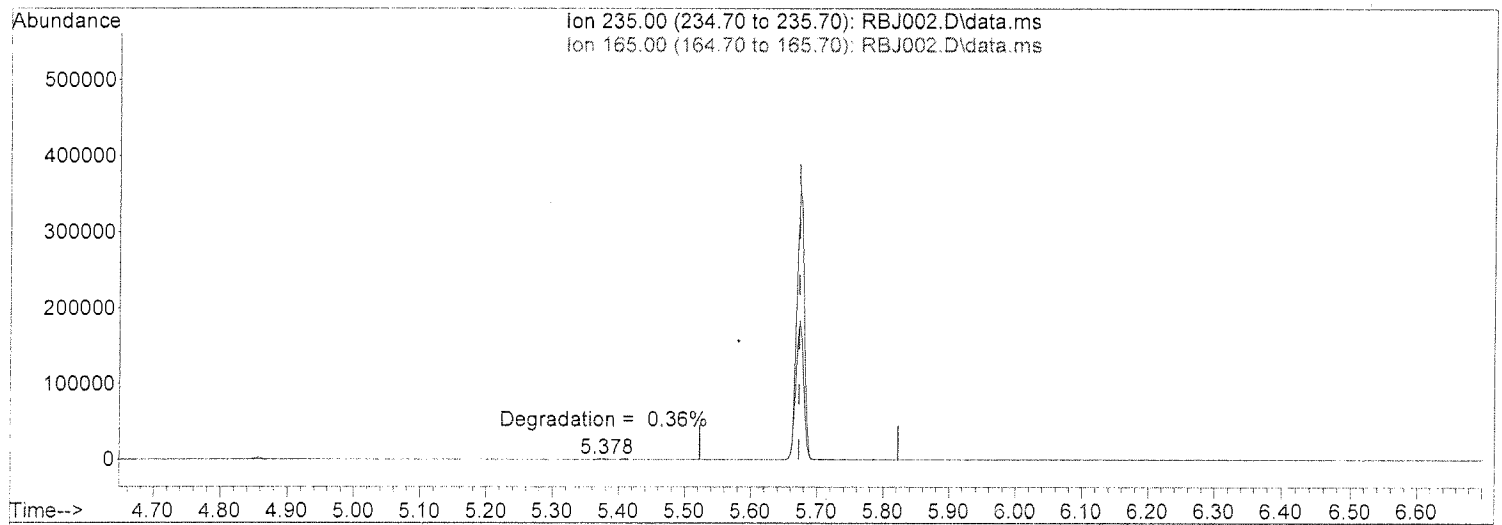
Ion	Exp%	Act%
184.10	100	100
92.00	7.50	7.46
0.00	0.00	0.00
0.00	0.00	0.00

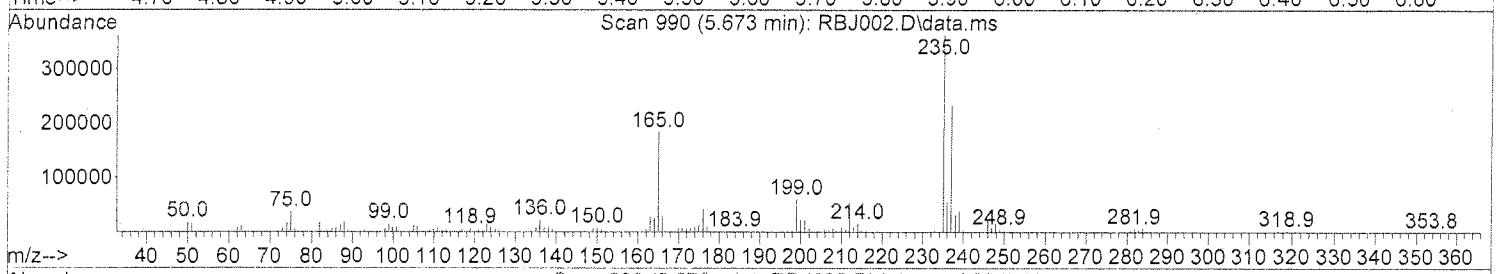
02-08-16

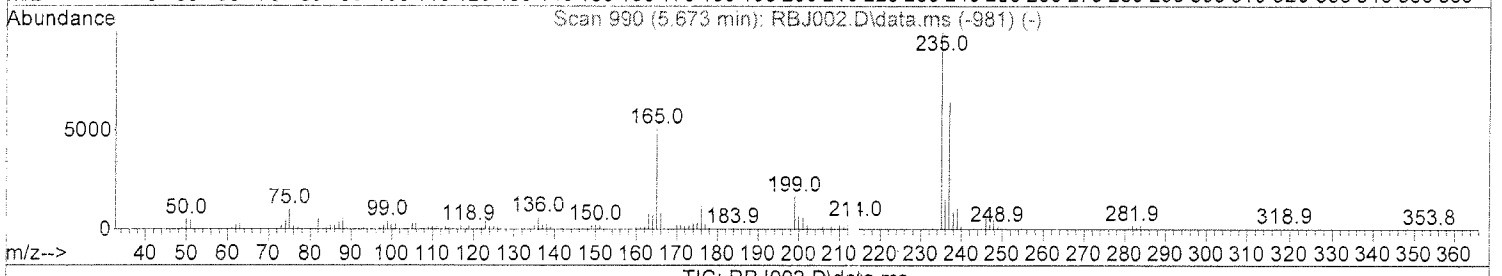
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:54:39 2016
Quant Results File: DFTPP.RES
Quant Method : C:\msdchem\1\METHODS\DFTPP.M
Quant Title : DFTPP
QLast Update : Tue Feb 02 13:54:37 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(6) DDT (T)

5.673min (0.000) 50.00 ppm

response 287336

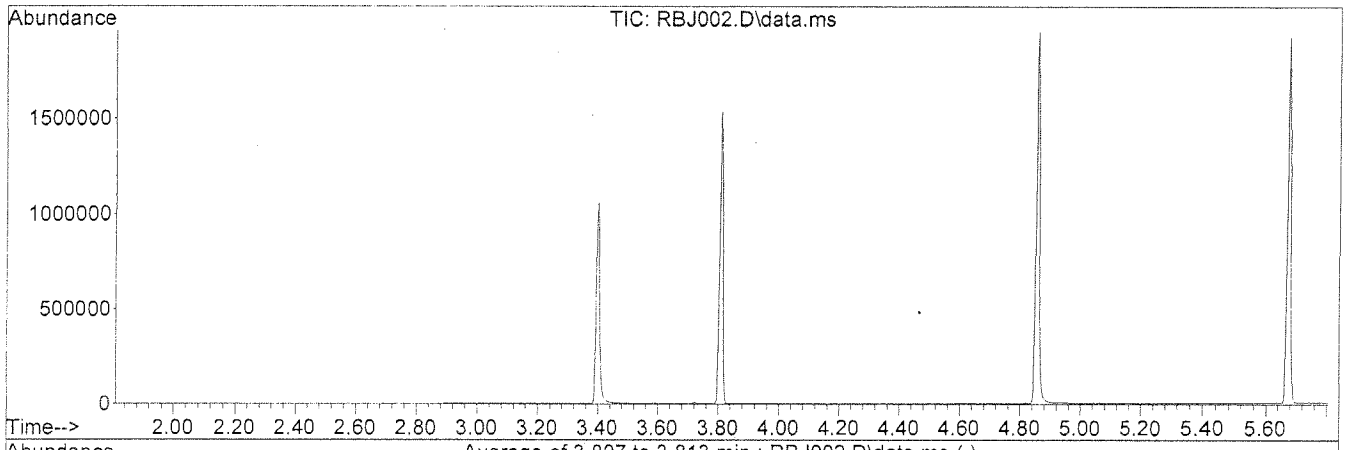
Ion	Exp%	Act%
235.00	100	100
165.00	51.10	51.13
0.00	0.00	0.00
0.00	0.00	0.00

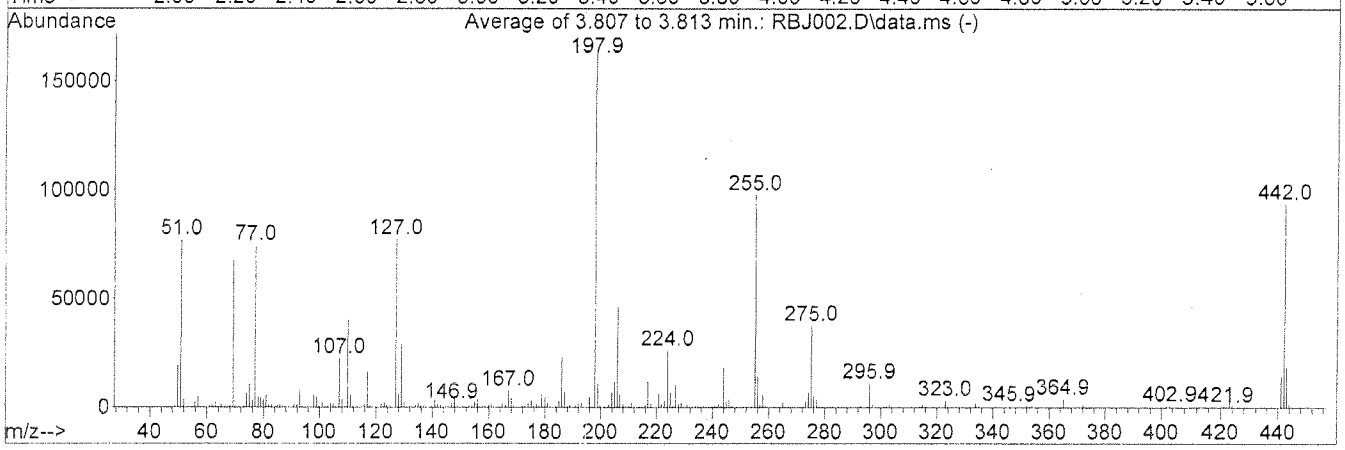
KU 02-08-16

Data Path : D:\DATA\16B02\
Data File : RBJ002.D
Acq On : 2 Feb 2016 8:58
Operator : KVu
Sample : DFTE4B0201
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : Semivolatiles DFTPP 8270D
Last Update : Tue Feb 02 13:55:35 2016





AutoFind: Scans 327, 328, 329; Background Corrected with Scan 319

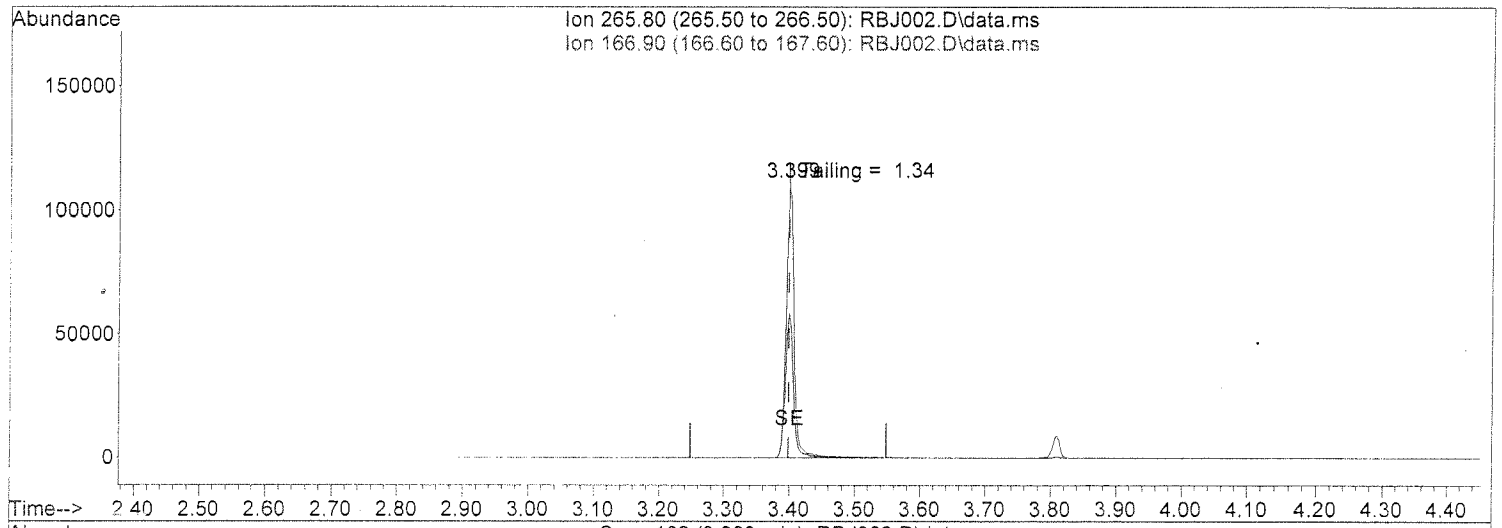
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	47.0	77064	PASS
68	69	0.00	2	1.8	1246	PASS
69	198	0.00	100	41.4	67760	PASS
70	69	0.00	2	0.8	530	PASS
127	198	10	80	47.0	77040	PASS
197	198	0.00	2	0.1	238	PASS
198	198	100	100	100.0	163819	PASS
199	198	5	9	6.7	10948	PASS
275	198	10	60	23.0	37632	PASS
365	198	1	100	2.4	3963	PASS
441	442	0.01	24	15.5	14505	PASS
442	198	50	100	57.2	93643	PASS
443	442	15	24	19.7	18463	PASS

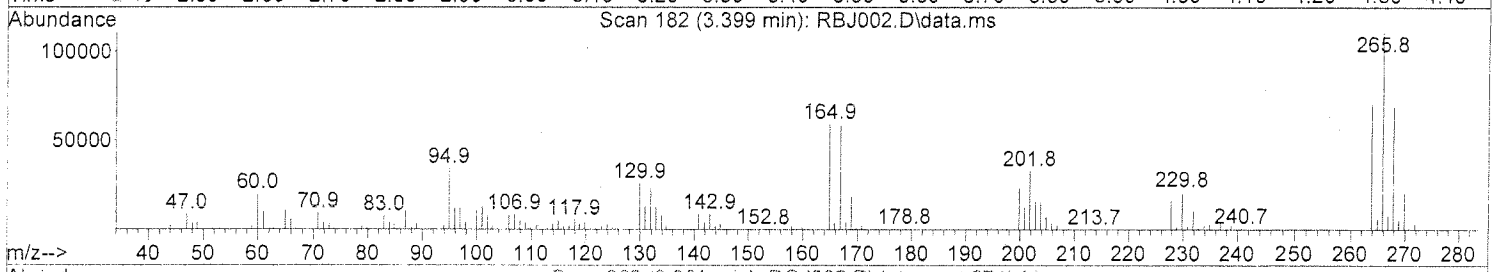
pu 02-08-16

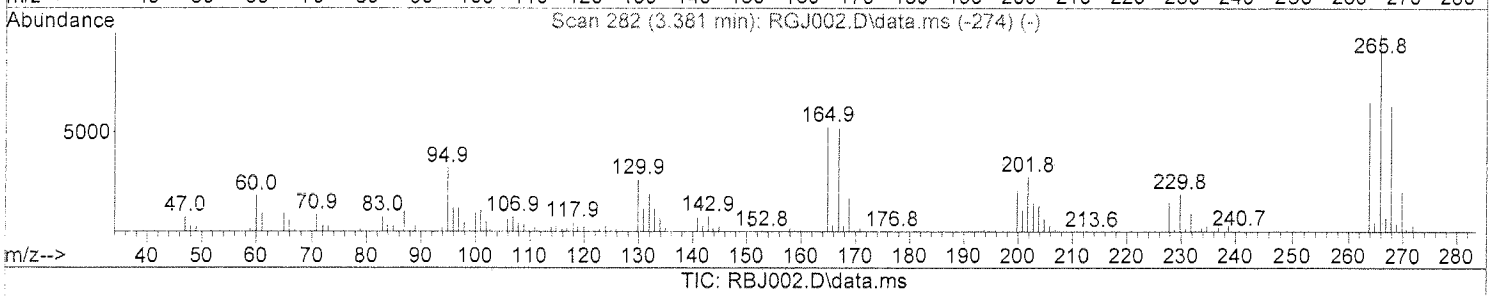
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(1) Pentachlorophenol (T)

3.399min (+0.000) 50.00 ppm

response 91472

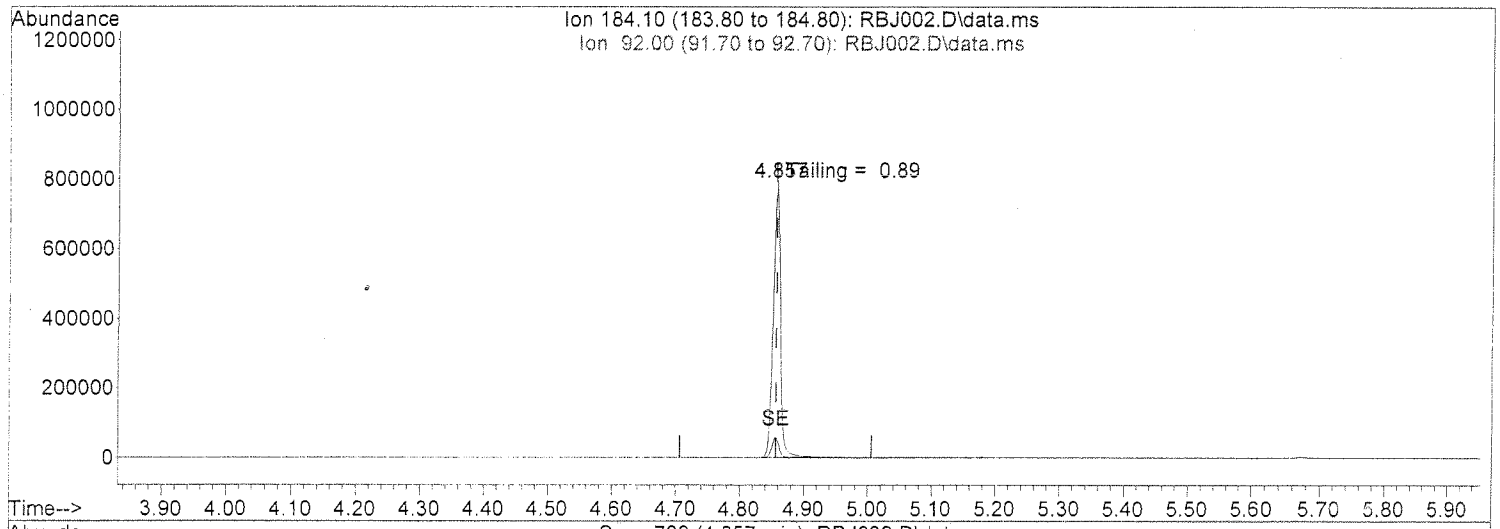
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	53.80
0.00	0.00	0.00
0.00	0.00	0.00

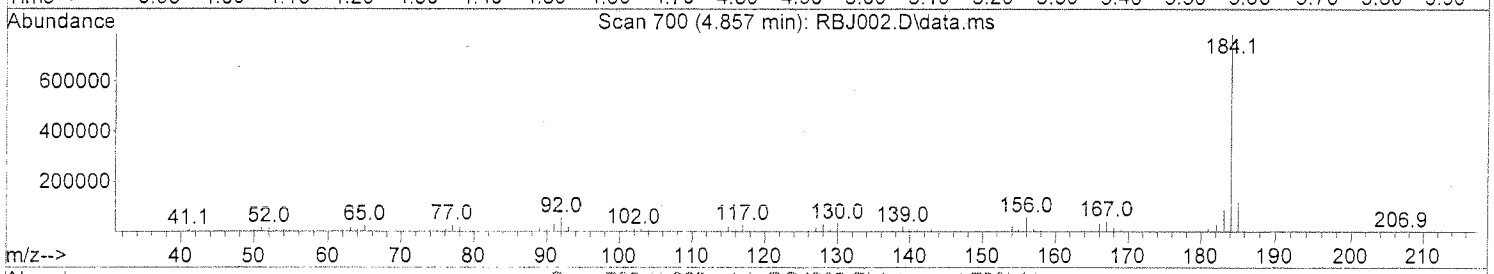
02-08-16

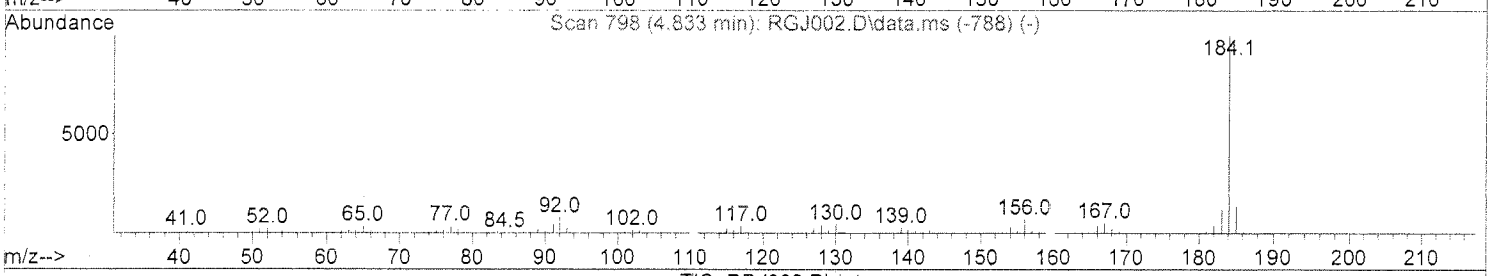
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(3) Benzidine (T)

4.857min (0.000) 50.00 ppm

response 619113

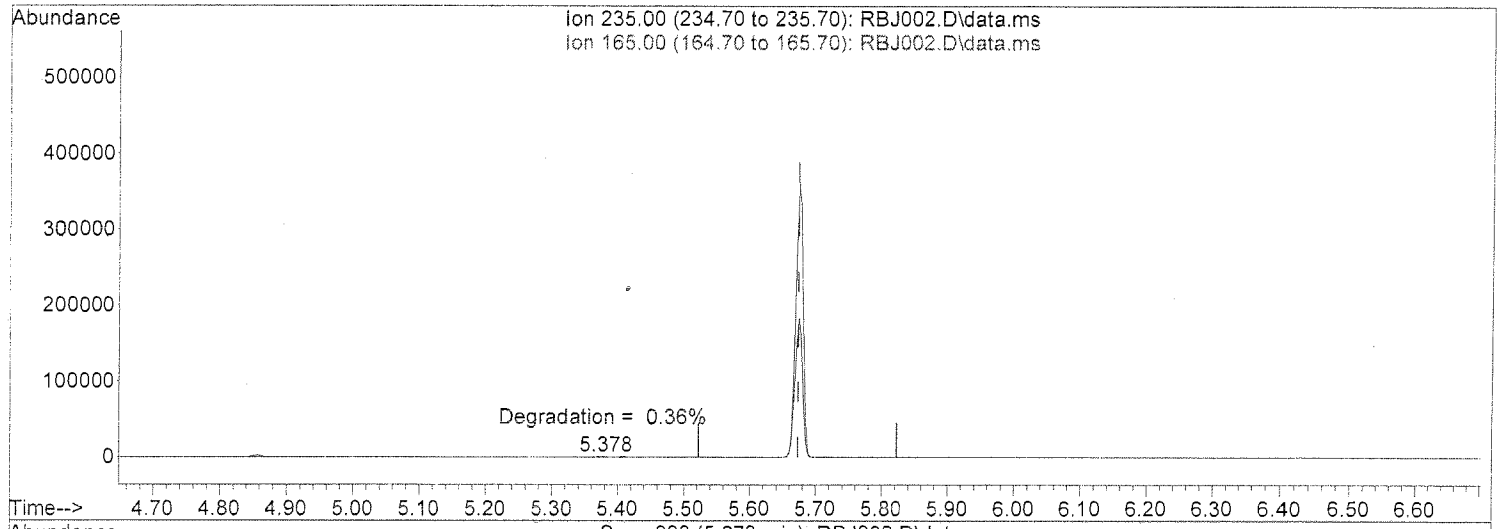
Ion	Exp%	Act%
184.10	100	100
92.00	7.50	7.46
0.00	0.00	0.00
0.00	0.00	0.00

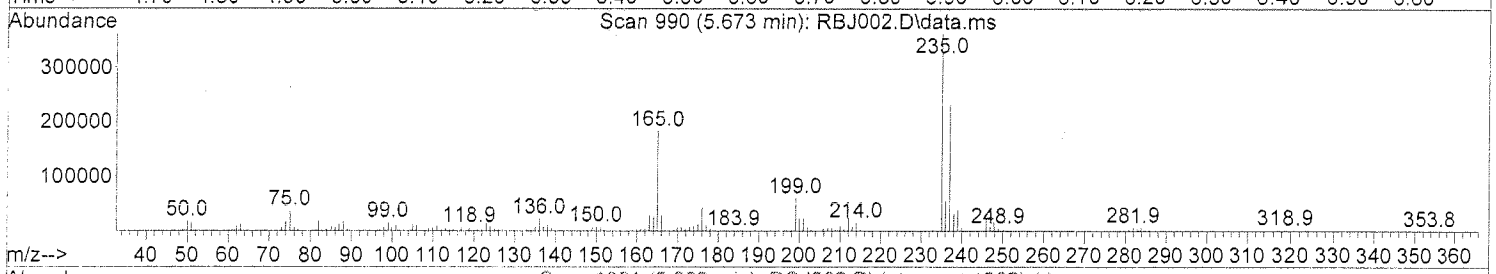
pu 02-08-16

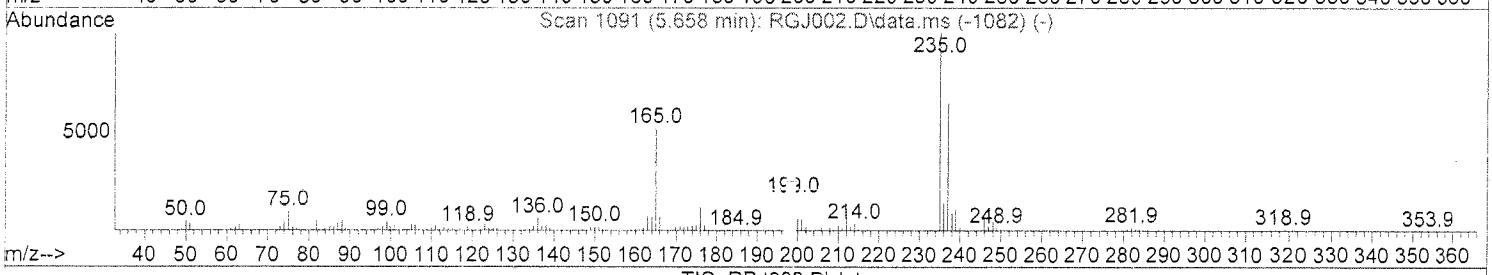
Quantitation Report (Qedit)

Data File : D:\DATA\16B02\RBJ002.D
Acq On : 2 Feb 2016 8:58
Sample : DFTE4B0201
Misc :
Integrator: RTE
Quant Time: Feb 02 13:55:37 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Tue Feb 02 13:55:36 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: RBJ002.D\data.ms

(6) DDT (T)

5.673min (0.000) 50.00 ppm

response 287336

Ion	Exp%	Act%
235.00	100	100
165.00	51.10	51.13
0.00	0.00	0.00
0.00	0.00	0.00

02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	432154	40.00	ppm	0.00
21) Naphthalene-d8	4.244	136	1547249	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	918028	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1630524	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1830134	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1579900	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	56270	3.96	ppm	0.00
Spiked Amount 30.000			Recovery	=	13.20%	
6) Phenol-d5	2.654	99	69411	3.96	ppm	0.00
Spiked Amount 30.000			Recovery	=	13.20%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.504	82	68600	3.93	ppm	0.00
Spiked Amount 10.000			Recovery	=	39.30%	
46) 2-Fluorobiphenyl	5.461	172	151292	4.13	ppm	0.00
Spiked Amount 10.000			Recovery	=	41.30%	
75) 2,4,6-Tribromophenol	7.210	330	13483	3.44	ppm	0.00
Spiked Amount 30.000			Recovery	=	11.47%	
90) Terphenyl-d14	9.707	244	157297	4.01	ppm	0.00
Spiked Amount 10.000			Recovery	=	40.10%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	29143	4.50	ppm	91
3) N-nitrosodimethylamine	1.477	74	36345	3.96	ppm	94
4) Pyridine	1.505	79	68558	4.15	ppm	97
7) Phenol	2.665	94	73224	4.03	ppm	100
8) Aniline	2.738	93	93791	4.06	ppm	99
9) bis(2-chloroethyl)ether	2.769	93	55513	4.03	ppm	97
10) 2-Chlorophenol	2.837	128	58899	3.84	ppm	93
11) 1,3-Dichlorobenzene	2.972	146	71797	4.02	ppm	96
13) 1,4-Dichlorobenzene	3.030	146	73287	4.04	ppm	98
14) Benzyl alcohol	3.106	108	38157	3.87	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	70328	4.06	ppm	98
16) 2-Methylphenol	3.178	107	50591	4.08	ppm	98
17) bis(2-chloroisopropyl)...	3.226	45	119827	4.18	ppm	99
18) 4-Methylphenol	3.317	107	63038	3.84	ppm	99
19) N-Nitroso-di-n-propyla...	3.341	70	42751	3.72	ppm	91
20) Hexachloroethane	3.475	117	27260	3.93	ppm	95
23) Nitrobenzene	3.523	77	70208	4.01	ppm	97
24) Isophorone	3.749	82	135494	4.03	ppm	95
25) 2-Nitrophenol	3.835	139	24398	3.45	ppm	92
26) 2,4-Dimethylphenol	3.849	107	64645	3.98	ppm	91
27) Benzoic acid	3.878	105	27390	4.50	ppm	77
28) bis(2-Chloroethoxy)met...	3.960	93	72181	4.11	ppm	99
29) 3,5-Dimethylphenol	3.988	107	64358	3.67	ppm	88
30) 2,4-Dichlorophenol	4.075	162	53393	3.88	ppm	99
31) 3,4-Dimethylphenol	4.167	107	77288	4.04	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	64711	4.12	ppm	100
33) Naphthalene	4.268	128	178696	4.15	ppm	100
34) 4-Chloroaniline	4.311	127	73097	3.98	ppm	99
35) 2,6-Dichlorophenol	4.321	162	51295	3.94	ppm	100
36) Hexachlorobutadiene	4.393	225	41700	3.97	ppm	99

m 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.832	107	49964	3.83	ppm	98
39)	2-Methylnaphthalene	5.034	142	126083	4.16	ppm	100
40)	1-Methylnaphthalene	5.149	142	110276	4.15	ppm	98
42)	Hexachlorocyclopentadiene	5.216	237	42680	3.70	ppm	99
43)	2,3,5-Trichlorophenol	5.220	196	32884	3.35	ppm	98
44)	2,4,6-Trichlorophenol	5.350	196	38949	3.73	ppm	100
45)	2,4,5-Trichlorophenol	5.389	196	40981	3.73	ppm	99
47)	2,3,4-Trichlorophenol	5.466	196	37526	3.90	ppm	92
48)	Biphenyl	5.582	154	155802	4.17	ppm	100
49)	2-Chloronaphthalene	5.601	162	124512	4.05	ppm	99
50)	2-Nitroaniline	5.716	65	30748	3.55	ppm	100
51)	2,6-Dimethylnaphthalene	5.769	156	108318	4.09	ppm	100
52)	1,4-Dinitrobenzene	5.884	168	12540	3.29	ppm	99
53)	Dimethylphthalate	5.947	163	135780	4.02	ppm	99
54)	1,3-Dinitrobenzene	5.971	168	14934	3.31	ppm	88
55)	2,6-Dinitrotoluene	6.009	165	26092	3.77	ppm	98
56)	1,2-Dinitrobenzene	6.067	168	10358	3.56	ppm	99
57)	Acenaphthylene	6.096	152	190343	3.91	ppm	96
58)	3-Nitroaniline	6.207	138	26777	3.70	ppm	98
59)	Acenaphthene	6.308	153	125181	4.11	ppm	100
60)	2,4-Dinitrophenol	6.332	184	6150	4.50	ppm	97
61)	4-Nitrophenol	6.394	109	15334	3.24	ppm	99
62)	2,4-Dinitrotoluene	6.495	165	30972	3.45	ppm	97
63)	Dibenzofuran	6.514	168	177830	4.11	ppm	99
64)	2,3,5,6-Tetrachlorophenol	6.605	230	25009	3.49	ppm	96
65)	2,3,4,6-Tetrachlorophenol	6.657	232	36700	3.72	ppm	88
66)	2,3,5-Trimethylnaphtha...	6.767	170	99855	4.03	ppm	99
67)	Diethylphthalate	6.804	149	135865	3.97	ppm	99
68)	Fluorene	6.926	166	137588	4.08	ppm	99
69)	4-Chlorophenyl-phenyle...	6.936	204	69827	4.07	ppm	99
70)	4-Nitroaniline	6.936	138	26352	3.54	ppm	92
72)	4,6-Dinitro-2-methylph...	6.978	198	10957	4.16	ppm	99
73)	N-Nitrosodiphenylamine	7.072	169	112554	4.04	ppm	100
74)	Azobenzene	7.124	77	132536	4.05	ppm	99
76)	4-Bromophenyl-phenylether	7.504	248	40235	4.11	ppm	95
77)	Hexachlorobenzene	7.560	284	40522	4.07	ppm	98
78)	Pentachlorophenol	7.787	266	17804	3.13	ppm	98
79)	Dibenzothiophene	7.886	184	208037	4.14	ppm	99
80)	Phenanthrene	8.032	178	210651	4.12	ppm	100
82)	Anthracene	8.084	178	204329	3.97	ppm	100
83)	Carbazole	8.263	167	177876	4.06	ppm	100
84)	Di-n-butylphthalate	8.659	149	197641	3.72	ppm	100
85)	1-Methylphenanthrene	8.697	192	144115	3.97	ppm	100
86)	Fluoranthene	9.306	202	227717	3.95	ppm	99
89)	Pyrene	9.542	202	245502	3.92	ppm	96
91)	Butylbenzylphthalate	10.218	149	65997	3.11	ppm	98
92)	bis(2-ethylhexyl)adipate	10.295	129	56046	3.21	ppm	94
93)	3,3'-Dichlorobenzidine	10.743	252	66927	3.55	ppm	95
94)	Benzo(a)anthracene	10.772	228	225775	3.99	ppm	99
95)	Chrysene	10.806	228	214346	4.10	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.796	149	115001	3.51	ppm	99
98)	Di-n-octylphthalate	11.417	149	166019	3.09	ppm	99
99)	Benzo(b)fluoranthene	11.801	252	199736	3.94	ppm	98
100)	Benzo(k)fluoranthene	11.830	252	199481	3.91	ppm	97
101)	Benzo(e)pyrene	12.086	252	181471	3.88	ppm	96

pm 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.140	252	185290	3.85 ppm	97
103) Perylene	12.237	252	188683	3.91 ppm	97
104) Indeno(1,2,3-cd)pyrene	13.544	276	194400	3.65 ppm	95
105) Dibenzo(a,h)anthracene	13.568	278	165976	3.74 ppm	98
106) Benzo(g,h,i)perylene	13.942	276	181505	3.96 ppm	96

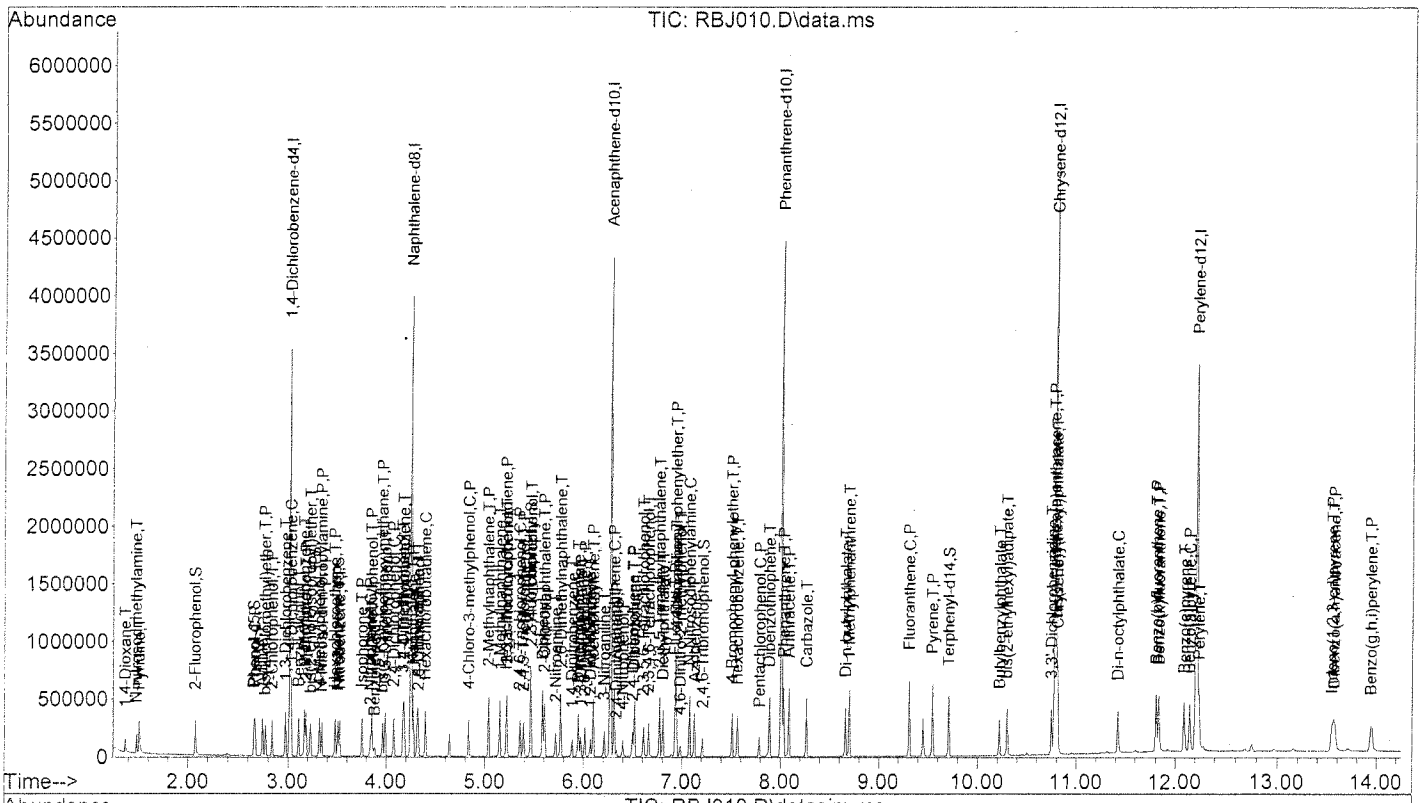
(#) = qualifier out of range (m) = manual integration (+) = signals summed

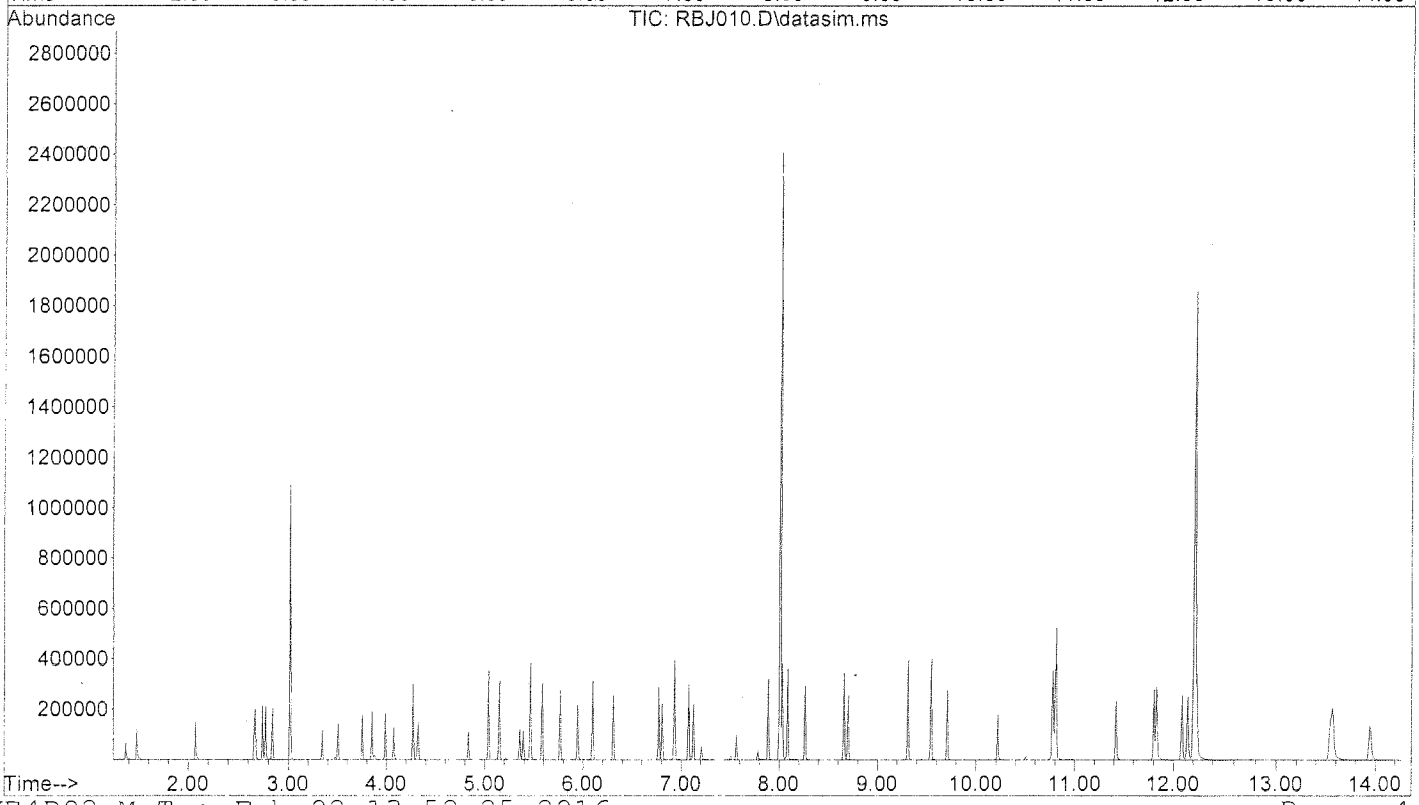
pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ010.D
Acq On : 2 Feb 2016 11:23
Sample : SVE4B028
Misc : 4PPM
Integrator: RTE
Quant Time: Feb 02 13:51:58 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 10
Operator: KVu
Inst : E4
Multiplr: 1.00





M 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	432450	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1552213	40.00	ppm	0.00
41) Acenaphthene-d10	6.269	164	916662	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1649622	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1883963	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1610421	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	140279	9.88	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.93%	
6) Phenol-d5	2.654	99	171821	9.79	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.63%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.504	82	172971	9.88	ppm	0.00
Spiked Amount 10.000			Recovery	=	98.80%	
46) 2-Fluorobiphenyl	5.461	172	370670	10.12	ppm	0.00
Spiked Amount 10.000			Recovery	=	101.20%	
75) 2,4,6-Tribromophenol	7.210	330	38436	9.70	ppm	0.00
Spiked Amount 30.000			Recovery	=	32.33%	
90) Terphenyl-d14	9.711	244	397992	9.87	ppm	0.00
Spiked Amount 10.000			Recovery	=	98.70%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	65915	10.18	ppm	94
3) N-nitrosodimethylamine	1.477	74	90964	9.90	ppm	96
4) Pyridine	1.501	79	171264	10.36	ppm	100
7) Phenol	2.670	94	179267	9.86	ppm	100
8) Aniline	2.743	93	231796	10.02	ppm	98
9) bis(2-chloroethyl)ether	2.769	93	136883	9.93	ppm	97
10) 2-Chlorophenol	2.837	128	147732	9.63	ppm	91
11) 1,3-Dichlorobenzene	2.972	146	178852	10.00	ppm	100
13) 1,4-Dichlorobenzene	3.030	146	180267	9.93	ppm	100
14) Benzyl alcohol	3.106	108	98381	9.98	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	175135	10.10	ppm	99
16) 2-Methylphenol	3.183	107	123043	9.92	ppm	97
17) bis(2-chloroisopropyl)...	3.226	45	286526	9.98	ppm	99
18) 4-Methylphenol	3.317	107	159309	9.69	ppm	100
19) N-Nitroso-di-n-propyla...	3.346	70	109909	9.55	ppm	99
20) Hexachloroethane	3.475	117	67693	9.76	ppm	97
23) Nitrobenzene	3.523	77	173735	9.88	ppm	100
24) Isophorone	3.754	82	334210	9.92	ppm	95
25) 2-Nitrophenol	3.835	139	69035	9.73	ppm	100
26) 2,4-Dimethylphenol	3.849	107	162468	9.97	ppm	100
27) Benzoic acid	3.90[illegible]	105	74723	8.88	ppm	96
28) bis(2-Chloroethoxy)met...	3.964	93	175670	9.97	ppm	99
29) 3,5-Dimethylphenol	3.98[illegible]	107	159077	9.05	ppm	89
30) 2,4-Dichlorophenol	4.075	162	136150	9.86	ppm	100
31) 3,4-Dimethylphenol	4.16[illegible]	107	191207	9.96	ppm	100
32) 1,2,4-Trichlorobenzene	4.17[illegible]	180	160111	10.15	ppm	98
33) Naphthalene	4.26[illegible]	128	432811	10.01	ppm	99
34) 4-Chloroaniline	4.31[illegible]	127	185544	10.07	ppm	99
35) 2,6-Dichlorophenol	4.32[illegible]	162	130994	10.02	ppm	100
36) Hexachlorobutadiene	4.39[illegible]	225	104042	9.88	ppm	100

AM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.832	107	125029	9.54	ppm	100
39)	2-Methylnaphthalene	5.038	142	304959	10.02	ppm	99
40)	1-Methylnaphthalene	5.153	142	265903	9.98	ppm	100
42)	Hexachlorocyclopentadiene	5.216	237	111546	9.69	ppm	98
43)	2,3,5-Trichlorophenol	5.220	196	99382	10.14	ppm	93
44)	2,4,6-Trichlorophenol	5.355	196	101021	9.69	ppm	100
45)	2,4,5-Trichlorophenol	5.389	196	107898	9.84	ppm	100
47)	2,3,4-Trichlorophenol	5.466	196	97362	10.13	ppm	92
48)	Biphenyl	5.582	154	378136	10.13	ppm	100
49)	2-Chloronaphthalene	5.606	162	306309	9.97	ppm	100
50)	2-Nitroaniline	5.716	65	84104	9.71	ppm	98
51)	2,6-Dimethylnaphthalene	5.769	156	266195	10.07	ppm	99
52)	1,4-Dinitrobenzene	5.889	168	35109	9.24	ppm	97
53)	Dimethylphthalate	5.947	163	335476	9.94	ppm	99
54)	1,3-Dinitrobenzene	5.971	168	43557	9.67	ppm	84
55)	2,6-Dinitrotoluene	6.014	165	67449	9.77	ppm	100
56)	1,2-Dinitrobenzene	6.072	168	28363	9.75	ppm	95
57)	Acenaphthylene	6.096	152	478275	9.84	ppm	97
58)	3-Nitroaniline	6.212	138	72590	10.06	ppm	99
59)	Acenaphthene	6.308	153	306337	10.07	ppm	100
60)	2,4-Dinitrophenol	6.332	184	20968	8.85	ppm	95
61)	4-Nitrophenol	6.399	109	45441	9.62	ppm	98
62)	2,4-Dinitrotoluene	6.495	165	88726	9.89	ppm	100
63)	Dibenzofuran	6.519	168	436604	10.10	ppm	99
64)	2,3,5,6-Tetrachlorophenol	6.605	230	67143	9.38	ppm	96
65)	2,3,4,6-Tetrachlorophenol	6.658	232	95767	9.72	ppm	98
66)	2,3,5-Trimethylnaphtha...	6.772	170	246984	9.98	ppm	100
67)	Diethylphthalate	6.809	149	339260	9.92	ppm	100
68)	Fluorene	6.931	166	339996	10.10	ppm	99
69)	4-Chlorophenyl-phenyle...	6.936	204	172024	10.03	ppm	100
70)	4-Nitroaniline	6.945	138	69865	9.41	ppm	93
72)	4,6-Dinitro-2-methylph...	6.983	198	41439	9.57	ppm	91
73)	N-Nitrosodiphenylamine	7.072	169	278207	9.87	ppm	100
74)	Azobenzene	7.124	77	329221	9.96	ppm	100
76)	4-Bromophenyl-phenylether	7.504	248	95585	9.65	ppm	100
77)	Hexachlorobenzene	7.565	284	99183	9.84	ppm	99
78)	Pentachlorophenol	7.787	266	53727	9.32	ppm	100
79)	Dibenzothiophene	7.886	184	508550	9.99	ppm	99
80)	Phenanthrene	8.032	178	514891	9.95	ppm	100
82)	Anthracene	8.089	178	521480	10.00	ppm	100
83)	Carbazole	8.263	167	445140	10.05	ppm	99
84)	Di-n-butylphthalate	8.659	149	537668	10.01	ppm	100
85)	1-Methylphenanthrene	8.697	192	368981	10.05	ppm	99
86)	Fluoranthene	9.306	202	580678	9.96	ppm	100
89)	Pyrene	9.542	202	624119	9.69	ppm	97
91)	Butylbenzylphthalate	10.218	149	206790	9.47	ppm	99
92)	bis(2-ethylhexyl)adipate	10.295	129	175717	9.78	ppm	99
93)	3,3'-Dichlorobenzidine	10.743	252	188298	9.70	ppm	99
94)	Benzo(a)anthracene	10.772	228	567854	9.76	ppm	100
95)	Chrysene	10.811	228	534898	9.94	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.796	149	330326	9.80	ppm	99
98)	Di-n-octylphthalate	11.417	149	526484	9.62	ppm	100
99)	Benzo(b)fluoranthene	11.806	252	190757	9.50	ppm	97
100)	Benzo(k)fluoranthene	11.830	252	523980	10.07	ppm	99
101)	Benzo(e)pyrene	12.086	252	68874	9.84	ppm	99

02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.145	252	476447	9.72 ppm	99
103) Perylene	12.237	252	497379	10.11 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.548	276	525166	9.67 ppm	97
105) Dibenzo(a,h)anthracene	13.573	278	432511	9.56 ppm	99
106) Benzo(g,h,i)perylene	13.952	276	448274	9.60 ppm	99

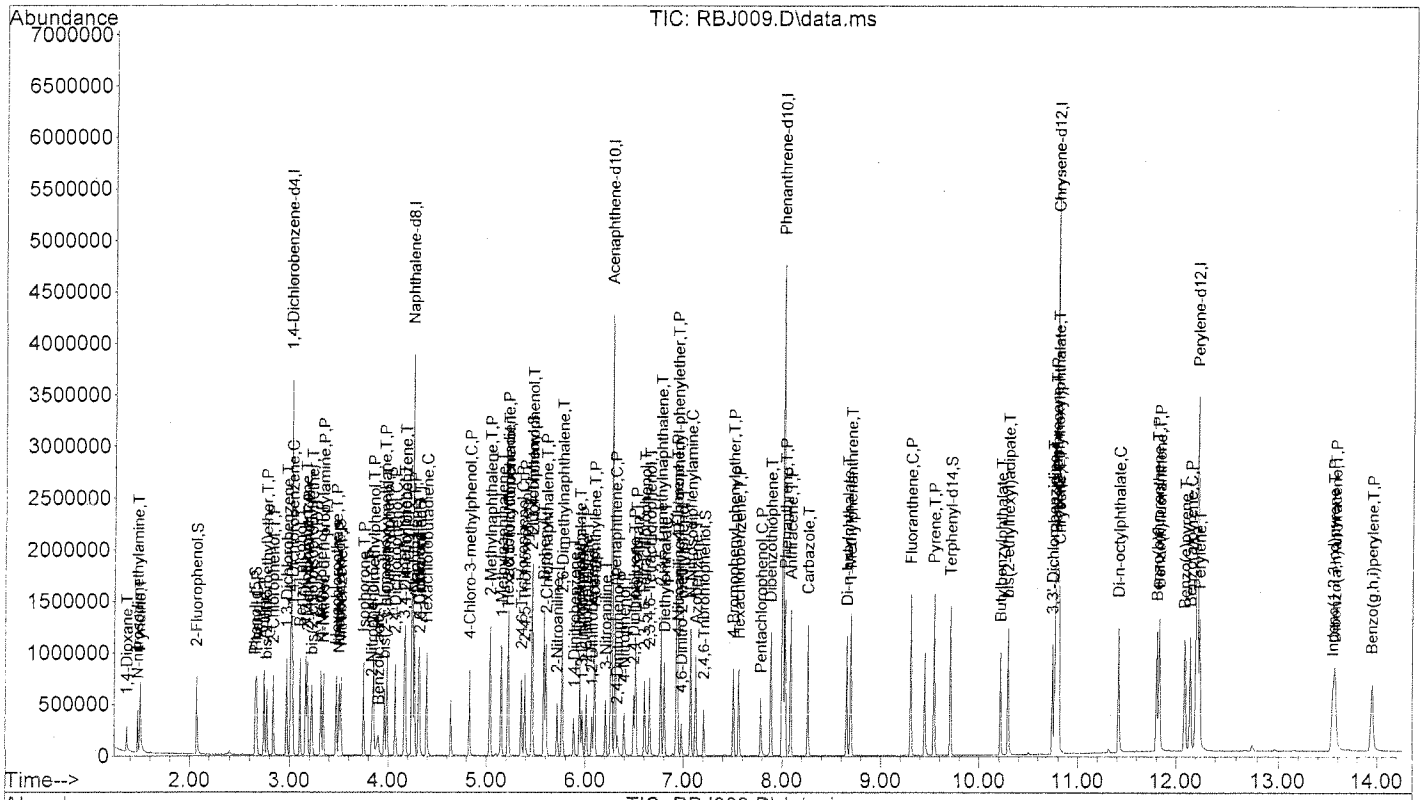
(#) = qualifier out of range (m) = manual integration (+) = signals summed

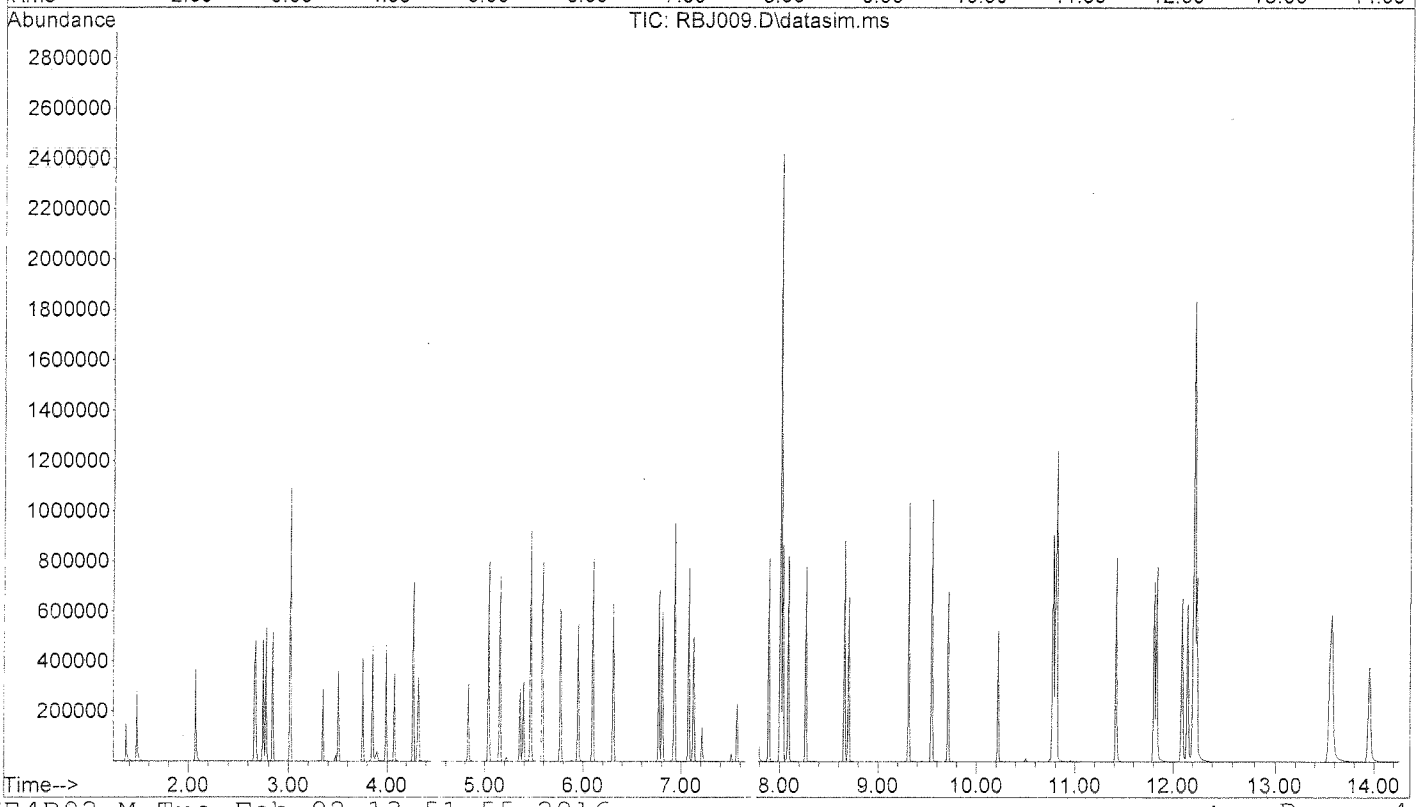
02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ009.D
Acq On : 2 Feb 2016 11:04
Sample : SVE4B027
Misc : 10PPM
Integrator: RTE
Quant Time: Feb 02 13:51:32 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 9
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

517

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	428154	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1558094	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	937266	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1665411	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	1881471	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1593531	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	283094	20.13	ppm	0.00
Spiked Amount 30.000			Recovery = 67.10%			
6) Phenol-d5	2.659	99	349111	20.10	ppm	0.00
Spiked Amount 30.000			Recovery = 67.00%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	349734	19.89	ppm	0.00
Spiked Amount 10.000			Recovery = 198.90%			
46) 2-Fluorobiphenyl	5.466	172	754125	20.14	ppm	0.00
Spiked Amount 10.000			Recovery = 201.40%			
75) 2,4,6-Tribromophenol	7.210	330	81476	20.36	ppm	0.00
Spiked Amount 30.000			Recovery = 67.87%			
90) Terphenyl-d14	9.711	244	814806	20.23	ppm	0.00
Spiked Amount 10.000			Recovery = 202.30%			
Target Compounds						Qvalue
2) 1,4-Dioxane	1.367	88	125790	19.62	ppm	97
3) N-nitrosodimethylamine	1.477	74	184133	20.23	ppm	100
4) Pyridine	1.505	79	344170	21.02	ppm	100
7) Phenol	2.670	94	366939	20.38	ppm	99
8) Aniline	2.743	93	465184	20.31	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	274624	20.13	ppm	97
10) 2-Chlorophenol	2.837	128	300545	19.79	ppm	92
11) 1,3-Dichlorobenzene	2.972	146	355670	20.08	ppm	99
13) 1,4-Dichlorobenzene	3.030	146	365340	20.32	ppm	98
14) Benzyl alcohol	3.106	108	201878	20.68	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	345956	20.15	ppm	100
16) 2-Methylphenol	3.183	107	249283	20.29	ppm	98
17) bis(2-chloroisopropyl)...	3.226	45	577025	20.31	ppm	100
18) 4-Methylphenol	3.322	107	328221	20.16	ppm	99
19) N-Nitroso-di-n-propyla...	3.351	70	226081	19.85	ppm	89
20) Hexachloroethane	3.475	117	140037	20.39	ppm	99
23) Nitrobenzene	3.528	77	356221	20.18	ppm	99
24) Isophorone	3.758	82	673516	19.91	ppm	96
25) 2-Nitrophenol	3.840	139	146825	20.61	ppm	100
26) 2,4-Dimethylphenol	3.854	107	328997	20.11	ppm	100
27) Benzoic acid	3.926	105	189390	19.45	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	355943	20.12	ppm	100
29) 3,5-Dimethylphenol	3.993	107	367404	20.82	ppm	98
30) 2,4-Dichlorophenol	4.075	162	280702	20.25	ppm	99
31) 3,4-Dimethylphenol	4.171	107	388195	20.15	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	318145	20.10	ppm	99
33) Naphthalene	4.268	128	865405	19.93	ppm	99
34) 4-Chloroaniline	4.311	127	375483	20.31	ppm	100
35) 2,6-Dichlorophenol	4.321	162	265287	20.22	ppm	100
36) Hexachlorobutadiene	4.393	225	209089	19.77	ppm	100

pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.837	107	267867	20.37	ppm	99
39) 2-Methylnaphthalene	5.038	142	611361	20.01	ppm	100
40) 1-Methylnaphthalene	5.153	142	539702	20.18	ppm	100
42) Hexachlorocyclopentadiene	5.216	237	237957	20.22	ppm	99
43) 2,3,5-Trichlorophenol	5.225	196	192179	19.18	ppm	98
44) 2,4,6-Trichlorophenol	5.355	196	217047	20.36	ppm	100
45) 2,4,5-Trichlorophenol	5.389	196	222289	19.83	ppm	97
47) 2,3,4-Trichlorophenol	5.466	196	198111	20.16	ppm	99
48) Biphenyl	5.582	154	764093	20.02	ppm	100
49) 2-Chloronaphthalene	5.606	162	618208	19.69	ppm	100
50) 2-Nitroaniline	5.721	65	181708	20.52	ppm	99
51) 2,6-Dimethylnaphthalene	5.769	156	538153	19.91	ppm	100
52) 1,4-Dinitrobenzene	5.889	168	79245	20.39	ppm	100
53) Dimethylphthalate	5.952	163	702261	20.35	ppm	100
54) 1,3-Dinitrobenzene	5.976	168	95871	20.82	ppm	100
55) 2,6-Dinitrotoluene	6.019	165	142468	20.19	ppm	98
56) 1,2-Dinitrobenzene	6.077	168	60772	20.44	ppm	96
57) Acenaphthylene	6.101	152	977048	19.65	ppm	97
58) 3-Nitroaniline	6.212	138	149163	20.21	ppm	100
59) Acenaphthene	6.312	153	621920	19.99	ppm	100
60) 2,4-Dinitrophenol	6.336	184	57236	19.12	ppm	98
61) 4-Nitrophenol	6.403	109	99934	20.68	ppm	99
62) 2,4-Dinitrotoluene	6.499	165	186930	20.37	ppm	98
63) Dibenzofuran	6.518	168	883647	20.00	ppm	100
64) 2,3,5,6-Tetrachlorophenol	6.610	230	149307	20.40	ppm	100
65) 2,3,4,6-Tetrachlorophenol	6.657	232	201661	20.02	ppm	99
66) 2,3,5-Trimethylnaphtha...	6.771	170	512432	20.26	ppm	98
67) Diethylphthalate	6.809	149	703583	20.12	ppm	100
68) Fluorene	6.931	166	692140	20.11	ppm	100
69) 4-Chlorophenyl-phenyle...	6.940	204	353455	20.16	ppm	100
70) 4-Nitroaniline	6.950	138	146240	19.26	ppm	92
72) 4,6-Dinitro-2-methylph...	6.987	198	99852	19.79	ppm	99
73) N-Nitrosodiphenylamine	7.077	169	580914	20.41	ppm	99
74) Azobenzene	7.124	77	681791	20.42	ppm	99
76) 4-Bromophenyl-phenylether	7.509	248	202916	20.29	ppm	97
77) Hexachlorobenzene	7.565	284	204970	20.14	ppm	99
78) Pentachlorophenol	7.787	266	120819	20.77	ppm	97
79) Dibenzothiophene	7.891	184	1042782	20.30	ppm	100
80) Phenanthrene	8.032	178	1058636	20.26	ppm	100
82) Anthracene	8.089	178	1062373	20.19	ppm	100
83) Carbazole	8.267	167	904501	20.23	ppm	100
84) Di-n-butylphthalate	8.659	149	1109535	20.47	ppm	100
85) 1-Methylphenanthrene	8.702	192	749657	20.23	ppm	100
86) Fluoranthene	9.311	202	1198440	20.36	ppm	100
89) Pyrene	9.547	202	1270820	19.75	ppm	98
91) Butylbenzylphthalate	10.218	149	461082	21.14	ppm	99
92) bis(2-ethylhexyl)adipate	10.299	129	379082	21.13	ppm	99
93) 3,3'-Dichlorobenzidine	10.747	252	393987	20.33	ppm	100
94) Benzo(a)anthracene	10.777	228	1161369	19.98	ppm	99
95) Chrysene	10.811	228	1077310	20.05	ppm	100
96) bis(2-Ethylhexyl)phtha...	10.796	149	698693	20.75	ppm	100
98) Di-n-octylphthalate	11.422	149	1148944	21.23	ppm	100
99) Benzo(b)fluoranthene	11.806	252	1020241	19.96	ppm	98
100) Benzo(k)fluoranthene	11.835	252	1062346	20.63	ppm	98
101) Benzo(e)pyrene	12.091	252	954148	20.23	ppm	100

02-08-16

519

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.150	252	980871	20.22 ppm	100
103) Perylene	12.242	252	992878	20.39 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.558	276	1092772	20.34 ppm	99
105) Dibenzo(a,h)anthracene	13.578	278	908152	20.29 ppm	96
106) Benzo(g,h,i)perylene	13.961	276	922591	19.98 ppm	99

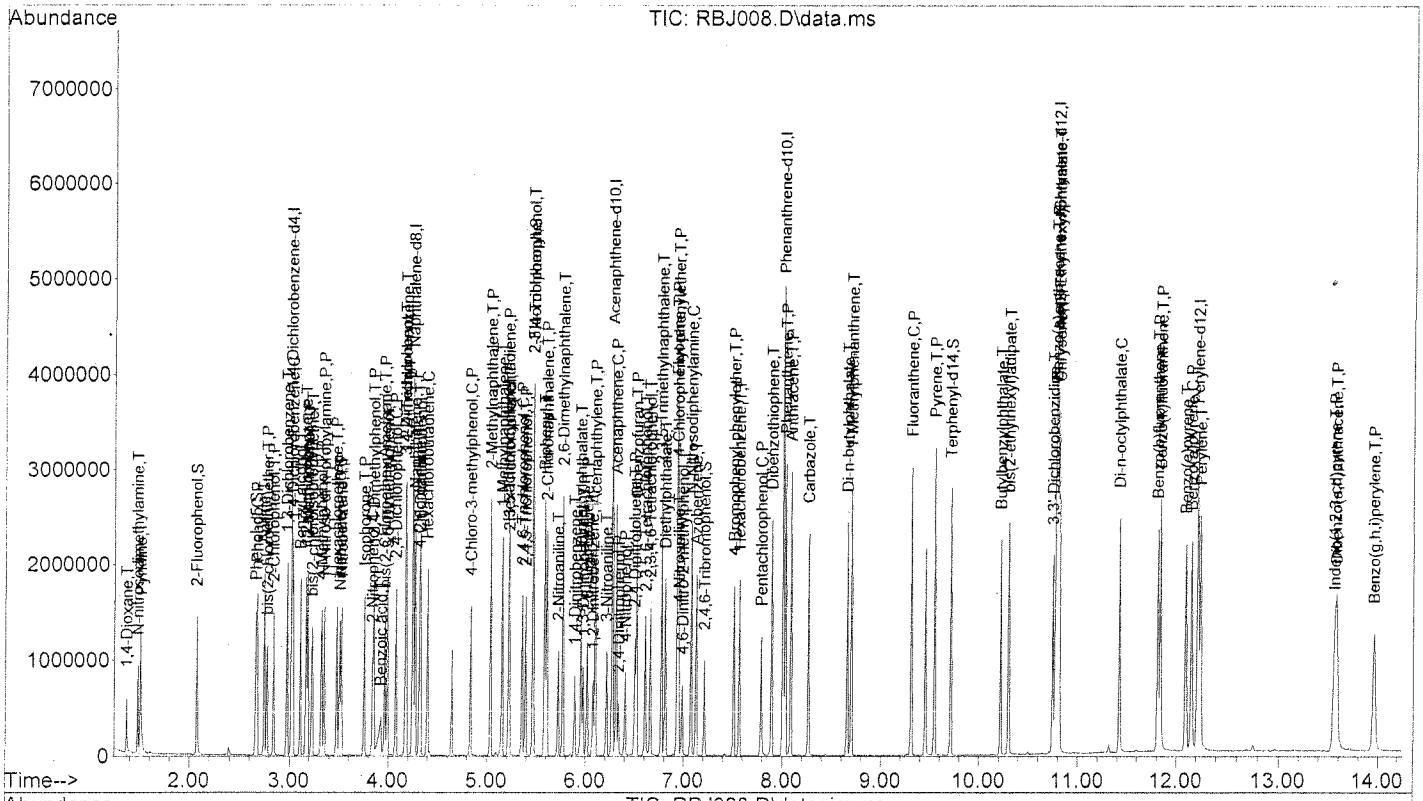
(#) = qualifier out of range (m) = manual integration (+) = signals summed

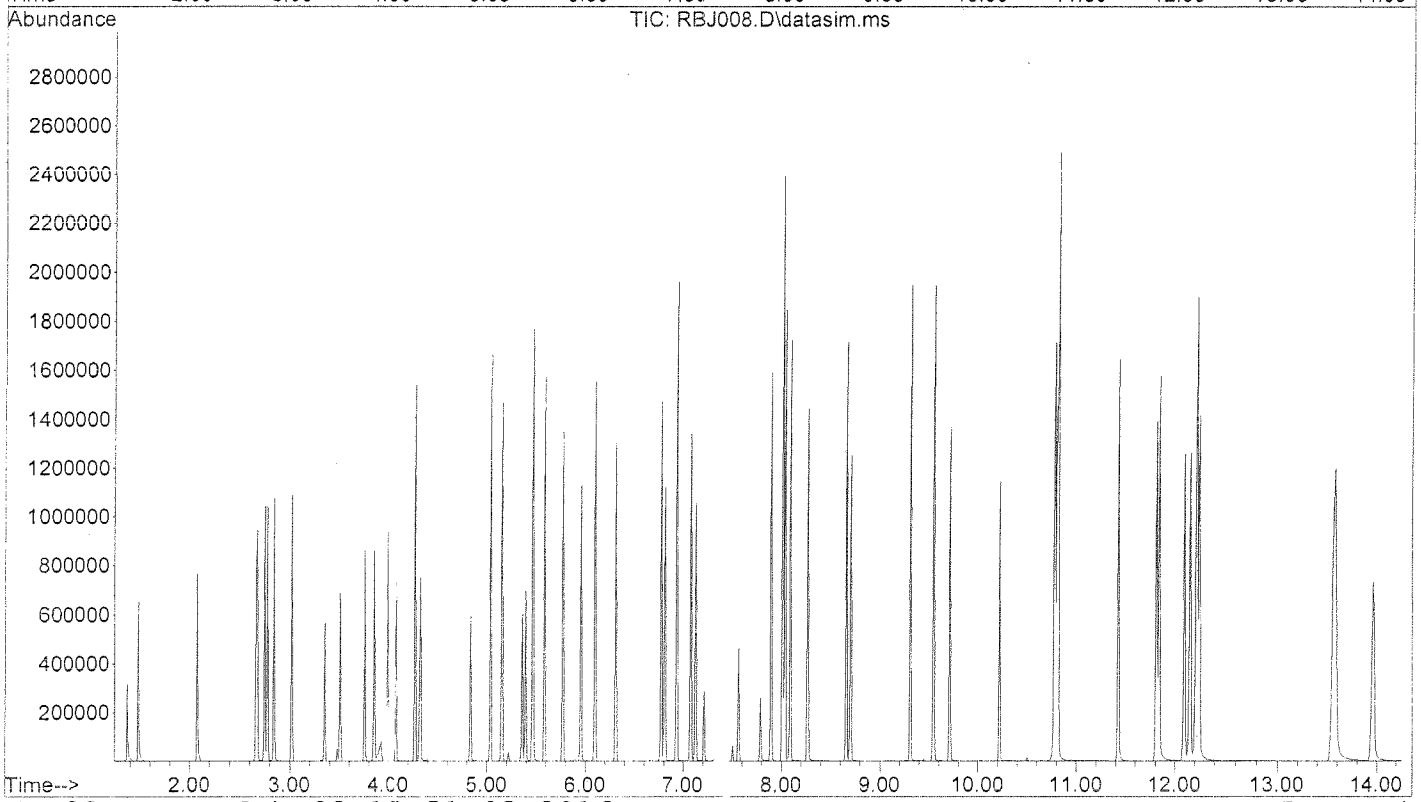
KVu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ008.D
Acq On : 2 Feb 2016 10:44
Sample : SVE4B026
Misc : 20PPM
Integrator: RTE
Quant Time: Feb 02 13:50:35 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 8
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	424119	40.00	ppm	0.00
21) Naphthalene-d8	4.248	136	1535126	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	929909	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1694673	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1850796	40.00	ppm	0.00
97) Perylene-d12	12.218	264	1601653	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.070	112	354826	25.47	ppm	0.00
Spiked Amount 30.000			Recovery =	84.90%		
6) Phenol-d5	2.659	99	444707	25.85	ppm	0.00
Spiked Amount 30.000			Recovery =	86.17%		
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery =	0.00%		
22) Nitrobenzene-d5	3.509	82	443426	25.60	ppm	0.00
Spiked Amount 10.000			Recovery =	256.00%		
46) 2-Fluorobiphenyl	5.466	172	926819	24.95	ppm	0.00
Spiked Amount 10.000			Recovery =	249.50%		
75) 2,4,6-Tribromophenol	7.210	330	105926	26.01	ppm	0.00
Spiked Amount 30.000			Recovery =	86.70%		
90) Terphenyl-d14	9.716	244	1002718	25.31	ppm	0.00
Spiked Amount 10.000			Recovery =	253.10%		
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	154397	24.31	ppm	100
3) N-nitrosodimethylamine	1.476	74	231180	25.65	ppm	100
4) Pyridine	1.505	79	431323	26.60	ppm	100
7) Phenol	2.670	94	455147	25.53	ppm	100
8) Aniline	2.743	93	579830	25.56	ppm	100
9) bis(2-chloroethyl)ether	2.774	93	349605	25.87	ppm	100
10) 2-Chlorophenol	2.836	128	374480	24.89	ppm	100
11) 1,3-Dichlorobenzene	2.972	146	446663	25.46	ppm	100
13) 1,4-Dichlorobenzene	3.029	146	451681	25.36	ppm	100
14) Benzyl alcohol	3.111	108	247443	25.59	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	434934	25.57	ppm	100
16) 2-Methylphenol	3.183	107	309070	25.40	ppm	100
17) bis(2-chloroisopropyl)...	3.231	45	713143	25.34	ppm	100
18) 4-Methylphenol	3.322	107	410016	25.43	ppm	100
19) N-Nitroso-di-n-propyla...	3.351	70	282588	25.04	ppm	100
20) Hexachloroethane	3.475	117	175072	25.73	ppm	100
23) Nitrobenzene	3.528	77	443600	25.51	ppm	100
24) Isophorone	3.758	82	848649	25.47	ppm	100
25) 2-Nitrophenol	3.840	139	187889	26.77	ppm	100
26) 2,4-Dimethylphenol	3.854	107	412636	25.60	ppm	100
27) Benzoic acid	3.936	105	244315	24.87	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	443423	25.44	ppm	100
29) 3,5-Dimethylphenol	3.993	107	461551	26.55	ppm	100
30) 2,4-Dichlorophenol	4.080	162	35[illegible]246	25.64	ppm	100
31) 3,4-Dimethylphenol	4.171	107	48[illegible]984	25.55	ppm	100
32) 1,2,4-Trichlorobenzene	4.181	180	39 350	25.09	ppm	100
33) Naphthalene	4.273	128	108[illegible]083	25.30	ppm	100
34) 4-Chloroaniline	4.316	127	46[illegible]212	25.59	ppm	100
35) 2,6-Dichlorophenol	4.326	162	33 379	25.56	ppm	100
36) Hexachlorobutadiene	4.393	225	26 825	25.42	ppm	100

KM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.837	107	332581	25.67 ppm	100
39) 2-Methylnaphthalene	5.038	142	763316	25.36 ppm	100
40) 1-Methylnaphthalene	5.153	142	667130	25.32 ppm	100
42) Hexachlorocyclopentadiene	5.220	237	296837	25.43 ppm	100
43) 2,3,5-Trichlorophenol	5.225	196	259286	26.08 ppm	100
44) 2,4,6-Trichlorophenol	5.355	196	269089	25.44 ppm	100
45) 2,4,5-Trichlorophenol	5.393	196	286388	25.75 ppm	100
47) 2,3,4-Trichlorophenol	5.471	196	245575	25.19 ppm	100
48) Biphenyl	5.586	154	951236	25.12 ppm	100
49) 2-Chloronaphthalene	5.605	162	765314	24.57 ppm	100
50) 2-Nitroaniline	5.720	65	229569	26.13 ppm	100
51) 2,6-Dimethylnaphthalene	5.773	156	678941	25.31 ppm	100
52) 1,4-Dinitrobenzene	5.889	168	102809	26.66 ppm	100
53) Dimethylphthalate	5.956	163	859276	25.10 ppm	100
54) 1,3-Dinitrobenzene	5.980	168	121237	26.54 ppm	100
55) 2,6-Dinitrotoluene	6.019	165	179361	25.62 ppm	100
56) 1,2-Dinitrobenzene	6.082	168	78075	26.47 ppm	100
57) Acenaphthylene	6.101	152	1321731	26.80 ppm	100
58) 3-Nitroaniline	6.216	138	187414	25.59 ppm	100
59) Acenaphthene	6.312	153	777060	25.17 ppm	100
60) 2,4-Dinitrophenol	6.341	184	76766	24.89 ppm	100
61) 4-Nitrophenol	6.408	109	125188	26.11 ppm	100
62) 2,4-Dinitrotoluene	6.504	165	239877	26.35 ppm	100
63) Dibenzofuran	6.518	168	1100450	25.10 ppm	100
64) 2,3,5,6-Tetrachlorophenol	6.609	230	190633	26.25 ppm	100
65) 2,3,4,6-Tetrachlorophenol	6.662	232	254771	25.50 ppm	100
66) 2,3,5-Trimethylnaphtha...	6.776	170	632123	25.19 ppm	100
67) Diethylphthalate	6.813	149	882992	25.45 ppm	100
68) Fluorene	6.935	166	860095	25.19 ppm	100
69) 4-Chlorophenyl-phenyle...	6.940	204	436210	25.08 ppm	100
70) 4-Nitroaniline	6.954	138	201632	26.77 ppm	100
72) 4,6-Dinitro-2-methylph...	6.987	198	132589	25.16 ppm	100
73) N-Nitrosodiphenylamine	7.077	169	726507	25.09 ppm	100
74) Azobenzene	7.129	77	847806	24.96 ppm	100
76) 4-Bromophenyl-phenylether	7.508	248	252950	24.86 ppm	100
77) Hexachlorobenzene	7.565	284	256084	24.73 ppm	100
78) Pentachlorophenol	7.787	266	157240	26.56 ppm	100
79) Dibenzothiophene	7.891	184	1303111	24.93 ppm	100
80) Phenanthrene	8.032	178	1328491	24.99 ppm	100
82) Anthracene	8.089	178	1355084	25.31 ppm	100
83) Carbazole	8.267	167	1138959	25.03 ppm	100
84) Di-n-butylphthalate	8.659	149	1424955	25.83 ppm	100
85) 1-Methylphenanthrene	8.702	192	950870	25.22 ppm	100
86) Fluoranthene	9.311	202	1501837	25.07 ppm	100
89) Pyrene	9.547	202	1679485	26.54 ppm	100
91) Butylbenzylphthalate	10.218	149	577299	26.91 ppm	100
92) bis(2-ethylhexyl)adipate	10.299	129	471027	26.69 ppm	100
93) 3,3'-Dichlorobenzidine	10.748	252	494507	25.94 ppm	100
94) Benzo(a)anthracene	10.777	228	1445279	25.28 ppm	100
95) Chrysene	10.816	228	1325857	25.08 ppm	100
96) bis(2-Ethylhexyl)phtha..	10.801	149	865260	26.12 ppm	100
98) Di-n-octylphthalate	11.422	149	1447152	26.60 ppm	100
99) Benzo(b)fluoranthene	11.811	252	1342364	26.13 ppm	100
100) Benzo(k)fluoranthene	11.840	252	1268363	24.50 ppm	100
101) Benzo(e)pyrene	12.096	252	1206708	25.46 ppm	100

RM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.155	252	1235377	25.33 ppm	100
103) Perylene	12.247	252	1233135	25.20 ppm	100
104) Indeno(1,2,3-cd)pyrene	13.563	276	1386533	25.68 ppm	100
105) Dibenzo(a,h)anthracene	13.587	278	1159025	25.76 ppm	100
106) Benzo(g,h,i)perylene	13.971	276	1177656	25.37 ppm	100

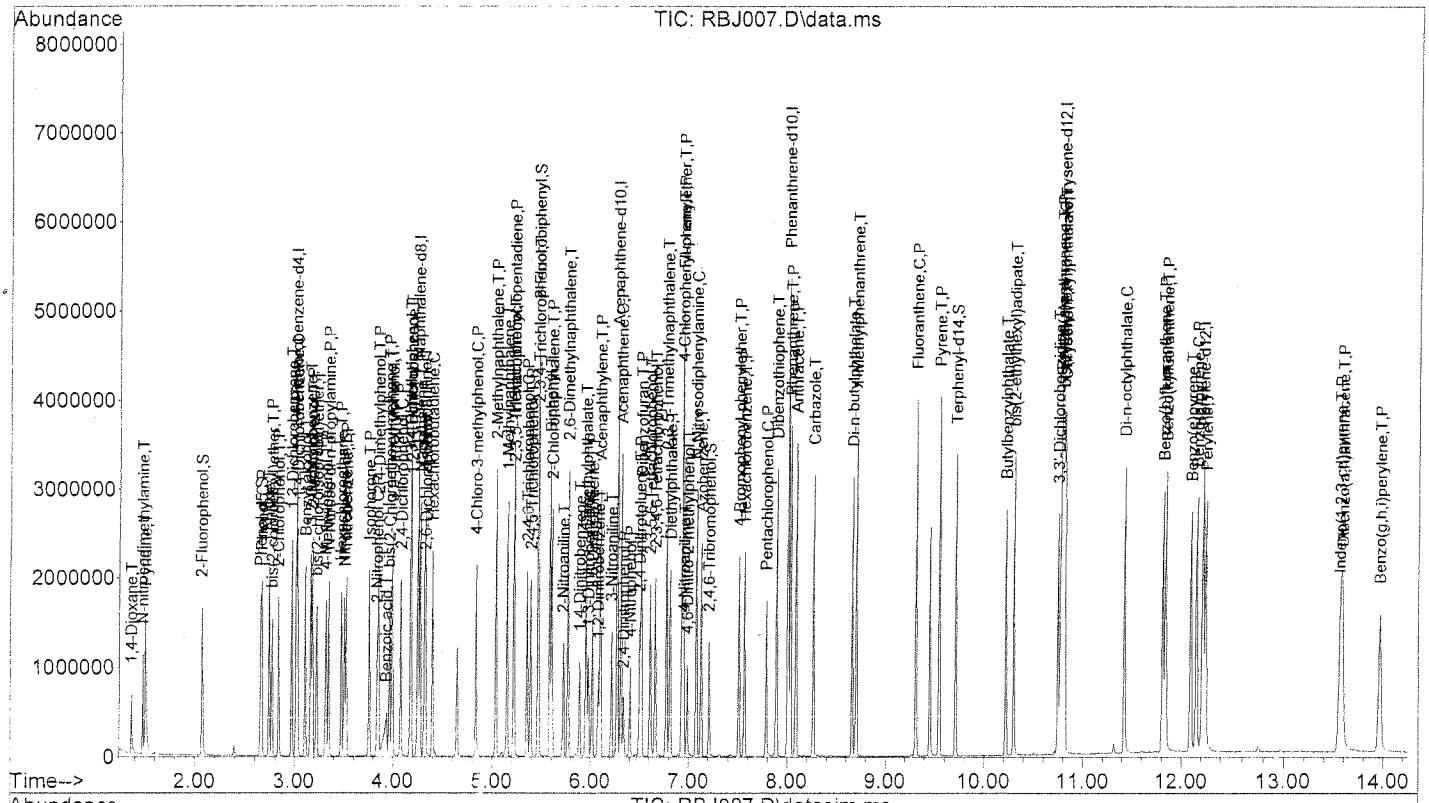
(#) = qualifier out of range (m) = manual integration (+) = signals summed

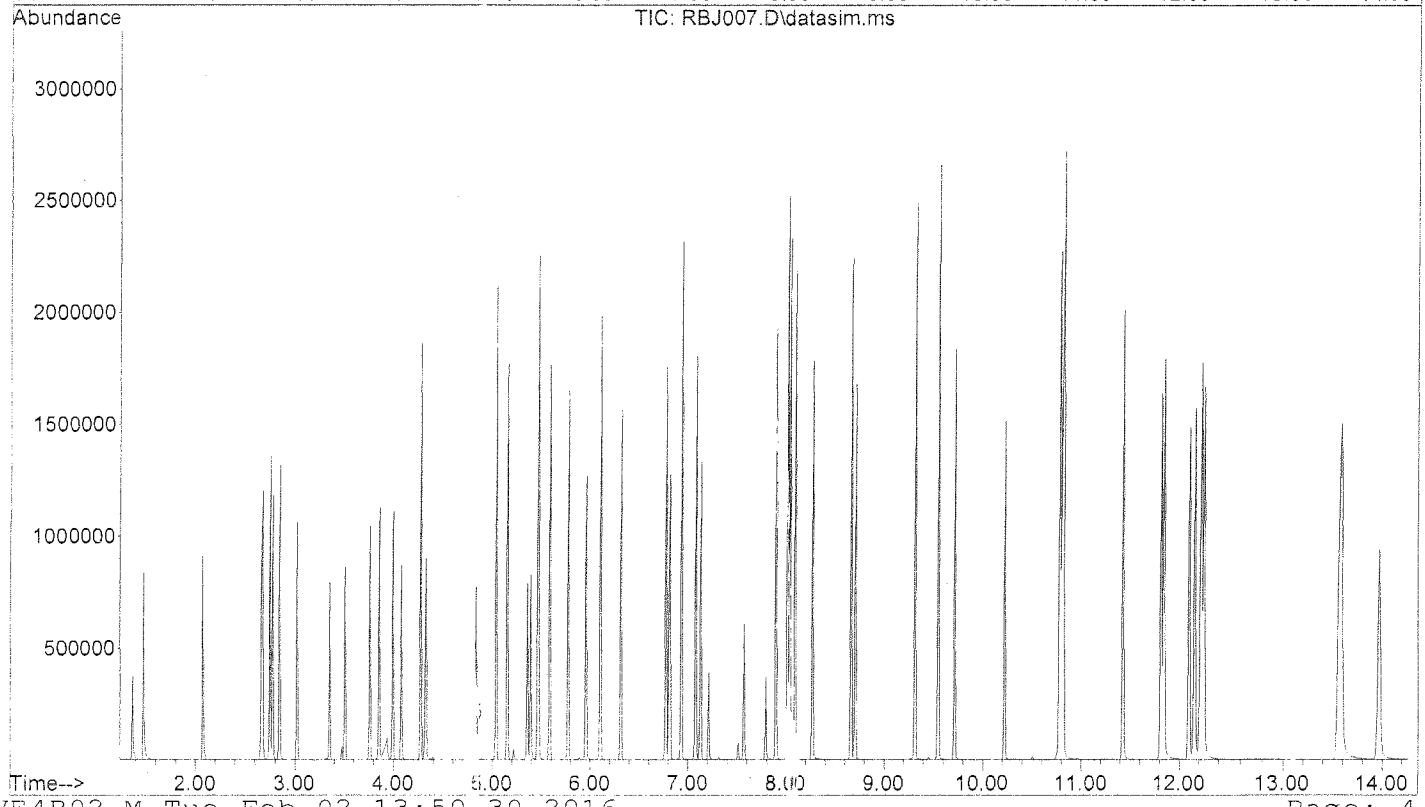
pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ007.D
Acq On : 2 Feb 2016 10:25
Sample : SVE4B025
Misc : 25PPM
Integrator: RTE
Quant Time: Feb 02 13:49:57 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 7
Operator: KVu
Inst : E4
Multiplr: 1.00





PW 02-08-16

525

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	455852	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1618791	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	966999	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1728695	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1903162	40.00	ppm	0.00
97) Perylene-d12	12.217	264	1635198	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	597502	39.91	ppm	0.00
Spiked Amount 30.000			Recovery	=	133.03%	
6) Phenol-d5	2.664	99	736322	39.82	ppm	0.00
Spiked Amount 30.000			Recovery	=	132.73%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.509	82	740214	40.52	ppm	0.00
Spiked Amount 10.000			Recovery	=	405.20%	
46) 2-Fluorobiphenyl	5.471	172	1511033	39.11	ppm	0.00
Spiked Amount 10.000			Recovery	=	391.10%	
75) 2,4,6-Tribromophenol	7.214	330	176721	42.54	ppm	0.00
Spiked Amount 30.000			Recovery	=	141.80%	
90) Terphenyl-d14	9.716	244	1641579	40.29	ppm	0.00
Spiked Amount 10.000			Recovery	=	402.90%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	258378	37.85	ppm	97
3) N-nitrosodimethylamine	1.477	74	382077	39.43	ppm	100
4) Pyridine	1.500	79	723731	41.53	ppm	100
7) Phenol	2.675	94	754581	39.37	ppm	100
8) Aniline	2.748	93	954883	39.16	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	573719	39.50	ppm	99
10) 2-Chlorophenol	2.842	128	675096	41.75	ppm	94
11) 1,3-Dichlorobenzene	2.972	146	750710	39.82	ppm	100
13) 1,4-Dichlorobenzene	3.029	146	758428	39.61	ppm	99
14) Benzyl alcohol	3.111	108	412504	39.68	ppm	100
15) 1,2-Dichlorobenzene	3.164	146	714240	39.07	ppm	99
16) 2-Methylphenol	3.188	107	514968	39.37	ppm	99
17) bis(2-chloroisopropyl)...	3.231	45	1179656	38.99	ppm	100
18) 4-Methylphenol	3.327	107	741045	42.76	ppm	93
19) N-Nitroso-di-n-propyla...	3.356	70	525189	43.30	ppm	100
20) Hexachloroethane	3.480	117	291976	39.93	ppm	97
23) Nitrobenzene	3.533	77	734167	40.03	ppm	99
24) Isophorone	3.763	82	1431467	40.74	ppm	99
25) 2-Nitrophenol	3.840	139	313641	42.38	ppm	99
26) 2,4-Dimethylphenol	3.859	107	681106	40.07	ppm	98
27) Benzoic acid	3.964	105	432819	40.45	ppm	99
28) bis(2-Chloroethoxy)met...	3.969	93	725913	39.50	ppm	99
29) 3,5-Dimethylphenol	3.998	107	779383	42.51	ppm	97
30) 2,4-Dichlorophenol	4.080	162	582172	40.42	ppm	100
31) 3,4-Dimethylphenol	4.176	107	792777	39.61	ppm	99
32) 1,2,4-Trichlorobenzene	4.181	180	647830	39.38	ppm	99
33) Naphthalene	4.273	128	1775939	39.37	ppm	100
34) 4-Chloroaniline	4.321	127	759311	39.53	ppm	100
35) 2,6-Dichlorophenol	4. 26	162	546132	40.07	ppm	99
36) Hexachlorobutadiene	4. 98	225	444406	40.45	ppm	99

TM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38) 4-Chloro-3-methylphenol	4.837	107	565737	41.40	ppm	99
39) 2-Methylnaphthalene	5.043	142	1247141	39.30	ppm	100
40) 1-Methylnaphthalene	5.153	142	1094524	39.39	ppm	100
42) Hexachlorocyclopentadiene	5.220	237	507703	41.82	ppm	100
43) 2,3,5-Trichlorophenol	5.225	196	445511	43.09	ppm	92
44) 2,4,6-Trichlorophenol	5.360	196	454187	41.30	ppm	100
45) 2,4,5-Trichlorophenol	5.394	196	479889	41.49	ppm	99
47) 2,3,4-Trichlorophenol	5.471	196	406310	40.08	ppm	98
48) Biphenyl	5.586	154	1540616	39.12	ppm	100
49) 2-Chloronaphthalene	5.610	162	1248171	38.53	ppm	100
50) 2-Nitroaniline	5.725	65	382441	41.86	ppm	100
51) 2,6-Dimethylnaphthalene	5.773	156	1103888	39.58	ppm	100
52) 1,4-Dinitrobenzene	5.894	168	175498	43.76	ppm	98
53) Dimethylphthalate	5.961	163	1424930	40.02	ppm	100
54) 1,3-Dinitrobenzene	5.985	168	201145	42.34	ppm	99
55) 2,6-Dinitrotoluene	6.024	165	298897	41.05	ppm	97
56) 1,2-Dinitrobenzene	6.087	168	126747	41.32	ppm	92
57) Acenaphthylene	6.106	152	1965201	38.31	ppm	96
58) 3-Nitroaniline	6.221	138	310362	40.76	ppm	96
59) Acenaphthene	6.317	153	1272674	39.65	ppm	100
60) 2,4-Dinitrophenol	6.346	184	137386	40.89	ppm	96
61) 4-Nitrophenol	6.413	109	209011	41.92	ppm	99
62) 2,4-Dinitrotoluene	6.509	165	392257	41.43	ppm	99
63) Dibenzofuran	6.523	168	1802631	39.54	ppm	100
64) 2,3,5,6-Tetrachlorophenol	6.609	230	323981	42.90	ppm	99
65) 2,3,4,6-Tetrachlorophenol	6.662	232	433866	41.76	ppm	100
66) 2,3,5-Trimethylnaphtha...	6.776	170	1039615	39.83	ppm	98
67) Diethylphthalate	6.814	149	1438543	39.88	ppm	100
68) Fluorene	6.935	166	1397315	39.36	ppm	99
69) 4-Chlorophenyl-phenyle...	6.940	204	716025	39.59	ppm	99
70) 4-Nitroaniline	6.959	138	330600	42.21	ppm	99
72) 4,6-Dinitro-2-methylph...	6.996	198	222458	39.97	ppm	96
73) N-Nitrosodiphenylamine	7.082	169	1179136	39.92	ppm	100
74) Azobenzene	7.129	77	1375496	39.69	ppm	100
76) 4-Bromophenyl-phenylether	7.508	248	414926	39.98	ppm	99
77) Hexachlorobenzene	7.570	284	425171	40.26	ppm	98
78) Pentachlorophenol	7.792	266	265467	43.96	ppm	99
79) Dibenzothiophene	7.896	184	2087183	39.14	ppm	96
80) Phenanthrene	8.037	178	2141125	39.48	ppm	100
82) Anthracene	8.093	178	2171274	39.75	ppm	100
83) Carbazole	8.267	167	1811495	39.03	ppm	99
84) Di-n-butylphthalate	8.663	149	2265847	40.26	ppm	100
85) 1-Methylphenanthrene	8.707	192	1510806	39.28	ppm	100
86) Fluoranthene	9.316	202	2417949	39.56	ppm	100
89) Pyrene	9.552	202	2647993	40.69	ppm	100
91) Butylbenzylphthalate	10.222	149	956176	43.34	ppm	100
92) bis(2-ethylhexyl)adipate	10.299	129	770126	42.44	ppm	100
93) 3,3'-Dichlorobenzidine	10.752	252	815601	41.60	ppm	100
94) Benzo(a)anthracene	10.781	228	2375285	40.40	ppm	100
95) Chrysene	10.820	228	2149749	39.55	ppm	99
96) bis(2-Ethylhexyl)phtha...	10.801	149	1418818	41.65	ppm	100
98) Di-n-octylphthalate	11.422	149	2402172	43.25	ppm	100
99) Benzo(b)fluoranthene	11.816	252	2084476	39.75	ppm	98
100) Benzo(k)fluoranthene	11.84[illegible]	252	2187101	41.39	ppm	98
101) Benzo(e)pyrene	12.10[illegible]	252	1952148	40.34	ppm	99

pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.159	252	2040196	40.98 ppm	99
103) Perylene	12.251	252	1985264	39.73 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.573	276	2290053	41.54 ppm	100
105) Dibenzo(a,h)anthracene	13.597	278	1906773	41.51 ppm	97
106) Benzo(g,h,i)perylene	13.980	276	1937273	40.88 ppm	99

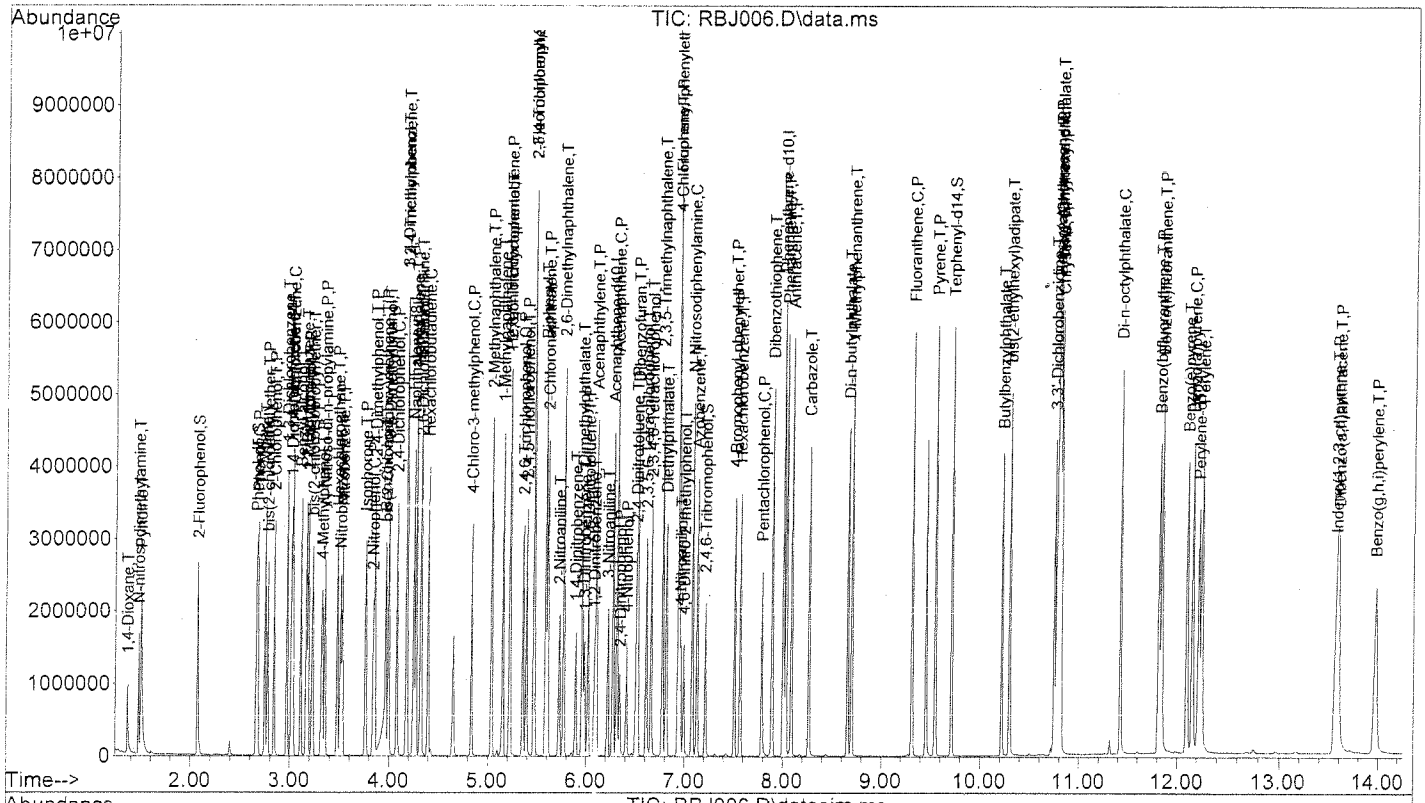
(#) = qualifier out of range (m) = manual integration (+) = signals summed

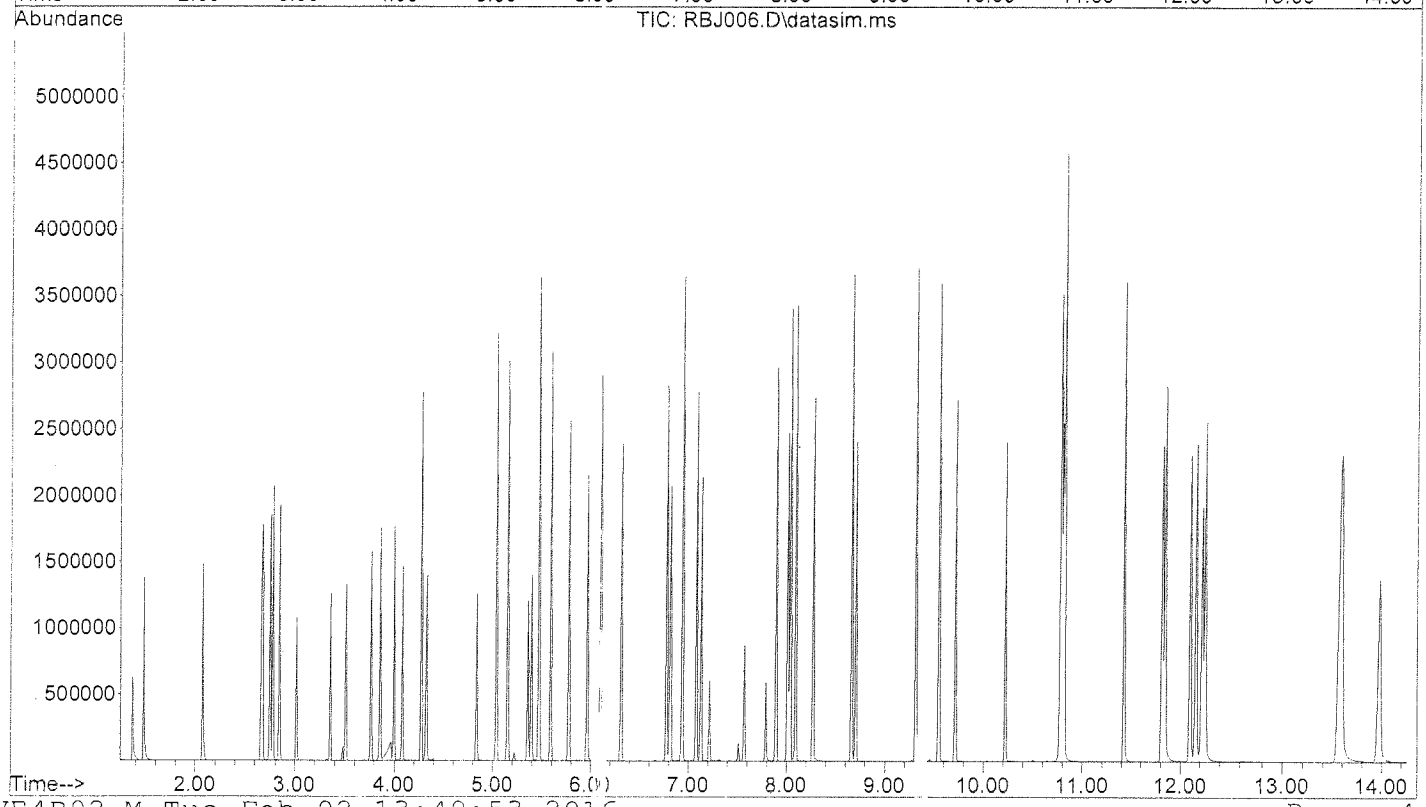
mu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ006.D
Acq On : 2 Feb 2016 10:06
Sample : SVE4B024
Misc : 40PPM
Integrator: RTE
Quant Time: Feb 02 13:48:44 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 6
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16 529

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	438355	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1557201	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	920177	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1669203	40.00	ppm	0.00
87) Chrysene-d12	10.791	240	1936700	40.00	ppm	0.00
97) Perylene-d12	12.218	264	1696912	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	718535	49.91	ppm	0.00
Spiked Amount 30.000			Recovery	=	166.37%	
6) Phenol-d5	2.665	99	886063	49.83	ppm	0.00
Spiked Amount 30.000			Recovery	=	166.10%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery	=	0.00%	
22) Nitrobenzene-d5	3.514	82	877327	49.93	ppm	0.00
Spiked Amount 10.000			Recovery	=	499.30%	
46) 2-Fluorobiphenyl	5.471	172	1790042	48.69	ppm	0.00
Spiked Amount 10.000			Recovery	=	486.90%	
75) 2,4,6-Tribromophenol	7.214	330	210341	52.43	ppm	0.00
Spiked Amount 30.000			Recovery	=	174.77%	
90) Terphenyl-d14	9.716	241	2027883	48.91	ppm	0.00
Spiked Amount 10.000			Recovery	=	489.10%	
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	314172	47.86	ppm	97
3) N-nitrosodimethylamine	1.477	74	464848	49.89	ppm	99
4) Pyridine	1.500	79	862577	51.47	ppm	99
7) Phenol	2.675	94	904804	49.10	ppm	100
8) Aniline	2.748	93	1133572	48.34	ppm	100
9) bis(2-chloroethyl)ether	2.774	93	677686	48.52	ppm	99
10) 2-Chlorophenol	2.842	128	814683	52.39	ppm	91
11) 1,3-Dichlorobenzene	2.972	146	886416	48.89	ppm	100
13) 1,4-Dichlorobenzene	3.034	146	899802	48.87	ppm	99
14) Benzyl alcohol	3.116	108	492274	49.25	ppm	99
15) 1,2-Dichlorobenzene	3.169	146	851391	48.43	ppm	100
16) 2-Methylphenol	3.188	107	612392	48.69	ppm	98
17) bis(2-chloroisopropyl)...	3.231	45	1386911	47.67	ppm	99
18) 4-Methylphenol	3.322	107	814882	48.89	ppm	100
19) N-Nitroso-di-n-propyla...	3.360	70	605868	51.95	ppm	97
20) Hexachloroethane	3.480	117	349638	49.72	ppm	97
23) Nitrobenzene	3.533	77	865261	49.04	ppm	99
24) Isophorone	3.768	82	1634116	48.34	ppm	99
25) 2-Nitrophenol	3.845	139	357386	50.20	ppm	99
26) 2,4-Dimethylphenol	3.859	107	798601	48.84	ppm	98
27) Benzoic acid	3.974	105	514321	49.51	ppm	100
28) bis(2-Chloroethoxy)met...	3.969	93	852190	48.21	ppm	99
29) 3,5-Dimethylphenol	3.998	107	891313	50.54	ppm	98
30) 2,4-Dichlorophenol	4.080	162	690029	49.80	ppm	99
31) 3,4-Dimethylphenol	4.181	107	936836	48.66	ppm	100
32) 1,2,4-Trichlorobenzene	4.181	180	761823	48.15	ppm	99
33) Naphthalene	4.273	128	2104347	48.50	ppm	100
34) 4-Chloroaniline	4.321	127	896667	48.52	ppm	100
35) 2,6-Dichlorophenol	4.331	162	640786	48.88	ppm	100
36) Hexachlorobutadiene	4.398	225	529942	50.14	ppm	100

m 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units		Dev(Min)
38)	4-Chloro-3-methylphenol	4.842	107	663448	50.47	ppm		99
39)	2-Methylnaphthalene	5.043	142	1467243	48.06	ppm		100
40)	1-Methylnaphthalene	5.158	142	1279732	47.88	ppm		100
42)	Hexachlorocyclopentadiene	5.220	237	595649	51.56	ppm		100
43)	2,3,5-Trichlorophenol	5.225	196	525919	53.46	ppm		99
44)	2,4,6-Trichlorophenol	5.360	196	538847	51.49	ppm		99
45)	2,4,5-Trichlorophenol	5.394	196	564006	51.24	ppm		99
47)	2,3,4-Trichlorophenol	5.476	196	479411	49.70	ppm		100
48)	Biphenyl	5.591	154	1801506	48.07	ppm		100
49)	2-Chloronaphthalene	5.610	162	1633747	53.00	ppm		94
50)	2-Nitroaniline	5.730	65	445297	51.22	ppm		98
51)	2,6-Dimethylnaphthalene	5.773	156	1291814	48.67	ppm		100
52)	1,4-Dinitrobenzene	5.898	168	204754	53.66	ppm		100
53)	Dimethylphthalate	5.966	163	1660063	49.00	ppm		100
54)	1,3-Dinitrobenzene	5.990	168	235929	52.19	ppm		100
55)	2,6-Dinitrotoluene	6.029	165	352991	50.95	ppm		98
56)	1,2-Dinitrobenzene	6.091	168	149128	51.09	ppm	#	32
57)	Acenaphthylene	6.106	152	2505873	51.34	ppm		100
58)	3-Nitroaniline	6.226	138	367814	50.76	ppm		97
59)	Acenaphthene	6.317	153	1479879	48.45	ppm		99
60)	2,4-Dinitrophenol	6.346	184	164500	50.75	ppm		97
61)	4-Nitrophenol	6.418	109	261383	55.10	ppm		96
62)	2,4-Dinitrotoluene	6.514	165	469332	52.09	ppm		99
63)	Dibenzofuran	6.523	168	2104499	48.51	ppm		99
64)	2,3,5,6-Tetrachlorophenol	6.614	230	376682	52.41	ppm		100
65)	2,3,4,6-Tetrachlorophenol	6.667	232	510475	51.63	ppm		100
66)	2,3,5-Trimethylnaphtha...	6.781	170	1214381	48.90	ppm		100
67)	Diethylphthalate	6.818	149	1707916	49.75	ppm		100
68)	Fluorene	6.940	166	1642236	48.61	ppm		100
69)	4-Chlorophenyl-phenyle...	6.940	204	842803	48.97	ppm		99
70)	4-Nitroaniline	6.964	138	404059	54.21	ppm		100
72)	4,6-Dinitro-2-methylph...	6.997	198	273709	50.34	ppm		100
73)	N-Nitrosodiphenylamine	7.086	169	1398870	49.04	ppm		100
74)	Azobenzene	7.134	77	1638405	48.96	ppm		100
76)	4-Bromophenyl-phenylether	7.513	248	500611	49.95	ppm		98
77)	Hexachlorobenzene	7.570	284	507947	49.81	ppm		99
78)	Pentachlorophenol	7.792	266	316657	54.31	ppm		98
79)	Dibenzothiophene	7.896	184	2513390	48.81	ppm		96
80)	Phenanthrene	8.037	178	2554954	48.79	ppm		99
82)	Anthracene	8.098	178	2618283	49.64	ppm		100
83)	Carbazole	8.272	167	2221148	49.56	ppm		100
84)	Di-n-butylphthalate	8.664	149	2730384	50.25	ppm		100
85)	1-Methylphenanthrene	8.707	192	1854855	49.95	ppm		100
86)	Fluoranthene	9.316	202	2971362	50.35	ppm		99
89)	Pyrene	9.552	202	3257655	49.19	ppm		100
91)	Butylbenzylphthalate	10.222	149	1188907	52.95	ppm		99
92)	bis(2-ethylhexyl)adipate	10.299	129	954536	51.69	ppm		100
93)	3,3'-Dichlorobenzidine	10.752	252	1045654	52.41	ppm		99
94)	Benzo(a)anthracene	10.781	228	3009999	50.31	ppm		98
95)	Chrysene	10.820	228	2726827	49.30	ppm		100
96)	bis(2-Ethylhexyl)phtha...	10.801	149	1767206	50.98	ppm		100
98)	Di-n-octylphthalate	11.422	149	3048798	52.89	ppm		100
99)	Benzo(b)fluoranthene	11.816	252	2794385	51.35	ppm		99
100)	Benzo(k)fluoranthene	11.845	252	2659941	48.50	ppm		97
101)	Benzo(e)pyrene	12.101	252	1530641	50.39	ppm		98

KU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.164	252	2626741	50.84 ppm	99
103) Perylene	12.256	252	2570491	49.57 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.573	276	2969853	51.91 ppm	100
105) Dibenzo(a,h)anthracene	13.602	278	2445773	51.31 ppm	97
106) Benzo(g,h,i)perylene	13.990	276	2490760	50.65 ppm	99

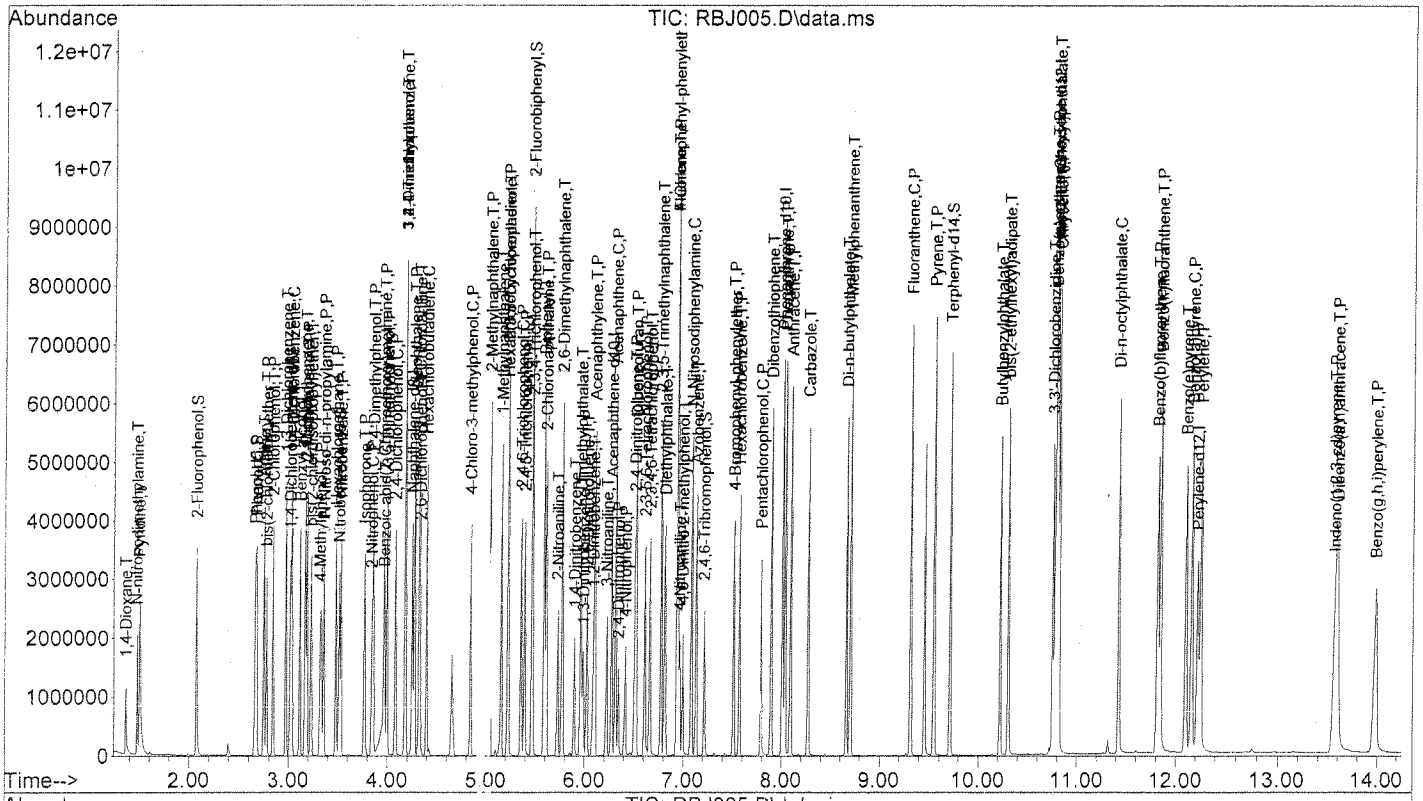
(#) = qualifier out of range (m) = manual integration (+) = signals summed

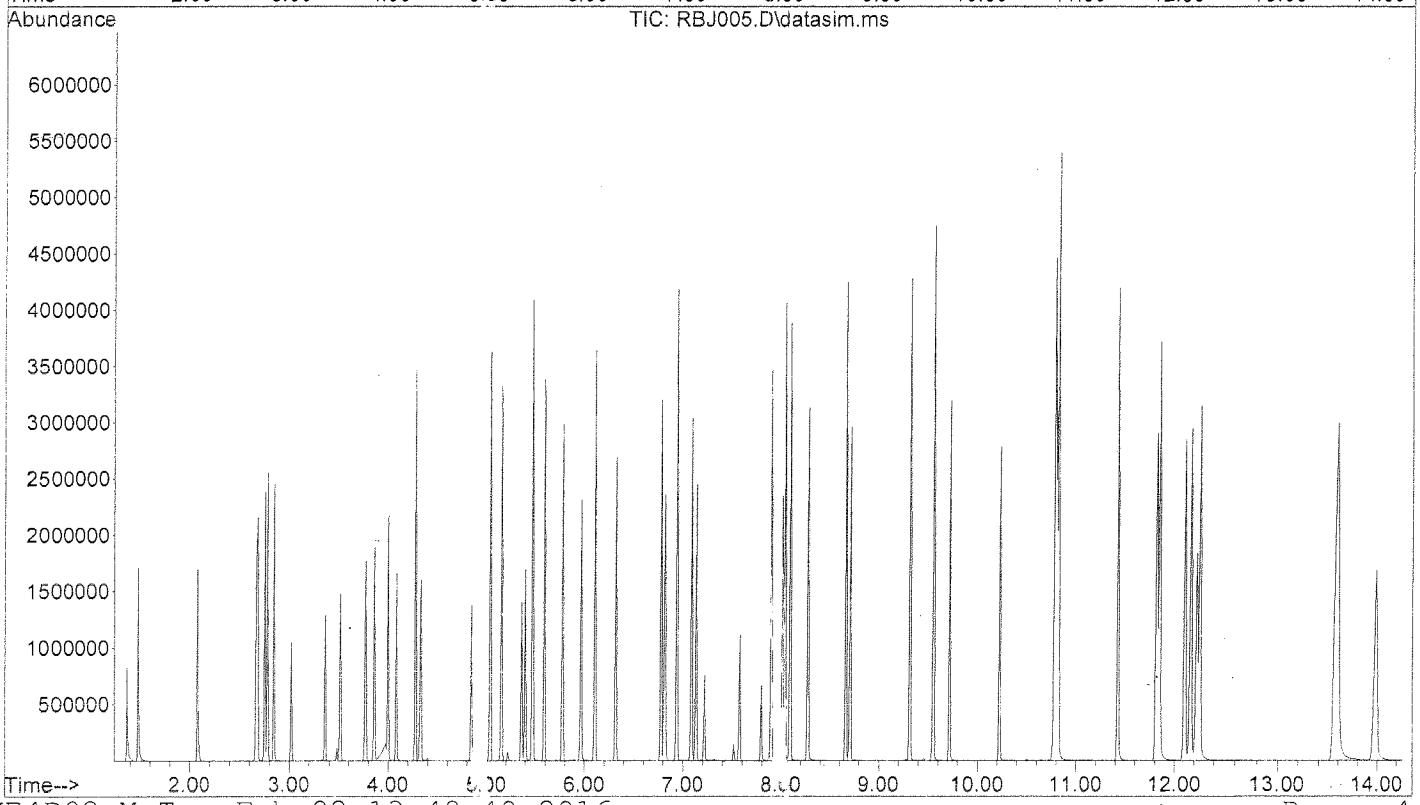
M 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ005.D
Acq On : 2 Feb 2016 9:47
Sample : SVE4B023
Misc : 50PPM
Integrator: RTE
Quant Time: Feb 02 13:47:48 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 5
Operator: KVu
Inst : E4
Multiplr: 1.00





JM 02-08-16

533

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ004.D
Acq On : 2 Feb 2016 9:28
Sample : SVE4B022
Misc : 80PPM
Integrator: RTE
Quant Time: Feb 02 13:47:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 4
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.015	152	457524	40.00 ppm	0.00
21) Naphthalene-d8	4.244	136	1635246	40.00 ppm	0.00
41) Acenaphthene-d10	6.269	164	965543	40.00 ppm	0.00
71) Phenanthrene-d10	8.004	188	1710410	40.00 ppm	0.00
87) Chrysene-d12	10.786	240	1882885	40.00 ppm	0.00
97) Perylene-d12	12.213	264	1627440	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	0.000	112	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
6) Phenol-d5	0.000	99	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
22) Nitrobenzene-d5	0.000	82	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
46) 2-Fluorobiphenyl	0.000	172	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
75) 2,4,6-Tribromophenol	0.000	330	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
90) Terphenyl-d14	0.000	244	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
Target Compounds					Qvalue
4) Pyridine	1.500	79	1225737	70.07 ppm	100
27) Benzoic acid	3.988	105	910377	82.12 ppm	99

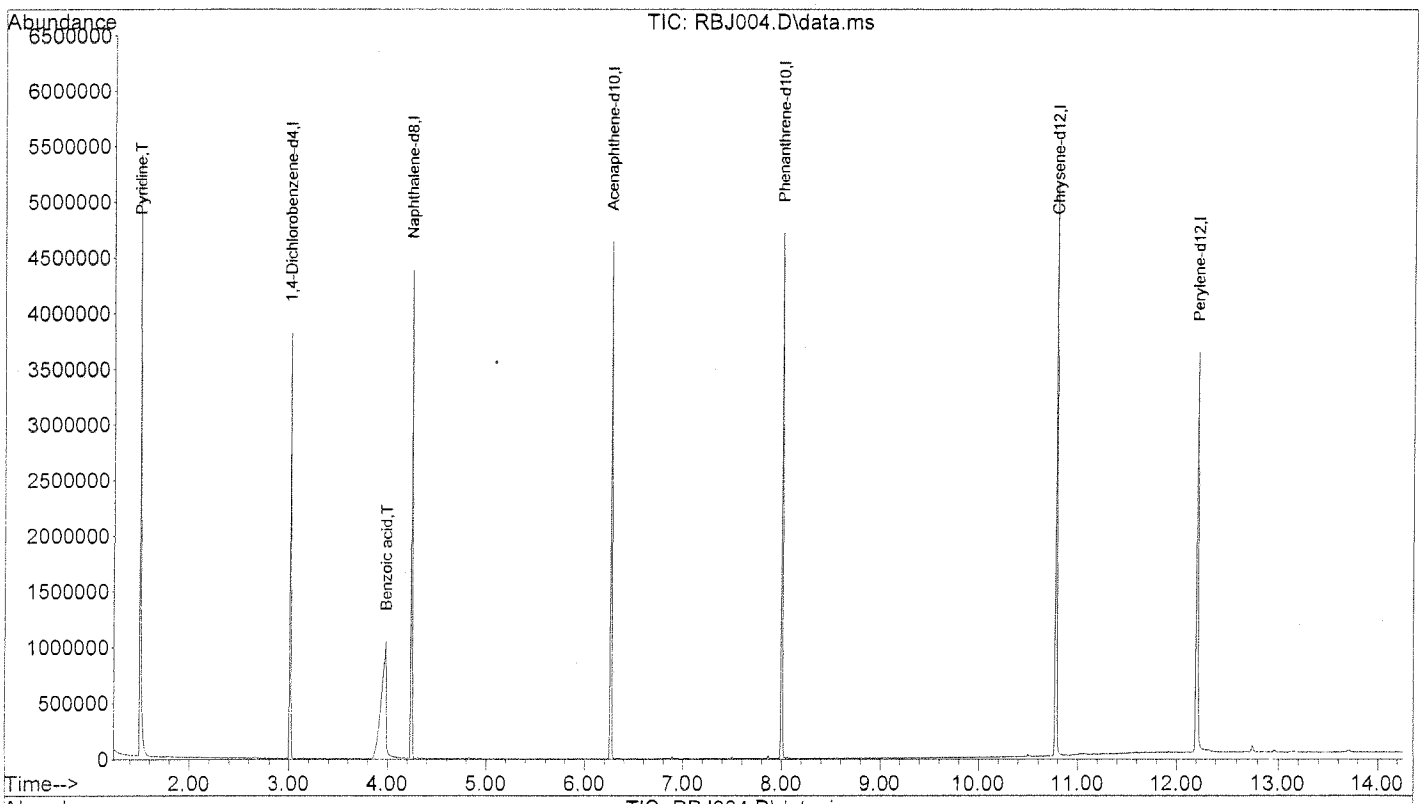
(#) = qualifier out of range (m) = manual integration (+) = signals summed

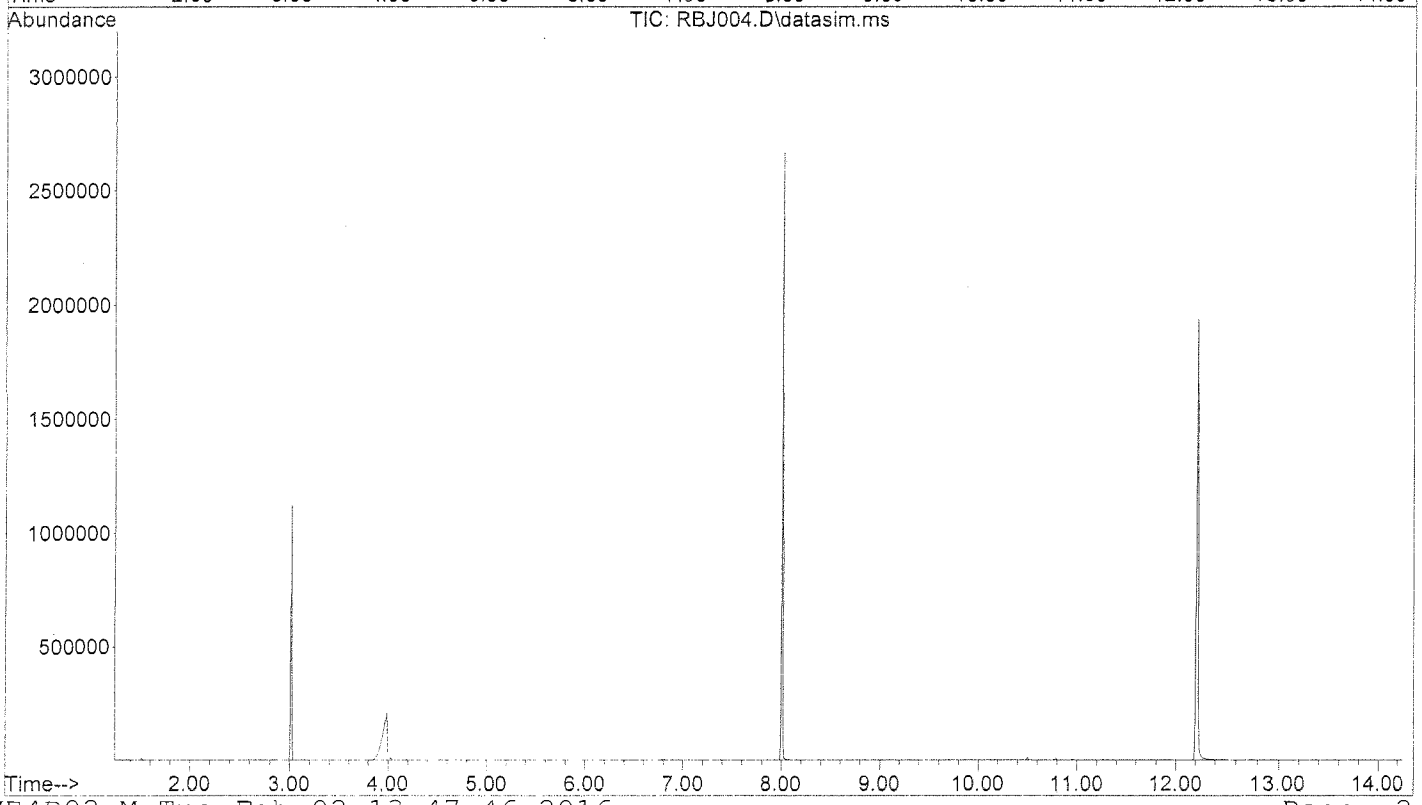
pu 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ004.D
Acq On : 2 Feb 2016 9:28
Sample : SVE4B022
Misc : 80PPM
Integrator: RTE
Quant Time: Feb 02 13:47:31 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 4
Operator: KVu
Inst : E4
Multiplr: 1.00





TM 02-08-16

535

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ003.D
Acq On : 2 Feb 2016 9:09
Sample : SVE4B021
Misc : 100PPM
Integrator: RTE
Quant Time: Feb 02 13:46:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	3.015	152	461215	40.00 ppm	0.00
21) Naphthalene-d8	4.244	136	1653283	40.00 ppm	0.00
41) Acenaphthene-d10	6.269	164	975500	40.00 ppm	0.00
71) Phenanthrene-d10	8.004	188	1717161	40.00 ppm	0.00
87) Chrysene-d12	10.786	240	1841322	40.00 ppm	0.00
97) Perylene-d12	12.213	264	1572144	40.00 ppm	0.00
System Monitoring Compounds					
5) 2-Fluorophenol	0.000	112	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
6) Phenol-d5	0.000	99	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
22) Nitrobenzene-d5	0.000	82	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
46) 2-Fluorobiphenyl	0.000	172	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
75) 2,4,6-Tribromophenol	0.000	330	0	0.00 ppm	
Spiked Amount 30.000			Recovery	= 0.00%	
90) Terphenyl-d14	0.000	244	0	0.00 ppm	
Spiked Amount 10.000			Recovery	= 0.00%	
Target Compounds					Qvalue
4) Pyridine	1.500	79	1530996	86.82 ppm	100
27) Benzoic acid	4.003	105	1116737	99.22 ppm	99

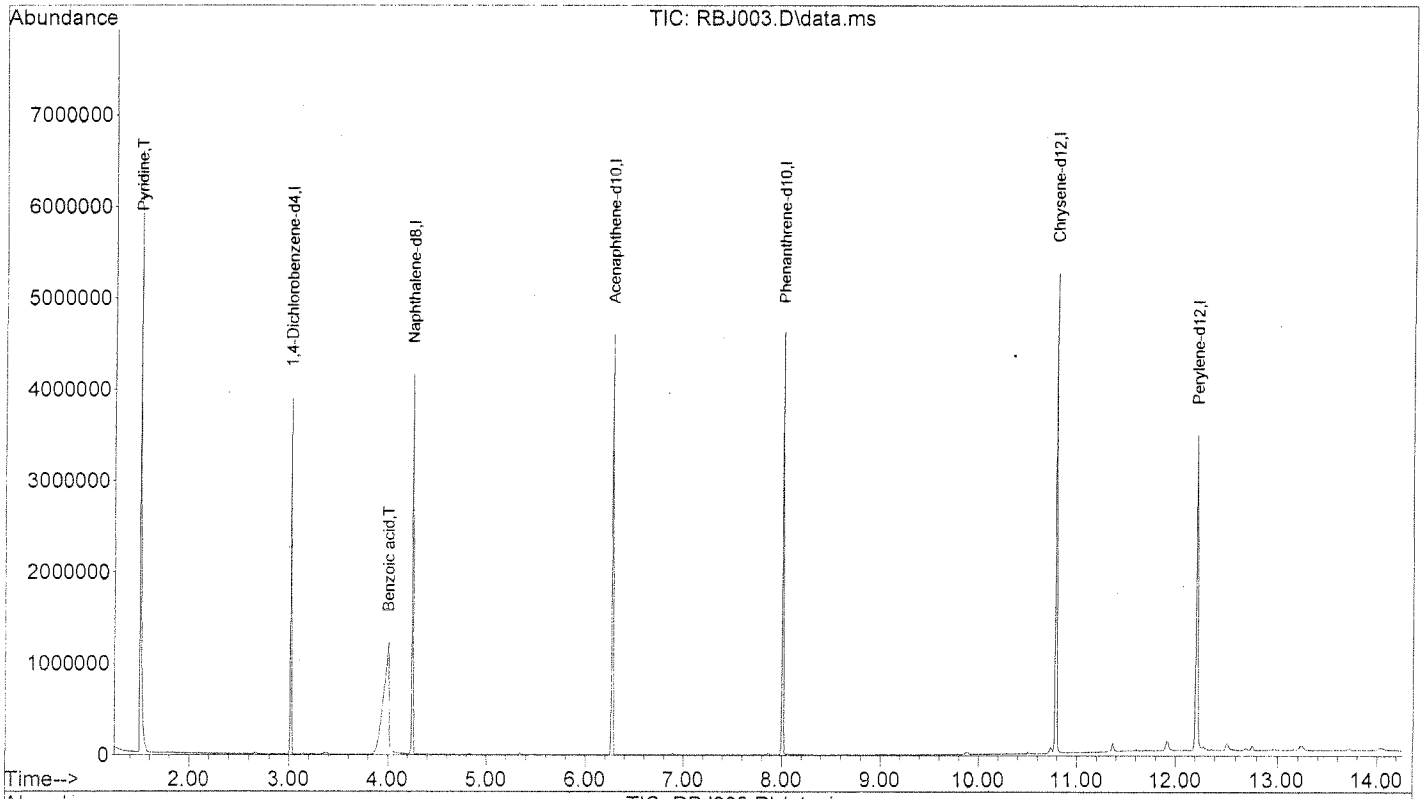
(#) = qualifier out of range (m) = manual integration (+) = signals summed

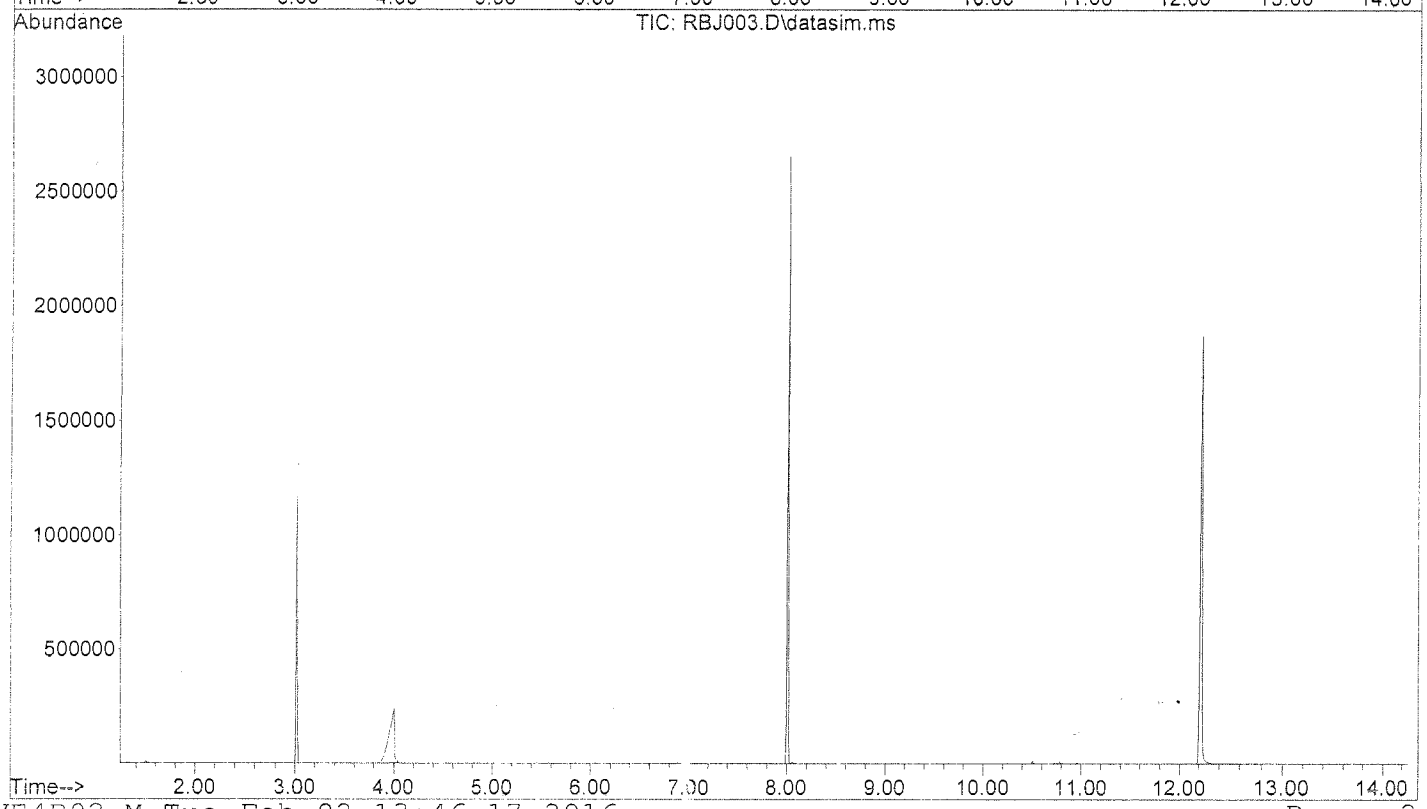
RU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ003.D
Acq On : 2 Feb 2016 9:09
Sample : SVE4B021
Misc : 100PPM
Integrator: RTE
Quant Time: Feb 02 13:46:13 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00





M 02-08-16

537

SECOND SOURCE VERIFICATION

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E4
IC Beginning DateTime :02/02/16 09:09
SpTke Amount :25 PPM
CC/CV File :RBJ033
IC File :RBJ007

Column Spec :ZB-SEMI ID :0.18MM
IC Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02
Date_Time :02/02/16 18:46

M IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
1	1,4-Dichlorobenzene-d4	40.000	0	489141	1	1	3.015	3.015	0				
2	1,4-Dioxane	22.596	-9.6	165529	0.541	0.599	1.366	1.367	6.63				
3	N-nitrosodimethylamine	26.445	5.8	274941	0.899	0.850	1.477	1.477	1.57				
4	Pyridine	26.398	5.6	493685	1.615	1.529	1.510	1.502	7.97				
5	2-Fluorophenol	24.462	-2.1	363116	1.186	1.317	2.075	2.075	1.13				
6	Phenol-d5	23.855	-4.6	473365	1.548	1.623	2.664	2.659	1.86				
7	Phenol	24.760	-1.0	509189	1.666	1.682	2.675	2.671	1.81				
8	Aniline	24.691	-1.2	646048	2.113	2.140	2.743	2.744	2.23				
9	bis(2-chloroethyl)ether	24.841	-0.6	387198	1.267	1.275	2.774	2.772	2.19				
10	2-Chlorophenol	27.267	9.1	473123	1.548	1.719	2.843	2.838	3.81				
11	1,3-Dichlorobenzene	25.348	1.4	512821	1.677	1.654	2.972	2.972	1.34				
12	1,2-Dichlorobenzene-d4												
13	1,4-Dichlorobenzene	25.192	0.8	517539	1.693	1.680	3.030	3.030	1.55				
14	Benzyl alcohol	27.443	9.8	306097	1.001	0.912	3.111	3.109	2.45				
15	1,2-Dichlorobenzene	24.965	-0.1	489716	1.602	1.604	3.164	3.165	2.20				
16	2-Methylphenol	24.960	-0.2	350318	1.146	1.148	3.188	3.184	1.93				
17	bis(2-chloroisopropyl)ether	26.044	4.2	845452	2.766	2.655	3.226	3.229	3.22				
18	4-Methylphenol	25.055	0.2	465958	1.524	1.521	3.327	3.321	4.06				
19	N-Nitroso-di-n-propylamine	23.030	-5.5	307408	1.006	1.064	3.351	3.351	5.54				
20	Hexachloroethane	25.382	1.5	199174	0.652	0.642	3.475	3.477	2.07				
21	Naphthalene-d8	40.000	0	1779787	1	1	4.249	4.247	0				
22	Nitrobenzene-d5	7.760	-6.9	155855	0.420	0.451	3.509	3.508	1.58				
23	Nitrobenzene	24.472	-2.1	493471	0.444	0.453	3.528	3.528	1.42				
24	Isophorone	25.043	0.2	967528	0.870	0.868	3.758	3.758	1.97				
25	2-Nitrophenol	25.474	1.6	207281	0.186	0.183	3.840	3.839	7.64				
26	2,4-Dimethylphenol	24.571	-1.2	459153	0.413	0.420	3.854	3.854	1.54				
27	Benzoic acid	22.647	-9.5	422122	0.230	0.245	3.941	3.946	15.58	-0.0135	0.2778		0.9993
28	bis(2-Chloroethoxy)methane	25.630	2.5	517829	0.466	0.454	3.964	3.965	2.26				
29	3,5-Dimethylphenol	25.458	1.8	513128	0.461	0.453	3.993	3.993	7.12				
30	2,4-Dichlorophenol	24.247	-3.0	383974	0.345	0.356	4.080	4.077	2.03				
31	3,4-Dimethylphenol	25.620	2.5	563717	0.507	0.495	4.176	4.172	1.72				
32	1,2,4-Trichlorobenzene	25.352	1.4	458482	0.412	0.406	4.181	4.179	2.33				
33	Naphthalene	24.826	-0.6	1231115	1.107	1.115	4.273	4.270	2.28				
34	4-Chloroaniline	24.264	-2.9	512483	0.461	0.475	4.316	4.315	1.94				
35	2,6-Dichlorophenol	25.411	1.6	380739	0.342	0.337	4.326	4.324	1.66				
36	Hexachlorobutadiene	25.421	1.7	307063	0.276	0.271	4.398	4.395	1.22				
37	Hydroquinone												
38	4-Chloro-3-methylphenol	24.974	-0.1	375198	0.337	0.338	4.837	4.836	3.57				
39	2-Methylnaphthalene	24.288	-2.8	847484	0.762	0.784	5.038	5.039	2.67				
40	1-Methylnaphthalene	25.838	3.4	789365	0.710	0.687	5.153	5.153	2.73				
41	Acenaphthene-d10	40.000	0	1073834	1	1	5.274	5.272	0				
42	Hexachlorocyclopentadiene	20.676	-17.3	278733	0.415	0.502	5.220	5.218	4.45				
43	2,3,5-Trichlorophenol	27.570	10.3	316541	0.472	0.428	5.225	5.223	9.04				
44	2,4,6-Trichlorophenol	25.565	2.3	312201	0.465	0.455	5.355	5.356	4.02				
45	2,4,5-Trichlorophenol	25.260	1.0	324477	0.483	0.478	5.394	5.391	3.93				
46	2-Fluorobiphenyl	7.647	-8.2	328057	1.467	1.598	5.466	5.466	2.17				
47	2,3,4-Trichlorophenol	25.644	2.5	288666	0.430	0.419	5.471	5.469	1.40				
48	Biphenyl	24.704	-1.5	1080316	1.610	1.629	5.586	5.585	2.80				
49	2-Chloronaphthalene	24.696	-1.5	888400	1.324	1.340	5.606	5.606	3.36				
50	2-Nitroaniline	26.040	4.2	264162	0.394	0.378	5.725	5.721	6.20				
51	2,6-Dimethylnaphthalene	25.700	2.8	796029	1.186	1.154	5.773	5.771	1.76				
52	1,4-Dinitrobenzene	25.502	2.0	113568	0.169	0.166	5.894	5.890	10.58				
53	Dimethylphthalate	26.053	4.2	1030100	1.535	1.473	5.956	5.955	1.25				
54	1,3-Dinitrobenzene	25.843	3.4	136331	0.203	0.197	5.981	5.979	9.11				
55	2,6-Dinitrotoluene	25.310	1.2	204654	0.305	0.301	6.019	6.019	3.30				
56	1,2-Dinitrobenzene	24.911	-0.4	84858	0.126	0.127	6.082	6.079	6.06				
57	Acenaphthylene	24.325	-2.7	1385515	2.064	2.122	6.101	6.101	4.18				
58	3-Nitroaniline	25.467	1.9	215352	0.321	0.315	6.216	6.216	3.68				
59	Acenaphthene	24.757	-1.0	882531	1.315	1.328	6.312	6.312	1.93				
60	2,4-Dinitrophenol	20.741	-17.0	72069	0.107	0.116	6.341	6.339	26.38	-0.0101	0.1488		0.9982
61	4-Nitrophenol	24.859	-0.6	137695	0.205	0.206	6.408	6.406	10.34				
62	2,4-Dinitrotoluene	24.327	-5.7	255773	0.381	0.392	6.504	6.503	7.16				
63	Dibenzofuran	24.476	-2.1	1239160	1.846	1.886	6.518	6.519	1.94				
64	2,3,5,6-Tetrachlorophenol	24.251	-3.0	203399	0.303	0.312	6.609	6.609	7.84				
65	2,3,4,6-Tetrachlorophenol	25.478	1.9	293976	0.438	0.430	6.662	6.661	4.25				
66	2,3,5-Trimethylnaphthalene	25.699	2.8	744817	1.110	1.080	6.776	6.774	1.25				
67	Diethylphthalate	26.275	5.1	1052601	1.568	1.492	6.814	6.811	1.03				
68	Fluorene	24.822	-0.7	978678	1.458	1.476	6.932	6.933	1.82				
69	4-Chlorophenyl-phenylether	24.457	-2.2	491256	0.732	0.748	6.940	6.937	1.34				
70	4-Nitroaniline	24.202	-3.2	210521	0.314	0.324	6.954	6.951	8.12				
71	Phenanthrene-d10	40.000	0	1895693	1	1	8.009	8.008	0				
72	4,6-Dinitro-2-methylphenol	22.982	-8.1	134236	0.113	0.112	6.992	6.988	21.93	-0.0075	0.1362		0.9998
73	N-Nitrosodiphenylamine	23.192	-7.2	751234	0.634	0.683	7.077	7.078	1.47				
74	Azobenzene	23.138	-7.6	993325	0.838	0.802	7.129	7.128	1.51				
75	2,4,6-Tribromophenol	22.465	-6.1	102907	0.090	0.096	7.214	7.211	7.59				
76	4-Bromophenyl-phenylether	22.078	0.3	285435	0.241	0.240	7.509	7.508	2.11				
77	Hexachlorobenzene	25.072	0.3	290392	0.245	0.244	7.565	7.566	1.25				
78	Pentachlorophenol	26.123	4.5	172981	0.146	0.140	7.792	7.789	12.24				
79	Dibenzothiophene	25.813	3.3	1509521	1.274	1.234	7.891	7.891	2.20				
80	Phenanthrene	25.056	0.2	1490080	1.258	1.255	8.037	8.034	1.91				
81	Dinoseb												
82	Anthracene	24.300	-2.8	1455584	1.229	1.264	8.089	8.090	0.90				
83	Carbazole	25.060	0.2	1275569	1.077	1.074	8.267	8.267	1.46				
84	Di-n-butylphthalate	26.899	7.6	1660019	1.401	1.302	8.659	8.660	3.60				
85	1-Methylphenanthrene	25.075	0.3	1057563	0.893	0.890	8.702	8.702	1.11				
86	Fluoranthene	24.447	-2.2	1638390	1.383	1.414	9.311	9.311	1.15				
87	Chrysene-d12	40.000	0	2074726	1	1	10.786	10.788	0				
88	Benzidine												
89	Pyrene	25.759	3.0	1827352	1.409	1.368	9.547	9.547	3.42				
90	Terphenyl-d14	7.582	-9.0	336765	0.260	0.856	9.707	9.713	1.41				
91	Butylbenzylphthalate	28.554	14.2	686803	0.530	0.464	10.218	10.219	11.98				
92	bis(2-ethylhexyl)adipate	26.227	4.9	518849	0.400	0.381	10.295	10.298	10.19				
93	3,3'-Dichlorobenzidine	23.966	-4.1	512206	0.395	0.412	10.748	10.748	6.19				
94	Benzo(a)anthracene	24.744	-1.0	1586069	1.223	1.236	10.777	10.777	1.31				
95	Chrysene	24.777	3.1	1527372	1.178	1.142	10.811	10.814	1.42				
96	bis(2-Ethylhexyl)phthalate	26.820	7.3	996004	0.768	0.716	10.796	10.792	6.46				
97	Perylene-d12	40.000	0	1806442	1	1	12.213	12.215	0				
98	Di-n-octylphthalate	28.056	12.2	1721627	1.525	1.359	11.417	11.420	11.88				
99	Benzo(b)fluoranthene	25.330	1.3	1467439	1.300	1.283	11.806	11.809	3.32				
100	Benzo(k)fluoranthene	24.587	-1.7	1435344	1.271	1.293	11.835	11.837	2.85				
101	Benzo(e)pyrene	24.928	-0.3	1332727	1.180	1.184	12.091	12.094	1.87				
102	Benzo(a)pyrene	24.547	-1.8	1320172	1.169	1.218	12.150	12.153	2.59				
103	Perylene	24.626	-1.5	1352345	1.204	1.222	12.242	12.245	1.52				
104	Indeno(1,2,3-cd)pyrene	25.485	1.9	1552263	1.375	1.349	13.253	13.260	5.04				
105	Dibenzo(a,h)anthracene	24.749	-1.0	1255853	1.112	1.124	13.578	13.584	4.34				
106	Benzo(g,h,i)perylene	25.986	3.9	1360492	1.205	1.159	13.966	13.966	2.24				

TM 02-08-16

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	115	0.00
2	T	1,4-Dioxane	25.000	22.596	9.6	107	0.00
3	T	N-nitrosodimethylamine	25.000	26.445	-5.8	119	0.00
4	T	Pyridine	25.000	26.398	-5.6	114	0.00
5	S	2-Fluorophenol	25.000	24.469	2.1	111	0.00
6	S	Phenol-d5	25.000	23.855	4.6	106	0.00
7	C,P	Phenol	25.000	24.760	1.0	112	0.00
8	T	Aniline	25.000	24.691	1.2	111	0.00
9	T,P	bis(2-chloroethyl)ether	25.000	24.841	0.6	111	0.00
10	T,P	2-Chlorophenol	25.000	27.266	-9.1	126	0.00
11	T	1,3-Dichlorobenzene	25.000	25.348	-1.4	115	0.00
12	S	1,2-Dichlorobenzene-d4	25.000	0.000	100.0#	0	0.00
13	C	1,4-Dichlorobenzene	25.000	25.193	-0.8	115	0.00
14	T	Benzyl alcohol	25.000	27.443	-9.8	124	0.00
15	T	1,2-Dichlorobenzene	25.000	24.965	0.1	113	0.00
16	T,P	2-Methylphenol	25.000	24.960	0.2	113	0.00
17	T	bis(2-chloroisopropyl)ether	25.000	26.044	-4.2	119	0.00
18	T,P	4-Methylphenol	25.000	25.055	-0.2	114	0.00
19	P,P	N-Nitroso-di-n-propylamine	25.000	23.620	5.5	109	0.00
20	T,P	Hexachloroethane	25.000	25.382	-1.5	114	0.00
21	I	Naphthalene-d8	40.000	40.000	0.0	116	0.00
22	S	Nitrobenzene-d5 8.333	25.000	7.760	6.9 ~~69.0#~~	~~35~~ 105	0.00
23	T,P	Nitrobenzene	25.000	24.472	2.1	111	0.00
24	T,P	Isophorone	25.000	25.043	-0.2	114	0.00
25	C,P	2-Nitrophenol	25.000	25.474	-1.9	110	0.00
26	T,P	2,4-Dimethylphenol	25.000	24.571	1.7	111	0.00
27	T	Benzoic acid	25.000	22.627	9.5	105	0.00
28	T,P	bis(2-Chloroethoxy)methane	25.000	25.630	-2.5	117	0.00 KV
29	T	3,5-Dimethylphenol	25.000	25.459	-1.8	111	0.00 2/3/16
30	C,P	2,4-Dichlorophenol	25.000	24.247	3.0	110	0.00
31	T	3,4-Dimethylphenol	25.000	25.620	-2.5	116	0.00
32	T	1,2,4-Trichlorobenzene	25.000	25.352	-1.4	117	0.00
33	T,P	Naphthalene	25.000	24.826	0.7	114	0.00
34	T	4-Chloroaniline	25.000	24.264	2.9	110	0.00
35	T	2,6-Dichlorophenol	25.000	25.411	-1.6	115	0.00
36	C	Hexachlorobutadiene	25.000	25.421	-1.7	116	0.00
37	T	Hydroquinone	25.000	0.000	100.0#	0	0.00
38	C,P	4-Chloro-3-methylphenol	25.000	24.974	0.1	113	0.00
39	T,P	2-Methylnaphthalene	25.000	24.288	2.8	111	0.00
40	T	1-Methylnaphthalene	25.000	25.838	-3.4	118	0.00
41	I	Acenaphthene-d10	40.000	40.000	0.0	115	0.00
42	P	Hexachlorocyclopentadiene	25.000	20.676	17.3	94	0.00
43	T	2,3,5-Trichlorophenol	25.000	27.570	-10.3	122	0.00
44	C,P	2,4,6-Trichlorophenol	25.000	25.565	-2.3	116	0.00
45	T,P	2,4,5-Trichlorophenol	25.000	25.260	-1.0	113	0.00
46	S	2-Fluorobiphenyl 8.333	~~25.000~~	7.647	8.2 ~~69.4#~~	~~35~~ 105	0.00
47	T	2,3,4-Trichlorophenol	25.000	25.644	-2.6	118	0.00
48	T	Biphenyl	25.000	24.704	1.2	114	0.00
49	T,P	2-Chloronaphthalene	25.000	24.696	1.2	116	0.00

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	25.000	26.040	-4.2	115	0.00
51	T	2,6-Dimethylnaphthalene	25.000	25.700	-2.8	117	0.00
52	T	1,4-Dinitrobenzene	25.000	25.502	-2.0	110	0.00
53	T	Dimethylphthalate	25.000	26.053	-4.2	120	0.00
54	T	1,3-Dinitrobenzene	25.000	25.843	-3.4	112	0.00
55	T,P	2,6-Dinitrotoluene	25.000	25.311	-1.2	114	0.00
56	T	1,2-Dinitrobenzene	25.000	24.911	0.4	109	0.00
57	T,P	Acenaphthylene	25.000	24.325	2.7	105	0.00
58	T	3-Nitroaniline	25.000	25.467	-1.9	115	0.00
59	C,P	Acenaphthene	25.000	24.757	1.0	114	0.00
60	P	2,4-Dinitrophenol	25.000	20.741	17.0	94	0.00
61	P	4-Nitrophenol	25.000	24.859	0.6	110	0.00
62	T,P	2,4-Dinitrotoluene	25.000	24.327	2.7	107	0.00
63	T,P	Dibenzofuran	25.000	24.476	2.1	113	0.00
64	T	2,3,5,6-Tetrachlorophenol	25.000	24.251	3.0	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	25.000	25.478	-1.9	115	0.00
66	T	2,3,5-Trimethylnaphthalene	25.000	25.699	-2.8	118	0.00
67	T	Diethylphthalate	25.000	26.275	-5.1	119	0.00
68	T,P	Fluorene	25.000	24.822	0.7	114	0.00
69	T,P	4-Chlorophenyl-phenylether	25.000	24.457	2.2	113	0.00
70	T	4-Nitroaniline	25.000	24.202	3.2	104	0.00
71	I	Phenanthrene-d10	40.000	40.000	0.0	112	0.00
72	T	4,6-Dinitro-2-methylphenol	25.000	22.982	8.1	101	0.00
73	C	N-Nitrosodiphenylamine	25.000	23.192	7.2	103	0.00
74	T	Azobenzene	25.000	26.138	-4.6	117	0.00
75	S	2,4,6-Tribromophenol	25.000	23.465	6.1	101	0.00
76	T,P	4-Bromophenyl-phenylether	25.000	25.078	-0.3	113	0.00
77	T,P	Hexachlorobenzene	25.000	25.072	-0.3	113	0.00
78	C,P	Pentachlorophenol	25.000	26.123	-4.5	110	0.00
79	T	Dibenzothiophene	25.000	25.813	-3.3	116	0.00
80	T,P	Phenanthrene	25.000	25.056	-0.2	112	0.00
81	T	Dinoseb	25.000	0.000	100.0#	0	0.00
82	T,P	Anthracene	25.000	24.300	2.8	107	0.00
83	T	Carbazole	25.000	25.060	-0.2	112	0.00
84	T	Di-n-butylphthalate	25.000	26.899	-7.6	116	0.00
85	T	1-Methylphenanthrene	25.000	25.075	-0.3	111	0.00
86	C,P	Fluoranthene	25.000	24.447	2.2	109	0.00
87	I	Chrysene-d12	40.000	40.000	0.0	112	0.00
88	T	Benzidine	25.000	0.000	100.0#	0	0.00
89	T,P	Pyrene	25.000	25.759	-3.0	109	0.00
90	S	Terphenyl-d14	8.333 ~~25.000~~	7.582	9.0 ~~69.7#~~	~~34~~ 162	0.00
91	T	Butylbenzylphthalate	25.000	28.554	-14.2	119	0.00
92	T	bis(2-ethylhexyl)adipate	25.000	26.227	-4.9	110	0.00
93	T	3,3'-Dichlorobenzidine	25.000	23.966	4.1	104	0.00
94	T,P	Benzo(a)anthracene	25.000	24.745	1.0	110	0.00
95	T,P	Chrysene	25.000	25.777	-3.1	115	0.00
96	T	bis(2-Ethylhexyl)phthalate	25.000	26.820	-7.3	115	0.00
97	I	Perylene-d12	40.000	40.000	0.0	113	0.00

KV 2/3/16

pm 02-08-16

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Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	25.000	28.056	-12.2	119	0.00
99	T,P	Benzo(b)fluoranthene	25.000	25.330	-1.3	109	0.00
100	T,P	Benzo(k)fluoranthene	25.000	24.587	1.7	113	0.00
101	T	Benzo(e)pyrene	25.000	24.928	0.3	110	0.00
102	C,P	Benzo(a)pyrene	25.000	24.547	1.8	109	0.00
103	T	Perylene	25.000	24.626	1.5	110	0.00
104	T,P	Indeno(1,2,3-cd)pyrene	25.000	25.485	-1.9	112	0.00
105	T,P	Dibenzo(a,h)anthracene	25.000	24.749	1.0	108	0.00
106	T,P	Benzo(g,h,i)perylene	25.000	25.986	-3.9	116	0.00

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

pu 02-08-16

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
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Vial: 33
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Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.00	
2	T	1,4-Dioxane	0.599	0.541	9.7	107	0.00	
3	T	N-nitrosodimethylamine	0.850	0.899	-5.8	119	0.00	
4	T	Pyridine	1.529	1.615	-5.6	114	0.00	
5	S	2-Fluorophenol	1.314	1.286	2.1	111	0.00	
6	S	Phenol-d5	1.623	1.548	4.6	106	0.00	
7	C,P	Phenol	1.682	1.666	1.0	112	0.00	
8	T	Aniline	2.140	2.113	1.3	111	0.00	
9	T,P	bis(2-chloroethyl)ether	1.275	1.267	0.6	111	0.00	
10	T,P	2-Chlorophenol	1.419	1.548	-9.1	126	0.00	
11	T	1,3-Dichlorobenzene	1.654	1.677	-1.4	115	0.00	
12	S	1,2-Dichlorobenzene-d4	0.000	0.000#	0.0	0#	0.00	
13	C	1,4-Dichlorobenzene	1.680	1.693	-0.8	115	0.00	
14	T	Benzyl alcohol	0.912	1.001	-9.8	124	0.00	
15	T	1,2-Dichlorobenzene	1.604	1.602	0.1	113	0.00	
16	T,P	2-Methylphenol	1.148	1.146	0.2	113	0.00	
17	T	bis(2-chloroisopropyl)ether	2.655	2.766	-4.2	119	0.00	
18	T,P	4-Methylphenol	1.521	1.524	-0.2	114	0.00	
19	P,P	N-Nitroso-di-n-propylamine	1.064	1.006	5.5	109	0.00	
20	T,P	Hexachloroethane	0.642	0.652	-1.6	114	0.00	
21	I	Naphthalene-d8	1.000	1.000	0.0	116	0.00	
22	S	Nitrobenzene-d5	0.451	~~0.140~~ 0.42	~~69~~ 6.9 0.0#	~~35~~ 105 #	0.00	
23	T,P	Nitrobenzene	0.453	0.444	2.0	111	0.00	
24	T,P	Isophorone	0.868	0.870	-0.2	114	0.00	
25	C,P	2-Nitrophenol	0.183	0.186	-1.6	110	0.00	
26	T,P	2,4-Dimethylphenol	0.420	0.413	1.7	111	0.00	
27	T	Benzoic acid	0.243	0.230	5.3	105	0.00	
28	T,P	bis(2-Chloroethoxy)methane	0.454	0.466	-2.6	117	0.00	
29	T	3,5-Dimethylphenol	0.453	0.461	-1.8	111	0.00	
30	C,P	2,4-Dichlorophenol	0.356	0.345	3.1	110	0.00	
31	T	3,4-Dimethylphenol	0.495	0.507	-2.4	116	0.00	
32	T	1,2,4-Trichlorobenzene	0.406	0.412	-1.5	117	0.00	
33	T,P	Naphthalene	1.115	1.107	0.7	114	0.00	
34	T	4-Chloroaniline	0.475	0.461	2.9	110	0.00	
35	T	2,6-Dichlorophenol	0.337	0.342	-1.5	115	0.00	
36	C	Hexachlorobutadiene	0.271	0.276	-1.8	116	0.00	KV
37	T	Hydroquinone	0.000	0.000#	0.0	0#	0.00	2/3/16
38	C,P	4-Chloro-3-methylphenol	0.338	0.337	0.3	113	0.00	
39	T,P	2-Methylnaphthalene	0.784	0.762	2.8	111	0.00	
40	T	1-Methylnaphthalene	0.687	0.710	-3.3	118	0.00	
41	I	Acenaphthene-d10	1.000	1.000	0.0	115	0.00	
42	P	Hexachlorocyclopentadiene	0.502	0.415	17.3	94	0.00	
43	T	2,3,5-Trichlorophenol	0.428	0.472	-10.3	122	0.00	
44	C,P	2,4,6-Trichlorophenol	0.455	0.465	-2.2	8.2 116	0.00	
45	T,P	2,4,5-Trichlorophenol	0.478	0.483	-1.0	113 105	0.00	
46	S	2-Fluorobiphenyl	1.598	~~0.489~~ 1.467	~~69~~ 89.4#	~~35~~ #	0.00	
47	T	2,3,4-Trichlorophenol	0.419	0.430	-2.6	118	0.00	
48	T	Biphenyl	1.629	1.610	1.2	114	0.00	JM 02-08-16
49	T,P	2-Chloronaphthalene	1.340	1.324	1.2	116	0.00	

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	0.378	0.394	-4.2	115	0.00
51	T	2,6-Dimethylnaphthalene	1.154	1.186	-2.8	117	0.00
52	T	1,4-Dinitrobenzene	0.166	0.169	-1.8	110	0.00
53	T	Dimethylphthalate	1.473	1.535	-4.2	120	0.00
54	T	1,3-Dinitrobenzene	0.197	0.203	-3.0	112	0.00
55	T,P	2,6-Dinitrotoluene	0.301	0.305	-1.3	114	0.00
56	T	1,2-Dinitrobenzene	0.127	0.126	0.8	109	0.00
57	T,P	Acenaphthylene	2.122	2.064	2.7	105	0.00
58	T	3-Nitroaniline	0.315	0.321	-1.9	115	0.00
59	C,P	Acenaphthene	1.328	1.315	1.0	114	0.00
60	P	2,4-Dinitrophenol	0.116	0.107	7.8	94	0.00
61	P	4-Nitrophenol	0.206	0.205	0.5	110	0.00
62	T,P	2,4-Dinitrotoluene	0.392	0.381	2.8	107	0.00
63	T,P	Dibenzofuran	1.886	1.846	2.1	113	0.00
64	T	2,3,5,6-Tetrachlorophenol	0.312	0.303	2.9	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.430	0.438	-1.9	115	0.00
66	T	2,3,5-Trimethylnaphthalene	1.080	1.110	-2.8	118	0.00
67	T	Diethylphthalate	1.492	1.568	-5.1	119	0.00
68	T,P	Fluorene	1.469	1.458	0.7	114	0.00
69	T,P	4-Chlorophenyl-phenylether	0.748	0.732	2.1	113	0.00
70	T	4-Nitroaniline	0.324	0.314	3.1	104	0.00
71	I	Phenanthrene-d10	1.000	1.000	0.0	112	0.00
72	T	4,6-Dinitro-2-methylphenol	0.112	0.113	-0.9	101	0.00
73	C	N-Nitrosodiphenylamine	0.683	0.634	7.2	103	0.00
74	T	Azobenzene	0.802	0.838	-4.5	117	0.00
75	S	2,4,6-Tribromophenol	0.096	0.090	6.3	101	0.00
76	T,P	4-Bromophenyl-phenylether	0.240	0.241	-0.4	113	0.00
77	T,P	Hexachlorobenzene	0.244	0.245	-0.4	113	0.00
78	C,P	Pentachlorophenol	0.140	0.146	-4.3	110	0.00
79	T	Dibenzothiophene	1.234	1.274	-3.2	116	0.00
80	T,P	Phenanthrene	1.255	1.258	-0.2	112	0.00
81	T	Dinoseb	0.000	0.000#	0.0	0#	0.00
82	T,P	Anthracene	1.264	1.229	2.8	107	0.00
83	T	Carbazole	1.074	1.077	-0.3	112	0.00
84	T	Di-n-butylphthalate	1.302	1.401	-7.6	116	0.00
85	T	1-Methylphenanthrene	0.890	0.893	-0.3	111	0.00
86	C,P	Fluoranthene	1.414	1.383	2.2	109	0.00
87	I	Chrysene-d12	1.000	1.000	0.0	112	0.00
88	T	Benzidine	0.000	0.000#	0.0	0#	0.00
89	T,P	Pyrene	1.368	1.409	-3.0	109	0.00
90	S	Terphenyl-d14	0.856	0.260	69.6#	34#	0.00
91	T	Butylbenzylphthalate	0.464	0.530	-14.2	119	0.00
92	T	bis(2-ethylhexyl)adipate	0.381	0.400	-5.0	110	0.00
93	T	3,3'-Dichlorobenzidine	0.412	0.395	4.1	104	0.00
94	T,P	Benzo(a)anthracene	1.236	1.223	1.1	110	0.00
95	T,P	Chrysene	1.142	1.178	-3.2	115	0.00
96	T	bis(2-Ethylhexyl)phthalate	0.716	0.768	-7.3	115	0.00
97	I	Perylene-d12	1.000	1.000	0.0	113	0.00

8.9 102 .78 KV 2/3/16

Evaluate Continuing Calibration Report

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	1.359	1.525	-12.2	119	0.00
99	T,P	Benzo(b)fluoranthene	1.283	1.300	-1.3	109	0.00
100	T,P	Benzo(k)fluoranthene	1.293	1.271	1.7	113	0.00
101	T	Benzo(e)pyrene	1.184	1.180	0.3	110	0.00
102	C,P	Benzo(a)pyrene	1.218	1.196	1.8	109	0.00
103	T	Perylene	1.222	1.204	1.5	110	0.00
104	T,P	Indeno(1,2,3-cd)pyrene	1.349	1.375	-1.9	112	0.00
105	T,P	Dibenzo(a,h)anthracene	1.124	1.112	1.1	108	0.00
106	T,P	Benzo(g,h,i)perylene	1.159	1.205	-4.0	116	0.00

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

KU 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.015	152	489141	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1779787	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	1073834	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1895693	40.00	ppm	0.00
87) Chrysene-d12	10.786	240	2074726	40.00	ppm	0.00
97) Perylene-d12	12.213	264	1806442	40.00	ppm	0.00
System Monitoring Compounds						
5) 2-Fluorophenol	2.075	112	393116	24.47	ppm	0.00
Spiked Amount 30.000			Recovery = 81.57%			
6) Phenol-d5	2.665	99	473365	23.86	ppm	0.00
Spiked Amount 30.000			Recovery = 79.53%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	155855	7.76	ppm	0.00
Spiked Amount 10.000			Recovery = 77.60%			
46) 2-Fluorobiphenyl	5.466	172	328057	7.65	ppm	0.00
Spiked Amount 10.000			Recovery = 76.50%			
75) 2,4,6-Tribromophenol	7.214	330	106904	23.47	ppm	0.00
Spiked Amount 30.000			Recovery = 78.23%			
90) Terphenyl-d14	9.707	244	336765	7.58	ppm	0.00
Spiked Amount 10.000			Recovery = 75.80%			
Target Compounds						Qvalue
2) 1,4-Dioxane	1.366	88	165529	22.60	ppm	97
3) N-nitrosodimethylamine	1.477	74	274941	26.45	ppm	99
4) Pyridine	1.510	79	493685	26.40	ppm	99
7) Phenol	2.675	94	509189	24.76	ppm	99
8) Aniline	2.743	93	646048	24.69	ppm	99
9) bis(2-chloroethyl)ether	2.774	93	387198	24.84	ppm	98
10) 2-Chlorophenol	2.842	128	473123	27.27	ppm	85
11) 1,3-Dichlorobenzene	2.972	146	512821	25.35	ppm	99
13) 1,4-Dichlorobenzene	3.030	146	517539	25.19	ppm	100
14) Benzyl alcohol	3.111	108	306097	27.44	ppm	97
15) 1,2-Dichlorobenzene	3.164	146	489716	24.96	ppm	99
16) 2-Methylphenol	3.188	107	350318	24.96	ppm	97
17) bis(2-chloroisopropyl)...	3.226	45	845452	26.04	ppm	99
18) 4-Methylphenol	3.327	107	465958	25.05	ppm	100
19) N-Nitroso-di-n-propyla...	3.351	70	307409	23.62	ppm	94
20) Hexachloroethane	3.475	117	199174	25.38	ppm	99
23) Nitrobenzene	3.528	77	493471	24.47	ppm	99
24) Isophorone	3.758	82	967528	25.04	ppm	100
25) 2-Nitrophenol	3.840	139	207281	25.47	ppm	99
26) 2,4-Dimethylphenol	3.854	107	459153	24.57	ppm	99
27) Benzoic acid	3.940	105	255565	22.63	ppm	100
28) bis(2-Chloroethoxy)met...	3.964	93	517829	25.63	ppm	99
29) 3,5-Dimethylphenol	3.993	107	513128	25.46	ppm	100
30) 2,4-Dichlorophenol	4.080	162	383974	24.25	ppm	99
31) 3,4-Dimethylphenol	4.176	107	563717	25.62	ppm	99
32) 1,2,4-Trichlorobenzene	4.181	180	458482	25.35	ppm	99
33) Naphthalene	4.273	128	1231112	24.83	ppm	100
34) 4-Chloroaniline	4.316	127	512483	24.26	ppm	100
35) 2,6-Dichlorophenol	4.326	162	380739	25.41	ppm	99
36) Hexachlorobutadiene	4.398	225	307063	25.42	ppm	100

RM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.837	107	375198	24.97	ppm	99
39)	2-Methylnaphthalene	5.038	142	847484	24.29	ppm	100
40)	1-Methylnaphthalene	5.153	142	789365	25.84	ppm	99
42)	Hexachlorocyclopentadiene	5.220	237	278733	20.68	ppm	99
43)	2,3,5-Trichlorophenol	5.225	196	316541	27.57	ppm	97
44)	2,4,6-Trichlorophenol	5.355	196	312201	25.56	ppm	99
45)	2,4,5-Trichlorophenol	5.394	196	324477	25.26	ppm	99
47)	2,3,4-Trichlorophenol	5.471	196	288666	25.64	ppm	99
48)	Biphenyl	5.586	154	1080316	24.70	ppm	99
49)	2-Chloronaphthalene	5.606	162	888400	24.70	ppm	100
50)	2-Nitroaniline	5.725	65	264162	26.04	ppm	99
51)	2,6-Dimethylnaphthalene	5.773	156	796029	25.70	ppm	100
52)	1,4-Dinitrobenzene	5.894	168	113568	25.50	ppm	97
53)	Dimethylphthalate	5.956	163	1030100	26.05	ppm	100
54)	1,3-Dinitrobenzene	5.980	168	136331	25.84	ppm	98
55)	2,6-Dinitrotoluene	6.019	165	204654	25.31	ppm	100
56)	1,2-Dinitrobenzene	6.082	168	84858	24.91	ppm	97
57)	Acenaphthylene	6.101	152	1385515	24.32	ppm	97
58)	3-Nitroaniline	6.216	138	215352	25.47	ppm	98
59)	Acenaphthene	6.312	153	882531	24.76	ppm	100
60)	2,4-Dinitrophenol	6.341	184	72069	20.74	ppm	97
61)	4-Nitrophenol	6.408	109	137625	24.86	ppm	99
62)	2,4-Dinitrotoluene	6.504	165	255773	24.33	ppm	98
63)	Dibenzofuran	6.518	168	1239160	24.48	ppm	100
64)	2,3,5,6-Tetrachlorophenol	6.610	230	203399	24.25	ppm	99
65)	2,3,4,6-Tetrachlorophenol	6.662	232	293976	25.48	ppm	98
66)	2,3,5-Trimethylnaphtha...	6.776	170	744817	25.70	ppm	99
67)	Diethylphthalate	6.814	149	1052601	26.28	ppm	100
68)	Fluorene	6.936	166	978678	24.82	ppm	99
69)	4-Chlorophenyl-phenyle...	6.940	204	491256	24.46	ppm	98
70)	4-Nitroaniline	6.954	138	210521	24.20	ppm	94
72)	4,6-Dinitro-2-methylph...	6.992	198	134236	22.98	ppm	97
73)	N-Nitrosodiphenylamine	7.077	169	751234	23.19	ppm	99
74)	Azobenzene	7.129	77	993325	26.14	ppm	100
76)	4-Bromophenyl-phenylether	7.509	248	285435	25.08	ppm	99
77)	Hexachlorobenzene	7.565	284	290392	25.07	ppm	99
78)	Pentachlorophenol	7.792	266	172981	26.12	ppm	97
79)	Dibenzothiophene	7.891	184	1509521	25.81	ppm	97
80)	Phenanthrene	8.037	178	1490080	25.06	ppm	100
82)	Anthracene	8.089	178	1455584	24.30	ppm	100
83)	Carbazole	8.267	167	1275569	25.06	ppm	99
84)	Di-n-butylphthalate	8.659	149	1660019	26.90	ppm	100
85)	1-Methylphenanthrene	8.702	192	1057563	25.08	ppm	99
86)	Fluoranthene	9.311	202	1638390	24.45	ppm	99
89)	Pyrene	9.547	202	1827352	25.76	ppm	99
91)	Butylbenzylphthalate	10.218	149	686803	28.55	ppm	99
92)	bis(2-ethylhexyl)adipate	10.295	129	518849	26.23	ppm	98
93)	3,3'-Dichlorobenzidine	10.747	252	512206	23.97	ppm	100
94)	Benzo(a)anthracene	10.777	228	1586069	24.74	ppm	99
95)	Chrysene	10.811	228	1527372	25.78	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.796	149	996004	26.82	ppm	99
98)	Di-n-octylphthalate	11.417	149	1721627	28.06	ppm	100
99)	Benzo(b)fluoranthene	11.806	252	1467439	25.33	ppm	96
100)	Benzo(k)fluoranthene	11.835	252	1435344	24.59	ppm	99
101)	Benzo(e)pyrene	12.091	252	1332727	24.93	ppm	98

PM 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc Units	Dev(Min)
102) Benzo(a)pyrene	12.150	252	1350115	24.55 ppm	99
103) Perylene	12.242	252	1359345	24.63 ppm	99
104) Indeno(1,2,3-cd)pyrene	13.553	276	1552263	25.49 ppm	96
105) Dibenzo(a,h)anthracene	13.578	278	1255853	24.75 ppm	99
106) Benzo(g,h,i)perylene	13.966	276	1360492	25.99 ppm	100

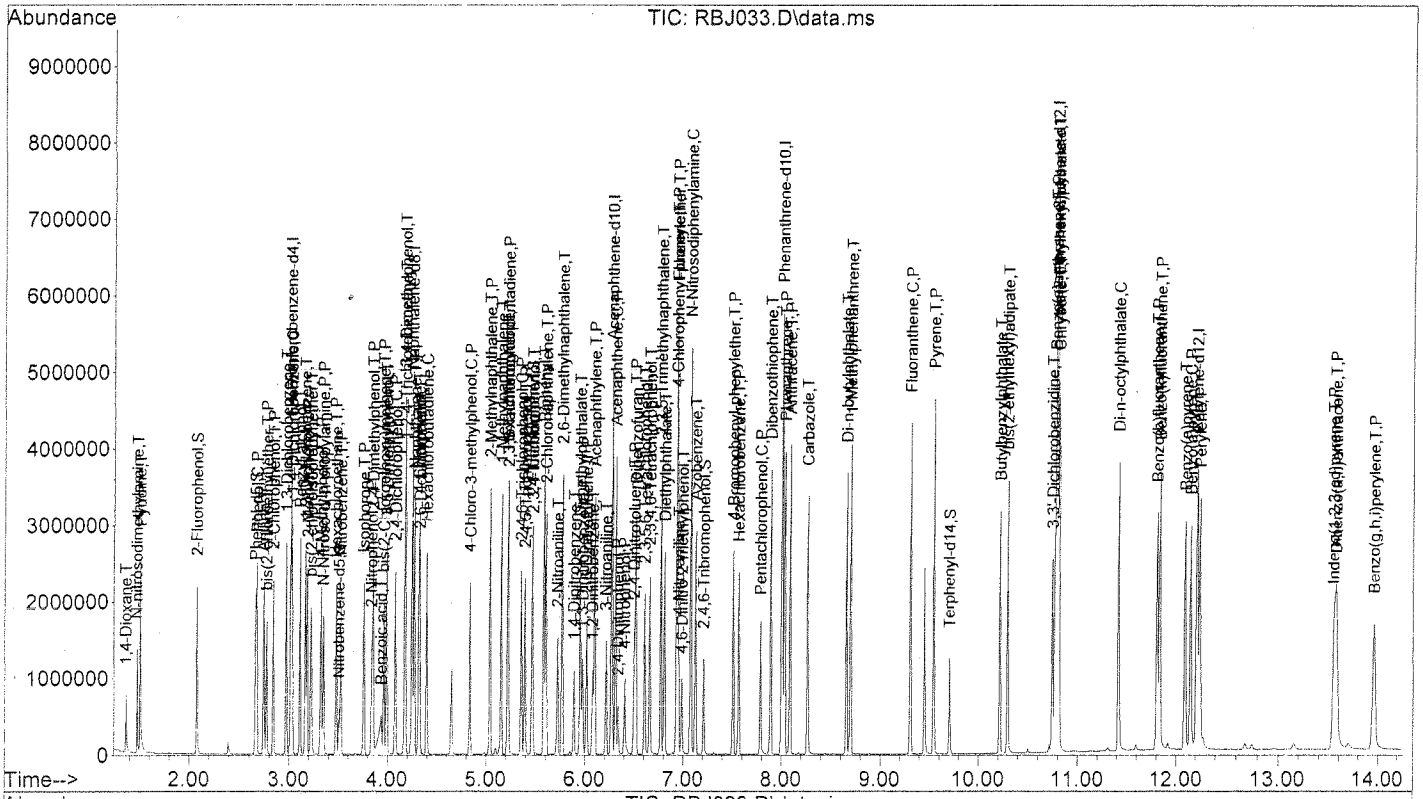
(#) = qualifier out of range (m) = manual integration (+) = signals summed

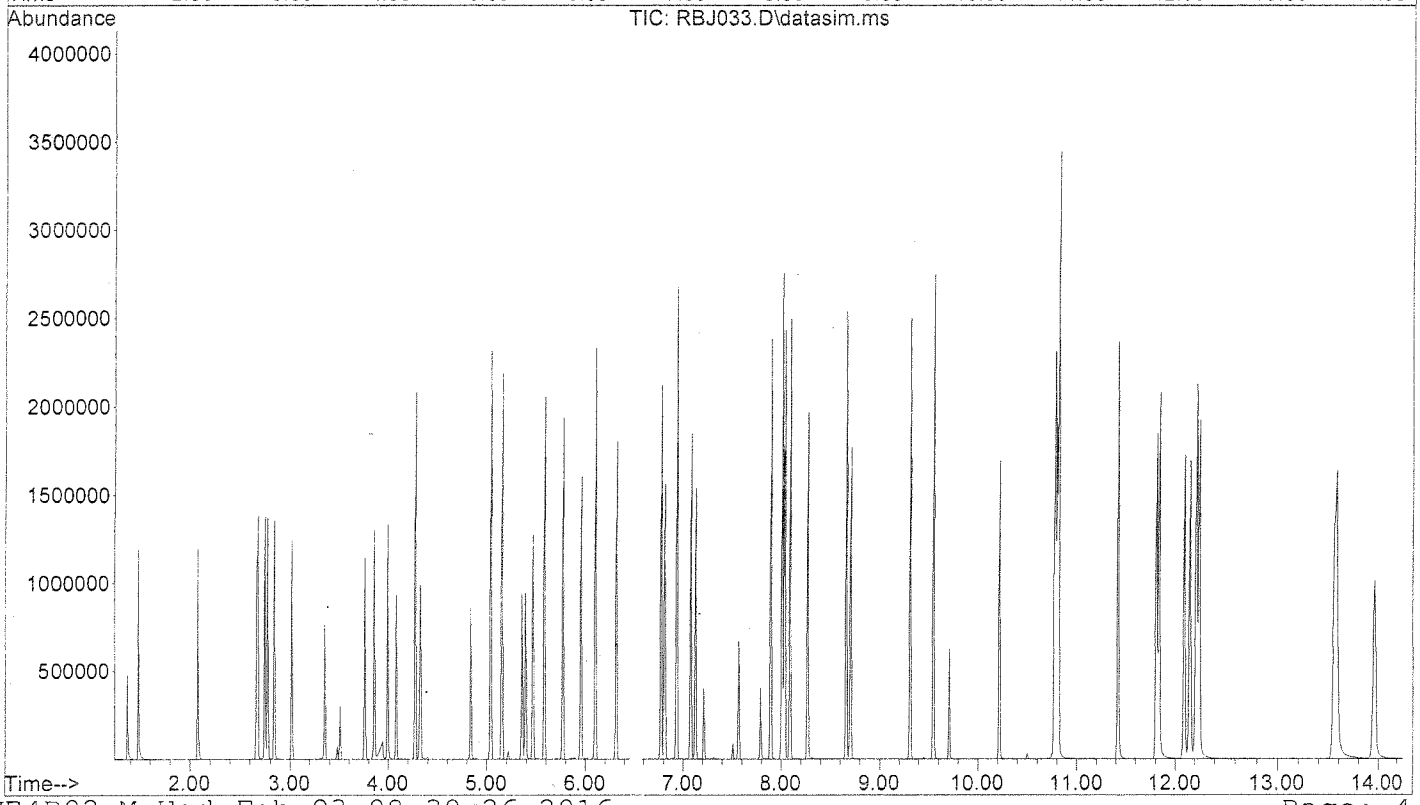
M 02-08-16

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16B02\RBJ033.D
Acq On : 2 Feb 2016 18:46
Sample : ISVE4B022
Misc : ICV
Integrator: RTE
Quant Time: Feb 03 08:29:33 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 33
Operator: KVu
Inst : E4
Multiplr: 1.00





02-08-16

DAILY CALIBRATIONS

5B

SEMIVOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK

DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: REJ381
Instrument ID: TOE4

Project: CANNON AFB PBR
SDG No.: 16E133
DFTPP Injection Date: 05/25/16
DFTPP Injection Time: 10:53

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	10.0 - 80.0% of mass 198	43.45
68	Less than 2% of mass 69	0.33(0.8)1
69	% of mass 198	38.77
70	Less than 2% of mass 69	0.00(0.0)1
127	10.0 - 80.0% of mass 198	45.42
197	Less than 2.0% of mass 198	0.19
198	Base Peak, 100	100.00
199	5.0 - 9.0% of mass 198	7.26
275	10.0 - 60.0% of mass 198	21.63
365	Greater than 1.00% of mass 198	2.19
441	Present, but less than 24% of mass 442	8.86(15.5)2
442	Greater than 50% of mass 198	57.03
443	15.0 - 24.0% of mass 442	11.50(20.2)2

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

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

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
1	SSTD025	CSVE4B0289	REJ382	05/25/16	11:05
2	MBLK1W	SVE030WB	REJ384	05/25/16	11:45
3	LCS1W	SVE030WL	REJ385	05/25/16	12:04
4	LCD1W	SVE030WC	REJ386	05/25/16	12:24
5	MBLK2W	TXE014SB	REJ392	05/25/16	14:19
6	CAFB-IDW-S-05132016	E133-03	REJ393	05/25/16	14:39

8B

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:CANNON AFB PBR
SDG No.: 16E133
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS1(DCB) AREA #	RT #	IS2(NPT) AREA #	RT #	IS3(ANT) AREA #	RT #
	12 HOUR STD	424119	3.02	1535126	4.25	929909	6.27
	UPPER LIMIT	848238	3.52	3070252	4.75	1859818	6.77
	LOWER LIMIT	212060	2.52	767563	3.75	464955	5.77
	SAMPLE ID						
1	SSTD025	430904	3.01	1508556	4.25	937155	6.27
2	MBLK1W	377102	3.01	1329788	4.24	853411	6.27
3	LCS1W	441932	3.01	1558243	4.24	991303	6.27
4	LCD1W	444814	3.01	1585351	4.24	1003576	6.27
5	MBLK2W	380441	3.01	1376663	4.24	892711	6.27
6	CAFB-IDW-S-05132016	418852	3.01	1476087	4.24	961646	6.27

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

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

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

8C

SEMIVOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: EMAX Inc
Lab Code: EMXT
Lab File ID: RBJ007
Instrument ID: TOE4

Project:CANNON AFB PBR
SDG No.: 16E133
Date Analyzed: 02/02/16
Time Analyzed: 10:25

		IS4(PHN) AREA #	RT #	IS5(CRY) AREA #	RT #	IS6(PRY) AREA #	RT #
	12 HOUR STD	1694673	8.01	1850796	10.79	1601653	12.22
	UPPER LIMIT	3389346	8.51	3701592	11.29	3203306	12.72
	LOWER LIMIT	847337	7.51	925398	10.29	800827	11.72
	SAMPLE ID						
1	SSTD025	1710569	8.01	1716159	10.80	1433864	12.23
2	MBLK1W	1665667	8.01	1634132	10.79	1309526	12.22
3	LCS1W	1859813	8.01	1842101	10.79	1514156	12.23
4	LCD1W	1905313	8.01	1861701	10.79	1536220	12.22
5	MBLK2W	1727330	8.00	1680730	10.79	1395417	12.22
6	CAFB-IDW-S-05132016	1846921	8.01	1830537	10.79	1550353	12.22

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

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

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

CONTINUE_CALIBRATION - CALIBRATION VERIFICATION

Instrument ID :E4
IC Beginning DateTime :02/02/16 09:09
Spike Amount :25 PPM
CC/CV File :REJ382
IC File :RBJ007

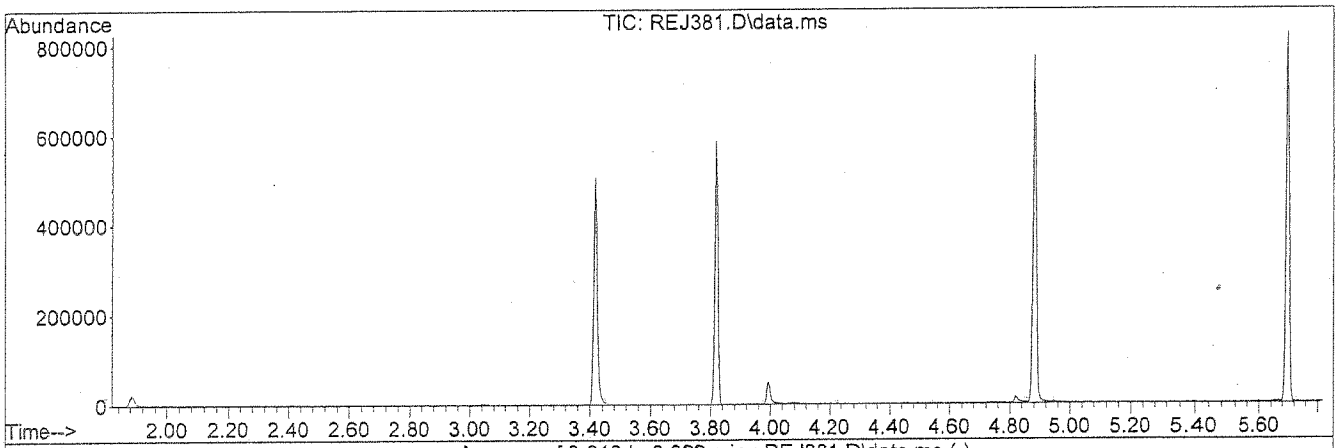
Column Spec :ZB-SEMIVOA ID :0.18MM
IC Ending DateTime :02/02/16 11:23
HPChem Method :SVE4B02
Date_Time :05/25/16 11:05

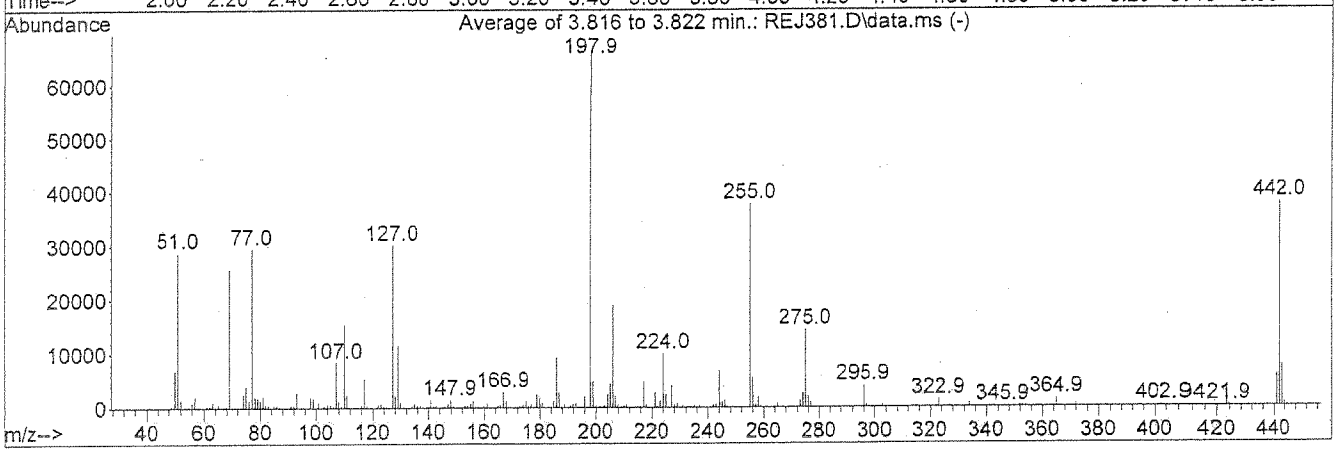
M IDX	Parameters	CC Con	CC% D	CC Resp	CCRRF	AVRRF	CC Rtm	AVRtm	% RSD	Co X0	Co X1	Co X2	Co Cor
1	1,4-Dichlorobenzene-d4	40.000	0	430904	1	1	3.010	3.015	0				
2	1,4-Dioxane	23.423	-6.3	151157	0.561	0.599	1.352	1.367	6.63				
3	N-nitrosodimethylamine	23.964	-4.1	219479	0.815	0.850	1.467	1.477	1.37				
4	Pyridine	24.887	-0.5	410012	1.522	1.529	1.491	1.502	7.97				
5	2-Fluorophenol	24.107	-3.6	341177	1.267	1.314	2.065	2.072	1.13				
6	Phenol-d5	25.083	0.3	438467	1.628	1.623	2.659	2.659	1.86				
7	Phenol	24.774	-0.9	448814	1.667	1.682	2.670	2.671	1.81				
8	Aniline	24.161	-3.4	556920	2.068	2.140	2.743	2.744	2.23				
9	bis(2-chloroethyl)ether	25.045	0.2	343896	1.277	1.275	2.769	2.772	2.19				
10	2-Chlorophenol	25.908	3.6	396026	1.470	1.419	2.837	2.838	3.81				
11	1,3-Dichlorobenzene	25.162	0.6	448459	1.665	1.654	2.967	2.972	1.34				
12	1,2-Dichlorobenzene-d4												
13	1,4-Dichlorobenzene	24.874	-0.5	450154	1.671	1.680	3.030	3.030	1.55				
14	Benzyl alcohol	24.277	-2.9	238545	0.886	0.912	3.106	3.109	2.45				
15	1,2-Dichlorobenzene	25.059	0.2	433035	1.608	1.604	3.159	3.165	2.20				
16	2-Methylphenol	24.185	-3.3	299036	1.110	1.148	3.183	3.184	1.93				
17	bis(2-chloroisopropyl)ether	23.563	-5.7	673829	2.502	2.655	3.226	3.229	3.22				
18	4-Methylphenol	23.292	-6.8	381605	1.417	1.521	3.327	3.321	4.06				
19	N-Nitroso-di-n-propylamine	23.331	-6.7	267502	0.993	1.064	3.351	3.351	5.54				
20	Hexachloroethane	25.026	0.1	172999	0.642	0.642	3.470	3.477	2.07				
21	Naphthalene-d8	40.000	0	1508556	1	1	4.248	4.247	0				
22	Nitrobenzene-d5	25.379	1.5	432012	0.458	0.451	3.509	3.508	1.58				
23	Nitrobenzene	25.335	1.3	433007	0.459	0.453	3.528	3.528	1.42				
24	Isophorone	25.236	0.9	822401	0.876	0.868	3.758	3.758	1.97				
25	2-Nitrophenol	29.823	19.3	205687	0.218	0.183	3.840	3.839	7.64				
26	2,4-Dimethylphenol	24.807	-0.8	392926	0.417	0.420	3.854	3.854	1.54				
27	Benzoic acid	27.378	9.5	266396	0.283	0.243	3.945	3.946	15.58	-0.0135	0.2778		0.9993
28	bis(2-Chloroethoxy)methane	25.421	1.7	435346	0.462	0.454	3.964	3.965	2.26				
29	3,5-Dimethylphenol	25.624	2.5	437755	0.464	0.453	3.993	3.993	7.12				
30	2,4-Dichlorophenol	26.226	4.9	352024	0.373	0.356	4.080	4.077	2.03				
31	2,4-Dimethylphenol	25.149	0.6	469033	0.497	0.495	4.176	4.172	1.72				
32	1,2,4-Trichlorobenzene	25.191	0.8	386138	0.410	0.406	4.176	4.176	2.23				
33	Naphthalene	24.822	-0.7	1043342	1.107	1.115	4.268	4.270	2.29				
34	4-Chloroaniline	24.932	-0.3	446349	0.473	0.475	4.316	4.315	1.94				
35	2,6-Dichlorophenol	26.147	4.6	332062	0.352	0.337	4.326	4.324	1.66				
36	Hexachlorobutadiene	25.663	2.7	262744	0.279	0.271	4.393	4.395	1.22				
37	Hydroquinone												
38	4-Chloro-3-methylphenol	26.089	4.4	332227	0.352	0.338	4.842	4.836	3.57				
39	2-Methylnaphthalene	24.648	-1.4	728992	0.773	0.784	5.038	5.032	2.67				
40	1-Methylnaphthalene	24.717	-1.1	640036	0.679	0.687	5.153	5.153	2.73				
41	Acenaphthene-d10	40.000	0	937155	1	1	6.274	6.272	0				
42	Hexachlorocyclopentadiene	22.926	-8.3	269730	0.461	0.502	5.215	5.218	4.45				
43	2,3,5-Trichlorophenol	28.886	15.5	289433	0.494	0.428	5.230	5.223	9.04				
44	2,4,6-Trichlorophenol	26.171	4.7	278920	0.476	0.455	5.355	5.356	4.02				
45	2,4,5-Trichlorophenol	26.318	5.3	295037	0.504	0.478	5.398	5.391	3.93				
46	2-Fluorobiphenyl	24.087	-3.7	901825	1.540	1.598	5.466	5.466	2.17				
47	2,3,4-Trichlorophenol	26.994	8.0	265191	0.453	0.419	5.471	5.469	1.40				
48	Biphenyl	23.695	-5.2	904308	1.544	1.629	5.582	5.585	2.80				
49	2-Chloronaphthalene	22.220	4.9	823160	1.405	1.340	5.606	5.606	3.36				
50	2-Nitroaniline	26.269	5.1	232567	0.397	0.378	5.725	5.721	6.20				
51	2,6-Dimethylnaphthalene	24.544	-1.8	663465	1.133	1.154	5.768	5.771	1.76				
52	1,4-Dinitrobenzene	28.830	15.3	112044	0.191	0.166	5.893	5.890	10.58				
53	Dimethylphthalate	24.954	-0.2	861054	1.470	1.473	5.951	5.955	1.25				
54	1,3-Dinitrobenzene	26.639	6.6	122643	0.209	0.197	5.985	5.979	9.11				
55	2,6-Dinitrotoluene	26.696	6.8	188380	0.322	0.301	6.019	6.019	3.30				
56	1,2-Dinitrobenzene	26.441	5.8	78604	0.134	0.127	6.082	6.079	6.06				
57	Acenaphthylene	25.965	3.9	1290720	2.204	2.122	6.101	6.101	4.18				
58	3-Nitroaniline	26.564	6.3	196035	0.335	0.315	6.221	6.216	3.68				
59	Acenaphthene	24.634	-1.5	766376	1.308	1.328	6.312	6.312	1.93				
60	2,4-Dinitrophenol	29.662	18.6	94001	0.160	0.116	6.346	6.339	26.38	-0.0101	0.1488		0.9982
61	4-Nitrophenol	25.070	0.3	121130	0.207	0.206	6.418	6.406	10.34				
62	2,4-Dinitrotoluene	26.730	6.9	245266	0.419	0.392	6.504	6.503	7.16				
63	Dibenzofuran	24.226	-3.1	1070390	1.827	1.886	6.518	6.519	1.94				
64	2,3,5,6-Tetrachlorophenol	27.738	11.0	203035	0.347	0.312	6.609	6.609	7.84				
65	2,3,4,6-Tetrachlorophenol	24.770	-0.9	249424	0.426	0.430	6.662	6.661	4.25				
66	2,3,5-Trimethylnaphthalene	28.007	12.0	708387	1.209	1.080	6.772	6.774	1.25				
67	Diethylphthalate	23.232	-7.1	812233	1.387	1.492	6.809	6.811	1.03				
68	Fluorene	24.671	-1.3	848911	1.449	1.469	6.931	6.933	1.82				
69	4-Chlorophenyl-phenylether	24.821	-0.7	435106	0.743	0.748	6.936	6.939	1.34				
70	4-Nitroaniline	24.402	-2.4	185243	0.316	0.324	6.959	6.951	8.12				
71	Phenanthrene-d10	40.000	0	1710569	1	1	8.009	8.008	0				
72	4,6-Dinitro-2-methylphenol	29.303	17.2	157953	0.148	0.112	6.992	6.988	21.93	-0.0075	0.1362		0.9998
73	N-Nitrosodiphenylamine	24.831	-0.7	725788	0.679	0.683	7.077	7.078	1.47				
74	Azobenzene	23.572	-5.7	808310	0.756	0.802	7.125	7.128	1.51				
75	2,4,6-Tribromophenol	27.911	11.6	114741	0.107	0.096	7.215	7.211	7.59				
76	4-Bromophenyl-phenylether	27.850	11.4	286036	0.268	0.240	7.509	7.508	2.11				
77	Hexachlorobenzene	24.278	-2.9	253729	0.237	0.244	7.566	7.566	1.23				
78	Pentachlorophenol	27.514	10.1	164402	0.154	0.140	7.792	7.789	12.24				
79	Dibenzothiophene	23.727	-5.1	1252042	1.171	1.234	7.891	7.891	2.20				
80	Phenanthrene	23.434	-6.3	1257547	1.176	1.255	8.038	8.034	1.91				
81	Dinoseb												
82	Anthracene	23.947	-4.2	1294353	1.211	1.264	8.094	8.090	0.90				
83	Carbazole	23.207	-7.2	1065909	0.997	1.074	8.273	8.267	1.46				
84	Di-n-butylphthalate	23.162	-7.4	1289805	1.206	1.302	8.655	8.660	3.60				
85	1-Methylphenanthrene	23.228	-7.1	883991	0.827	0.890	8.708	8.702	1.11				
86	Fluoranthene	23.488	-6.0	1420370	1.329	1.414	9.316	9.311	1.15				
87	Chrysene-d12	40.000	0	1716159	1	1	10.797	10.788	0				
88	Benzidine												
89	Pyrene	25.555	2.2	1499568	1.398	1.368	9.552	9.547	3.42				
90	Terphenyl-d14	26.329	5.3	967255	0.902	0.856	9.716	9.713	1.41				
91	Butylbenzylphthalate	28.344	13.4	563928	0.526	0.464	10.218	10.219	11.98				
92	bis(2-ethylhexyl)adipate	27.430	9.7	448863	0.418	0.381	10.291	10.298	10.19				
93	3,3'-Dichlorobenzidine	27.355	9.4	483601	0.451	0.412	10.758	10.748	6.19				
94	Benzo(a)anthracene	24.875	-0.5	1318855	1.230	1.236	10.782	10.777	1.31				
95	Chrysene	24.669	-1.3	1209095	1.127	1.142	10.821	10.814	1.42				
96	bis(2-Ethylhexyl)phthalate	25.969	3.9	797729	0.744	0.716	10.797	10.799	6.46				
97	Perylene-d12	40.000	0	1433864	1	1	12.233	12.215	0				
98	Di-n-octylphthalate	29.138	16.6	1419215	1.584	1.359	11.418	11.420	11.88				
99	Benzo(b)fluoranthene	25.750	3.0	1184105	1.321	1.283	11.826	11.809	3.32				
100	Benzo(k)fluoranthene	26.742	7.0	1239170	1.383	1.293	11.850	11.837	2.85				
101	Benzo(e)pyrene	25.950	3.8	1101223	1.229	1.184	12.111	12.094	1.87				
102	Benzo(a)pyrene	26.598	6.4	1161217	1.296	1.218	12.170	12.152	2.29				
103	Perylene	25.507	2.0	1117548	1.247	1.222	12.262	12.245	1.55				
104	Indeno(1,2,3-cd)pyrene	25.369	1.5	1226467	1.369	1.349	13.583	13.560	5.04				
105	Dibenzo(a,h)anthracene	25.078	0.3	1010053	1.127	1.124	13.603	13.584	4.34				
106	Benzo(g,h,i)perylene	24.906	-0.4	1034989	1.155	1.159	13.991	13.966	2.24				

Data Path : D:\DATA\16E25\
Data File : REJ381.D
Acq On : 25 May 2016 10:53
Operator : KVu
Sample : DFTE4B0289
Misc :
ALS Vial : 2 Sample Multiplier: 1

Integration File: rteint.p

Method : C:\msdchem\1\METHODS\DFTPPD.M
Title : Semivolatiles DFTPP 8270D
Last Update : Wed Apr 20 08:56:50 2016





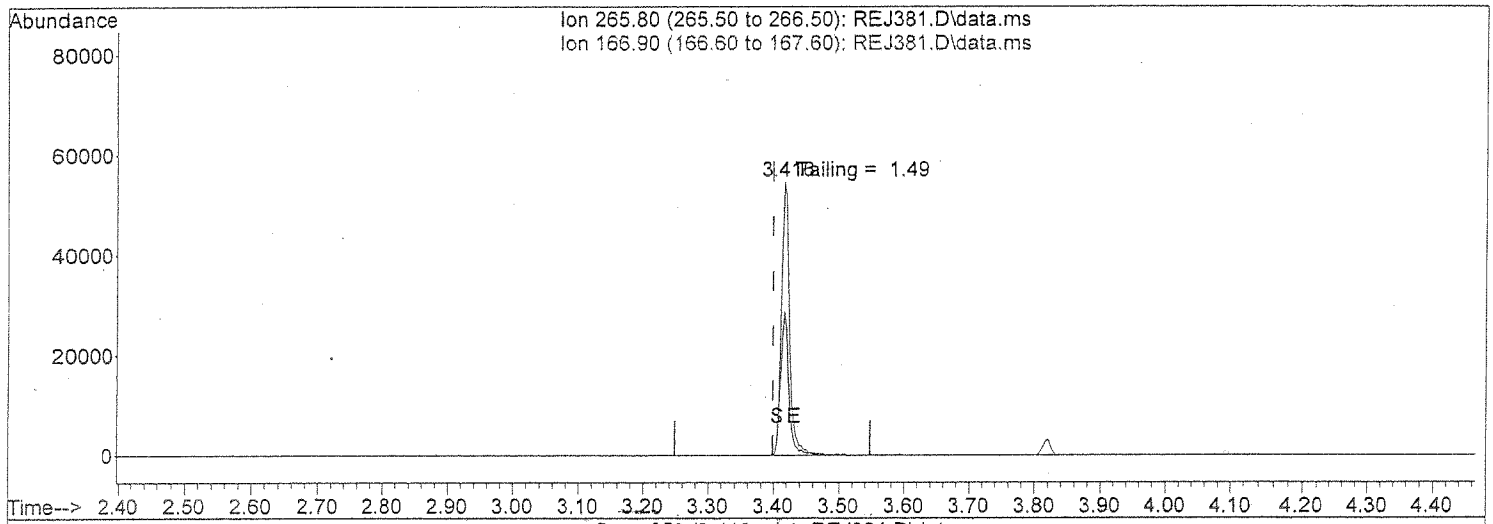
AutoFind: Scans 792, 793, 794; Background Corrected with Scan 785

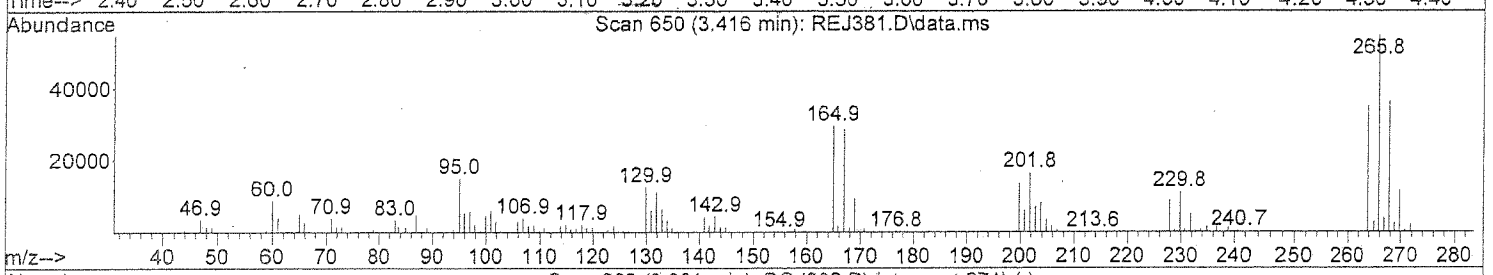
Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
51	198	10	80	43.5	28840	PASS
68	69	0.00	2	0.8	218	PASS
69	198	0.00	100	38.8	25733	PASS
70	69	0.00	2	0.0	0	PASS
127	198	10	80	45.4	30144	PASS
197	198	0.00	2	0.2	128	PASS
198	198	100	100	100.0	66371	PASS
199	198	5	9	7.3	4822	PASS
275	198	10	60	21.6	14354	PASS
365	198	1	100	2.2	1457	PASS
441	442	0.01	24	15.5	5878	PASS
442	198	50	100	57.0	37851	PASS
443	442	15	24	20.2	7630	PASS

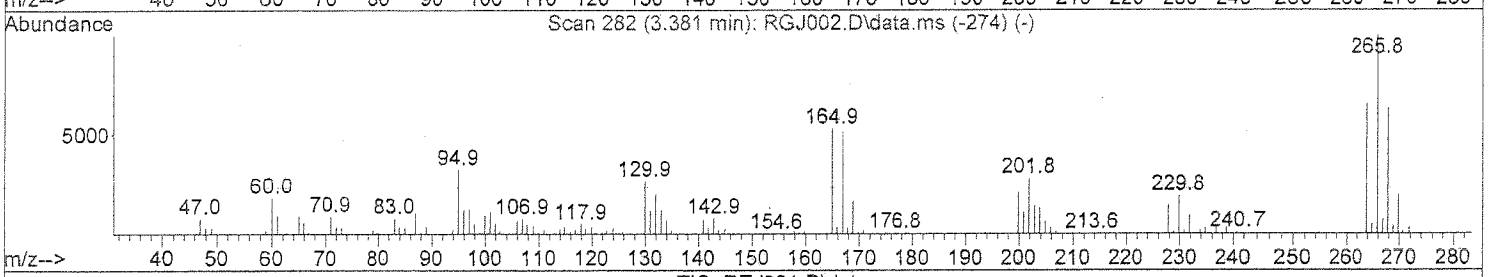
Quantitation Report (Qedit)

Data File : D:\DATA\16E25\REJ381.D
Acq On : 25 May 2016 10:53
Sample : DFTE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 10:59:20 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ381.D\data.ms

(1) Pentachlorophenol (T)

3.416min (+0.017) 26.19 ppm

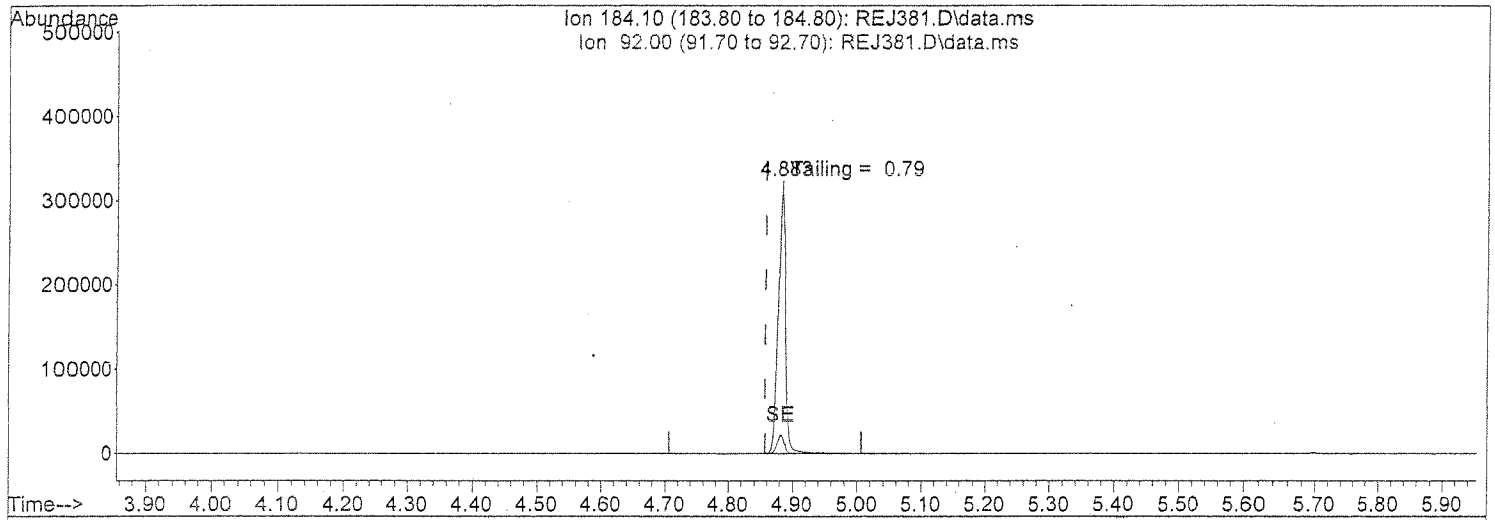
response 47914

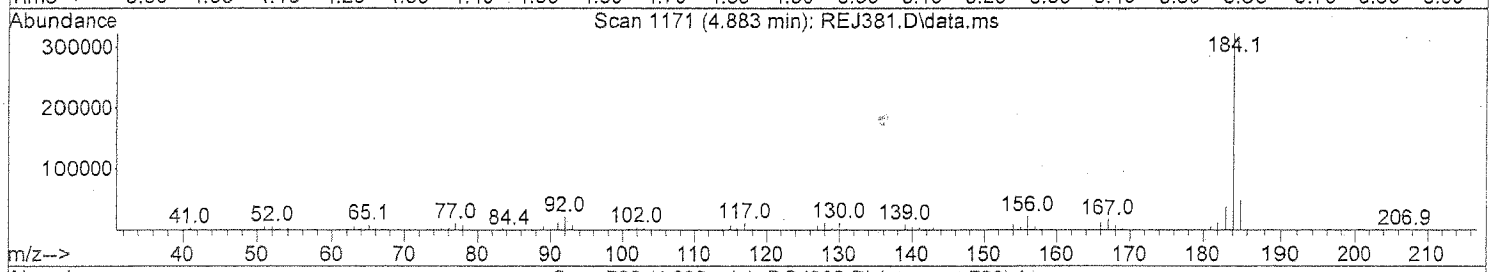
Ion	Exp%	Act%
265.80	100	100
166.90	53.80	50.67
0.00	0.00	0.00
0.00	0.00	0.00

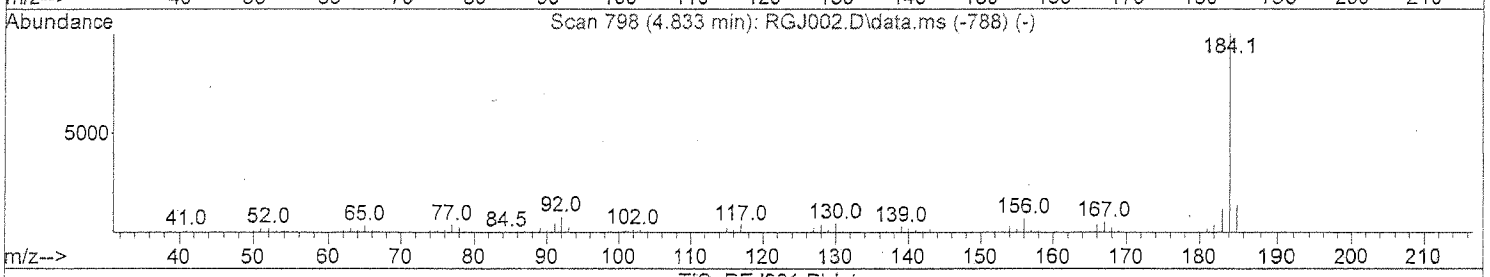
Quantitation Report (Qedit)

Data File : D:\DATA\16E25\REJ381.D
Acq On : 25 May 2016 10:53
Sample : DFTE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 10:59:20 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ381.D\data.ms

(3) Benzidine (T)

4.883min (+0.026) 20.85 ppm

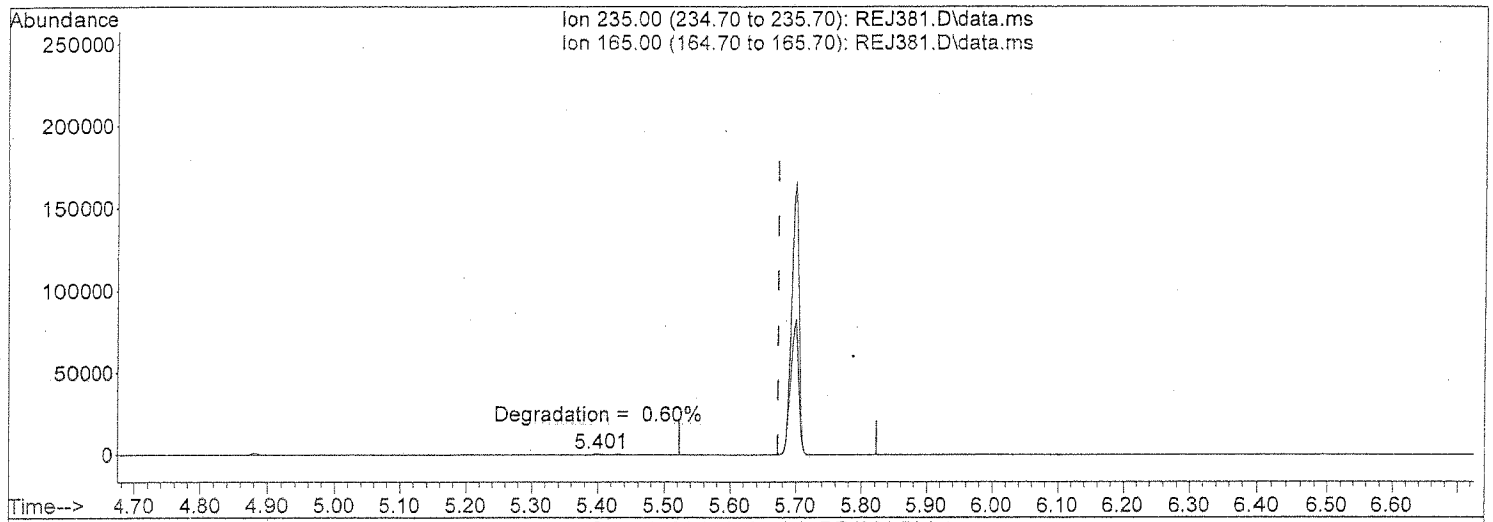
response 258186

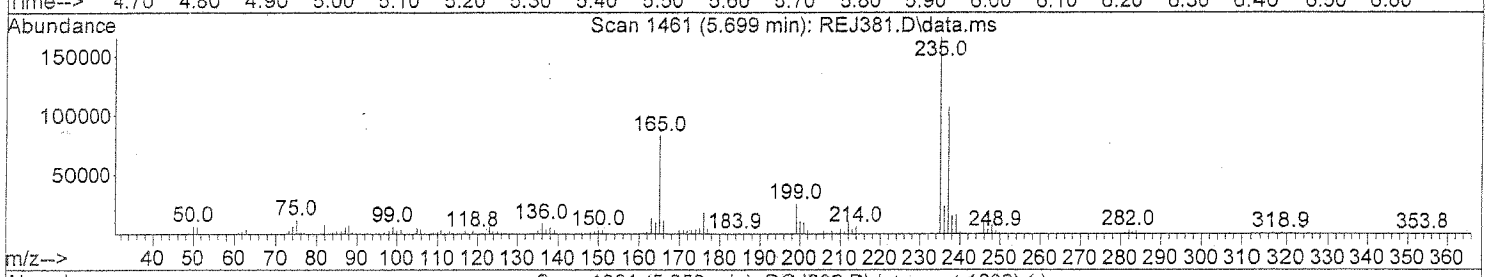
Ion	Exp%	Act%
184.10	100	100
92.00	7.50	6.94
0.00	0.00	0.00
0.00	0.00	0.00

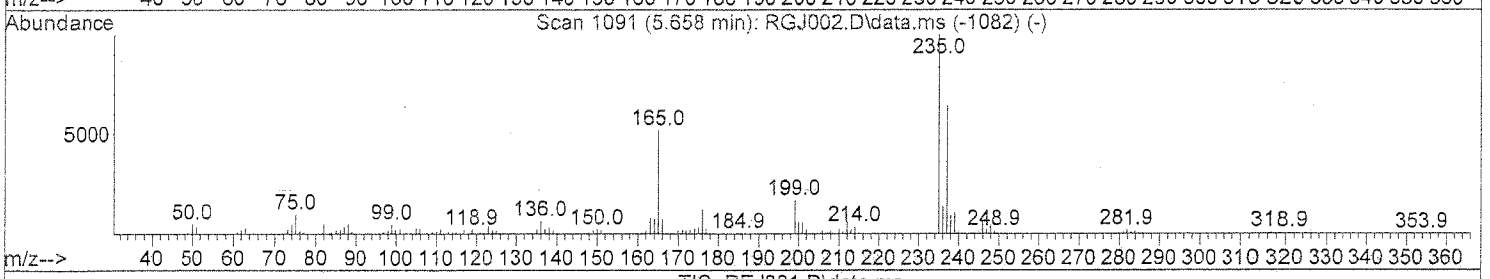
Quantitation Report (Qedit)

Data File : D:\DATA\16E25\REJ381.D
Acq On : 25 May 2016 10:53
Sample : DFTE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 10:59:20 2016
Quant Results File: DFTPPD.RES
Quant Method : C:\msdchem\1\METHODS\DFTPPD.M
Quant Title : Semivolatiles DFTPP 8270D
QLast Update : Wed Apr 20 08:56:50 2016
Response via : Initial Calibration
DataAcq Meth:DFTPP.M

Vial: 2
Operator: KVu
Inst : E4
Multiplr: 1.00







TIC: REJ381.D\data.ms

(6) DDT (T)

5.699min (+0.026) 23.07 ppm

response 132581

Ion	Exp%	Act%
235.00	100	100
165.00	51.10	50.03
0.00	0.00	0.00
0.00	0.00	0.00

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	40.000	40.000	0.0	102	0.00
2	T	1,4-Dioxane	25.000	23.423	6.3	98	-0.01
3	T	N-nitrosodimethylamine	25.000	23.964	4.1	95	0.00
4	T	Pyridine	25.000	24.887	0.5	95	-0.01
5	S	2-Fluorophenol	25.000	24.107	3.6	96	0.00
6	S	Phenol-d5	25.000	25.083	-0.3	99	0.00
7	C,P	Phenol	25.000	24.774	0.9	99	0.00
8	T	Aniline	25.000	24.161	3.4	96	0.00
9	T,P	bis(2-chloroethyl)ether	25.000	25.045	-0.2	98	0.00
10	T,P	2-Chlorophenol	25.000	25.908	-3.6	106	0.00
11	T	1,3-Dichlorobenzene	25.000	25.162	-0.6	100	0.00
12	S	1,2-Dichlorobenzene-d4	25.000	0.000	100.0#	0	0.00
13	C	1,4-Dichlorobenzene	25.000	24.874	0.5	100	0.00
14	T	Benzyl alcohol	25.000	24.277	2.9	96	0.00
15	T	1,2-Dichlorobenzene	25.000	25.059	-0.2	100	0.00
16	T,P	2-Methylphenol	25.000	24.186	3.3	97	0.00
17	T	bis(2-chloroisopropyl)ether	25.000	23.563	5.7	94	0.00
18	T,P	4-Methylphenol	25.000	23.292	6.8	93	0.00
19	P,P	N-Nitroso-di-n-propylamine	25.000	23.331	6.7	95	0.00
20	T,P	Hexachloroethane	25.000	25.026	-0.1	99	0.00
21	I	Naphthalene-d8	40.000	40.000	0.0	98	0.00
22	S	Nitrobenzene-d5	25.000	25.379	-1.5	97	0.00
23	T,P	Nitrobenzene	25.000	25.335	-1.3	98	0.00
24	T,P	Isophorone	25.000	25.236	-0.9	97	0.00
25	C,P	2-Nitrophenol	25.000	29.823	-19.3	109	0.00
26	T,P	2,4-Dimethylphenol	25.000	24.807	0.8	95	0.00
27	T	Benzoic acid	25.000	27.378	-9.5	109	0.00
28	T,P	bis(2-Chloroethoxy)methane	25.000	25.421	-1.7	98	0.00
29	T	3,5-Dimethylphenol	25.000	25.624	-2.5	95	0.00
30	C,P	2,4-Dichlorophenol	25.000	26.226	-4.9	101	0.00
31	T	3,4-Dimethylphenol	25.000	25.150	-0.6	97	0.00
32	T	1,2,4-Trichlorobenzene	25.000	25.191	-0.8	99	0.00
33	T,P	Naphthalene	25.000	24.822	0.7	96	0.00
34	T	4-Chloroaniline	25.000	24.932	0.3	96	0.00
35	T	2,6-Dichlorophenol	25.000	26.147	-4.6	101	0.00
36	C	Hexachlorobutadiene	25.000	25.663	-2.7	99	0.00
37	T	Hydroquinone	25.000	0.000	100.0#	0	0.00
38	C,P	4-Chloro-3-methylphenol	25.000	26.089	-4.4	100	0.00
39	T,P	2-Methylnaphthalene	25.000	24.648	1.4	96	0.00
40	T	1-Methylnaphthalene	25.000	24.717	1.1	96	0.00
41	I	Acenaphthene-d10	40.000	40.000	0.0	101	0.00
42	P	Hexachlorocyclopentadiene	25.000	22.926	8.3	91	0.00
43	T	2,3,5-Trichlorophenol	25.000	28.886	-15.5	112	0.00
44	C,P	2,4,6-Trichlorophenol	25.000	26.171	-4.7	104	0.00
45	T,P	2,4,5-Trichlorophenol	25.000	26.318	-5.3	103	0.00
46	S	2-Fluorobiphenyl	25.000	24.087	3.7	97	0.00
47	T	2,3,4-Trichlorophenol	25.000	26.994	-8.0	108	0.00
48	T	Biphenyl	25.000	23.695	5.2	95	0.00
49	T,P	2-Chloronaphthalene	25.000	26.220	-4.9	108	0.00

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	25.000	26.269	-5.1	101	0.00
51	T	2,6-Dimethylnaphthalene	25.000	24.544	1.8	98	0.00
52	T	1,4-Dinitrobenzene	25.000	28.830	-15.3	109	0.00
53	T	Dimethylphthalate	25.000	24.954	0.2	100	0.00
54	T	1,3-Dinitrobenzene	25.000	26.639	-6.6	101	0.00
55	T,P	2,6-Dinitrotoluene	25.000	26.696	-6.8	105	0.00
56	T	1,2-Dinitrobenzene	25.000	26.440	-5.8	101	0.00
57	T,P	Acenaphthylene	25.000	25.965	-3.9	98	0.00
58	T	3-Nitroaniline	25.000	26.564	-6.3	105	0.00
59	C,P	Acenaphthene	25.000	24.634	1.5	99	0.00
60	P	2,4-Dinitrophenol	25.000	29.661	-18.6	122	0.00
61	P	4-Nitrophenol	25.000	25.070	-0.3	97	0.00
62	T,P	2,4-Dinitrotoluene	25.000	26.730	-6.9	102	0.00
63	T,P	Dibenzofuran	25.000	24.226	3.1	97	0.00
64	T	2,3,5,6-Tetrachlorophenol	25.000	27.738	-11.0	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	25.000	24.769	0.9	98	0.00
66	T	2,3,5-Trimethylnaphthalene	25.000	28.007	-12.0	112	0.00
67	T	Diethylphthalate	25.000	23.232	7.1	92	0.00
68	T,P	Fluorene	25.000	24.671	1.3	99	0.00
69	T,P	4-Chlorophenyl-phenylether	25.000	24.821	0.7	100	0.00
70	T	4-Nitroaniline	25.000	24.402	2.4	92	0.00
71	I	Phenanthrene-d10	40.000	40.000	0.0	101	0.00
72	T	4,6-Dinitro-2-methylphenol	25.000	29.303	-17.2	119	0.00
73	C	N-Nitrosodiphenylamine	25.000	24.831	0.7	100	0.00
74	T	Azobenzene	25.000	23.572	5.7	95	0.00
75	S	2,4,6-Tribromophenol	25.000	27.911	-11.6	108	0.00
76	T,P	4-Bromophenyl-phenylether	25.000	27.850	-11.4	113	0.00
77	T,P	Hexachlorobenzene	25.000	24.278	2.9	99	0.00
78	C,P	Pentachlorophenol	25.000	27.514	-10.1	105	0.00
79	T	Dibenzothiophene	25.000	23.727	5.1	96	0.00
80	T,P	Phenanthrene	25.000	23.434	6.3	95	0.00
81	T	Dinoseb	25.000	0.000	100.0#	0	0.00
82	T,P	Anthracene	25.000	23.946	4.2	96	0.00
83	T	Carbazole	25.000	23.207	7.2	94	0.00
84	T	Di-n-butylphthalate	25.000	23.162	7.4	91	0.00
85	T	1-Methylphenanthrene	25.000	23.228	7.1	93	0.00
86	C,P	Fluoranthene	25.000	23.488	6.0	95	0.00
87	I	Chrysene-d12	40.000	40.000	0.0	93	0.00
88	T	Benzidine	25.000	0.000	100.0#	0	0.00
89	T,P	Pyrene	25.000	25.555	-2.2	89	0.00
90	S	Terphenyl-d14	25.000	26.329	-5.3	96	0.00
91	T	Butylbenzylphthalate	25.000	28.344	-13.4	98	0.00
92	T	bis(2-ethylhexyl)adipate	25.000	27.430	-9.7	95	0.00
93	T	3,3'-Dichlorobenzidine	25.000	27.355	-9.4	98	0.00
94	T,P	Benzo(a)anthracene	25.000	24.875	0.5	91	0.00
95	T,P	Chrysene	25.000	24.669	1.3	91	0.00
96	T	bis(2-Ethylhexyl)phthalate	25.000	25.969	-3.9	92	0.00
97	I	Perylene-d12	40.000	40.000	0.0	90	0.01

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	25.000	29.138	-16.6	98	0.00
99	T,P	Benzo(b)fluoranthene	25.000	25.750	-3.0	88	0.02
100	T,P	Benzo(k)fluoranthene	25.000	26.742	-7.0	98	0.01
101	T	Benzo(e)pyrene	25.000	25.950	-3.8	91	0.02
102	C,P	Benzo(a)pyrene	25.000	26.598	-6.4	94	0.01
103	T	Perylene	25.000	25.507	-2.0	91	0.02
104	T,P	Indeno(1,2,3-cd)pyrene	25.000	25.369	-1.5	88	0.02
105	T,P	Dibenzo(a,h)anthracene	25.000	25.078	-0.3	87	0.02
106	T,P	Benzo(g,h,i)perylene	25.000	24.906	0.4	88	0.02

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

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	102	0.00
2	T	1,4-Dioxane	0.599	0.561	6.3	98	-0.01
3	T	N-nitrosodimethylamine	0.850	0.815	4.1	95	0.00
4	T	Pyridine	1.529	1.522	0.5	95	-0.01
5	S	2-Fluorophenol	1.314	1.267	3.6	96	0.00
6	S	Phenol-d5	1.623	1.628	-0.3	99	0.00
7	C,P	Phenol	1.682	1.667	0.9	99	0.00
8	T	Aniline	2.140	2.068	3.4	96	0.00
9	T,P	bis(2-chloroethyl)ether	1.275	1.277	-0.2	98	0.00
10	T,P	2-Chlorophenol	1.419	1.470	-3.6	106	0.00
11	T	1,3-Dichlorobenzene	1.654	1.665	-0.7	100	0.00
12	S	1,2-Dichlorobenzene-d4	0.000	0.000#	0.0	0#	0.00
13	C	1,4-Dichlorobenzene	1.680	1.671	0.5	100	0.00
14	T	Benzyl alcohol	0.912	0.886	2.9	96	0.00
15	T	1,2-Dichlorobenzene	1.604	1.608	-0.2	100	0.00
16	T,P	2-Methylphenol	1.148	1.110	3.3	97	0.00
17	T	bis(2-chloroisopropyl)ether	2.655	2.502	5.8	94	0.00
18	T,P	4-Methylphenol	1.521	1.417	6.8	93	0.00
19	P,P	N-Nitroso-di-n-propylamine	1.064	0.993	6.7	95	0.00
20	T,P	Hexachloroethane	0.642	0.642	0.0	99	0.00
21	I	Naphthalene-d8	1.000	1.000	0.0	98	0.00
22	S	Nitrobenzene-d5	0.451	0.458	-1.6	97	0.00
23	T,P	Nitrobenzene	0.453	0.459	-1.3	98	0.00
24	T,P	Isophorone	0.868	0.876	-0.9	97	0.00
25	C,P	2-Nitrophenol	0.183	0.218	-19.1	109	0.00
26	T,P	2,4-Dimethylphenol	0.420	0.417	0.7	95	0.00
27	T	Benzoic acid	0.243	0.283	-16.5	109	0.00
28	T,P	bis(2-Chloroethoxy)methane	0.454	0.462	-1.8	98	0.00
29	T	3,5-Dimethylphenol	0.453	0.464	-2.4	95	0.00
30	C,P	2,4-Dichlorophenol	0.356	0.373	-4.8	101	0.00
31	T	3,4-Dimethylphenol	0.495	0.497	-0.4	97	0.00
32	T	1,2,4-Trichlorobenzene	0.406	0.410	-1.0	99	0.00
33	T,P	Naphthalene	1.115	1.107	0.7	96	0.00
34	T	4-Chloroaniline	0.475	0.473	0.4	96	0.00
35	T	2,6-Dichlorophenol	0.337	0.352	-4.5	101	0.00
36	C	Hexachlorobutadiene	0.271	0.279	-3.0	99	0.00
37	T	Hydroquinone	0.000	0.000#	0.0	0#	0.00
38	C,P	4-Chloro-3-methylphenol	0.338	0.352	-4.1	100	0.00
39	T,P	2-Methylnaphthalene	0.784	0.773	1.4	96	0.00
40	T	1-Methylnaphthalene	0.687	0.679	1.2	96	0.00
41	I	Acenaphthene-d10	1.000	1.000	0.0	101	0.00
42	P	Hexachlorocyclopentadiene	0.502	0.461	8.2	91	0.00
43	T	2,3,5-Trichlorophenol	0.428	0.494	-15.4	112	0.00
44	C,P	2,4,6-Trichlorophenol	0.455	0.476	-4.6	104	0.00
45	T,P	2,4,5-Trichlorophenol	0.478	0.504	-5.4	103	0.00
46	S	2-Fluorobiphenyl	1.598	1.540	3.6	97	0.00
47	T	2,3,4-Trichlorophenol	0.419	0.453	-8.1	108	0.00
48	T	Biphenyl	1.629	1.544	5.2	95	0.00
49	T,P	2-Chloronaphthalene	1.340	1.405	-4.9	108	0.00

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
50	T	2-Nitroaniline	0.378	0.397	-5.0	101	0.00
51	T	2,6-Dimethylnaphthalene	1.154	1.133	1.8	98	0.00
52	T	1,4-Dinitrobenzene	0.166	0.191	-15.1	109	0.00
53	T	Dimethylphthalate	1.473	1.470	0.2	100	0.00
54	T	1,3-Dinitrobenzene	0.197	0.209	-6.1	101	0.00
55	T,P	2,6-Dinitrotoluene	0.301	0.322	-7.0	105	0.00
56	T	1,2-Dinitrobenzene	0.127	0.134	-5.5	101	0.00
57	T,P	Acenaphthylene	2.122	2.204	-3.9	98	0.00
58	T	3-Nitroaniline	0.315	0.335	-6.3	105	0.00
59	C,P	Acenaphthene	1.328	1.308	1.5	99	0.00
60	P	2,4-Dinitrophenol	0.116	0.160	-37.9#	122	0.00
61	P	4-Nitrophenol	0.206	0.207	-0.5	97	0.00
62	T,P	2,4-Dinitrotoluene	0.392	0.419	-6.9	102	0.00
63	T,P	Dibenzofuran	1.886	1.827	3.1	97	0.00
64	T	2,3,5,6-Tetrachlorophenol	0.312	0.347	-11.2	107	0.00
65	T	2,3,4,6-Tetrachlorophenol	0.430	0.426	0.9	98	0.00
66	T	2,3,5-Trimethylnaphthalene	1.080	1.209	-11.9	112	0.00
67	T	Diethylphthalate	1.492	1.387	7.0	92	0.00
68	T,P	Fluorene	1.469	1.449	1.4	99	0.00
69	T,P	4-Chlorophenyl-phenylether	0.748	0.743	0.7	100	0.00
70	T	4-Nitroaniline	0.324	0.316	2.5	92	0.00
71	I	Phenanthrene-d10	1.000	1.000	0.0	101	0.00
72	T	4,6-Dinitro-2-methylphenol	0.112	0.148	-32.1#	119	0.00
73	C	N-Nitrosodiphenylamine	0.683	0.679	0.6	100	0.00
74	T	Azobenzene	0.802	0.756	5.7	95	0.00
75	S	2,4,6-Tribromophenol	0.096	0.107	-11.5	108	0.00
76	T,P	4-Bromophenyl-phenylether	0.240	0.268	-11.7	113	0.00
77	T,P	Hexachlorobenzene	0.244	0.237	2.9	99	0.00
78	C,P	Pentachlorophenol	0.140	0.154	-10.0	105	0.00
79	T	Dibenzothiophene	1.234	1.171	5.1	96	0.00
80	T,P	Phenanthrene	1.255	1.176	6.3	95	0.00
81	T	Dinoseb	0.000	0.000#	0.0	0#	0.00
82	T,P	Anthracene	1.264	1.211	4.2	96	0.00
83	T	Carbazole	1.074	0.997	7.2	94	0.00
84	T	Di-n-butylphthalate	1.302	1.206	7.4	91	0.00
85	T	1-Methylphenanthrene	0.890	0.827	7.1	93	0.00
86	C,P	Fluoranthene	1.414	1.329	6.0	95	0.00
87	I	Chrysene-d12	1.000	1.000	0.0	93	0.00
88	T	Benzidine	0.000	0.000#	0.0	0#	0.00
89	T,P	Pyrene	1.368	1.398	-2.2	89	0.00
90	S	Terphenyl-d14	0.856	0.902	-5.4	96	0.00
91	T	Butylbenzylphthalate	0.464	0.526	-13.4	98	0.00
92	T	bis(2-ethylhexyl)adipate	0.381	0.418	-9.7	95	0.00
93	T	3,3'-Dichlorobenzidine	0.412	0.451	-9.5	98	0.00
94	T,P	Benzo(a)anthracene	1.236	1.230	0.5	91	0.00
95	T,P	Chrysene	1.142	1.127	1.3	91	0.00
96	T	bis(2-Ethylhexyl)phthalate	0.716	0.744	-3.9	92	0.00
97	I	Perylene-d12	1.000	1.000	0.0	90	0.01

Evaluate Continuing Calibration Report

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
98	C	Di-n-octylphthalate	1.359	1.584	-16.6	98	0.00
99	T,P	Benzo(b)fluoranthene	1.283	1.321	-3.0	88	0.02
100	T,P	Benzo(k)fluoranthene	1.293	1.383	-7.0	98	0.01
101	T	Benzo(e)pyrene	1.184	1.229	-3.8	91	0.02
102	C,P	Benzo(a)pyrene	1.218	1.296	-6.4	94	0.01
103	T	Perylene	1.222	1.247	-2.0	91	0.02
104	T,P	Indeno(1,2,3-cd)pyrene	1.349	1.369	-1.5	88	0.02
105	T,P	Dibenzo(a,h)anthracene	1.124	1.127	-0.3	87	0.02
106	T,P	Benzo(g,h,i)perylene	1.159	1.155	0.3	88	0.02

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	3.010	152	430904	40.00	ppm	0.00
21) Naphthalene-d8	4.249	136	1508556	40.00	ppm	0.00
41) Acenaphthene-d10	6.274	164	937155	40.00	ppm	0.00
71) Phenanthrene-d10	8.009	188	1710569	40.00	ppm	0.00
87) Chrysene-d12	10.797	240	1716159	40.00	ppm	0.00
97) Perylene-d12	12.233	264	1433864	40.00	ppm	0.01
System Monitoring Compounds						
5) 2-Fluorophenol	2.065	112	341177	24.11	ppm	0.00
Spiked Amount 30.000			Recovery = 80.37%			
6) Phenol-d5	2.659	99	438467	25.08	ppm	0.00
Spiked Amount 30.000			Recovery = 83.60%			
12) 1,2-Dichlorobenzene-d4	0.000	152	0	0.00	ppm	
Spiked Amount 10.000			Recovery = 0.00%			
22) Nitrobenzene-d5	3.509	82	432012	25.38	ppm	0.00
Spiked Amount 10.000			Recovery = 253.80%			
46) 2-Fluorobiphenyl	5.466	172	901825	24.09	ppm	0.00
Spiked Amount 10.000			Recovery = 240.90%			
75) 2,4,6-Tribromophenol	7.215	330	114741	27.91	ppm	0.00
Spiked Amount 30.000			Recovery = 93.03%			
90) Terphenyl-d14	9.716	244	967255	26.33	ppm	0.00
Spiked Amount 10.000			Recovery = 263.30%			
Target Compounds						Qvalue
2) 1,4-Dioxane	1.352	88	151157	23.42	ppm	99
3) N-nitrosodimethylamine	1.467	74	219479	23.96	ppm	94
4) Pyridine	1.491	79	410012	24.89	ppm	94
7) Phenol	2.670	94	448814	24.77	ppm	97
8) Aniline	2.743	93	556920	24.16	ppm	98
9) bis(2-chloroethyl)ether	2.769	93	343896	25.05	ppm	96
10) 2-Chlorophenol	2.837	128	396026	25.91	ppm	83
11) 1,3-Dichlorobenzene	2.967	146	448459	25.16	ppm	99
13) 1,4-Dichlorobenzene	3.030	146	450154	24.87	ppm	100
14) Benzyl alcohol	3.106	108	238545	24.28	ppm	100
15) 1,2-Dichlorobenzene	3.159	146	433035	25.06	ppm	99
16) 2-Methylphenol	3.183	107	299036	24.19	ppm	91
17) bis(2-chloroisopropyl)...	3.226	45	673829	23.56	ppm	99
18) 4-Methylphenol	3.327	107	381605	23.29	ppm	97
19) N-Nitroso-di-n-propyla...	3.351	70	267502	23.33	ppm	100
20) Hexachloroethane	3.471	117	172999	25.03	ppm	87
23) Nitrobenzene	3.528	77	433007	25.33	ppm	98
24) Isophorone	3.758	82	826401	25.24	ppm	99
25) 2-Nitrophenol	3.840	139	205687	29.82	ppm	93
26) 2,4-Dimethylphenol	3.854	107	392926	24.81	ppm	98
27) Benzoic acid	3.945	105	266396	27.38	ppm	98
28) bis(2-Chloroethoxy)met...	3.964	93	435346	25.42	ppm	99
29) 3,5-Dimethylphenol	3.993	107	437755	25.62	ppm	97
30) 2,4-Dichlorophenol	4.080	162	352024	26.23	ppm	98
31) 3,4-Dimethylphenol	4.176	107	469033	25.15	ppm	100
32) 1,2,4-Trichlorobenzene	4.176	180	386138	25.19	ppm	96
33) Naphthalene	4.268	128	1043342	24.82	ppm	100
34) 4-Chloroaniline	4.316	127	446349	24.93	ppm	100
35) 2,6-Dichlorophenol	4.326	162	332062	26.15	ppm	99
36) Hexachlorobutadiene	4.393	225	262744	25.66	ppm	99

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

	Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
38)	4-Chloro-3-methylphenol	4.842	107	332227	26.09	ppm	99
39)	2-Methylnaphthalene	5.038	142	728992	24.65	ppm	99
40)	1-Methylnaphthalene	5.153	142	640036	24.72	ppm	98
42)	Hexachlorocyclopentadiene	5.215	237	269730	22.93	ppm	99
43)	2,3,5-Trichlorophenol	5.230	196	289433	28.89	ppm	86
44)	2,4,6-Trichlorophenol	5.355	196	278920	26.17	ppm	98
45)	2,4,5-Trichlorophenol	5.398	196	295037	26.32	ppm	97
47)	2,3,4-Trichlorophenol	5.471	196	265191	26.99	ppm	98
48)	Biphenyl	5.582	154	904308	23.69	ppm	92
49)	2-Chloronaphthalene	5.605	162	823160	26.22	ppm	96
50)	2-Nitroaniline	5.725	65	232567	26.27	ppm	96
51)	2,6-Dimethylnaphthalene	5.768	156	663465	24.54	ppm	98
52)	1,4-Dinitrobenzene	5.893	168	112044	28.83	ppm	93
53)	Dimethylphthalate	5.951	163	861054	24.95	ppm	99
54)	1,3-Dinitrobenzene	5.985	168	122643	26.64	ppm	76
55)	2,6-Dinitrotoluene	6.019	165	188380	26.70	ppm	93
56)	1,2-Dinitrobenzene	6.082	168	78604	26.44	ppm	91
57)	Acenaphthylene	6.101	152	1290720	25.97	ppm	100
58)	3-Nitroaniline	6.221	138	196035	26.56	ppm	95
59)	Acenaphthene	6.312	153	766376	24.63	ppm	100
60)	2,4-Dinitrophenol	6.346	184	94001	29.66	ppm	100
61)	4-Nitrophenol	6.418	109	121130	25.07	ppm	95
62)	2,4-Dinitrotoluene	6.504	165	245266	26.73	ppm	93
63)	Dibenzofuran	6.518	168	1070390	24.23	ppm	100
64)	2,3,5,6-Tetrachlorophenol	6.609	230	203035	27.74	ppm	96
65)	2,3,4,6-Tetrachlorophenol	6.662	232	249424	24.77	ppm	96
66)	2,3,5-Trimethylnaphtha...	6.772	170	708387	28.01	ppm	91
67)	Diethylphthalate	6.809	149	812233	23.23	ppm	97
68)	Fluorene	6.931	166	848911	24.67	ppm	98
69)	4-Chlorophenyl-phenyle...	6.936	204	435106	24.82	ppm	97
70)	4-Nitroaniline	6.959	138	185243	24.40	ppm	93
72)	4,6-Dinitro-2-methylph...	6.992	198	157953	29.30	ppm	97
73)	N-Nitrosodiphenylamine	7.077	169	725788	24.83	ppm	97
74)	Azobenzene	7.125	77	808310	23.57	ppm	100
76)	4-Bromophenyl-phenylether	7.509	248	286036	27.85	ppm	98
77)	Hexachlorobenzene	7.566	284	253729	24.28	ppm	97
78)	Pentachlorophenol	7.792	266	164402	27.51	ppm	100
79)	Dibenzothiophene	7.892	184	1252042	23.73	ppm	97
80)	Phenanthrene	8.038	178	1257547	23.43	ppm	100
82)	Anthracene	8.094	178	1294353	23.95	ppm	100
83)	Carbazole	8.273	167	1065909	23.21	ppm	99
84)	Di-n-butylphthalate	8.655	149	1289805	23.16	ppm	99
85)	1-Methylphenanthrene	8.708	192	883991	23.23	ppm	100
86)	Fluoranthene	9.316	202	1420370	23.49	ppm	98
89)	Pyrene	9.552	202	1499568	25.55	ppm	100
91)	Butylbenzylphthalate	10.218	149	563928	28.34	ppm	98
92)	bis(2-ethylhexyl)adipate	10.291	129	448863	27.43	ppm	95
93)	3,3'-Dichlorobenzidine	10.758	252	483601	27.36	ppm	100
94)	Benzo(a)anthracene	10.782	228	1318855	24.87	ppm	91
95)	Chrysene	10.821	228	1209095	24.67	ppm	100
96)	bis(2-Ethylhexyl)phtha...	10.797	149	797729	25.97	ppm	98
98)	Di-n-octylphthalate	11.418	149	1419215	29.14	ppm	99
99)	Benzo(b)fluoranthene	11.826	252	1184105	25.75	ppm	99
100)	Benzo(k)fluoranthene	11.850	252	1239170	26.74	ppm	95
101)	Benzo(e)pyrene	12.111	252	1101223	25.95	ppm	96

Quantitation Report (QT Reviewed)

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Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
Quant Time: May 25 11:21:30 2016
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00

Compound	R.T.	QIon	Response	Conc	Units	Dev(Min)
102) Benzo(a)pyrene	12.170	252	1161217	26.60	ppm	97
103) Perylene	12.262	252	1117548	25.51	ppm	96
104) Indeno(1,2,3-cd)pyrene	13.583	276	1226467	25.37	ppm	98
105) Dibenzo(a,h)anthracene	13.603	278	1010053	25.08	ppm	97
106) Benzo(g,h,i)perylene	13.991	276	1034989	24.91	ppm	98

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

Quantitation Report (QT Reviewed)

Data File : D:\DATA\16E25\REJ382.D
Acq On : 25 May 2016 11:05
Sample : CSVE4B0289
Misc :
Integrator: RTE
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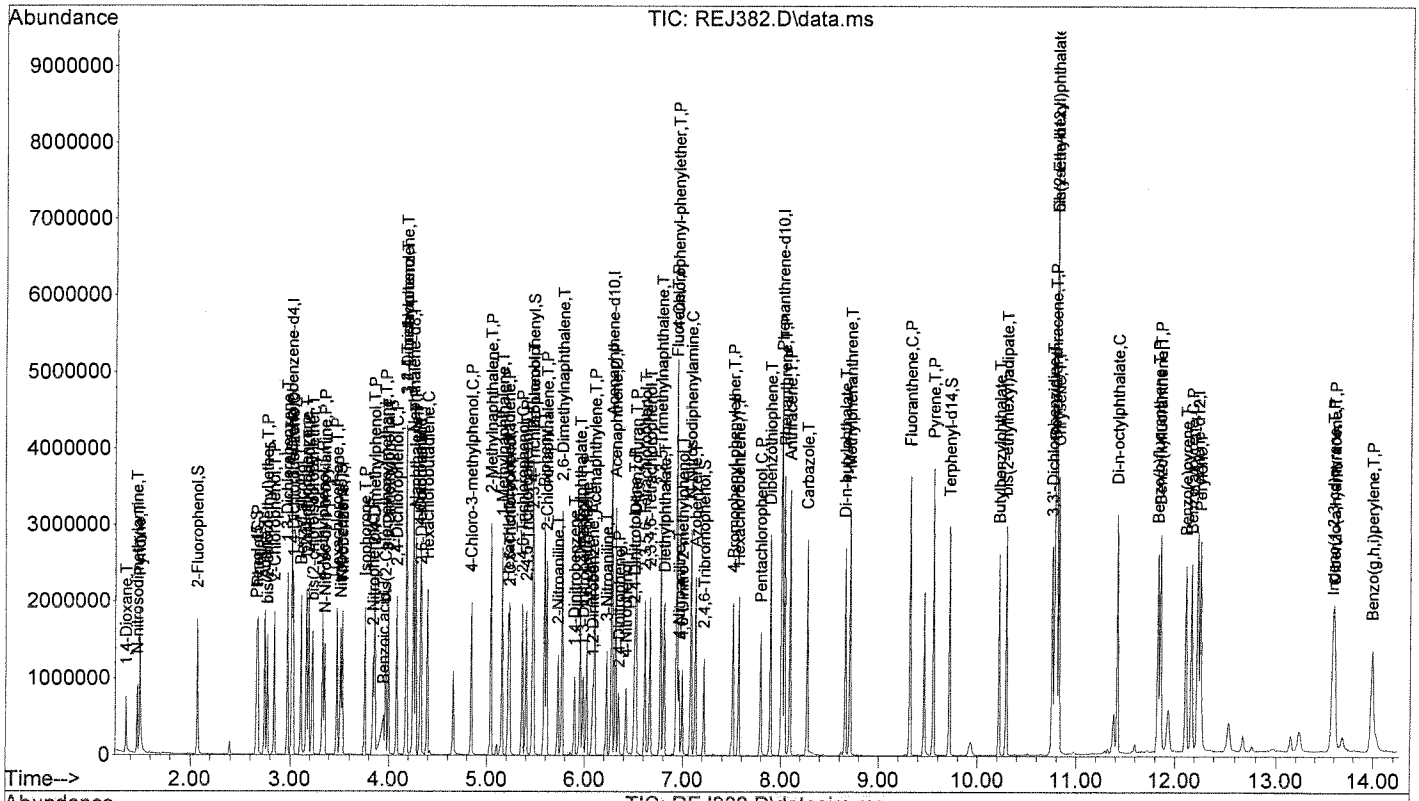
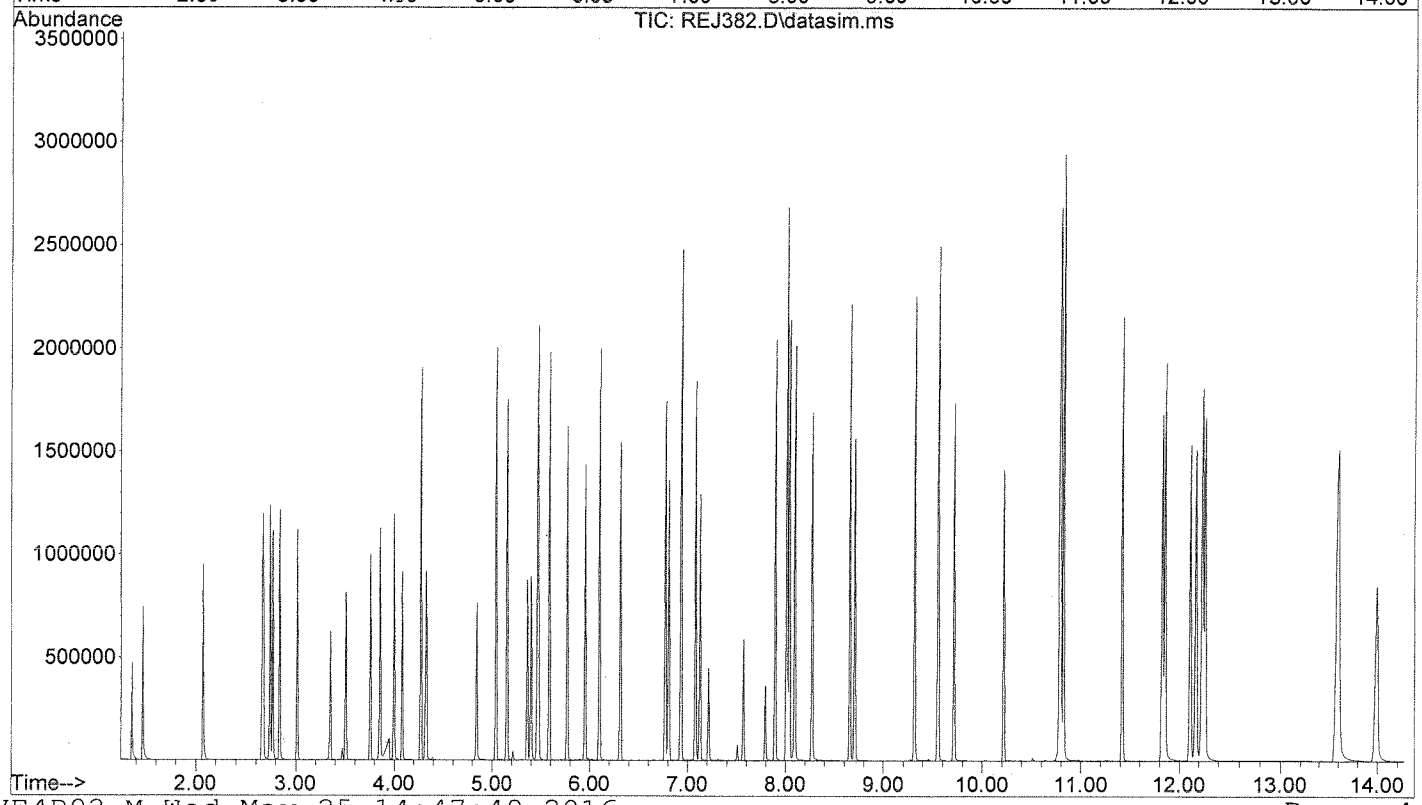
Quant Results File: SVE4B02.RES
Quant Method : C:\msdchem\1\METHODS\SVE4B02.M
Quant Title : SEMIVOLATILES
QLast Update : Tue Feb 02 13:41:58 2016
Response via : Initial Calibration
DataAcq Meth:SVE4B02S.M

Vial: 3
Operator: KVu
Inst : E4
Multiplr: 1.00





ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AE4-020

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 5/25/16 10:53 End Date/Time: 5/25/16 22:23

ANALYTICAL BATCH: CSVE4B0289

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
	REJ380	IB84B0289				
	381	DFTE4B0289				
	382	CSVE4B0289				
	383	CSVE4B02A89				Bem
SVE030W	384	SVE030WB	1		X	
	385	WL				
	386	WC				
	387	16E166-05M				
	388	05S				
	389	TXE013SB				
	390	16E167-01				
	391	01I	10			
	392	TXE014SB	1			
	393	16E133-03				
	394	16E165-01				
	395	02				
	396	03				
	397	04				
	398	05				
	399	06				
	400	07				
	401	08				
	402	09				
	403	10				
	404	11				
	405	12				
	406	13				
	407	14				
	408	15				
	409	16E174-01				
	410	02				
	411	16E181-01				

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02A/02S
Standards	
Name	ID / Conc. (mg/L)
DFTPP	SS2C-14-23-01 / 50
INT. STD.	SS2B-12-19-03 / 2000
ICV	
DCC	SS2C-14-26-02 / 25
BENZIDINE	22-03
APP 9	
APP 9 ADD	
Solvent	ID
CH_2Cl_2	55219
DATA FILE	16E25
Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOE4	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments:

Analyzed By: KV

Date Disposed: 5/26/16

Disposed By: KV

This page is checked during data review.

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐ Book #: AE4-020

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 5/25/16 10:53 End Date/Time: 5/25/16 22:23

ANALYTICAL BATCH: CSVE4B02 8-9

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
SVE034S	REJ 412	SVE034SB	1	X		
↓	413	SL	↓	↓		
	414	SC				
	415	16E173-01				
	416	02		✓		
	417	CSVE4B02 90				
		KV 5/26/16				

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02A/02S
Standards	
Name	ID / Conc. (mg/L)
DFTPP	SS2C-14-23-01 / 50
INT. STD.	SS2B-12-19-03 / 2000
ICV	
DCC	SS2C-14-26-02 / 25
BENZIDINE	↓ 22-03 / 25
APP 9	
APP 9 ADD	
Solvent	ID
CH_2Cl_2	55219
DATA FILE	16E25
Electronic Data Archival	
Location	Date
HPCHEM_SVOA/TOE4	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments:

Analyzed By: KV

Date Disposed: 5/26/16

Disposed By: KV

This page is checked during data review.

EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐

Book #: AE4-019

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 2/2/16 8:58 End Date/Time: 2/2/16 18:46

ANALYTICAL BATCH: SVE4B02S

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	RBJ 001	IBE4B0201	1			
	2	DFTE4B0201				
	3	SVE4B021				100 ppm 8270
	4	2				80
	5	3				50
	6	4				40
	7	5				25
	8	6				20
	9	7				10
	10	8				4
	11	9				2
	12	10				0.5
	13	11				0.15
	14	12				0.075
	15	13				0.05
	16	ISVE4B021				ICV *
	17	SVE4B02A1	1			100 ppm Ben
	18	2				80
	19	3				50
	20	4				40
	21	5				25
	22	6				10
	23	7				4
	24	ISVE4B02A1				ICV
	25	SVE4B02C1	1			140 ppm Add
	26	2				120
	27	3				100
	28	4				80
	29	5				50
	30	6				40
	31	7				20
	32	ISVE4B02C1				ICV

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02A/02C/02S

Standards

Name	ID	Conc. (mg/L)
DFTPP	SS2C-14-17-03	50
INT. STD.	SS2B-12-12-03	2000
ICV 8270	SS2C-14-17-02	25
DCC /ICAL	SS2C-14-15-01	.05-50
BENZIDINE ICAL	SS2C-14-15-02	4-100
APP 9 Add ICV	SS2C-14-21-01	50
APP 9 ADD ICAL	SS2C-14-20-03	20-140
8270 ICAL	SS2C-14-15-03	80-100
Ben ICV	SS2C-14-17-01	25
Solvent	ID	
CH_2Cl_2	55219	
DATA FILE	16B02	

Electronic Data Archival

Location	Date
HPCHEM_SVOA/TOE4	

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments: * 2,4-Dinitrophenol low

Analyzed By: KV

Date Disposed: NA

Disposed By: NA

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EMAX LABORATORIES, INC.

ANALYSIS LOG FOR SEMIVOLATILES

SOP ☑ EMAX-8270 Rev. No. 6 ☐ EMAX-8270D Rev. No. 1 ☐ EMAX-8270SIM Rev. No. 2 ☐ EMAX-M8270SIM Rev. No. 2 ☐ EMAX-625 Rev. No. 1 ☐

Book #: AE4-019

Method File: SVE4B02S Tune File: DFTPP Start Date/Time: 2/2/16 8:58 End Date/Time: 2/2/16 18:46

ANALYTICAL BATCH: SVE4B02S

Preparative Batch	Data File Name	Run ID	DF	Matrix S	Matrix W	Notes
NA	RBJ 033	ISVE4B022	1			ICV 8270
	~~034~~					
		KV 2/3/16				

Instrument No:	E4
INITIAL CALIBRATION REFERENCE	
Date	2/2/16
ICAL ID	SVE4B02/02S
Standards	
Name	ID	Conc. (mg/L)
DFTPP		
INT. STD.		
ICV 8270	SS2C-14-17-02	25
DCC		
BENZIDINE		
APP 9		
APP 9 ADD		
Solvent	ID	
CH_2Cl_2	55219	
DATA FILE	16B02	
Electronic Data Archival		
Location		Date
HPCHEM_SVOA/TOE4		

Micropipette ID: ☑ PO97A-02 ☐ PO97A-03 ☐ PO00-01

Syringe ID: ☑ 499766-2 ☐

Comments:

Analyzed By: KV

Date Disposed: NA

Disposed By: NA

This page is checked during data review.

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
SEMIVOLATILES

SOP	Rev. #
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-625	1

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

☐ MS/MSD can not be extracted due to insufficient amount of samples

Comments:

Book #: ESV-091
Preparation Batch: SVE030W
Matrix: WATER / TCLP EXTRACT
Micropipette ID: 200ml PE97A-01
Micropipette ID:

Standards	ID	Amount Added (ml)
Surrogate	SS2A-13-01-13	0.4
LCS/MS (Full list)	SS2A-13-01-14	0.2
LCS/MS (3 Comp)	SS2B-12-20-01	0.2
LCS/MS		
LCS/MS		

Reagent	Lot# / ID
CH_2Cl_2	55219
Na_2SO_4	SW1B-003-09-13
H_2SO_4	3113122
NaOH	SP1B-08-68-04
Silica Sand	-
Silica Gel	-
Reagent Water	SW1A-006-01-02
Residual Chlorine Strip	6124
pH Strip	HC574756
Filter Paper	96922235 B

Lab Sample ID	Sonicator #	Cell #	Concentrator #
SVE030WB			1
WL *Δ			1
WC *Δ			1
E181-01			6
TXE013 SB			1
E767-01			1
TXE014 SB			2
E133-03			2
E166-01			2
-02			2
-03			2
-04			2
-05			3
-05M			3
-05S			3
-06			3
-07			3
-08			3
-09			4
-10			4
-11			4
-12			4
-13			4
-14			4
-15			5
E174-01			5
-02			5

TUNING	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2	35	35
3	35	35
4	35	35
5	35	35
6	35	35
8		

Thermometer ID = SVOC-T1

Prepared By: JM Witnessed By: TW
Standard Added By: JM Checked By: ML
Extract Received By: MV 5/25/16 Location: SE01 #10
Disposed By: Disposed On:

FileID: SVE030W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR SEMIVOLATILES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16SVE030W01	SVE030WB	1000	ml	5/23/16 13:47	2	1000	2	1	
16SVE030W02	SVE030WL	1000	ml	5/23/16 13:47	2	1000	2	1	Full list + 3 compounds
16SVE030W03	SVE030WC	1000	ml	5/23/16 13:47	2	1000	2	1	Full list + 3 compounds
16SVE030W04	E181-01	1000	ml	5/23/16 13:48	2	1000	2	1	QC water (SW1A-006-01-10)
16SVE030W05	TXE 013SB	100	ml	5/23/16 13:48	2	1000	2	10	TCLP Extract
16SVE030W06	E767-01	100	ml	5/23/16 13:48	2	1000	2	10	TCLP Extract
16SVE030W07	TXE 014SB	100	ml	5/23/16 13:48	2	1000	2	10	TCLP Extract
16SVE030W08	E133-03	100	ml	5/23/16 13:48	2	1000	2	10	TCLP Extract
16SVE030W09	E166-01	890	ml	5/23/16 13:48	2	1000	2	1.12	light yellow
16SVE030W10	E166-02	840	ml	5/23/16 13:48	2	1000	2	1.19	orange
16SVE030W11	E166-03	960	ml	5/23/16 13:48	2	1000	2	1.04	orange
16SVE030W12	E166-04	950	ml	5/23/16 13:49	2	1000	2	1.05	orange
16SVE030W13	E166-05	870	ml	5/23/16 13:49	2	1000	2	1.15	light yellow
16SVE030W14	E166-05M	840	ml	5/23/16 13:49	2	1000	2	1.19	Full list + 3 compounds, light yellow
16SVE030W15	E166-05S	730	ml	5/23/16 13:49	2	1000	2	1.37	Full list + 3 compounds, light yellow
16SVE030W16	E166-06	850	ml	5/23/16 13:49	2	1000	2	1.18	orange
16SVE030W17	E166-07	860	ml	5/23/16 13:49	2	1000	2	1.16	
16SVE030W18	E166-08	880	ml	5/23/16 13:49	2	1000	2	1.14	light yellow
16SVE030W19	E166-09	920	ml	5/23/16 13:49	2	1000	2	1.09	light yellow
16SVE030W20	E166-10	860	ml	5/23/16 13:49	2	1000	2	1.16	light yellow
16SVE030W21	E166-11	900	ml	5/23/16 13:49	2	1000	2	1.11	orange
16SVE030W22	E166-12	930	ml	5/23/16 13:49	2	1000	2	1.08	orange
16SVE030W23	E166-13	860	ml	5/23/16 13:49	2	1000	2	1.16	yellow
16SVE030W24	E166-14	840	ml	5/23/16 13:49	2	1000	2	1.19	light yellow
16SVE030W25	E166-15	1000	ml	5/23/16 13:50	2	1000	2	1	yellow
16SVE030W26	E174-01	870	ml	5/23/16 13:50	2	1000	2	1.15	
16SVE030W27	E174-02	880	ml	5/23/16 13:50	2	1000	2	1.14	

Ve=extract volume PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 5/23/16 12:45 ☑ pHAdj(≤2) @ 5/23/16 12:45 Prepared By: JMuert

☑ Extraction Ended @ 5/25/16 6:00 ☑ pHAdj(≥11) @ 5/24/16 12:00 Checked By: ML

Comments: volume enetered after extraction started, pH 6-7, chlorine undetected Date 5/25/16

SOP EMAX-3520 Rev. 5

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	TCLPSoln	TCLPVol	Exrtract pH	Preservation	Comments
16TXE014S01	TXE014SB	0	g	5/20/16 17:59		2000		HNO_3	
16TXE014S02	E133-03	100.02	g	5/20/16 17:59	#2	2000	5.89	HNO_3	8270, 8151, 8081, Metals & Hg (UNPRESERVED)

☑ DateTimeStarted 5/20/2016 18:30 ☑ Thermometer Reset on 4/9/1900 8:38 Balance ID: 10203192. Calibration check was verified prior to use.

☑ DateTimeEnded 5/21/2016 12:30 Note: Sample preserved with HNO_3 is for metals analysis. MS/MSD were spiked prio Prepared By: DFelic/ TWangc

Extract Location: Metals Received By: MMM 5/23/16 9:46 Checked By: ML

Comment: Date 5/23/16

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

Determination of TLCP Solution							Determination of TCLP Extract Filtration			Determination of % solids for aqueos phase			
LabSampleID	Phase(s)	Aliquot	Sample pH	HCl	pH	TCLPSolnReq'd	(ml)	(g)	Pressure	WtS(g)	WtF(g)	WtDFS(g)	% Solids
TXE014SB							100						
E133-03	1	5.02	9.31	3.5	6.14	#2	100	100.36	Vacuum				

Calibration of pH Meter		InstrumentID:	96
BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/20/16 18:04
SW1-01-794	7	7	5/20/16 18:03
SW1A-005-12-24	CalVer 5	5.04	5/20/16 18:05
SW1-01-780	4	4.01	5/21/16 15:16
SW1-01-794	7	7	5/21/16 15:15
5W1A-005-12-24	CalVer 5	5.04	5/21/16 15:17
ID	Reagent	Desc	Expiration Date
SP1A-07-01-08	HCl	1N	04/01/17
SW1A-005-14-09	HNO_3	Conc	04/29/17
SP1B-08-65-01	TCLP Soln	#2	10/11/16
	TCLP Soln		
Rotary Agitator #	Criteria	rpm	DateTime
1	30 ± 2 rpm	30	5/20/16 18:06
	30 ± 2 rpm		
Thermostat Setting:		Thermometer ID:	122273404
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	23.3	5/21/16 11:03
Room Temp (°C) Low	23 ± 2 °C	21.1	5/21/16 6:23
Pipette ID	PE00-01		
CONCENTRATOR (WATER BATH)			
Concentrator #	Temp Setting	Thermometer Rdg	Thermometer ID
5	50	50	SVOC-T1
Filter ID/Lot #	20916/ 62513		
pH strip Lot#	HC577678		

Legend:

WtS = weight of sample

WtF = weight of filter

WtDFS = weight of dried filter + solids

Prepared By: DFelic/ TWangc

Checked By: ML

Date 5/23/16

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TPH - PURGE AND TRAP

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 11:04
Sample ID	: CAFB-IDW-S-05132016	Date Analyzed:	05/18/16 11:04
Lab Samp ID	: E133-03N	Dilution Factor:	1.02
Lab File ID	: UE17025A	Matrix :	SOIL
Ext Btch ID	: GPE008S	% Moisture :	4.0
Calib. Ref.	: UE17013A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	0.30J	1.1	0.27	0.53

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.47	2.125	69.4	67-134

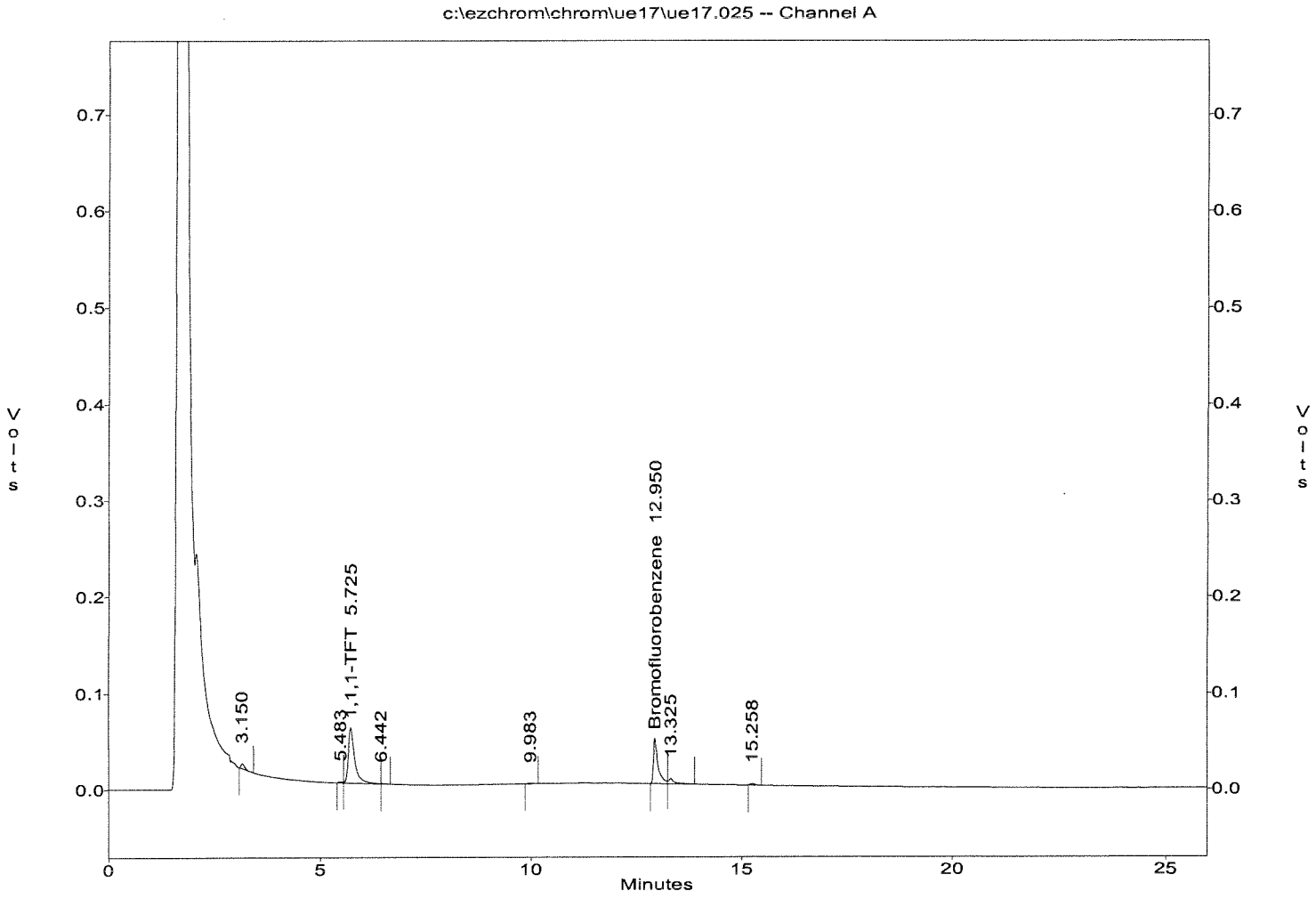
Parameter	H-C Range
GRO	C6-C10

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\ue17.025
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : 16E133-03N 100uL S
Acquired : May 18, 2016 11:04:10
Printed : May 18, 2016 12:03:19
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	5.725	615228.0	17652.2	34.85
6	Bromofluorobenzene	12.950	342284.0	12338.7	27.74
G1	GASOLINE(TOTAL)		107849.0	24410.8	4.42
G2	GRO(C6-C10)		107849.0	19168.0	5.63



METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/17/16 21:10
Sample ID:	CA015-0341A-000.5	Date Analyzed:	05/17/16 21:10
Lab Samp ID:	E133-04	Dilution Factor:	0.88
Lab File ID:	UE17009A	Matrix :	SOIL
Ext Btch ID:	GPE008S	% Moisture :	6.1
Calib. Ref.:	UE17003A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	0.77J	0.94	0.23	0.47

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.51	1.874	80.6	67-134

Parameter	H-C Range
GRO	C6-C10

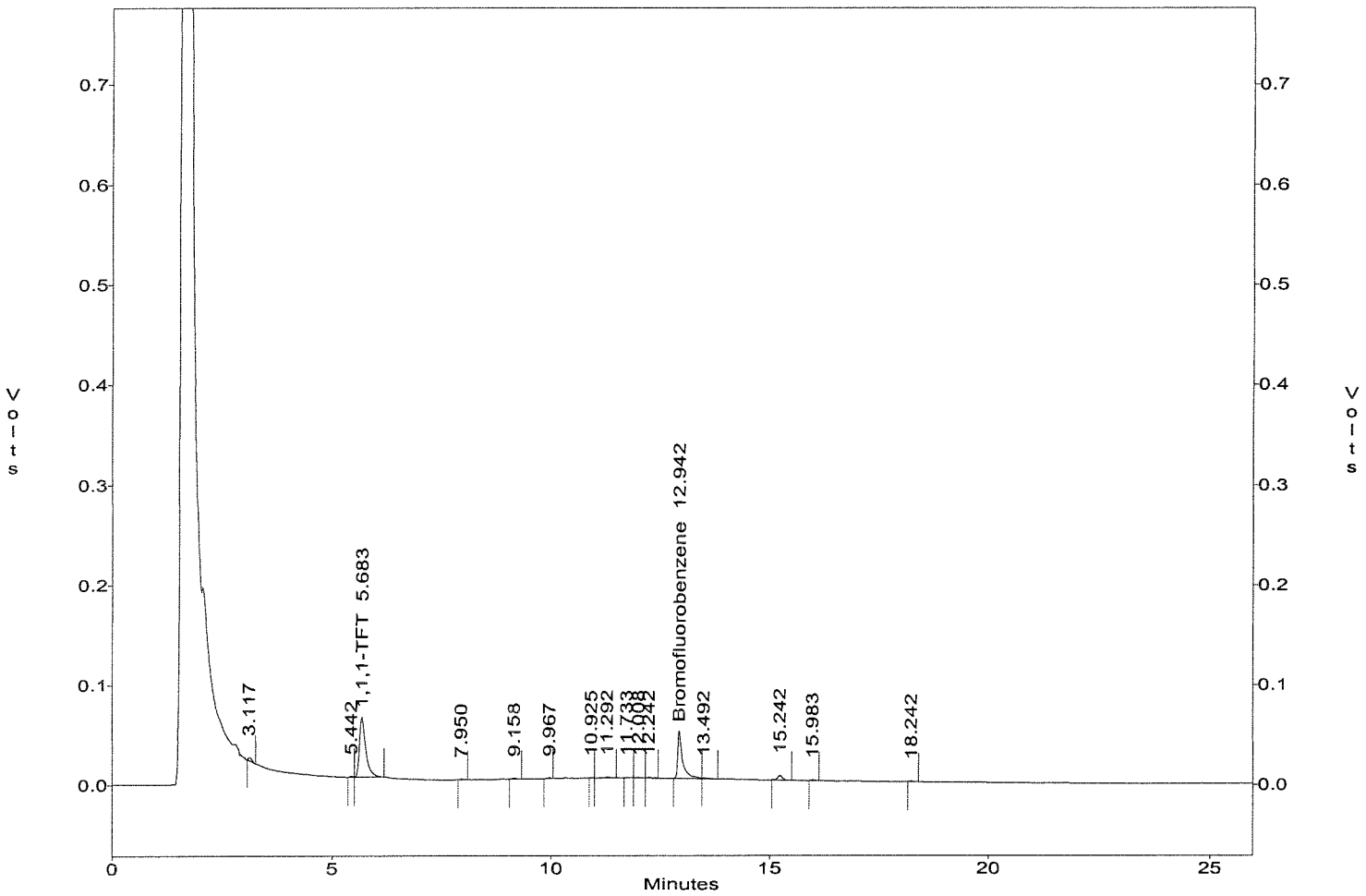
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\ue17.009
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : 16E133-04 100uL S
Acquired : May 17, 2016 21:10:51
Printed : May 18, 2016 12:02:29
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	5.683	599915.0	17652.2	33.99
12	Bromofluorobenzene	12.942	359108.0	12338.7	29.10
G1	GASOLINE(TOTAL)		103026.0	24410.8	4.22
G2	GRO(C6-C10)		94863.0	19168.0	4.95

c:\ezchrom\chrom\ue17\ue17.009 -- Channel A



QC SUMMARIES

METHOD SW5035A/8015C
GASOLINE RANGE ORGANICS BY PURGE AND TRAP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/17/16
Batch No.	: 16E133	Date Extracted:	05/17/16 18:04
Sample ID	: MBLK1S	Date Analyzed:	05/17/16 18:04
Lab Samp ID	: GPE008SB	Dilution Factor:	1
Lab File ID	: UE17004A	Matrix :	SOIL
Ext Btch ID	: GPE008S	% Moisture :	NA
Calib. Ref.	: UE17003A	Instrument ID :	GCT055

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
GRO	ND	1.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOFLUOROBENZENE	1.55	2.000	77.5	67-134

Parameter	H-C Range
GRO	C6-C10

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW5035A/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	GPE008SB	GPE008SL	GPE008SC		
LAB FILE ID:	UE17004A	UE17005A	UE17006A		
DATE EXTRACTED:	05/17/1618:04	05/17/1618:42	05/17/1619:19	DATE COLLECTED:	NA
DATE ANALYZED:	05/17/1618:04	05/17/1618:42	05/17/1619:19	DATE RECEIVED:	05/17/16
PREP. BATCH:	GPE008S	GPE008S	GPE008S		
CALIB. REF:	UE17003A	UE17003A	UE17003A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
GRO	ND	25.0	23.8	95	25.0	23.9	96	1	50-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromofluorobenzene	2.00	2.21	110	2.00	2.19	110	67-134

QC DATA

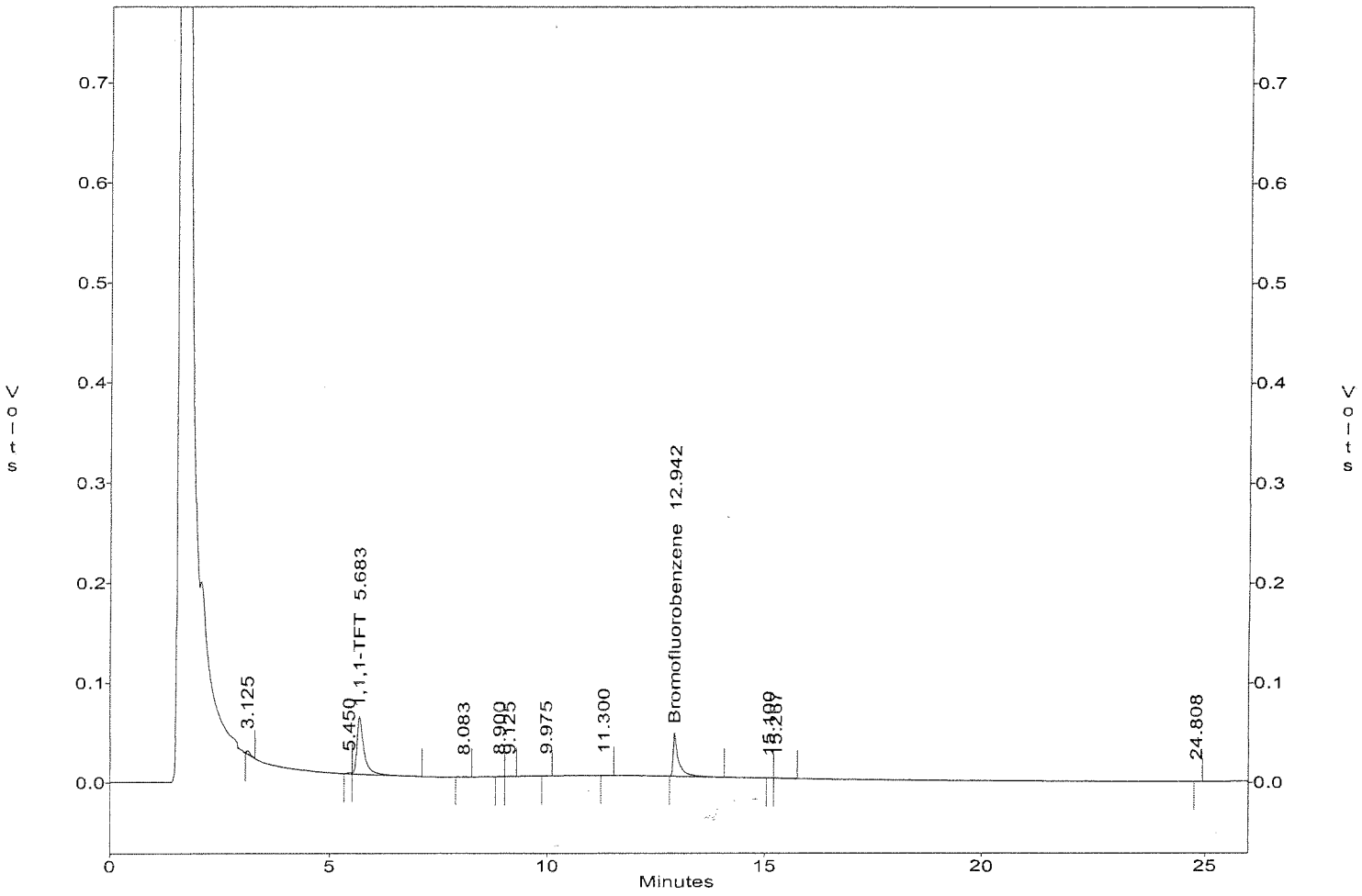
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.004
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : GPE008SB 100uL S
Acquired : May 17, 2016 18:04:40
Printed : May 17, 2016 18:30:42
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
3	1,1,1-TFT	5.683	680161.0	17652.2	38.53
9	Bromofluorobenzene	12.942	382482.0	12338.7	31.00
G1	GASOLINE(TOTAL)		43196.0	24410.8	1.77
G2	GRO(C6-C10)		42130.0	19168.0	2.20

c:\ezchrom\chrom\ue17\Ue17.004 -- Channel A



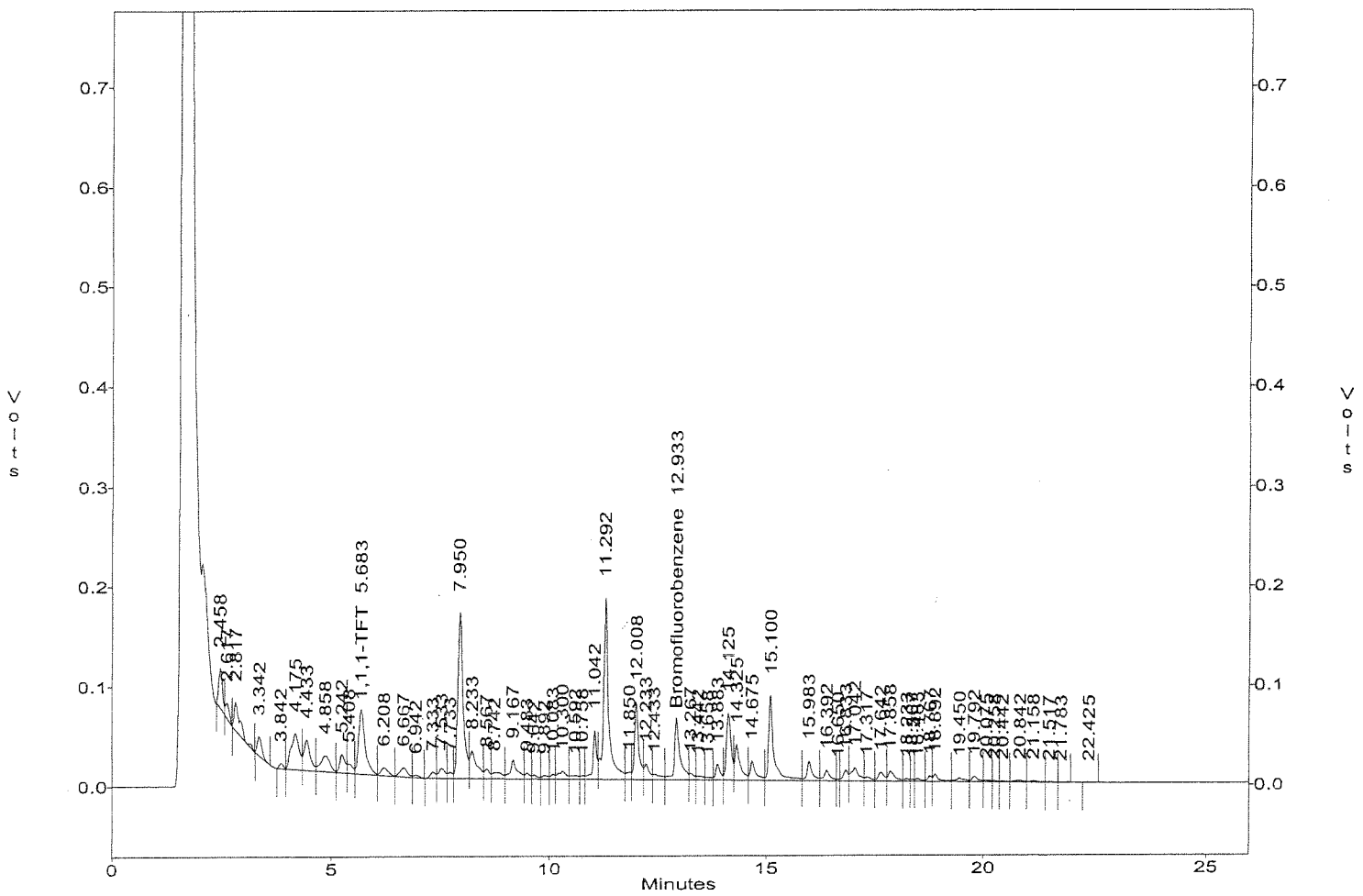
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.005
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : GPE008SL 100uL S
Acquired : May 17, 2016 18:42:03
Printed : May 17, 2016 19:08:06
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	5.683	680177.0	17652.2	38.53
36	Bromofluorobenzene	12.933	544760.0	12338.7	44.15
G1	GASOLINE(TOTAL)		10523176.0	24410.8	431.09
G2	GRO(C6-C10)		9110003.0	19168.0	475.27

c:\ezchrom\chrom\ue17\Ue17.005 -- Channel A



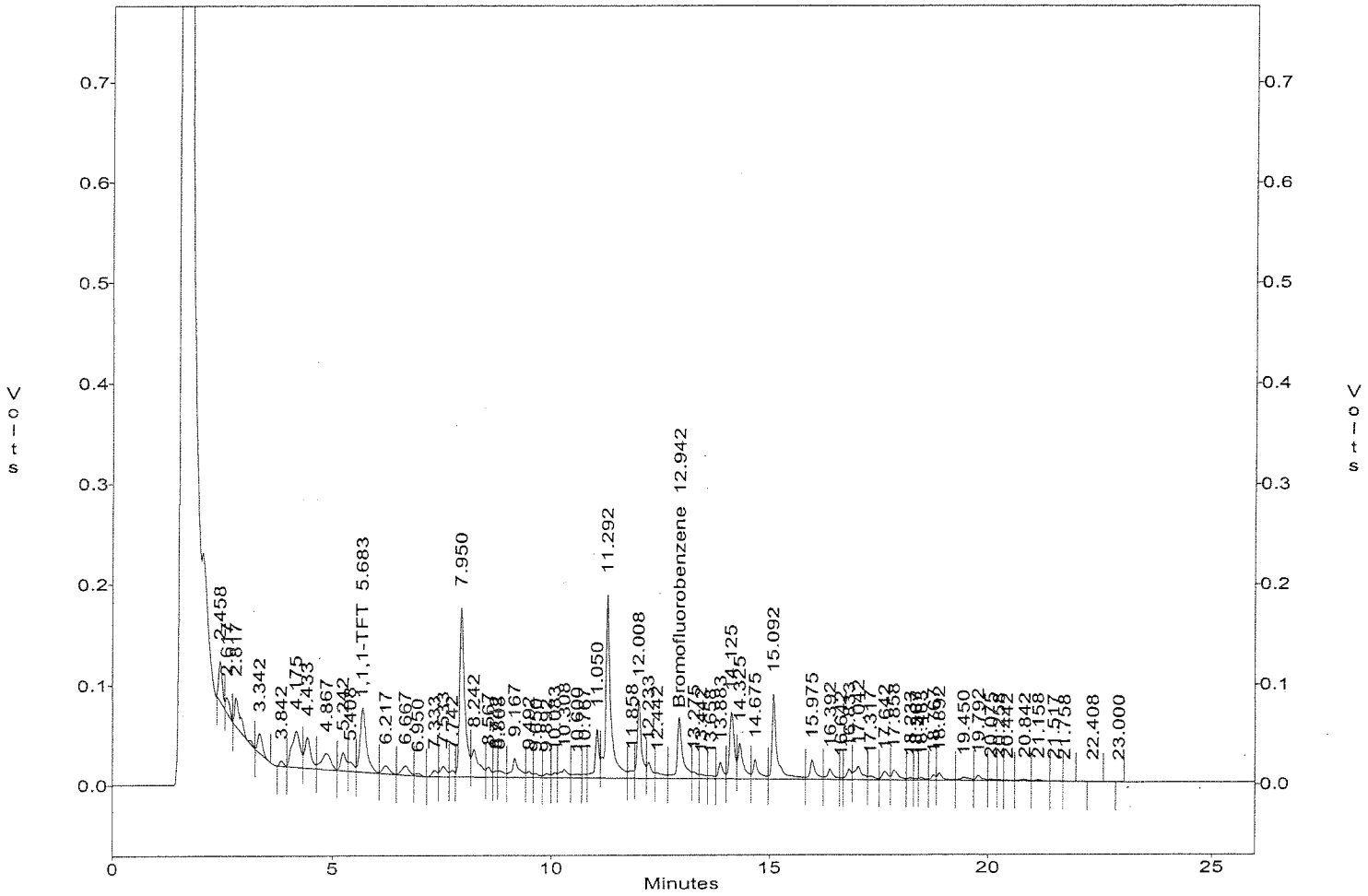
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.006
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : GPE008SC 100uL S
Acquired : May 17, 2016 19:19:26
Printed : May 17, 2016 19:45:28
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	5.683	665274.0	17652.2	37.69
37	Bromofluorobenzene	12.942	541174.0	12338.7	43.86
G1	GASOLINE(TOTAL)		10612240.0	24410.8	434.74
G2	GRO(C6-C10)		9176239.0	19168.0	478.73

c:\ezchrom\chrom\ue17\Ue17.006 -- Channel A



590

INITIAL CALIBRATIONS

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: UB23002A 02/23/16 11:54
LFID & Datetime: UB23003A 02/23/16 12:31
LFID & Datetime: UB23004A 02/23/16 13:09
LFID & Datetime: UB23005A 02/23/16 13:47
LFID & Datetime: UB23006A 02/23/16 14:25
LFID & Datetime: UB23007A 02/23/16 15:03
LFID & Datetime: UB23008A 02/23/16 15:41
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.50X	5.00X	25.00X	50.00X	75.00X	100.00X	MEAN	%RSD	
Gasoline(TOTAL)	20.00	22213	23471	25053	24894	25002	25140	25102	24410.8	4.6	✓
GRO(C6-C10)	20.00	19250	18953	19539	18909	19112	19073	19339	19168.0	1.2	✓
SURROGATE	**X**	**1.00X**	**2.00X**	**3.00X**	**4.00X**	**5.00X**	**6.00X**	**8.00X**	**MEAN**	**%RSD**	
Bromofluorobenzene	10.00	8873	10399	12040	13087	13263	14407	14301	12338.7	16.7	✓
1,1,1-Trifluorotoluene	10.00	16958	17525	16821	17156	17980	18528	18598	17652.2	4.1	

VG55B23.MET

AA
02/25/16

FORM VI 8015P -2 1/96

INITIAL CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Column : DB-5
Column size ID : 30MX.53MM
LFID & Datetime: UB23002A 02/23/16 11:54
LFID & Datetime: UB23003A 02/23/16 12:31
LFID & Datetime: UB23004A 02/23/16 13:09
LFID & Datetime: UB23005A 02/23/16 13:47
LFID & Datetime: UB23006A 02/23/16 14:25
LFID & Datetime: UB23007A 02/23/16 15:03
LFID & Datetime: UB23008A 02/23/16 15:41

	RT OF STANDARDS (MIN)							MEAN	RT WINDOW		RTWINDOW
COMPOUND	1.0X	2.5X	5.0X	25.0X	50.0X	75.0X	100.0X	RT	FROM	TO	WIDTH
Gasoline(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
GRO(C6-C10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	1.0X	2.0X	3.0X	4.0X	5.0X	6.0X	8.0X	RT	FROM	TO	WIDTH
Bromofluorobenzene	12.958	12.950	12.950	12.942	12.950	12.942	12.950	12.949	12.878	13.020	0.071
1,1,1-Trifluorotoluene	5.700	5.717	5.700	5.683	5.725	5.683	5.725	5.705	5.516	5.894	0.189

VG55B23.MET

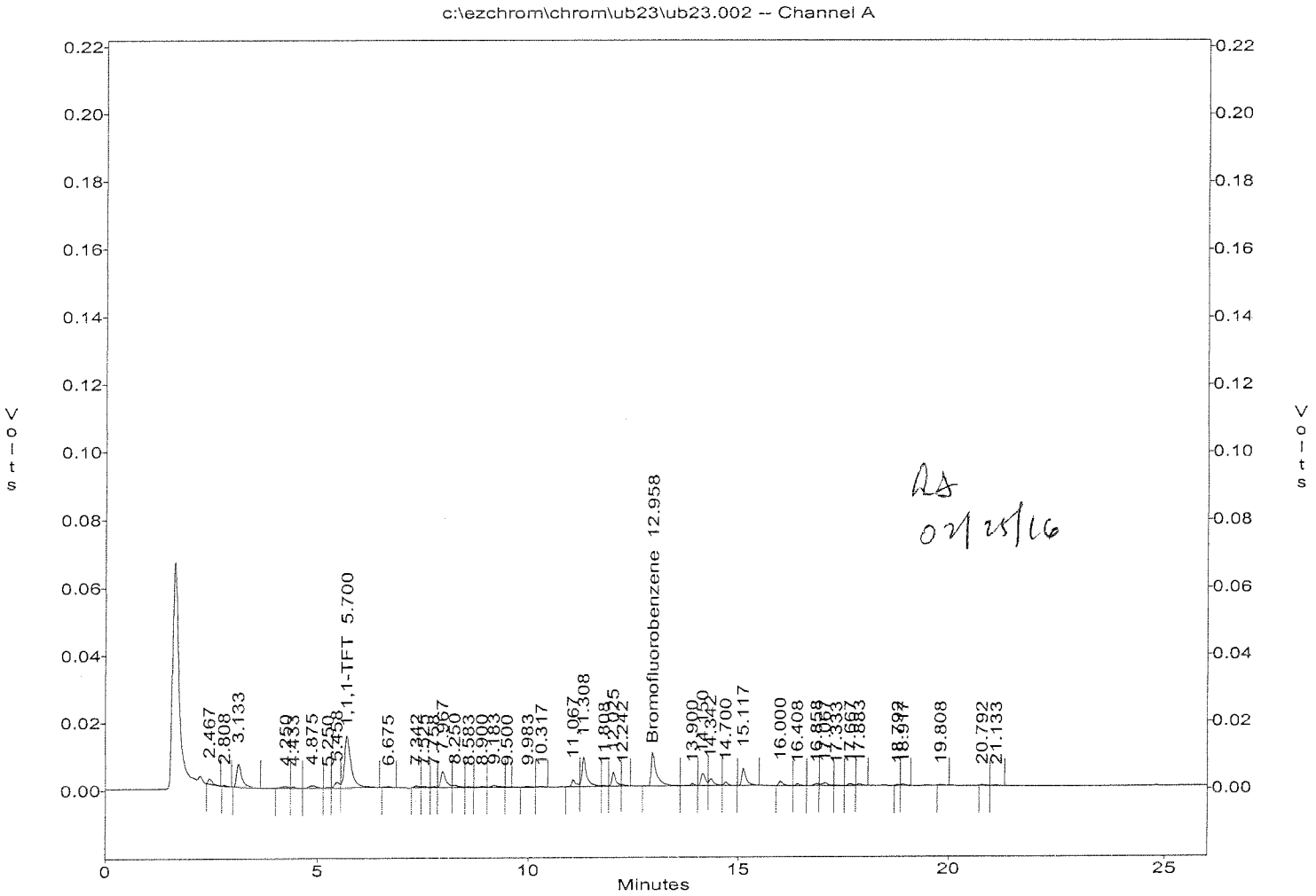
AS
02/25/16

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.002
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2301 20/10
Acquired : Feb 23, 2016 11:54:15
Printed : Feb 24, 2016 10:00:45
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
9	1,1,1-TFT	5.700	169579.0	17652.2	10.00
27	Bromofluorobenzene	12.958	88731.0	12338.7	10.00
G1	GASOLINE(TOTAL)		444268.0	24410.8	20.00
G2	GRO(C6-C10)		385009.0	19168.0	20.00



RA
02/25/16

594

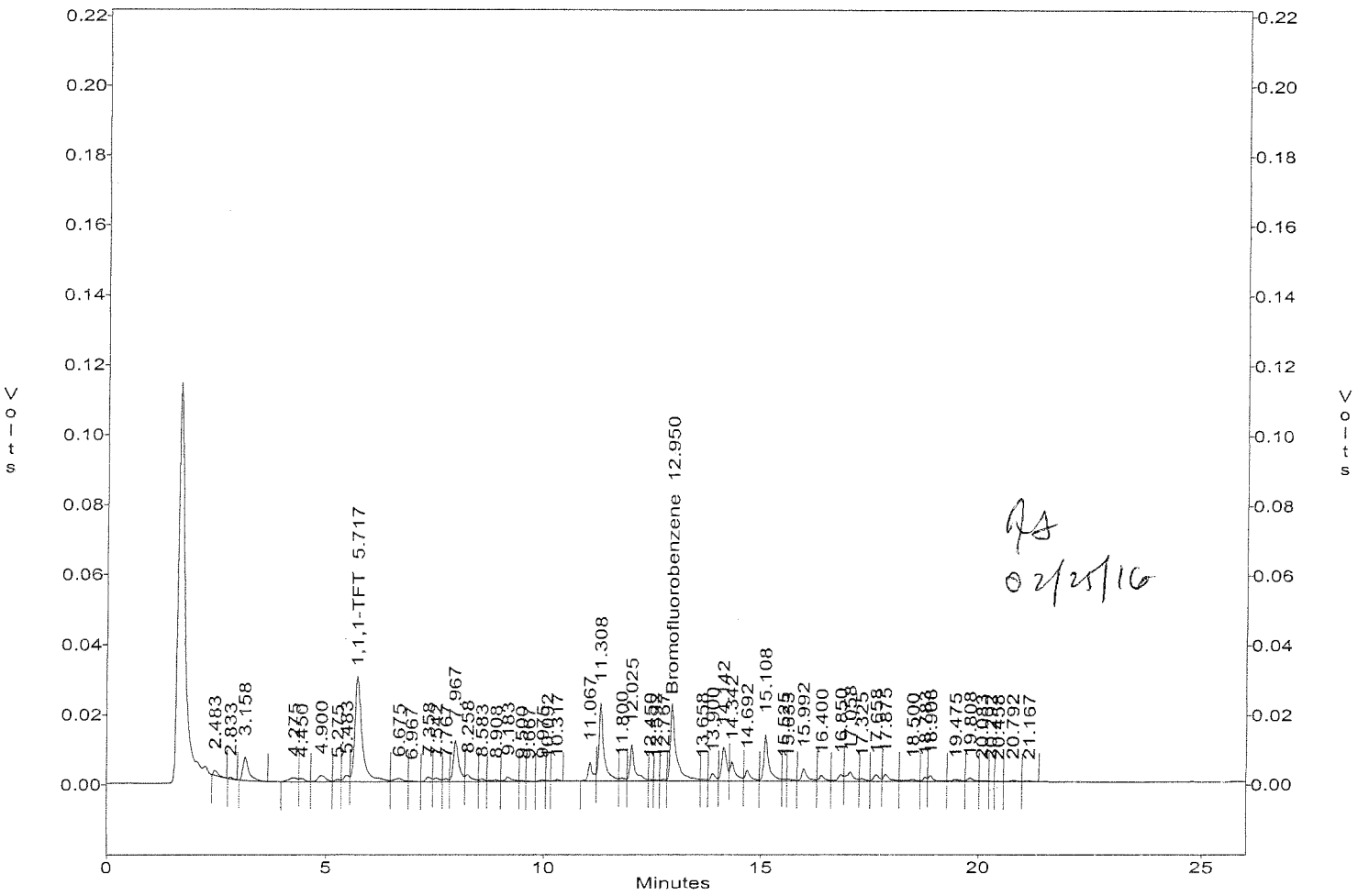
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.003
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2302 50/20
Acquired : Feb 23, 2016 12:31:52
Printed : Feb 24, 2016 10:00:53
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
9	1,1,1-TFT	5.717	350490.0	17652.2	20.00
32	Bromofluorobenzene	12.950	207980.0	12338.7	20.00
G1	GASOLINE(TOTAL)		1173534.0	24410.8	50.00
G2	GRO(C6-C10)		947669.0	19168.0	50.00

c:\ezchrom\chrom\ub23\ub23.003 -- Channel A



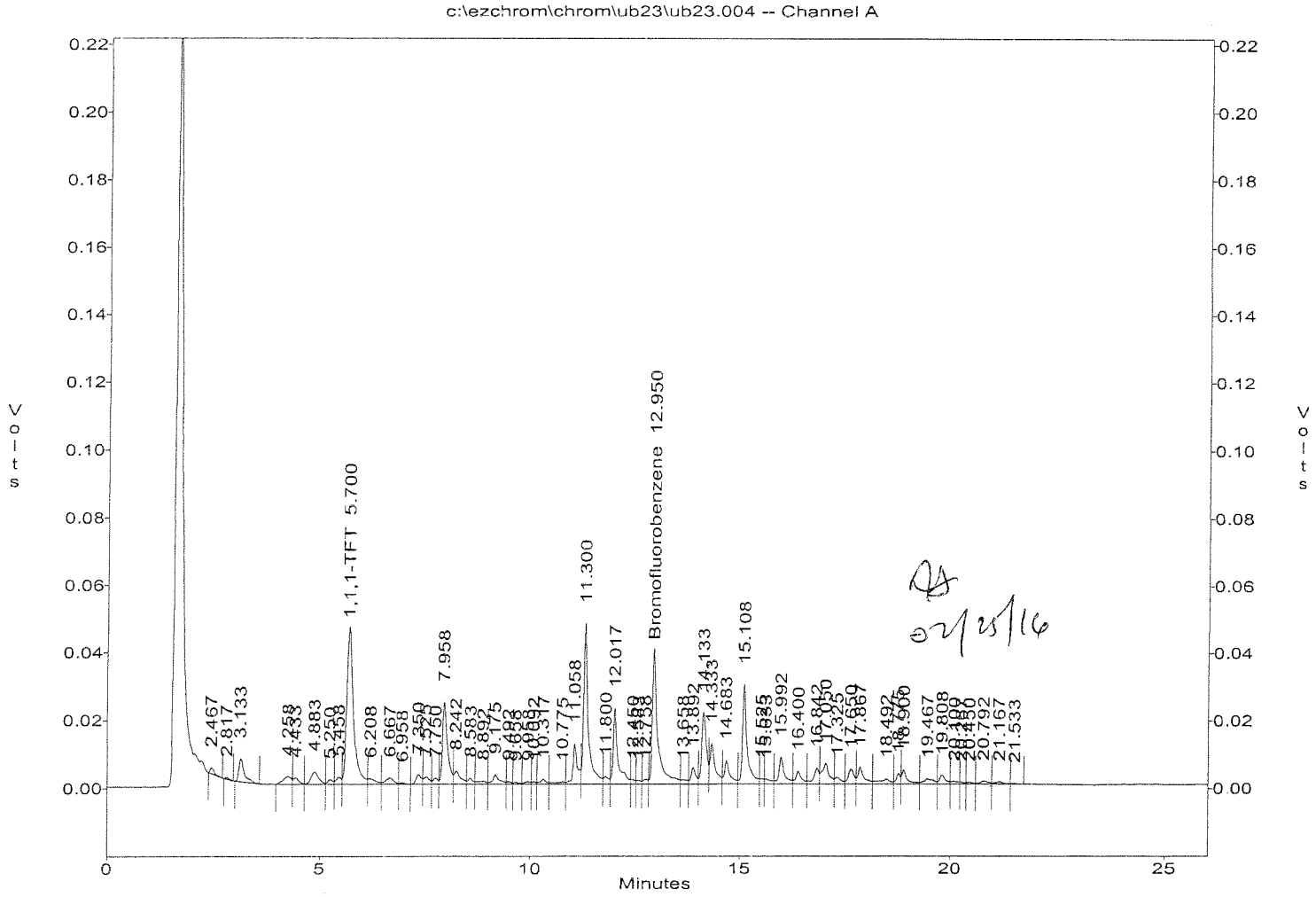
RS
02/25/16

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.004
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2303 100/30
Acquired : Feb 23, 2016 13:09:40
Printed : Feb 24, 2016 10:01:08
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
9	1,1,1-TFT	5.700	504619.0	17652.2	30.00
34	Bromofluorobenzene	12.950	361189.0	12338.7	30.00
G1	GASOLINE(TOTAL)		2505253.0	24410.8	100.00
G2	GRO(C6-C10)		1953912.0	19168.0	100.00



596

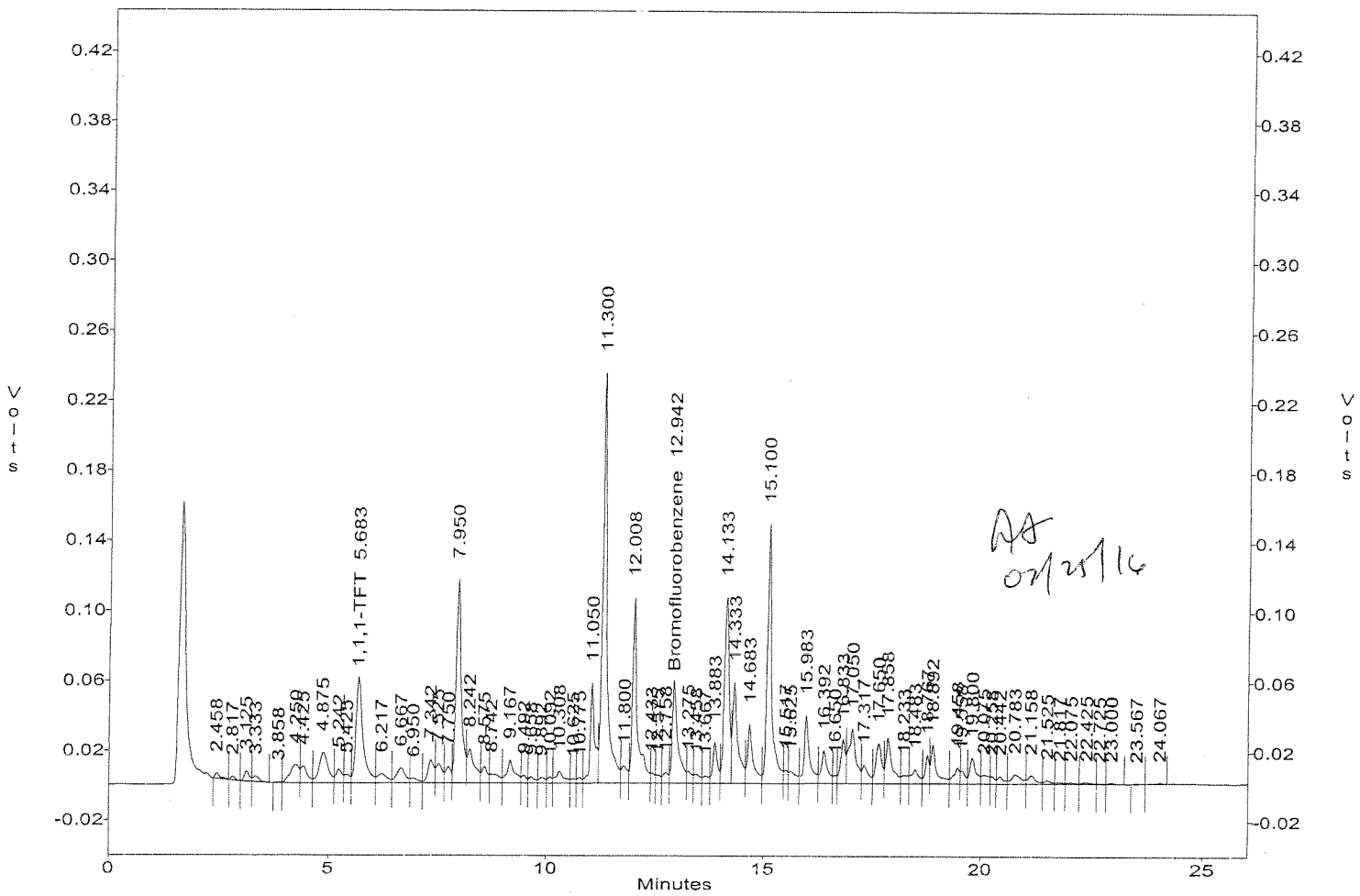
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.005
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2304 500/40
Acquired : Feb 23, 2016 13:47:40
Printed : Feb 24, 2016 10:02:13
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	5.683	686259.0	17652.2	40.00
37	Bromofluorobenzene	12.942	523492.0	12338.7	40.00
G1	GASOLINE(TOTAL)		12447239.0	24410.8	500.00
G2	GRO(C6-C10)		9454679.0	19168.0	500.00

c:\ezchrom\chrom\ub23\ub23.005 -- Channel A



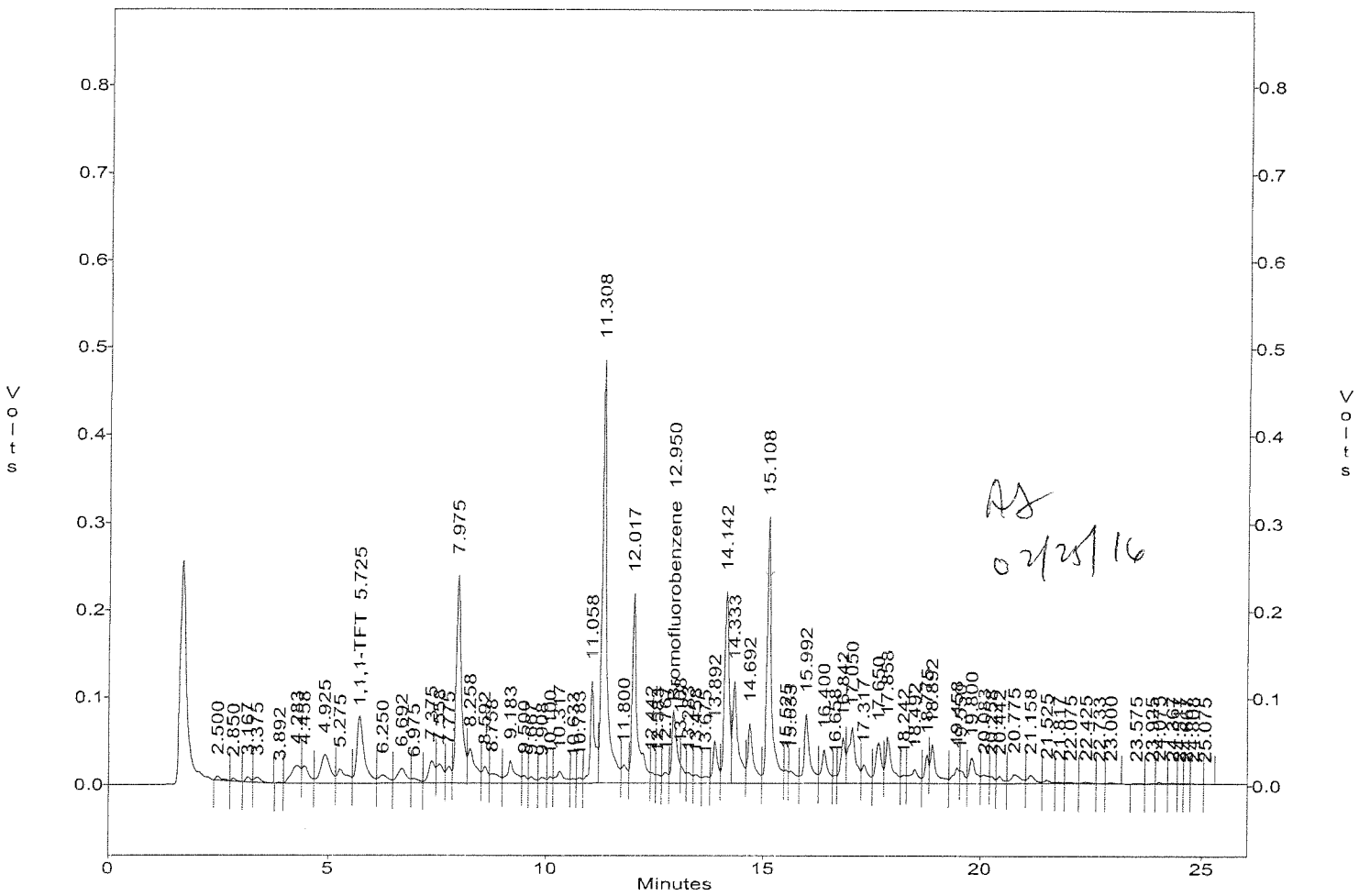
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.006
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2305 1000/50
Acquired : Feb 23, 2016 14:25:40
Printed : Feb 24, 2016 10:04:27
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
10	1,1,1-TFT	5.725	899003.0	17652.2	50.00
36	Bromofluorobenzene	12.950	663145.0	12338.7	50.00
G1	GASOLINE(TOTAL)		25002036.0	24410.8	1000.00
G2	GRO(C6-C10)		19111784.0	19168.0	1000.00

c:\ezchrom\chrom\ub23\ub23.006 -- Channel A



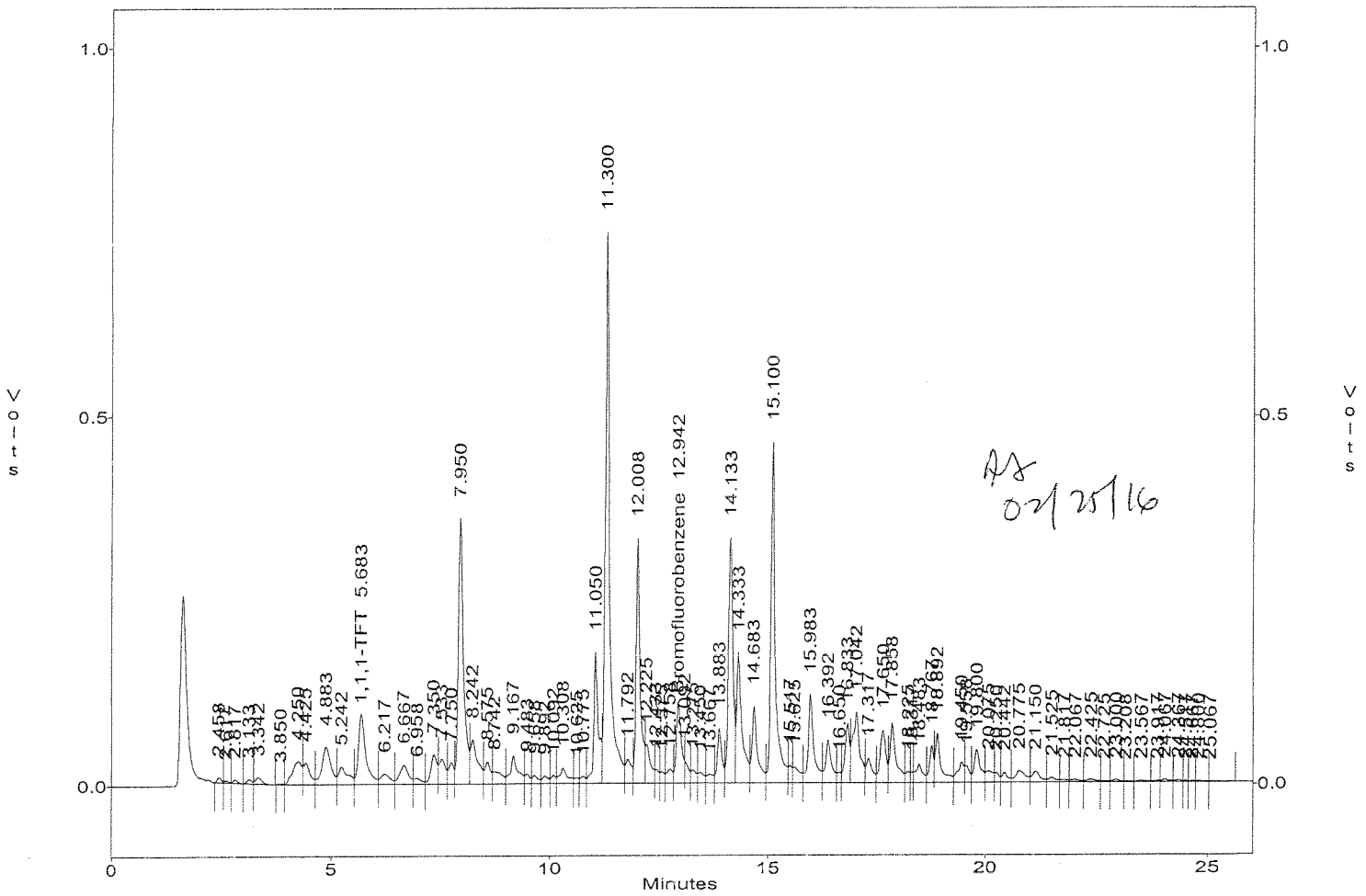
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.007
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2306 1500/60
Acquired : Feb 23, 2016 15:03:42
Printed : Feb 24, 2016 10:06:24
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	5.683	1111658.0	17652.2	60.00
38	Bromofluorobenzene	12.942	864447.0	12338.7	60.00
G1	GASOLINE(TOTAL)		37710324.0	24410.8	1500.00
G2	GRO(C6-C10)		28610072.0	19168.0	1500.00

c:\ezchrom\chrom\ub23\ub23.007 -- Channel A



599

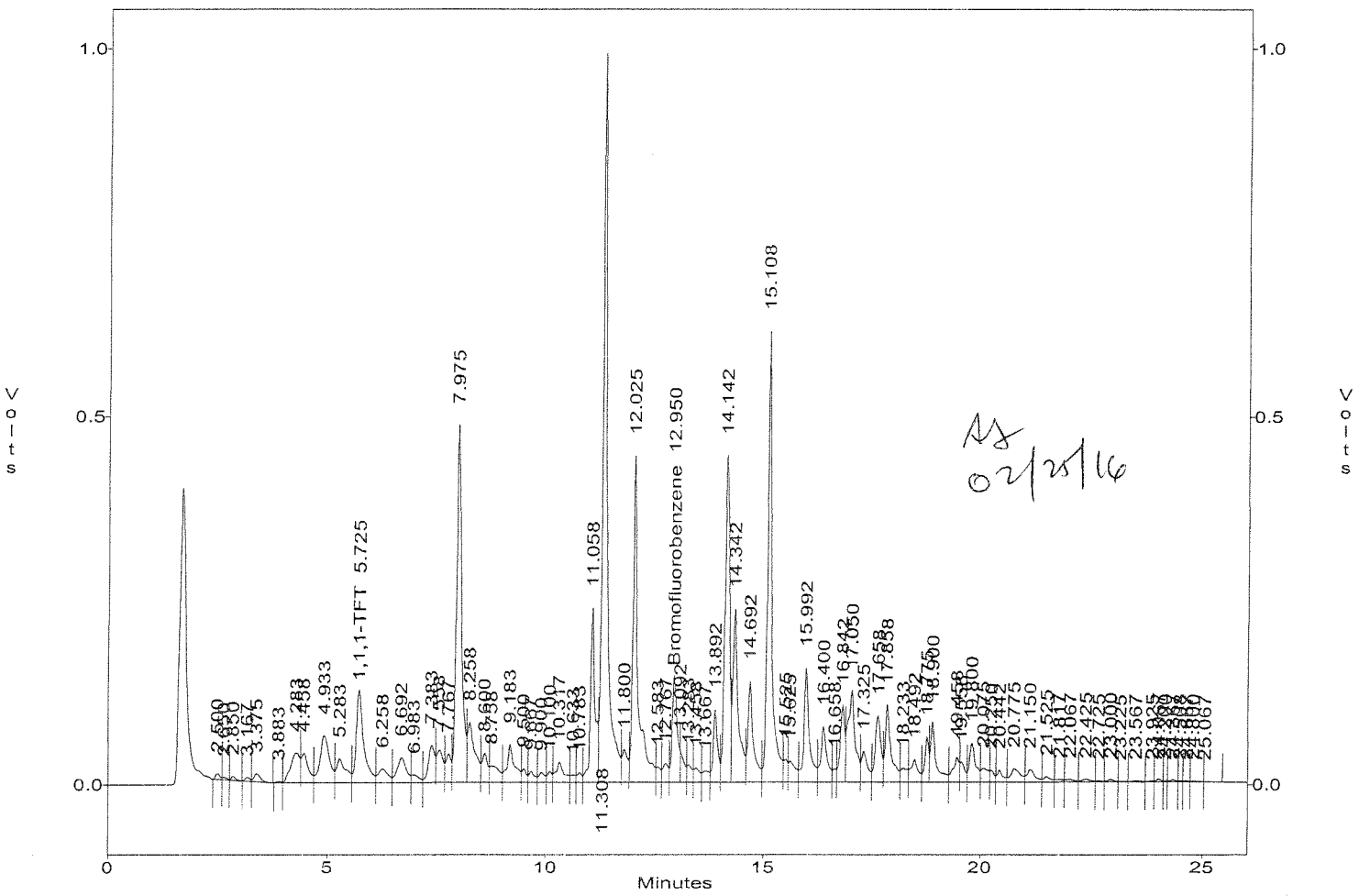
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.008
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : VG55B2307 2000/80
Acquired : Feb 23, 2016 15:41:39
Printed : Feb 24, 2016 10:06:15
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
11	1,1,1-TFT	5.725	1487839.0	17652.2	80.00
36	Bromofluorobenzene	12.950	1144100.0	12338.7	80.00
G1	GASOLINE(TOTAL)		50204160.0	24410.8	2000.00
G2	GRO(C6-C10)		38677684.0	19168.0	2000.00

c:\ezchrom\chrom\ub23\ub23.008 -- Channel A



NS
02/25/16

600

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: UB23005A 02/23/2016 13:47
Conc Cont LFID & Datetime: UB23010A 02/23/2016 16:57
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	24410.8	10885639	445.94	-11		20
GRO(C6-C10)	NA	NA	NA	500.0	19168.0	9064278	472.89	-5		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	12.942	12.871	13.013	40.0	12338.7	455199	36.89	-8		20
1,1,1-Trifluorotoluene	5.708	5.519	5.897	40.0	17652.2	694048	39.32	-2		20

VG55B23.MET

AA
02/25/16

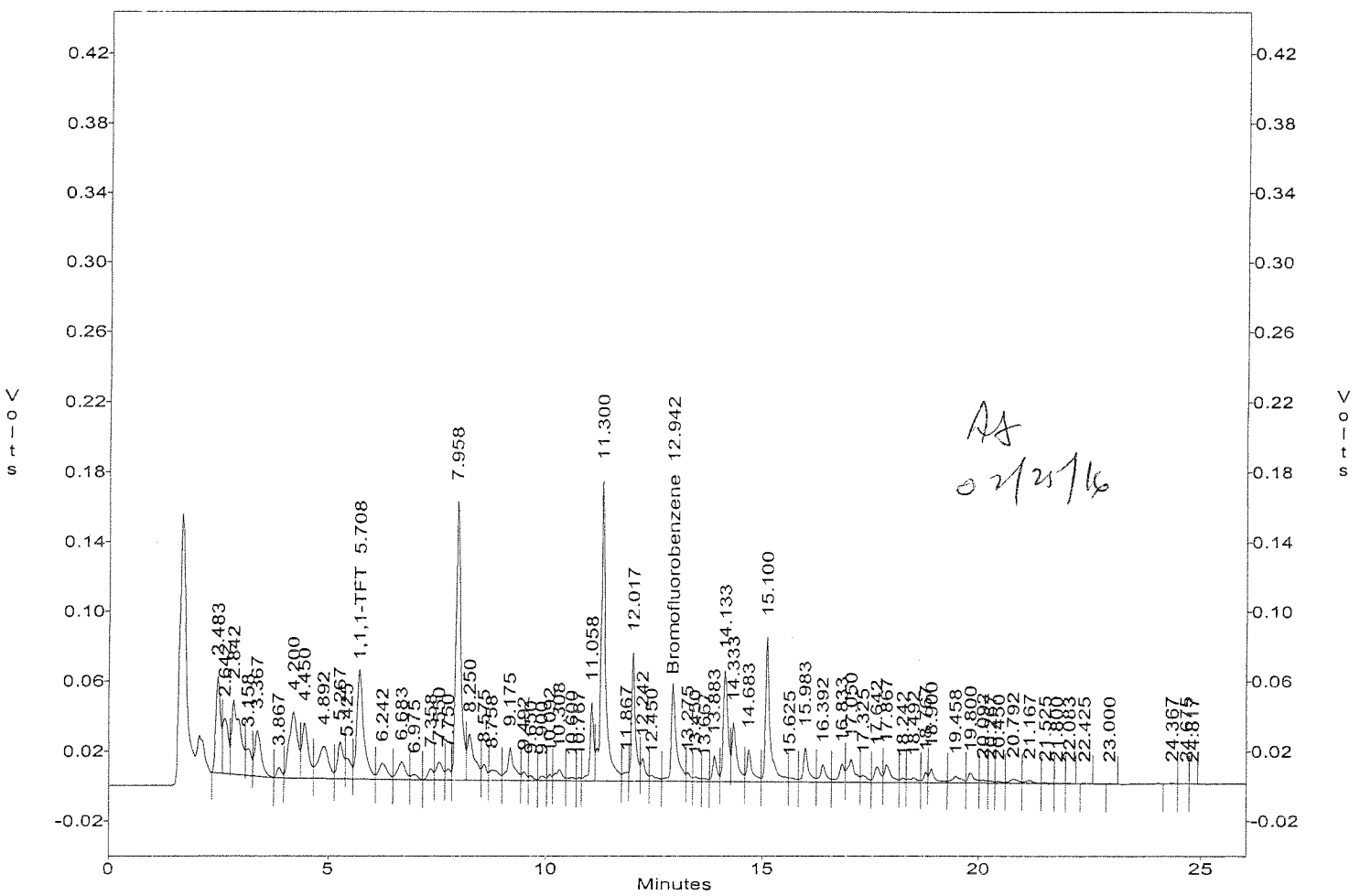
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.010
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : IVG55B2302 500/40
Acquired : Feb 23, 2016 16:57:00
Printed : Feb 24, 2016 10:08:23
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	5.708	694048.0	17652.2	39.32
37	Bromofluorobenzene	12.942	455199.0	12338.7	36.89
G1	GASOLINE(TOTAL)		10885639.0	24410.8	445.94
G2	GRO(C6-C10)		9064278.0	19168.0	472.88

c:\ezchrom\chrom\ub23\ub23.010 -- Channel A

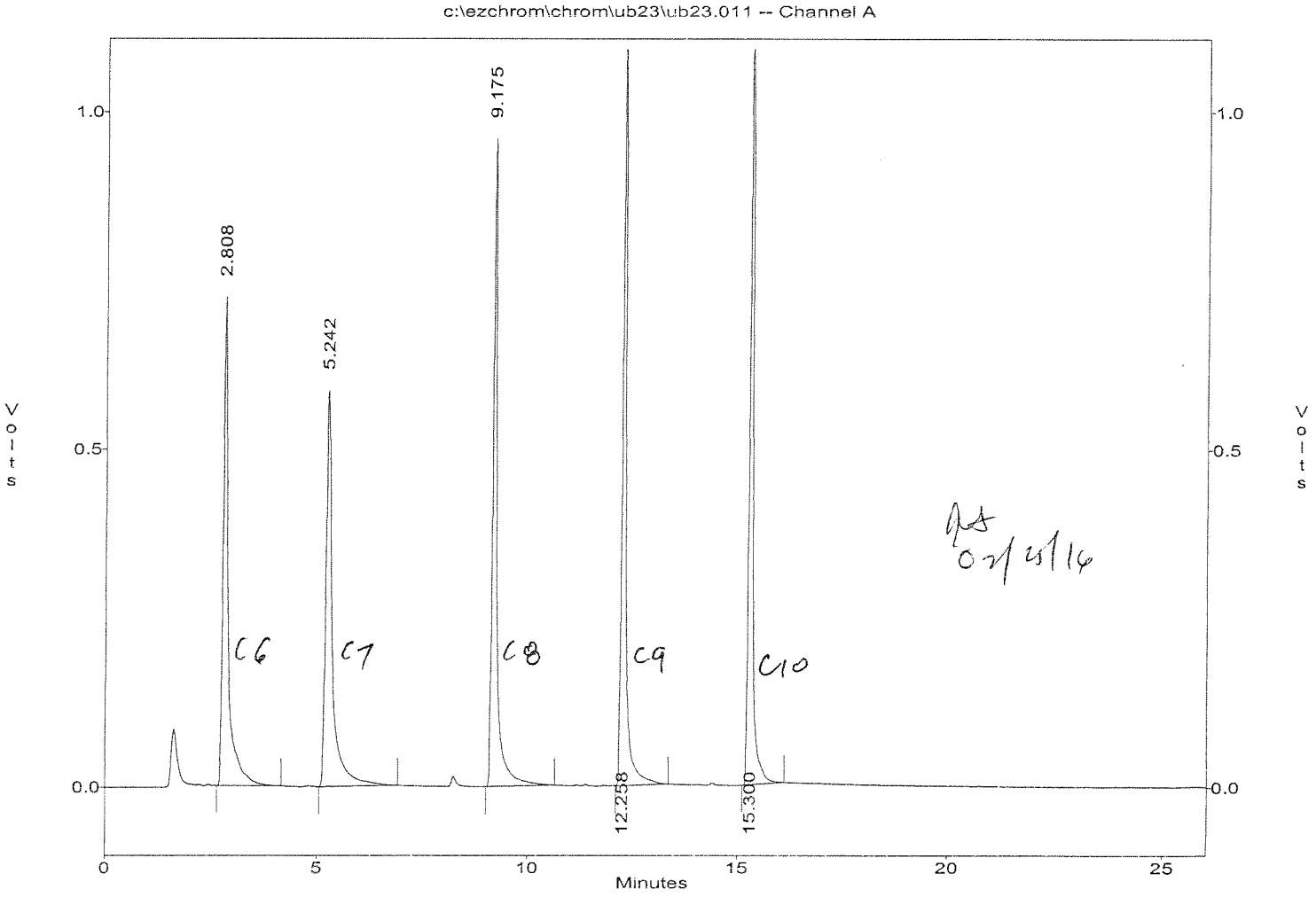


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.011
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : GRO-1
Acquired : Feb 23, 2016 17:34:31
Printed : Feb 24, 2016 10:07:14
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	5.675	0.0	0.0	0.00
--	Bromofluorobenzene	12.942	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		34390944.0	24410.8	1408.84
G2	GRO(C6-C10)		34390944.0	19168.0	1794.18



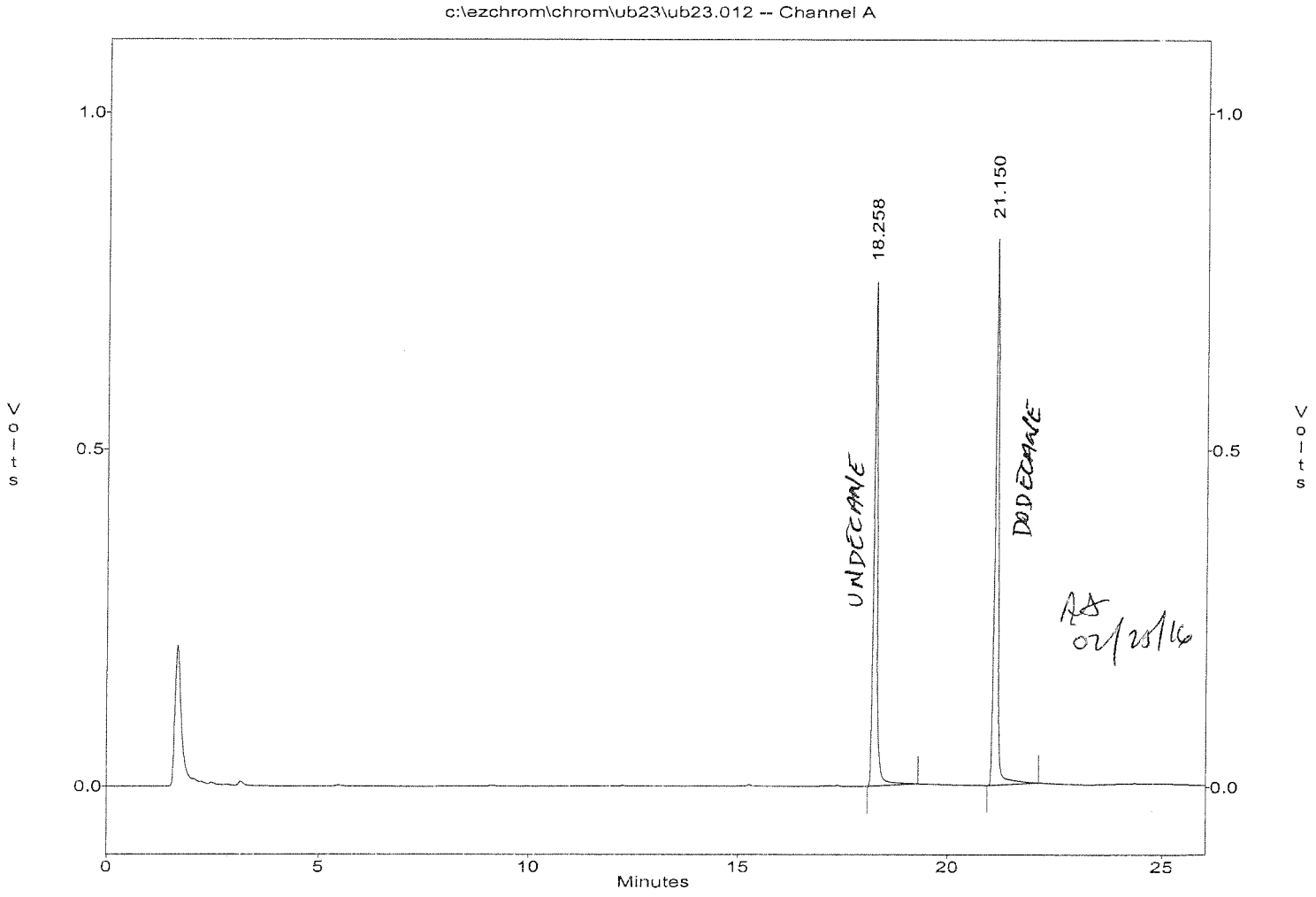
604

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.012
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : UNDECANE/DODECANE
Acquired : Feb 23, 2016 18:11:52
Printed : Feb 24, 2016 10:07:22
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	5.675	0.0	0.0	0.00
--	Bromofluorobenzene	12.942	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		9485988.0	24410.8	388.60
G2	GRO(C6-C10)		0.0	19168.0	0.00

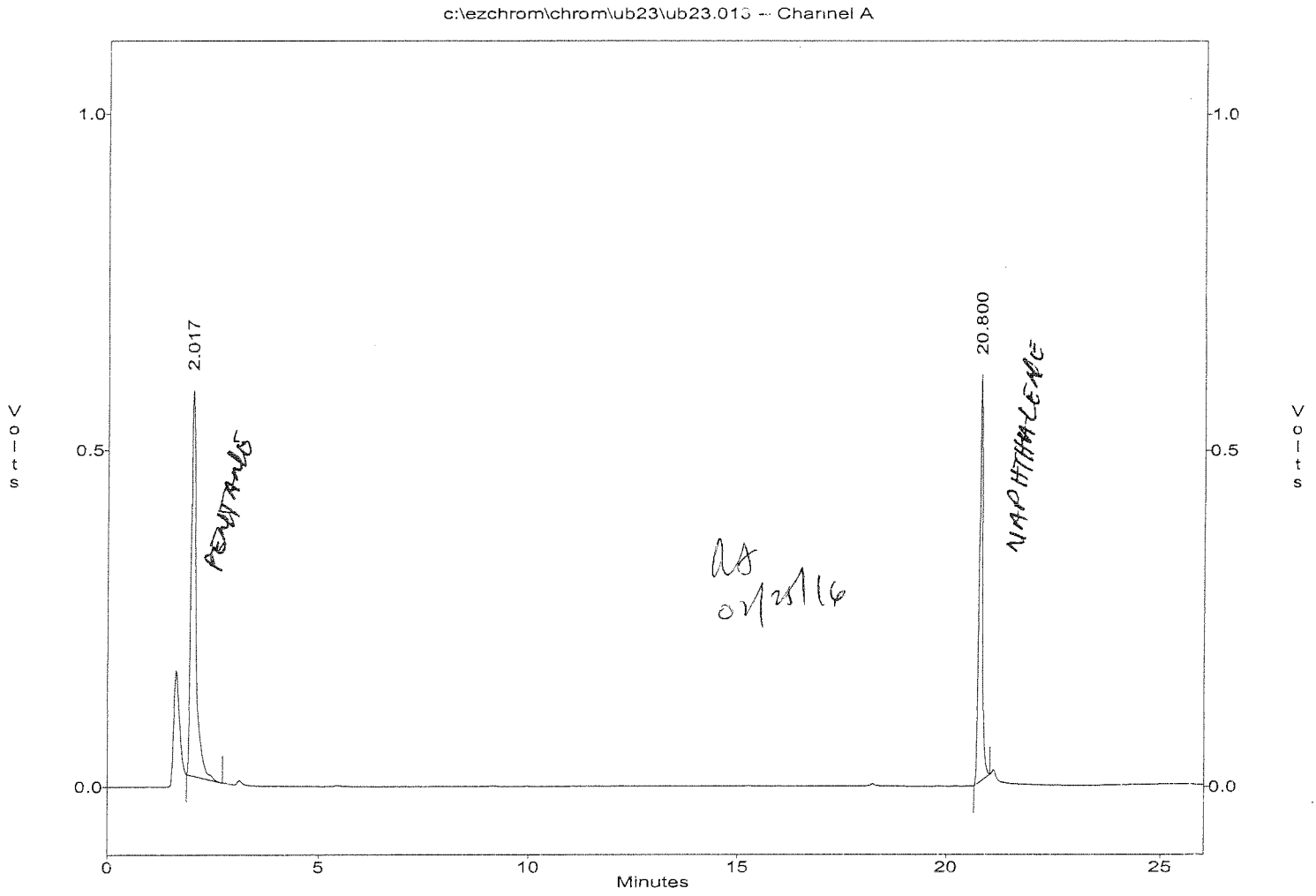


EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ub23\ub23.013
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : PENTANE/NAPHTHALENE
Acquired : Feb 23, 2016 18:49:05
Printed : Feb 24, 2016 10:07:29
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
--	1,1,1-TFT	5.675	0.0	0.0	0.00
--	Bromofluorobenzene	12.942	0.0	0.0	0.00
G1	GASOLINE(TOTAL)		3535015.0	24410.8	144.81
G2	GRO(C6-C10)		0.0	19168.0	0.00



DAILY CALIBRATIONS

CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: UB23005A 02/23/2016 13:47
Conc Cont LFID & Datetime: UE17003A 05/17/2016 17:21
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	24410.8	12477929	511.17	2		20
GRO(C6-C10)	NA	NA	NA	500.0	19168.0	9540315	497.72	-0		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	12.933	12.862	13.004	40.0	12338.7	518349	42.01	5		20
1,1,1-Trifluorotoluene	5.692	5.503	5.881	40.0	17652.2	680338	38.54	-4		20

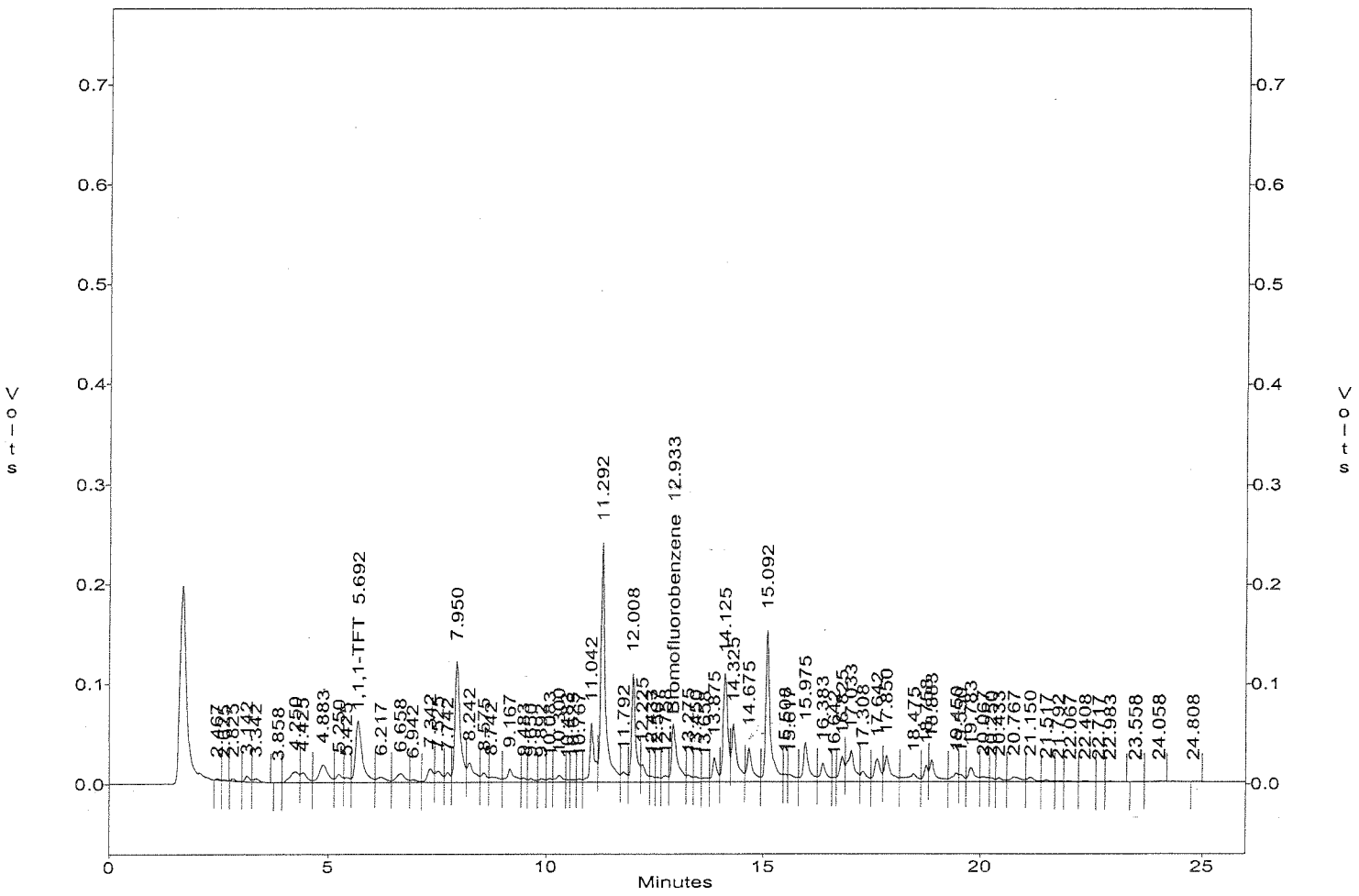
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\ue17.003
Method : c:\ezchrom\methods\vg55b23.met
Sample ID : CVG55B23029 500/40
Acquired : May 17, 2016 17:21:37
Printed : May 17, 2016 17:48:52
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	5.692	680338.0	17652.2	38.54
40	Bromofluorobenzene	12.933	518349.0	12338.7	42.01
G1	GASOLINE(TOTAL)		12477929.0	24410.8	511.16
G2	GRO(C6-C10)		9540315.0	19168.0	497.72

c:\ezchrom\chrom\ue17\ue17.003 -- Channel A



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: UB23005A 02/23/2016 13:47
Conc Cont LFID & Datetime: UE17013A 05/17/2016 23:39
CONC UNIT : ppb

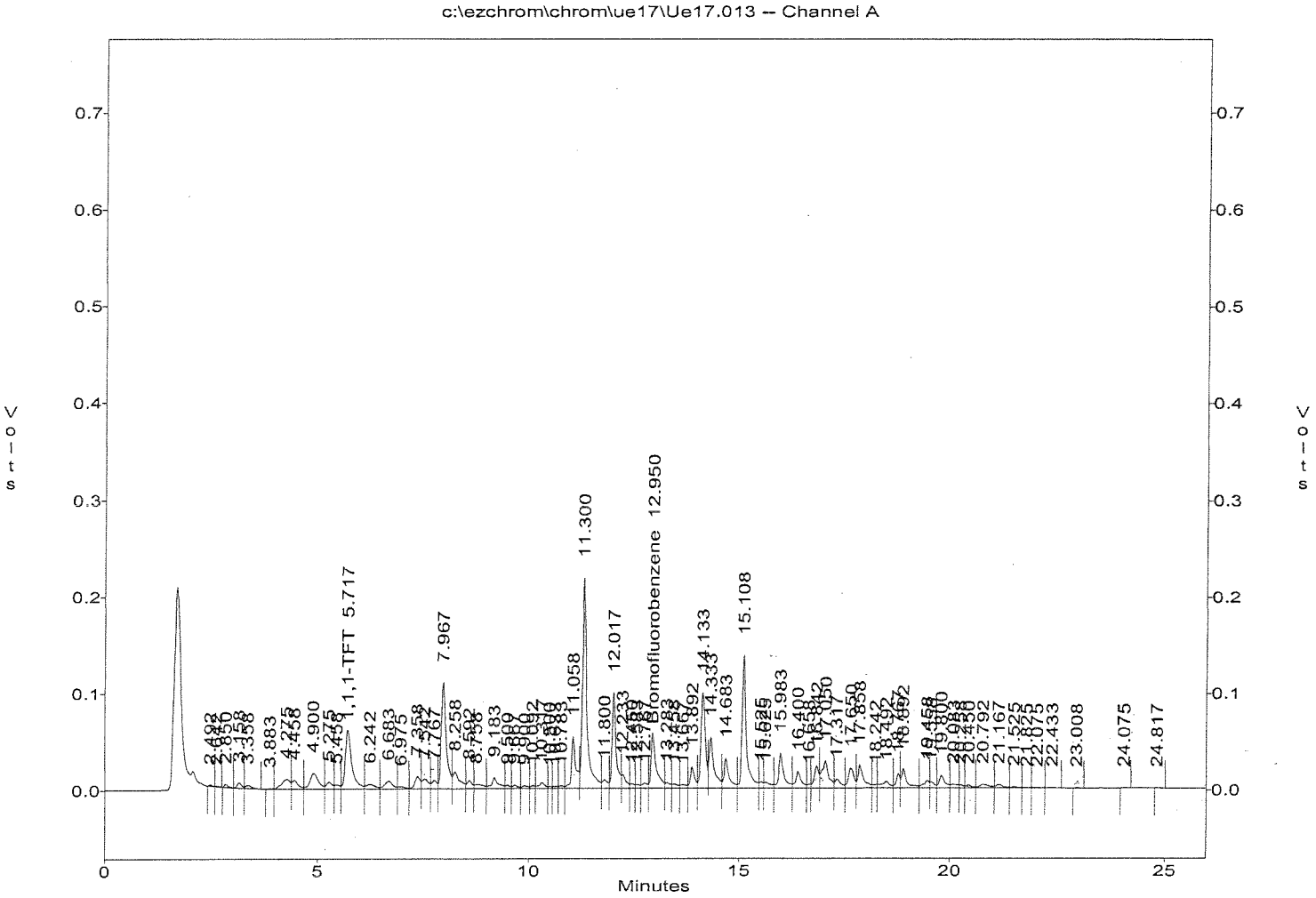
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	24410.8	10908965	446.89	-11		20
GRO(C6-C10)	NA	NA	NA	500.0	19168.0	8397260	438.09	-12		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	12.950	12.879	13.021	40.0	12338.7	485228	39.33	-2		20
1,1,1-Trifluorotoluene	5.717	5.528	5.906	40.0	17652.2	650927	36.88	-8		20

EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.013
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : CVG55B23030 500/40
Acquired : May 17, 2016 23:39:25
Printed : May 18, 2016 00:05:27
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	5.717	650927.0	17652.2	36.88
40	Bromofluorobenzene	12.950	485228.0	12338.7	39.33
G1	GASOLINE(TOTAL)		10908965.0	24410.8	446.89
G2	GRO(C6-C10)		8397260.0	19168.0	438.09



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Column : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: UB23005A 02/23/2016 13:47
Conc Cont LFID & Datetime: UE17022A 05/18/2016 05:14
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	24410.8	11285330	462.31	-8		20
GRO(C6-C10)	NA	NA	NA	500.0	19168.0	8601723	448.75	-10		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
Bromofluorobenzene	12.942	12.871	13.013	40.0	12338.7	497520	40.32	1		20
1,1,1-Trifluorotoluene	5.708	5.519	5.897	40.0	17652.2	653002	36.99	-8		20

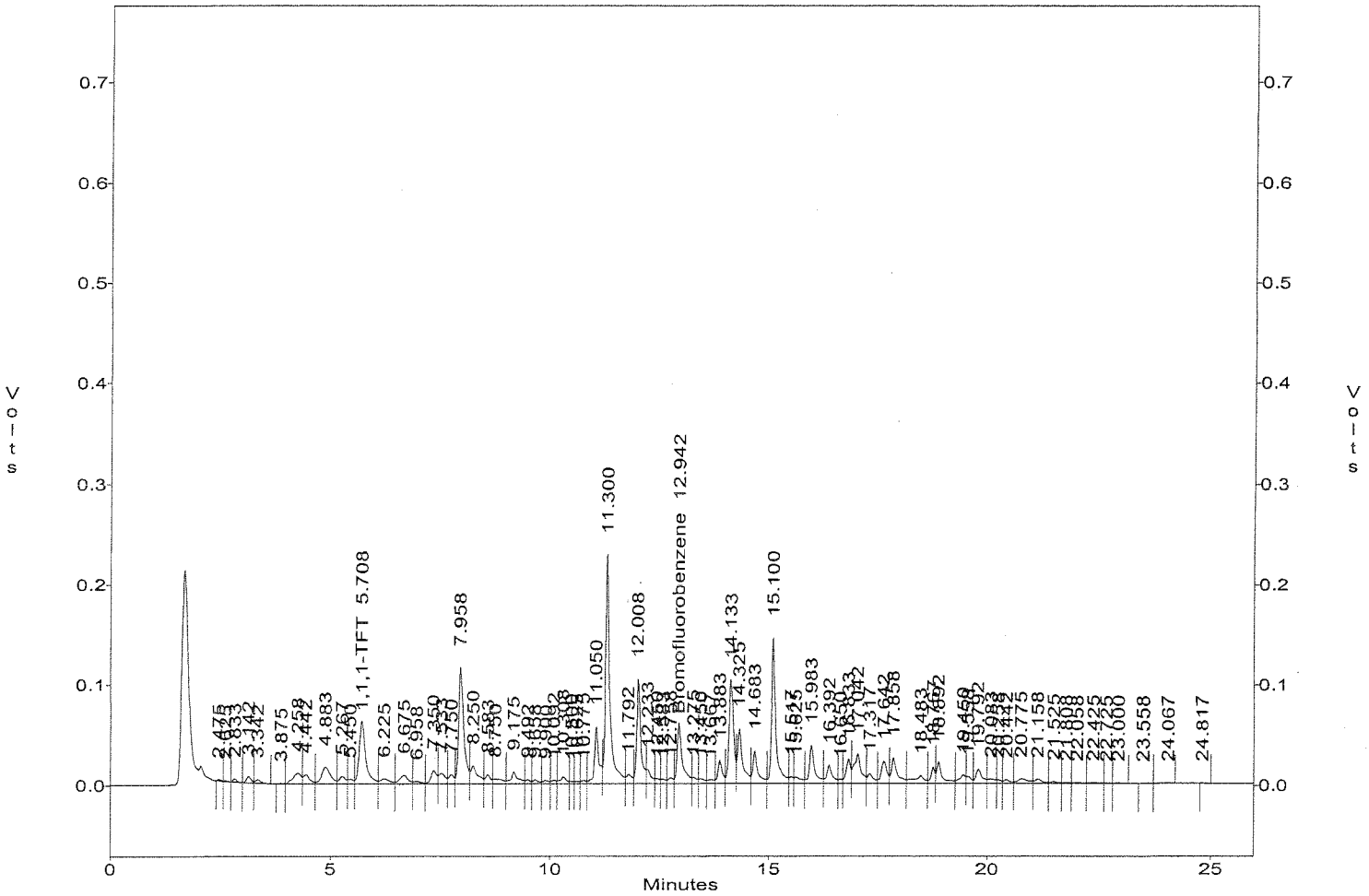
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.022
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : CVG55B23031 500/40
Acquired : May 18, 2016 05:14:40
Printed : May 18, 2016 05:40:43
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	5.708	653002.0	17652.2	36.99
40	Bromofluorobenzene	12.942	497520.0	12338.7	40.32
G1	GASOLINE(TOTAL)		11285330.0	24410.8	462.31
G2	GRO(C6-C10)		8601723.0	19168.0	448.75

c:\ezchrom\chrom\ue17\Ue17.022 -- Channel A



CONTINUE CALIBRATION
5030B/M8015

Lab Name : EMAX Inc
Instrument ID : GCT55
GC Columm : DB-5
Column size ID : 30MX.53MM
Mid Conc Init LFID & Datetime: UB23005A 02/23/2016 13:47
Conc Cont LFID & Datetime: UE17026A 05/18/2016 11:41
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Gasoline(TOTAL)	NA	NA	NA	500.0	24410.8	10900585	446.55	-11		20
GRO(C6-C10)	NA	NA	NA	500.0	19168.0	8252542	430.54	-14		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
Bromofluorobenzene	12.950	12.879	13.021	40.0	12338.7	496122	40.21	1		20
1,1,1-Trifluorotoluene	5.717	5.528	5.906	40.0	17652.2	660613	37.42	-6		20

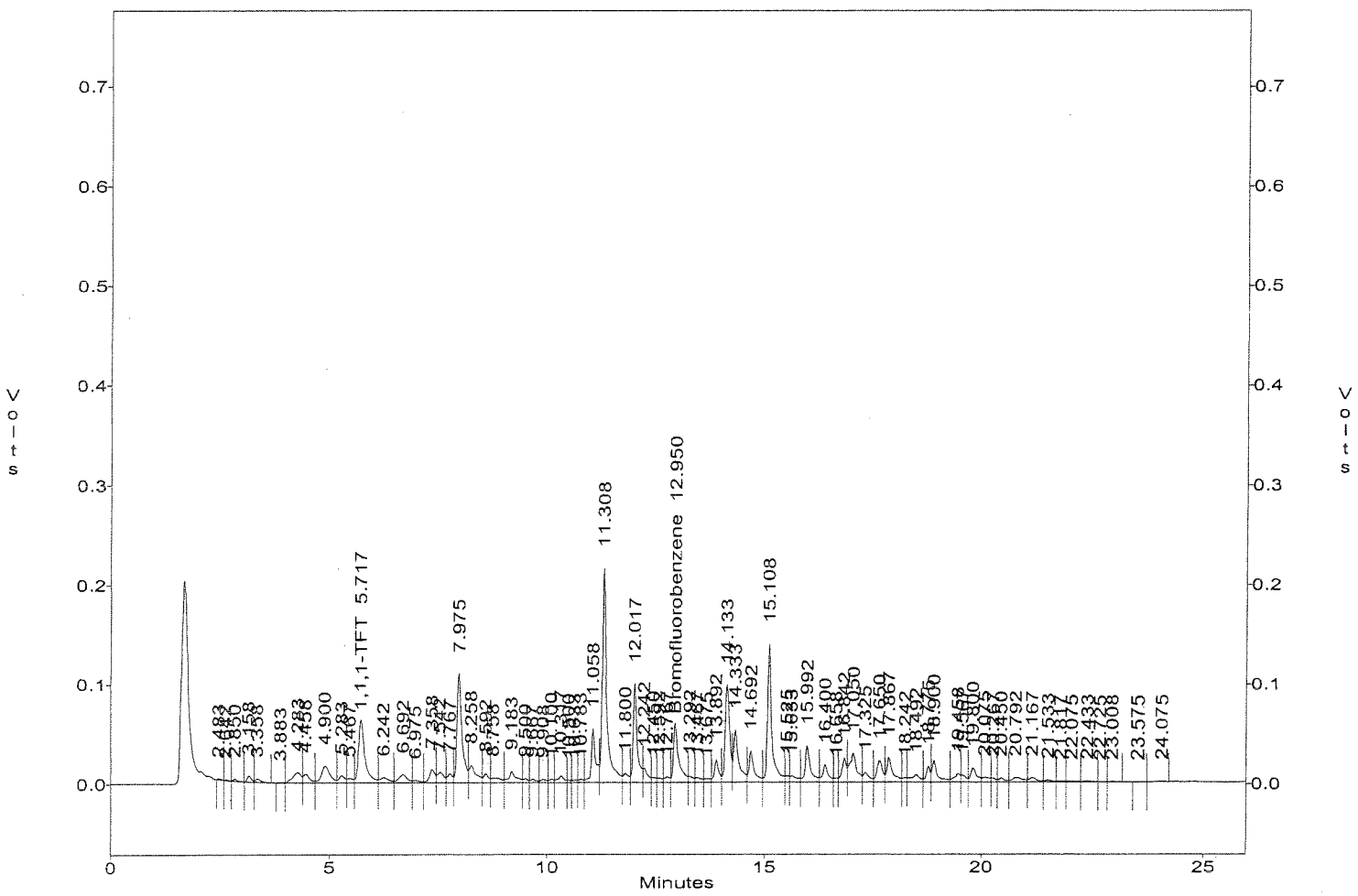
EPA METHOD 8015 by FID
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\ue17\Ue17.026
Method : c:\ezchrom\methods\Vg55b23.met
Sample ID : CVG55B23032 500/40
Acquired : May 18, 2016 11:41:23
Printed : May 18, 2016 12:07:25
User : SCerva

Channel A Results

#	Peak Name	Ret.Time(Min)	Area	Ave. CF	ESTD Conc.(PPB)
12	1,1,1-TFT	5.717	660613.0	17652.2	37.42
40	Bromofluorobenzene	12.950	496122.0	12338.7	40.21
G1	GASOLINE(TOTAL)		10900585.0	24410.8	446.55
G2	GRO(C6-C10)		8252542.0	19168.0	430.54

c:\ezchrom\chrom\ue17\Ue17.026 -- Channel A



ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

sol weathered
GASOLINE ICAL

GRO (SV2-07-03-07)
PENTANE (SV2-07-01-17)
NAPHTHALENE (SV2-07-02-10)
UNDECANE (SV2-07-02-14)
DODECANE (SV2-07-02-15)

Book #:	A55-015
Instrument No.:	55
Analytical Sequence:	UB23
Method File:	☑ VGSSB23
	☐
	☐
Analytical Batch:	N/A

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-BTEXM	1
☑ EMAX-8015G	5
☐ EMAX-AK101	2
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL SV2-07-03-08	See Analysis Run log	5000
ICV SV2-07-03-09	↓	5000
DCC GAS ~~SC~~ SC 2/23/16		
DCC BTEX		
DCC STODDARD		
BFB/TFT SV2-10-25-01	See Analysis Run log	100
~~LCS/LCSD~~ ICV 2 SV2-07-02-28 SC 2/24/16	↓	~~5000~~
MS/MSD —	—	—
GRO (HC-Chain) SV2-07-03-07	1ml	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	N/A

SYRINGES
☑ 5 mL - MSF-01-01-13
☐ 1 mL - MSF-01-01-20
☐ 500 µL - MSF-01-01-21
☐ 250 µL - MSF-01-01-22
☐ 100 µL - MSF-01-02-13
☐ 50 µL - MSF-01-01-17
☑ 10 µL - MSF-01-01-18
☑ 10 µL - MSF-01-01-23
☐

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX	

Analyzed By: SC

Date: 2/23/16

Method: Vg55b23.met Batch: Ub23.seq Data: Ub23.016 - [Batch: ub23.seq]

File Edit Method Batch Options Analysis Control Window Help

Method | Data | Batch | Setup | Batch | Preview | Single | STOP | Recalib | Analyze | Reports

Run	Run Type	Sample ID	Method	Filename	Description
1	Unknown	IB55B2301	vg55b23.met	UB23.001	
2	Unknown	VG55B2301 20/10 0.02ul GAS ICAL STD / 0.5ul surrogate	vg55b23.met	UB23.002	
3	Unknown	VG55B2302 50/20 0.05ul / 1ul	vg55b23.met	UB23.003	
4	Unknown	VG55B2303 100/30 0.1ul / 1.5ul	vg55b23.met	UB23.004	50% weathered GASOLINE ICAL
5	Unknown	VG55B2304 500/40 0.5ul / 2ul	vg55b23.met	UB23.005	
6	Unknown	VG55B2305 1000/50 1ul / 2.5ul	vg55b23.met	UB23.006	
7	Unknown	VG55B2306 1500/60 1.5ul / 3ul	vg55b23.met	UB23.007	
8	Unknown	VG55B2307 2000/80 2ul / 4ul	vg55b23.met	UB23.008	
9	Unknown	IVG55B2301 1000/50 1ul GAS ICV STD / 2.5ul surrogate	vg55b23.met	UB23.009	GASOLINE ICV
10	Unknown	IVG55B2302 500/40 0.5ul / 2ul	vg55b23.met	UB23.010	
11	Unknown	GRO-1	vg55b23.met	UB23.011	
12	Unknown	UNDECANE/DODECANE	vg55b23.met	UB23.012	
13	Unknown	PENTANE/NAPHTHALENE	vg55b23.met	UB23.013	
14	Unknown	BB	vg55b23.met	UB23.014	FINAL
15	Unknown	BB	vg55b23.met	UB23.015	
16	Unknown	BB	vg55b23.met	UB23.016	
17	Unknown	BB	vg55b23.met	UB23.017	
18	Unknown	BB	vg55b23.met	UB23.018	
19	Unknown	BB	vg55b23.met	UB23.019	
20	Unknown	BB	vg55b23.met	UB23.020	
21	Unknown	BB — SC 2/24/16	vg55b23.met	UB23.021	
22	Unknown	BB	vg55b23.met	UB23.022	
23	Unknown	BB	vg55b23.met	UB23.023	
24	Unknown	BB	vg55b23.met	UB23.024	
25	Unknown	BB	vg55b23.met	UB23.025	
26	Unknown	BB	vg55b23.met	UB23.026	
27	Unknown	BB	vg55b23.met	UB23.027	
28	Unknown	BB	vg55b23.met	UB23.028	
29	Unknown	BB	vg55b23.met	UB23.029	
30	Unknown	BB	vg55b23.met	UB23.030	
31	Unknown	BB	vg55b23.met	UB23.031	
32	Unknown	BB	vg55b23.met	UB23.032	
33	Unknown	BB	vg55b23.met	UB23.033	

Waiting For Trigger...

Start | EZChrom Chromatogra... | Method: Vg55b23.... | untitled - Paint | Method: Vg55b23.met ... | Exploring - Export | Wednesday, February 24, 2016

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PURGEABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Purge Volume = 5 ml

GPE008 (Soil): E133, E137

NOTE: 2ul surrogate BFB/TFT (SV2-10-29-03) added prior to Analysis.

Book #:	A55-015
Instrument No.:	55
Analytical Sequence:	VE17
Method File:	☑ V6SSB23
	☐
	☐
Analytical Batch:	CVGSSB23029

SOP #	Rev. #
☑ EMAX-5030B	3
☐ EMAX-BTEXM	1
☑ EMAX-8015G	5
☐ EMAX-AK101	2
☐ EMAX-	

STANDARDS ID	Amt Added (µL)	Conc. (mg/L)
ICAL	SC 5/18/16	
ICV		
DCC GAS SV2-07-03-08	0.5ul	5000
DCC BTEX	SC 5/18/16	
DCC STODDARD		
BFB/TFT SV2-10-29-03	2ul	100
LCS/LCSD SV2-07-03-09	See Extraction logbook	5000
MS/MSD ↓	↓	↓
GRO (HC-Chain) SV2-07-03-07	1ul	2000

Solvent	ID/Lot #
Methanol	
Reagent Water	RW2-12-001
	Lot #
pH strip	N/A

SYRINGES
☑ 5 mL - MSF-01-01-13
☐ 1 mL - MSF-01-01-20
☐ 500 µL - MSF-01-01-21
☐ 250 µL - MSF-01-01-22
☑ 100 µL - MSF-01-02-13 6 SC 5/17/16
☐ 50 µL - MSF-01-01-17
5/17/16 ☑ 10 µL - MSF-01-01-18
SC ☑ 10 µL - MSF-01-01-23
☑ 10ul - MSF-01-03-04

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZC-3-BTEX	

Analyzed By: SC

Date: 5/17/16

Method: Vg55b23.met Batch: Ue17.seq Data: Ue17.027 - [Batch: ue17.seq]

File Edit Method Batch Options Analysis Control Window Help

Method Data Batch Setup Batch Preview Run Single STOP Recalib Analyze Reports

Run	Run Type	Sample ID	Method	Filename	Description
1	Unknown	IB55E1701	vg55b23.met	UE17.001	
2	Unknown	GRO-1	vg55b23.met	UE17.002	SV2-07-03-07
3	Unknown	CVG55B23029 500/40	vg55b23.met	UE17.003	
4	Unknown	GPE008SB 100uL S	vg55b23.met	UE17.004	
5	Unknown	GPE008SL 100uL S	vg55b23.met	UE17.005	Conc. 500/40
6	Unknown	GPE008SC 100uL S	vg55b23.met	UE17.006	
7	Unknown	GPE008SQ 100uL S NOT evaluated	vg55b23.met	UE17.007	
8	Unknown	16E133-03 100uL S RR low BFB Surrogate	vg55b23.met	UE17.008	
9	Unknown	16E133-04 100uL S	vg55b23.met	UE17.009	
10	Unknown	16E137-08 100uL S	vg55b23.met	UE17.010	
11	Unknown	16E137-08M 100uL S	vg55b23.met	UE17.011	FINAL
12	Unknown	16E137-08S 100uL S	vg55b23.met	UE17.012	
13	Unknown	CVG55B23030 500/40	vg55b23.met	UE17.013	
14	Unknown	16E137-01 100uL S	vg55b23.met	UE17.014	
15	Unknown	16E137-02 100uL S	vg55b23.met	UE17.015	
16	Unknown	16E137-03 100uL S	vg55b23.met	UE17.016	
17	Unknown	16E137-04 100uL S	vg55b23.met	UE17.017	
18	Unknown	16E137-05 100uL S	vg55b23.met	UE17.018	
19	Unknown	16E137-06 100uL S	vg55b23.met	UE17.019	
20	Unknown	16E137-07 100uL S	vg55b23.met	UE17.020	
21	Unknown	16E137-09 100uL S	vg55b23.met	UE17.021	
22	Unknown	CVG55B23031 500/40	vg55b23.met	UE17.022	
23	Unknown	BLANK	vg55b23.met	UE17.023	
24	Unknown	BLANK	vg55b23.met	UE17.024	
25	Unknown	16E133-03N 100uL S	vg55b23.met	UE17.025	
26	Unknown	CVG55B23032 500/40	vg55b23.met	UE17.026	
27	Unknown	BB	vg55b23.met	UE17.027	
28	Unknown	BB	vg55b23.met	UE17.028	
29	Unknown	BB	vg55b23.met	UE17.029	
30	Unknown	BB SC	vg55b23.met	UE17.030	
31	Unknown	BB 5/18/16	vg55b23.met	UE17.031	
32	Unknown	BB	vg55b23.met	UE17.032	
33	Unknown	BB	vg55b23.met	UE17.033	
34	Unknown	BB	vg55b23.met	UE17.034	

Waiting For Trigger...

Start | EZChrom Chromat... | Method: Vg39b18... | Exploring - Export | Method: Vg39b18... | untitled - Paint | Method: Vg55...

Wednesday, May 18, 2016 12:06 PM

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
PURGEABLE TPH

Note: For samples, relevant QCs/Standards extracted, refer to attached extraction sequence.

Comments:

SDG's # E133, E137

Book #.: E39-046

Preparation Batch: GPE008

Matrix Soil Preweighed

SOP	Rev. #
☑ EMAX-5035	3
☐ EMAX-AK101	2
☐ EMAX-	

Standards	ID	Amount Added (ml)
Surrogate		
LCS/MS	SV2-07-03-09	25ml
Methanol		
Methanol w/ Surrogate MB, LCS/LCSD	SV2-10-26-02	5.0ml

Reagent	Lot # / ID
Silica Sand	SW1B-002-69-1S

SYRINGES
☑ 50 µL - MSF-01-01-17
☐ 10 µL - MSF-01-01-18
☐

Prepared By: SC

Standard Added By: SC Checked By: LC

Extract Location: VW06

Disposal By: Disposal Date:

FileID: GPE008S

EMAX LABORATORIES, INC.

PRESERVATION LOG FOR TPH

PrepBatchID	LabSampleID	Wi(g)	DateTime	Wf(g)	DateTime	Aliquot	Unit	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16GPE008S01	GPE008SB	32.44	5/17/16 15:27	37.45	5/17/16 15:27	5.01	g	5	5	5	1	
16GPE008S02	GPE008SL	32.52	5/17/16 15:27	37.53	5/17/16 15:28	5.01	g	5	5	5	1	
16GPE008S03	GPE008SC	32.73	5/17/16 15:28	37.73	5/17/16 15:28	5	g	5	5	5	1	
16GPE008S04	E133-03	28.028	5/17/16 15:29	32.95	5/17/16 15:30	4.922	g	5	5	5	1.02	
16GPE008S05	E133-04	27.819	5/17/16 15:31	33.47	5/17/16 15:32	5.651	g	5	5	5	0.88	
16GPE008S06	E137-01	27.509	5/17/16 15:32	32.22	5/17/16 15:32	4.711	g	5	5	5	1.06	
16GPE008S07	E137-02	27.604	5/17/16 15:33	33.15	5/17/16 15:33	5.546	g	5	5	5	0.9	
16GPE008S08	E137-03	28.764	5/17/16 15:33	34.31	5/17/16 15:33	5.546	g	5	5	5	0.9	
16GPE008S09	E137-04	28.007	5/17/16 15:33	33.03	5/17/16 15:33	5.023	g	5	5	5	1	Preweighed
16GPE008S10	E137-05	28.712	5/17/16 15:33	35.49	5/17/16 15:33	6.778	g	5	5	5	0.74	vials
16GPE008S11	E137-06	29.098	5/17/16 15:34	35.81	5/17/16 15:34	6.712	g	5	5	5	0.74	
16GPE008S12	E137-07	28.138	5/17/16 15:34	33.82	5/17/16 15:34	5.682	g	5	5	5	0.88	
16GPE008S13	E137-08	27.695	5/17/16 15:34	33.57	5/17/16 15:34	5.875	g	5	5	5	0.85	
16GPE008S14	E137-08M	28.018	5/17/16 15:35	33.43	5/17/16 15:35	5.412	g	5	5	5	0.92	
16GPE008S15	E137-08S	27.806	5/17/16 15:35	33.07	5/17/16 15:35	5.264	g	5	5	5	0.95	
16GPE008S16	E137-09	27.902	5/17/16 15:35	33.11	5/17/16 15:35	5.208	g	5	5	5	0.96	

Balance ID: 25451062. Calibration check was verified prior to use.

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)*(Ve/ExpVe)

☑ Extraction Started @ 5/17/16 15:24 ☑ EMAX-5035 Rev. No. 2

Prepared By: SCerva

☑ Extraction Ended @ 5/17/16 15:35 ☑ Volumetric dispenser was checked with 5 mL Volumetric Flask

Checked By: LC

Comments:

Date 5/17/2016

TPH - EXTRACTION

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID	: CAFB-IDW-S-05132016	Date Analyzed:	05/23/16 14:03
Lab Samp ID	: E133-03	Dilution Factor:	1
Lab File ID	: LE23013A	Matrix :	SOIL
Ext Btch ID	: DSE021S	% Moisture :	4.0
Calib. Ref.	: LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	ND	10	2.6	5.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	93.9	104.2	90.1	60-130
HEXACOSANE	31.8	26.04	122	60-130

Parameter	H-C Range
DRO	C10-C24

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/23/16 14:03
Lab Samp ID:	E133-03	Dilution Factor:	1
Lab File ID:	LE23013A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	4.0
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	ND	21	2.6	5.2

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	93.9	104.2	90.1	60-130
HEXACOSANE	31.8	26.04	122	60-130

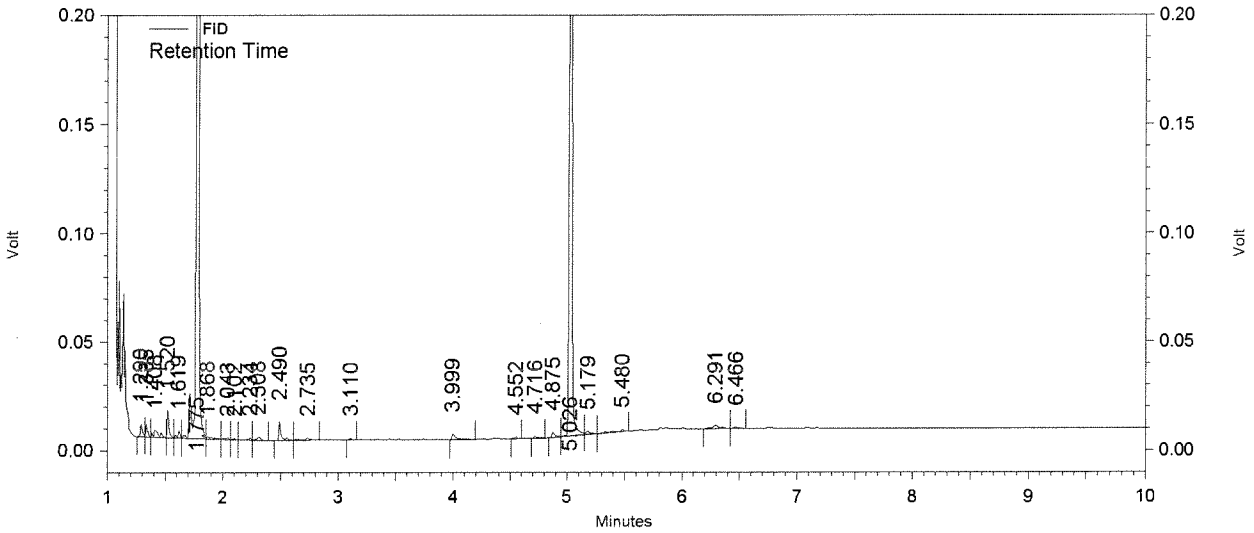
Parameter	H-C Range
ORO	C24-C36

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LE23\LE23013.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met
Sequence: : D:\Projects\EZC331\Sequence\LE20.seq
Sample ID : 16E133-03
Acquired : 05/23/16 14:03:03
Printed : 05/23/16 14:44:00
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.775	1709261	18960.74371	90.147
HEXACOSANE	5.026	822575	26912.93293	30.564
DIESEL(TOTAL)		103696	33338.55952	3.110
DIESEL(C10-C24)		33908	31896.87324	1.063
M.OIL(C24-C36)		22849	19873.41117	1.150
Totals		2692289		126.035



Software Version: Version 3.3.1

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID	: CA015-0341A-000.5	Date Analyzed:	05/23/16 15:27
Lab Samp ID	: E133-04	Dilution Factor:	1
Lab File ID	: LE23018A	Matrix :	SOIL
Ext Btch ID	: DSE021S	% Moisture :	6.1
Calib. Ref.	: LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	10J	11	2.7	5.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	86.3	106.5	81.1	60-130
HEXACOSANE	29.9	26.62	112	60-130

Parameter	H-C Range
DRO	C10-C24

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID	: CA015-0341A-000.5	Date Analyzed:	05/23/16 15:27
Lab Samp ID	: E133-04	Dilution Factor:	1
Lab File ID	: LE23018A	Matrix :	SOIL
Ext Btch ID	: DSE021S	% Moisture :	6.1
Calib. Ref.	: LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	100	21	2.7	5.3

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	86.3	106.5	81.1	60-130
HEXACOSANE	29.9	26.62	112	60-130

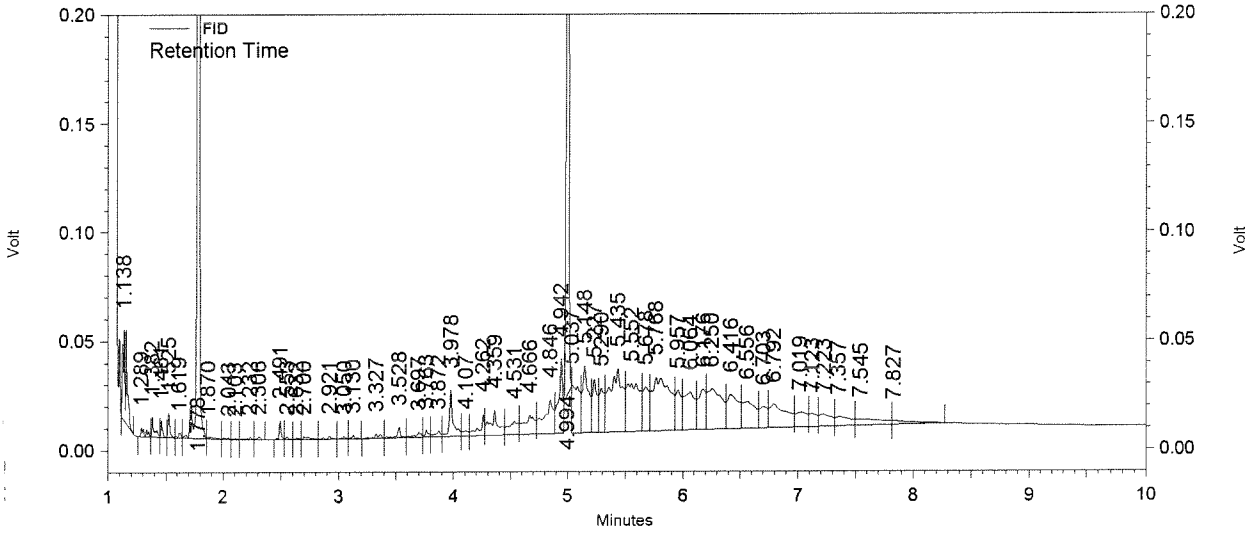
Parameter	H-C Range
ORO	C24-C36

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23018.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: 16E133-04**
Acquired	**: 05/23/16 15:27:46**
Printed	**: 05/23/16 17:33:16**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.778	1537261	18960.74371	81.076
HEXACOSANE	4.994	754488	26912.93293	28.034
DIESEL(TOTAL)		2427652	33338.55952	72.818
DIESEL(C10-C24)		304258	31896.87324	9.539
M.OIL(C24-C36)		1905453	19873.41117	95.880
Totals		6929112		287.347



Software Version: Version 3.3.1

QC SUMMARIES

METHOD SW3550B/8015C
DIESEL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID:	MBLK1S	Date Analyzed:	05/23/16 12:38
Lab Samp ID:	DSE021SB	Dilution Factor:	1
Lab File ID:	LE23008A	Matrix :	SOIL
Ext Btch ID:	DSE021S	% Moisture :	NA
Calib. Ref.:	LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
DRO	ND	10	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	97.1	100.0	97.1	60-130
HEXACOSANE	28.4	25.00	114	60-130

Parameter	H-C Range
DRO	C10-C24

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3550B/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSE021SB	DSE021SL	DSE021SC		
LAB FILE ID:	LE23008A	LE23009A	LE23010A		
DATE EXTRACTED:	05/20/1618:00	05/20/1618:00	05/20/1618:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1612:38	05/23/1612:55	05/23/1613:12	DATE RECEIVED:	05/20/16
PREP. BATCH:	DSE021S	DSE021S	DSE021S		
CALIB. REF:	LE23007A	LE23007A	LE23007A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
DRO	ND	500	531	106	500	522	104	2	60-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	102	102	100	99.8	100	60-130
Hexacosane	25.0	30.8	123	25.0	31.0	124	60-130

METHOD SW3550B/8015C
OIL RANGE ORGANICS BY EXTRACTION

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
Batch No.	: 16E133	Date Extracted:	05/20/16 18:00
Sample ID	: MBLK1S	Date Analyzed:	05/23/16 12:38
Lab Samp ID	: DSE021SB	Dilution Factor:	1
Lab File ID	: LE23008A	Matrix :	SOIL
Ext Btch ID	: DSE021S	% Moisture :	NA
Calib. Ref.	: LE23007A	Instrument ID :	D5

PARAMETERS	RESULTS (mg/kg)	LOQ (mg/kg)	DL (mg/kg)	LOD (mg/kg)
ORO	ND	20	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
BROMOBENZENE	97.1	100.0	97.1	60-130
HEXACOSANE	28.4	25.00	114	60-130

Parameter	H-C Range
ORO	C24-C36

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3550B/8015C

MATRIX:	SOIL			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1S				
LAB SAMP ID:	DSE021SB	DSE021SL	DSE021SC		
LAB FILE ID:	LE23008A	LE23011A	LE23012A		
DATE EXTRACTED:	05/20/1618:00	05/20/1618:00	05/20/1618:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/23/1612:38	05/23/1613:29	05/23/1613:46	DATE RECEIVED:	05/20/16
PREP. BATCH:	DSE021S	DSE021S	DSE021S		
CALIB. REF:	LE23007A	LE23007A	LE23007A		

ACCESSION:

PARAMETER	BLNK RSLT (mg/kg)	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
ORO	ND	500	488	98	500	452	90	7	50-150	30

SURROGATE PARAMETER	SPIKE AMT (mg/kg)	BS RSLT (mg/kg)	BS % REC	SPIKE AMT (mg/kg)	BSD RSLT (mg/kg)	BSD % REC	QC LIMIT (%)
Bromobenzene	100	100	100	100	100	100	60-130
Hexacosane	25.0	29.8	119	25.0	28.8	115	60-130

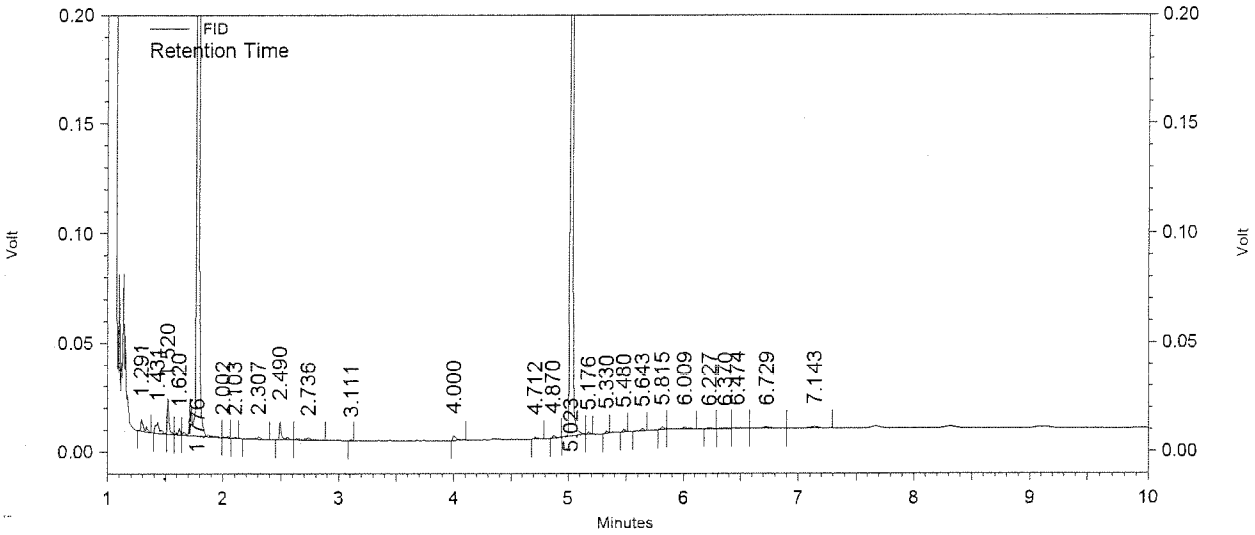
QC DATA

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23008.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: DSE021SB**
Acquired	**: 05/23/16 12:38:25**
Printed	**: 05/23/16 14:41:24**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.776	1840865	18960.74371	97.088
HEXACOSANE	5.023	765360	26912.93293	28.438
DIESEL(TOTAL)		102995	33338.55952	3.089
DIESEL(C10-C24)		29826	31896.87324	0.935
M.OIL(C24-C36)		23739	19873.41117	1.195
Totals		2762785		130.746



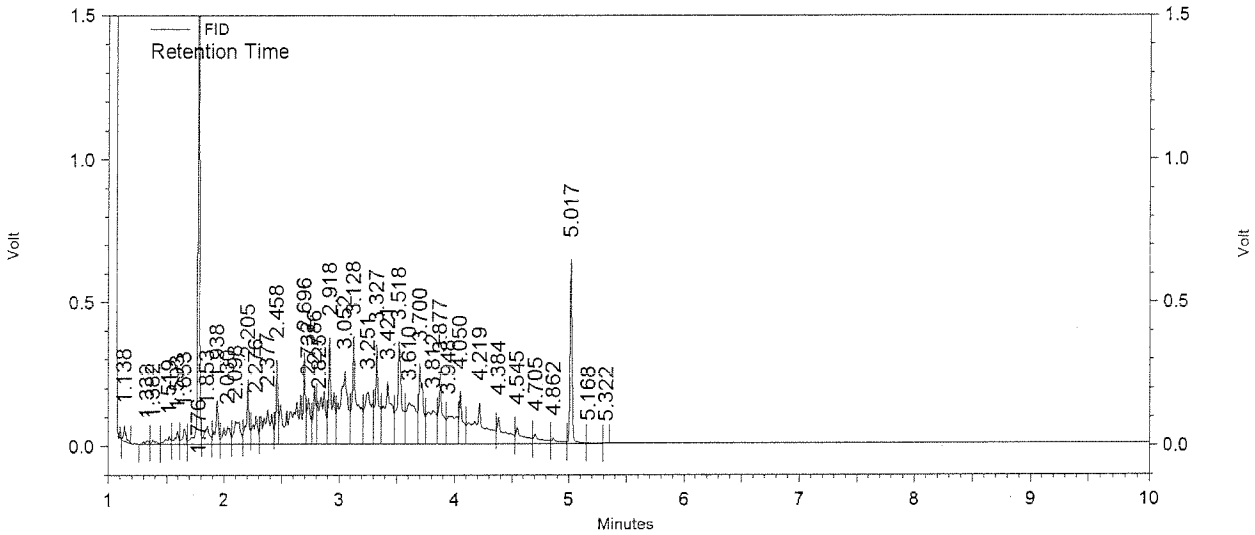
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23009.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: DSE021SL DSL**
Acquired	**: 05/23/16 12:55:28**
Printed	**: 05/23/16 14:41:44**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.776	1926825	18960.74371	101.622
HEXACOSANE	5.017	829786	26912.93293	30.832
DIESEL(TOTAL)		17959057	33338.55952	538.687
DIESEL(C10-C24)		16940435	31896.87324	531.100
M.OIL(C24-C36)		220884	19873.41117	11.115
Totals		37876987		1213.356



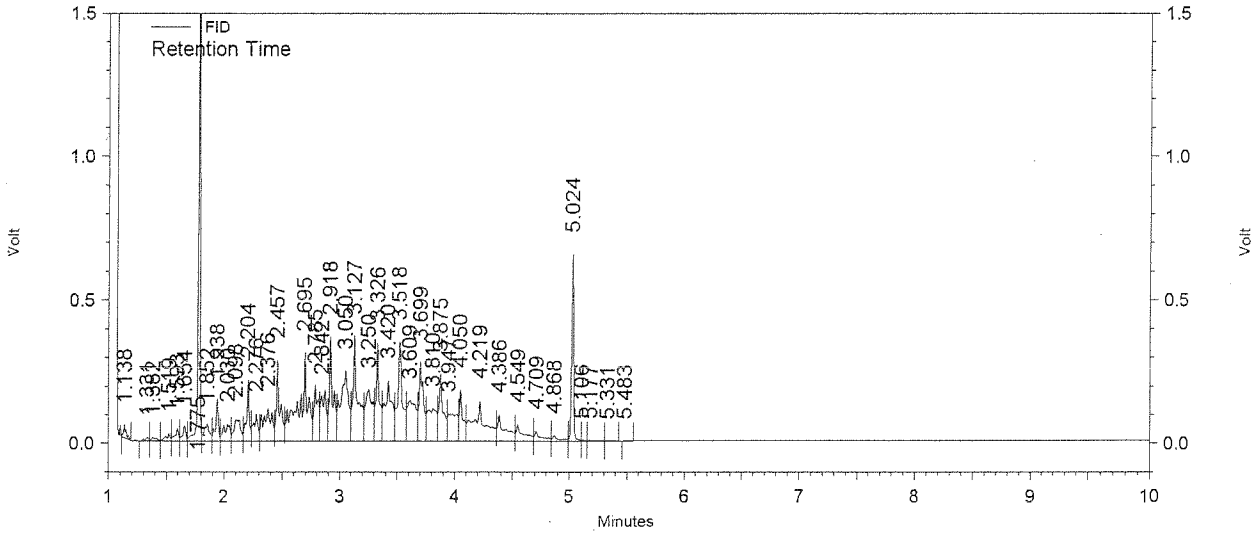
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23010.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: DSE021SC DSL**
Acquired	**: 05/23/16 13:12:17**
Printed	**: 05/23/16 14:42:27**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.775	1892597	18960.74371	99.817
HEXACOSANE	5.024	833696	26912.93293	30.978
DIESEL(TOTAL)		17648150	33338.55952	529.362
DIESEL(C10-C24)		16649308	31896.87324	521.973
M.OIL(C24-C36)		230834	19873.41117	11.615
Totals		37254585		1193.744



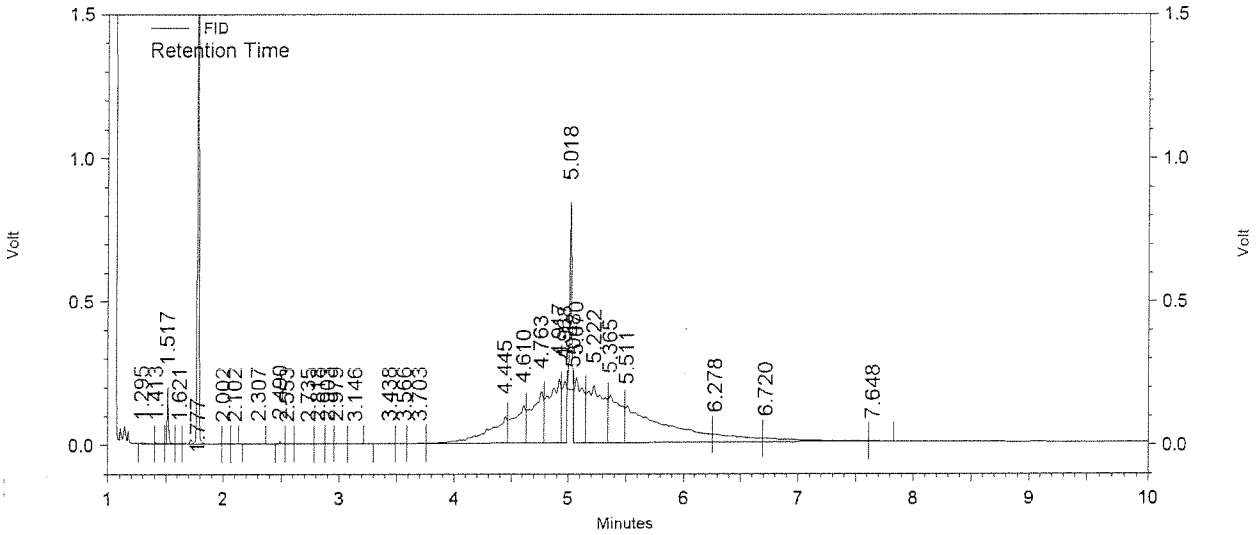
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23011.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: DSE021SL 5W30**
Acquired	**: 05/23/16 13:29:14**
Printed	**: 05/23/16 14:43:06**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.777	1901725	18960.74371	100.298
HEXACOSANE	5.018	801513	26912.93293	29.782
DIESEL(TOTAL)		11960531	33338.55952	358.760
DIESEL(C10-C24)		2077154	31896.87324	65.121
M.OIL(C24-C36)		9689880	19873.41117	487.580
Totals		26430803		1041.540



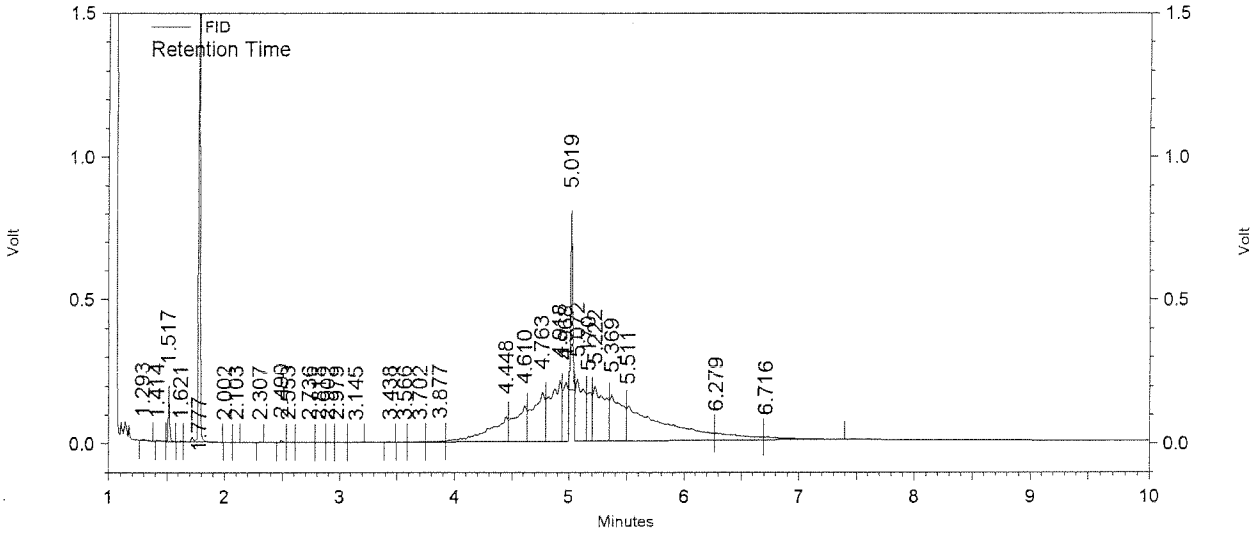
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23012.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09M.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: DSE021SC 5W30**
Acquired	**: 05/23/16 13:46:06**
Printed	**: 05/23/16 14:43:44**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.777	1903266	18960.74371	100.379
HEXACOSANE	5.019	775752	26912.93293	28.825
DIESEL(TOTAL)		11135364	33338.55952	334.009
DIESEL(C10-C24)		1962105	31896.87324	61.514
M.OIL(C24-C36)		8991441	19873.41117	452.436
Totals		24767928		977.162



Software Version: Version 3.3.1

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LC09020A 03/09/16 18:37
LFID & Datetime: LC09021A 03/09/16 18:54
LFID & Datetime: LC09022A 03/09/16 19:11
LFID & Datetime: LC09023A 03/09/16 19:28
LFID & Datetime: LC09024A 03/09/16 19:44
LFID & Datetime: LC09025A 03/09/16 20:01
LFID & Datetime: LC09026A 03/09/16 20:18
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	10.00X	20.00X	100.00X	300.00X	600.00X	MEAN	%RSD
DIESEL(TOTAL)	5.00	34483	24086	33058	36267	35580	33936	35960	33338.6	12.7
DIESEL(C10-C24)	5.00	33406	22896	31703	34710	33825	32391	34346	31896.9	12.9
DIESEL(C10-C28)	5.00	33406	22896	31703	34739	33904	32486	34403	31933.8	12.9
DIESEL(C10-C25)	5.00	33406	22896	31703	34733	33889	32465	34403	31927.8	12.9
DIESEL(C9-C24)	5.00	34483	23684	32532	35627	34908	33286	35297	32831.0	12.7
DIESEL(C9-C25)	5.00	34483	23684	32532	35649	34972	33360	35354	32861.9	12.8
DIESEL(C10-C36)	5.00	33406	22896	31703	34739	33904	32487	34403	31934.0	12.9
DIESEL(C10-C40)	5.00	33406	22896	31703	34739	33904	32487	34403	31934.0	12.9

SURROGATE	X	0.00X	1.00X	2.00X	3.00X	4.00X	5.00X	11.00X	MEAN	%RSD
BROMOBENZENE	20.00	0	18113	17965	18747	18987	19607	20346	18960.7	4.8
HEXACOSANE	5.00	0	26129	25738	27569	26667	27814	27561	26912.9	3.2

DSD5C09.MET

AA
03/15/16

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LC09020A 03/09/16 18:37
LFID & Datetime: LC09021A 03/09/16 18:54
LFID & Datetime: LC09022A 03/09/16 19:11
LFID & Datetime: LC09023A 03/09/16 19:28
LFID & Datetime: LC09024A 03/09/16 19:44
LFID & Datetime: LC09025A 03/09/16 20:01
LFID & Datetime: LC09026A 03/09/16 20:18

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	10.0X	20.0X	100.0X	300.0X	600.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
DIESEL(TOTAL)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C28)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C24)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C9-C25)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
DIESEL(C10-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SURROGATE	0.0X	1.0X	2.0X	3.0X	4.0X	5.0X	11.0X	RT	FROM	TO	WIDTH
BROMOBENZENE	0.000	1.793	1.793	1.794	1.795	1.796	1.798	1.795	1.785	1.805	0.010
HEXACOSANE	0.000	4.985	4.980	4.977	4.969	4.963	4.959	4.972	4.778	5.166	0.194

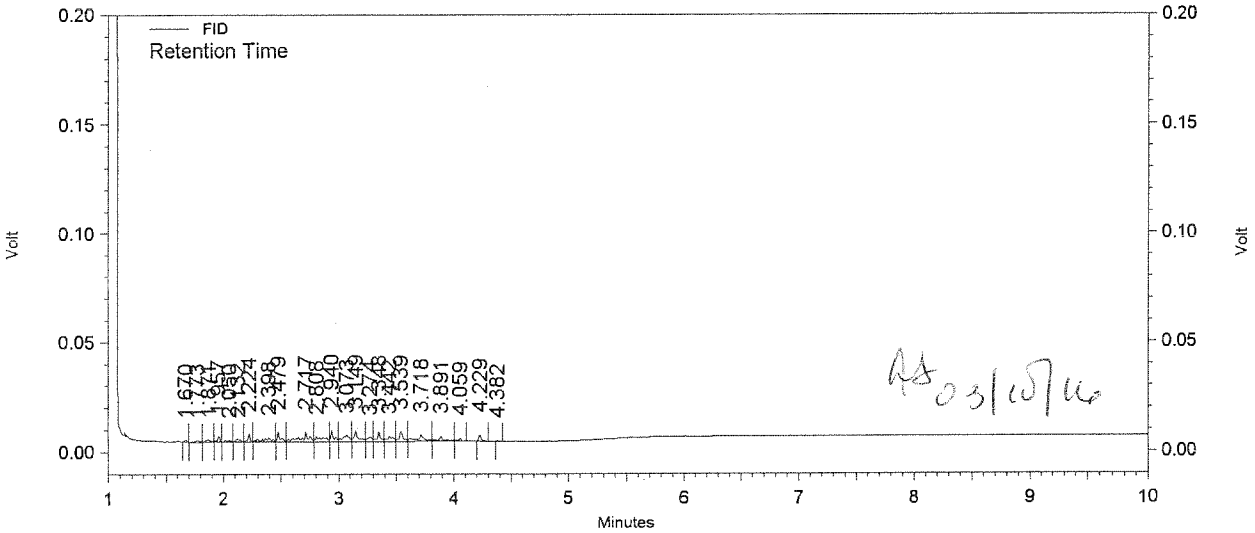
AS
03/10/16.

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09020.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09001 DSL 5PPM**
Acquired	**: 03/09/16 18:37:27**
Printed	**: 03/10/16 11:00:16**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
DIESEL(TOTAL)		172415	33338.55952	5.000 CAL
DIESEL(C10-C24)		167030	31896.87324	5.000 CAL
DIESEL(C10-C28)		167030	31933.82919	5.000 CAL
DIESEL(C10-C25)		167030	31927.78586	5.000 CAL
DIESEL(C9-C24)		172415	32831.02281	5.000 CAL
DIESEL(C9-C25)		172415	32861.93543	5.000 CAL
DIESEL(C10-C36)		167030	31933.96090	5.000 CAL
DIESEL(C10-C40)		167030	31933.96090	5.000 CAL
Totals		1352395		40.000 CAL



Software Version: Version 3.3.1

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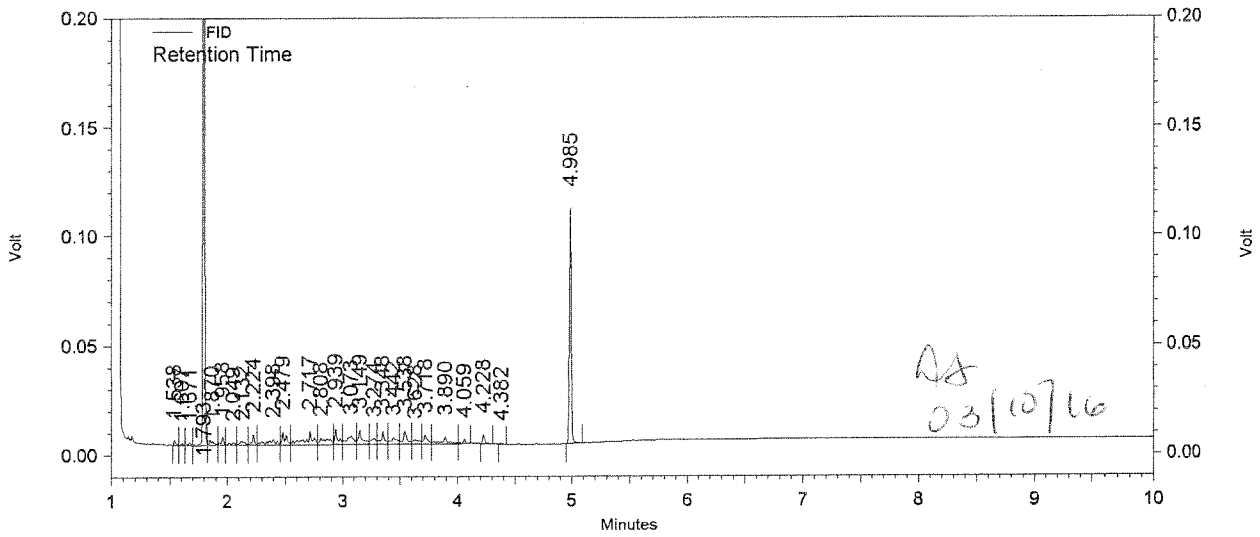
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09021.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : DSD5C09002 DSL 10/20/5PPM
Acquired : 03/09/16 18:54:18
Printed : 03/10/16 11:00:52
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.793	362269	18960.74371	20.000 CAL
HEXACOSANE	4.985	130643	26912.93293	5.000 CAL
DIESEL(TOTAL)		240864	33338.55952	10.000 CAL
DIESEL(C10-C24)		228963	31896.87324	10.000 CAL
DIESEL(C10-C28)		228963	31933.82919	10.000 CAL
DIESEL(C10-C25)		228963	31927.78586	10.000 CAL
DIESEL(C9-C24)		236837	32831.02281	10.000 CAL
DIESEL(C9-C25)		236837	32861.93543	10.000 CAL
DIESEL(C10-C36)		228963	31933.96090	10.000 CAL
DIESEL(C10-C40)		228963	31933.96090	10.000 CAL
Totals		2352265		105.000 CAL



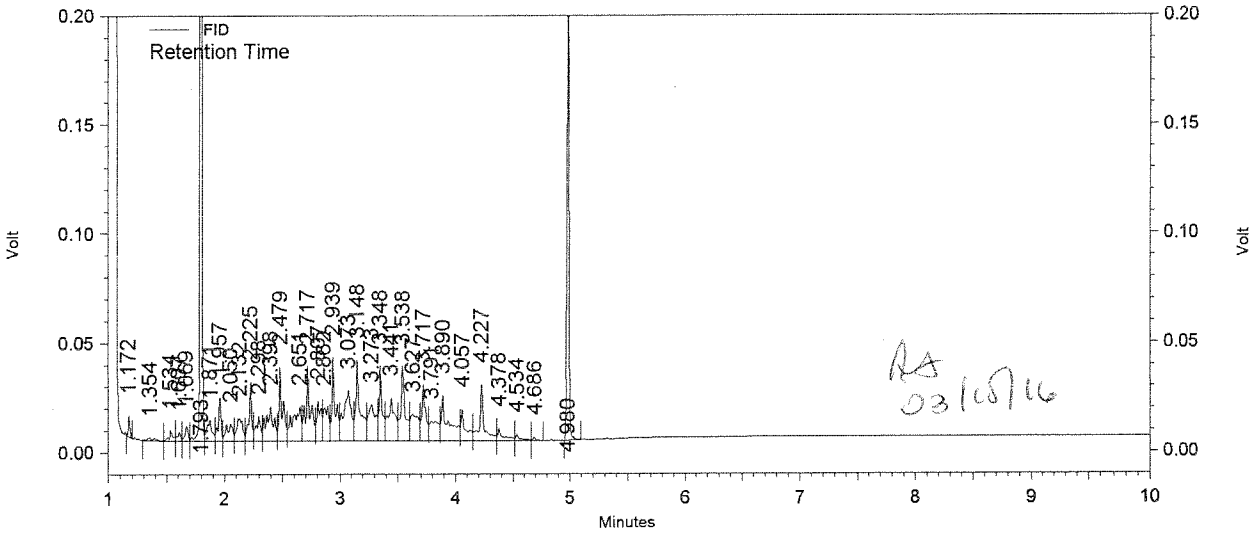
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09022.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : DSD5C09003 DSL 50/40/10PPM
Acquired : 03/09/16 19:11:11
Printed : 03/10/16 11:01:17
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.793	718586	18960.74371	40.000 CAL
HEXACOSANE	4.980	257376	26912.93293	10.000 CAL
DIESEL(TOTAL)		1652900	33338.55952	50.000 CAL
DIESEL(C10-C24)		1585139	31896.87324	50.000 CAL
DIESEL(C10-C28)		1585139	31933.82919	50.000 CAL
DIESEL(C10-C25)		1585139	31927.78586	50.000 CAL
DIESEL(C9-C24)		1626585	32831.02281	50.000 CAL
DIESEL(C9-C25)		1626585	32861.93543	50.000 CAL
DIESEL(C10-C36)		1585139	31933.96090	50.000 CAL
DIESEL(C10-C40)		1585139	31933.96090	50.000 CAL
Totals		13807727		450.000 CAL



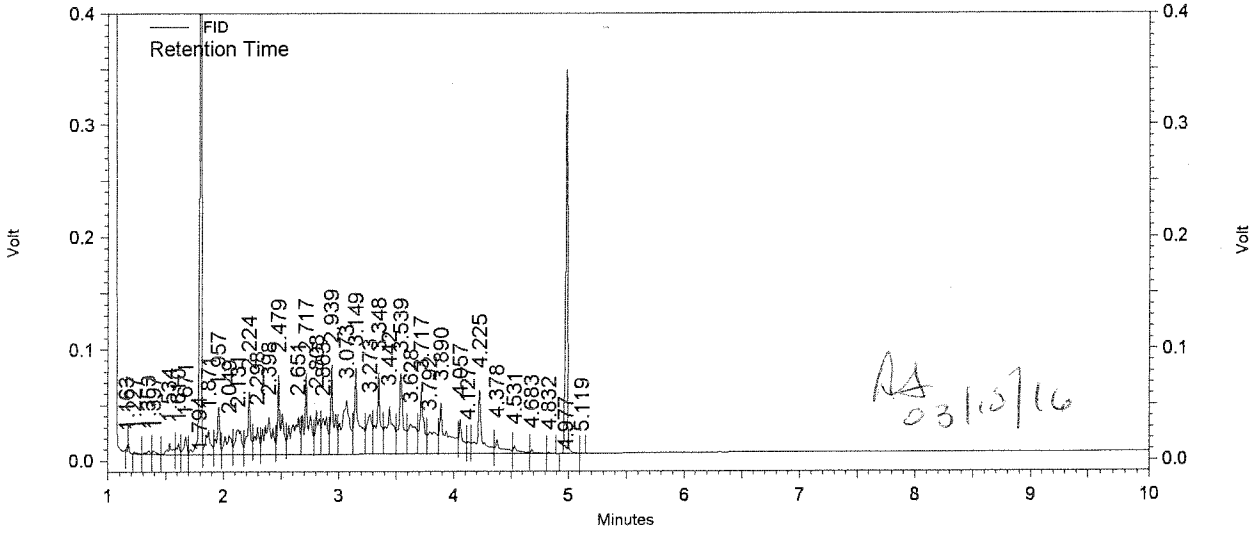
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09023.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09004 DSL 100/60/15PPM**
Acquired	**: 03/09/16 19:28:00**
Printed	**: 03/10/16 11:02:07**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.794	1124832	18960.74371	60.000 CAL
HEXACOSANE	4.977	413536	26912.93293	15.000 CAL
DIESEL(TOTAL)		3626676	33338.55952	100.000 CAL
DIESEL(C10-C24)		3471033	31896.87324	100.000 CAL
DIESEL(C10-C28)		3473880	31933.82919	100.000 CAL
DIESEL(C10-C25)		3473256	31927.78586	100.000 CAL
DIESEL(C9-C24)		3562650	32831.02281	100.000 CAL
DIESEL(C9-C25)		3564873	32861.93543	100.000 CAL
DIESEL(C10-C36)		3473880	31933.96090	100.000 CAL
DIESEL(C10-C40)		3473880	31933.96090	100.000 CAL
Totals		29658496		875.000 CAL



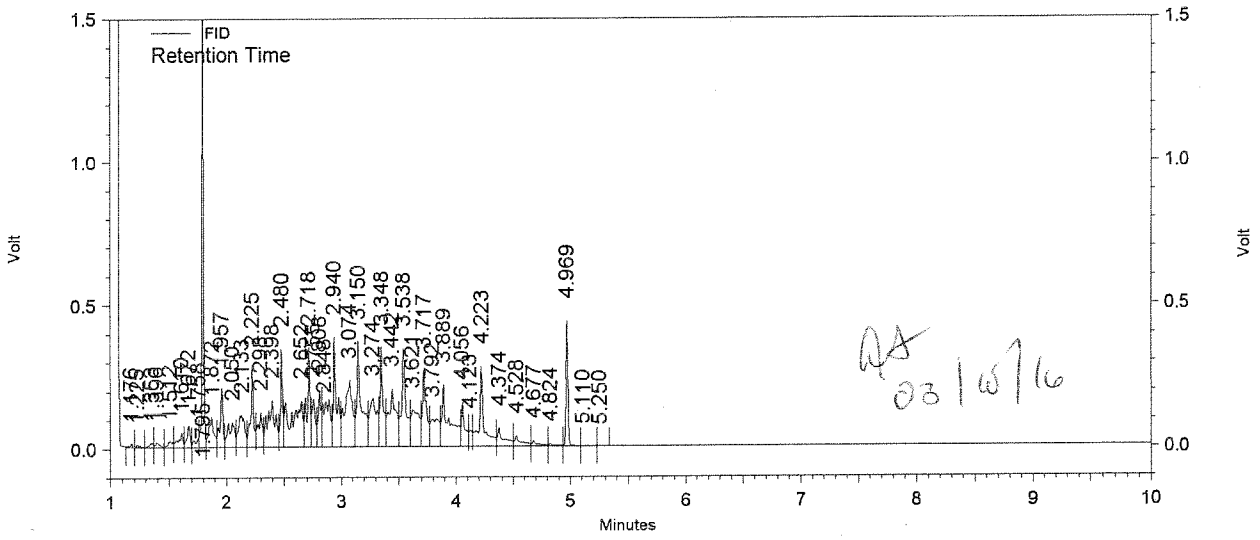
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09024.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : DSD5C09005 DSL 500/80/20PPM
Acquired : 03/09/16 19:44:59
Printed : 03/10/16 11:03:24
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.795	1518926	18960.74371	80.000 CAL
HEXACOSANE	4.969	533348	26912.93293	20.000 CAL
DIESEL(TOTAL)		17790131	33338.55952	500.000 CAL
DIESEL(C10-C24)		16912740	31896.87324	500.000 CAL
DIESEL(C10-C28)		16952156	31933.82919	500.000 CAL
DIESEL(C10-C25)		16944599	31927.78586	500.000 CAL
DIESEL(C9-C24)		17454237	32831.02281	500.000 CAL
DIESEL(C9-C25)		17486096	32861.93543	500.000 CAL
DIESEL(C10-C36)		16952156	31933.96090	500.000 CAL
DIESEL(C10-C40)		16952156	31933.96090	500.000 CAL
Totals		139496545		4100.000 CAL



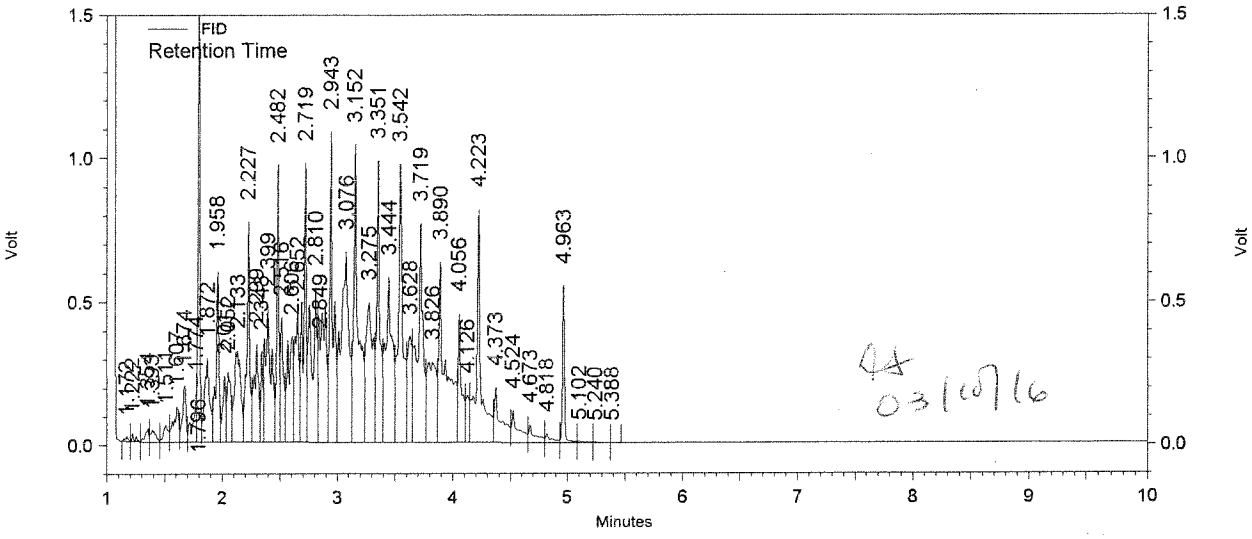
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09025.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : DSD5C09006 DSL 1500/100/25PPM
Acquired : 03/09/16 20:01:56
Printed : 03/10/16 11:04:04
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.796	1960661	18960.74371	100.000 CAL
HEXACOSANE	4.963	695351	26912.93293	25.000 CAL
DIESEL(TOTAL)		50903780	33338.55952	1500.000 CAL
DIESEL(C10-C24)		48586837	31896.87324	1500.000 CAL
DIESEL(C10-C28)		48729113	31933.82919	1500.000 CAL
DIESEL(C10-C25)		48697689	31927.78586	1500.000 CAL
DIESEL(C9-C24)		49929534	32831.02281	1500.000 CAL
DIESEL(C9-C25)		50040386	32861.93543	1500.000 CAL
DIESEL(C10-C36)		48730496	31933.96090	1500.000 CAL
DIESEL(C10-C40)		48730496	31933.96090	1500.000 CAL
Totals		397004343		12125.000 CAL



Software Version: Version 3.3.1

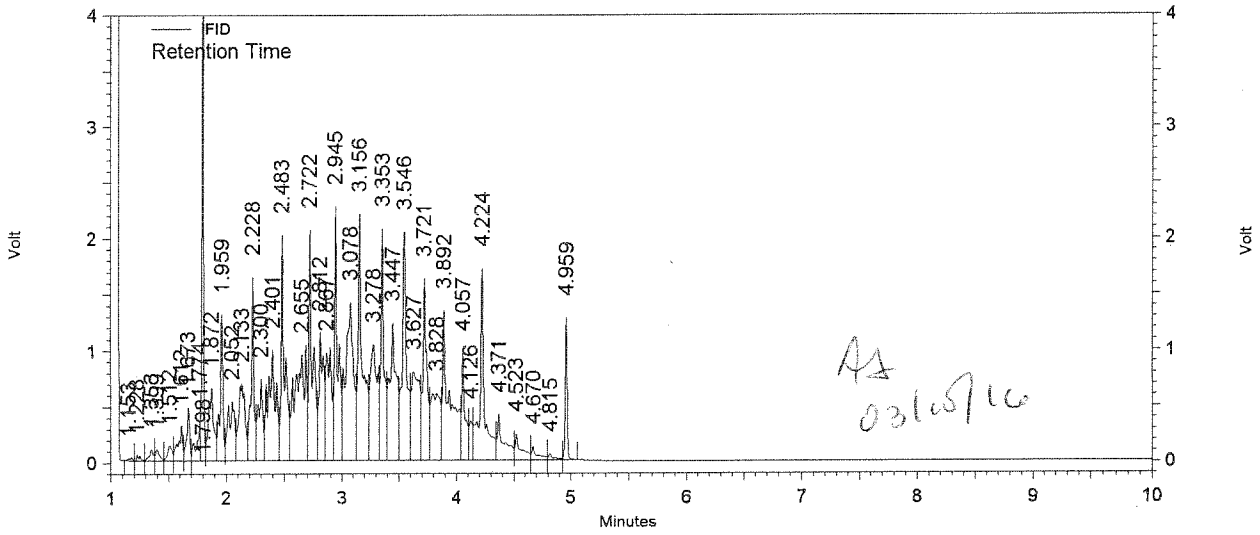
650

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09026.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : DSD5C09007 DSL 3000/220/55PPM
Acquired : 03/09/16 20:18:52
Printed : 03/10/16 11:05:20
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.798	4476115	18960.74371	220.000 CAL
HEXACOSANE	4.959	1515849	26912.93293	55.000 CAL
DIESEL(TOTAL)		107878924	33338.55952	3000.000 CAL
DIESEL(C10-C24)		103037994	31896.87324	3000.000 CAL
DIESEL(C10-C28)		103207611	31933.82919	3000.000 CAL
DIESEL(C10-C25)		103207611	31927.78586	3000.000 CAL
DIESEL(C9-C24)		105892289	32831.02281	3000.000 CAL
DIESEL(C9-C25)		106061906	32861.93543	3000.000 CAL
DIESEL(C10-C36)		103207611	31933.96090	3000.000 CAL
DIESEL(C10-C40)		103207611	31933.96090	3000.000 CAL
Totals		841693521		24275.000 CAL



Software Version: Version 3.3.1

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LC09029A 03/09/16 21:09
LFID & Datetime: LC09030A 03/09/16 21:26
LFID & Datetime: LC09031A 03/09/16 21:43
LFID & Datetime: LC09032A 03/09/16 22:00
LFID & Datetime: LC09033A 03/09/16 22:17
LFID & Datetime: LC09034A 03/09/16 22:34
CONC UNIT: ppm

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 2.00X	10.00X	20.00X	100.00X	200.00X	300.00X	MEAN	%RSD
JP5(C8-C18)	5.00	33780	33088	32527	31275	31846	32044	32426.5	2.8
M.OIL(C18-C36)	5.00	20655	23230	22235	21817	24986	24279	22867.0	7.1
M.OIL(C24-C36)	5.00	18470	20252	19189	18857	21542	20932	19873.4	6.2
M.OIL(C24-C40)	5.00	18470	20252	19189	18857	21542	20932	19873.4	6.2

DSD5C09.MET

AS
03/18/16

INITIAL CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
LFID & Datetime: LC09029A 03/09/16 21:09
LFID & Datetime: LC09030A 03/09/16 21:26
LFID & Datetime: LC09031A 03/09/16 21:43
LFID & Datetime: LC09032A 03/09/16 22:00
LFID & Datetime: LC09033A 03/09/16 22:17
LFID & Datetime: LC09034A 03/09/16 22:34

COMPOUND	RT OF STANDARDS (MIN) 2.0X	10.0X	20.0X	100.0X	200.0X	300.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
JP5(C8-C18)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C18-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C36)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M.OIL(C24-C40)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

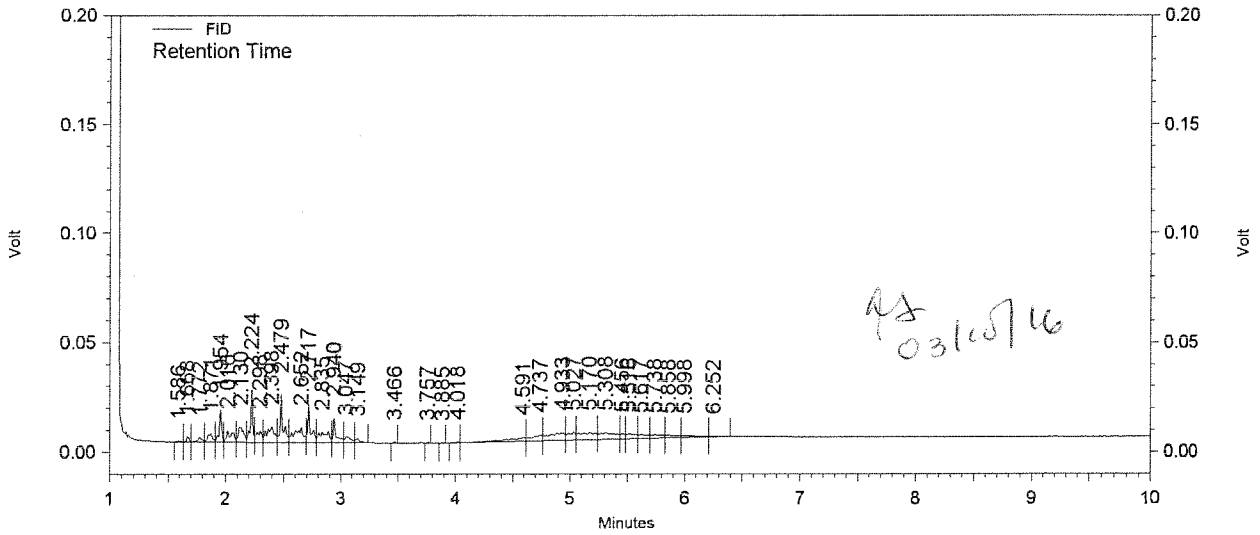
AA
03/10/16

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09029.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09008 JP5/5W30 10/10PPM**
Acquired	**: 03/09/16 21:09:22**
Printed	**: 03/10/16 11:07:30**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		337795	32426.51678	10.000 CAL
M.OIL(C18-C36)		206549	22866.97517	10.000 CAL
M.OIL(C24-C36)		184695	19873.41117	10.000 CAL
M.OIL(C24-C40)		184695	19873.41117	10.000 CAL
Totals		913734		40.000 CAL



Software Version: Version 3.3.1

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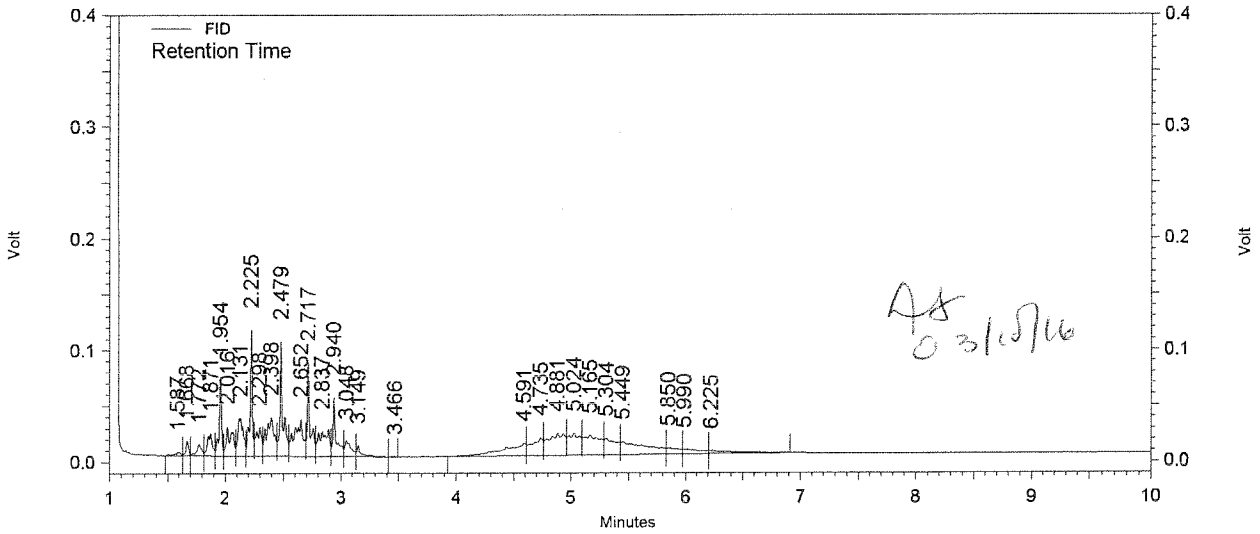
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09030.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09009 JP5/5W30 50/50PPM**
Acquired	**: 03/09/16 21:26:26**
Printed	**: 03/10/16 11:08:16**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		1654376	32426.51678	50.000 CAL
M.OIL(C18-C36)		1161519	22866.97517	50.000 CAL
M.OIL(C24-C36)		1012583	19873.41117	50.000 CAL
M.OIL(C24-C40)		1012583	19873.41117	50.000 CAL
Totals		4841061		200.000 CAL



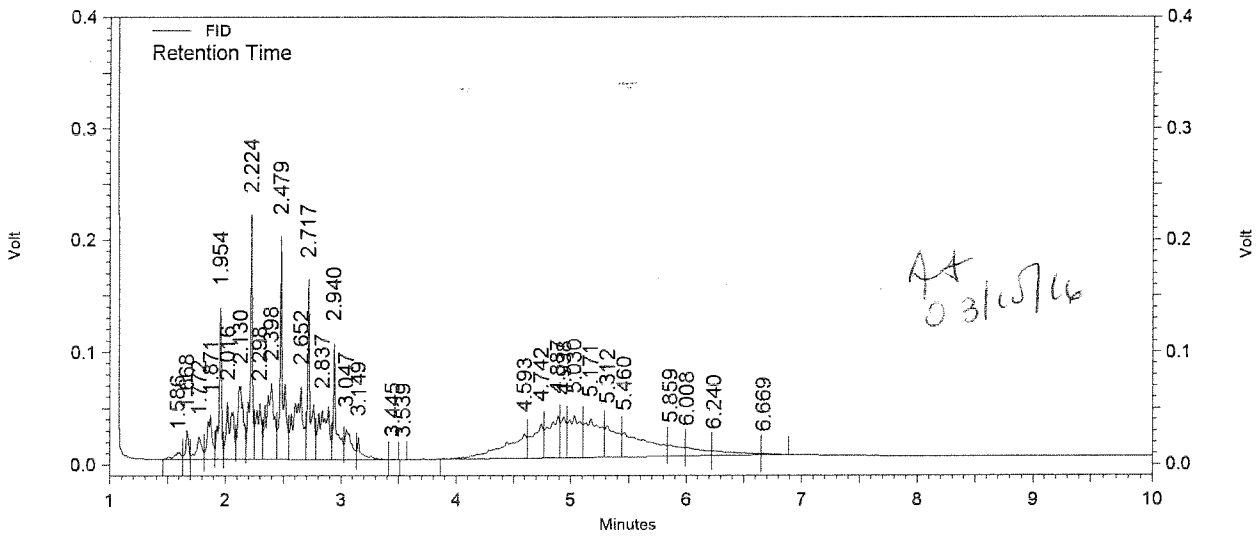
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09031.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09010 JP5/5W30 100/100PPM**
Acquired	**: 03/09/16 21:43:15**
Printed	**: 03/10/16 11:08:58**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		3252730	32426.51678	100.000 CAL
M.OIL(C18-C36)		2223453	22866.97517	100.000 CAL
M.OIL(C24-C36)		1918857	19873.41117	100.000 CAL
M.OIL(C24-C40)		1918857	19873.41117	100.000 CAL
Totals		9313897		400.000 CAL



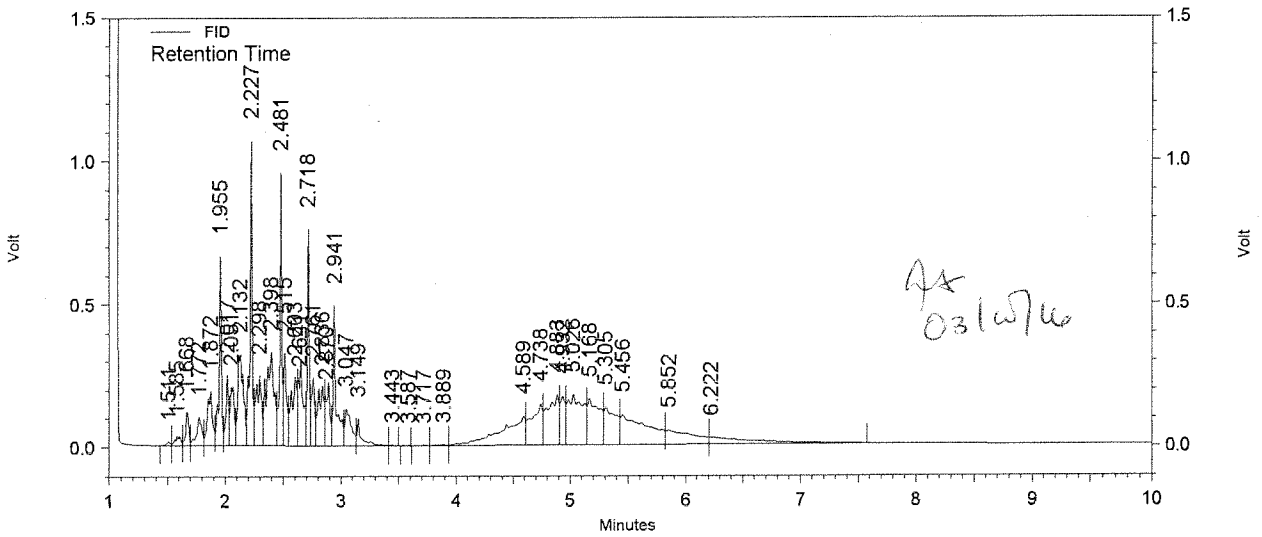
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09032.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09011 JP5/5W30 500/500PPM**
Acquired	**: 03/09/16 22:00:23**
Printed	**: 03/10/16 11:09:26**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		15637253	32426.51678	500.000 CAL
M.OIL(C18-C36)		10908561	22866.97517	500.000 CAL
M.OIL(C24-C36)		9428406	19873.41117	500.000 CAL
M.OIL(C24-C40)		9428406	19873.41117	500.000 CAL
Totals		45402626		2000.000 CAL



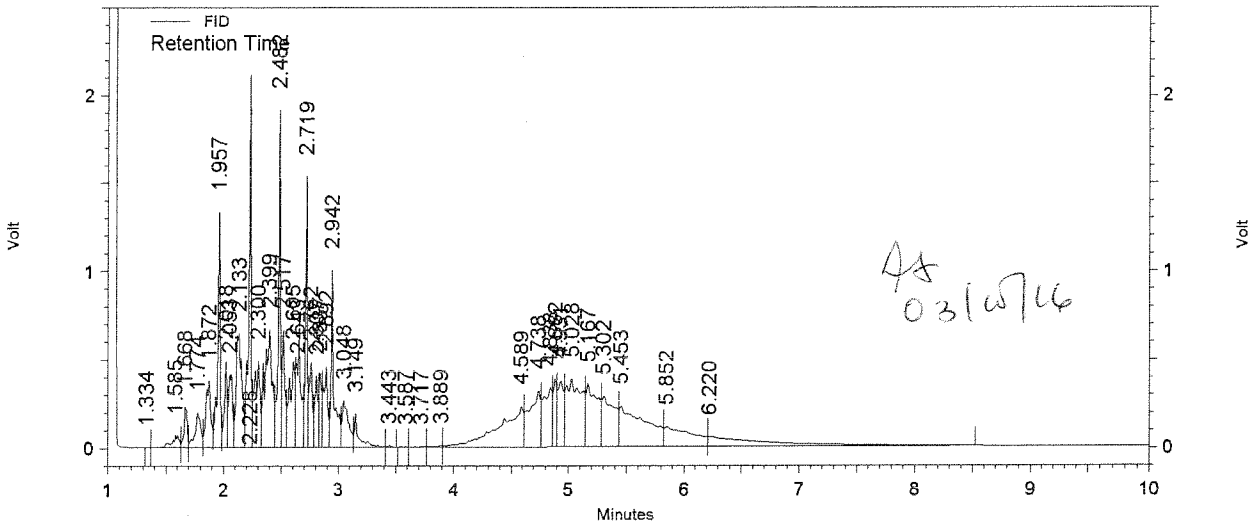
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09033.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09012 JP5/5W30 1000/1000PPM**
Acquired	**: 03/09/16 22:17:19**
Printed	**: 03/10/16 11:10:11**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		31846092	32426.51678	1000.000 CAL
M.OIL(C18-C36)		24986259	22866.97517	1000.000 CAL
M.OIL(C24-C36)		21541873	19873.41117	1000.000 CAL
M.OIL(C24-C40)		21541873	19873.41117	1000.000 CAL
Totals		99916097		4000.000 CAL



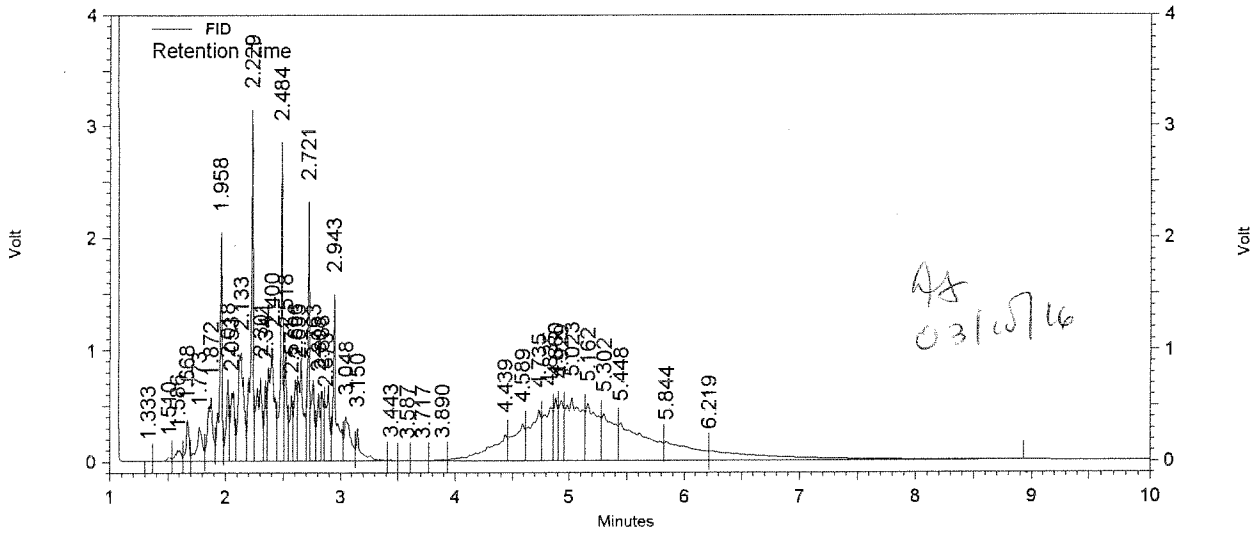
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09034.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DSD5C09013 JP5/5W30 1500/1500PPM**
Acquired	**: 03/09/16 22:34:08**
Printed	**: 03/10/16 11:10:48**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		48066274	32426.51678	1500.000 CAL
M.OIL(C18-C36)		36417990	22866.97517	1500.000 CAL
M.OIL(C24-C36)		31398078	19873.41117	1500.000 CAL
M.OIL(C24-C40)		31398078	19873.41117	1500.000 CAL
Totals		147280420		6000.000 CAL



Software Version: Version 3.3.1

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09023A 03/09/2016 19:28
Conc Cont LFID & Datetime: LC09027A 03/09/2016 20:35
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33338.6	14565026	436.88	-13		20
DIESEL(C10-C24)	NA	NA	NA	500.0	31896.9	13973002	438.07	-12		20
DIESEL(C10-C28)	NA	NA	NA	500.0	31933.8	14042544	439.74	-12		20
DIESEL(C10-C25)	NA	NA	NA	500.0	31927.8	14029949	439.43	-12		20
DIESEL(C9-C24)	NA	NA	NA	500.0	32831.0	14235734	433.61	-13		20
DIESEL(C9-C25)	NA	NA	NA	500.0	32861.9	14292681	434.93	-13		20
DIESEL(C10-C36)	NA	NA	NA	500.0	31934.0	14042544	439.74	-12		20
DIESEL(C10-C40)	NA	NA	NA	500.0	31934.0	14042544	439.74	-12		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
BROMOBENZENE	1.795	1.785	1.805	80.0	18960.7	1443865	76.15	-5		20
HEXACOSANE	4.963	4.769	5.157	20.0	26912.9	536090	19.92	-0		20

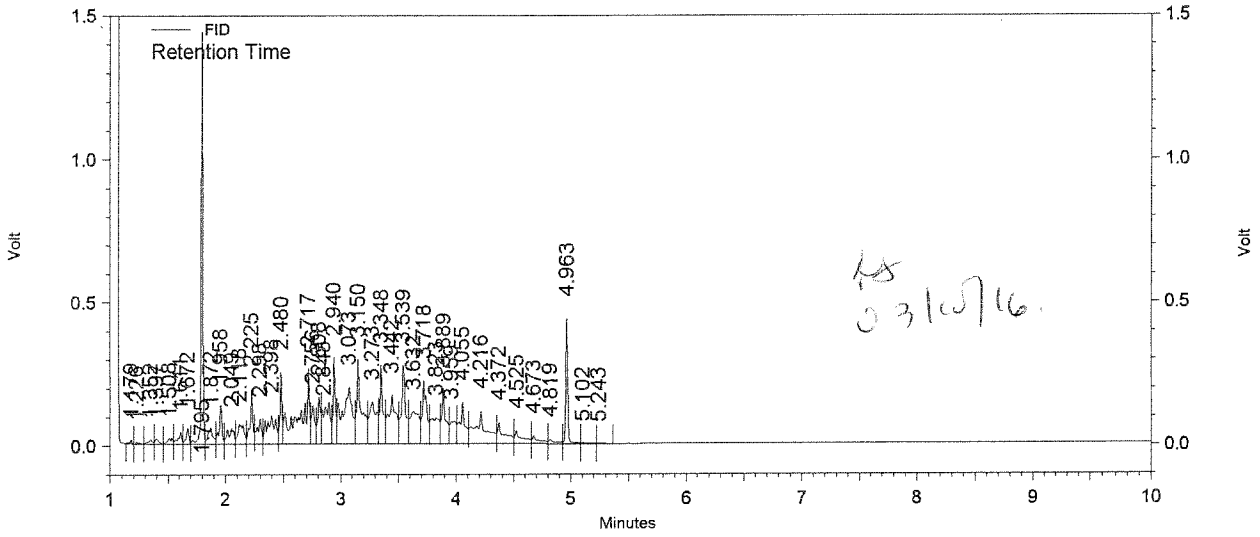
AK 03/10/16

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09027.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: IDSD5C09001 DSL 500/80/20PPM**
Acquired	**: 03/09/16 20:35:42**
Printed	**: 03/10/16 11:06:24**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.795	1443865	18960.74371	76.150
HEXACOSANE	4.963	536090	26912.93293	19.919
DIESEL(TOTAL)		14565026	33338.55952	436.882
DIESEL(C10-C24)		13973002	31896.87324	438.068
DIESEL(C10-C28)		14042544	31933.82919	439.739
DIESEL(C10-C25)		14029949	31927.78586	439.428
DIESEL(C9-C24)		14235734	32831.02281	433.606
DIESEL(C9-C25)		14292681	32861.93543	434.931
DIESEL(C10-C36)		14042544	31933.96090	439.737
DIESEL(C10-C40)		14042544	31933.96090	439.737
Totals		115203979		3598.198



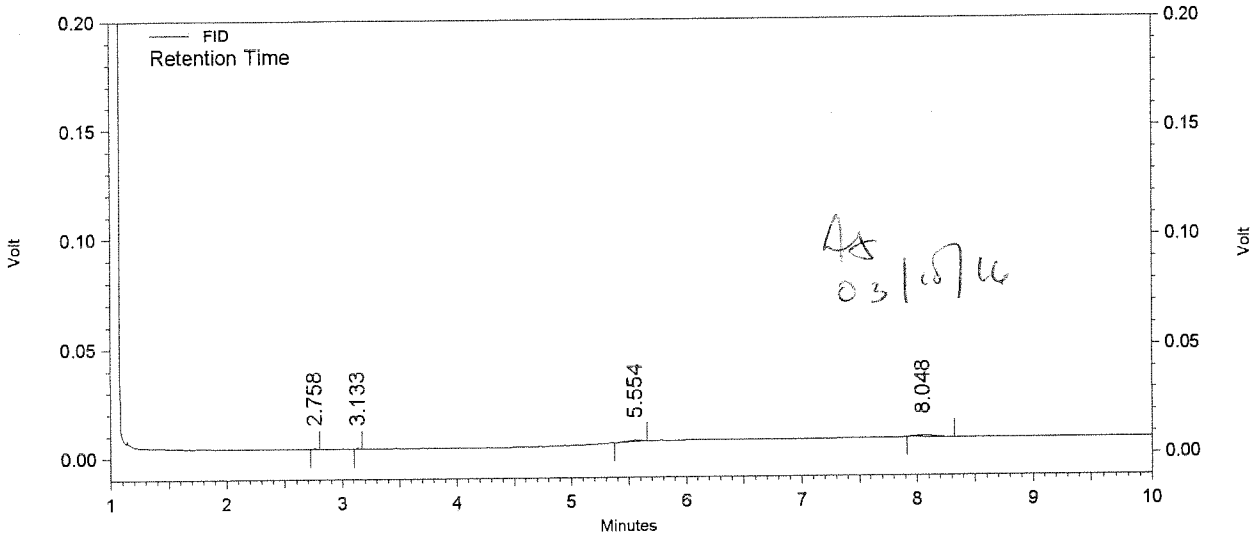
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09019.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : ICBD5C09001
Acquired : 03/09/16 18:20:32
Printed : 03/10/16 11:12:44
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE				0.000 BDL
DIESEL(TOTAL)		15807	33338.55952	0.474
DIESEL(C10-C24)		1742	31896.87324	0.055
DIESEL(C10-C28)		1742	31933.82919	0.055
DIESEL(C10-C25)		1742	31927.78586	0.055
DIESEL(C9-C24)		1742	32831.02281	0.053
DIESEL(C9-C25)		1742	32861.93543	0.053
DIESEL(C10-C36)		6596	31933.96090	0.207
DIESEL(C10-C40)		15807	31933.96090	0.495
Totals		46920		1.445



Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09032A 03/09/2016 22:00
Conc Cont LFID & Datetime: LC09035A 03/09/2016 22:51
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32426.5	14395327	443.94	-11		20
M.OIL(C18-C36)	NA	NA	NA	500.0	22867.0	11225173	490.89	-2		20
M.OIL(C24-C36)	NA	NA	NA	500.0	19873.4	9690242	487.60	-2		20
M.OIL(C24-C40)	NA	NA	NA	500.0	19873.4	9690242	487.60	-2		20

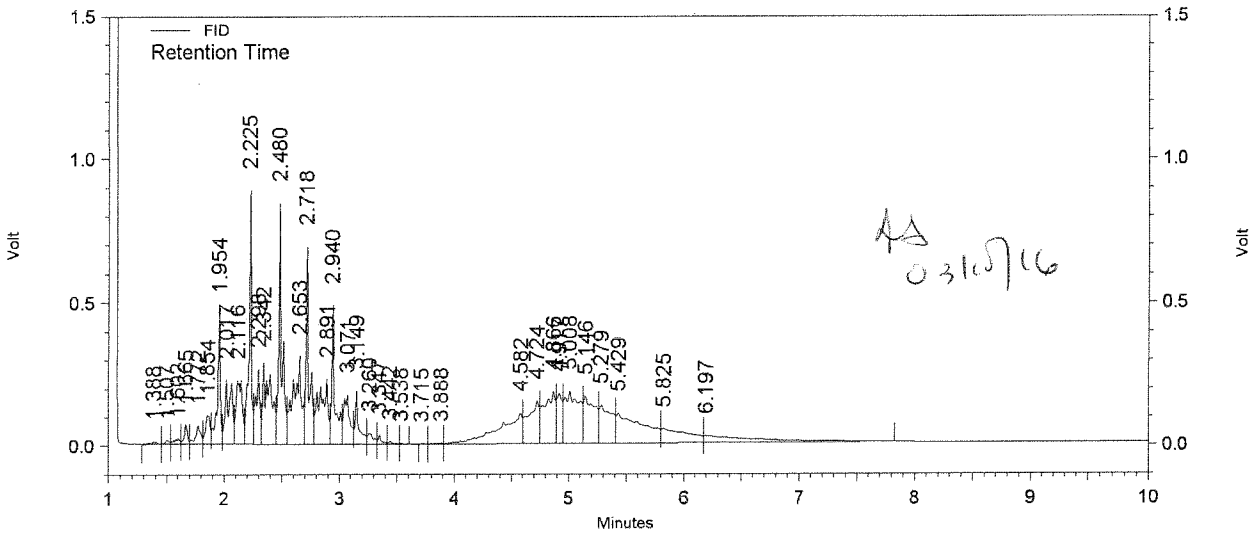
AA
03/10/16

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09035.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: IDSD5C09002 JP5/5W30 500/500PPM**
Acquired	**: 03/09/16 22:51:00**
Printed	**: 03/10/16 11:11:12**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14395327	32426.51678	443.937
M.OIL(C18-C36)		11225173	22866.97517	490.890
M.OIL(C24-C36)		9690242	19873.41117	487.598
M.OIL(C24-C40)		9690242	19873.41117	487.598
Totals		45000984		1910.024



Software Version: Version 3.3.1

INITIAL CALIBRATION VERIFICATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09032A 03/09/2016 22:00
Conc Cont LFID & Datetime: LC09036A 03/09/2016 23:07
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32426.5	14891391	459.23	-8		20
M.OIL(C18-C36)	NA	NA	NA	500.0	22867.0	13139342	574.60	15		20
M.OIL(C24-C36)	NA	NA	NA	500.0	19873.4	8533637	429.40	-14		20
M.OIL(C24-C40)	NA	NA	NA	500.0	19873.4	8533637	429.40	-14		20

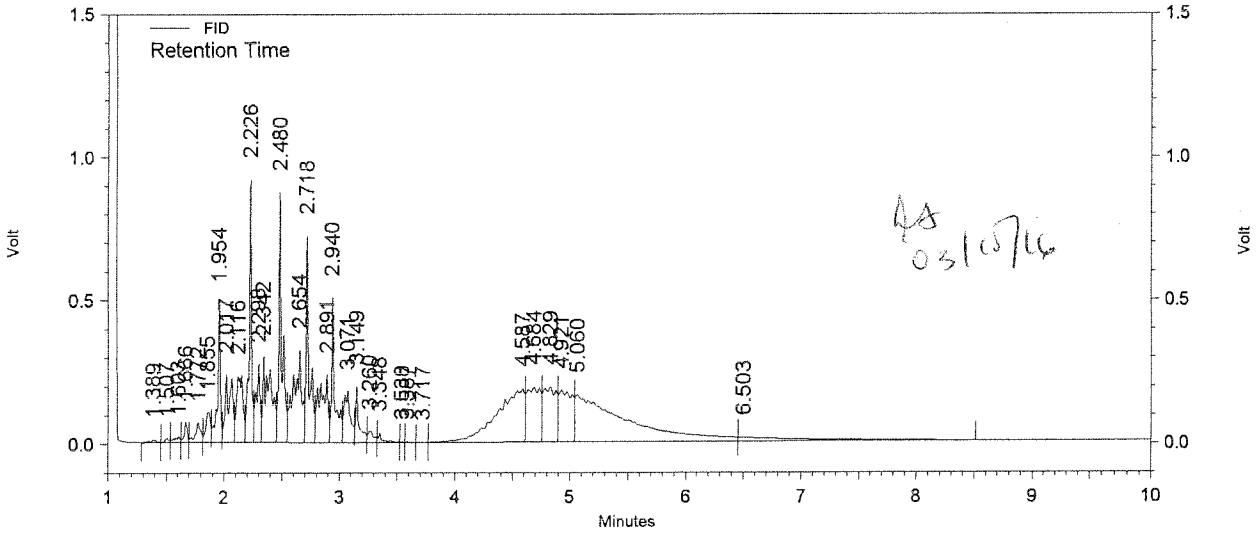
AS
03/09/16

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09036.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: IDSD5C09003 JP5/5W30 500/500PPM**
Acquired	**: 03/09/16 23:07:54**
Printed	**: 03/10/16 11:11:26**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14891391	32426.51678	459.235
M.OIL(C18-C36)		13139342	22866.97517	574.599
M.OIL(C24-C36)		8533637	19873.41117	429.400
M.OIL(C24-C40)		8533637	19873.41117	429.400
Totals		45098007		1892.633



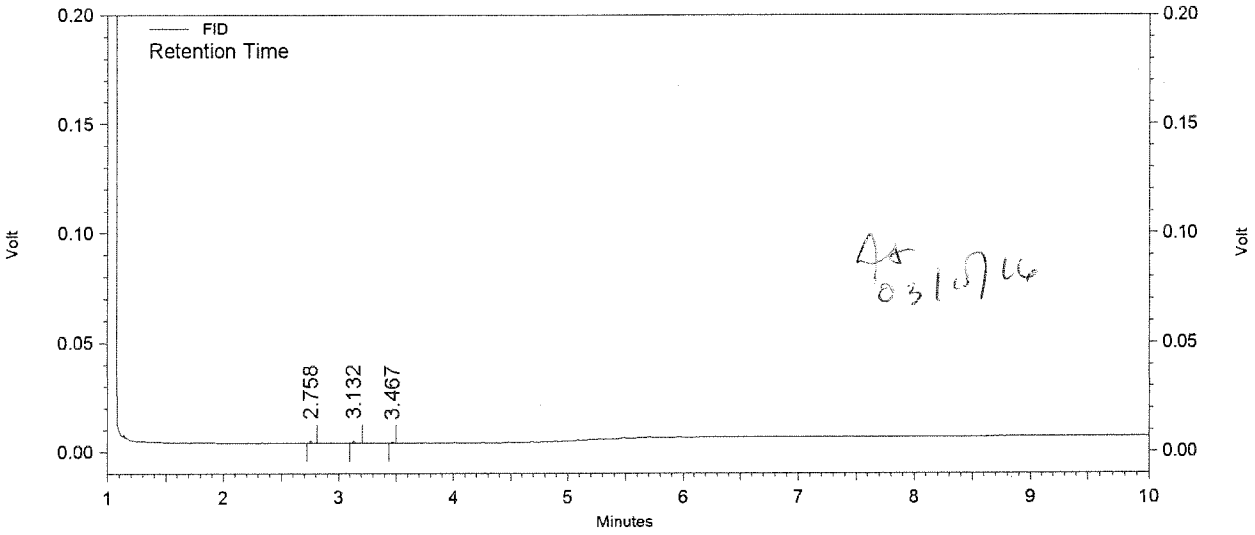
Software Version: Version 3.3.1

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name: : D5 (Offline)
File : D:\Projects\EZC331\Data\LC09\LC09028.dat
Method : D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met
Sequence: : D:\Projects\EZC331\Sequence\LC09.seq
Sample ID : ICBD5C09002
Acquired : 03/09/16 20:52:32
Printed : 03/10/16 11:13:01
User : CZhao

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE				0.000 BDL
DIESEL(TOTAL)		3442	33338.55952	0.103
DIESEL(C10-C24)		3442	31896.87324	0.108
DIESEL(C10-C28)		3442	31933.82919	0.108
DIESEL(C10-C25)		3442	31927.78586	0.108
DIESEL(C9-C24)		3442	32831.02281	0.105
DIESEL(C9-C25)		3442	32861.93543	0.105
DIESEL(C10-C36)		3442	31933.96090	0.108
DIESEL(C10-C40)		3442	31933.96090	0.108
Totals		27536		0.852



Software Version: Version 3.3.1

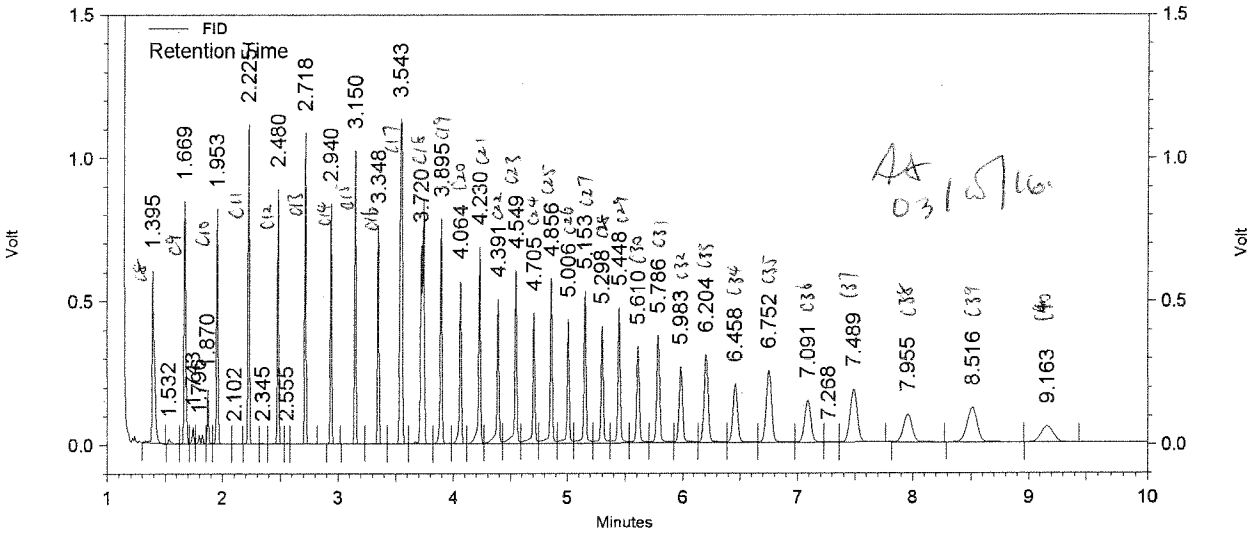
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LC09\LC09018.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LC09.seq**
Sample ID	**: DRO-01**
Acquired	**: 03/09/16 18:03:43**
Printed	**: 03/10/16 11:13:22**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.796	57002	18960.74371	3.006
HEXACOSANE	5.006	583995	26912.93293	21.699
DIESEL(TOTAL)		24910469	33338.55952	747.197
DIESEL(C10-C24)		12777020	31896.87324	400.573
DIESEL(C10-C28)		14868189	31933.82919	465.594
DIESEL(C10-C25)		14138675	31927.78586	442.833
DIESEL(C9-C24)		13953805	32831.02281	425.019
DIESEL(C9-C25)		15315460	32861.93543	466.055
DIESEL(C10-C36)		20776692	31933.96090	650.614
DIESEL(C10-C40)		22868549	31933.96090	716.120

Totals		140249856		4338.710



Software Version: Version 3.3.1

DAILY CALIBRATIONS

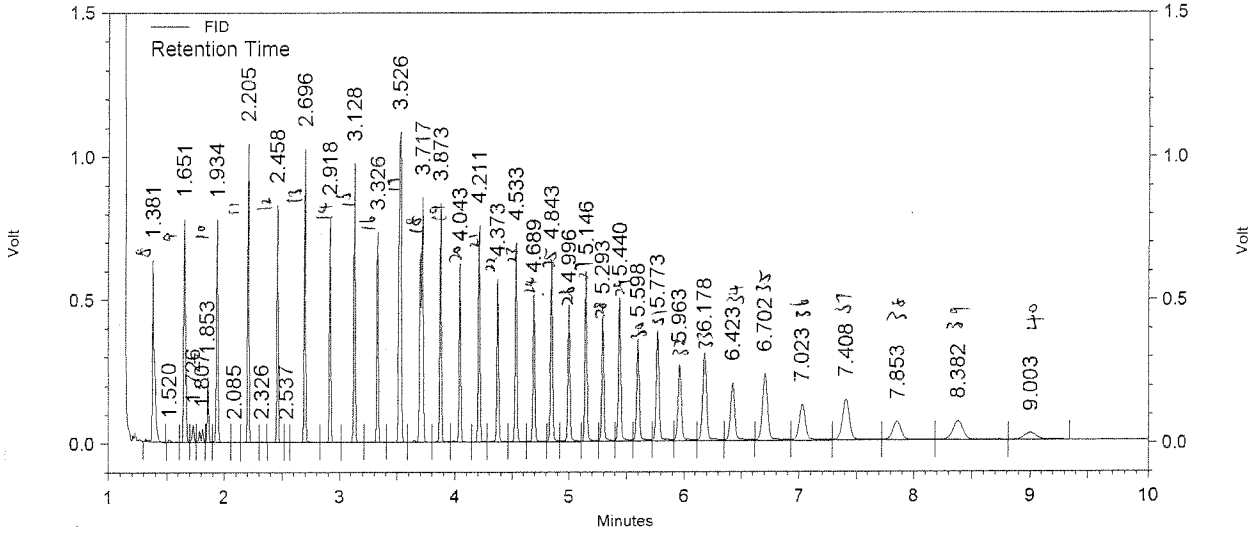
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5**
File	**: D:\Projects\EZC331\Data\LE23\LE23005.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE23.seq**
Sample ID	**: DRO-01**
Acquired	**: 05/23/16 11:47:51**
Printed	**: 05/23/16 11:57:58**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE				0.000 BDL
HEXACOSANE	4.996	606134	26912.93293	22.522
DIESEL(TOTAL)		23688717	33338.55952	710.550
DIESEL(C10-C24)		11990327	31896.87324	375.909
DIESEL(C10-C28)		14098445	31933.82919	441.489
DIESEL(C10-C25)		12755018	31927.78586	399.496
DIESEL(C9-C24)		13011850	32831.02281	396.328
DIESEL(C9-C25)		13776541	32861.93543	419.225
DIESEL(C10-C36)		19329745	31933.96090	605.304
DIESEL(C10-C40)		20972365	31933.96090	656.742

Totals		130229142		4027.565



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Column : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09024A 03/09/2016 19:44
Conc Cont LFID & Datetime: LE23006A 05/23/2016 12:04
CONC UNIT : ppm

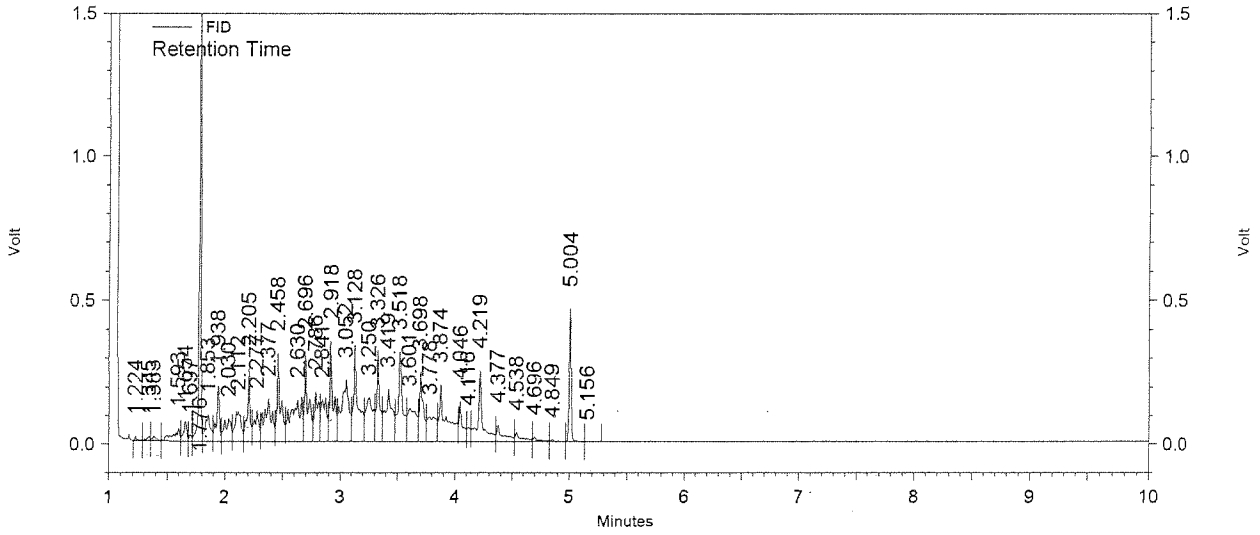
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33338.6	16055025	481.58	-4		20
DIESEL(C10-C24)	NA	NA	NA	500.0	31896.9	14965183	469.17	-6		20
DIESEL(C10-C28)	NA	NA	NA	500.0	31933.8	14989126	469.38	-6		20
DIESEL(C10-C25)	NA	NA	NA	500.0	31927.8	14986665	469.39	-6		20
DIESEL(C9-C24)	NA	NA	NA	500.0	32831.0	15628276	476.02	-5		20
DIESEL(C9-C25)	NA	NA	NA	500.0	32861.9	15649758	476.23	-5		20
DIESEL(C10-C36)	NA	NA	NA	500.0	31934.0	14989126	469.38	-6		20
DIESEL(C10-C40)	NA	NA	NA	500.0	31934.0	14989126	469.38	-6		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
BROMOBENZENE	1.776	1.766	1.786	80.0	18960.7	1675004	88.34	10		20
HEXACOSANE	5.004	4.810	5.198	20.0	26912.9	583398	21.68	8		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23006.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: CDSD5C091212 DSL 500/80/20PPM**
Acquired	**: 05/23/16 12:04:38**
Printed	**: 05/23/16 12:40:00**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.776	1675004	18960.74371	88.341
HEXACOSANE	5.004	583398	26912.93293	21.677
DIESEL(TOTAL)		16055025	33338.55952	481.575
DIESEL(C10-C24)		14965183	31896.87324	469.174
DIESEL(C10-C28)		14989126	31933.82919	469.381
DIESEL(C10-C25)		14986665	31927.78586	469.393
DIESEL(C9-C24)		15628276	32831.02281	476.022
DIESEL(C9-C25)		15649758	32861.93543	476.228
DIESEL(C10-C36)		14989126	31933.96090	469.379
DIESEL(C10-C40)		14989126	31933.96090	469.379
Totals		124510687		3890.547



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09032A 03/09/2016 22:00
Conc Cont LFID & Datetime: LE23007A 05/23/2016 12:21
CONC UNIT : ppm

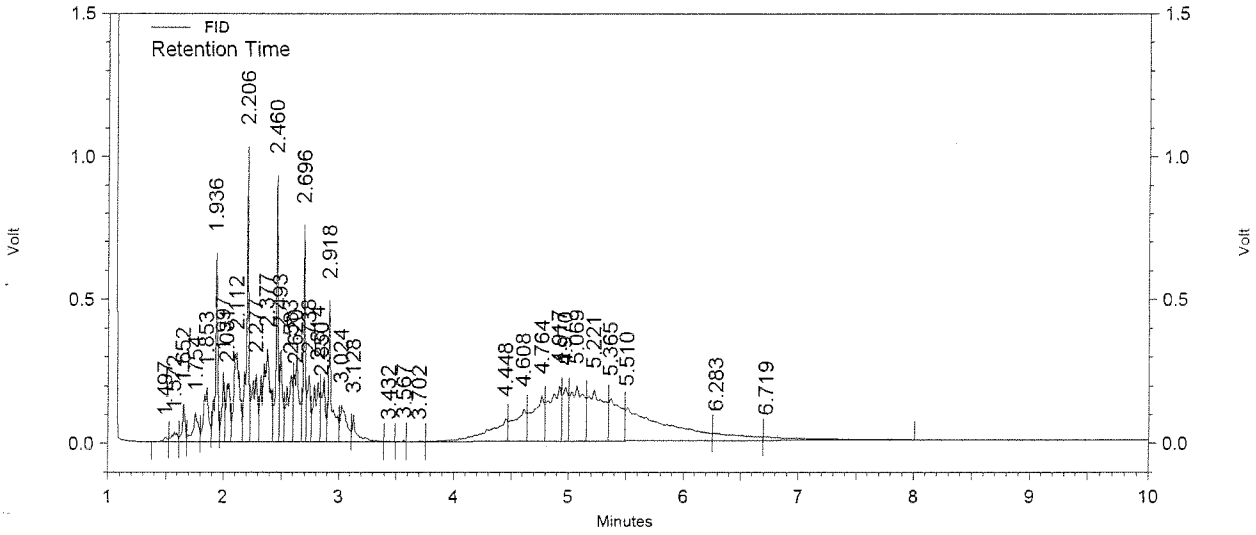
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32426.5	15324125	472.58	-5		20
M.OIL(C18-C36)	NA	NA	NA	500.0	22867.0	12532118	548.04	10		20
M.OIL(C24-C36)	NA	NA	NA	500.0	19873.4	10799629	543.42	9		20
M.OIL(C24-C40)	NA	NA	NA	500.0	19873.4	10799629	543.42	9		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23007.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: CDSD5C091213 JP5/MO 500/500PPM**
Acquired	**: 05/23/16 12:21:34**
Printed	**: 05/23/16 12:40:10**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		15324125	32426.51678	472.580
M.OIL(C18-C36)		12532118	22866.97517	548.044
M.OIL(C24-C36)		10799629	19873.41117	543.421
M.OIL(C24-C40)		10799629	19873.41117	543.421
Totals		49455501		2107.466



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09024A 03/09/2016 19:44
Conc Cont LFID & Datetime: LE23019A 05/23/2016 15:44
CONC UNIT : ppm

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
DIESEL(TOTAL)	NA	NA	NA	500.0	33338.6	15042890	451.22	-10		20
DIESEL(C10-C24)	NA	NA	NA	500.0	31896.9	14022545	439.62	-12		20
DIESEL(C10-C28)	NA	NA	NA	500.0	31933.8	14046177	439.85	-12		20
DIESEL(C10-C25)	NA	NA	NA	500.0	31927.8	14043141	439.84	-12		20
DIESEL(C9-C24)	NA	NA	NA	500.0	32831.0	14627687	445.55	-11		20
DIESEL(C9-C25)	NA	NA	NA	500.0	32861.9	14648283	445.75	-11		20
DIESEL(C10-C36)	NA	NA	NA	500.0	31934.0	14046177	439.85	-12		20
DIESEL(C10-C40)	NA	NA	NA	500.0	31934.0	14046177	439.85	-12		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
BROMOBENZENE	1.777	1.767	1.787	80.0	18960.7	1615058	85.18	6		20
HEXACOSANE	5.000	4.806	5.194	20.0	26912.9	537484	19.97	-0		20

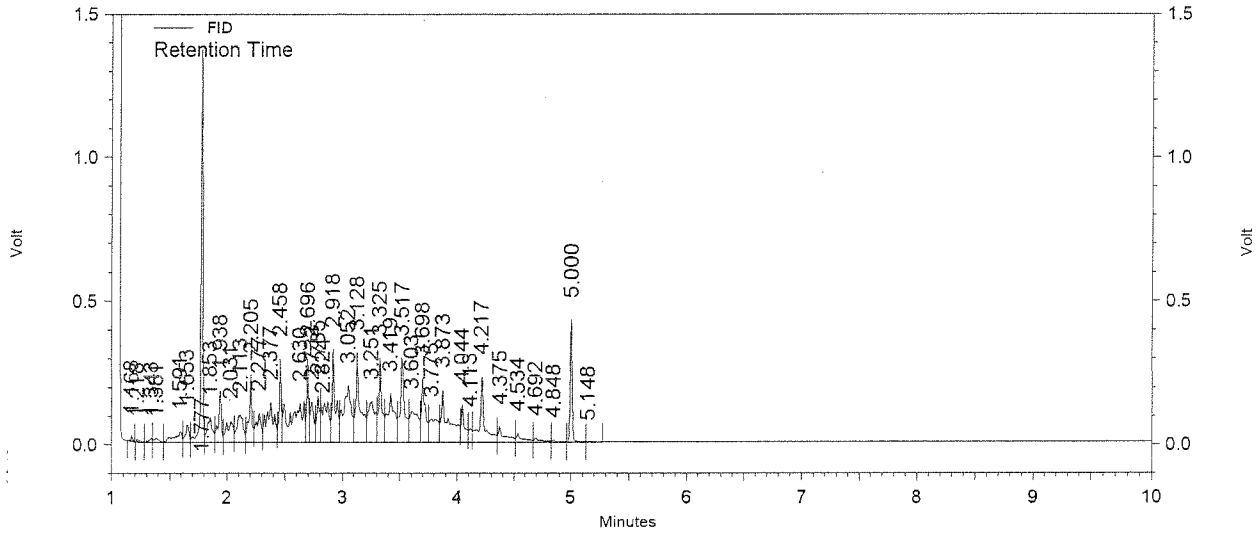
METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23019.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: CDSD5C091214 DSL 500/80/20PPM**
Acquired	**: 05/23/16 15:44:42**
Printed	**: 05/23/16 16:16:34**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
BROMOBENZENE	1.777	1615058	18960.74371	85.179
HEXACOSANE	5.000	537484	26912.93293	19.971
DIESEL(TOTAL)		15042890	33338.55952	451.216
DIESEL(C10-C24)		14022545	31896.87324	439.621
DIESEL(C10-C28)		14046177	31933.82919	439.853
DIESEL(C10-C25)		14043141	31927.78586	439.841
DIESEL(C9-C24)		14627687	32831.02281	445.545
DIESEL(C9-C25)		14648283	32861.93543	445.752
DIESEL(C10-C36)		14046177	31933.96090	439.851
DIESEL(C10-C40)		14046177	31933.96090	439.851

Totals		116675619		3646.679



Software Version: Version 3.3.1

CONTINUE CALIBRATION
METHOD M8015

Lab Name : EMAX Inc
Instrument ID : D5
GC Columm : HP5
Column size ID : 30MX0.32MM 0.25UM
Mid Conc Init LFID & Datetime: LC09032A 03/09/2016 22:00
Conc Cont LFID & Datetime: LE23020A 05/23/2016 16:01
CONC UNIT : ppm

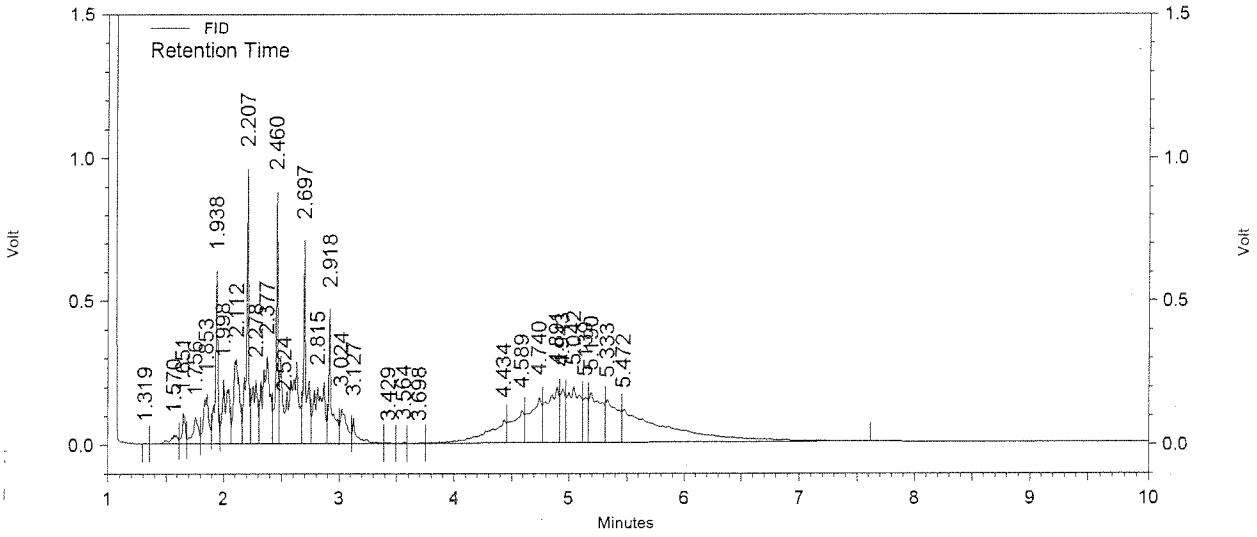
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
JP5(C8-C18)	NA	NA	NA	500.0	32426.5	14489343	446.84	-11		20
M.OIL(C18-C36)	NA	NA	NA	500.0	22867.0	12044311	526.71	5		20
M.OIL(C24-C36)	NA	NA	NA	500.0	19873.4	10346684	520.63	4		20
M.OIL(C24-C40)	NA	NA	NA	500.0	19873.4	10346684	520.63	4		20

METHOD 8015 by GC/FID
EMAX Laboratories, Inc.

Inst. Name:	**: D5 (Offline)**
File	**: D:\Projects\EZC331\Data\LE23\LE23020.dat**
Method	**: D:\Projects\EZC331\Method\2016 METHODS\DSD5C09.met**
Sequence:	**: D:\Projects\EZC331\Sequence\LE20.seq**
Sample ID	**: CDSD5C091215 JP5/MO 500/500PPM**
Acquired	**: 05/23/16 16:01:36**
Printed	**: 05/23/16 16:17:25**
User	**: CZhao**

FID Results

Name	Retention Time	Area	Average RF	ESTD conc. [ppm]
JP5(C8-C18)		14489343	32426.51678	446.836
M.OIL(C18-C36)		12044311	22866.97517	526.712
M.OIL(C24-C36)		10346684	19873.41117	520.629
M.OIL(C24-C40)		10346684	19873.41117	520.629
Totals		47227022		2014.807



Software Version: Version 3.3.1

ANALYTICAL LOG(S)

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

ICAL
(Diesel and JP5/Motor oil)
1C09017 – 1C09036.esd

Book #:	AD5-035
Instrument No.:	D5
Analytical Sequence:	1C09
Method File:	D5D5C09
Analytical Batch:	~~C0505~~ C2 3/9/16

SOP #	Rev. #
☑ EMAX-8015D	6
☐ EMAX-AK102/AK103	3
☐ EMAX-	

STANDARDS ID	Conc (mg/L)
ICAL	
☑ Diesel SS3B-20-35-03	5-3000
☑ Motor Oil ☑ JP5 SS5B-20-39-02	10-1500
CH_2Cl_2 SS2/9 /SW1A-05-16-09	pure
DSL DCC/ICV SS5B-20-39-01	500/50/20
JP5/5W30 DCC/ICV1 SS5B-20-39-03	500/500
JP5/5W30 ICV2 ~~Alaska DCC~~ SS5B-20-40-01 C2 3/9/16	500/500
Arizona DCC	

SYRINGES
☐ 1 mL - MSF-01-01-05
☑ 500 µL - MSF-01-01-06
☐ 250 µL - MSF-01-01-09
☐ 100 µL - MSF-01-01-07
☑ 50 µL - MSF-01-01-08
☑ 10 µL - MSF-01-01-10
☐

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: C2

Date: 3/9/16

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Run #	Run Type	Level	Vial	Volume	Sample ID	Method	Filename	Action	Description
17	Unknown	0	100	2	MeCl2	DSD5C09.met	LC09017.dat		
18	Unknown	0	98	2	DRO-01	DSD5C09.met	LC09018.dat		
19	Unknown	0	99	2	ICBD5C09001	DSD5C09.met	LC09019.dat		
20	Unknown	0	76	2	DSD5C09001 DSL 5PPM	DSD5C09.met	LC09020.dat		DSL ICAL
21	Unknown	0	77	2	DSD5C09002 DSL 10/20/5PPM	DSD5C09.met	LC09021.dat		
22	Unknown	0	78	2	DSD5C09003 DSL 50/40/10PPM	DSD5C09.met	LC09022.dat		
23	Unknown	0	79	2	DSD5C09004 DSL 100/60/15PPM	DSD5C09.met	LC09023.dat		
24	Unknown	0	80	2	DSD5C09005 DSL 500/80/20PPM	DSD5C09.met	LC09024.dat		
25	Unknown	0	81	2	DSD5C09006 DSL 1500/100/25PPM	DSD5C09.met	LC09025.dat		
26	Unknown	0	82	2	DSD5C09007 DSL 3000/220/55PPM	DSD5C09.met	LC09026.dat		
27	Unknown	0	83	2	IDSD5C09001 DSL 500/80/20PPM	DSD5C09.met	LC09027.dat		DSL ICV
28	Unknown	0	99	2	ICBD5C09002	DSD5C09.met	LC09028.dat		
29	Unknown	0	86	2	DSD5C09008 JP5/5W30 10/10PPM	DSD5C09.met	LC09029.dat		JP5/5W30 ICAL
30	Unknown	0	87	2	DSD5C09009 JP5/5W30 50/50PPM	DSD5C09.met	LC09030.dat		
31	Unknown	0	88	2	DSD5C09010 JP5/5W30 100/100PPM	DSD5C09.met	LC09031.dat		
32	Unknown	0	89	2	DSD5C09011 JP5/5W30 500/500PPM	DSD5C09.met	LC09032.dat		
33	Unknown	0	90	2	DSD5C09012 JP5/5W30 1000/1000PPM	DSD5C09.met	LC09033.dat		
34	Unknown	0	91	2	DSD5C09013 JP5/5W30 1500/1500PPM	DSD5C09.met	LC09034.dat		
35	Unknown	0	93	2	IDSD5C09002 JP5/5W30 500/500PPM	DSD5C09.met	LC09035.dat		ACCU/RESTEK LOT#7726 JP5/5W30
36	Unknown	0	92	2	IDSD5C09003 JP5/5W30 500/500PPM	DSD5C09.met	LC09036.dat		ACCU/ACCUSTD
37	Unknown	0		2	B	DSD5C09.met	LC09037.dat		
38	Unknown	0		2	B	DSD5C09.met	LC09038.dat		
39	Unknown	0		2	B	DSD5C09.met	LC09039.dat		
40	Unknown	0		2	B	DSD5C09.met	LC09040.dat		
41	Unknown	0		2	B	DSD5C09.met	LC09041.dat		
42	Unknown	0		2	B	DSD5C09.met	LC09042.dat		
43	Unknown	0		2	B	DSD5C09.met	LC09043.dat		
44	Unknown	0		2	B	DSD5C09.met	LC09044.dat		
45	Unknown	0		2	B	DSD5C09.met	LC09045.dat		
46	Unknown	0		2	B	DSD5C09.met	LC09046.dat		FINAL
47	Unknown	0		2	B	DSD5C09.met	LC09047.dat		
48	Unknown	0		2	B	DSD5C09.met	LC09048.dat		
49	Unknown	0		2	B	DSD5C09.met	LC09049.dat		
50	Unknown	0		2	B	DSD5C09.met	LC09050.dat		
51	Unknown	0		2	B	DSD5C09.met	LC09051.dat		
52	Unknown	0		2	B	DSD5C09.met	LC09052.dat		
53	Unknown	0		2	B	DSD5C09.met	LC09053.dat		
54	Unknown	0		2	B	DSD5C09.met	LC09054.dat		
55	Unknown	0		2	B	DSD5C09.met	LC09055.dat		
56	Unknown	0		2	B	DSD5C09.met	LC09056.dat		
57	Unknown	0		2	B	DSD5C09.met	LC09057.dat		
58	Unknown	0		2	B	DSD5C09.met	LC09058.dat		
59	Unknown	0		2	B	DSD5C09.met	LC09059.dat		
60	Unknown	0		2	B	DSD5C09.met	LC09060.dat		
61	Unknown	0		2	B	DSD5C09.met	LC09061.dat		
62	Unknown	0		2	B	DSD5C09.met	LC09062.dat		
63	Unknown	0		2	B	DSD5C09.met	LC09063.dat		
64	Unknown	0		2	B	DSD5C09.met	LC09064.dat		
65	Unknown	0		2	B	DSD5C09.met	LC09065.dat		
66	Unknown	0		2	B	DSD5C09.met	LC09066.dat		
67	Unknown	0		2	B	DSD5C09.met	LC09067.dat		
68	Unknown	0		2	B	DSD5C09.met	LC09068.dat		
69	Unknown	0		2	B	DSD5C09.met	LC09069.dat		
70	Unknown	0		2	B	DSD5C09.met	LC09070.dat		

CZ 3/10/16

For Help, press F1

Start | EZChrom Elite | D5 Method: DSD5... | D5 (Offline) Method... | D:\Projects\EZC331\Ex... | D:\Projects\EZC331\Da... | untitled - Paint | Calculator | Thursday, March 10, 2016 09:36

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG *for* EXTRACTABLE TPH

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

DSE0215 16E135
16E137
DSE0225 16E164 (AK102)
DSE0235 16E164 (AK102)

Book #:	AD5-036
Instrument No.:	D5
Analytical Sequence:	1E23
Method File:	DSD5009 , AKD5003
Analytical Batch:	CDSD5009/1212 , CAKD5003/1218

SOP #	Rev. #
☑ EMAX-8015D	6
☑ EMAX-AK102/AK103	3
☐ EMAX-	

STANDARDS ID	Conc (mg/L)
ICAL	
☐ Diesel	
☐ Motor Oil ☐ JP5	
CH_2Cl_2 55219	pure
DSL DCC 5553B-20-26-01	500/80/20
JP5/5W30 DCC 5553B-20-41-03	500/500
Alaska DCC ~~5553B-20-26~~ 5553B-20-42-01	500/500/20/80
Arizona DCC	

SYRINGES
☐ 1 mL - MSF-01-01-05
☑ 500 µL - MSF-01-01-06
☐ 250 µL - MSF-01-01-09
☐ 100 µL - MSF-01-01-07
☐ 50 µL - MSF-01-01-08
☐ 10 µL - MSF-01-01-10
☐

ELECTRONIC DATA ARCHIVAL	
Location	Date
☐ EZCHROM_GC6890N	
☐ External Hard Drive	

Analyzed By: CR

Date: 5/23/16

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Navigation

- Method
  - Instrument Setup
  - Integration Events
  - Peaks / Groups
  - Review Calibration
  - Advanced
  - Custom Report
  - System Suitability
- Data
  - Manual Integration Fixes
- Tiled Display
  - Integration Event
  - Peaks/Groups Table
  - System Suitability
  - Manual Integration

Method | Sequence | Reports | Control | Views

Run #	Run Type	Vial	Volume	Sample ID	Method	Filename	Action	Description
1	Unknow	100	2	TEST	DSD5C09.met	LE23001.dat		
2	Unknown	99	2	TEST	DSD5C09.met	LE23002.dat		
3	Unknown	100	2	MECL2	DSD5C09.met	LE23003.dat		
4	Unknown	99	2	IBD5LE23001	DSD5C09.met	LE23004.dat		
5	Unknown	98	2	DRO-01	DSD5C09.met	LE23005.dat		
6	Unknown	96	2	CDSD5C091212 DSL 500/80/20PPM	DSD5C09.met	LE23006.dat		
7	Unknown	97	2	CDSD5C091213 JP5/MO 500/500PPM	DSD5C09.met	LE23007.dat		
8	Unknown	1	2	DSE021SB	DSD5C09.met	LE23008.dat		
9	Unknown	2	2	DSE021SL DSL	DSD5C09.met	LE23009.dat		
10	Unknown	3	2	DSE021SC DSL	DSD5C09.met	LE23010.dat		
11	Unknown	4	2	DSE021SL 5W30	DSD5C09.met	LE23011.dat		
12	Unknown	5	2	DSE021SC 5W30	DSD5C09.met	LE23012.dat		
13	Unknown	6	2	16E133-03	DSD5C09.met	LE23013.dat		
14	Unknown	7	2	16E133-04I 0.5/1.0ML	DSD5C09.met	LE23014.dat		Amber
15	Unknown	8	2	16E137-01	DSD5C09.met	LE23015.dat		
16	Unknown	9	2	16E137-02	DSD5C09.met	LE23016.dat		
17	Unknown	10	2	16E137-03	DSD5C09.met	LE23017.dat		
18	Unknown	19	2	16E133-04	DSD5C09.met	LE23018.dat		Amber
19	Unknown	96	2	CDSD5C091214 DSL 500/80/20PPM	DSD5C09.met	LE23019.dat		
20	Unknown	97	2	CDSD5C091215 JP5/MO 500/500PPM	DSD5C09.met	LE23020.dat		
21	Unknown	11	2	16E137-04	DSD5C09.met	LE23021.dat		
22	Unknown	12	2	16E137-05	DSD5C09.met	LE23022.dat		
23	Unknown	13	2	16E137-06	DSD5C09.met	LE23023.dat		
24	Unknown	14	2	16E137-07	DSD5C09.met	LE23024.dat		
25	Unknown	15	2	16E137-08	DSD5C09.met	LE23025.dat		
26	Unknown	16	2	16E137-08M	DSD5C09.met	LE23026.dat		
27	Unknown	17	2	16E137-08S	DSD5C09.met	LE23027.dat		
28	Unknown	18	2	16E137-09	DSD5C09.met	LE23028.dat		
29	Unknown	96	2	CDSD5C091216 DSL 500/80/20PPM	DSD5C09.met	LE23029.dat		
30	Unknown	97	2	CDSD5C091217 JP5/MO 500/500PPM	DSD5C09.met	LE23030.dat		
31	Unknown	99	2	IBD5LE23002	AKD5C03.met	LE23031.dat		
32	Unknown	98	2	DRO-02	AKD5C03.met	LE23032.dat		
33	Unknown	95	2	CAKD5C031218 DSL 500/80/20PPM	AKD5C03.met	LE23033.dat		
34	Unknown	20	2	DSE022SB	AKD5C03.met	LE23034.dat		
35	Unknown	21	2	DSE022SL	AKD5C03.met	LE23035.dat		
36	Unknown	22	2	DSE022SC	AKD5C03.met	LE23036.dat		
37	Unknown	23	2	16E164-01	AKD5C03.met	LE23037.dat		
38	Unknown	24	2	16E164-02	AKD5C03.met	LE23038.dat		
39	Unknown	25	2	16E164-03	AKD5C03.met	LE23039.dat		
40	Unknown	26	2	16E164-04	AKD5C03.met	LE23040.dat		
41	Unknown	27	2	16E164-05	AKD5C03.met	LE23041.dat		
42	Unknown	28	2	16E164-06	AKD5C03.met	LE23042.dat		
43	Unknown	29	2	16E164-07	AKD5C03.met	LE23043.dat		
44	Unknown	95	2	CAKD5C031219 DSL 500/80/20PPM	AKD5C03.met	LE23044.dat		
45	Unknown	30	2	16E164-08	AKD5C03.met	LE23045.dat		
46	Unknown	31	2	16E164-09	AKD5C03.met	LE23046.dat		
47	Unknown	32	2	16E164-10	AKD5C03.met	LE23047.dat		
48	Unknown	33	2	16E164-11	AKD5C03.met	LE23048.dat		
49	Unknown	34	2	16E164-12	AKD5C03.met	LE23049.dat		
50	Unknown	35	2	16E164-13	AKD5C03.met	LE23050.dat		
51	Unknown	36	2	16E164-14	AKD5C03.met	LE23051.dat		
52	Unknown	37	2	16E164-15	AKD5C03.met	LE23052.dat		
53	Unknown	38	2	16E164-16	AKD5C03.met	LE23053.dat		
54	Unknown	39	2	16E164-17	AKD5C03.met	LE23054.dat		

FINAL
CZ 5/24/16

For Help, press F1

Start | EZChrom Elite | D5 Method: AKD5C03... | D5 (Offline) Metho... | untitled - Paint | Calculator | D:\Projects\EZC331\Export | Tuesday, May 24, 2016 11:37

D5 (Offline) Method: AKD5C03.met D5 LE23054.dat Project: EZC331 [Project Manager]

File Edit View Method Data Sequence Analysis Control Reports Window Help

1: FID

Navigation

- Method
  - Instrument Setup
  - Integration Events
  - Peaks / Groups
  - Review Calibration
  - Advanced
  - Custom Report
  - System Suitability
- Data
  - Manual Integration Fixes
- Tiled Display
  - Integration Event
  - Peaks/Groups Table
  - System Suitability
  - Manual Integration

Method
Sequence
Reports
Control
Views

Run #	Run Type	Vial	Volume	Sample ID	Method	Filename	Action	Description
54	Unknown	39	2	16E164-17	AKD5C03.met	LE23054.dat		
55	Unknown	95	2	CAKD5C031220 DSL 500/80/20PPM	AKD5C03.met	LE23055.dat		
56	Unknown	40	2	16E164-18	AKD5C03.met	LE23056.dat		
57	Unknown	41	2	16E164-19	AKD5C03.met	LE23057.dat		
58	Unknown	42	2	16E164-20	AKD5C03.met	LE23058.dat		
59	Unknown	43	2	16E164-20M	AKD5C03.met	LE23059.dat		
60	Unknown	44	2	16E164-20S	AKD5C03.met	LE23060.dat		
61	Unknown	45	2	DSE023SB	AKD5C03.met	LE23061.dat		
62	Unknown	46	2	DSE023SL	AKD5C03.met	LE23062.dat		
63	Unknown	47	2	DSE023SC	AKD5C03.met	LE23063.dat		
64	Unknown	48	2	16E164-21	AKD5C03.met	LE23064.dat		
65	Unknown	49	2	16E164-22	AKD5C03.met	LE23065.dat		
66	Unknown	50	2	16E164-23	AKD5C03.met	LE23066.dat		
67	Unknown	95	2	CAKD5C031221 DSL 500/80/20PPM	AKD5C03.met	LE23067.dat		
68	Unknown		2	B	AKD5C03.met	LE23068.dat		
69	Unknown		2	B	AKD5C03.met	LE23069.dat		
70	Unknown		2	B	AKD5C03.met	LE23070.dat		
71	Unknown		2	B	AKD5C03.met	LE23071.dat		
72	Unknown		2	B	AKD5C03.met	LE23072.dat		
73	Unknown		2	B	AKD5C03.met	LE23073.dat		
74	Unknown		2	B	AKD5C03.met	LE23074.dat		
75	Unknown		2	B	AKD5C03.met	LE23075.dat		
76	Unknown		2	B	AKD5C03.met	LE23076.dat		
77	Unknown		2	B	AKD5C03.met	LE23077.dat		
78	Unknown		2	B	AKD5C03.met	LE23078.dat		
79	Unknown		2	B	AKD5C03.met	LE23079.dat		
80	Unknown		2	B	AKD5C03.met	LE23080.dat		
81	Unknown		2	B	AKD5C03.met	LE23081.dat		
82	Unknown		2	B	AKD5C03.met	LE23082.dat		
83	Unknown		2	B	AKD5C03.met	LE23083.dat		
84	Unknown		2	B	AKD5C03.met	LE23084.dat		
85	Unknown		2	B	AKD5C03.met	LE23085.dat		
86	Unknown		2	B	AKD5C03.met	LE23086.dat		
87	Unknown		2	B	AKD5C03.met	LE23087.dat		
88	Unknown		2	B	AKD5C03.met	LE23088.dat		
89	Unknown		2	B	AKD5C03.met	LE23089.dat		
90	Unknown		2	B	AKD5C03.met	LE23090.dat		
91	Unknown		2	B	AKD5C03.met	LE23091.dat		
92	Unknown		2	B	AKD5C03.met	LE23092.dat		
93	Unknown		2	B	AKD5C03.met	LE23093.dat		
94	Unknown		2	B	AKD5C03.met	LE23094.dat		
95	Unknown		2	B	AKD5C03.met	LE23095.dat		
96	Unknown		2	B	AKD5C03.met	LE23096.dat		
97	Unknown		2	B	AKD5C03.met	LE23097.dat		
98	Unknown		2	B	AKD5C03.met	LE23098.dat		
99	Unknown		2	B	AKD5C03.met	LE23099.dat		
100	Unknown		2	B	AKD5C03.met	LE23100.dat		
101	Unknown		2	B	AKD5C03.met	LE23101.dat		
102	Unknown		2	B	AKD5C03.met	LE23102.dat		
103	Unknown		2	B	AKD5C03.met	LE23103.dat		
104	Unknown		2	B	AKD5C03.met	LE23104.dat		
105	Unknown		2	B	AKD5C03.met	LE23105.dat		
106	Unknown		2	B	AKD5C03.met	LE23106.dat		
107	Unknown		2	B	AKD5C03.met	LE23107.dat		

FINAL
CZ 5/24/16

For Help, press F1

Start | EZChrom Elite | D5 | Method: AKD5C03... | D5 (Offline) | Metho... | untitled - Paint | Calculator | D:\Projects\EZC331\Export | Tuesday, May 24, 2016 11:38

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
TPH

SOP	Rev. #
☐ EMAX-3520	5
☐ EMAX-3540	2
☑ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-8015AZ	2
☐ EMAX-AK 102/103	3
☐ EMAX-AKSGC	0

Note: For samples and relevant QCs/Standards extracted, refer to attached extraction sequence.

☐ MS/MSD can not be extracted due to insufficient amount of samples

Book #: EDS-076

Preparation Batch: DSE021S

Matrix: Soil

Micropipette ID: 100µl: PE97C-03

Micropipette ID: 1000µl: PE00-03

Standards	ID	Amount Added (ml)
Surrogate	SS3-009-10-22	0.5
Surrogate		
LCS/MS (Diesel)*	SS3-009-10-20	0.1
LCS/MS (SW 30)*	SS3B-20-46-03	1.0

Reagent	Lot # / ID
CH_2Cl_2	55219
Na_2SO_4	SW1B-003-08-08
HCl	–
Silica Sand	SW1B-002-69-25
Silica Gel	–
Reagent Water	–
pH strip	–
Filter Paper	9692235 B

TUNING

Sonicator #	Reading
4	50%
6	50%

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2	35	35
3	35	35
4		
5		
6		

Lab Sample ID	Sonicator #	Concentrator #
DSE021SB	4	1
-SL *	6	1
-SC *	6	1
-SL ▲	4	1
-SC ▲	4	1
E133-03	6	1
-04	6	2
E137-01	4	2
-02	6	2
-03	6	2
-04	4	2
-05	4	2
-06	6	3
-07	6	3
-08	4	3
-08M*	4	3
-08S*	4	3
-09	6	3

Comments:

Test thermometer = SVOC-T1

Prepared By: Jville / TW — Standard Added By: Jville

Witnessed By: TW — Checked By: ML

Extract Received By: a Shville — Extraction Location: SED 6 #4

Disposal Date: — Disposed By:

FileID: DSE021S

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR EXTRACTABLE TPH

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16DSE021S01	DSE021SB	10	g	5/20/16 11:55	10	10	10	1	
16DSE021S02	DSE021SL	10	g	5/20/16 11:56	10	10	10	1	Diesel
16DSE021S03	DSE021SC	10	g	5/20/16 11:56	10	10	10	1	Diesel
16DSE021S04	DSE021SL	10	g	5/20/16 11:56	10	10	10	1	5W 30
16DSE021S05	DSE021SC	10	g	5/20/16 11:56	10	10	10	1	5W 30
16DSE021S06	E133-03	10.01	g	5/20/16 11:59	10	10	10	1	
16DSE021S07	E133-04	10.02	g	5/20/16 12:00	10	10	10	1	
16DSE021S08	E137-01	10.01	g	5/20/16 12:01	10	10	10	1	
16DSE021S09	E137-02	10.03	g	5/20/16 12:03	10	10	10	1	
16DSE021S10	E137-03	10.03	g	5/20/16 12:04	10	10	10	1	
16DSE021S11	E137-04	10.03	g	5/20/16 12:05	10	10	10	1	
16DSE021S12	E137-05	10	g	5/20/16 12:06	10	10	10	1	
16DSE021S13	E137-06	10.04	g	5/20/16 12:08	10	10	10	1	
16DSE021S14	E137-07	10.04	g	5/20/16 12:09	10	10	10	1	
16DSE021S15	E137-08	10	g	5/20/16 12:10	10	10	10	1	
16DSE021S16	E137-08M	10	g	5/20/16 12:11	10	10	10	1	Diesel
16DSE021S17	E137-08S	10	g	5/20/16 12:12	10	10	10	1	Diesel
16DSE021S18	E137-09	10.01	g	5/20/16 17:47	10	10	10	1	

Balance ID: 10304418. Calibration check was verified prior to use.

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 5/20/16 18:00

Prepared By: JVille/TW

☑ Extraction Ended @ 5/20/16 19:20

Checked By: ML

Comments:

Date 5/20/16

SOP EMAX-3550 Rev. 4

PESTICIDES

METHOD SW3520C/8081B
PESTICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/19/16 10:15
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/20/16 17:36
Lab Samp ID:	E133-02	Dilution Factor:	1.06
Lab File ID:	ME20009B	Matrix :	WATER
Ext Btch ID:	CPE015W	% Moisture :	NA
Calib. Ref.:	ME20004B	Instrument ID :	GCE8

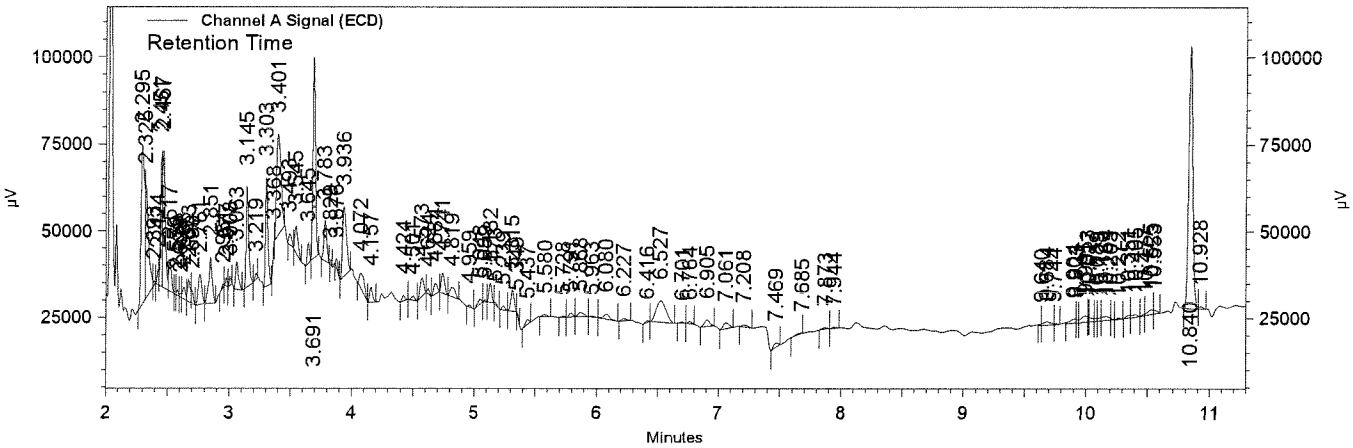
PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	0.012J | (ND)	0.11	0.0053	0.011
HEPTACHLOR	0.20 | (ND)	0.11	0.0074	0.011
HEPTACHLOR EPOXIDE	ND | (ND)	0.11	0.0053	0.011
GAMMA-CHLORDANE	0.031J | (ND)	0.11	0.0053	0.011
ALPHA-CHLORDANE	ND | (ND)	0.11	0.0053	0.011
ENDRIN	ND | (ND)	0.11	0.0085	0.011
METHOXYCHLOR	ND | (ND)	1.1	0.053	0.11
TOXAPHENE	ND | (ND)	2.1	0.26	0.53

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.4823 | (0.4802)	0.4000	121 | (120)	25-140
DECACHLOROBIPHENYL	0.4133 | (0.4456)	0.4000	103 | (111)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: E133-02
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20009.dat
User: ESanto
Acquired: 05/20/16 17:36:48
Printed: 05/24/16 11:33:40

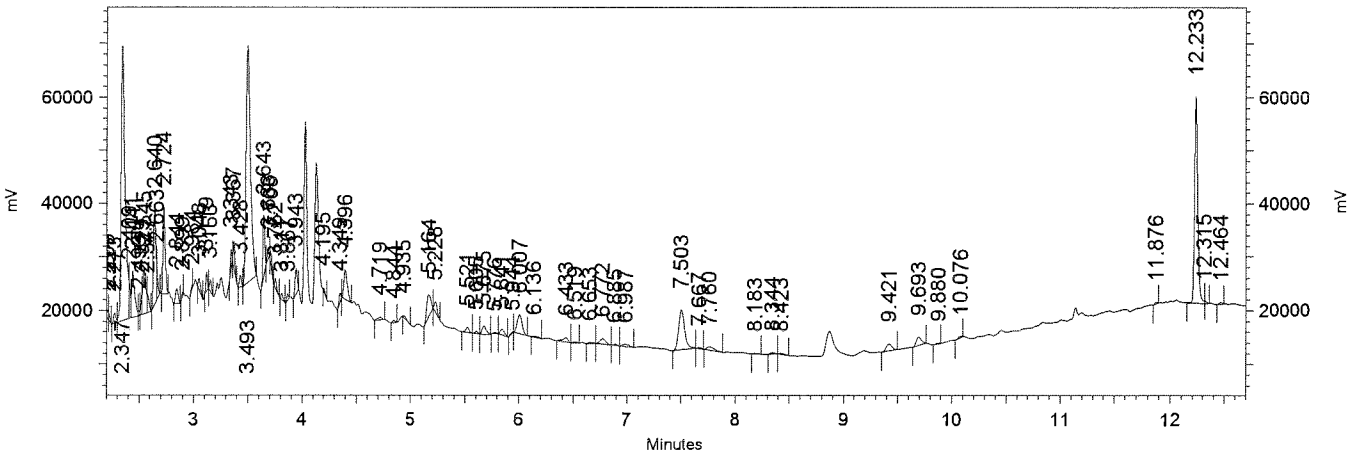


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465	2.467	2859537	62846.1	45.501	SV
alpha-BHC	2.797				0.000 BDL	
gamma-BHC	2.989	2.977	113587	97010.5	1.171	vv
beta-BHC	3.037				0.000 BDL	
delta-BHC	3.152	3.145	2279934	103944.1	21.934	vv
Heptachlor	3.292	3.303	2313215	124693.7	18.551	vv
Aldrin	3.508	3.493	287054	118874.0	2.415	vv
Heptachlor Epoxide	4.011				0.000 BDL	
gamma-Chlordane	4.131	4.157	381520	131674.2	2.897	vv
alpha-Chlordane	4.265				0.000 BDL	
DDE	4.343				0.000 BDL	
Endosulfan I	4.416	4.424	142435	142551.8	0.999	vv
Dieldrin	4.697	4.684	339952	132373.3	2.568	vv
Endrin	5.004				0.000 BDL	
DDD	5.109	5.089	30881	87496.1	0.353	vv
Endosulfan II	5.335	5.349	35851	142283.1	0.252	vv
DDT	5.560	5.580	93943	109067.2	0.861	vv
Endrin aldehyde	6.076	6.080	263731	134129.0	1.966	vv
Methoxychlor	6.597				0.000 BDL	
Endosulfan Sulfate	7.045	7.061	304285	155144.6	1.961	vv
Endrin Ketone	7.773				0.000 BDL	
DCB	10.832	10.840	9403315	241147.5	38.994	BV

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: E133-02
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20009.dat
User: ESanto
Acquired: 05/20/16 17:36:48
Printed: 05/24/16 11:33:40



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631	2.640	1541847	34035.2	45.302	BS
alpha-BHC	3.013				0.000 BDL	
gamma-BHC	3.252				0.000 BDL	
beta-BHC	3.299				0.000 BDL	
delta-BHC	3.528				0.000 BDL	
Heptachlor	3.596				0.000 BDL	
Aldrin	3.889				0.000 BDL	
Heptachlor Epoxide	4.504				0.000 BDL	
gamma-Chlordane	4.745				0.000 BDL	
alpha-Chlordane	4.953				0.000 BDL	
Endosulfan I	5.047				0.000 BDL	
DDE	5.200				0.000 BDL	
Dieldrin	5.493				0.000 BDL	
Endrin	6.077				0.000 BDL	
DDD	6.339				0.000 BDL	
Endosulfan II	6.549				0.000 BDL	
DDT	7.140				0.000 BDL	
Endrin Aldehyde	7.449				0.000 BDL	
Endosulfan Sulfate	8.339	8.344	44255	72181.4	0.613	vv
Methoxychlor	9.604				0.000 BDL	
Endrin Ketone	10.007				0.000 BDL	
DCB	12.224	12.233	4432260	105441.3	42.035	BS

QC SUMMARIES

METHOD SW3520C/8081B
PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/19/16
Batch No.	: 16E133	Date Extracted:	05/19/16 10:15
Sample ID:	MBLK1W	Date Analyzed:	05/20/16 16:36
Lab Samp ID:	CPE015WB	Dilution Factor:	1
Lab File ID:	ME20006B	Matrix :	WATER
Ext Btch ID:	CPE015W	% Moisture :	NA
Calib. Ref.:	ME20004B	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	ND|(ND)	0.10	0.0050	0.010
HEPTACHLOR	ND|(ND)	0.10	0.0070	0.010
HEPTACHLOR EPOXIDE	ND|(ND)	0.10	0.0050	0.010
GAMMA-CHLORDANE	ND|(ND)	0.10	0.0050	0.010
ALPHA-CHLORDANE	ND|(ND)	0.10	0.0050	0.010
ENDRIN	ND|(ND)	0.10	0.0080	0.010
METHOXYCHLOR	ND|(ND)	1.0	0.050	0.10
TOXAPHENE	ND|(ND)	2.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	0.3985|(0.3813)	0.4000	99.6|(95.3)	25-140
DECACHLOROBIPHENYL	0.3905|(0.4100)	0.4000	97.6|(103)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW3520C/8081B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPE015WB	CPE015WL	CPE015WC		
LAB FILE ID:	ME20006B	ME20007B	ME20008B		
DATE EXTRACTED:	05/19/1610:15	05/19/1610:15	05/19/1610:15	DATE COLLECTED:	NA
DATE ANALYZED:	05/20/1616:36	05/20/1616:56	05/20/1617:16	DATE RECEIVED:	05/19/16
PREP. BATCH:	CPE015W	CPE015W	CPE015W		
CALIB. REF:	ME20004B	ME20004B	ME20004B		

ACCESSION:

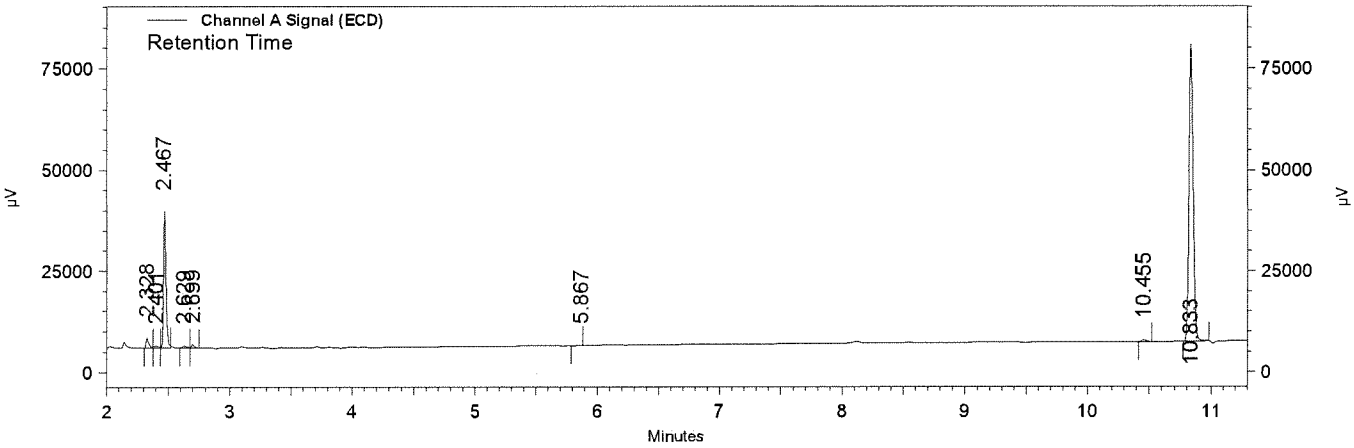
PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	ND|(ND)	0.200	0.221|(0.223)	110|(112)	0.200	0.195|(0.199)	97|(100)	13|(11)	25-135	30
Heptachlor	ND|(ND)	0.200	0.225|(0.211)	112|(105)	0.200	0.202|(0.189)	101|(94)	11|(11)	40-130	30
Heptachlor Epoxide	ND|(ND)	0.200	0.213|(0.210)	106|(105)	0.200	0.204|(0.197)	102|(98)	4|(6)	60-130	30
gamma-Chlordane	ND|(ND)	0.200	0.202|(0.212)	101|(106)	0.200	0.202|(0.200)	101|(100)	0|(6)	60-125	30
alpha-Chlordane	ND|(ND)	0.200	0.214|(0.204)	107|(102)	0.200	0.205|(0.193)	102|(96)	4|(6)	65-125	30
Endrin	ND|(ND)	0.200	0.245|(0.232)	122|(116)	0.200	0.235|(0.221)	118|(110)	4|(5)	55-135	30
Methoxychlor	ND|(ND)	2.00	2.12|(2.18)	106|(109)	2.00	2.13|(2.17)	107|(108)	0|(0)	55-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	0.4357|(0.3912)	109|(97.8)	0.4000	0.3577|(0.3268)	89.4|(81.7)	25-140
Decachlorobiphenyl	0.4000	0.4074|(0.4258)	102|(106)	0.4000	0.4175|(0.4378)	104|(109)	30-135

QC DATA

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20006.dat
User: ESanto
Acquired: 05/20/16 16:36:58
Printed: 05/20/16 17:55:54

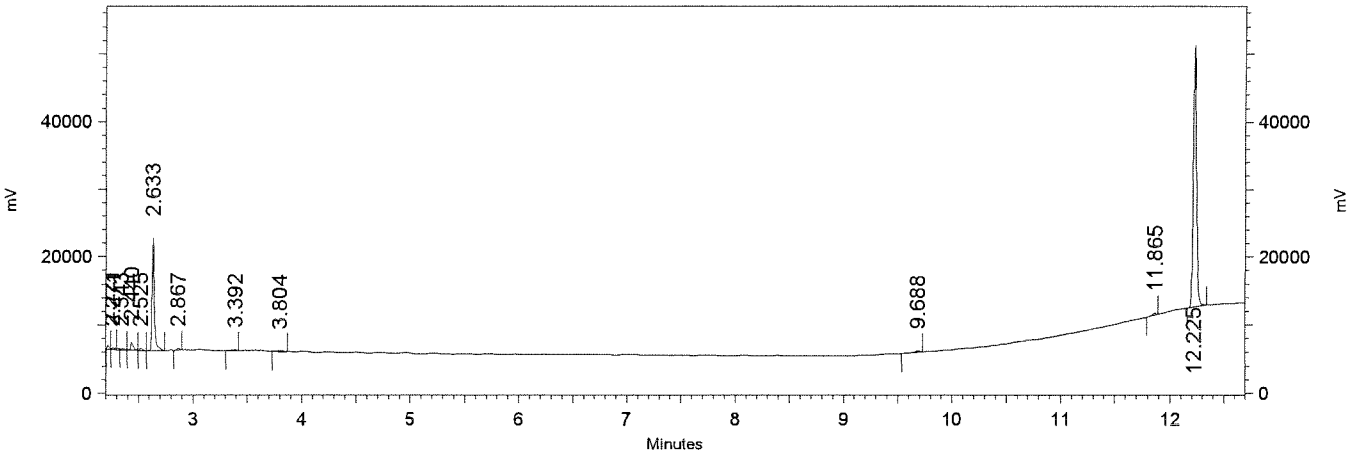


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465	2.467	2504331	62846.1	39.849	VS
alpha-BHC	2.797				0.000 BDL	
gamma-BHC	2.989				0.000 BDL	
beta-BHC	3.037				0.000 BDL	
delta-BHC	3.152				0.000 BDL	
Heptachlor	3.292				0.000 BDL	
Aldrin	3.508				0.000 BDL	
Heptachlor Epoxide	4.011				0.000 BDL	
gamma-Chlordane	4.131				0.000 BDL	
alpha-Chlordane	4.265				0.000 BDL	
DDE	4.343				0.000 BDL	
Endosulfan I	4.416				0.000 BDL	
Dieldrin	4.697				0.000 BDL	
Endrin	5.004				0.000 BDL	
DDD	5.109				0.000 BDL	
Endosulfan II	5.335				0.000 BDL	
DDT	5.560				0.000 BDL	
Endrin aldehyde	6.076				0.000 BDL	
Methoxychlor	6.597				0.000 BDL	
Endosulfan Sulfate	7.045				0.000 BDL	
Endrin Ketone	7.773				0.000 BDL	
DCB	10.832	10.833	9416185	241147.5	39.047	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20006.dat
User: ESanto
Acquired: 05/20/16 16:36:58
Printed: 05/20/16 17:55:54

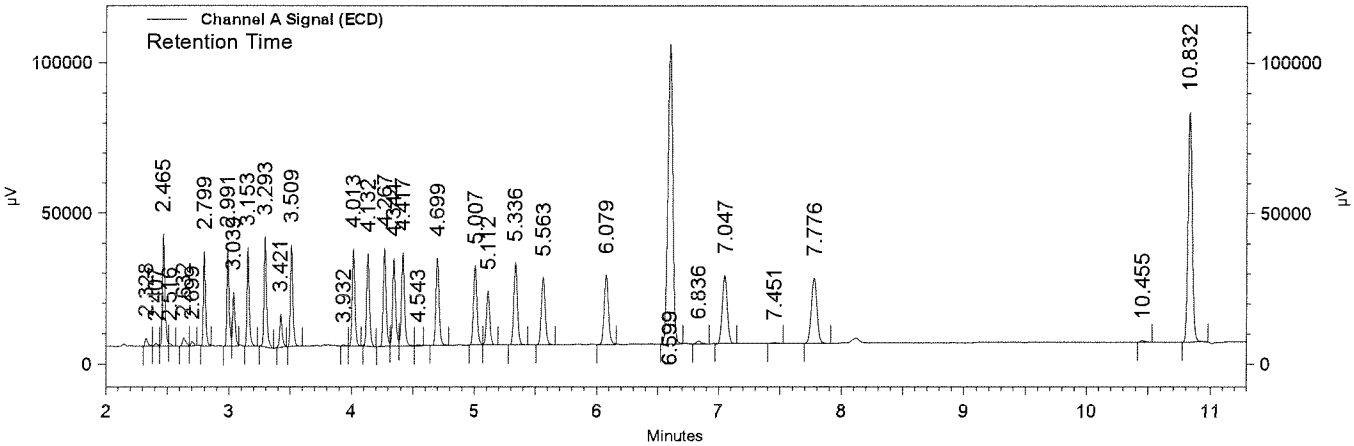


Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631	2.633	1297903	34035.2	38.134	BB
alpha-BHC	3.013				0.000 BDL	
gamma-BHC	3.252				0.000 BDL	
beta-BHC	3.299				0.000 BDL	
delta-BHC	3.528				0.000 BDL	
Heptachlor	3.596				0.000 BDL	
Aldrin	3.889				0.000 BDL	
Heptachlor Epoxide	4.504				0.000 BDL	
gamma-Chlordane	4.745				0.000 BDL	
alpha-Chlordane	4.953				0.000 BDL	
Endosulfan I	5.047				0.000 BDL	
DDE	5.200				0.000 BDL	
Dieldrin	5.493				0.000 BDL	
Endrin	6.077				0.000 BDL	
DDD	6.339				0.000 BDL	
Endosulfan II	6.549				0.000 BDL	
DDT	7.140				0.000 BDL	
Endrin Aldehyde	7.449				0.000 BDL	
Endosulfan Sulfate	8.339				0.000 BDL	
Methoxychlor	9.604				0.000 BDL	
Endrin Ketone	10.007				0.000 BDL	
DCB	12.224	12.225	4323253	105441.3	41.002	BB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WL
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20007.dat
User: ESanto
Acquired: 05/20/16 16:56:56
Printed: 05/20/16 17:56:36

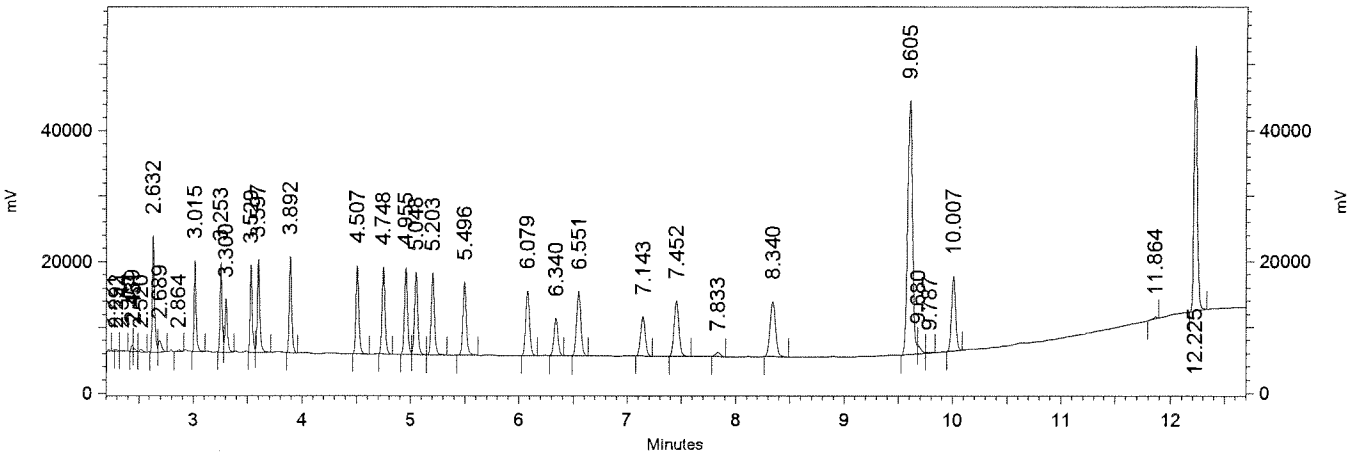


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465	2.465	2738408	62846.1	43.573	VS
alpha-BHC	2.797	2.799	2070855	93919.0	22.049	SS
gamma-BHC	2.989	2.991	2142775	97010.5	22.088	BV
beta-BHC	3.037	3.039	1287924	61093.2	21.081	VS
delta-BHC	3.152	3.153	2228604	103944.1	21.440	BB
Heptachlor	3.292	3.293	2800842	124693.7	22.462	BB
Aldrin	3.508	3.509	2570202	118874.0	21.621	BB
Heptachlor Epoxide	4.011	4.013	2751383	129093.5	21.313	VV
gamma-Chlordane	4.131	4.132	2662948	131674.2	20.224	SB
alpha-Chlordane	4.265	4.267	2918734	136473.7	21.387	BV
DDE	4.343	4.344	2669471	123859.0	21.552	VV
Endosulfan I	4.416	4.417	2962447	142551.8	20.782	VV
Dieldrin	4.697	4.699	2856230	132373.3	21.577	SB
Endrin	5.004	5.007	2800927	114242.0	24.517	BV
DDD	5.109	5.112	1837069	87496.1	20.996	VB
Endosulfan II	5.335	5.336	3088899	142283.1	21.710	SV
DDT	5.560	5.563	2683476	109067.2	24.604	SB
Endrin aldehyde	6.076	6.079	3099876	134129.0	23.111	SS
Methoxychlor	6.597	6.599	14992287	70878.7	211.520	SS
Endosulfan Sulfate	7.045	7.047	3522314	155144.6	22.703	SB
Endrin Ketone	7.773	7.776	3693171	164888.0	22.398	BB
DCB	10.832	10.832	9823229	241147.5	40.735	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WL
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20007.dat
User: ESanto
Acquired: 05/20/16 16:56:56
Printed: 05/20/16 17:56:36

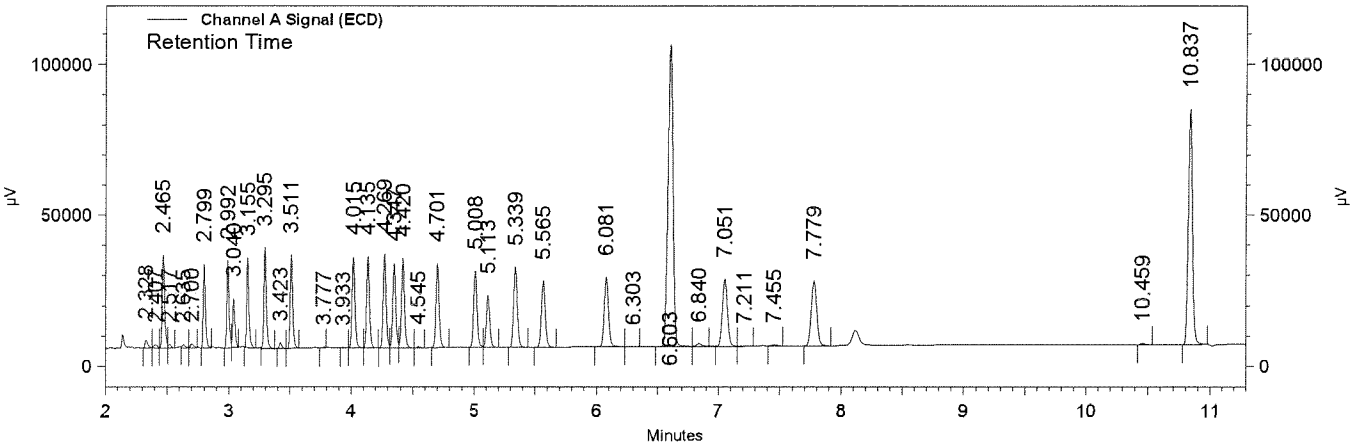


Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631	2.632	1331582	34035.2	39.124	BV
alpha-BHC	3.013	3.015	948824	42482.0	22.335	BB
gamma-BHC	3.252	3.253	949740	42631.3	22.278	SV
beta-BHC	3.299	3.300	643358	27567.7	23.337	VB
delta-BHC	3.528	3.529	991516	46499.3	21.323	BV
Heptachlor	3.596	3.597	1200883	56808.7	21.139	VB
Aldrin	3.889	3.892	1225014	55562.8	22.047	BB
Heptachlor Epoxide	4.504	4.507	1343058	63899.7	21.018	BB
gamma-Chlordane	4.745	4.748	1366314	64359.4	21.229	BB
alpha-Chlordane	4.953	4.955	1411789	69323.1	20.365	BV
Endosulfan I	5.047	5.048	1381207	64951.9	21.265	VB
DDE	5.200	5.203	1412002	67986.8	20.769	BB
Dieldrin	5.493	5.496	1348135	63767.8	21.141	BB
Endrin	6.077	6.079	1334663	57464.7	23.226	BB
DDD	6.339	6.340	779229	36806.4	21.171	BB
Endosulfan II	6.549	6.551	1440255	67691.5	21.277	BB
DDT	7.140	7.143	959330	45767.6	20.961	BB
Endrin Aldehyde	7.449	7.452	1444793	63225.1	22.852	BB
Endosulfan Sulfate	8.339	8.340	1612561	72181.4	22.340	BB
Methoxychlor	9.604	9.605	6495213	29841.8	217.655	BS
Endrin Ketone	10.007	10.007	1593261	72592.4	21.948	BB
DCB	12.224	12.225	4489392	105441.3	42.577	BB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WC
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20008.dat
User: ESanto
Acquired: 05/20/16 17:16:54
Printed: 05/20/16 17:59:33

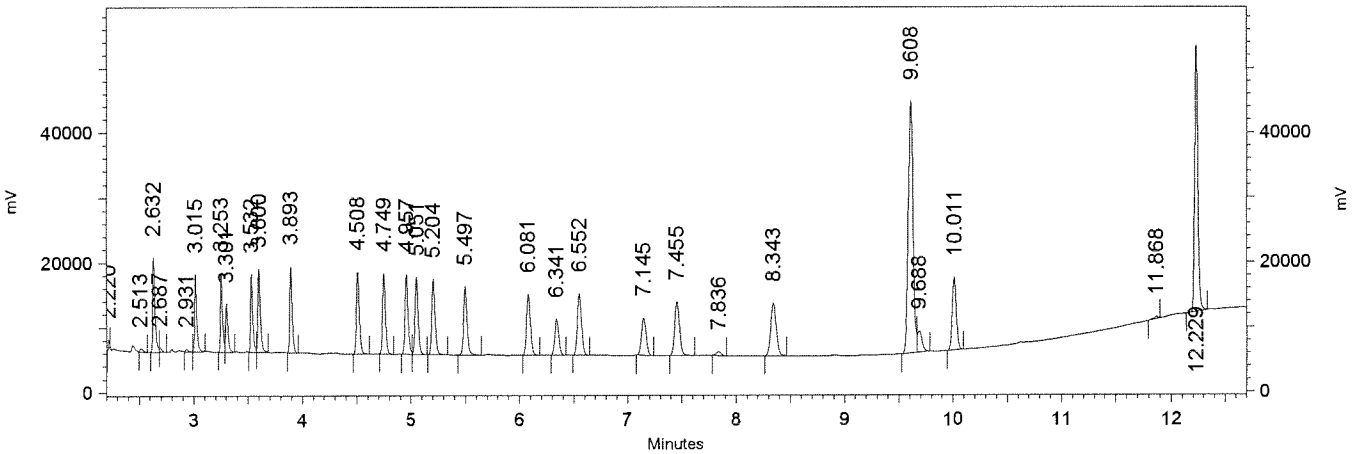


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465	2.465	2248133	62846.1	35.772	VV
alpha-BHC	2.797	2.799	1857752	93919.0	19.780	SB
gamma-BHC	2.989	2.992	1894847	97010.5	19.532	SV
beta-BHC	3.037	3.040	1137952	61093.2	18.626	VS
delta-BHC	3.152	3.155	2016378	103944.1	19.399	BV
Heptachlor	3.292	3.295	2523396	124693.7	20.237	SB
Aldrin	3.508	3.511	2341369	118874.0	19.696	VB
Heptachlor Epoxide	4.011	4.015	2629546	129093.5	20.369	VV
gamma-Chlordane	4.131	4.135	2655198	131674.2	20.165	VB
alpha-Chlordane	4.265	4.269	2791900	136473.7	20.457	BV
DDE	4.343	4.347	2545019	123859.0	20.548	VV
Endosulfan I	4.416	4.420	2785075	142551.8	19.537	VV
Dieldrin	4.697	4.701	2711713	132373.3	20.485	SB
Endrin	5.004	5.008	2681429	114242.0	23.471	BV
DDD	5.109	5.113	1795997	87496.1	20.527	VB
Endosulfan II	5.335	5.339	2990561	142283.1	21.018	SV
DDT	5.560	5.565	2632256	109067.2	24.134	SB
Endrin aldehyde	6.076	6.081	3095626	134129.0	23.079	SB
Methoxychlor	6.597	6.603	15129848	70878.7	213.461	BV
Endosulfan Sulfate	7.045	7.051	3495736	155144.6	22.532	SV
Endrin Ketone	7.773	7.779	3666743	164888.0	22.238	BB
DCB	10.832	10.837	10067114	241147.5	41.747	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE015WC
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20008.dat
User: ESanto
Acquired: 05/20/16 17:16:54
Printed: 05/20/16 17:59:33



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631	2.632	1112412	34035.2	32.684	SV
alpha-BHC	3.013	3.015	823788	42482.0	19.391	BB
gamma-BHC	3.252	3.253	847998	42631.3	19.891	BV
beta-BHC	3.299	3.301	592612	27567.7	21.497	VB
delta-BHC	3.528	3.532	896436	46499.3	19.278	BV
Heptachlor	3.596	3.600	1071748	56808.7	18.866	VI
Aldrin	3.889	3.893	1118093	55562.8	20.123	BB
Heptachlor Epoxide	4.504	4.508	1259971	63899.7	19.718	BB
gamma-Chlordane	4.745	4.749	1288744	64359.4	20.024	BB
alpha-Chlordane	4.953	4.957	1335997	69323.1	19.272	BV
Endosulfan I	5.047	5.051	1307278	64951.9	20.127	VB
DDE	5.200	5.204	1350144	67986.8	19.859	BB
Dieldrin	5.493	5.497	1289359	63767.8	20.220	BB
Endrin	6.077	6.081	1268174	57464.7	22.069	BB
DDD	6.339	6.341	756100	36806.4	20.543	BB
Endosulfan II	6.549	6.552	1389853	67691.5	20.532	BB
DDT	7.140	7.145	932399	45767.6	20.372	BB
Endrin Aldehyde	7.449	7.455	1437503	63225.1	22.736	BB
Endosulfan Sulfate	8.339	8.343	1572013	72181.4	21.779	BB
Methoxychlor	9.604	9.608	6476054	29841.8	217.013	BV
Endrin Ketone	10.007	10.011	1580630	72592.4	21.774	BB
DCB	12.224	12.229	4616639	105441.3	43.784	IB

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11010A 05/11/16 12:54 ME11018A 05/11/16 15:35
LFID & Datetime: ME11011A 05/11/16 13:14 ME11019A 05/11/16 15:55
LFID & Datetime: ME11012A 05/11/16 13:34 ME11020A 05/11/16 16:15
LFID & Datetime: ME11013A 05/11/16 13:54 ME11021A 05/11/16 16:35
LFID & Datetime: ME11014A 05/11/16 14:14 ME11022A 05/11/16 16:55
LFID & Datetime: ME11015A 05/11/16 14:34 ME11023A 05/11/16 17:16
LFID & Datetime: ME11016A 05/11/16 14:54 ME11024A 05/11/16 17:36
LFID & Datetime: ME11017A 05/11/16 15:14 ME11025A 05/11/16 17:56
Conc Unit : ppb
Method Name : CPE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
alpha-BHC	1.25	86547	81461	84016	89067	94283	102353	103143	110481	93919.0	11.1
gamma-BHC	1.25	93222	86988	88574	93478	98173	104091	104074	107485	97010.5	7.9
beta-BHC	1.25	66315	63347	60013	60899	61512	60464	57807	58390	61093.2	4.5
delta-BHC	1.25	96843	92400	92002	98497	104217	113174	115310	119109	103944.1	10.3
Heptachlor	1.25	136476	125044	122636	124180	123680	124329	120713	120492	124693.7	4.0
Aldrin	1.25	122923	113937	113611	117667	120134	122270	120162	120288	118874.0	3.0
Heptachlor Epoxide	1.25	145805	128633	132347	128879	129281	124060	123544	120199	129093.5	6.0
gamma-Chlordane	1.25	141719	130792	133882	131531	131408	128581	128552	126928	131674.2	3.5
alpha-Chlordane	1.25	143234	137285	135882	137821	136456	134982	133866	132264	136473.7	2.4
DDE	2.50	126281	121157	117958	123957	123272	126109	125664	126475	123859.0	2.4
Endosulfan I	1.25	152886	145089	141437	145182	142470	140277	138128	134947	142551.8	3.8
Dieldrin	2.50	136618	131248	127054	133749	132955	134794	131818	130751	132373.3	2.2
Endrin	2.50	118976	114218	110607	115996	113707	115133	112813	112486	114242.0	2.2
DDD	2.50	82514	82386	79413	85801	86228	92504	94075	97048	87496.1	7.2
Endosulfan II	2.50	153681	147777	141374	146526	140768	139479	135190	133471	142283.1	4.7
DDT	2.50	111044	107548	103132	109311	106614	110930	111066	112895	109067.2	2.9
Endrin Aldehyde	2.50	151654	146256	139172	140829	130876	125084	120482	118678	134129.0	9.1
Methoxychlor	12.50	80441	79973	74635	75728	70289	65119	61394	59450	70878.7	11.5
Endosulfan Sulfate	2.50	174711	166472	157939	161376	151758	146413	141343	141144	155144.6	7.8
Endrin Ketone	2.50	174953	172603	163221	170491	163155	160625	157360	156697	164888.0	4.2
Oxychlordane	1.25	136106	145638	140370	133761	133023	127637	118577	120203	131914.4	7.1
2,4'-DDE	1.25	94533	101062	97189	93516	95468	94634	88706	90364	94433.9	4.1
trans-Nonachlor	1.25	177730	186470	178714	171143	173922	170621	159442	161807	172481.3	5.2
2,4'-DDD	1.25	69830	77700	76278	73416	76095	77117	72871	74640	74743.5	3.5
2,4'-DDT	1.25	95967	104472	102255	98763	101887	102777	96528	98655	100162.9	3.1
cis-Nonachlor	1.25	188060	200705	192503	183357	187228	187911	175911	178900	186821.8	4.2
Mirex	1.25	194198	207468	201329	188092	184664	177012	159779	156948	183686.2	10.0
SURROGATE	X	1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
TCX	1.25	65732	61761	63397	64779	63826	62337	58467	62471	62846.1	3.5
DCB	1.25	274470	277834	259240	256046	237865	216961	206427	200337	241147.5	12.6

5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11010B 05/11/16 12:54 ME11018B 05/11/16 15:35
LFID & Datetime: ME11011B 05/11/16 13:14 ME11019B 05/11/16 15:55
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LFID & Datetime: ME11016B 05/11/16 14:54 ME11024B 05/11/16 17:36
LFID & Datetime: ME11017B 05/11/16 15:14 ME11025B 05/11/16 17:56
Conc Unit : ppb
Method Name : CPE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
alpha-BHC	1.25	36568	34402	40306	39413	42573	46970	47773	51851	42482.0	14.1
gamma-BHC	1.25	38843	35178	39293	40441	42840	46690	47650	50115	42631.3	12.0
beta-BHC	1.25	23338	22424	29181	28543	29636	29738	28534	29148	27567.7	10.6
delta-BHC	1.25	40918	38948	43060	44307	45889	50737	52526	55609	46499.3	12.7
Heptachlor	1.25	59938	54075	61833	57510	55530	55838	54674	55072	56808.7	4.9
Aldrin	1.25	53084	50328	53666	53878	55452	58667	59016	60411	55562.8	6.3
Heptachlor Epoxide	1.25	76710	67880	61776	62153	61834	60693	59987	60165	63899.7	9.0
gamma-Chlordane	1.25	68500	70790	64289	62239	61987	62482	61979	62609	64359.4	5.3
alpha-Chlordane	1.25	80782	78084	69840	66123	64167	65151	64867	65572	69323.1	9.4
DDE	2.50	79463	69478	64610	66116	64202	65849	66428	67749	67986.8	7.3
Endosulfan I	1.25	57771	65871	64716	66534	65359	66468	66166	66730	64951.9	4.6
Dieldrin	2.50	68486	59230	59187	61892	62453	65547	65984	67364	63767.8	5.6
Endrin	2.50	59649	56432	55027	57370	56503	58037	57790	58910	57464.7	2.6
DDD	2.50	35025	33811	33090	35703	35765	38379	39945	42733	36806.4	8.9
Endosulfan II	2.50	72394	68205	64879	67924	66157	67218	66818	67939	67691.5	3.2
DDT	2.50	44316	44338	42853	46093	45064	46623	47442	49413	45767.6	4.5
Endrin Aldehyde	2.50	63865	63949	64505	66520	62889	61889	60912	61273	63225.1	3.0
Methoxychlor	12.50	31456	31035	29590	30907	29870	29145	28464	28268	29841.8	4.0
Endosulfan Sulfate	2.50	75442	74754	71359	74613	71034	70538	69403	70308	72181.4	3.3
Endrin Ketone	2.50	76546	71359	70469	73781	71558	72211	71971	72844	72592.4	2.6
Oxychlordane	1.25	57918	63526	62453	60936	62432	61791	58770	60287	61014.1	3.2
2,4'-DDE	1.25	66110	55878	51515	48928	49094	48533	45791	47083	51616.6	12.8
trans-Nonachlor	1.25	74176	81224	79823	78639	81962	82746	78815	82218	79950.3	3.5
2,4'-DDD	1.25	27091	31184	32303	31987	33375	34502	32946	34342	32216.3	7.3
2,4'-DDT	1.25	36975	40935	41563	41055	42724	44053	41814	43321	41555.1	5.2
cis-Nonachlor	1.25	89139	93404	89279	86794	88198	90023	85687	88928	88931.5	2.6
Mirex	1.25	78941	91302	93832	84273	84781	83717	76151	75208	83525.6	8.0

SURROGATE	X	1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
TCX	1.25	36773	40021	36264	34527	32512	31855	29729	30602	34035.2	10.3
DCB	1.25	111240	115161	109716	111723	105633	99822	96312	93922	105441.3	7.5

5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11010A 05/11/16 12:54 ME11018A 05/11/16 15:35
LFID & Datetime: ME11011A 05/11/16 13:14 ME11019A 05/11/16 15:55
LFID & Datetime: ME11012A 05/11/16 13:34 ME11020A 05/11/16 16:15
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LFID & Datetime: ME11015A 05/11/16 14:34 ME11023A 05/11/16 17:16
LFID & Datetime: ME11016A 05/11/16 14:54 ME11024A 05/11/16 17:36
LFID & Datetime: ME11017A 05/11/16 15:14 ME11025A 05/11/16 17:56

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
alpha-BHC	2.809	2.807	2.805	2.805	2.801	2.811	2.808	2.803	2.806	2.786	2.826	0.020
gamma-BHC	3.001	2.999	2.999	2.999	2.993	3.003	3.000	2.996	2.999	2.977	3.021	0.022
beta-BHC	3.051	3.048	3.047	3.047	3.043	3.052	3.048	3.044	3.048	3.026	3.070	0.022
delta-BHC	3.164	3.161	3.161	3.161	3.156	3.167	3.163	3.159	3.162	3.141	3.183	0.021
Heptachlor	3.305	3.303	3.301	3.301	3.296	3.307	3.303	3.299	3.302	3.278	3.326	0.024
Aldrin	3.521	3.519	3.517	3.517	3.512	3.523	3.519	3.515	3.518	3.492	3.544	0.026
Heptachlor Epoxide	4.027	4.023	4.021	4.023	4.016	4.027	4.023	4.019	4.022	3.992	4.052	0.030
gamma-Chlordane	4.145	4.143	4.141	4.141	4.135	4.147	4.143	4.139	4.142	4.110	4.174	0.032
alpha-Chlordane	4.281	4.277	4.276	4.277	4.271	4.281	4.279	4.273	4.277	4.245	4.309	0.032
DDE	4.359	4.355	4.353	4.355	4.348	4.360	4.356	4.351	4.355	4.323	4.387	0.032
Endosulfan I	4.433	4.428	4.428	4.428	4.421	4.433	4.429	4.424	4.428	4.393	4.463	0.035
Dieldrin	4.715	4.711	4.709	4.711	4.704	4.715	4.711	4.707	4.710	4.678	4.742	0.032
Endrin	5.023	5.020	5.017	5.019	5.012	5.023	5.020	5.015	5.019	4.989	5.049	0.030
DDD	5.129	5.124	5.123	5.124	5.117	5.129	5.125	5.120	5.124	5.094	5.154	0.030
Endosulfan II	5.356	5.351	5.349	5.351	5.344	5.355	5.351	5.345	5.350	5.321	5.379	0.029
DDT	5.581	5.577	5.575	5.576	5.569	5.581	5.576	5.572	5.576	5.546	5.606	0.030
Endrin Aldehyde	6.101	6.097	6.093	6.096	6.088	6.100	6.095	6.089	6.095	6.063	6.127	0.032
Methoxychlor	6.623	6.617	6.616	6.619	6.609	6.621	6.615	6.612	6.616	6.578	6.655	0.038
Endosulfan Sulfate	7.072	7.068	7.065	7.068	7.060	7.071	7.064	7.061	7.066	7.030	7.102	0.036
Endrin Ketone	7.807	7.801	7.797	7.801	7.792	7.804	7.799	7.793	7.799	7.763	7.835	0.036
Oxychlordane	3.923	3.924	3.931	3.931	3.921	3.925	3.927	3.925	3.926	3.907	3.945	0.019
2,4'-DDE	3.999	4.000	4.007	4.007	3.997	4.001	4.004	4.001	4.002	3.980	4.024	0.022
trans-Nonachlor	4.253	4.253	4.260	4.260	4.251	4.255	4.256	4.255	4.255	4.232	4.278	0.023
2,4'-DDD	4.548	4.549	4.556	4.557	4.547	4.551	4.553	4.551	4.551	4.526	4.576	0.025
2,4'-DDT	4.873	4.875	4.880	4.881	4.872	4.876	4.877	4.875	4.876	4.853	4.899	0.023
cis-Nonachlor	5.061	5.063	5.068	5.069	5.060	5.064	5.067	5.063	5.064	5.042	5.086	0.022
Mirex	6.759	6.759	6.765	6.767	6.757	6.763	6.763	6.760	6.762	6.734	6.790	0.028
SURROGATE	1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	RT	FROM	TO	WIDTH
TCX	2.476	2.473	2.473	2.472	2.469	2.477	2.475	2.469	2.473	2.453	2.493	0.020
DCB	10.856	10.851	10.848	10.849	10.843	10.856	10.849	10.845	10.850	10.800	10.900	0.050

JC 5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11010B 05/11/16 12:54 ME11018B 05/11/16 15:35
LFID & Datetime: ME11011B 05/11/16 13:14 ME11019B 05/11/16 15:55
LFID & Datetime: ME11012B 05/11/16 13:34 ME11020B 05/11/16 16:15
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LFID & Datetime: ME11017B 05/11/16 15:14 ME11025B 05/11/16 17:56

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
alpha-BHC	3.031	3.028	3.028	3.027	3.021	3.032	3.029	3.024	3.027	3.010	3.045	0.018
gamma-BHC	3.269	3.267	3.267	3.265	3.261	3.271	3.268	3.264	3.266	3.250	3.283	0.017
beta-BHC	3.317	3.315	3.315	3.313	3.308	3.317	3.316	3.311	3.314	3.297	3.331	0.017
delta-BHC	3.548	3.545	3.544	3.544	3.539	3.548	3.547	3.543	3.545	3.528	3.562	0.017
Heptachlor	3.617	3.613	3.613	3.613	3.607	3.616	3.615	3.611	3.613	3.595	3.631	0.018
Aldrin	3.913	3.911	3.909	3.909	3.903	3.912	3.911	3.907	3.909	3.890	3.928	0.019
Heptachlor Epoxide	4.532	4.528	4.527	4.528	4.520	4.531	4.528	4.524	4.527	4.504	4.550	0.023
gamma-Chlordane	4.775	4.772	4.769	4.771	4.763	4.773	4.771	4.767	4.770	4.749	4.791	0.021
alpha-Chlordane	4.984	4.980	4.979	4.980	4.972	4.983	4.979	4.975	4.979	4.961	4.997	0.018
DDE	5.235	5.231	5.229	5.228	5.221	5.232	5.229	5.224	5.229	5.213	5.245	0.016
Endosulfan I	5.079	5.075	5.075	5.073	5.067	5.077	5.075	5.069	5.074	5.055	5.093	0.019
Dieldrin	5.529	5.525	5.524	5.524	5.516	5.527	5.524	5.519	5.523	5.506	5.541	0.017
Endrin	6.119	6.113	6.111	6.112	6.104	6.115	6.112	6.108	6.112	6.092	6.132	0.020
DDD	6.381	6.377	6.375	6.375	6.367	6.377	6.375	6.371	6.375	6.356	6.394	0.019
Endosulfan II	6.592	6.589	6.587	6.587	6.579	6.589	6.587	6.581	6.586	6.564	6.608	0.022
DDT	7.189	7.185	7.183	7.184	7.175	7.185	7.181	7.179	7.183	7.159	7.207	0.024
Endrin Aldehyde	7.503	7.497	7.495	7.497	7.488	7.497	7.493	7.489	7.495	7.473	7.517	0.022
Methoxychlor	9.656	9.649	9.647	9.648	9.639	9.651	9.645	9.641	9.647	9.619	9.675	0.028
Endosulfan Sulfate	8.399	8.393	8.391	8.392	8.384	8.392	8.389	8.385	8.391	8.367	8.415	0.024
Endrin Ketone	10.052	10.047	10.044	10.045	10.036	10.048	10.043	10.039	10.044	10.014	10.074	0.030
Oxychlordane	4.409	4.411	4.416	4.417	4.405	4.412	4.412	4.411	4.412	4.392	4.432	0.020
2,4'-DDE	4.752	4.753	4.759	4.760	4.749	4.755	4.755	4.753	4.754	4.734	4.775	0.021
trans-Nonachlor	4.892	4.893	4.899	4.900	4.888	4.895	4.896	4.893	4.895	4.877	4.913	0.018
2,4'-DDD	5.577	5.580	5.584	5.585	5.575	5.581	5.580	5.579	5.580	5.562	5.598	0.018
2,4'-DDT	6.200	6.200	6.204	6.205	6.195	6.201	6.201	6.199	6.201	6.182	6.220	0.019
cis-Nonachlor	6.285	6.287	6.291	6.292	6.280	6.288	6.288	6.285	6.287	6.269	6.305	0.018
Mirex	9.860	9.861	9.864	9.865	9.856	9.860	9.859	9.856	9.860	9.836	9.884	0.024
SURROGATE	**1.0X**	**2.0X**	**4.0X**	**8.0X**	**16.0X**	**32.0X**	**48.0X**	**64.0X**	**RT**	**FROM**	**TO**	**WIDTH**
TCX	2.645	2.644	2.643	2.641	2.639	2.647	2.644	2.640	2.643	2.620	2.666	0.023
DCB	12.257	12.251	12.251	12.251	12.243	12.255	12.249	12.245	12.250	12.215	12.285	0.035

Thu 5-20-16

PEM PEST BREAKDOWN CALCULATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.32UM 30MX0.32MMIDX0.25UM
PEM LFID & Datetime : ME11009A ME11009B 05/11/16 12:34

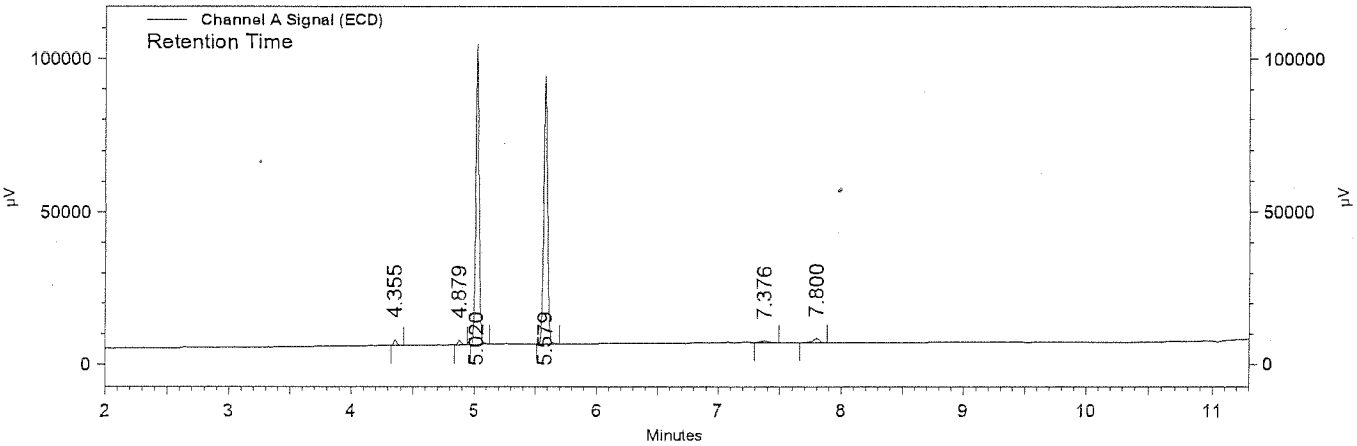
Based on AREA

	AREA				% Breakdown				
LFID	DDD	DDE	DDT	TOTAL	DDD	DDE	TOTAL	QL	QCLIMIT
ME11009A	0.0	168042.0	10295651.0	10463693.0	0.00	1.61	1.61		15
ME11009B	0.0	123215.0	4488239.0	4611454.0	0.00	2.67	2.67		15
LFID	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	QL	QCLIMIT
ME11009A	10400448.0	0.0	299320.0	10699768.0	0.00	2.80	2.80		15
ME11009B	5407815.0	0.0	82555.0	5490370.0	0.00	1.50	1.50		15

ML 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1101
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11009.dat
User: ESanto
Acquired: 05/11/16 12:34:34
Printed: 05/12/16 14:30:52



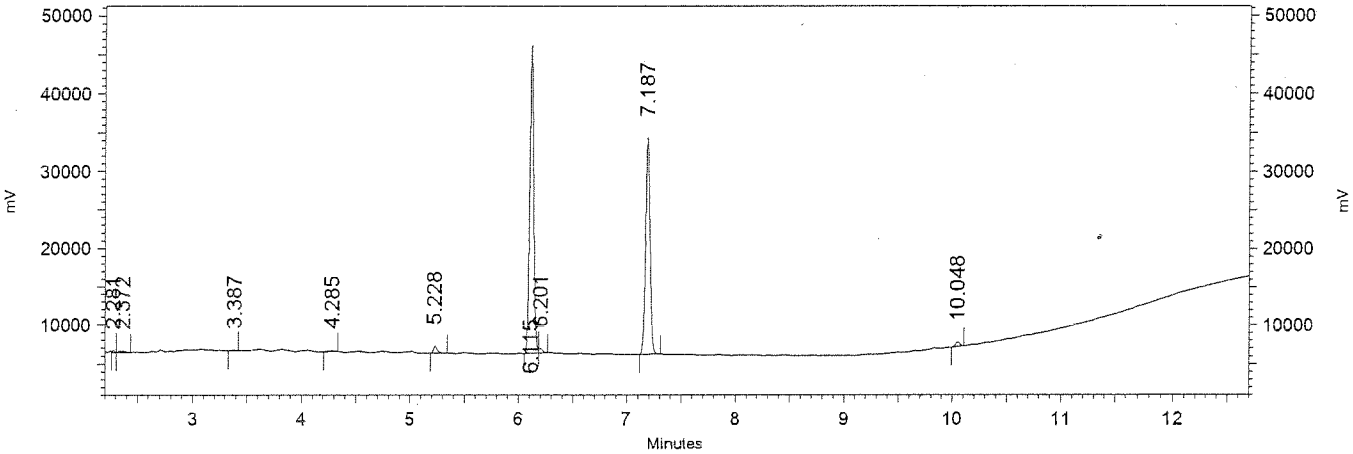
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.471				0.000 BDL	
alpha-BHC	2.804				0.000 BDL	
gamma-BHC	2.996				0.000 BDL	
beta-BHC	3.044				0.000 BDL	
delta-BHC	3.159				0.000 BDL	
Heptachlor	3.300				0.000 BDL	
Aldrin	3.516				0.000 BDL	
Heptachlor Epoxide	4.020				0.000 BDL	
gamma-Chlordane	4.140				0.000 BDL	
alpha-Chlordane	4.275				0.000 BDL	
DDE	4.352	4.355	168042	123859.0	1.357	BB
Endosulfan I	4.425				0.000 BDL	
Dieldrin	4.708				0.000 BDL	
Endrin	5.016	5.020	10400448	114242.0	91.039	BB
DDD	5.121				0.000 BDL	
Endosulfan II	5.348				0.000 BDL	
DDT	5.575	5.579	10295651	109067.2	94.397	SS
Endrin aldehyde	6.092				0.000 BDL	
Methoxychlor	6.615				0.000 BDL	
Endosulfan Sulfate	7.063				0.000 BDL	
Endrin Ketone	7.796	7.800	299320	164888.0	1.815	SB
DCB	10.845				0.000 BDL	

RM 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1101
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11009.dat
User: ESanto
Acquired: 05/11/16 12:34:34
Printed: 05/12/16 14:30:52



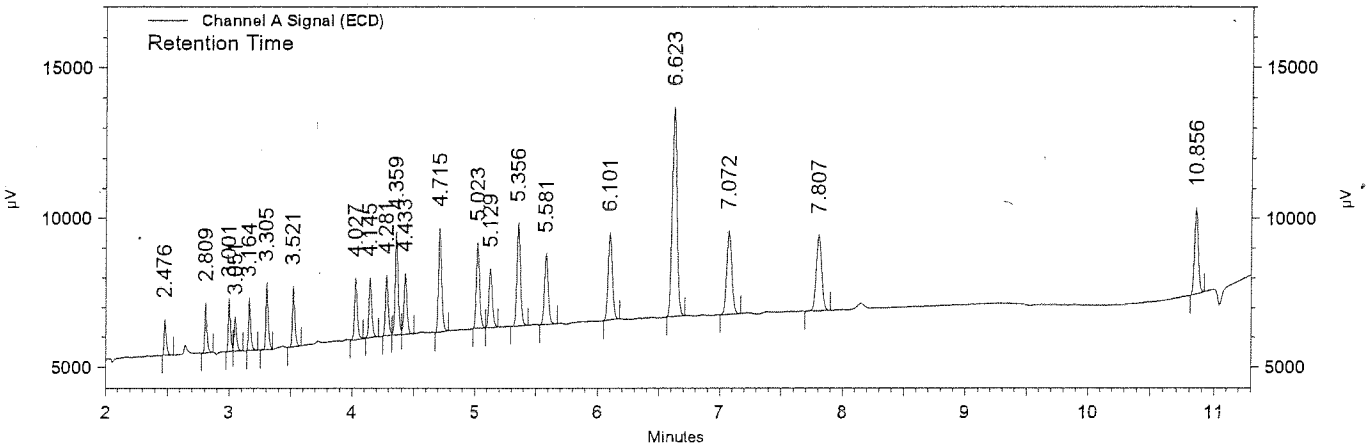
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.640				0.000 BDL	
alpha-BHC	3.024				0.000 BDL	
gamma-BHC	3.263				0.000 BDL	
beta-BHC	3.311				0.000 BDL	
delta-BHC	3.541				0.000 BDL	
Heptachlor	3.611				0.000 BDL	
Aldrin	3.905				0.000 BDL	
Heptachlor Epoxide	4.524				0.000 BDL	
gamma-Chlordane	4.767				0.000 BDL	
alpha-Chlordane	4.976				0.000 BDL	
Endosulfan I	5.069				0.000 BDL	
DDE	5.224	5.228	123215	67986.8	1.812	BB
Dieldrin	5.519				0.000 BDL	
Endrin	6.107	6.115	5407815	57464.7	94.107	BV
DDD	6.369				0.000 BDL	
Endosulfan II	6.581				0.000 BDL	
DDT	7.177	7.187	4488239	45767.6	98.066	BB
Endrin Aldehyde	7.489				0.000 BDL	
Endosulfan Sulfate	8.383				0.000 BDL	
Methoxychlor	9.641				0.000 BDL	
Endrin Ketone	10.039	10.048	82555	72592.4	1.137	BB
DCB	12.245				0.000 BDL	

mc 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11010.dat
User: ESanto
Acquired: 05/11/16 12:54:35
Printed: 05/11/16 16:26:55



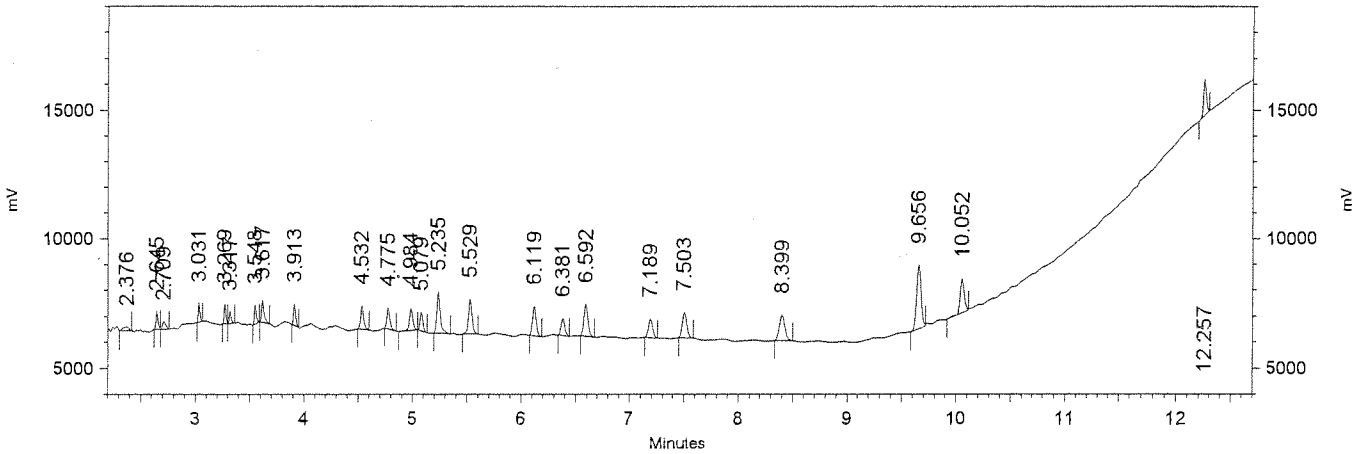
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.476	82165	62846.1	1.250 CAL	BB
alpha-BHC	2.805	2.809	108184	93919.0	1.250 CAL	SB
gamma-BHC	2.999	3.001	116528	97010.5	1.250 CAL	BV
beta-BHC	3.047	3.051	82894	61093.2	1.250 CAL	VB
delta-BHC	3.161	3.164	121054	103944.1	1.250 CAL	BB
Heptachlor	3.301	3.305	170595	124693.7	1.250 CAL	SB
Aldrin	3.517	3.521	153654	118874.0	1.250 CAL	SB
Heptachlor Epoxide	4.023	4.027	182256	129093.5	1.250 CAL	SV
gamma-Chlordane	4.141	4.145	177149	131674.2	1.250 CAL	SB
alpha-Chlordane	4.277	4.281	179042	136473.7	1.250 CAL	BV
DDE	4.355	4.359	315702	123859.0	2.500 CAL	VV
Endosulfan I	4.428	4.433	191107	142551.8	1.250 CAL	VB
Dieldrin	4.711	4.715	341544	132373.3	2.500 CAL	SB
Endrin	5.019	5.023	297439	114242.0	2.500 CAL	BV
DDD	5.124	5.129	206286	87496.1	2.500 CAL	VV
Endosulfan II	5.351	5.356	384202	142283.1	2.500 CAL	SB
DDT	5.576	5.581	277609	109067.2	2.500 CAL	SB
Endrin aldehyde	6.096	6.101	379136	134129.0	2.500 CAL	BB
Methoxychlor	6.619	6.623	1005515	70878.7	12.500 CAL	BB
Endosulfan Sulfate	7.068	7.072	436778	155144.6	2.500 CAL	SB
Endrin Ketone	7.801	7.807	437382	164888.0	2.500 CAL	SB
DCB	10.849	10.856	343088	241147.5	1.250 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11010.dat
User: ESanto
Acquired: 05/11/16 12:54:35
Printed: 05/11/16 16:26:55



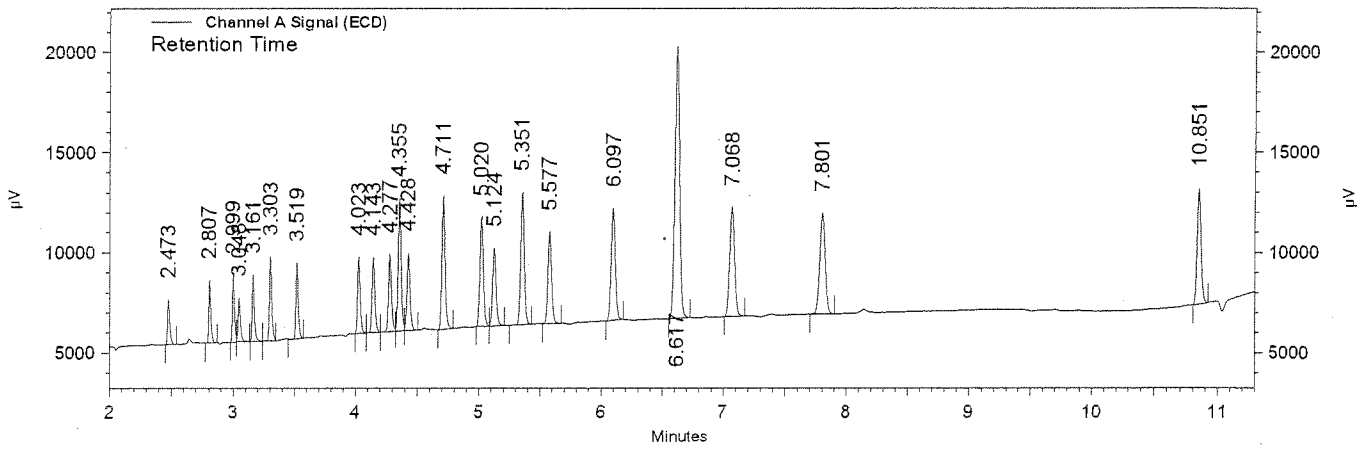
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.645	45966	34035.2	1.250 CAL	BV
alpha-BHC	3.027	3.031	45710	42482.0	1.250 CAL	BB
gamma-BHC	3.265	3.269	48554	42631.3	1.250 CAL	BV
beta-BHC	3.313	3.317	29172	27567.7	1.250 CAL	VI
delta-BHC	3.544	3.548	51148	46499.3	1.250 CAL	vv
Heptachlor	3.613	3.617	74923	56808.7	1.250 CAL	vv
Aldrin	3.909	3.913	66355	55562.8	1.250 CAL	vv
Heptachlor Epoxide	4.528	4.532	95887	63899.7	1.250 CAL	vv
gamma-Chlordane	4.771	4.775	85625	64359.4	1.250 CAL	vv
alpha-Chlordane	4.980	4.984	100977	69323.1	1.250 CAL	vv
Endosulfan I	5.073	5.079	72214	64951.9	1.250 CAL	vv
DDE	5.228	5.235	198658	67986.8	2.500 CAL	vv
Dieldrin	5.524	5.529	171215	63767.8	2.500 CAL	BB
Endrin	6.112	6.119	149122	57464.7	2.500 CAL	BB
DDD	6.375	6.381	87563	36806.4	2.500 CAL	BB
Endosulfan II	6.587	6.592	180984	67691.5	2.500 CAL	BB
DDT	7.184	7.189	110790	45767.6	2.500 CAL	BB
Endrin Aldehyde	7.497	7.503	159663	63225.1	2.500 CAL	BB
Endosulfan Sulfate	8.392	8.399	188605	72181.4	2.500 CAL	BB
Methoxychlor	9.648	9.656	393201	29841.8	12.500 CAL	BB
Endrin Ketone	10.045	10.052	191366	72592.4	2.500 CAL	BB
DCB	12.251	12.257	139050	105441.3	1.250 CAL	BB

RW 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1102 (2.5/5/25ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11011.dat
User: ESanto
Acquired: 05/11/16 13:14:38
Printed: 05/11/16 16:28:26



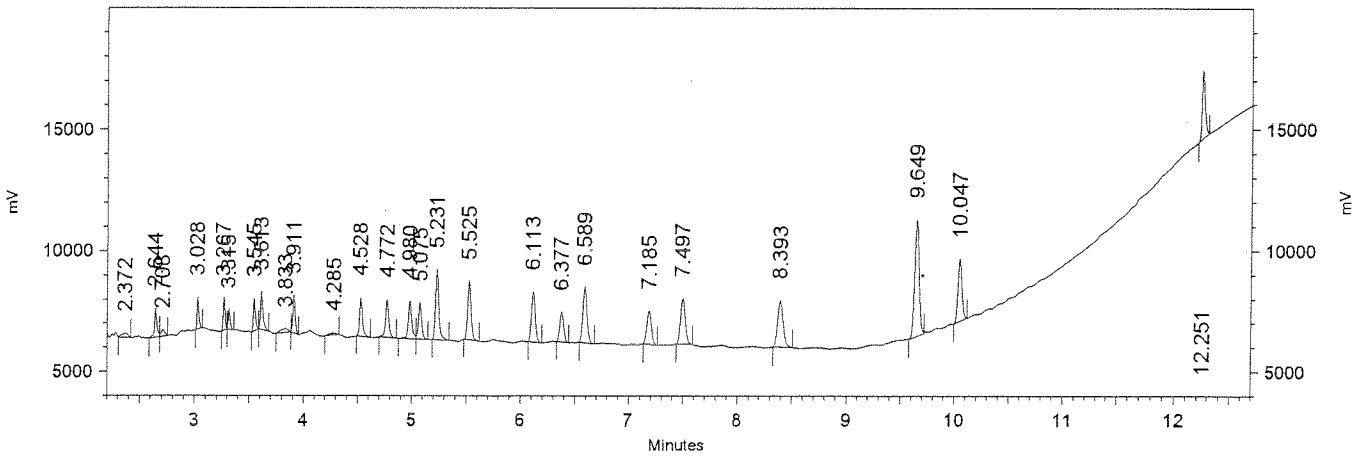
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.473	154402	62846.1	2.500 CAL	BB
alpha-BHC	2.805	2.807	203653	93919.0	2.500 CAL	SB
gamma-BHC	2.999	2.999	217469	97010.5	2.500 CAL	BV
beta-BHC	3.047	3.048	158368	61093.2	2.500 CAL	VB
delta-BHC	3.161	3.161	230999	103944.1	2.500 CAL	BV
Heptachlor	3.301	3.303	312610	124693.7	2.500 CAL	VB
Aldrin	3.517	3.519	284842	118874.0	2.500 CAL	SB
Heptachlor Epoxide	4.023	4.023	321582	129093.5	2.500 CAL	BV
gamma-Chlordane	4.141	4.143	326980	131674.2	2.500 CAL	VV
alpha-Chlordane	4.277	4.277	343213	136473.7	2.500 CAL	VV
DDE	4.355	4.355	605783	123859.0	5.000 CAL	VV
Endosulfan I	4.428	4.428	362722	142551.8	2.500 CAL	VB
Dieldrin	4.711	4.711	656239	132373.3	5.000 CAL	SB
Endrin	5.019	5.020	571092	114242.0	5.000 CAL	BV
DDD	5.124	5.124	411930	87496.1	5.000 CAL	VB
Endosulfan II	5.351	5.351	738883	142283.1	5.000 CAL	SB
DDT	5.576	5.577	537740	109067.2	5.000 CAL	SB
Endrin aldehyde	6.096	6.097	731281	134129.0	5.000 CAL	SB
Methoxychlor	6.619	6.617	1999327	70878.7	25.000 CAL	BB
Endosulfan Sulfate	7.068	7.068	832362	155144.6	5.000 CAL	BB
Endrin Ketone	7.801	7.801	863013	164888.0	5.000 CAL	SB
DCB	10.849	10.851	694584	241147.5	2.500 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1102 (2.5/5/25ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11011.dat
User: ESanto
Acquired: 05/11/16 13:14:38
Printed: 05/11/16 16:28:26



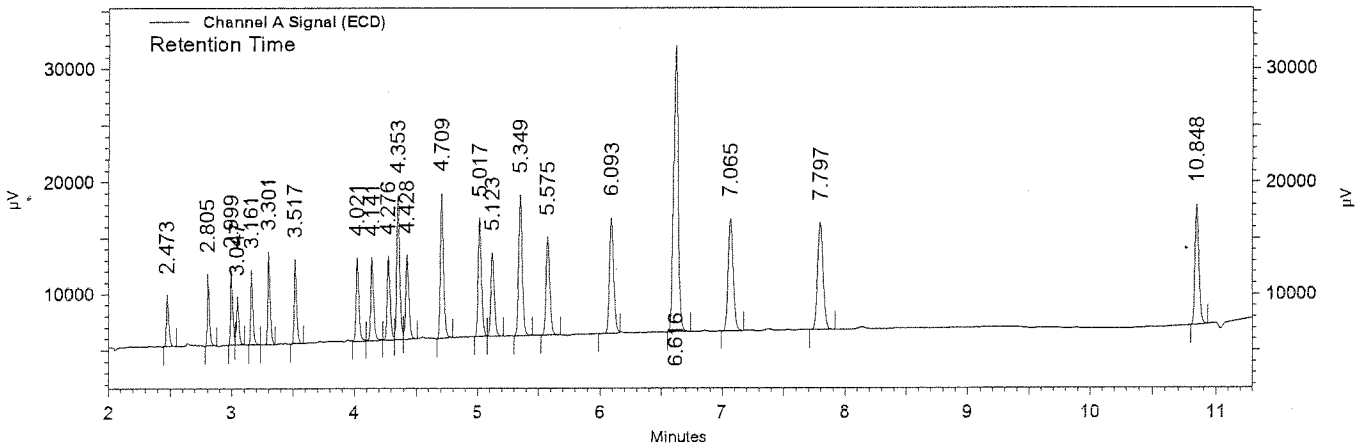
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.644	100052	34035.2	2.500 CAL	BV
alpha-BHC	3.027	3.028	86006	42482.0	2.500 CAL	BB
gamma-BHC	3.265	3.267	87945	42631.3	2.500 CAL	vv
beta-BHC	3.313	3.315	56061	27567.7	2.500 CAL	vv
delta-BHC	3.544	3.545	97369	46499.3	2.500 CAL	vv
Heptachlor	3.613	3.613	135187	56808.7	2.500 CAL	vv
Aldrin	3.909	3.911	125821	55562.8	2.500 CAL	vv
Heptachlor Epoxide	4.528	4.528	169701	63899.7	2.500 CAL	BB
gamma-Chlordane	4.771	4.772	176976	64359.4	2.500 CAL	BB
alpha-Chlordane	4.980	4.980	195211	69323.1	2.500 CAL	BV
Endosulfan I	5.073	5.075	164678	64951.9	2.500 CAL	VB
DDE	5.228	5.231	347392	67986.8	5.000 CAL	BB
Dieldrin	5.524	5.525	296151	63767.8	5.000 CAL	BB
Endrin	6.112	6.113	282158	57464.7	5.000 CAL	BB
DDD	6.375	6.377	169053	36806.4	5.000 CAL	BB
Endosulfan II	6.587	6.589	341025	67691.5	5.000 CAL	BB
DDT	7.184	7.185	221690	45767.6	5.000 CAL	BB
Endrin Aldehyde	7.497	7.497	319743	63225.1	5.000 CAL	BB
Endosulfan Sulfate	8.392	8.393	373772	72181.4	5.000 CAL	BB
Methoxychlor	9.648	9.649	775864	29841.8	25.000 CAL	BB
Endrin Ketone	10.045	10.047	356794	72592.4	5.000 CAL	BB
DCB	12.251	12.251	287903	105441.3	2.500 CAL	BB

RL 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1103 (5/10/50ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11012.dat
User: ESanto
Acquired: 05/11/16 13:34:40
Printed: 05/11/16 16:29:03



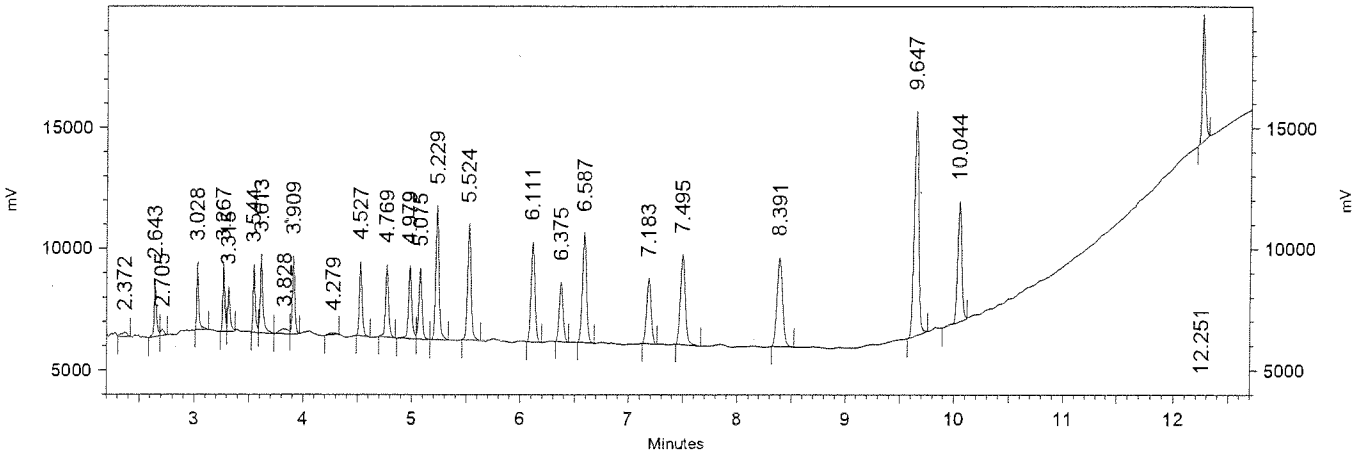
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.473	316985	62846.1	5.000 CAL	BB
alpha-BHC	2.805	2.805	420080	93919.0	5.000 CAL	SB
gamma-BHC	2.999	2.999	442868	97010.5	5.000 CAL	BV
beta-BHC	3.047	3.047	300063	61093.2	5.000 CAL	VB
delta-BHC	3.161	3.161	460009	103944.1	5.000 CAL	BV
Heptachlor	3.301	3.301	613181	124693.7	5.000 CAL	VB
Aldrin	3.517	3.517	568053	118874.0	5.000 CAL	SB
Heptachlor Epoxide	4.023	4.021	661736	129093.5	5.000 CAL	SV
gamma-Chlordane	4.141	4.141	669409	131674.2	5.000 CAL	VV
alpha-Chlordane	4.277	4.276	679411	136473.7	5.000 CAL	VV
DDE	4.355	4.353	1179581	123859.0	10.000 CAL	VV
Endosulfan I	4.428	4.428	707186	142551.8	5.000 CAL	VB
Dieldrin	4.711	4.709	1270543	132373.3	10.000 CAL	SB
Endrin	5.019	5.017	1106073	114242.0	10.000 CAL	BV
DDD	5.124	5.123	794126	87496.1	10.000 CAL	VB
Endosulfan II	5.351	5.349	1413737	142283.1	10.000 CAL	SV
DDT	5.576	5.575	1031315	109067.2	10.000 CAL	SB
Endrin aldehyde	6.096	6.093	1391721	134129.0	10.000 CAL	SS
Methoxychlor	6.619	6.616	3731769	70878.7	50.000 CAL	BB
Endosulfan Sulfate	7.068	7.065	1579387	155144.6	10.000 CAL	SB
Endrin Ketone	7.801	7.797	1632207	164888.0	10.000 CAL	SB
DCB	10.849	10.848	1296198	241147.5	5.000 CAL	BB

mc 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1103 (5/10/50ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11012.dat
User: ESanto
Acquired: 05/11/16 13:34:40
Printed: 05/11/16 16:29:03



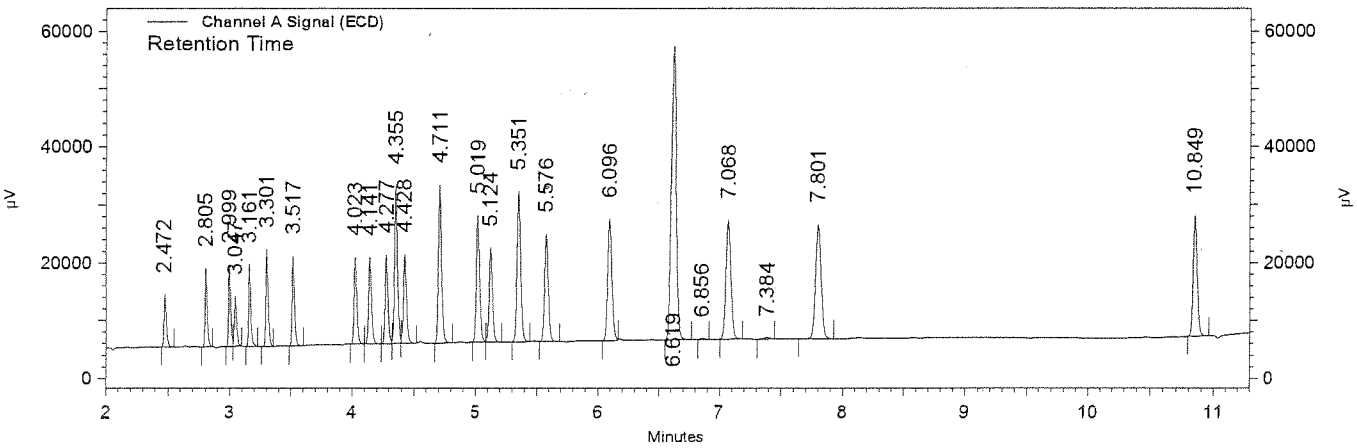
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.643	181319	34035.2	5.000 CAL	BV
alpha-BHC	3.027	3.028	201529	42482.0	5.000 CAL	BB
gamma-BHC	3.265	3.267	196467	42631.3	5.000 CAL	BV
beta-BHC	3.313	3.315	145904	27567.7	5.000 CAL	VB
delta-BHC	3.544	3.544	215302	46499.3	5.000 CAL	BV
Heptachlor	3.613	3.613	309164	56808.7	5.000 CAL	VB
Aldrin	3.909	3.909	268332	55562.8	5.000 CAL	VB
Heptachlor Epoxide	4.528	4.527	308881	63899.7	5.000 CAL	BB
gamma-Chlordane	4.771	4.769	321443	64359.4	5.000 CAL	BB
alpha-Chlordane	4.980	4.979	349201	69323.1	5.000 CAL	BV
Endosulfan I	5.073	5.075	323580	64951.9	5.000 CAL	VB
DDE	5.228	5.229	646096	67986.8	10.000 CAL	BB
Dieldrin	5.524	5.524	591866	63767.8	10.000 CAL	BB
Endrin	6.112	6.111	550268	57464.7	10.000 CAL	BB
DDD	6.375	6.375	330900	36806.4	10.000 CAL	BB
Endosulfan II	6.587	6.587	648785	67691.5	10.000 CAL	BB
DDT	7.184	7.183	428526	45767.6	10.000 CAL	BB
Endrin Aldehyde	7.497	7.495	645045	63225.1	10.000 CAL	BB
Endosulfan Sulfate	8.392	8.391	713587	72181.4	10.000 CAL	BB
Methoxychlor	9.648	9.647	1479496	29841.8	50.000 CAL	BB
Endrin Ketone	10.045	10.044	704686	72592.4	10.000 CAL	BB
DCB	12.251	12.251	548579	105441.3	5.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1104 (10/20/100ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11013.dat
User: ESanto
Acquired: 05/11/16 13:54:46
Printed: 05/11/16 16:29:27



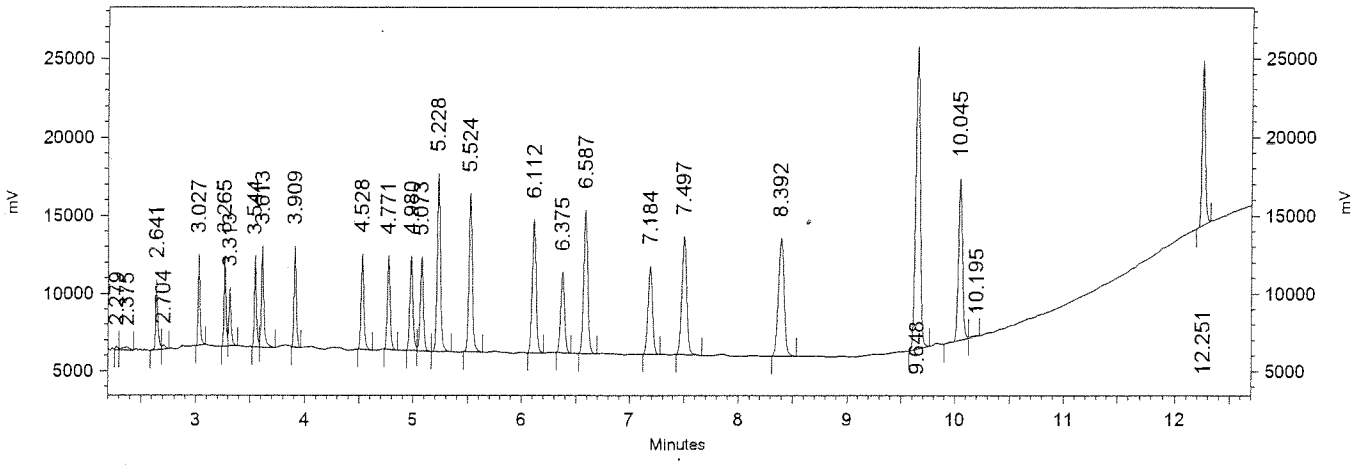
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.472	647788	62846.1	10.000 CAL	BB
alpha-BHC	2.805	2.805	890669	93919.0	10.000 CAL	SI
gamma-BHC	2.999	2.999	934779	97010.5	10.000 CAL	BV
beta-BHC	3.047	3.047	608988	61093.2	10.000 CAL	VS
delta-BHC	3.161	3.161	984973	103944.1	10.000 CAL	BB
Heptachlor	3.301	3.301	1241797	124693.7	10.000 CAL	SB
Aldrin	3.517	3.517	1176668	118874.0	10.000 CAL	SB
Heptachlor Epoxide	4.023	4.023	1288792	129093.5	10.000 CAL	SV
gamma-Chlordane	4.141	4.141	1315312	131674.2	10.000 CAL	VB
alpha-Chlordane	4.277	4.277	1378209	136473.7	10.000 CAL	BV
DDE	4.355	4.355	2479136	123859.0	20.000 CAL	VV
Endosulfan I	4.428	4.428	1451815	142551.8	10.000 CAL	VB
Dieldrin	4.711	4.711	2674989	132373.3	20.000 CAL	SB
Endrin	5.019	5.019	2319924	114242.0	20.000 CAL	BV
DDD	5.124	5.124	1716021	87496.1	20.000 CAL	VB
Endosulfan II	5.351	5.351	2930527	142283.1	20.000 CAL	SV
DDT	5.576	5.576	2186211	109067.2	20.000 CAL	VB
Endrin aldehyde	6.096	6.096	2816575	134129.0	20.000 CAL	BS
Methoxychlor	6.619	6.619	7572751	70878.7	100.000 CAL	BB
Endosulfan Sulfate	7.068	7.068	3227527	155144.6	20.000 CAL	BB
Endrin Ketone	7.801	7.801	3409816	164888.0	20.000 CAL	SB
DCB	10.849	10.849	2560458	241147.5	10.000 CAL	BB

pu 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1104 (10/20/100ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11013.dat
User: ESanto
Acquired: 05/11/16 13:54:46
Printed: 05/11/16 16:29:27



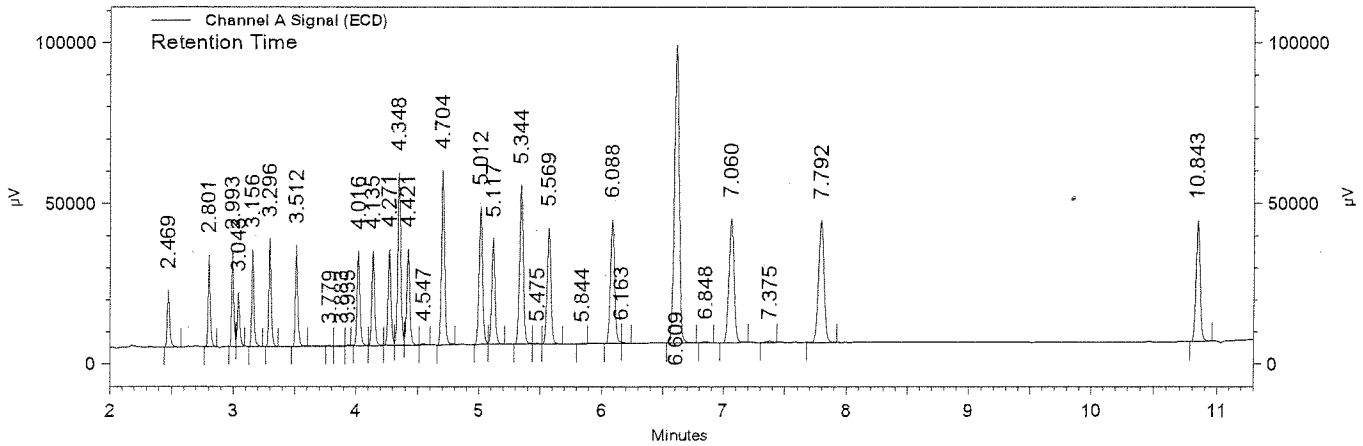
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.641	345267	34035.2	10.000 CAL	BV
alpha-BHC	3.027	3.027	394133	42482.0	10.000 CAL	BI
gamma-BHC	3.265	3.265	404406	42631.3	10.000 CAL	BV
beta-BHC	3.313	3.313	285434	27567.7	10.000 CAL	VB
delta-BHC	3.544	3.544	443065	46499.3	10.000 CAL	BV
Heptachlor	3.613	3.613	575102	56808.7	10.000 CAL	VB
Aldrin	3.909	3.909	538778	55562.8	10.000 CAL	BB
Heptachlor Epoxide	4.528	4.528	621527	63899.7	10.000 CAL	BB
gamma-Chlordane	4.771	4.771	622394	64359.4	10.000 CAL	BB
alpha-Chlordane	4.980	4.980	661228	69323.1	10.000 CAL	BV
Endosulfan I	5.073	5.073	665338	64951.9	10.000 CAL	VB
DDE	5.228	5.228	1322323	67986.8	20.000 CAL	BB
Dieldrin	5.524	5.524	1237846	63767.8	20.000 CAL	BB
Endrin	6.112	6.112	1147409	57464.7	20.000 CAL	BB
DDD	6.375	6.375	714052	36806.4	20.000 CAL	BB
Endosulfan II	6.587	6.587	1358474	67691.5	20.000 CAL	BB
DDT	7.184	7.184	921864	45767.6	20.000 CAL	BB
Endrin Aldehyde	7.497	7.497	1330392	63225.1	20.000 CAL	BB
Endosulfan Sulfate	8.392	8.392	1492267	72181.4	20.000 CAL	BB
Methoxychlor	9.648	9.648	3090663	29841.8	100.000 CAL	BB
Endrin Ketone	10.045	10.045	1475619	72592.4	20.000 CAL	BV
DCB	12.251	12.251	1117234	105441.3	10.000 CAL	BB

mr 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1105 (20/40/200ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11014.dat
User: ESanto
Acquired: 05/11/16 14:14:49
Printed: 05/11/16 16:29:43



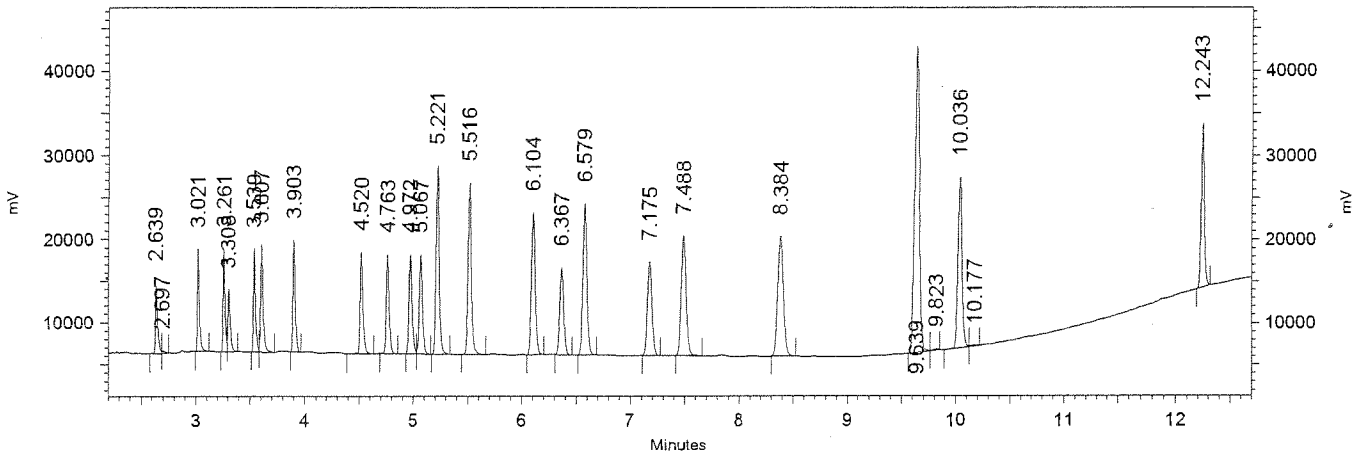
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.469	1276511	62846.1	20.000 CAL	BB
alpha-BHC	2.805	2.801	1885666	93919.0	20.000 CAL	SI
gamma-BHC	2.999	2.993	1963458	97010.5	20.000 CAL	BV
beta-BHC	3.047	3.043	1230230	61093.2	20.000 CAL	VS
delta-BHC	3.161	3.156	2084336	103944.1	20.000 CAL	BB
Heptachlor	3.301	3.296	2473601	124693.7	20.000 CAL	BB
Aldrin	3.517	3.512	2402674	118874.0	20.000 CAL	SV
Heptachlor Epoxide	4.023	4.016	2585615	129093.5	20.000 CAL	SV
gamma-Chlordane	4.141	4.135	2628160	131674.2	20.000 CAL	VV
alpha-Chlordane	4.277	4.271	2729119	136473.7	20.000 CAL	VV
DDE	4.355	4.348	4930892	123859.0	40.000 CAL	VV
Endosulfan I	4.428	4.421	2849397	142551.8	20.000 CAL	VV
Dieldrin	4.711	4.704	5318198	132373.3	40.000 CAL	SB
Endrin	5.019	5.012	4548263	114242.0	40.000 CAL	BV
DDD	5.124	5.117	3449110	87496.1	40.000 CAL	VB
Endosulfan II	5.351	5.344	5630706	142283.1	40.000 CAL	SV
DDT	5.576	5.569	4264551	109067.2	40.000 CAL	VB
Endrin aldehyde	6.096	6.088	5235051	134129.0	40.000 CAL	SS
Methoxychlor	6.619	6.609	14057794	70878.7	200.000 CAL	BB
Endosulfan Sulfate	7.068	7.060	6070337	155144.6	40.000 CAL	BB
Endrin Ketone	7.801	7.792	6526183	164888.0	40.000 CAL	SB
DCB	10.849	10.843	4757298	241147.5	20.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1105 (20/40/200ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11014.dat
User: ESanto
Acquired: 05/11/16 14:14:49
Printed: 05/11/16 16:29:43



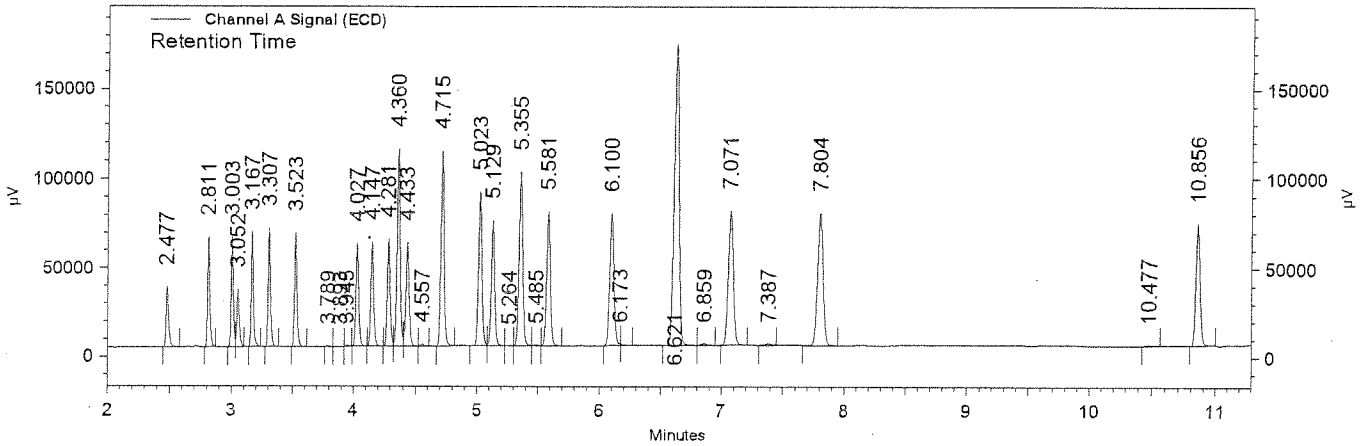
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.639	650231	34035.2	20.000 CAL	BV
alpha-BHC	3.027	3.021	851462	42482.0	20.000 CAL	BB
gamma-BHC	3.265	3.261	856809	42631.3	20.000 CAL	BV
beta-BHC	3.313	3.308	592711	27567.7	20.000 CAL	VB
delta-BHC	3.544	3.539	917787	46499.3	20.000 CAL	BV
Heptachlor	3.613	3.607	1110605	56808.7	20.000 CAL	VB
Aldrin	3.909	3.903	1109032	55562.8	20.000 CAL	BB
Heptachlor Epoxide	4.528	4.520	1236684	63899.7	20.000 CAL	BB
gamma-Chlordane	4.771	4.763	1239748	64359.4	20.000 CAL	BB
alpha-Chlordane	4.980	4.972	1283331	69323.1	20.000 CAL	BV
Endosulfan I	5.073	5.067	1307186	64951.9	20.000 CAL	VB
DDE	5.228	5.221	2568080	67986.8	40.000 CAL	BB
Dieldrin	5.524	5.516	2498116	63767.8	40.000 CAL	BB
Endrin	6.112	6.104	2260128	57464.7	40.000 CAL	BB
DDD	6.375	6.367	1430615	36806.4	40.000 CAL	BB
Endosulfan II	6.587	6.579	2646268	67691.5	40.000 CAL	BB
DDT	7.184	7.175	1802549	45767.6	40.000 CAL	BB
Endrin Aldehyde	7.497	7.488	2515562	63225.1	40.000 CAL	BB
Endosulfan Sulfate	8.392	8.384	2841344	72181.4	40.000 CAL	BB
Methoxychlor	9.648	9.639	5974040	29841.8	200.000 CAL	BV
Endrin Ketone	10.045	10.036	2862327	72592.4	40.000 CAL	BV
DCB	12.251	12.243	2112669	105441.3	20.000 CAL	BB

MC 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1106 (40/80/400ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11015.dat
User: ESanto
Acquired: 05/11/16 14:34:55
Printed: 05/11/16 16:29:59



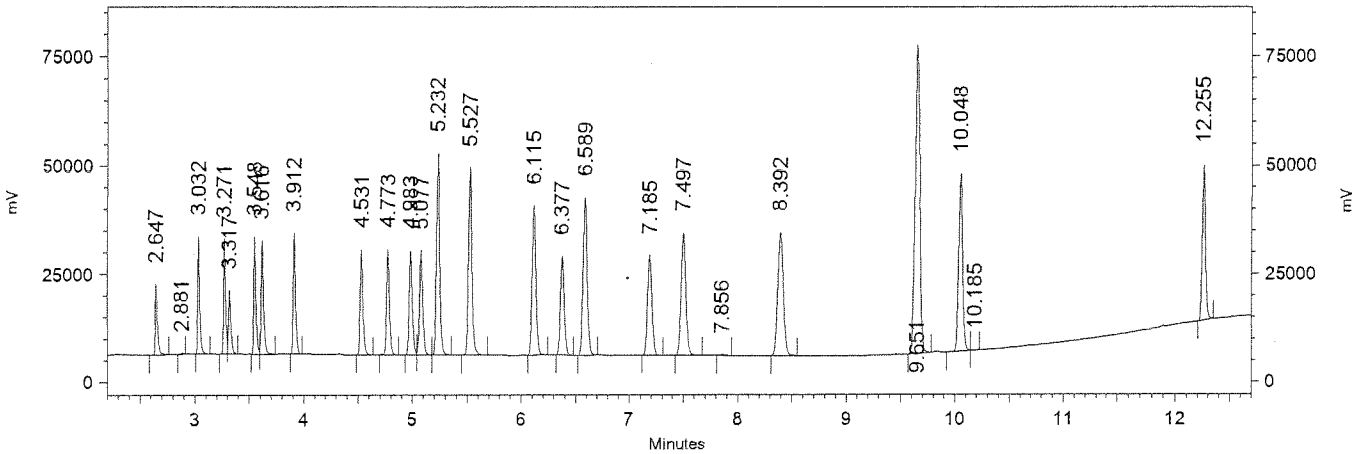
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.477	2493489	62846.1	40.000 CAL	BB
alpha-BHC	2.805	2.811	4094112	93919.0	40.000 CAL	BI
gamma-BHC	2.999	3.003	4163641	97010.5	40.000 CAL	BV
beta-BHC	3.047	3.052	2418571	61093.2	40.000 CAL	VS
delta-BHC	3.161	3.167	4526978	103944.1	40.000 CAL	BS
Heptachlor	3.301	3.307	4973163	124693.7	40.000 CAL	BB
Aldrin	3.517	3.523	4890810	118874.0	40.000 CAL	SB
Heptachlor Epoxide	4.023	4.027	4962394	129093.5	40.000 CAL	BV
gamma-Chlordane	4.141	4.147	5143252	131674.2	40.000 CAL	VB
alpha-Chlordane	4.277	4.281	5399270	136473.7	40.000 CAL	BV
DDE	4.355	4.360	10088691	123859.0	80.000 CAL	VV
Endosulfan I	4.428	4.433	5611062	142551.8	40.000 CAL	VV
Dieldrin	4.711	4.715	10783544	132373.3	80.000 CAL	SB
Endrin	5.019	5.023	9210605	114242.0	80.000 CAL	BV
DDD	5.124	5.129	7400285	87496.1	80.000 CAL	VV
Endosulfan II	5.351	5.355	11158298	142283.1	80.000 CAL	VV
DDT	5.576	5.581	8874363	109067.2	80.000 CAL	VS
Endrin aldehyde	6.096	6.100	10006708	134129.0	80.000 CAL	BS
Methoxychlor	6.619	6.621	26047759	70878.7	400.000 CAL	BV
Endosulfan Sulfate	7.068	7.071	11713047	155144.6	80.000 CAL	BB
Endrin Ketone	7.801	7.804	12849967	164888.0	80.000 CAL	SB
DCB	10.849	10.856	8678452	241147.5	40.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1106 (40/80/400ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11015.dat
User: ESanto
Acquired: 05/11/16 14:34:55
Printed: 05/11/16 16:29:59



Channel B Signal
(ECD) Results

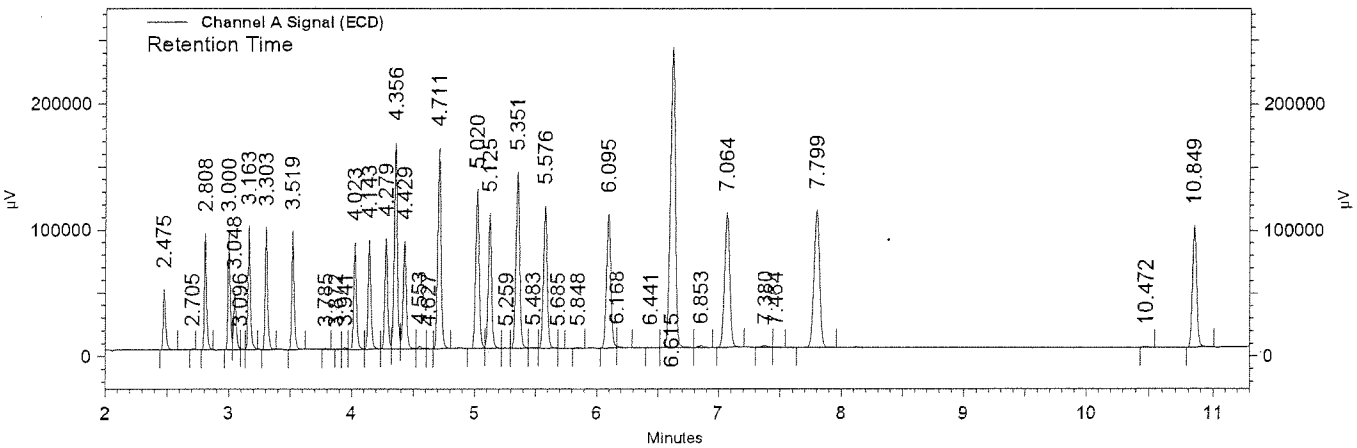
Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.647	1274213	34035.2	40.000 CAL	BB
alpha-BHC	3.027	3.032	1878792	42482.0	40.000 CAL	BB
gamma-BHC	3.265	3.271	1867594	42631.3	40.000 CAL	BV
beta-BHC	3.313	3.317	1189502	27567.7	40.000 CAL	VB
delta-BHC	3.544	3.548	2029485	46499.3	40.000 CAL	BV
Heptachlor	3.613	3.616	2233504	56808.7	40.000 CAL	VB
Aldrin	3.909	3.912	2346684	55562.8	40.000 CAL	BI
Heptachlor Epoxide	4.528	4.531	2427703	63899.7	40.000 CAL	BB
gamma-Chlordane	4.771	4.773	2499278	64359.4	40.000 CAL	BB
alpha-Chlordane	4.980	4.983	2606023	69323.1	40.000 CAL	BV
Endosulfan I	5.073	5.077	2658707	64951.9	40.000 CAL	VB
DDE	5.228	5.232	5267890	67986.8	80.000 CAL	BB
Dieldrin	5.524	5.527	5243723	63767.8	80.000 CAL	BB
Endrin	6.112	6.115	4642941	57464.7	80.000 CAL	BB
DDD	6.375	6.377	3070347	36806.4	80.000 CAL	BB
Endosulfan II	6.587	6.589	5377402	67691.5	80.000 CAL	BB
DDT	7.184	7.185	3729810	45767.6	80.000 CAL	BB
Endrin Aldehyde	7.497	7.497	4951110	63225.1	80.000 CAL	BB
Endosulfan Sulfate	8.392	8.392	5643015	72181.4	80.000 CAL	BB
Methoxychlor	9.648	9.651	11657951	29841.8	400.000 CAL	BB
Endrin Ketone	10.045	10.048	5776854	72592.4	80.000 CAL	BV
DCB	12.251	12.255	3992888	105441.3	40.000 CAL	BB

TM 5-20-16

722

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1107 (60/120/600ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11016.dat
User: ESanto
Acquired: 05/11/16 14:54:54
Printed: 05/11/16 16:30:15



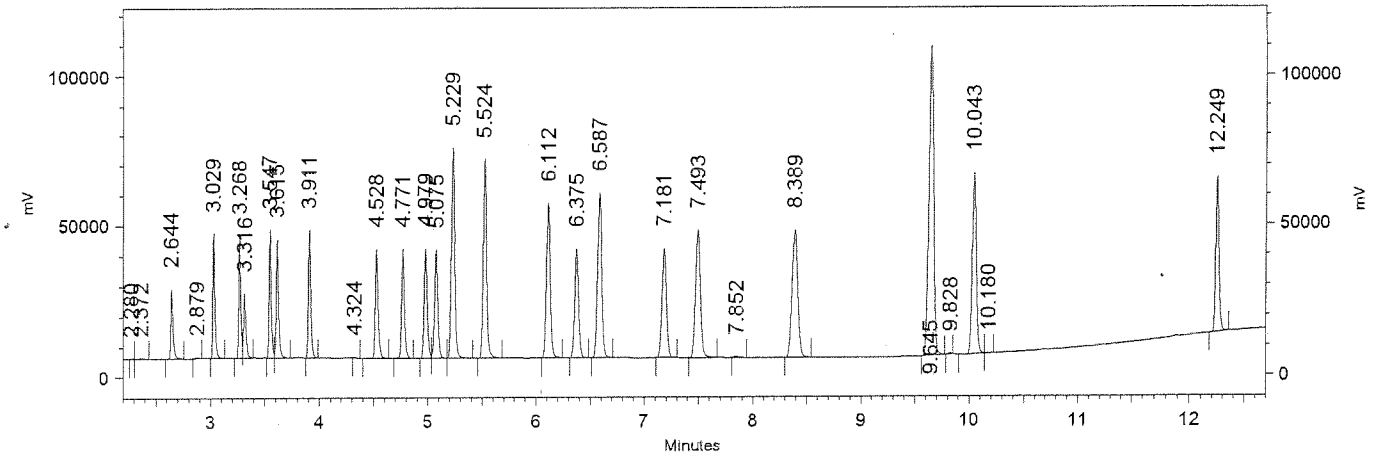
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.475	3508022	62846.1	60.000 CAL	BB
alpha-BHC	2.805	2.808	6188576	93919.0	60.000 CAL	BI
gamma-BHC	2.999	3.000	6244420	97010.5	60.000 CAL	BV
beta-BHC	3.047	3.048	3468392	61093.2	60.000 CAL	VS
delta-BHC	3.161	3.163	6918622	103944.1	60.000 CAL	BS
Heptachlor	3.301	3.303	7242771	124693.7	60.000 CAL	BB
Aldrin	3.517	3.519	7209732	118874.0	60.000 CAL	SB
Heptachlor Epoxide	4.023	4.023	7412630	129093.5	60.000 CAL	SV
gamma-Chlordane	4.141	4.143	7713143	131674.2	60.000 CAL	VV
alpha-Chlordane	4.277	4.279	8031986	136473.7	60.000 CAL	VV
DDE	4.355	4.356	15079653	123859.0	120.000 CAL	VV
Endosulfan I	4.428	4.429	8287695	142551.8	60.000 CAL	VV
Dieldrin	4.711	4.711	15818124	132373.3	120.000 CAL	BS
Endrin	5.019	5.020	13537582	114242.0	120.000 CAL	BV
DDD	5.124	5.125	11289032	87496.1	120.000 CAL	VV
Endosulfan II	5.351	5.351	16222816	142283.1	120.000 CAL	VV
DDT	5.576	5.576	13327922	109067.2	120.000 CAL	VS
Endrin aldehyde	6.096	6.095	14457848	134129.0	120.000 CAL	BS
Methoxychlor	6.619	6.615	36836479	70878.7	600.000 CAL	BV
Endosulfan Sulfate	7.068	7.064	16961144	155144.6	120.000 CAL	BB
Endrin Ketone	7.801	7.799	18883241	164888.0	120.000 CAL	SB
DCB	10.849	10.849	12385619	241147.5	60.000 CAL	BI

RW 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1107 (60/120/600ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11016.dat
User: ESanto
Acquired: 05/11/16 14:54:54
Printed: 05/11/16 16:30:15



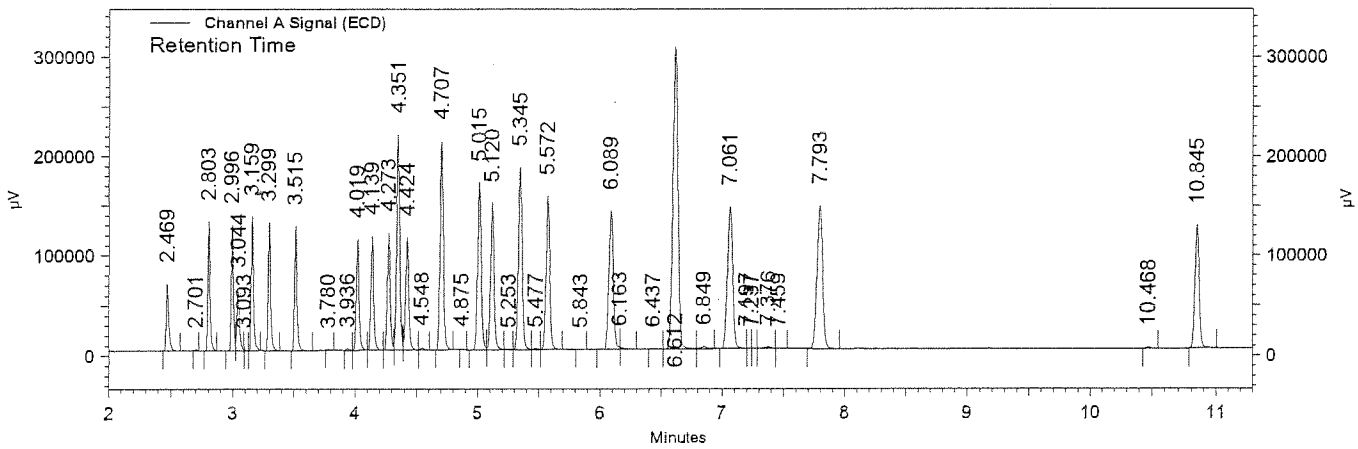
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.644	1783716	34035.2	60.000 CAL	BB
alpha-BHC	3.027	3.029	2866373	42482.0	60.000 CAL	BB
gamma-BHC	3.265	3.268	2858977	42631.3	60.000 CAL	BV
beta-BHC	3.313	3.316	1712060	27567.7	60.000 CAL	VB
delta-BHC	3.544	3.547	3151544	46499.3	60.000 CAL	BV
Heptachlor	3.613	3.615	3280423	56808.7	60.000 CAL	VB
Aldrin	3.909	3.911	3540955	55562.8	60.000 CAL	BI
Heptachlor Epoxide	4.528	4.528	3599192	63899.7	60.000 CAL	BB
gamma-Chlordane	4.771	4.771	3718731	64359.4	60.000 CAL	BB
alpha-Chlordane	4.980	4.979	3892012	69323.1	60.000 CAL	BV
Endosulfan I	5.073	5.075	3969968	64951.9	60.000 CAL	VV
DDE	5.228	5.229	7971354	67986.8	120.000 CAL	VB
Dieldrin	5.524	5.524	7918106	63767.8	120.000 CAL	BB
Endrin	6.112	6.112	6934842	57464.7	120.000 CAL	BB
DDD	6.375	6.375	4793416	36806.4	120.000 CAL	BB
Endosulfan II	6.587	6.587	8018175	67691.5	120.000 CAL	BB
DDT	7.184	7.181	5693055	45767.6	120.000 CAL	BB
Endrin Aldehyde	7.497	7.493	7309410	63225.1	120.000 CAL	BB
Endosulfan Sulfate	8.392	8.389	8328378	72181.4	120.000 CAL	BB
Methoxychlor	9.648	9.645	17078330	29841.8	600.000 CAL	BB
Endrin Ketone	10.045	10.043	8636503	72592.4	120.000 CAL	BV
DCB	12.251	12.249	5778741	105441.3	60.000 CAL	SB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1108 (80/160/800ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11017.dat
User: ESanto
Acquired: 05/11/16 15:14:58
Printed: 05/11/16 16:30:36



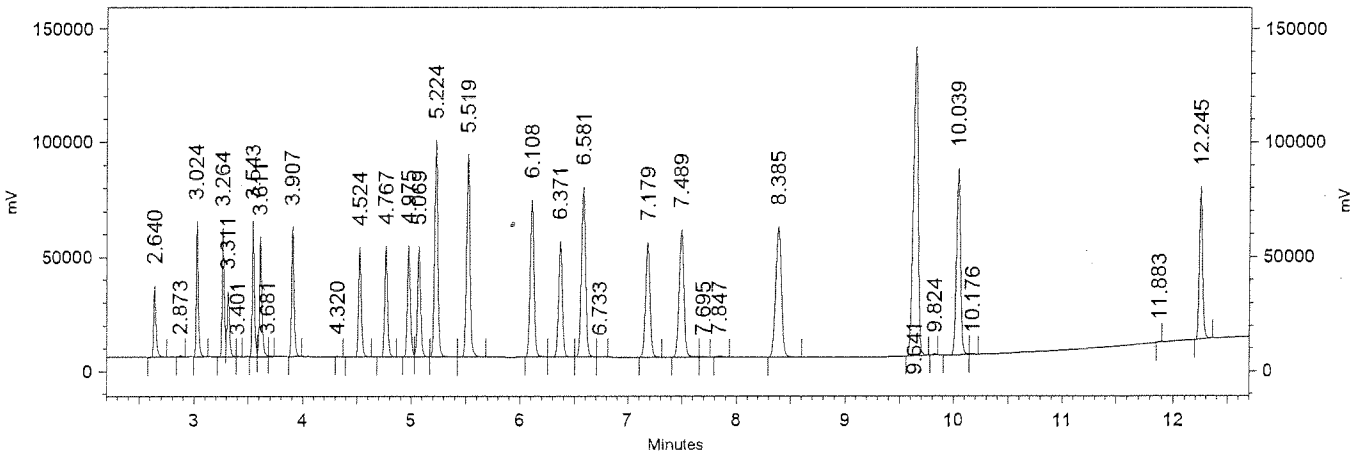
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.469	4997651	62846.1	80.000 CAL	BV
alpha-BHC	2.805	2.803	8838509	93919.0	80.000 CAL	VS
gamma-BHC	2.999	2.996	8598806	97010.5	80.000 CAL	SV
beta-BHC	3.047	3.044	4671180	61093.2	80.000 CAL	VS
delta-BHC	3.161	3.159	9528735	103944.1	80.000 CAL	VS
Heptachlor	3.301	3.299	9639333	124693.7	80.000 CAL	BB
Aldrin	3.517	3.515	9623079	118874.0	80.000 CAL	SB
Heptachlor Epoxide	4.023	4.019	9615949	129093.5	80.000 CAL	VV
gamma-Chlordane	4.141	4.139	10154229	131674.2	80.000 CAL	VV
alpha-Chlordane	4.277	4.273	10581101	136473.7	80.000 CAL	VV
DDE	4.355	4.351	20236009	123859.0	160.000 CAL	VV
Endosulfan I	4.428	4.424	10795737	142551.8	80.000 CAL	VV
Dieldrin	4.711	4.707	20920098	132373.3	160.000 CAL	SS
Endrin	5.019	5.015	17997774	114242.0	160.000 CAL	BV
DDD	5.124	5.120	15527711	87496.1	160.000 CAL	VV
Endosulfan II	5.351	5.345	21355304	142283.1	160.000 CAL	VV
DDT	5.576	5.572	18063162	109067.2	160.000 CAL	VS
Endrin aldehyde	6.096	6.089	18988531	134129.0	160.000 CAL	SS
Methoxychlor	6.619	6.612	47559738	70878.7	800.000 CAL	BV
Endosulfan Sulfate	7.068	7.061	22583055	155144.6	160.000 CAL	BS
Endrin Ketone	7.801	7.793	25071582	164888.0	160.000 CAL	BB
DCB	10.849	10.845	16026967	241147.5	80.000 CAL	BI

pw 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1108 (80/160/800ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11017.dat
User: ESanto
Acquired: 05/11/16 15:14:58
Printed: 05/11/16 16:30:36



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.640	2448163	34035.2	80.000 CAL	BB
alpha-BHC	3.027	3.024	4148055	42482.0	80.000 CAL	BB
gamma-BHC	3.265	3.264	4009198	42631.3	80.000 CAL	BV
beta-BHC	3.313	3.311	2331839	27567.7	80.000 CAL	VV
delta-BHC	3.544	3.543	4448724	46499.3	80.000 CAL	BV
Heptachlor	3.613	3.611	4405773	56808.7	80.000 CAL	VS
Aldrin	3.909	3.907	4832889	55562.8	80.000 CAL	BI
Heptachlor Epoxide	4.528	4.524	4813225	63899.7	80.000 CAL	BB
gamma-Chlordane	4.771	4.767	5008688	64359.4	80.000 CAL	BB
alpha-Chlordane	4.980	4.975	5245753	69323.1	80.000 CAL	BV
Endosulfan I	5.073	5.069	5338409	64951.9	80.000 CAL	VV
DDE	5.228	5.224	10839808	67986.8	160.000 CAL	VB
Dieldrin	5.524	5.519	10778204	63767.8	160.000 CAL	BB
Endrin	6.112	6.108	9425557	57464.7	160.000 CAL	BV
DDD	6.375	6.371	6837222	36806.4	160.000 CAL	VB
Endosulfan II	6.587	6.581	10870246	67691.5	160.000 CAL	BV
DDT	7.184	7.179	7906020	45767.6	160.000 CAL	BB
Endrin Aldehyde	7.497	7.489	9803698	63225.1	160.000 CAL	BV
Endosulfan Sulfate	8.392	8.385	11249284	72181.4	160.000 CAL	BI
Methoxychlor	9.648	9.641	22614448	29841.8	800.000 CAL	BB
Endrin Ketone	10.045	10.039	11655102	72592.4	160.000 CAL	BV
DCB	12.251	12.245	7513741	105441.3	80.000 CAL	IB

RM 5-20-16

INITIAL CALIBRATION
METHOD EPA 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11028A 05/11/16 18:58
LFID & Datetime: ME11029A 05/11/16 19:18
LFID & Datetime: ME11030A 05/11/16 19:38
LFID & Datetime: ME11031A 05/11/16 19:58
LFID & Datetime: ME11032A 05/11/16 20:18
LFID & Datetime: ME11033A 05/11/16 20:39
LFID & Datetime: ME11034A 05/11/16 20:59
LFID & Datetime: ME11035A 05/11/16 21:19
Conc Unit : ppb
Method Name : TOE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	10.00X	15.00X	20.00X	30.00X	40.00X	MEAN	%RSD
Toxaphene	50.00	115115	113823	105312	99255	97014	94955	92254	91674	101175.3	9.2

pu 5-20-16

INITIAL CALIBRATION
METHOD EPA 8081

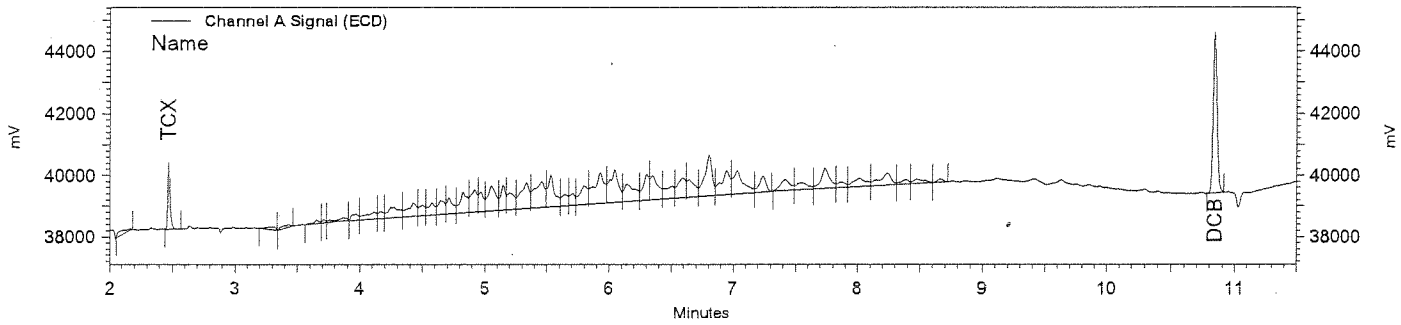
Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11028B 05/11/16 18:58
LFID & Datetime: ME11029B 05/11/16 19:18
LFID & Datetime: ME11030B 05/11/16 19:38
LFID & Datetime: ME11031B 05/11/16 19:58
LFID & Datetime: ME11032B 05/11/16 20:18
LFID & Datetime: ME11033B 05/11/16 20:39
LFID & Datetime: ME11034B 05/11/16 20:59
LFID & Datetime: ME11035B 05/11/16 21:19
Conc Unit : ppb
Method Name : TOE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	10.00X	15.00X	20.00X	30.00X	40.00X	MEAN	%RSD
Toxaphene	50.00	30464	28288	24902	24990	25628	25515	26636	27502	26740.7	7.2

5-20-16

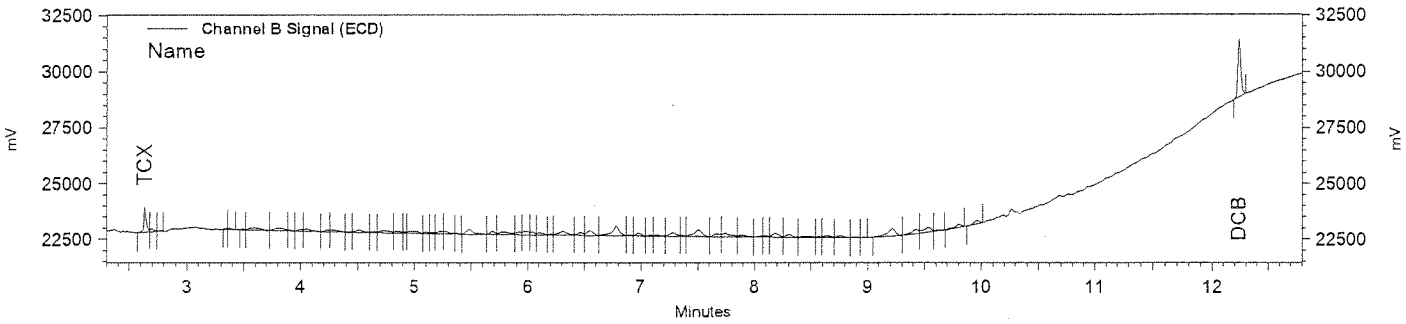
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1101 (50/2.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11028.dat
User: ESanto
Acquired: 05/11/16 18:58:01
Printed: 05/12/16 10:24:35



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.467	147995	63261.8	2.50 CAL	IB
DCB	10.843	10.840	620520	219138.3	2.50 CAL	BI
Toxaphene			5755729	101175.3	50.00 CAL	



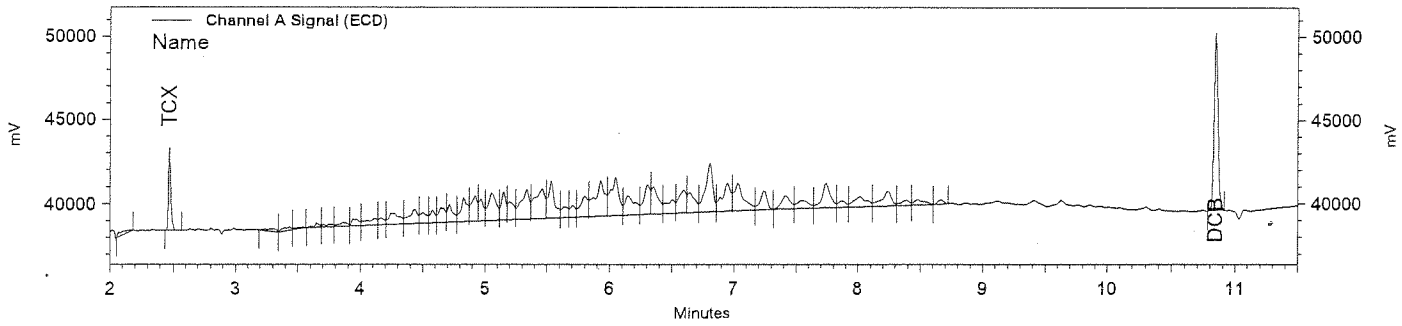
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.636	90112	32052.5	2.50 CAL	BV
DCB	12.244	12.239	263350	98137.0	2.50 CAL	BB
Toxaphene			1523192	26740.7	50.00 CAL	

5-20-16

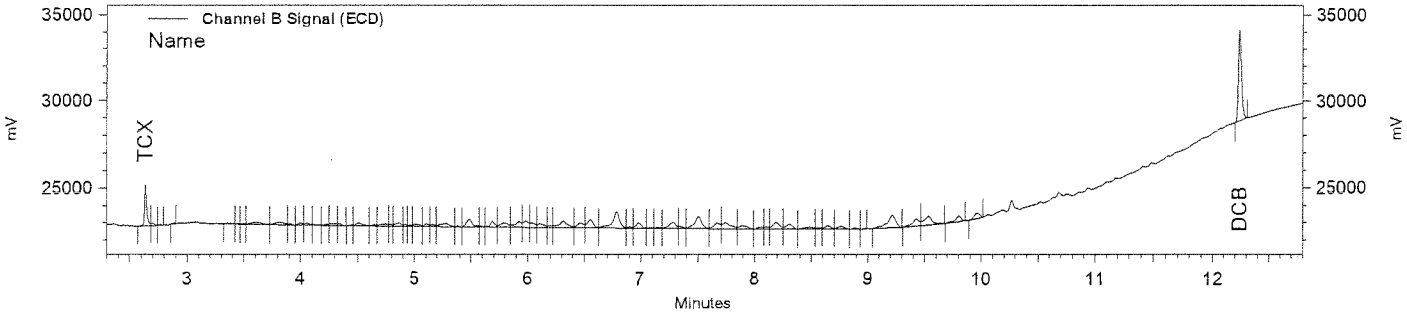
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1102 (100/5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11029.dat
User: ESanto
Acquired: 05/11/16 19:18:18
Printed: 05/12/16 10:24:59



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.468	335031	63261.8	5.00 CAL	IB
DCB	10.843	10.843	1276666	219138.3	5.00 CAL	BI
Toxaphene			11382290	101175.3	100.00 CAL	



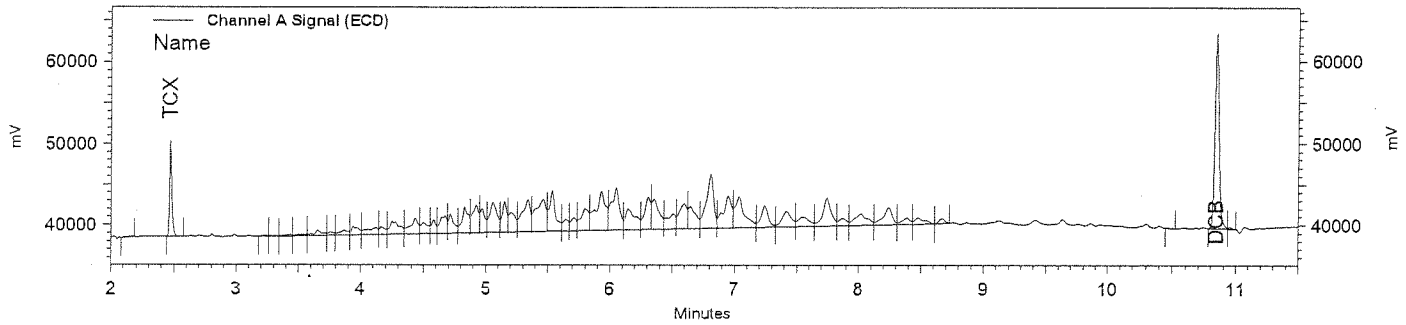
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.636	180695	32052.5	5.00 CAL	BV
DCB	12.244	12.241	554740	98137.0	5.00 CAL	BB
Toxaphene			2828820	26740.7	100.00 CAL	

Per 5-20-16

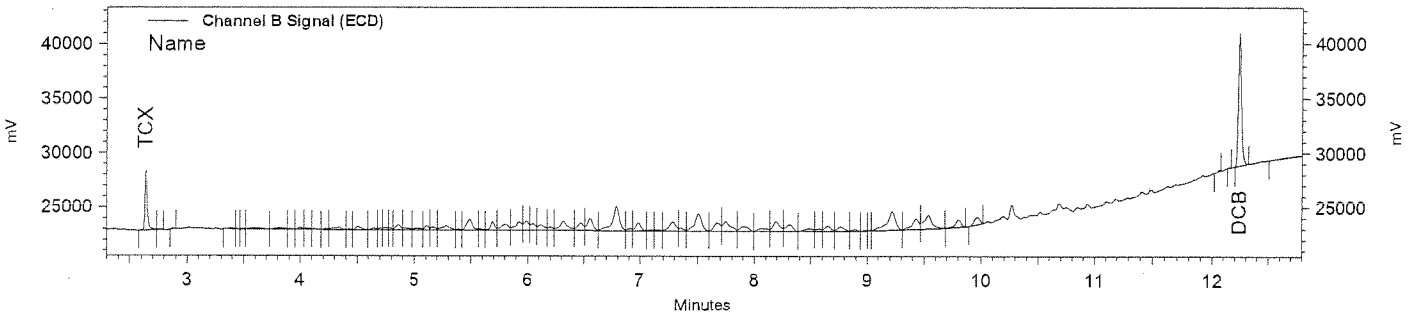
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1103 (250/12.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11030.dat
User: ESanto
Acquired: 05/11/16 19:38:32
Printed: 05/12/16 10:25:15



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	838366	63261.8	12.50 CAL	IB
DCB	10.843	10.844	2975972	219138.3	12.50 CAL	BV
Toxaphene			26328107	101175.3	250.00 CAL	



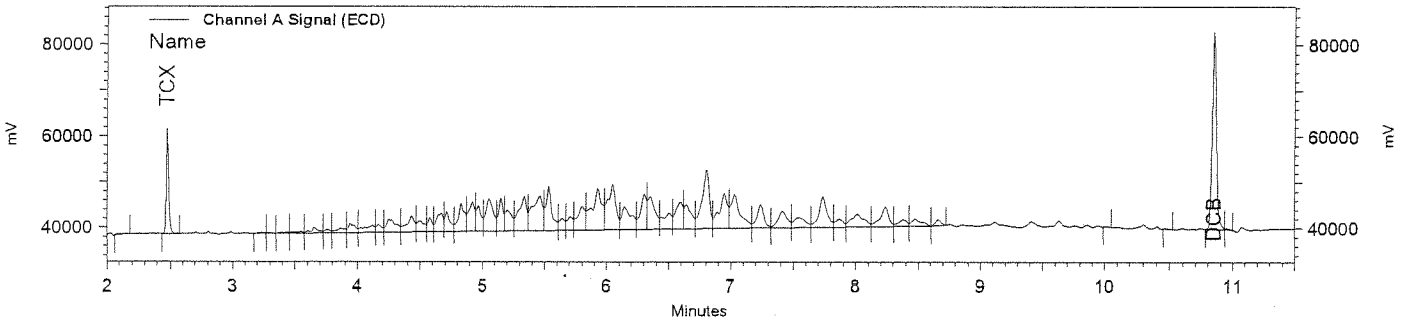
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	422373	32052.5	12.50 CAL	BV
DCB	12.244	12.243	1313606	98137.0	12.50 CAL	BB
Toxaphene			6225422	26740.7	250.00 CAL	

mu 5-20-16

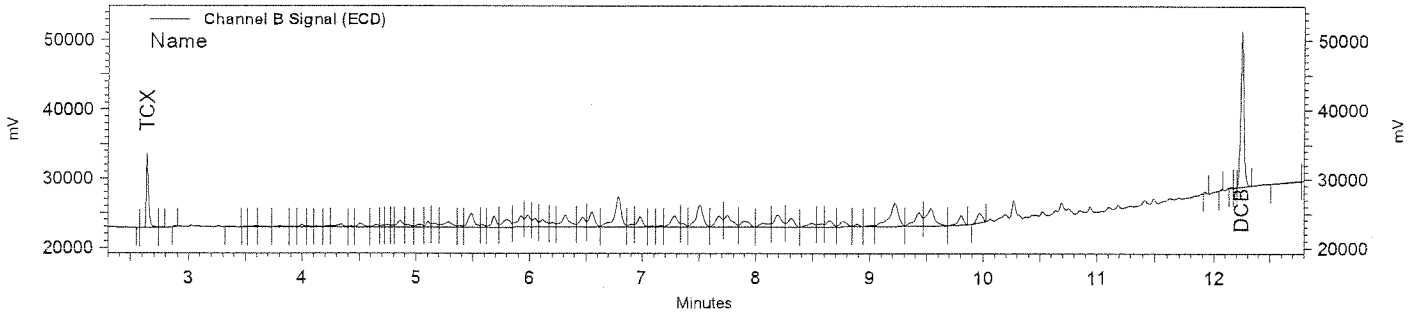
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1104 (500/25ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11031.dat
User: ESanto
Acquired: 05/11/16 19:58:45
Printed: 05/12/16 10:25:42



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.472	1654865	63261.8	25.00 CAL	IB
DCB	10.843	10.847	5480476	219138.3	25.00 CAL	BV
Toxaphene			49627425	101175.3	500.00 CAL	



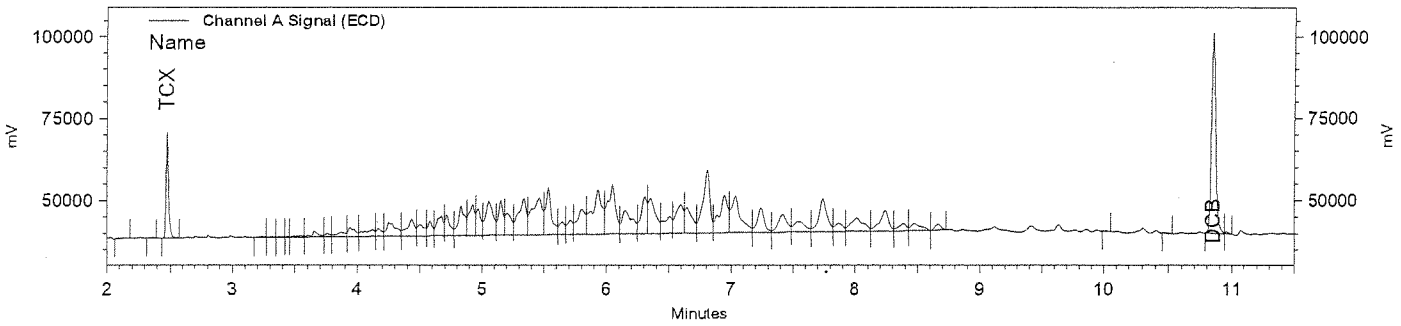
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.641	810491	32052.5	25.00 CAL	BV
DCB	12.244	12.248	2479122	98137.0	25.00 CAL	BB
Toxaphene			12495139	26740.7	500.00 CAL	

mu 5-20-16

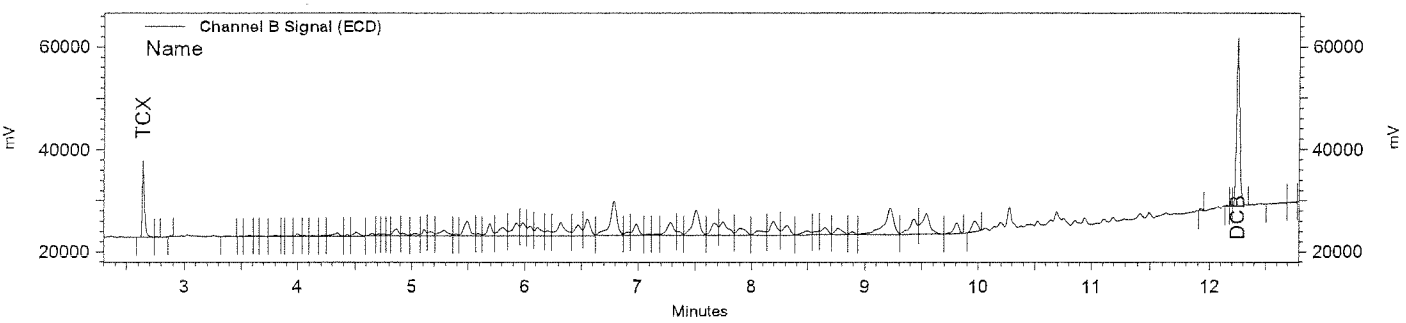
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1105 (750/37.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11032.dat
User: ESanto
Acquired: 05/11/16 20:18:58
Printed: 05/12/16 10:25:58



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.473	2325027	63261.8	37.50 CAL	IB
DCB	10.843	10.849	7938067	219138.3	37.50 CAL	BV
Toxaphene			72760428	101175.3	750.00 CAL	



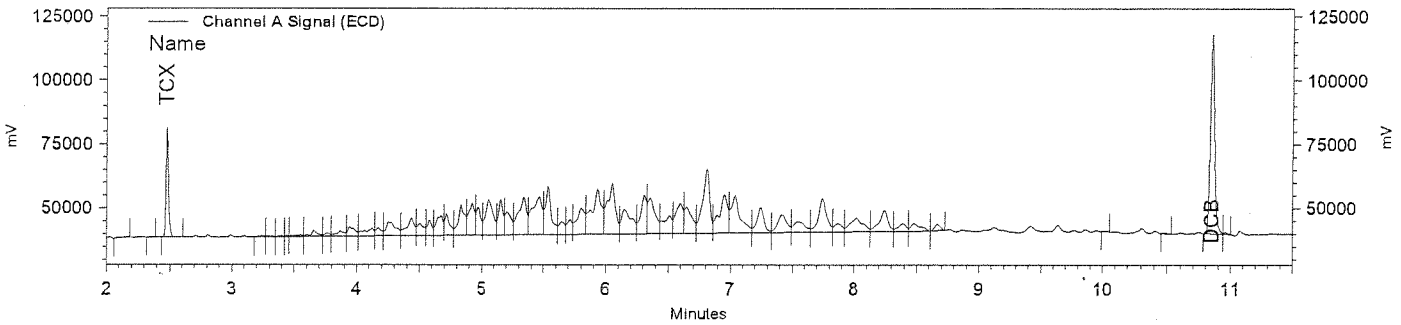
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.643	1125490	32052.5	37.50 CAL	BV
DCB	12.244	12.252	3629605	98137.0	37.50 CAL	BB
Toxaphene			19221247	26740.7	750.00 CAL	

RW 5-20-16

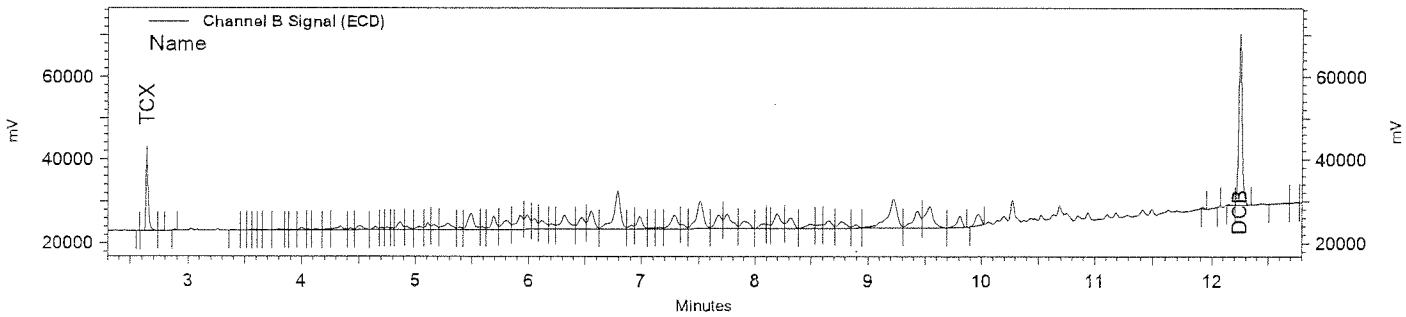
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1106 (1000/50ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11033.dat
User: ESanto
Acquired: 05/11/16 20:39:14
Printed: 05/12/16 10:26:14



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.473	3135270	63261.8	50.00 CAL	IB
DCB	10.843	10.848	10156666	219138.3	50.00 CAL	BV
Toxaphene			94955217	101175.3	1000.00 CAL	



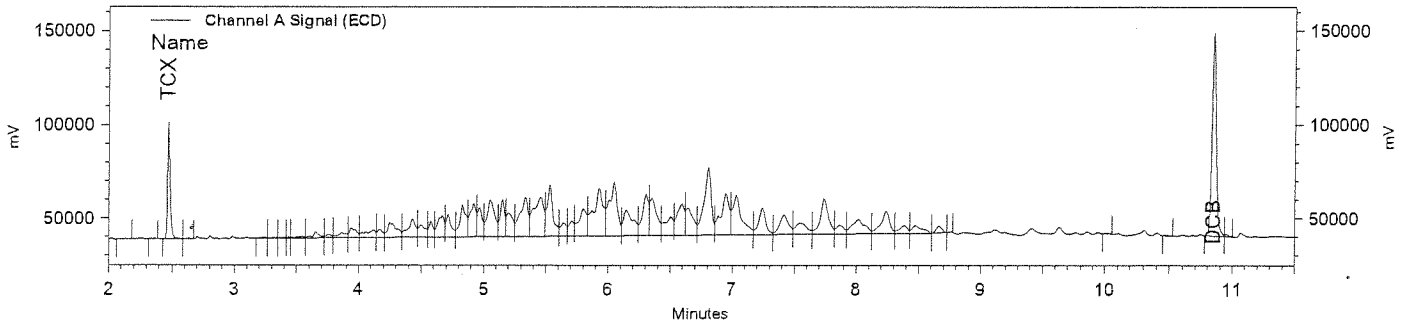
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.643	1517628	32052.5	50.00 CAL	BV
DCB	12.244	12.248	4675867	98137.0	50.00 CAL	BB
Toxaphene			25515420	26740.7	1000.00 CAL	

pu 5-20-16

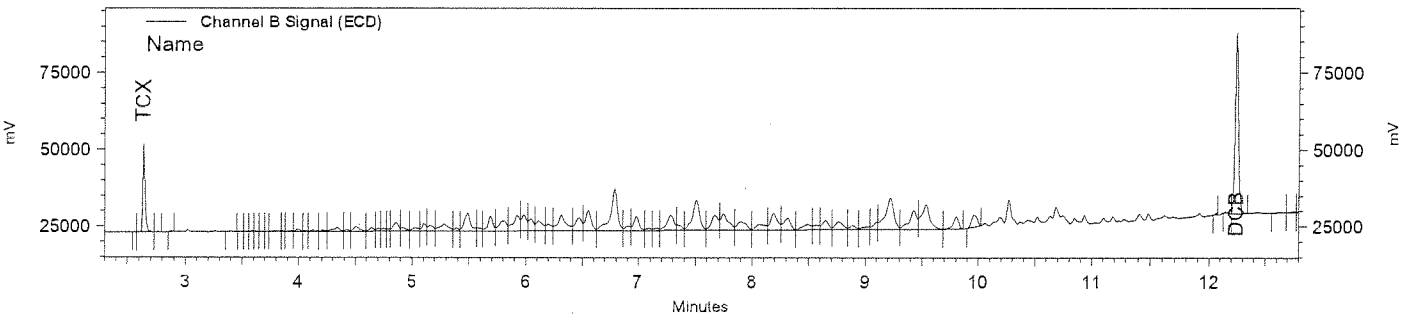
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1107 (1500/75ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11034.dat
User: ESanto
Acquired: 05/11/16 20:59:25
Printed: 05/12/16 10:26:29



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	4619703	63261.8	75.00 CAL	IB
DCB	10.843	10.844	14309613	219138.3	75.00 CAL	BV
Toxaphene			138381387	101175.3	1500.00 CAL	



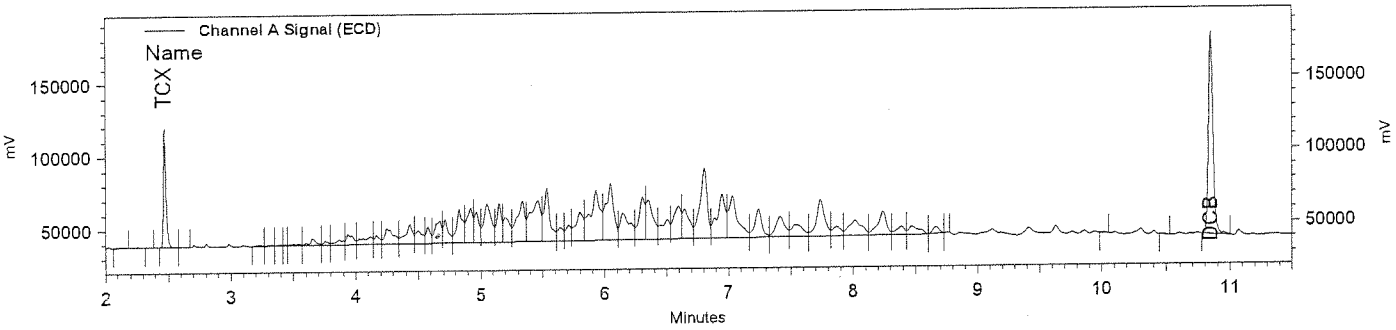
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	2190152	32052.5	75.00 CAL	BV
DCB	12.244	12.244	6623795	98137.0	75.00 CAL	BB
Toxaphene			39954194	26740.7	1500.00 CAL	

dm 5-20-16

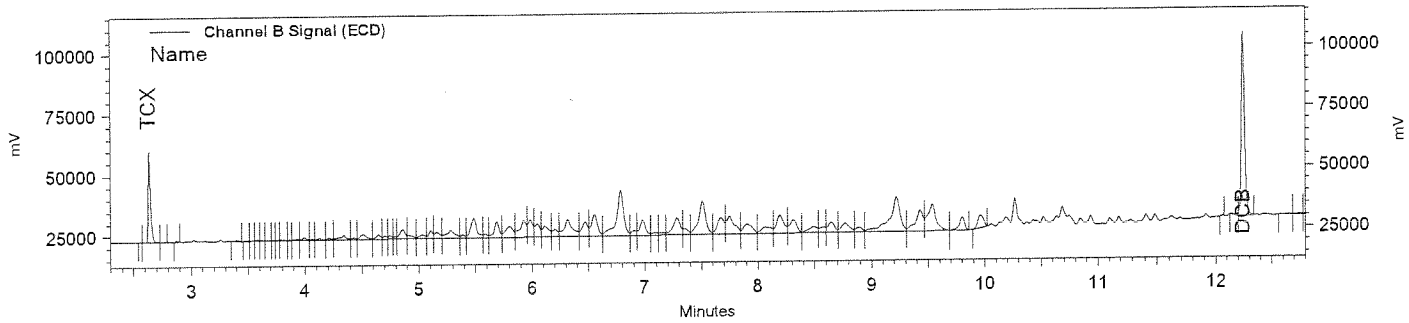
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1108 (2000/100ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11035.dat
User: ESanto
Acquired: 05/11/16 21:19:33
Printed: 05/12/16 10:26:46



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.468	6032455	63261.8	100.00 CAL	IV
DCB	10.843	10.843	18665807	219138.3	100.00 CAL	BI
Toxaphene			183348628	101175.3	2000.00 CAL	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	2845940	32052.5	100.00 CAL	BV
DCB	12.244	12.244	8593048	98137.0	100.00 CAL	BB
Toxaphene			55003271	26740.7	2000.00 CAL	

AM 5-20-16

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Mid Conc Init LFID & Datetime: ME11022A 05/11/2016 16:55
Conc Cont LFID & Datetime: ME11026A 05/11/2016 18:17
Conc Cont LFID & Datetime: ME11027A 05/11/2016 18:37
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	2.804	2.784	2.824	20.0	93919.0	2108306	22.45	12		20
gamma-BHC	2.996	2.974	3.018	20.0	97010.5	2161021	22.28	11		20
beta-BHC	3.044	3.022	3.066	20.0	61093.2	1317139	21.56	8		20
delta-BHC	3.159	3.138	3.180	20.0	103944.1	2228030	21.43	7		20
Heptachlor	3.300	3.276	3.324	20.0	124693.7	2658892	21.32	7		20
Aldrin	3.516	3.490	3.542	20.0	118874.0	2581066	21.71	9		20
Heptachlor Epoxide	4.020	3.990	4.050	20.0	129093.5	2761139	21.39	7		20
gamma-Chlordane	4.140	4.108	4.172	20.0	131674.2	2827648	21.48	7		20
alpha-Chlordane	4.275	4.243	4.307	20.0	136473.7	2914004	21.35	7		20
DDE	4.352	4.320	4.384	20.0	123859.0	2606930	21.05	5		20
Endosulfan I	4.425	4.390	4.460	20.0	142551.8	2875444	20.17	1		20
Dieldrin	4.708	4.676	4.740	20.0	132373.3	2785682	21.04	5		20
Endrin	5.016	4.986	5.046	20.0	114242.0	2551229	22.33	12		20
DDD	5.121	5.091	5.151	20.0	87496.1	1800054	20.57	3		20
Endosulfan II	5.348	5.319	5.377	20.0	142283.1	3021432	21.24	6		20
DDT	5.575	5.545	5.605	20.0	109067.2	2551388	23.39	17		20
Endrin Aldehyde	6.092	6.060	6.124	20.0	134129.0	2998278	22.35	12		20
Methoxychlor	6.615	6.577	6.653	200.0	70878.7	14825611	209.17	5		20
Endosulfan Sulfate	7.063	7.027	7.099	20.0	155144.6	3362411	21.67	8		20
Endrin Ketone	7.796	7.760	7.832	20.0	164888.0	3619429	21.95	10		20
Oxychlordane	3.931	3.912	3.950	20.0	131914.4	2786316	21.12	6		20
2,4'-DDE	4.007	3.985	4.029	20.0	94433.9	1907844	20.20	1		20
trans-Nonachlor	4.260	4.237	4.283	20.0	172481.3	3135511	18.18	-9		20
2,4'-DDD	4.556	4.531	4.581	20.0	74743.5	1555095	20.81	4		20
2,4'-DDT	4.880	4.857	4.903	20.0	100162.9	2199397	21.96	10		20
cis-Nonachlor	5.067	5.045	5.089	20.0	186821.8	3430873	18.36	-8		20
Mirex	6.764	6.736	6.792	20.0	183686.2	3635426	19.79	-1		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.471	2.451	2.491	20.0	62846.1	1353293	21.53	8		20
DCB	10.845	10.795	10.895	20.0	241147.5	4901347	20.33	2		20

5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Mid Conc Init LFID & Datetime: ME11022B 05/11/2016 16:55
Conc Cont LFID & Datetime: ME11026B 05/11/2016 18:17
Conc Cont LFID & Datetime: ME11027B 05/11/2016 18:37
CONC UNIT : ppb

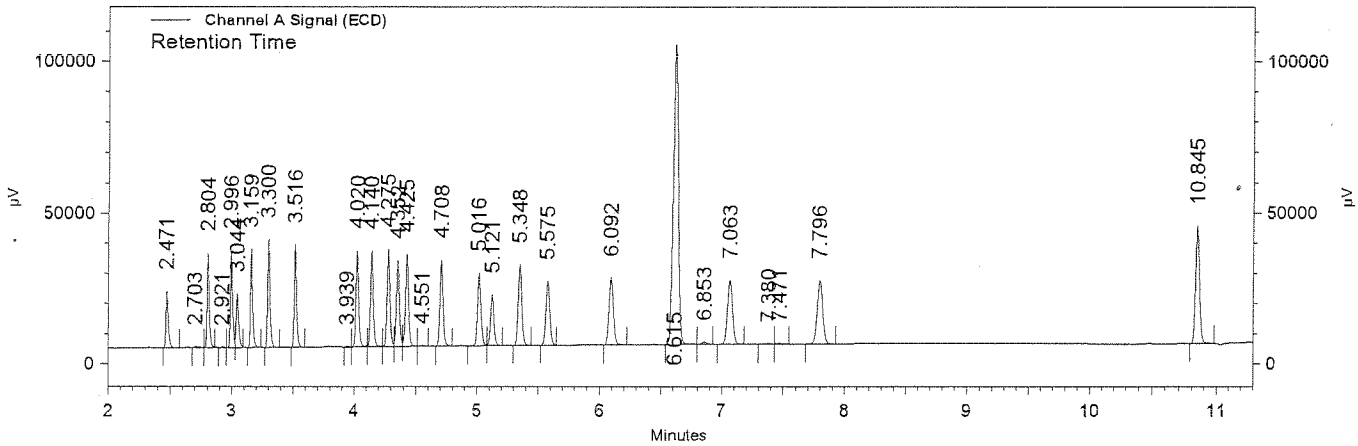
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	3.024	3.006	3.042	20.0	42482.0	906052	21.33	7		20
gamma-BHC	3.263	3.246	3.280	20.0	42631.3	909345	21.33	7		20
beta-BHC	3.311	3.294	3.328	20.0	27567.7	617707	22.41	12		20
delta-BHC	3.541	3.524	3.558	20.0	46499.3	954021	20.52	3		20
Heptachlor	3.611	3.593	3.629	20.0	56808.7	1156705	20.36	2		20
Aldrin	3.905	3.886	3.924	20.0	55562.8	1172850	21.11	6		20
Heptachlor Epoxide	4.524	4.501	4.547	20.0	63899.7	1290872	20.20	1		20
gamma-Chlordane	4.767	4.746	4.788	20.0	64359.4	1311940	20.39	2		20
alpha-Chlordane	4.976	4.958	4.994	20.0	69323.1	1343160	19.38	-3		20
DDE	5.224	5.208	5.240	20.0	67986.8	1341053	19.73	-1		20
Endosulfan I	5.069	5.050	5.088	20.0	64951.9	1311708	20.19	1		20
Dieldrin	5.519	5.502	5.536	20.0	63767.8	1258798	19.74	-1		20
Endrin	6.107	6.087	6.127	20.0	57464.7	1217134	21.18	6		20
DDD	6.369	6.350	6.388	20.0	36806.4	725546	19.71	-1		20
Endosulfan II	6.581	6.559	6.603	20.0	67691.5	1365277	20.17	1		20
DDT	7.177	7.153	7.201	20.0	45767.6	946263	20.67	3		20
Endrin Aldehyde	7.489	7.467	7.511	20.0	63225.1	1384003	21.89	9		20
Methoxychlor	9.641	9.613	9.669	200.0	29841.8	6297029	211.01	6		20
Endosulfan Sulfate	8.383	8.359	8.407	20.0	72181.4	1521896	21.08	5		20
Endrin Ketone	10.039	10.009	10.069	20.0	72592.4	1553903	21.41	7		20
Oxychlordane	4.415	4.395	4.435	20.0	61014.1	1301059	21.32	7		20
2,4'-DDE	4.759	4.738	4.780	20.0	51616.6	971353	18.82	-6		20
trans-Nonachlor	4.897	4.879	4.915	20.0	79950.3	1464927	18.32	-8		20
2,4'-DDD	5.584	5.566	5.602	20.0	32216.3	665945	20.67	3		20
2,4'-DDT	6.204	6.185	6.223	20.0	41555.1	911335	21.93	10		20
cis-Nonachlor	6.289	6.271	6.307	20.0	88931.5	1620655	18.22	-9		20
Mirex	9.864	9.840	9.888	20.0	83525.6	1658608	19.86	-1		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.640	2.617	2.663	20.0	34035.2	623583	18.32	-8		20
DCB	12.245	12.210	12.280	20.0	105441.3	2182560	20.70	3		20

JL 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: ICPE8E1101 (20/200ppb PEST ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11026.dat
User: ESanto
Acquired: 05/11/16 18:17:20
Printed: 05/12/16 09:55:43



Channel A Signal (ECD) Results

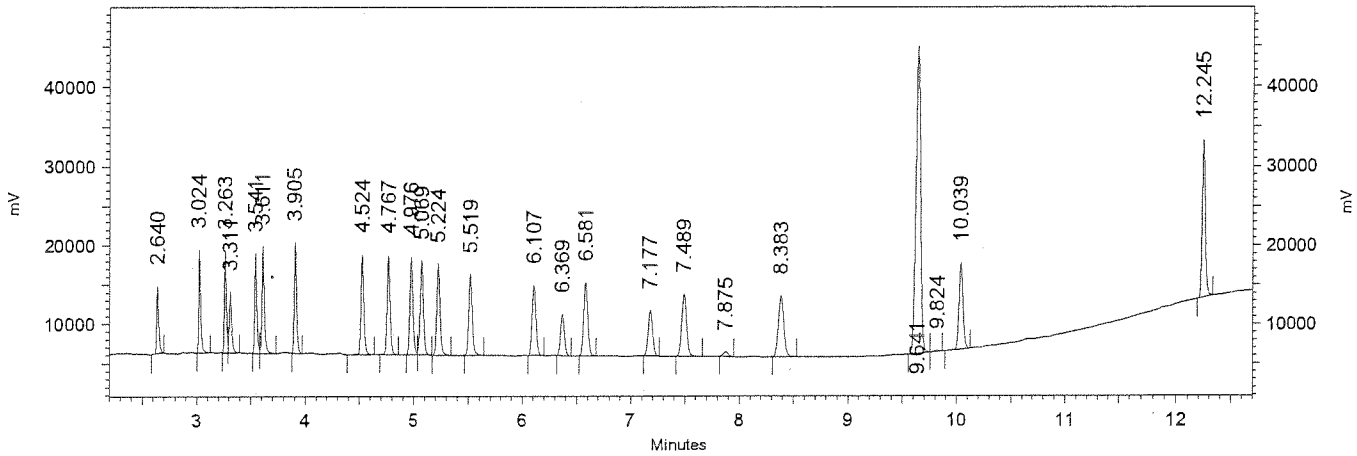
Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.471	2.471	1353293	62846.1	21.533	BV
alpha-BHC	2.804	2.804	2108306	93919.0	22.448	VS
gamma-BHC	2.996	2.996	2161021	97010.5	22.276	VV
beta-BHC	3.044	3.044	1317139	61093.2	21.559	VS
delta-BHC	3.159	3.159	2228030	103944.1	21.435	BB
Heptachlor	3.300	3.300	2658892	124693.7	21.323	BB
Aldrin	3.516	3.516	2581066	118874.0	21.713	SB
Heptachlor Epoxide	4.020	4.020	2761139	129093.5	21.389	SV
gamma-Chlordane	4.140	4.140	2827648	131674.2	21.475	VV
alpha-Chlordane	4.275	4.275	2914004	136473.7	21.352	VV
DDE	4.352	4.352	2606930	123859.0	21.048	VV
Endosulfan I	4.425	4.425	2875444	142551.8	20.171	VV
Dieldrin	4.708	4.708	2785682	132373.3	21.044	SB
Endrin	5.016	5.016	2551229	114242.0	22.332	SV
DDD	5.121	5.121	1800054	87496.1	20.573	VB
Endosulfan II	5.348	5.348	3021432	142283.1	21.235	SB
DDT	5.575	5.575	2551388	109067.2	23.393	SI
Endrin aldehyde	6.092	6.092	2998278	134129.0	22.354	BB
Methoxychlor	6.615	6.615	14825611	70878.7	209.169	BV
Endosulfan Sulfate	7.063	7.063	3362411	155144.6	21.673	SB
Endrin Ketone	7.796	7.796	3619429	164888.0	21.951	SB
DCB	10.845	10.845	4901347	241147.5	20.325	BB

RM 5-20-16

740

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: ICPE8E1101 (20/200ppb PEST ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11026.dat
User: ESanto
Acquired: 05/11/16 18:17:20
Printed: 05/12/16 09:55:43



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.640	2.640	623583	34035.2	18.322	BB
alpha-BHC	3.024	3.024	906052	42482.0	21.328	BB
gamma-BHC	3.263	3.263	909345	42631.3	21.330	BV
beta-BHC	3.311	3.311	617707	27567.7	22.407	VB
delta-BHC	3.541	3.541	954021	46499.3	20.517	BV
Heptachlor	3.611	3.611	1156705	56808.7	20.361	VB
Aldrin	3.905	3.905	1172850	55562.8	21.109	BB
Heptachlor Epoxide	4.524	4.524	1290872	63899.7	20.202	BB
gamma-Chlordane	4.767	4.767	1311940	64359.4	20.385	BB
alpha-Chlordane	4.976	4.976	1343160	69323.1	19.375	BV
Endosulfan I	5.069	5.069	1311708	64951.9	20.195	VB
DDE	5.224	5.224	1341053	67986.8	19.725	BB
Dieldrin	5.519	5.519	1258798	63767.8	19.740	BB
Endrin	6.107	6.107	1217134	57464.7	21.181	BB
DDD	6.369	6.369	725546	36806.4	19.713	BB
Endosulfan II	6.581	6.581	1365277	67691.5	20.169	BB
DDT	7.177	7.177	946263	45767.6	20.675	BB
Endrin Aldehyde	7.489	7.489	1384003	63225.1	21.890	BB
Endosulfan Sulfate	8.383	8.383	1521896	72181.4	21.084	BB
Methoxychlor	9.641	9.641	6297029	29841.8	211.014	BV
Endrin Ketone	10.039	10.039	1553903	72592.4	21.406	BB
DCB	12.245	12.245	2182560	105441.3	20.699	IB

AW 5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD EPA 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME11036A 05/11/2016 21:39
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	55801448	551.53	10		20

pm 5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD EPA 8081

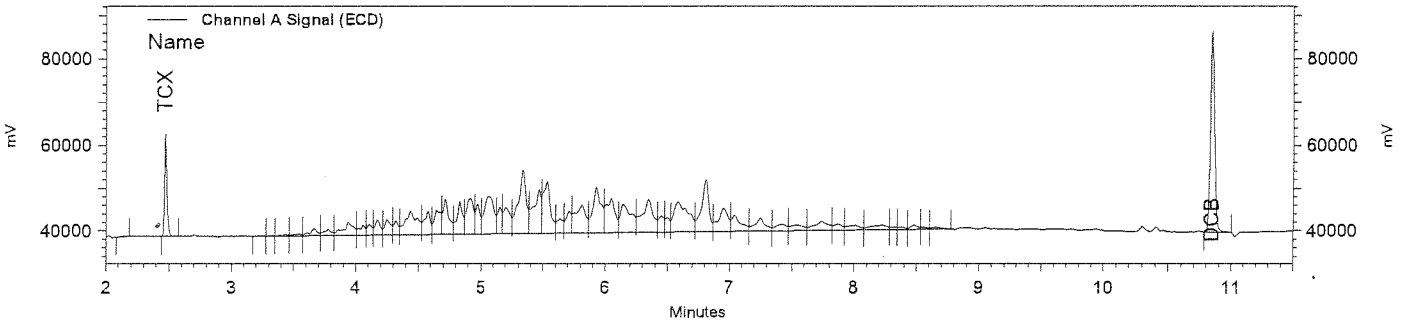
Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME11036B 05/11/2016 21:39
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	14872228	556.16	11		20

5-26-16

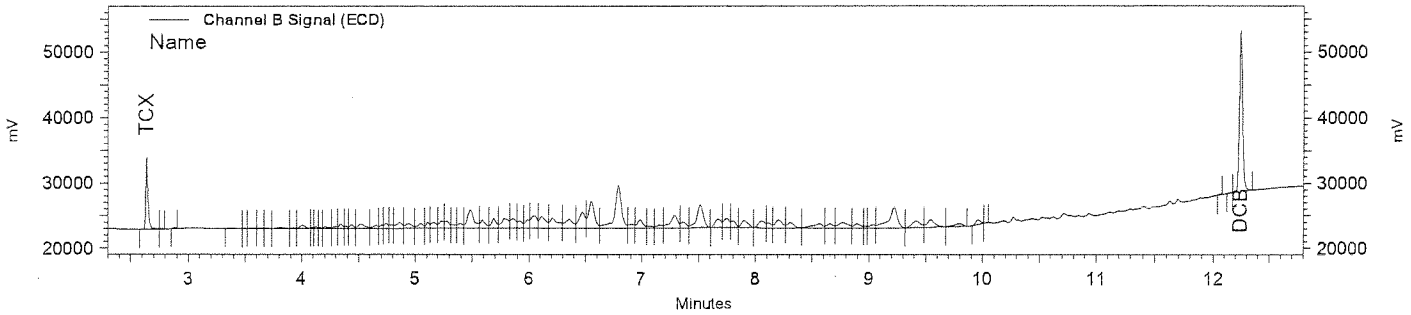
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: ITOE8E1101 (500/25ppb TOXA ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11036.dat
User: ESanto
Acquired: 05/11/16 21:39:41
Printed: 05/12/16 10:27:01



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	1710247	63261.8	27.03	IB
DCB	10.843	10.844	5941055	219138.3	27.11	BI
Toxaphene			55801449	101175.3	551.53	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	838702	32052.5	26.17	BV
DCB	12.244	12.244	2686458	98137.0	27.37	VB
Toxaphene			14872228	26740.7	556.16	

TM 5-20-16

DAILY CALIBRATIONS

PEM PEST BREAKDOWN CALCULATION
METHOD 8081

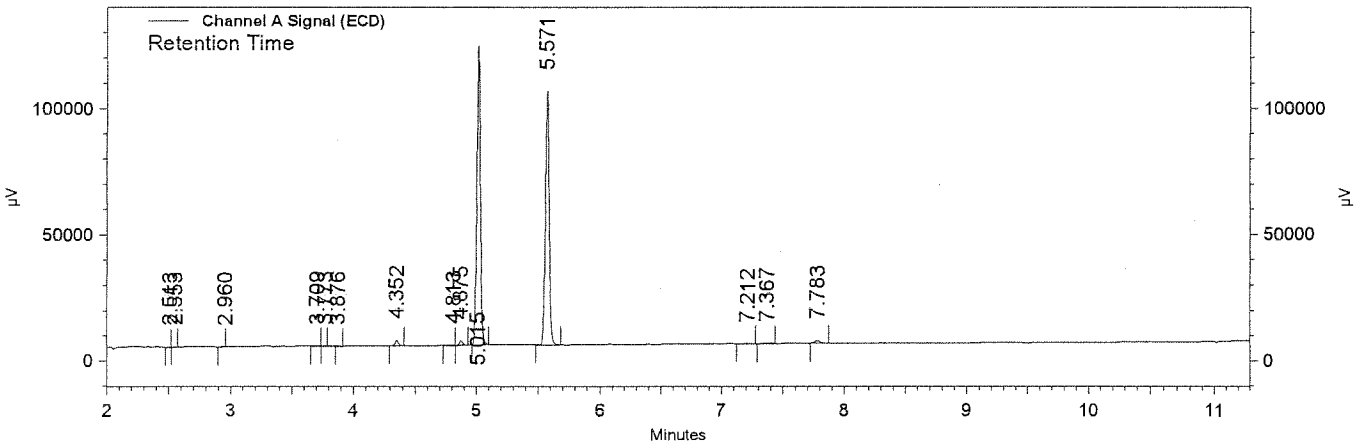
Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.32UM 30MX0.32MMIDX0.25UM
PEM LFID & Datetime : ME20003A ME20003B 05/20/16 15:37

Based on AREA

	AREA				% Breakdown				
LFID	DDD	DDE	DDT	TOTAL	DDD	DDE	TOTAL	QL	QCLIMIT
ME20003A	0.0	192809.0	11891110.0	12083919.0	0.00	1.60	1.60		15
ME20003B	0.0	144146.0	4732896.0	4877042.0	0.00	2.96	2.96		15
LFID	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	QL	QCLIMIT
ME20003A	12662142.0	0.0	201646.0	12863788.0	0.00	1.57	1.57		15
ME20003B	6448198.0	0.0	84806.0	6533004.0	0.00	1.30	1.30		15

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1121
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20003.dat
User: ESanto
Acquired: 05/20/16 15:37:07
Printed: 05/20/16 16:29:30

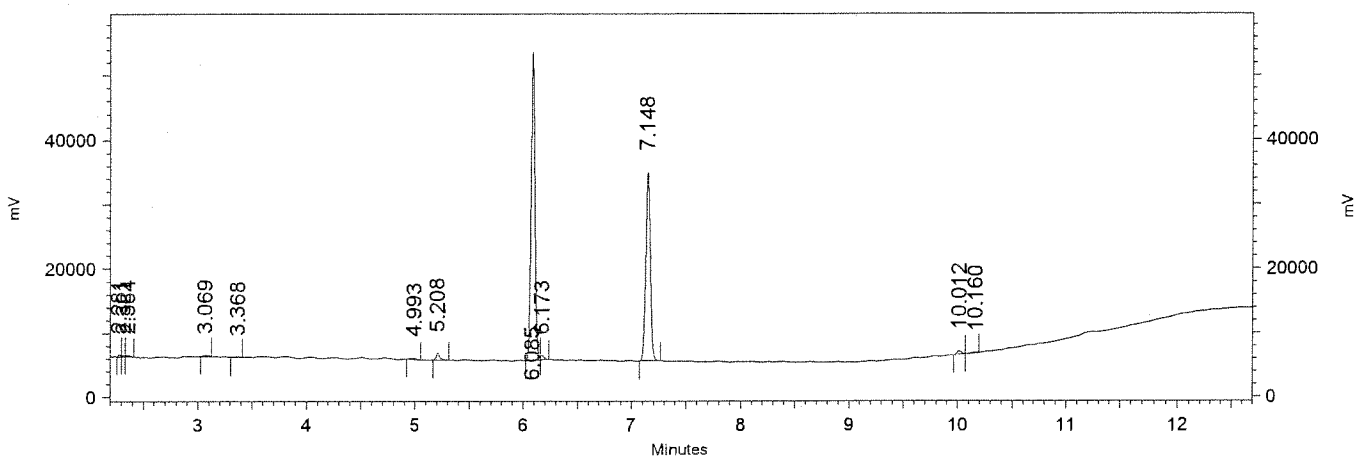


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465				0.000 BDL	
alpha-BHC	2.797				0.000 BDL	
gamma-BHC	2.989				0.000 BDL	
beta-BHC	3.037				0.000 BDL	
delta-BHC	3.152				0.000 BDL	
Heptachlor	3.292				0.000 BDL	
Aldrin	3.508				0.000 BDL	
Heptachlor Epoxide	4.011				0.000 BDL	
gamma-Chlordane	4.131				0.000 BDL	
alpha-Chlordane	4.265				0.000 BDL	
DDE	4.343	4.352	192809	123859.0	1.557	SB
Endosulfan I	4.416				0.000 BDL	
Dieldrin	4.697				0.000 BDL	
Endrin	5.004	5.015	12662142	114242.0	110.836	BB
DDD	5.109				0.000 BDL	
Endosulfan II	5.335				0.000 BDL	
DDT	5.560	5.571	11891110	109067.2	109.026	SS
Endrin aldehyde	6.076				0.000 BDL	
Methoxychlor	6.597				0.000 BDL	
Endosulfan Sulfate	7.045				0.000 BDL	
Endrin Ketone	7.773	7.783	201646	164888.0	1.223	BB
DCB	10.832				0.000 BDL	

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1121
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20003.dat
User: ESanto
Acquired: 05/20/16 15:37:07
Printed: 05/20/16 16:29:30



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631				0.000 BDL	
alpha-BHC	3.013				0.000 BDL	
gamma-BHC	3.252				0.000 BDL	
beta-BHC	3.299				0.000 BDL	
delta-BHC	3.528				0.000 BDL	
Heptachlor	3.596				0.000 BDL	
Aldrin	3.889				0.000 BDL	
Heptachlor Epoxide	4.504				0.000 BDL	
gamma-Chlordane	4.745				0.000 BDL	
alpha-Chlordane	4.953				0.000 BDL	
Endosulfan I	5.047				0.000 BDL	
DDE	5.200	5.208	144146	67986.8	2.120	BB
Dieldrin	5.493				0.000 BDL	
Endrin	6.077	6.085	6448198	57464.7	112.211	BV
DDD	6.339				0.000 BDL	
Endosulfan II	6.549				0.000 BDL	
DDT	7.140	7.148	4732896	45767.6	103.411	BB
Endrin Aldehyde	7.449				0.000 BDL	
Endosulfan Sulfate	8.339				0.000 BDL	
Methoxychlor	9.604				0.000 BDL	
Endrin Ketone	10.007	10.012	84806	72592.4	1.168	BV
DCB	12.224				0.000 BDL	

CONTINUE CALIBRATION
METHOD 8081

Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Conc Cont LFID & Datetime: ME20004A 05/20/2016 15:57
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	2.797	2.777	2.817	20.0	93919.0	1927599	20.52	3		20
gamma-BHC	2.989	2.967	3.011	20.0	97010.5	2007049	20.69	3		20
beta-BHC	3.037	3.015	3.059	20.0	61093.2	1238549	20.27	1		20
delta-BHC	3.152	3.131	3.173	20.0	103944.1	2131871	20.51	3		20
Heptachlor	3.292	3.268	3.316	20.0	124693.7	2589652	20.77	4		20
Aldrin	3.508	3.482	3.534	20.0	118874.0	2450317	20.61	3		20
Heptachlor Epoxide	4.011	3.981	4.041	20.0	129093.5	2607908	20.20	1		20
gamma-Chlordane	4.131	4.099	4.163	20.0	131674.2	2614303	19.85	-1		20
alpha-Chlordane	4.265	4.233	4.297	20.0	136473.7	2742264	20.09	0		20
DDE	4.343	4.311	4.375	40.0	123859.0	4999932	40.37	1		20
Endosulfan I	4.416	4.381	4.451	20.0	142551.8	2896060	20.32	2		20
Dieldrin	4.697	4.665	4.729	40.0	132373.3	5423984	40.97	2		20
Endrin	5.004	4.974	5.034	40.0	114242.0	5066215	44.35	11		20
DDD	5.109	5.079	5.139	40.0	87496.1	3570840	40.81	2		20
Endosulfan II	5.335	5.306	5.364	40.0	142283.1	5623902	39.53	-1		20
DDT	5.560	5.530	5.590	40.0	109067.2	4486259	41.13	3		20
Endrin Aldehyde	6.076	6.044	6.108	40.0	134129.0	5433200	40.51	1		20
Methoxychlor	6.597	6.559	6.635	200.0	70878.7	14421951	203.47	2		20
Endosulfan Sulfate	7.045	7.009	7.081	40.0	155144.6	6376139	41.10	3		20
Endrin Ketone	7.773	7.737	7.809	40.0	164888.0	6706010	40.67	2		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.465	2.445	2.485	20.0	62846.1	1324409	21.07	5		20
DCB	10.832	10.782	10.882	20.0	241147.5	4828988	20.02	0		20

CONTINUE CALIBRATION
METHOD 8081

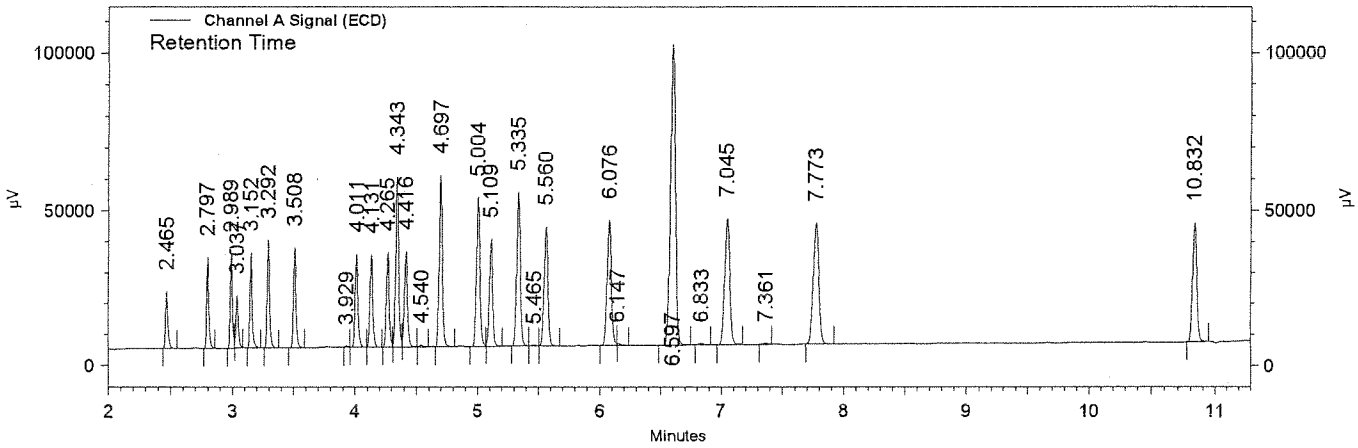
Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Conc Cont LFID & Datetime: ME20004B 05/20/2016 15:57
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	3.013	2.995	3.031	20.0	42482.0	910939	21.44	7		20
gamma-BHC	3.252	3.235	3.269	20.0	42631.3	913135	21.42	7		20
beta-BHC	3.299	3.282	3.316	20.0	27567.7	617445	22.40	12		20
delta-BHC	3.528	3.511	3.545	20.0	46499.3	955176	20.54	3		20
Heptachlor	3.596	3.578	3.614	20.0	56808.7	1176091	20.70	4		20
Aldrin	3.889	3.870	3.908	20.0	55562.8	1176566	21.17	6		20
Heptachlor Epoxide	4.504	4.481	4.527	20.0	63899.7	1332199	20.85	4		20
gamma-Chlordane	4.745	4.724	4.766	20.0	64359.4	1335066	20.74	4		20
alpha-Chlordane	4.953	4.935	4.971	20.0	69323.1	1360938	19.63	-2		20
DDE	5.200	5.184	5.216	40.0	67986.8	2702460	39.75	-1		20
Endosulfan I	5.047	5.028	5.066	20.0	64951.9	1387782	21.37	7		20
Dieldrin	5.493	5.476	5.510	40.0	63767.8	2666188	41.81	5		20
Endrin	6.077	6.057	6.097	40.0	57464.7	2474853	43.07	8		20
DDD	6.339	6.320	6.358	40.0	36806.4	1520858	41.32	3		20
Endosulfan II	6.549	6.527	6.571	40.0	67691.5	2746240	40.57	1		20
DDT	7.140	7.116	7.164	40.0	45767.6	1774735	38.78	-3		20
Endrin Aldehyde	7.449	7.427	7.471	40.0	63225.1	2713886	42.92	7		20
Methoxychlor	9.604	9.576	9.632	200.0	29841.8	6060451	203.09	2		20
Endosulfan Sulfate	8.339	8.315	8.363	40.0	72181.4	3076450	42.62	7		20
Endrin Ketone	10.007	9.977	10.037	40.0	72592.4	3000205	41.33	3		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.631	2.608	2.654	20.0	34035.2	703343	20.67	3		20
DCB	12.224	12.189	12.259	20.0	105441.3	2176714	20.64	3		20

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1121
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20004.dat
User: ESanto
Acquired: 05/20/16 15:57:04
Printed: 05/20/16 16:28:25

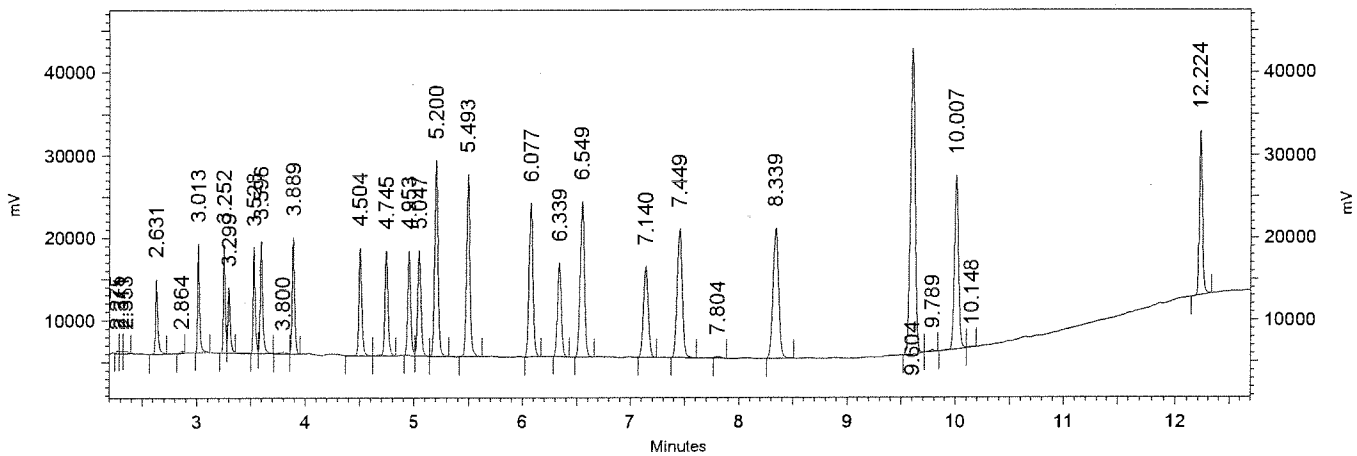


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465	2.465	1324409	62846.1	21.074	BB
alpha-BHC	2.797	2.797	1927599	93919.0	20.524	SS
gamma-BHC	2.989	2.989	2007049	97010.5	20.689	BV
beta-BHC	3.037	3.037	1238549	61093.2	20.273	VS
delta-BHC	3.152	3.152	2131871	103944.1	20.510	BB
Heptachlor	3.292	3.292	2589652	124693.7	20.768	BB
Aldrin	3.508	3.508	2450317	118874.0	20.613	SB
Heptachlor Epoxide	4.011	4.011	2607908	129093.5	20.202	SV
gamma-Chlordane	4.131	4.131	2614303	131674.2	19.854	VB
alpha-Chlordane	4.265	4.265	2742264	136473.7	20.094	BV
DDE	4.343	4.343	4999932	123859.0	40.368	VV
Endosulfan I	4.416	4.416	2896060	142551.8	20.316	VV
Dieldrin	4.697	4.697	5423984	132373.3	40.975	SB
Endrin	5.004	5.004	5066215	114242.0	44.346	SV
DDD	5.109	5.109	3570840	87496.1	40.811	VB
Endosulfan II	5.335	5.335	5623902	142283.1	39.526	SV
DDT	5.560	5.560	4486259	109067.2	41.133	VB
Endrin aldehyde	6.076	6.076	5433200	134129.0	40.507	SS
Methoxychlor	6.597	6.597	14421951	70878.7	203.474	SB
Endosulfan Sulfate	7.045	7.045	6376139	155144.6	41.098	BB
Endrin Ketone	7.773	7.773	6706010	164888.0	40.670	BB
DCB	10.832	10.832	4828988	241147.5	20.025	BB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1121
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20004.dat
User: ESanto
Acquired: 05/20/16 15:57:04
Printed: 05/20/16 16:28:25



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631	2.631	703343	34035.2	20.665	BB
alpha-BHC	3.013	3.013	910939	42482.0	21.443	BB
gamma-BHC	3.252	3.252	913135	42631.3	21.419	BV
beta-BHC	3.299	3.299	617445	27567.7	22.397	VV
delta-BHC	3.528	3.528	955176	46499.3	20.542	VV
Heptachlor	3.596	3.596	1176091	56808.7	20.703	VB
Aldrin	3.889	3.889	1176566	55562.8	21.175	VB
Heptachlor Epoxide	4.504	4.504	1332199	63899.7	20.848	BV
gamma-Chlordane	4.745	4.745	1335066	64359.4	20.744	VB
alpha-Chlordane	4.953	4.953	1360938	69323.1	19.632	BV
Endosulfan I	5.047	5.047	1387782	64951.9	21.366	VB
DDE	5.200	5.200	2702460	67986.8	39.750	BB
Dieldrin	5.493	5.493	2666188	63767.8	41.811	BB
Endrin	6.077	6.077	2474853	57464.7	43.067	BB
DDD	6.339	6.339	1520858	36806.4	41.321	BB
Endosulfan II	6.549	6.549	2746240	67691.5	40.570	BB
DDT	7.140	7.140	1774735	45767.6	38.777	BB
Endrin Aldehyde	7.449	7.449	2713886	63225.1	42.924	BB
Endosulfan Sulfate	8.339	8.339	3076450	72181.4	42.621	BB
Methoxychlor	9.604	9.604	6060451	29841.8	203.086	BV
Endrin Ketone	10.007	10.007	3000205	72592.4	41.329	BV
DCB	12.224	12.224	2176714	105441.3	20.644	IB

CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME20005A 05/20/2016 16:17
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	44655012	441.36	-12		20

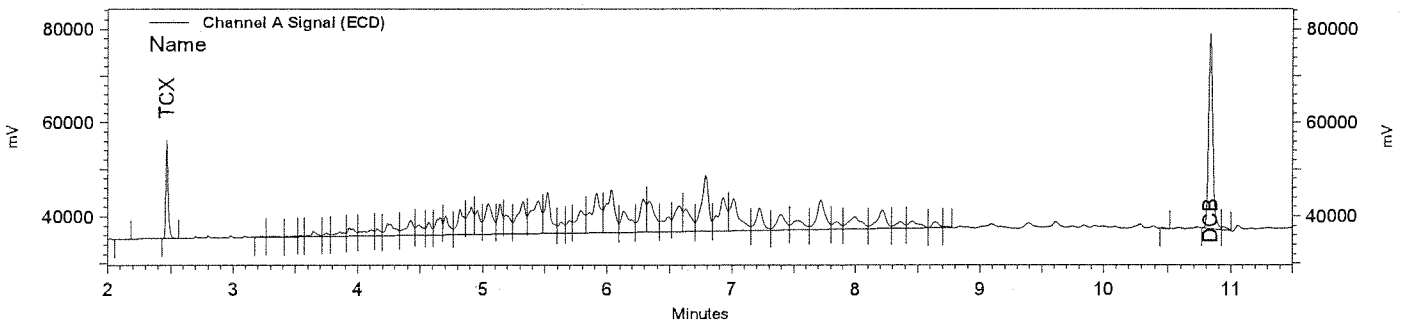
CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME20005B 05/20/2016 16:17
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	12167978	455.04	-9		20

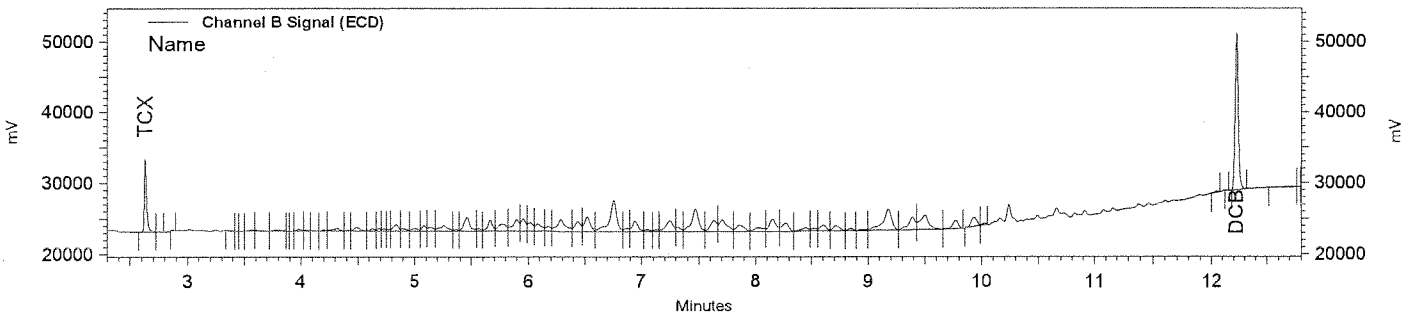
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: CTOE8E1121
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20005.dat
User: ESanto
Acquired: 05/20/16 16:17:01
Printed: 05/20/16 16:30:54



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.465	1491847	63261.8	23.58	IB
DCB	10.843	10.831	5431175	219138.3	24.78	BV
Toxaphene			44655013	101175.3	441.36	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.631	769592	32052.5	24.01	BV
DCB	12.244	12.225	2454065	98137.0	25.01	BB
Toxaphene			12167978	26740.7	455.04	

PEM PEST BREAKDOWN CALCULATION
METHOD 8081

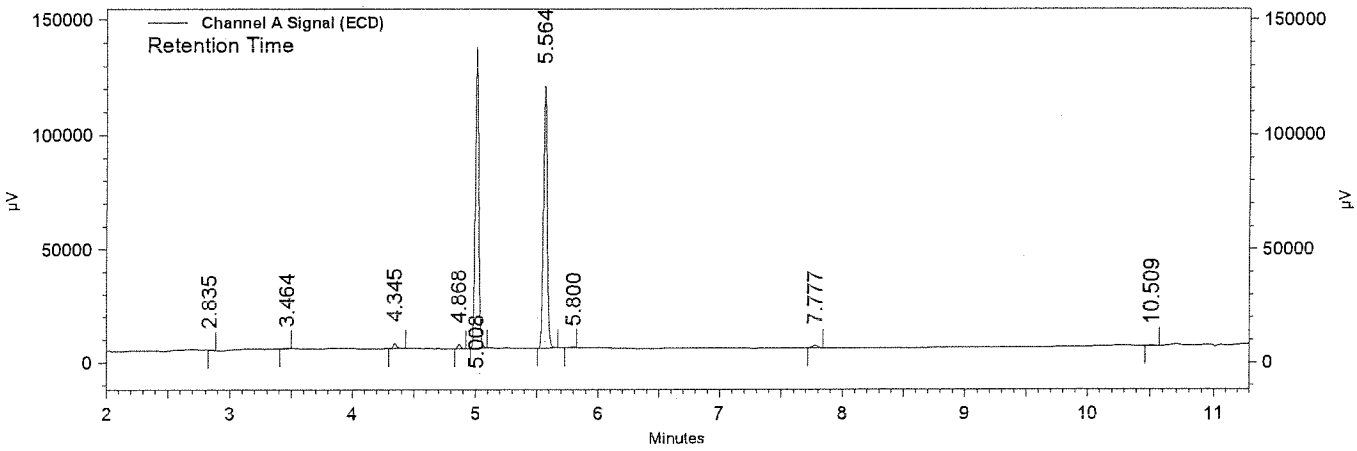
Lab Name	:	EMAX
Instrument ID	:	E8 (PE CLARUS680 GC)
GC Columm	:	RTX-CLPESTICIDES RTX-CLPESTICIDES2
Column size ID	:	30MX0.32MMIDX0.32UM 30MX0.32MMIDX0.25UM
PEM LFID & Datetime	:	ME20010A ME20010B 05/20/16 17:56

Based on AREA

	AREA				% Breakdown				
LFID	DDD	DDE	DDT	TOTAL	DDD	DDE	TOTAL	QL	QCLIMIT
ME20010A	0.0	263216.0	13362205.0	13625421.0	0.00	1.93	1.93		15
ME20010B	0.0	127372.0	5182210.0	5309582.0	0.00	2.40	2.40		15
LFID	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	QL	QCLIMIT
ME20010A	13797501.0	0.0	178733.0	13976234.0	0.00	1.28	1.28		15
ME20010B	6514227.0	0.0	71041.0	6585268.0	0.00	1.08	1.08		15

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1122
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20010.dat
User: ESanto
Acquired: 05/20/16 17:56:50
Printed: 05/23/16 13:40:18

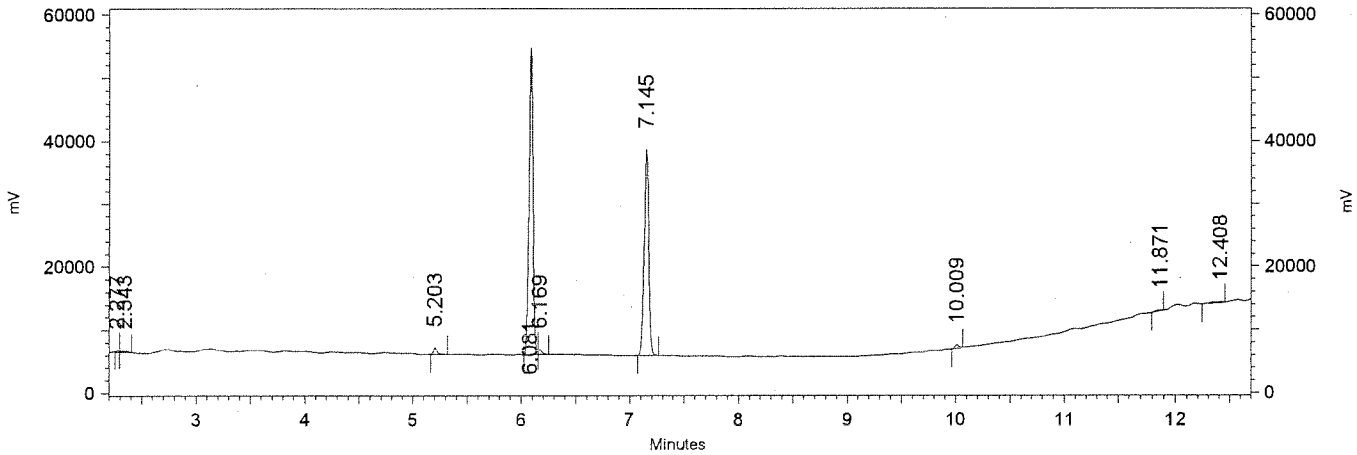


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.465				0.000 BDL	
alpha-BHC	2.797				0.000 BDL	
gamma-BHC	2.989				0.000 BDL	
beta-BHC	3.037				0.000 BDL	
delta-BHC	3.152				0.000 BDL	
Heptachlor	3.292				0.000 BDL	
Aldrin	3.508				0.000 BDL	
Heptachlor Epoxide	4.011				0.000 BDL	
gamma-Chlordane	4.131				0.000 BDL	
alpha-Chlordane	4.265				0.000 BDL	
DDE	4.343	4.345	263216	123859.0	2.125	SB
Endosulfan I	4.416				0.000 BDL	
Dieldrin	4.697				0.000 BDL	
Endrin	5.004	5.008	13797501	114242.0	120.774	BB
DDD	5.109				0.000 BDL	
Endosulfan II	5.335				0.000 BDL	
DDT	5.560	5.564	13362205	109067.2	122.513	BB
Endrin aldehyde	6.076				0.000 BDL	
Methoxychlor	6.597				0.000 BDL	
Endosulfan Sulfate	7.045				0.000 BDL	
Endrin Ketone	7.773	7.777	178733	164888.0	1.084	BB
DCB	10.832				0.000 BDL	

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1122
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20010.dat
User: ESanto
Acquired: 05/20/16 17:56:50
Printed: 05/23/16 13:40:18



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.631				0.000 BDL	
alpha-BHC	3.013				0.000 BDL	
gamma-BHC	3.252				0.000 BDL	
beta-BHC	3.299				0.000 BDL	
delta-BHC	3.528				0.000 BDL	
Heptachlor	3.596				0.000 BDL	
Aldrin	3.889				0.000 BDL	
Heptachlor Epoxide	4.504				0.000 BDL	
gamma-Chlordane	4.745				0.000 BDL	
alpha-Chlordane	4.953				0.000 BDL	
Endosulfan I	5.047				0.000 BDL	
DDE	5.200	5.203	127372	67986.8	1.873	BB
Dieldrin	5.493				0.000 BDL	
Endrin	6.077	6.081	6514227	57464.7	113.360	BV
DDD	6.339				0.000 BDL	
Endosulfan II	6.549				0.000 BDL	
DDT	7.140	7.145	5182210	45767.6	113.229	BB
Endrin Aldehyde	7.449				0.000 BDL	
Endosulfan Sulfate	8.339				0.000 BDL	
Methoxychlor	9.604				0.000 BDL	
Endrin Ketone	10.007	10.009	71041	72592.4	0.979	BB
DCB	12.224				0.000 BDL	

CONTINUE CALIBRATION
METHOD 8081

Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Conc Cont LFID & Datetime: ME20011A 05/20/2016 18:16
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	2.799	2.779	2.819	20.0	93919.0	2364236	25.17	26	*	20
gamma-BHC	2.991	2.969	3.013	20.0	97010.5	2435866	25.11	26	*	20
beta-BHC	3.040	3.018	3.062	20.0	61093.2	1444925	23.65	18		20
delta-BHC	3.155	3.134	3.176	20.0	103944.1	2579564	24.82	24	*	20
Heptachlor	3.295	3.271	3.319	20.0	124693.7	3023356	24.25	21	*	20
Aldrin	3.511	3.485	3.537	20.0	118874.0	2824699	23.76	19		20
Heptachlor Epoxide	4.013	3.983	4.043	20.0	129093.5	2932157	22.71	14		20
gamma-Chlordane	4.133	4.101	4.165	20.0	131674.2	2993569	22.74	14		20
alpha-Chlordane	4.268	4.236	4.300	20.0	136473.7	3143873	23.04	15		20
DDE	4.345	4.313	4.377	40.0	123859.0	5704386	46.06	15		20
Endosulfan I	4.419	4.384	4.454	20.0	142551.8	3270528	22.94	15		20
Dieldrin	4.700	4.668	4.732	40.0	132373.3	6145841	46.43	16		20
Endrin	5.007	4.977	5.037	40.0	114242.0	5772220	50.53	26	*	20
DDD	5.112	5.082	5.142	40.0	87496.1	4138640	47.30	18		20
Endosulfan II	5.336	5.307	5.365	40.0	142283.1	6298168	44.26	11		20
DDT	5.563	5.533	5.593	40.0	109067.2	5182895	47.52	19		20
Endrin Aldehyde	6.077	6.045	6.109	40.0	134129.0	5930397	44.21	11		20
Methoxychlor	6.597	6.559	6.635	200.0	70878.7	16411491	231.54	16		20
Endosulfan Sulfate	7.045	7.009	7.081	40.0	155144.6	6975153	44.96	12		20
Endrin Ketone	7.775	7.739	7.811	40.0	164888.0	7455912	45.22	13		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.467	2.447	2.487	20.0	62846.1	1530982	24.36	22	*	20
DCB	10.832	10.782	10.882	20.0	241147.5	5315365	22.04	10		20

CONTINUE CALIBRATION
METHOD 8081

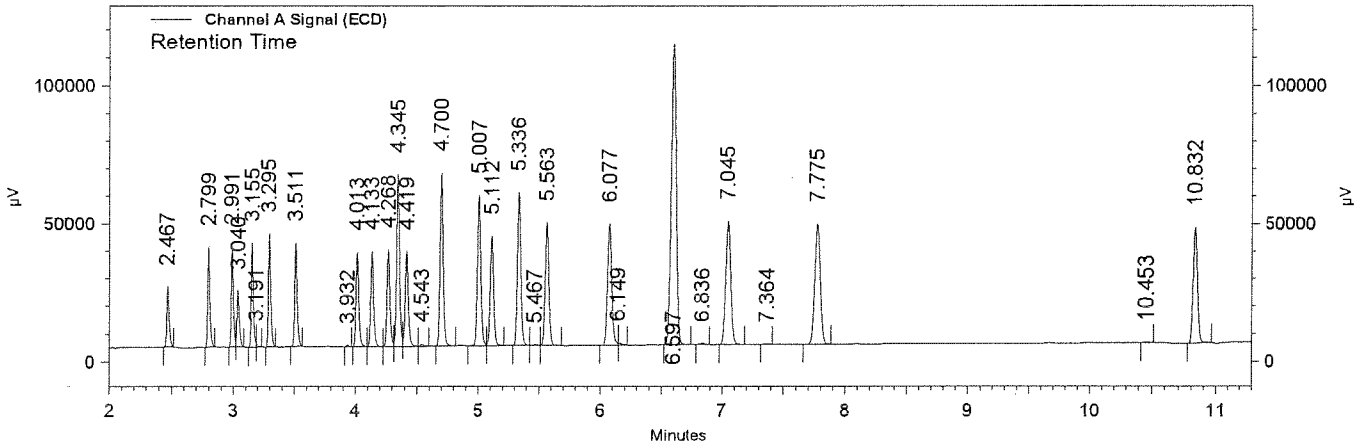
Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Conc Cont LFID & Datetime: ME20011B 05/20/2016 18:16
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	3.015	2.997	3.033	20.0	42482.0	985109	23.19	16		20
gamma-BHC	3.253	3.236	3.270	20.0	42631.3	1003617	23.54	18		20
beta-BHC	3.301	3.284	3.318	20.0	27567.7	655713	23.79	19		20
delta-BHC	3.531	3.514	3.548	20.0	46499.3	1070328	23.02	15		20
Heptachlor	3.599	3.581	3.617	20.0	56808.7	1307993	23.02	15		20
Aldrin	3.892	3.873	3.911	20.0	55562.8	1260237	22.68	13		20
Heptachlor Epoxide	4.505	4.482	4.528	20.0	63899.7	1381659	21.62	8		20
gamma-Chlordane	4.748	4.727	4.769	20.0	64359.4	1366708	21.24	6		20
alpha-Chlordane	4.955	4.937	4.973	20.0	69323.1	1420149	20.49	2		20
DDE	5.203	5.187	5.219	40.0	67986.8	2801382	41.21	3		20
Endosulfan I	5.049	5.030	5.068	20.0	64951.9	1460760	22.49	12		20
Dieldrin	5.495	5.478	5.512	40.0	63767.8	2802323	43.95	10		20
Endrin	6.079	6.059	6.099	40.0	57464.7	2658572	46.26	16		20
DDD	6.340	6.321	6.359	40.0	36806.4	1682084	45.70	14		20
Endosulfan II	6.551	6.529	6.573	40.0	67691.5	2872941	42.44	6		20
DDT	7.140	7.116	7.164	40.0	45767.6	1982317	43.31	8		20
Endrin Aldehyde	7.451	7.429	7.473	40.0	63225.1	2767243	43.77	9		20
Methoxychlor	9.604	9.576	9.632	200.0	29841.8	6981792	233.96	17		20
Endosulfan Sulfate	8.339	8.315	8.363	40.0	72181.4	3139047	43.49	9		20
Endrin Ketone	10.007	9.977	10.037	40.0	72592.4	3151403	43.41	9		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.632	2.609	2.655	20.0	34035.2	723075	21.25	6		20
DCB	12.225	12.190	12.260	20.0	105441.3	2274712	21.57	8		20

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1122
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20011.dat
User: ESanto
Acquired: 05/20/16 18:16:46
Printed: 05/23/16 13:43:06

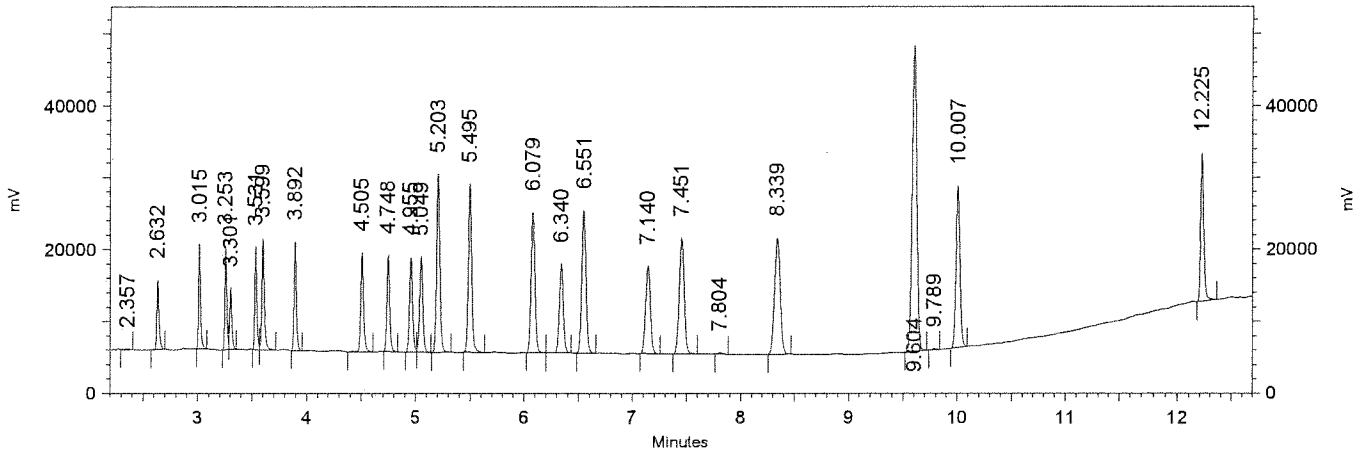


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.467	2.467	1530982	62846.1	24.361	BI
alpha-BHC	2.799	2.799	2364236	93919.0	25.173	SI
gamma-BHC	2.991	2.991	2435866	97010.5	25.109	BV
beta-BHC	3.040	3.040	1444925	61093.2	23.651	VI
delta-BHC	3.155	3.155	2579564	103944.1	24.817	Bx
Heptachlor	3.295	3.295	3023356	124693.7	24.246	BI
Aldrin	3.511	3.511	2824699	118874.0	23.762	BI
Heptachlor Epoxide	4.013	4.013	2932157	129093.5	22.713	BV
gamma-Chlordane	4.133	4.133	2993569	131674.2	22.735	VB
alpha-Chlordane	4.268	4.268	3143873	136473.7	23.036	BV
DDE	4.345	4.345	5704386	123859.0	46.055	VV
Endosulfan I	4.419	4.419	3270528	142551.8	22.943	VV
Dieldrin	4.700	4.700	6145841	132373.3	46.428	SB
Endrin	5.007	5.007	5772220	114242.0	50.526	SV
DDD	5.112	5.112	4138640	87496.1	47.301	VB
Endosulfan II	5.336	5.336	6298168	142283.1	44.265	BV
DDT	5.563	5.563	5182895	109067.2	47.520	VB
Endrin aldehyde	6.077	6.077	5930397	134129.0	44.214	SS
Methoxychlor	6.597	6.597	16411491	70878.7	231.543	IB
Endosulfan Sulfate	7.045	7.045	6975153	155144.6	44.959	BB
Endrin Ketone	7.775	7.775	7455912	164888.0	45.218	SS
DCB	10.832	10.832	5315365	241147.5	22.042	BB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1122
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20011.dat
User: ESanto
Acquired: 05/20/16 18:16:46
Printed: 05/23/16 13:43:06



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.632	2.632	723075	34035.2	21.245	BI
alpha-BHC	3.015	3.015	985109	42482.0	23.189	BI
gamma-BHC	3.253	3.253	1003617	42631.3	23.542	BV
beta-BHC	3.301	3.301	655713	27567.7	23.786	VI
delta-BHC	3.531	3.531	1070328	46499.3	23.018	BV
Heptachlor	3.599	3.599	1307993	56808.7	23.025	VB
Aldrin	3.892	3.892	1260237	55562.8	22.681	BB
Heptachlor Epoxide	4.505	4.505	1381659	63899.7	21.622	BB
gamma-Chlordane	4.748	4.748	1366708	64359.4	21.236	BB
alpha-Chlordane	4.955	4.955	1420149	69323.1	20.486	BV
Endosulfan I	5.049	5.049	1460760	64951.9	22.490	VB
DDE	5.203	5.203	2801382	67986.8	41.205	BB
Dieldrin	5.495	5.495	2802323	63767.8	43.946	BB
Endrin	6.079	6.079	2658572	57464.7	46.264	BV
DDD	6.340	6.340	1682084	36806.4	45.701	VB
Endosulfan II	6.551	6.551	2872941	67691.5	42.442	BB
DDT	7.140	7.140	1982317	45767.6	43.313	BB
Endrin Aldehyde	7.451	7.451	2767243	63225.1	43.768	BB
Endosulfan Sulfate	8.339	8.339	3139047	72181.4	43.488	BB
Methoxychlor	9.604	9.604	6981792	29841.8	233.960	BB
Endrin Ketone	10.007	10.007	3151403	72592.4	43.412	BB
DCB	12.225	12.225	2274712	105441.3	21.573	BB

CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME20012A 05/20/2016 18:37
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	50862164	502.71	1		20

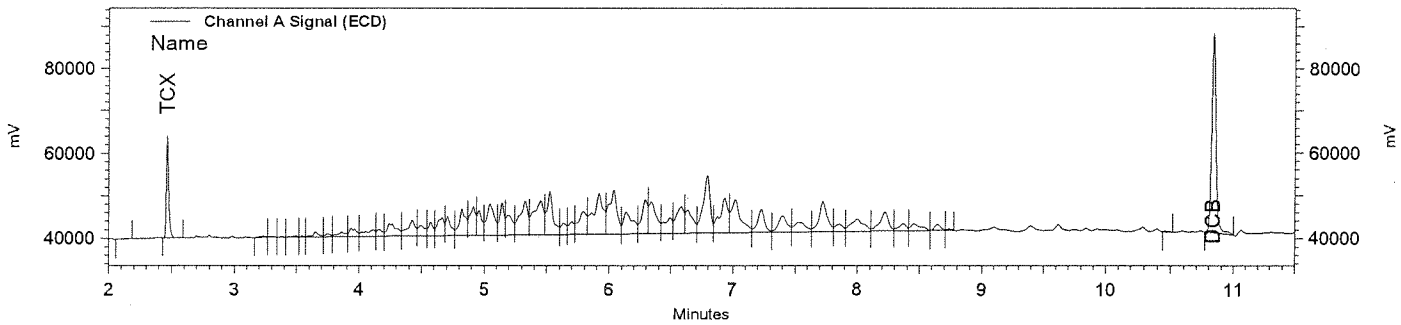
CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME20012B 05/20/2016 18:37
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	13239851	495.12	-1		20

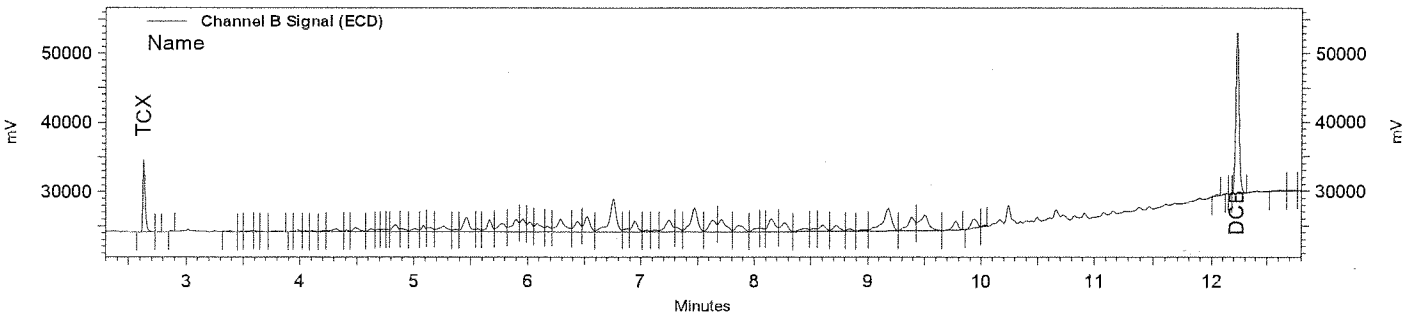
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: CTOE8E1122
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME20\ME20012.dat
User: ESanto
Acquired: 05/20/16 18:37:03
Printed: 05/23/16 13:43:41



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.465	1715493	63261.8	27.12	IB
DCB	10.843	10.833	6206605	219138.3	28.32	BI
Toxaphene			50862164	101175.3	502.71	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.631	792144	32052.5	24.71	BV
DCB	12.244	12.225	2593279	98137.0	26.43	BB
Toxaphene			13239851	26740.7	495.12	

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PESTICIDES/PCBs

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

ICAL LEVEL (PEST)	(MIX3)	CONCENTRATION (ppb) (PEST)	(MIX3)
1	9	1.25/2.5/12.5	1.25/1.25
2	10	2.5/5/25	2.5/2.5
3	11	5/10/50	5/5
4	12	10/20/100	10/10
5	13	20/40/200	20/20
6	14	40/80/400	40/40
7	15	60/120/600	60/60
8	16	80/160/800	80/80

ICAL LEVEL (TOXAPHENE)	CONCENTRATION (ppb)
1	50/2.5
2	100/5
3	250/12.5
4	500/25
5	750/37.5
6	1000/50
7	1500/75
8	2000/100

ICAL LEVEL (CHLORDANE)	CONCENTRATION (ppb)
1	25/1.25
2	50/2.5
3	100/5
4	250/12.5
5	500/25
6	750/37.5
7	1000/50
8	1500/75

Book #: AE8-007

Instrument No.: E8

Analytical Sequence: ME11

Method File: CPES811, TOES811 CRES811, CPES811A

Analytical Batch: ME1101D

SOP #	Rev. #
☑ EMAX-8081	7
☐ EMAX-8082	4
☐ EMAX-608	1

ICAL REFERENCE

ICAL ID	BATCH	DATE
CPES811	ME11	05-11-2016
TOES811	ME11	05-11-2016
CRES811	ME11	05-11-2016
CPES811A	ME11	05-11-2016

STANDARDS ID		Conc (µg/L)
IB	SSIC-12-96-03	40/40
PEM	SSIC-12-96-01	100/100
PEST ICAL	SSIC-12-98-02	see comments
PEST ICV	SSIC-12-98-03	20/200
MIX3 ICAL	SSIC-12-99-01	see comments
MIX3 ICV	SSIC-12-99-02	20/20
TOXA ICAL	SSIC-12-99-03	see comments
TOXA ICV	SSIC-12-100-01	500/25
CHLO ICAL	SSIC-12-100-02	see comments
CHLO ICV	SSIC-12-100-03	500/25

Hexane Lot # SWLA-006-01-05

Column	
	☐ A. Elite-CLP I B. Elite-CLP II
	☑ A. RTX/STX CLPEST I B. RTX/STX CLPEST II
	☐ A. ZB-MULTI RES I B. ZB-MULTI RES II

ELECTRONIC DATA ARCHIVAL

Location	Date
☐ EZChrom Elite_PEST E8	

Analyzed By: [signature] Date: 05-11-2016

Date Disposed: Disposed By:

This page is checked during data review.

Sequence: ME11.seq

Run #	Status	Vial	Volume	Sample ID	Method	Filename	Multiplie	Description
1	Acquiring	1	1	HEXANE RINSE	CPE8E11.met	ME11001.dat	1	
2		2	1	PEST PRIME	CPE8E11.met	ME11002.dat	1	
3		3	1	PEM TEST	CPE8E11.met	ME11003.dat	1	
4		4	1	PEST TEST	CPE8E11.met	ME11004.dat	1	
5		5	1	MIX3 TEST	CPE8E11.met	ME11005.dat	1	
6		6	1	TOXA TEST	CPE8E11.met	ME11006.dat	1	
7		7	1	CHLO TEST	CPE8E11.met	ME11007.dat	1	
8		8	1	IBE8E1101	CPE8E11.met	ME11008.dat	1	
9		9	1	PEE8E1101	CPE8E11.met	ME11009.dat	1	
10		10	1	CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)	CPE8E11.met	ME11010.dat	1	
11		11	1	CPE8E1102 (2.5/5/25ppb PEST ICAL)	CPE8E11.met	ME11011.dat	1	
12		12	1	CPE8E1103 (5/10/50ppb PEST ICAL)	CPE8E11.met	ME11012.dat	1	
13		13	1	CPE8E1104 (10/20/100ppb PEST ICAL)	CPE8E11.met	ME11013.dat	1	
14		14	1	CPE8E1105 (20/40/200ppb PEST ICAL)	CPE8E11.met	ME11014.dat	1	
15		15	1	CPE8E1106 (40/80/400ppb PEST ICAL)	CPE8E11.met	ME11015.dat	1	
16		16	1	CPE8E1107 (60/120/600ppb PEST ICAL)	CPE8E11.met	ME11016.dat	1	
17		17	1	CPE8E1108 (80/160/800ppb PEST ICAL)	CPE8E11.met	ME11017.dat	1	
18		18	1	CPE8E1109 (1.25/1.25ppb MIX3 ICAL)	CPE8E11.met	ME11018.dat	1	
19		19	1	CPE8E1110 (2.5/2.5ppb MIX3 ICAL)	CPE8E11.met	ME11019.dat	1	
20		20	1	CPE8E1111 (5/5ppb MIX3 ICAL)	CPE8E11.met	ME11020.dat	1	
21		21	1	CPE8E1112 (10/10ppb MIX3 ICAL)	CPE8E11.met	ME11021.dat	1	
22		22	1	CPE8E1113 (20/20ppb MIX3 ICAL)	CPE8E11.met	ME11022.dat	1	
23		23	1	CPE8E1114 (40/40ppb MIX3 ICAL)	CPE8E11.met	ME11023.dat	1	
24		24	1	CPE8E1115 (60/60ppb MIX3 ICAL)	CPE8E11.met	ME11024.dat	1	
25		25	1	CPE8E1116 (80/80ppb MIX3 ICAL)	CPE8E11.met	ME11025.dat	1	
26		26	1	ICPE8E1101 (20/200ppb PEST ICV)	CPE8E11.met	ME11026.dat	1	
27		27	1	ICPE8E1101A (20/20ppb MIX3 ICV)	CPE8E11.met	ME11027.dat	1	
28		28	1	TOE8E1101 (50/2.5ppb TOXA ICAL)	TOE8E11.met	ME11028.dat	1	
29		29	1	TOE8E1102 (100/5ppb TOXA ICAL)	TOE8E11.met	ME11029.dat	1	
30		30	1	TOE8E1103 (250/12.5ppb TOXA ICAL)	TOE8E11.met	ME11030.dat	1	
31		31	1	TOE8E1104 (500/25ppb TOXA ICAL)	TOE8E11.met	ME11031.dat	1	
32		32	1	TOE8E1105 (750/37.5ppb TOXA ICAL)	TOE8E11.met	ME11032.dat	1	
33		33	1	TOE8E1106 (1000/50ppb TOXA ICAL)	TOE8E11.met	ME11033.dat	1	
34		34	1	TOE8E1107 (1500/75ppb TOXA ICAL)	TOE8E11.met	ME11034.dat	1	
35		35	1	TOE8E1108 (2000/100ppb TOXA ICAL)	TOE8E11.met	ME11035.dat	1	
36		36	1	ITOE8E1101 (500/25ppb TOXA ICV)	TOE8E11.met	ME11036.dat	1	
37		37	1	CRE8E1101 (25/1.25ppb CHLO ICAL)	CRE8E11.met	ME11037.dat	1	
38		38	1	CRE8E1102 (50/2.5ppb CHLO ICAL)	CRE8E11.met	ME11038.dat	1	
39		39	1	CRE8E1103 (100/5ppb CHLO ICAL)	CRE8E11.met	ME11039.dat	1	
40		40	1	CRE8E1104 (250/12.5ppb CHLO ICAL)	CRE8E11.met	ME11040.dat	1	
41		41	1	CRE8E1105 (500/25ppb CHLO ICAL)	CRE8E11.met	ME11041.dat	1	
42		42	1	CRE8E1106 (750/37.5ppb CHLO ICAL)	CRE8E11.met	ME11042.dat	1	
43		43	1	CRE8E1107 (1000/50ppb CHLO ICAL)	CRE8E11.met	ME11043.dat	1	
44		44	1	CRE8E1108 (1500/75ppb CHLO ICAL)	CRE8E11.met	ME11044.dat	1	
45		45	1	ICRE8E1101 (500/25ppb CHLO ICV)	CRE8E11.met	ME11045.dat	1	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PESTICIDES/PCBs

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AE8-007

Instrument No.: E8

Analytical Sequence: ME20

Method File: CPE8E11, TOE8E11

Analytical Batch: ME20004

SOP #	Rev. #
☑ EMAX-8081	7
☐ EMAX-8082	4
☐ EMAX-608	1

ICAL REFERENCE

ICAL ID	BATCH	DATE
CPE8E11	ME11	05-11-2016
TOE8E11	ME11	05-11-2016

STANDARDS ID		Conc (µg/L)
IB	SSIC-12-96-03	40/40
PEM	SSIC-12-96-01	100/100
PEST DCC	SSIC-12-98-01	20/40/200
TOXA DCC	SSIC-12-97-03	500/25

Hexane Lot # SWLA-006-01-05

Column	
	☐ A. Elite-CLP I B. Elite-CLP II
	☐ A. RTX/STX CLPEST I B. RTX/STX CLPEST II
	☐ A. ZB-MULTI RES I B. ZB-MULTI RES II

ELECTRONIC DATA ARCHIVAL

Location	Date
☐ EZChrom Elite_PEST E8	

Analyzed By: [signature] Date: 05-20-2016

Date Disposed: Disposed By:

This page is checked during data review.

Sequence: ME20.seq

Run #	Status	Vial	Volume	Sample ID	Method	Filename	Iultiplie	Description
1		1	1	HEXANE RINSE	CPE8E11.met	ME20001.dat	1	
2		2	1	IBE8E1121	CPE8E11.met	ME20002.dat	1	
3		3	1	PEE8E1121	CPE8E11.met	ME20003.dat	1	
4		4	1	CCPE8E1121	CPE8E11.met	ME20004.dat	1	
5		5	1	CTOE8E1121	TOE8E11.met	ME20005.dat	1	
6		6	1	CPE015WB	CPE8E11.met	ME20006.dat	1	
7		7	1	CPE015WL	CPE8E11.met	ME20007.dat	1	
8		8	1	CPE015WC	CPE8E11.met	ME20008.dat	1	
9		9	1	E133-02	CPE8E11.met	ME20009.dat	1	
10		10	1	PEE8E1122	CPE8E11.met	ME20010.dat	1	
11		11	1	CCPE8E1122	CPE8E11.met	ME20011.dat	1	
12		12	1	CTOE8E1122	TOE8E11.met	ME20012.dat	1	

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
PESTICIDES

SOP	Rev. #
☐ EMAX-608	2
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-3620	2
☐ EMAX-3660	1
☐ EMAX-3665	2

Note: For samples, relevant QCs/Standards extracted, refer to attached extraction sequence.

☒ MS/MSD can not be extracted due to insufficient amount of samples

Comments:

Book #:	ECP-081
Preparation Batch:	CPE015W
Matrix:	WATER
Micropipette ID:	1000 µl: PE00-01
Micropipette ID:	

STANDARDS	ID	Amount Added (ml)
Surrogate	VWC-12-96-02	0.4
LCS/MS Pest	VWC-12-97-02	0.4
LCS/MS		
LCS/MS		
Reagents	**Lot # / ID**	
CH_2Cl_2	55219	
Hexane	55149	
Acetone		
Na_2SO_4	VWB-003-10-N	
H_2SO_4		
TBA Reagent		
Silica Sand		
Florisil & Eluting Solvent		
Isopropyl Alcohol	VPIA-07-01-16	
Reagent Water	VWIA-006-01-02	
Residual Chlorine Strip	6/24	
pH strip	HC 577678	
Hexane/Acetone Soln. (50:50)		
Filter Paper	96922 35B	

Lab Sample ID	Sonicator #	Cell #	Concentrator #
CPE015WB			1/6
WL			1/6
WC			1/6
E133-02			1/6

Tuning	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1	35	35
2		
3		
4		
5		
6	60	60
7		
8		

Test Thermometer = SVOC-T1

Prepared By:	VM	Witnessed By:	ML
Standard Added By:	VM	Checked By:	ML
Extract Received By:	5/20/16	Location:	SE02-04
Disposed By:		Disposed On:	

FileID: CPE015W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR PESTICIDES/PCBs

PrepBatchID	LabSampleID	Aliquot	Unit	Ve (ml)	EA	EVe (ml)	PF	FlorisilCleanup EMAX-3620	SulfurCleanup EMAX-3660	[1]AcidCleanup EMAX-3665	Comments
16CPE015W01	CPE015WB	1000	ml	10	1000	10	1				
16CPE015W02	CPE015WL	1000	ml	10	1000	10	1				
16CPE015W03	CPE015WC	1000	ml	10	1000	10	1				
16CPE015W04	E133-02	940	ml	10	1000	10	1.06				pH 7, no chlorine detectec
											dirty orange, w/ bubbles

☑ ExtractionStarted @ 5/19/2016 10:15

Ve=ExtractVolume EA= ExpectedAliquot EVe=ExpectedExtractVolume PF=(EA/Aliquot)(Ve/EVe)

☑ Extraction Ended @ 5/20/2016 4:15

Prepared By: JMuert

Comment: [1]Acid cleanup is only for PCB anlaysis.

Checked By: ML

Date 5/20/16

SOP EMAX-3520 Rev. 5

TCLP PESTICIDES

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 15:14
Lab Samp ID:	E133-03	Dilution Factor:	10
Lab File ID:	ME24013A	Matrix :	WATER
Ext Btch ID:	CPE018W	% Moisture :	4.0
Calib. Ref.:	ME24004A	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND)|ND	1.0	0.050	0.10
HEPTACHLOR	(ND)|ND	1.0	0.070	0.10
HEPTACHLOR EPOXIDE	(ND)|ND	1.0	0.050	0.10
GAMMA-CHLORDANE	(ND)|ND	1.0	0.050	0.10
ALPHA-CHLORDANE	(ND)|ND	1.0	0.050	0.10
ENDRIN	(ND)|ND	1.0	0.080	0.10
METHOXYCHLOR	(ND)|ND	10	0.50	1.0
TOXAPHENE	(ND)|ND	20	2.5	5.0

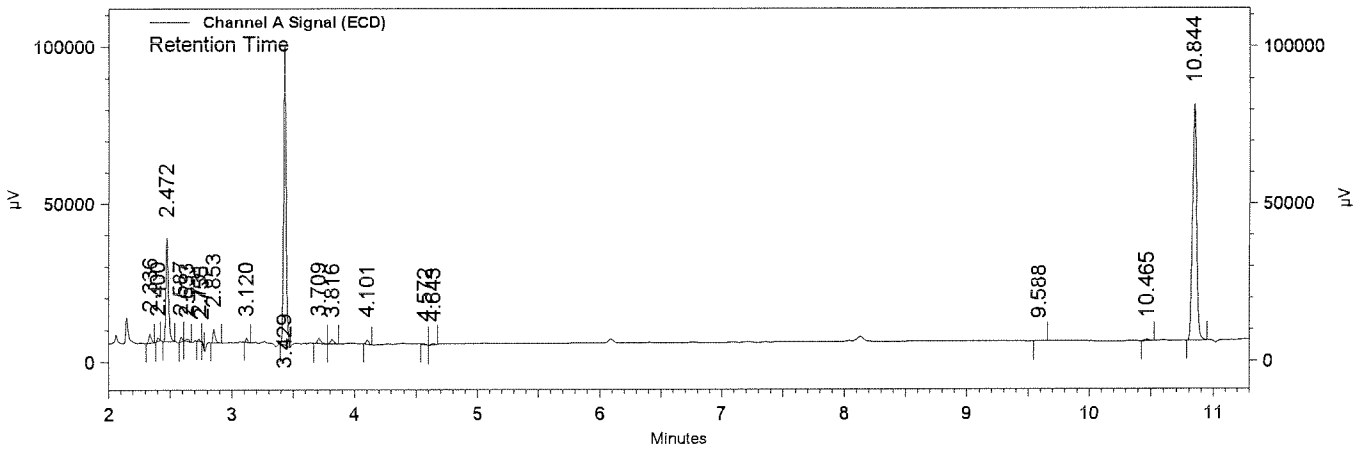
SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(3.748)|3.565	4.000	(93.7)|89.1	25-140
DECACHLOROBIPHENYL	4.015|(4.178)	4.000	100|(104)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

DateTime Leached: 05/20/16 18:30

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: E133-03
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24013.dat
User: ESanto
Acquired: 05/24/16 15:14:21
Printed: 05/24/16 15:30:00

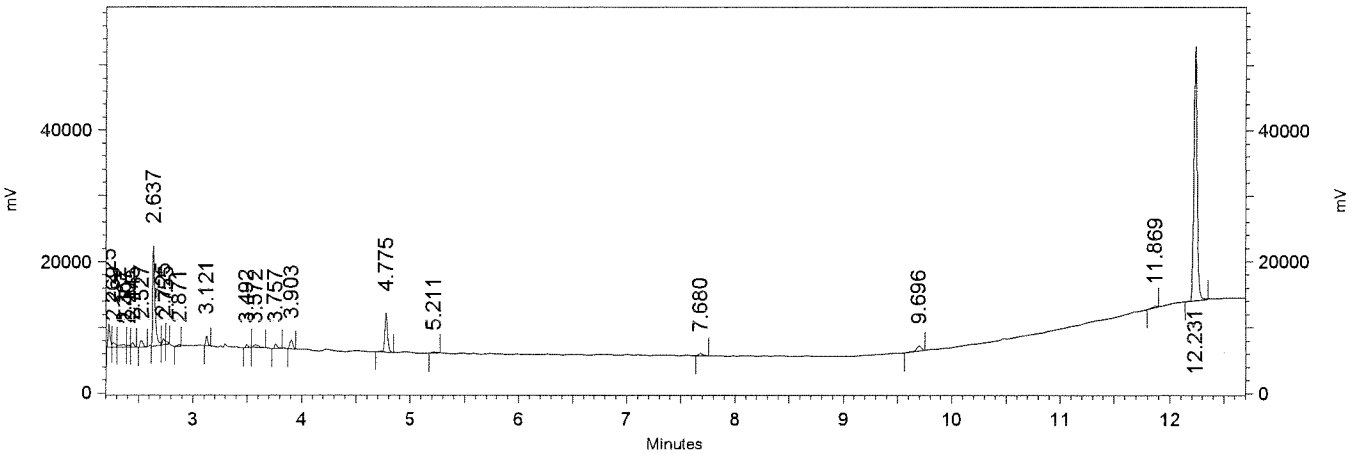


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.472	2355508	62846.1	37.481	vv
alpha-BHC	2.807				0.000 BDL	
gamma-BHC	2.999				0.000 BDL	
beta-BHC	3.047				0.000 BDL	
delta-BHC	3.161				0.000 BDL	
Heptachlor	3.301				0.000 BDL	
Aldrin	3.517				0.000 BDL	
Heptachlor Epoxide	4.019				0.000 BDL	
gamma-Chlordane	4.139				0.000 BDL	
alpha-Chlordane	4.273				0.000 BDL	
DDE	4.351				0.000 BDL	
Endosulfan I	4.424				0.000 BDL	
Dieldrin	4.705				0.000 BDL	
Endrin	5.012				0.000 BDL	
DDD	5.117				0.000 BDL	
Endosulfan II	5.343				0.000 BDL	
DDT	5.569				0.000 BDL	
Endrin aldehyde	6.087				0.000 BDL	
Methoxychlor	6.607				0.000 BDL	
Endosulfan Sulfate	7.056				0.000 BDL	
Endrin Ketone	7.787				0.000 BDL	
DCB	10.841	10.844	9681029	241147.5	40.146	BS

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: E133-03
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24013.dat
User: ESanto
Acquired: 05/24/16 15:14:21
Printed: 05/24/16 15:30:00



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.637	1213285	34035.2	35.648	SV
alpha-BHC	3.021				0.000 BDL	
gamma-BHC	3.260				0.000 BDL	
beta-BHC	3.307				0.000 BDL	
delta-BHC	3.536				0.000 BDL	
Heptachlor	3.604				0.000 BDL	
Aldrin	3.897	3.903	132330	55562.8	2.382	vv
Heptachlor Epoxide	4.512				0.000 BDL	
gamma-Chlordane	4.752				0.000 BDL	
alpha-Chlordane	4.961				0.000 BDL	
Endosulfan I	5.055				0.000 BDL	
DDE	5.208	5.211	23364	67986.8	0.344	vv
Dieldrin	5.501				0.000 BDL	
Endrin	6.087				0.000 BDL	
DDD	6.347				0.000 BDL	
Endosulfan II	6.557				0.000 BDL	
DDT	7.151				0.000 BDL	
Endrin Aldehyde	7.460				0.000 BDL	
Endosulfan Sulfate	8.352				0.000 BDL	
Methoxychlor	9.613				0.000 BDL	
Endrin Ketone	10.016				0.000 BDL	
DCB	12.232	12.231	4405200	105441.3	41.779	IB

QC SUMMARIES

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 12:54
Lab Samp ID:	CPE018WB	Dilution Factor:	1
Lab File ID:	ME24006A	Matrix :	WATER
Ext Btch ID:	CPE018W	% Moisture :	NA
Calib. Ref.:	ME24004A	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND)|ND	0.10	0.0050	0.010
HEPTACHLOR	(ND)|ND	0.10	0.0070	0.010
HEPTACHLOR EPOXIDE	(ND)|ND	0.10	0.0050	0.010
GAMMA-CHLORDANE	(ND)|ND	0.10	0.0050	0.010
ALPHA-CHLORDANE	(ND)|ND	0.10	0.0050	0.010
ENDRIN	(ND)|ND	0.10	0.0080	0.010
METHOXYCHLOR	(ND)|ND	1.0	0.050	0.10
TOXAPHENE	(ND)|ND	2.0	0.25	0.50

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(0.3856)|0.3576	0.4000	(96.4)|89.4	25-140
DECACHLOROBIPHENYL	0.3837|(0.4055)	0.4000	95.9|(101)	30-135

Left of | is related to first column ; Right of | related to second column
Final result indicated by ( )

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3520C/8081B

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	CPE018WB	CPE018WL	CPE018WC		
LAB FILE ID:	ME24006A	ME24007A	ME24008A		
DATE EXTRACTED:	05/23/1610:00	05/23/1610:00	05/23/1610:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/24/1612:54	05/24/1613:14	05/24/1613:34	DATE RECEIVED:	05/23/16
PREP. BATCH:	CPE018W	CPE018W	CPE018W		
CALIB. REF:	ME24004A	ME24004A	ME24004A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
gamma-BHC (Lindane)	(ND) | ND	0.200	0.215 | (0.219)	108 | (110)	0.200	(0.227) | 0.227	(114) | 114	(5) | 4	25-135	30
Heptachlor	(ND) | ND	0.200	(0.225) | 0.223	(112) | 112	0.200	(0.237) | 0.231	(118) | 116	(5) | 4	40-130	30
Heptachlor Epoxide	(ND) | ND	0.200	(0.214) | 0.212	(107) | 106	0.200	(0.227) | 0.222	(114) | 111	(6) | 5	60-130	30
gamma-Chlordane	(ND) | ND	0.200	0.205 | (0.219)	102 | (110)	0.200	0.218 | (0.229)	109 | (114)	6 | (4)	60-125	30
alpha-Chlordane	(ND) | ND	0.200	(0.215) | 0.205	(108) | 102	0.200	(0.228) | 0.215	(114) | 108	(6) | 5	65-125	30
Endrin	(ND) | ND	0.200	0.252 | (0.238)	126 | (119)	0.200	0.268 | (0.253)	134 | (126)	6 | (6)	55-135	30
Methoxychlor	(ND) | ND	2.00	(2.20) | 2.35	(110) | 117	2.00	(2.36) | 2.52	(118) | 126	(7) | 7	55-150	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
Tetrachloro-m-xylene	0.4000	(0.3684) | 0.3479	(92.1) | 87.0	0.4000	(0.4021) | 0.3699	(101) | 92.5	25-140
Decachlorobiphenyl	0.4000	0.3791 | (0.3981)	94.8 | (99.5)	0.4000	0.4125 | (0.4368)	103 | (109)	30-135

METHOD SW1311/3520C/8081B
TCLP PESTICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 10:00
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 14:54
Lab Samp ID:	TXE014SB	Dilution Factor:	10
Lab File ID:	ME24012A	Matrix :	WATER
Ext Btch ID:	CPE018W	% Moisture :	NA
Calib. Ref.:	ME24004A	Instrument ID :	GCE8

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
GAMMA-BHC (LINDANE)	(ND)|ND	1.0	0.050	0.10
HEPTACHLOR	(ND)|ND	1.0	0.070	0.10
HEPTACHLOR EPOXIDE	(ND)|ND	1.0	0.050	0.10
GAMMA-CHLORDANE	(ND)|ND	1.0	0.050	0.10
ALPHA-CHLORDANE	(ND)|ND	1.0	0.050	0.10
ENDRIN	(ND)|ND	1.0	0.080	0.10
METHOXYCHLOR	(ND)|ND	10	0.50	1.0
TOXAPHENE	(ND)|ND	20	2.5	5.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
TETRACHLORO-M-XYLENE	(4.106)|3.745	4.000	(103)|93.6	25-140
DECACHLOROBIPHENYL	3.962|(4.148)	4.000	99.1|(104)	30-135

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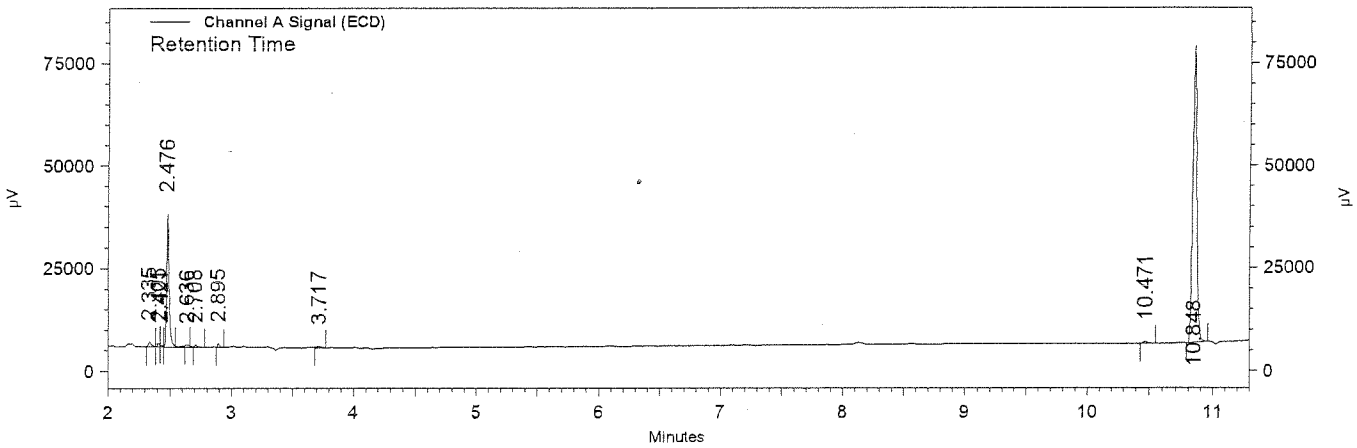
Final result indicated by ( )

DateTime Leached: 05/20/16 18:30

QC DATA

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24006.dat
User: ESanto
Acquired: 05/24/16 12:54:38
Printed: 05/24/16 14:40:00

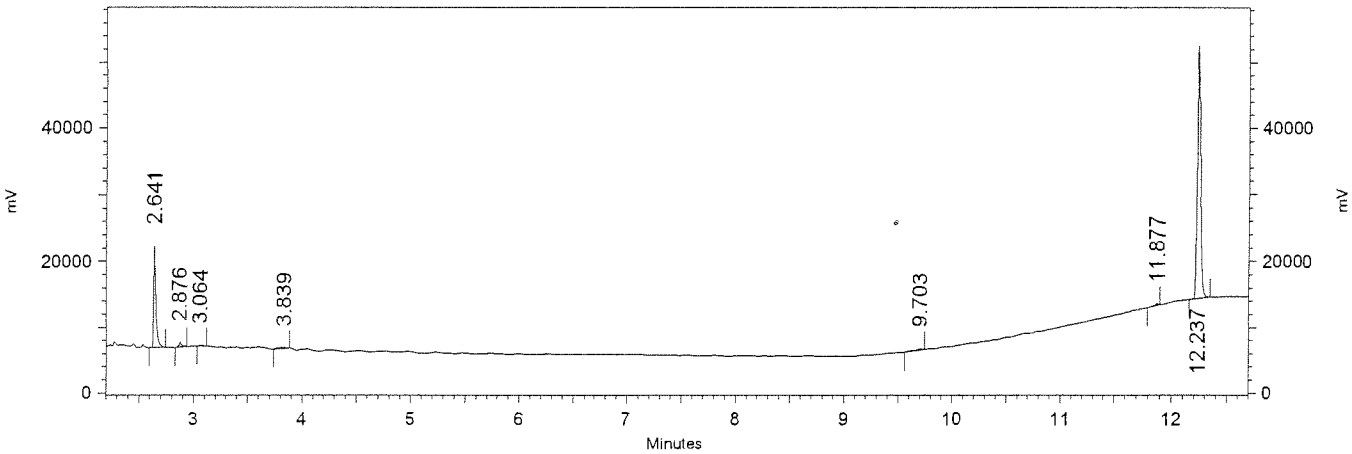


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.476	2423443	62846.1	38.562	VS
alpha-BHC	2.807				0.000 BDL	
gamma-BHC	2.999				0.000 BDL	
beta-BHC	3.047				0.000 BDL	
delta-BHC	3.161				0.000 BDL	
Heptachlor	3.301				0.000 BDL	
Aldrin	3.517				0.000 BDL	
Heptachlor Epoxide	4.019				0.000 BDL	
gamma-Chlordane	4.139				0.000 BDL	
alpha-Chlordane	4.273				0.000 BDL	
DDE	4.351				0.000 BDL	
Endosulfan I	4.424				0.000 BDL	
Dieldrin	4.705				0.000 BDL	
Endrin	5.012				0.000 BDL	
DDD	5.117				0.000 BDL	
Endosulfan II	5.343				0.000 BDL	
DDT	5.569				0.000 BDL	
Endrin aldehyde	6.087				0.000 BDL	
Methoxychlor	6.607				0.000 BDL	
Endosulfan Sulfate	7.056				0.000 BDL	
Endrin Ketone	7.787				0.000 BDL	
DCB	10.841	10.848	9253361	241147.5	38.372	BS

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24006.dat
User: ESanto
Acquired: 05/24/16 12:54:38
Printed: 05/24/16 14:40:00

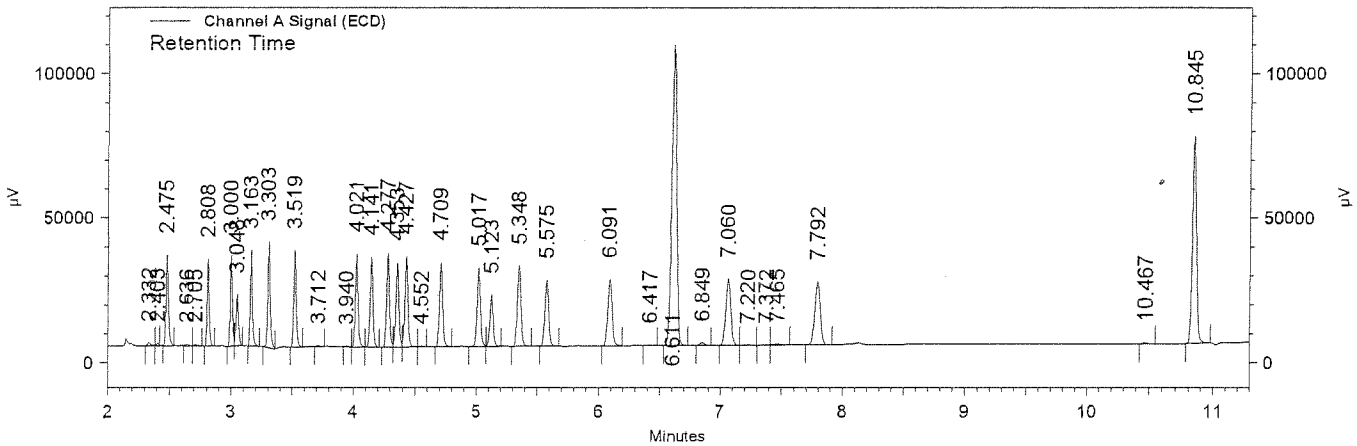


Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.641	1216991	34035.2	35.757	BB
alpha-BHC	3.021				0.000 BDL	
gamma-BHC	3.260				0.000 BDL	
beta-BHC	3.307				0.000 BDL	
delta-BHC	3.536				0.000 BDL	
Heptachlor	3.604				0.000 BDL	
Aldrin	3.897				0.000 BDL	
Heptachlor Epoxide	4.512				0.000 BDL	
gamma-Chlordane	4.752				0.000 BDL	
alpha-Chlordane	4.961				0.000 BDL	
Endosulfan I	5.055				0.000 BDL	
DDE	5.208				0.000 BDL	
Dieldrin	5.501				0.000 BDL	
Endrin	6.087				0.000 BDL	
DDD	6.347				0.000 BDL	
Endosulfan II	6.557				0.000 BDL	
DDT	7.151				0.000 BDL	
Endrin Aldehyde	7.460				0.000 BDL	
Endosulfan Sulfate	8.352				0.000 BDL	
Methoxychlor	9.613				0.000 BDL	
Endrin Ketone	10.016				0.000 BDL	
DCB	12.232	12.237	4275614	105441.3	40.550	IB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WL
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24007.dat
User: ESanto
Acquired: 05/24/16 13:14:32
Printed: 05/24/16 14:40:52

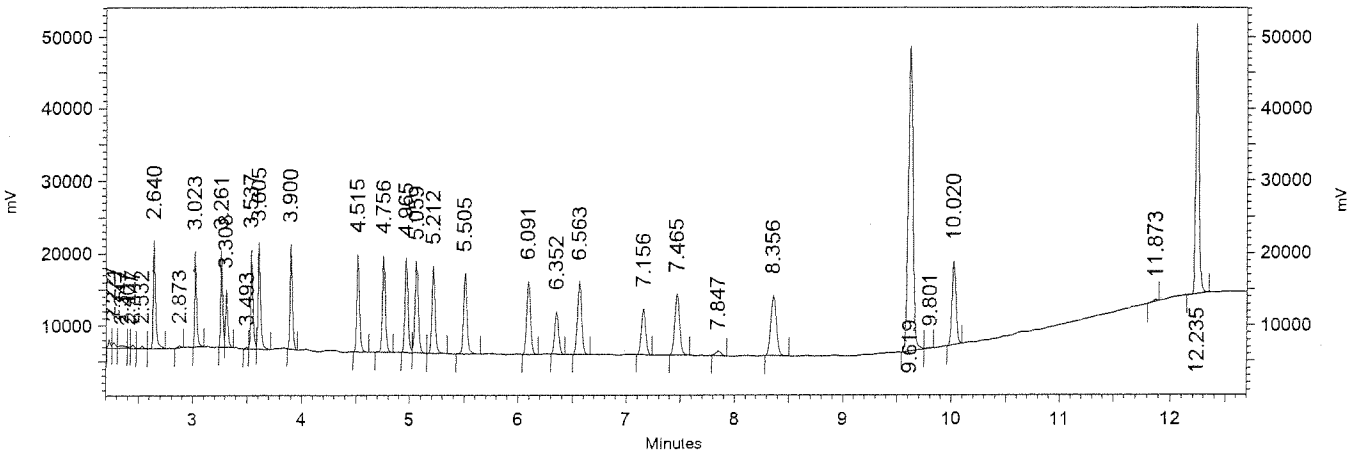


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.475	2315078	62846.1	36.837	VS
alpha-BHC	2.807	2.808	1955154	93919.0	20.817	BB
gamma-BHC	2.999	3.000	2088947	97010.5	21.533	SV
beta-BHC	3.047	3.048	1262934	61093.2	20.672	VS
delta-BHC	3.161	3.163	2260877	103944.1	21.751	BB
Heptachlor	3.301	3.303	2808404	124693.7	22.522	SB
Aldrin	3.517	3.519	2528344	118874.0	21.269	BV
Heptachlor Epoxide	4.019	4.021	2763307	129093.5	21.405	VV
gamma-Chlordane	4.139	4.141	2702013	131674.2	20.520	VB
alpha-Chlordane	4.273	4.277	2929063	136473.7	21.462	SV
DDE	4.351	4.353	2650751	123859.0	21.401	VV
Endosulfan I	4.424	4.427	2949305	142551.8	20.689	VV
Dieldrin	4.705	4.709	2856721	132373.3	21.581	SB
Endrin	5.012	5.017	2876486	114242.0	25.179	SV
DDD	5.117	5.123	1873577	87496.1	21.413	VB
Endosulfan II	5.343	5.348	3116427	142283.1	21.903	BB
DDT	5.569	5.575	2722736	109067.2	24.964	SB
Endrin aldehyde	6.087	6.091	3159274	134129.0	23.554	BS
Methoxychlor	6.607	6.611	15566384	70878.7	219.620	SV
Endosulfan Sulfate	7.056	7.060	3607479	155144.6	23.252	SV
Endrin Ketone	7.787	7.792	3717989	164888.0	22.549	SB
DCB	10.841	10.845	9140963	241147.5	37.906	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WL
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24007.dat
User: ESanto
Acquired: 05/24/16 13:14:32
Printed: 05/24/16 14:40:52

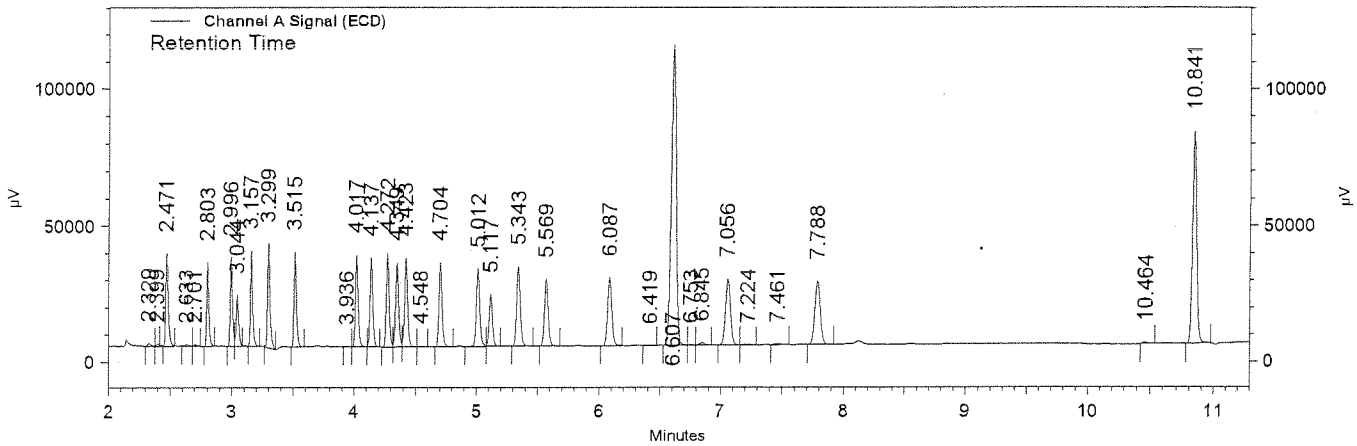


Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.640	1184070	34035.2	34.790	BB
alpha-BHC	3.021	3.023	915738	42482.0	21.556	BI
gamma-BHC	3.260	3.261	933612	42631.3	21.900	BV
beta-BHC	3.307	3.308	629422	27567.7	22.832	VI
delta-BHC	3.536	3.537	1045426	46499.3	22.483	VV
Heptachlor	3.604	3.605	1265689	56808.7	22.280	VB
Aldrin	3.897	3.900	1221346	55562.8	21.981	BB
Heptachlor Epoxide	4.512	4.515	1356765	63899.7	21.233	BB
gamma-Chlordane	4.752	4.756	1406340	64359.4	21.851	BB
alpha-Chlordane	4.961	4.965	1423657	69323.1	20.537	BV
Endosulfan I	5.055	5.059	1391849	64951.9	21.429	VB
DDE	5.208	5.212	1409493	67986.8	20.732	BB
Dieldrin	5.501	5.505	1397272	63767.8	21.912	BB
Endrin	6.087	6.091	1369816	57464.7	23.838	BB
DDD	6.347	6.352	809944	36806.4	22.006	BB
Endosulfan II	6.557	6.563	1469751	67691.5	21.712	BB
DDT	7.151	7.156	1022531	45767.6	22.342	BB
Endrin Aldehyde	7.460	7.465	1446743	63225.1	22.882	BB
Endosulfan Sulfate	8.352	8.356	1652615	72181.4	22.895	BB
Methoxychlor	9.613	9.619	7010441	29841.8	234.920	BV
Endrin Ketone	10.016	10.020	1618314	72592.4	22.293	BB
DCB	12.232	12.235	4197220	105441.3	39.806	IB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WC
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24008.dat
User: ESanto
Acquired: 05/24/16 13:34:28
Printed: 05/24/16 14:41:42

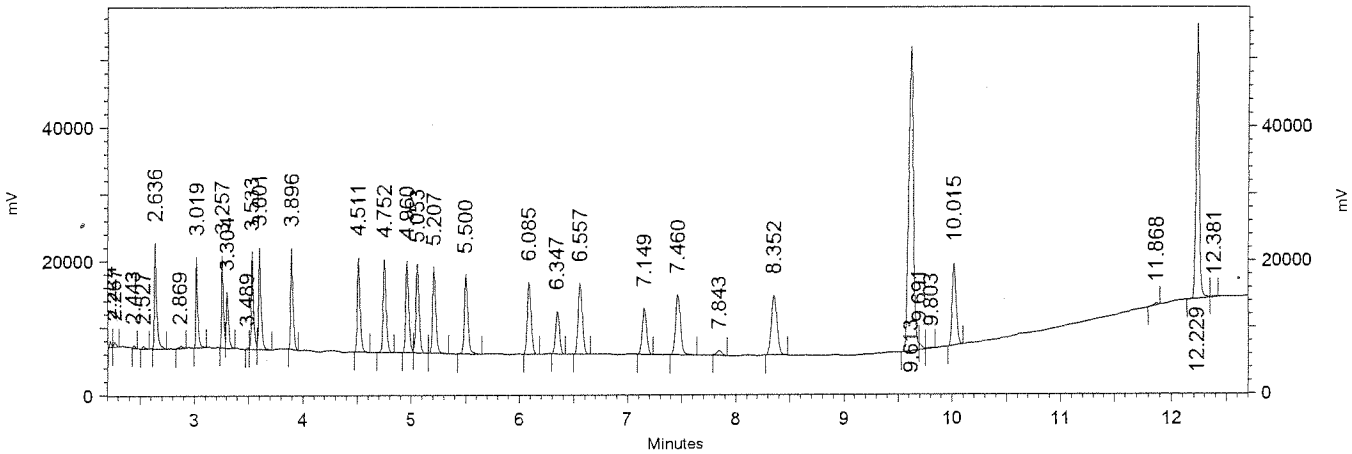


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.471	2526716	62846.1	40.205	VS
alpha-BHC	2.807	2.803	2040545	93919.0	21.727	BS
gamma-BHC	2.999	2.996	2198501	97010.5	22.663	BV
beta-BHC	3.047	3.044	1379665	61093.2	22.583	VS
delta-BHC	3.161	3.157	2423750	103944.1	23.318	VB
Heptachlor	3.301	3.299	2954083	124693.7	23.691	SB
Aldrin	3.517	3.515	2661500	118874.0	22.389	BB
Heptachlor Epoxide	4.019	4.017	2925775	129093.5	22.664	VV
gamma-Chlordane	4.139	4.137	2871972	131674.2	21.811	VB
alpha-Chlordane	4.273	4.272	3107962	136473.7	22.773	BV
DDE	4.351	4.349	2827584	123859.0	22.829	VV
Endosulfan I	4.424	4.423	3119617	142551.8	21.884	VV
Dieldrin	4.705	4.704	3053244	132373.3	23.065	SB
Endrin	5.012	5.012	3063054	114242.0	26.812	SV
DDD	5.117	5.117	2004273	87496.1	22.907	VB
Endosulfan II	5.343	5.343	3332950	142283.1	23.425	SB
DDT	5.569	5.569	2938596	109067.2	26.943	BB
Endrin aldehyde	6.087	6.087	3396628	134129.0	25.324	SS
Methoxychlor	6.607	6.607	16699016	70878.7	235.600	SV
Endosulfan Sulfate	7.056	7.056	3851696	155144.6	24.826	SV
Endrin Ketone	7.787	7.788	4002113	164888.0	24.272	BB
DCB	10.841	10.841	9947988	241147.5	41.253	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE018WC
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24008.dat
User: ESanto
Acquired: 05/24/16 13:34:28
Printed: 05/24/16 14:41:42

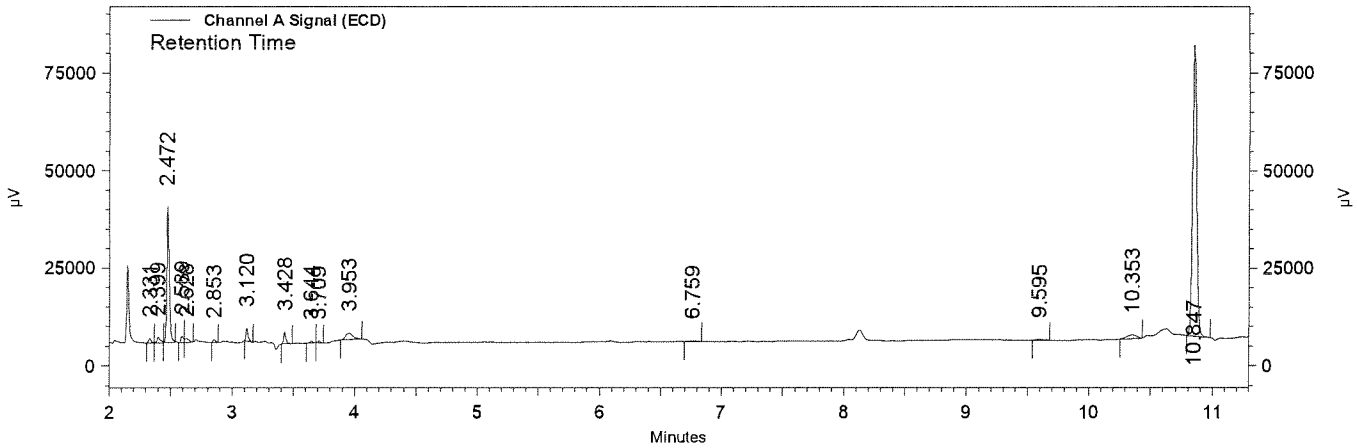


Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.636	1259095	34035.2	36.994	BB
alpha-BHC	3.021	3.019	940722	42482.0	22.144	BB
gamma-BHC	3.260	3.257	966390	42631.3	22.669	BV
beta-BHC	3.307	3.304	658240	27567.7	23.877	VI
delta-BHC	3.536	3.533	1106492	46499.3	23.796	VV
Heptachlor	3.604	3.601	1312633	56808.7	23.106	VB
Aldrin	3.897	3.896	1268520	55562.8	22.830	BB
Heptachlor Epoxide	4.512	4.511	1418088	63899.7	22.192	BB
gamma-Chlordane	4.752	4.752	1473213	64359.4	22.890	BB
alpha-Chlordane	4.961	4.960	1487741	69323.1	21.461	BV
Endosulfan I	5.055	5.053	1462770	64951.9	22.521	VB
DDE	5.208	5.207	1483166	67986.8	21.815	BB
Dieldrin	5.501	5.500	1479642	63767.8	23.204	BB
Endrin	6.087	6.085	1452929	57464.7	25.284	BB
DDD	6.347	6.347	871811	36806.4	23.686	BB
Endosulfan II	6.557	6.557	1560346	67691.5	23.051	BB
DDT	7.151	7.149	1101038	45767.6	24.057	BB
Endrin Aldehyde	7.460	7.460	1585222	63225.1	25.073	BB
Endosulfan Sulfate	8.352	8.352	1754199	72181.4	24.303	BB
Methoxychlor	9.613	9.613	7533349	29841.8	252.443	BS
Endrin Ketone	10.016	10.015	1744308	72592.4	24.029	BB
DCB	12.232	12.229	4605408	105441.3	43.677	IV

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: TXE014SB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24012.dat
User: ESanto
Acquired: 05/24/16 14:54:16
Printed: 05/24/16 15:28:43

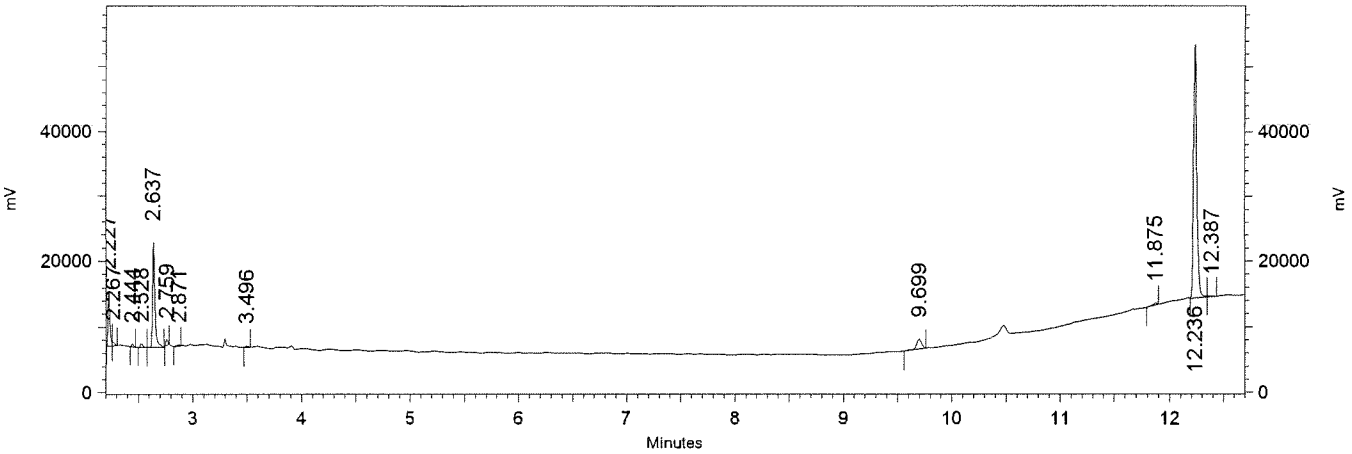


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.472	2580727	62846.1	41.064	VS
alpha-BHC	2.807				0.000 BDL	
gamma-BHC	2.999				0.000 BDL	
beta-BHC	3.047				0.000 BDL	
delta-BHC	3.161				0.000 BDL	
Heptachlor	3.301				0.000 BDL	
Aldrin	3.517				0.000 BDL	
Heptachlor Epoxide	4.019				0.000 BDL	
gamma-Chlordane	4.139				0.000 BDL	
alpha-Chlordane	4.273				0.000 BDL	
DDE	4.351				0.000 BDL	
Endosulfan I	4.424				0.000 BDL	
Dieldrin	4.705				0.000 BDL	
Endrin	5.012				0.000 BDL	
DDD	5.117				0.000 BDL	
Endosulfan II	5.343				0.000 BDL	
DDT	5.569				0.000 BDL	
Endrin aldehyde	6.087				0.000 BDL	
Methoxychlor	6.607				0.000 BDL	
Endosulfan Sulfate	7.056				0.000 BDL	
Endrin Ketone	7.787				0.000 BDL	
DCB	10.841	10.847	9554511	241147.5	39.621	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: TXE014SB
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24012.dat
User: ESanto
Acquired: 05/24/16 14:54:16
Printed: 05/24/16 15:28:43



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.637	1274541	34035.2	37.448	BB
alpha-BHC	3.021				0.000 BDL	
gamma-BHC	3.260				0.000 BDL	
beta-BHC	3.307				0.000 BDL	
delta-BHC	3.536				0.000 BDL	
Heptachlor	3.604				0.000 BDL	
Aldrin	3.897				0.000 BDL	
Heptachlor Epoxide	4.512				0.000 BDL	
gamma-Chlordane	4.752				0.000 BDL	
alpha-Chlordane	4.961				0.000 BDL	
Endosulfan I	5.055				0.000 BDL	
DDE	5.208				0.000 BDL	
Dieldrin	5.501				0.000 BDL	
Endrin	6.087				0.000 BDL	
DDD	6.347				0.000 BDL	
Endosulfan II	6.557				0.000 BDL	
DDT	7.151				0.000 BDL	
Endrin Aldehyde	7.460				0.000 BDL	
Endosulfan Sulfate	8.352				0.000 BDL	
Methoxychlor	9.613				0.000 BDL	
Endrin Ketone	10.016				0.000 BDL	
DCB	12.232	12.236	4374134	105441.3	41.484	BV

789A

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11010A 05/11/16 12:54 ME11018A 05/11/16 15:35
LFID & Datetime: ME11011A 05/11/16 13:14 ME11019A 05/11/16 15:55
LFID & Datetime: ME11012A 05/11/16 13:34 ME11020A 05/11/16 16:15
LFID & Datetime: ME11013A 05/11/16 13:54 ME11021A 05/11/16 16:35
LFID & Datetime: ME11014A 05/11/16 14:14 ME11022A 05/11/16 16:55
LFID & Datetime: ME11015A 05/11/16 14:34 ME11023A 05/11/16 17:16
LFID & Datetime: ME11016A 05/11/16 14:54 ME11024A 05/11/16 17:36
LFID & Datetime: ME11017A 05/11/16 15:14 ME11025A 05/11/16 17:56
Conc Unit : ppb
Method Name : CPE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
alpha-BHC	1.25	86547	81461	84016	89067	94283	102353	103143	110481	93919.0	11.1
gamma-BHC	1.25	93222	86988	88574	93478	98173	104091	104074	107485	97010.5	7.9
beta-BHC	1.25	66315	63347	60013	60899	61512	60464	57807	58390	61093.2	4.5
delta-BHC	1.25	96843	92400	92002	98497	104217	113174	115310	119109	103944.1	10.3
Heptachlor	1.25	136476	125044	122636	124180	123680	124329	120713	120492	124693.7	4.0
Aldrin	1.25	122923	113937	113611	117667	120134	122270	120162	120288	118874.0	3.0
Heptachlor Epoxide	1.25	145805	128633	132347	128879	129281	124060	123544	120199	129093.5	6.0
gamma-Chlordane	1.25	141719	130792	133882	131531	131408	128581	128552	126928	131674.2	3.5
alpha-Chlordane	1.25	143234	137285	135882	137821	136456	134982	133866	132264	136473.7	2.4
DDE	2.50	126281	121157	117958	123957	123272	126109	125664	126475	123859.0	2.4
Endosulfan I	1.25	152886	145089	141437	145182	142470	140277	138128	134947	142551.8	3.8
Dieldrin	2.50	136618	131248	127054	133749	132955	134794	131818	130751	132373.3	2.2
Endrin	2.50	118976	114218	110607	115996	113707	115133	112813	112486	114242.0	2.2
DDD	2.50	82514	82386	79413	85801	86228	92504	94075	97048	87496.1	7.2
Endosulfan II	2.50	153681	147777	141374	146526	140768	139479	135190	133471	142283.1	4.7
DDT	2.50	111044	107548	103132	109311	106614	110930	111066	112895	109067.2	2.9
Endrin Aldehyde	2.50	151654	146256	139172	140829	130876	125084	120482	118678	134129.0	9.1
Methoxychlor	12.50	80441	79973	74635	75728	70289	65119	61394	59450	70878.7	11.5
Endosulfan Sulfate	2.50	174711	166472	157939	161376	151758	146413	141343	141144	155144.6	7.8
Endrin Ketone	2.50	174953	172603	163221	170491	163155	160625	157360	156697	164888.0	4.2
Oxychlordane	1.25	136106	145638	140370	133761	133023	127637	118577	120203	131914.4	7.1
2,4'-DDE	1.25	94533	101062	97189	93516	95468	94634	88706	90364	94433.9	4.1
trans-Nonachlor	1.25	177730	186470	178714	171143	173922	170621	159442	161807	172481.3	5.2
2,4'-DDD	1.25	69830	77700	76278	73416	76095	77117	72871	74640	74743.5	3.5
2,4'-DDT	1.25	95967	104472	102255	98763	101887	102777	96528	98655	100162.9	3.1
cis-Nonachlor	1.25	188060	200705	192503	183357	187228	187911	175911	178900	186821.8	4.2
Mirex	1.25	194198	207468	201329	188092	184664	177012	159779	156948	183686.2	10.0
SURROGATE	X	1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
TCX	1.25	65732	61761	63397	64779	63826	62337	58467	62471	62846.1	3.5
DCB	1.25	274470	277834	259240	256046	237865	216961	206427	200337	241147.5	12.6

AM 5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11010B 05/11/16 12:54 ME11018B 05/11/16 15:35
LFID & Datetime: ME11011B 05/11/16 13:14 ME11019B 05/11/16 15:55
LFID & Datetime: ME11012B 05/11/16 13:34 ME11020B 05/11/16 16:15
LFID & Datetime: ME11013B 05/11/16 13:54 ME11021B 05/11/16 16:35
LFID & Datetime: ME11014B 05/11/16 14:14 ME11022B 05/11/16 16:55
LFID & Datetime: ME11015B 05/11/16 14:34 ME11023B 05/11/16 17:16
LFID & Datetime: ME11016B 05/11/16 14:54 ME11024B 05/11/16 17:36
LFID & Datetime: ME11017B 05/11/16 15:14 ME11025B 05/11/16 17:56
Conc Unit : ppb
Method Name : CPE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
alpha-BHC	1.25	36568	34402	40306	39413	42573	46970	47773	51851	42482.0	14.1
gamma-BHC	1.25	38843	35178	39293	40441	42840	46690	47650	50115	42631.3	12.0
beta-BHC	1.25	23338	22424	29181	28543	29636	29738	28534	29148	27567.7	10.6
delta-BHC	1.25	40918	38948	43060	44307	45889	50737	52526	55609	46499.3	12.7
Heptachlor	1.25	59938	54075	61833	57510	55530	55838	54674	55072	56808.7	4.9
Aldrin	1.25	53084	50328	53666	53878	55452	58667	59016	60411	55562.8	6.3
Heptachlor Epoxide	1.25	76710	67880	61776	62153	61834	60693	59987	60165	63899.7	9.0
gamma-Chlordane	1.25	68500	70790	64289	62239	61987	62482	61979	62609	64359.4	5.3
alpha-Chlordane	1.25	80782	78084	69840	66123	64167	65151	64867	65572	69323.1	9.4
DDE	2.50	79463	69478	64610	66116	64202	65849	66428	67749	67986.8	7.3
Endosulfan I	1.25	57771	65871	64716	66534	65359	66468	66166	66730	64951.9	4.6
Dieldrin	2.50	68486	59230	59187	61892	62453	65547	65984	67364	63767.8	5.6
Endrin	2.50	59649	56432	55027	57370	56503	58037	57790	58910	57464.7	2.6
DDD	2.50	35025	33811	33090	35703	35765	38379	39945	42733	36806.4	8.9
Endosulfan II	2.50	72394	68205	64879	67924	66157	67218	66818	67939	67691.5	3.2
DDT	2.50	44316	44338	42853	46093	45064	46623	47442	49413	45767.6	4.5
Endrin Aldehyde	2.50	63865	63949	64505	66520	62889	61889	60912	61273	63225.1	3.0
Methoxychlor	12.50	31456	31035	29590	30907	29870	29145	28464	28268	29841.8	4.0
Endosulfan Sulfate	2.50	75442	74754	71359	74613	71034	70538	69403	70308	72181.4	3.3
Endrin Ketone	2.50	76546	71359	70469	73781	71558	72211	71971	72844	72592.4	2.6
Oxychlordane	1.25	57918	63526	62453	60936	62432	61791	58770	60287	61014.1	3.2
2,4'-DDE	1.25	66110	55878	51515	48928	49094	48533	45791	47083	51616.6	12.8
trans-Nonachlor	1.25	74176	81224	79823	78639	81962	82746	78815	82218	79950.3	3.5
2,4'-DDD	1.25	27091	31184	32303	31987	33375	34502	32946	34342	32216.3	7.3
2,4'-DDT	1.25	36975	40935	41563	41055	42724	44053	41814	43321	41555.1	5.2
cis-Nonachlor	1.25	89139	93404	89279	86794	88198	90023	85687	88928	88931.5	2.6
Mirex	1.25	78941	91302	93832	84273	84781	83717	76151	75208	83525.6	8.0
SURROGATE	X	1.00X	2.00X	4.00X	8.00X	16.00X	32.00X	48.00X	64.00X	MEAN	%RSD
TCX	1.25	36773	40021	36264	34527	32512	31855	29729	30602	34035.2	10.3
DCB	1.25	111240	115161	109716	111723	105633	99822	96312	93922	105441.3	7.5

AW 5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11010A 05/11/16 12:54 ME11018A 05/11/16 15:35
LFID & Datetime: ME11011A 05/11/16 13:14 ME11019A 05/11/16 15:55
LFID & Datetime: ME11012A 05/11/16 13:34 ME11020A 05/11/16 16:15
LFID & Datetime: ME11013A 05/11/16 13:54 ME11021A 05/11/16 16:35
LFID & Datetime: ME11014A 05/11/16 14:14 ME11022A 05/11/16 16:55
LFID & Datetime: ME11015A 05/11/16 14:34 ME11023A 05/11/16 17:16
LFID & Datetime: ME11016A 05/11/16 14:54 ME11024A 05/11/16 17:36
LFID & Datetime: ME11017A 05/11/16 15:14 ME11025A 05/11/16 17:56

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
alpha-BHC	2.809	2.807	2.805	2.805	2.801	2.811	2.808	2.803	2.806	2.786	2.826	0.020
gamma-BHC	3.001	2.999	2.999	2.999	2.993	3.003	3.000	2.996	2.999	2.977	3.021	0.022
beta-BHC	3.051	3.048	3.047	3.047	3.043	3.052	3.048	3.044	3.048	3.026	3.070	0.022
delta-BHC	3.164	3.161	3.161	3.161	3.156	3.167	3.163	3.159	3.162	3.141	3.183	0.021
Heptachlor	3.305	3.303	3.301	3.301	3.296	3.307	3.303	3.299	3.302	3.278	3.326	0.024
Aldrin	3.521	3.519	3.517	3.517	3.512	3.523	3.519	3.515	3.518	3.492	3.544	0.026
Heptachlor Epoxide	4.027	4.023	4.021	4.023	4.016	4.027	4.023	4.019	4.022	3.992	4.052	0.030
gamma-Chlordane	4.145	4.143	4.141	4.141	4.135	4.147	4.143	4.139	4.142	4.110	4.174	0.032
alpha-Chlordane	4.281	4.277	4.276	4.277	4.271	4.281	4.279	4.273	4.277	4.245	4.309	0.032
DDE	4.359	4.355	4.353	4.355	4.348	4.360	4.356	4.351	4.355	4.323	4.387	0.032
Endosulfan I	4.433	4.428	4.428	4.428	4.421	4.433	4.429	4.424	4.428	4.393	4.463	0.035
Dieldrin	4.715	4.711	4.709	4.711	4.704	4.715	4.711	4.707	4.710	4.678	4.742	0.032
Endrin	5.023	5.020	5.017	5.019	5.012	5.023	5.020	5.015	5.019	4.989	5.049	0.030
DDD	5.129	5.124	5.123	5.124	5.117	5.129	5.125	5.120	5.124	5.094	5.154	0.030
Endosulfan II	5.356	5.351	5.349	5.351	5.344	5.355	5.351	5.345	5.350	5.321	5.379	0.029
DDT	5.581	5.577	5.575	5.576	5.569	5.581	5.576	5.572	5.576	5.546	5.606	0.030
Endrin Aldehyde	6.101	6.097	6.093	6.096	6.088	6.100	6.095	6.089	6.095	6.063	6.127	0.032
Methoxychlor	6.623	6.617	6.616	6.619	6.609	6.621	6.615	6.612	6.616	6.578	6.655	0.038
Endosulfan Sulfate	7.072	7.068	7.065	7.068	7.060	7.071	7.064	7.061	7.066	7.030	7.102	0.036
Endrin Ketone	7.807	7.801	7.797	7.801	7.792	7.804	7.799	7.793	7.799	7.763	7.835	0.036
Oxychlordane	3.923	3.924	3.931	3.931	3.921	3.925	3.927	3.925	3.926	3.907	3.945	0.019
2,4'-DDE	3.999	4.000	4.007	4.007	3.997	4.001	4.004	4.001	4.002	3.980	4.024	0.022
trans-Nonachlor	4.253	4.253	4.260	4.260	4.251	4.255	4.256	4.255	4.255	4.232	4.278	0.023
2,4'-DDD	4.548	4.549	4.556	4.557	4.547	4.551	4.553	4.551	4.551	4.526	4.576	0.025
2,4'-DDT	4.873	4.875	4.880	4.881	4.872	4.876	4.877	4.875	4.876	4.853	4.899	0.023
cis-Nonachlor	5.061	5.063	5.068	5.069	5.060	5.064	5.067	5.063	5.064	5.042	5.086	0.022
Mirex	6.759	6.759	6.765	6.767	6.757	6.763	6.763	6.760	6.762	6.734	6.790	0.028
SURROGATE	1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	RT	FROM	TO	WIDTH
TCX	2.476	2.473	2.473	2.472	2.469	2.477	2.475	2.469	2.473	2.453	2.493	0.020
DCB	10.856	10.851	10.848	10.849	10.843	10.856	10.849	10.845	10.850	10.800	10.900	0.050

ME 5-20-16

INITIAL CALIBRATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11010B 05/11/16 12:54 ME11018B 05/11/16 15:35
LFID & Datetime: ME11011B 05/11/16 13:14 ME11019B 05/11/16 15:55
LFID & Datetime: ME11012B 05/11/16 13:34 ME11020B 05/11/16 16:15
LFID & Datetime: ME11013B 05/11/16 13:54 ME11021B 05/11/16 16:35
LFID & Datetime: ME11014B 05/11/16 14:14 ME11022B 05/11/16 16:55
LFID & Datetime: ME11015B 05/11/16 14:34 ME11023B 05/11/16 17:16
LFID & Datetime: ME11016B 05/11/16 14:54 ME11024B 05/11/16 17:36
LFID & Datetime: ME11017B 05/11/16 15:14 ME11025B 05/11/16 17:56

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
alpha-BHC	3.031	3.028	3.028	3.027	3.021	3.032	3.029	3.024	3.027	3.010	3.045	0.018
gamma-BHC	3.269	3.267	3.267	3.265	3.261	3.271	3.268	3.264	3.266	3.250	3.283	0.017
beta-BHC	3.317	3.315	3.315	3.313	3.308	3.317	3.316	3.311	3.314	3.297	3.331	0.017
delta-BHC	3.548	3.545	3.544	3.544	3.539	3.548	3.547	3.543	3.545	3.528	3.562	0.017
Heptachlor	3.617	3.613	3.613	3.613	3.607	3.616	3.615	3.611	3.613	3.595	3.631	0.018
Aldrin	3.913	3.911	3.909	3.909	3.903	3.912	3.911	3.907	3.909	3.890	3.928	0.019
Heptachlor Epoxide	4.532	4.528	4.527	4.528	4.520	4.531	4.528	4.524	4.527	4.504	4.550	0.023
gamma-Chlordane	4.775	4.772	4.769	4.771	4.763	4.773	4.771	4.767	4.770	4.749	4.791	0.021
alpha-Chlordane	4.984	4.980	4.979	4.980	4.972	4.983	4.979	4.975	4.979	4.961	4.997	0.018
DDE	5.235	5.231	5.229	5.228	5.221	5.232	5.229	5.224	5.229	5.213	5.245	0.016
Endosulfan I	5.079	5.075	5.075	5.073	5.067	5.077	5.075	5.069	5.074	5.055	5.093	0.019
Dieldrin	5.529	5.525	5.524	5.524	5.516	5.527	5.524	5.519	5.523	5.506	5.541	0.017
Endrin	6.119	6.113	6.111	6.112	6.104	6.115	6.112	6.108	6.112	6.092	6.132	0.020
DDD	6.381	6.377	6.375	6.375	6.367	6.377	6.375	6.371	6.375	6.356	6.394	0.019
Endosulfan II	6.592	6.589	6.587	6.587	6.579	6.589	6.587	6.581	6.586	6.564	6.608	0.022
DDT	7.189	7.185	7.183	7.184	7.175	7.185	7.181	7.179	7.183	7.159	7.207	0.024
Endrin Aldehyde	7.503	7.497	7.495	7.497	7.488	7.497	7.493	7.489	7.495	7.473	7.517	0.022
Methoxychlor	9.656	9.649	9.647	9.648	9.639	9.651	9.645	9.641	9.647	9.619	9.675	0.028
Endosulfan Sulfate	8.399	8.393	8.391	8.392	8.384	8.392	8.389	8.385	8.391	8.367	8.415	0.024
Endrin Ketone	10.052	10.047	10.044	10.045	10.036	10.048	10.043	10.039	10.044	10.014	10.074	0.030
Oxychlordane	4.409	4.411	4.416	4.417	4.405	4.412	4.412	4.411	4.412	4.392	4.432	0.020
2,4'-DDE	4.752	4.753	4.759	4.760	4.749	4.755	4.755	4.753	4.754	4.734	4.775	0.021
trans-Nonachlor	4.892	4.893	4.899	4.900	4.888	4.895	4.896	4.893	4.895	4.877	4.913	0.018
2,4'-DDD	5.577	5.580	5.584	5.585	5.575	5.581	5.580	5.579	5.580	5.562	5.598	0.018
2,4'-DDT	6.200	6.200	6.204	6.205	6.195	6.201	6.201	6.199	6.201	6.182	6.220	0.019
cis-Nonachlor	6.285	6.287	6.291	6.292	6.280	6.288	6.288	6.285	6.287	6.269	6.305	0.018
Mirex	9.860	9.861	9.864	9.865	9.856	9.860	9.859	9.856	9.860	9.836	9.884	0.024
SURROGATE	1.0X	2.0X	4.0X	8.0X	16.0X	32.0X	48.0X	64.0X	RT	FROM	TO	WIDTH
TCX	2.645	2.644	2.643	2.641	2.639	2.647	2.644	2.640	2.643	2.620	2.666	0.023
DCB	12.257	12.251	12.251	12.251	12.243	12.255	12.249	12.245	12.250	12.215	12.285	0.035

Rw 5-20-16

PEM PEST BREAKDOWN CALCULATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.32UM 30MX0.32MMIDX0.25UM
PEM LFID & Datetime : ME11009A ME11009B 05/11/16 12:34

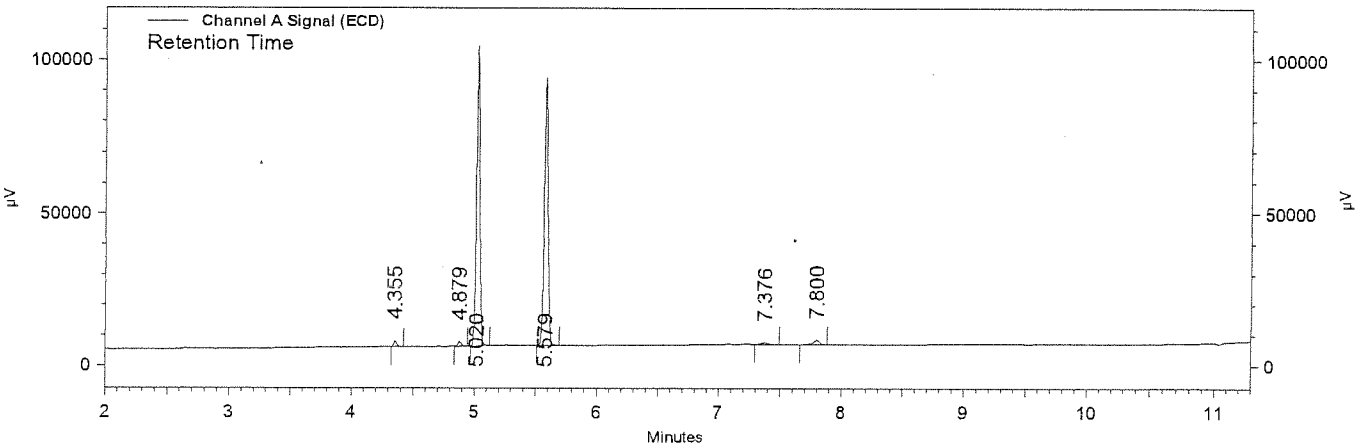
Based on AREA

	AREA				% Breakdown				
LFID	DDD	DDE	DDT	TOTAL	DDD	DDE	TOTAL	QL	QCLIMIT
ME11009A	0.0	168042.0	10295651.0	10463693.0	0.00	1.61	1.61		15
ME11009B	0.0	123215.0	4488239.0	4611454.0	0.00	2.67	2.67		15
LFID	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	QL	QCLIMIT
ME11009A	10400448.0	0.0	299320.0	10699768.0	0.00	2.80	2.80		15
ME11009B	5407815.0	0.0	82555.0	5490370.0	0.00	1.50	1.50		15

ML 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1101
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11009.dat
User: ESanto
Acquired: 05/11/16 12:34:34
Printed: 05/12/16 14:30:52



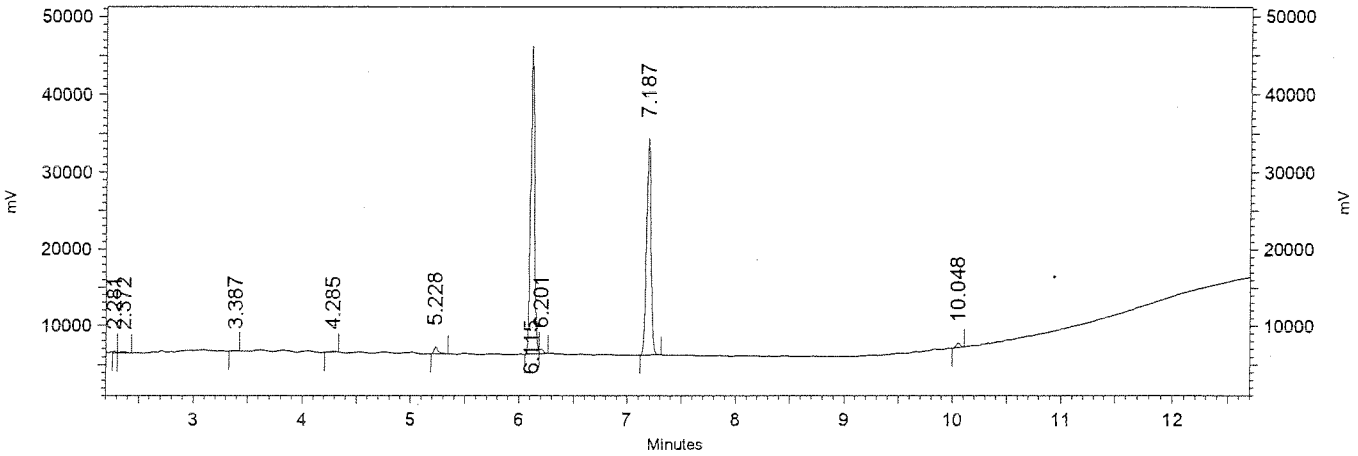
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.471				0.000 BDL	
alpha-BHC	2.804				0.000 BDL	
gamma-BHC	2.996				0.000 BDL	
beta-BHC	3.044				0.000 BDL	
delta-BHC	3.159				0.000 BDL	
Heptachlor	3.300				0.000 BDL	
Aldrin	3.516				0.000 BDL	
Heptachlor Epoxide	4.020				0.000 BDL	
gamma-Chlordane	4.140				0.000 BDL	
alpha-Chlordane	4.275				0.000 BDL	
DDE	4.352	4.355	168042	123859.0	1.357	BB
Endosulfan I	4.425				0.000 BDL	
Dieldrin	4.708				0.000 BDL	
Endrin	5.016	5.020	10400448	114242.0	91.039	BB
DDD	5.121				0.000 BDL	
Endosulfan II	5.348				0.000 BDL	
DDT	5.575	5.579	10295651	109067.2	94.397	SS
Endrin aldehyde	6.092				0.000 BDL	
Methoxychlor	6.615				0.000 BDL	
Endosulfan Sulfate	7.063				0.000 BDL	
Endrin Ketone	7.796	7.800	299320	164888.0	1.815	SB
DCB	10.845				0.000 BDL	

pu 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1101
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11009.dat
User: ESanto
Acquired: 05/11/16 12:34:34
Printed: 05/12/16 14:30:52



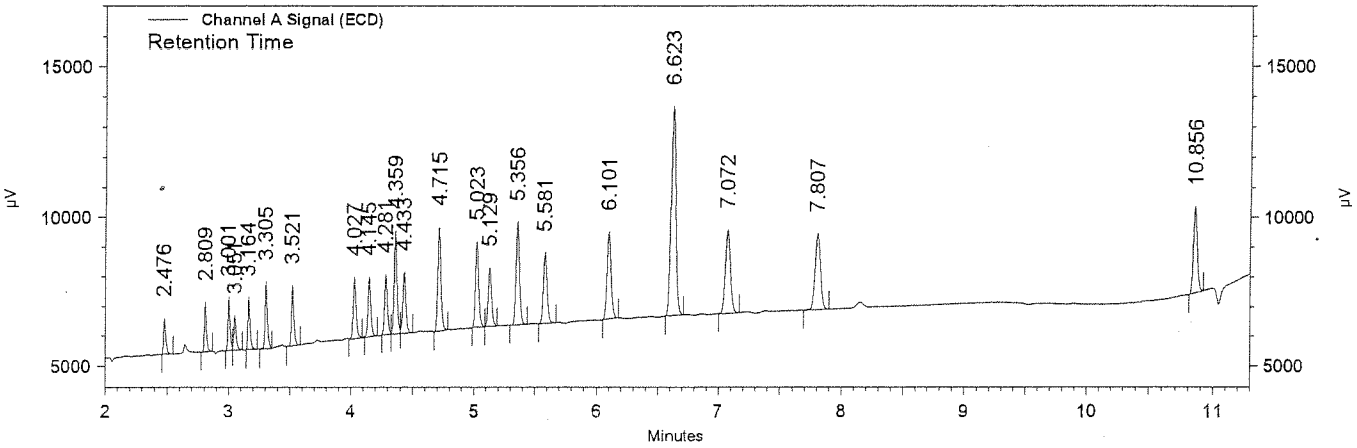
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.640				0.000 BDL	
alpha-BHC	3.024				0.000 BDL	
gamma-BHC	3.263				0.000 BDL	
beta-BHC	3.311				0.000 BDL	
delta-BHC	3.541				0.000 BDL	
Heptachlor	3.611				0.000 BDL	
Aldrin	3.905				0.000 BDL	
Heptachlor Epoxide	4.524				0.000 BDL	
gamma-Chlordane	4.767				0.000 BDL	
alpha-Chlordane	4.976				0.000 BDL	
Endosulfan I	5.069				0.000 BDL	
DDE	5.224	5.228	123215	67986.8	1.812	BB
Dieldrin	5.519				0.000 BDL	
Endrin	6.107	6.115	5407815	57464.7	94.107	BV
DDD	6.369				0.000 BDL	
Endosulfan II	6.581				0.000 BDL	
DDT	7.177	7.187	4488239	45767.6	98.066	BB
Endrin Aldehyde	7.489				0.000 BDL	
Endosulfan Sulfate	8.383				0.000 BDL	
Methoxychlor	9.641				0.000 BDL	
Endrin Ketone	10.039	10.048	82555	72592.4	1.137	BB
DCB	12.245				0.000 BDL	

mc 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11010.dat
User: ESanto
Acquired: 05/11/16 12:54:35
Printed: 05/11/16 16:26:55



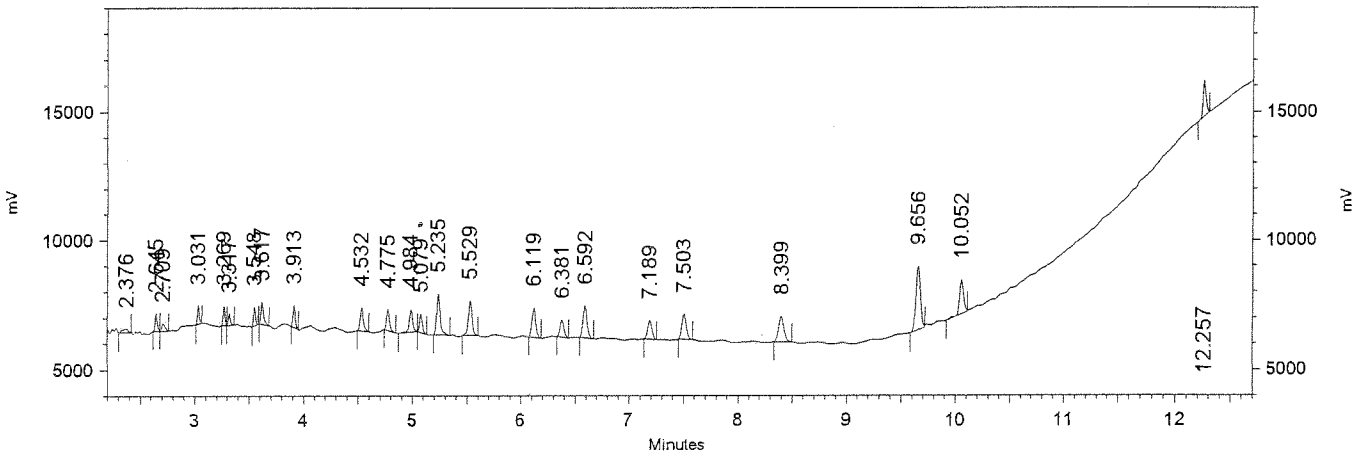
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.476	82165	62846.1	1.250 CAL	BB
alpha-BHC	2.805	2.809	108184	93919.0	1.250 CAL	SB
gamma-BHC	2.999	3.001	116528	97010.5	1.250 CAL	BV
beta-BHC	3.047	3.051	82894	61093.2	1.250 CAL	VB
delta-BHC	3.161	3.164	121054	103944.1	1.250 CAL	BB
Heptachlor	3.301	3.305	170595	124693.7	1.250 CAL	SB
Aldrin	3.517	3.521	153654	118874.0	1.250 CAL	SB
Heptachlor Epoxide	4.023	4.027	182256	129093.5	1.250 CAL	SV
gamma-Chlordane	4.141	4.145	177149	131674.2	1.250 CAL	SB
alpha-Chlordane	4.277	4.281	179042	136473.7	1.250 CAL	BV
DDE	4.355	4.359	315702	123859.0	2.500 CAL	VV
Endosulfan I	4.428	4.433	191107	142551.8	1.250 CAL	VB
Dieldrin	4.711	4.715	341544	132373.3	2.500 CAL	SB
Endrin	5.019	5.023	297439	114242.0	2.500 CAL	BV
DDD	5.124	5.129	206286	87496.1	2.500 CAL	VV
Endosulfan II	5.351	5.356	384202	142283.1	2.500 CAL	SB
DDT	5.576	5.581	277609	109067.2	2.500 CAL	SB
Endrin aldehyde	6.096	6.101	379136	134129.0	2.500 CAL	BB
Methoxychlor	6.619	6.623	1005515	70878.7	12.500 CAL	BB
Endosulfan Sulfate	7.068	7.072	436778	155144.6	2.500 CAL	SB
Endrin Ketone	7.801	7.807	437382	164888.0	2.500 CAL	SB
DCB	10.849	10.856	343088	241147.5	1.250 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11010.dat
User: ESanto
Acquired: 05/11/16 12:54:35
Printed: 05/11/16 16:26:55



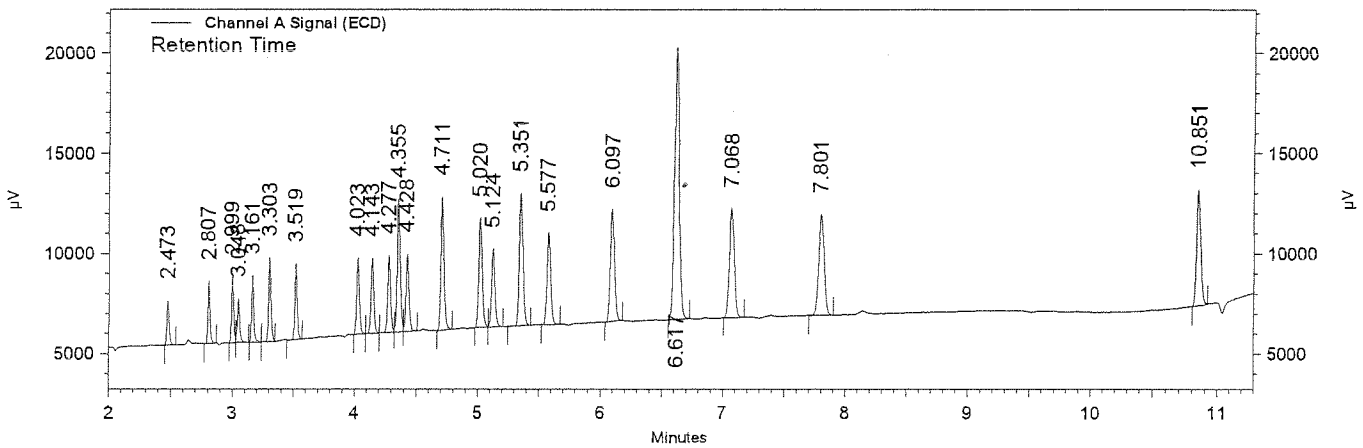
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.645	45966	34035.2	1.250 CAL	BV
alpha-BHC	3.027	3.031	45710	42482.0	1.250 CAL	BB
gamma-BHC	3.265	3.269	48554	42631.3	1.250 CAL	BV
beta-BHC	3.313	3.317	29172	27567.7	1.250 CAL	VI
delta-BHC	3.544	3.548	51148	46499.3	1.250 CAL	vv
Heptachlor	3.613	3.617	74923	56808.7	1.250 CAL	vv
Aldrin	3.909	3.913	66355	55562.8	1.250 CAL	vv
Heptachlor Epoxide	4.528	4.532	95887	63899.7	1.250 CAL	vv
gamma-Chlordane	4.771	4.775	85625	64359.4	1.250 CAL	vv
alpha-Chlordane	4.980	4.984	100977	69323.1	1.250 CAL	vv
Endosulfan I	5.073	5.079	72214	64951.9	1.250 CAL	vv
DDE	5.228	5.235	198658	67986.8	2.500 CAL	vv
Dieldrin	5.524	5.529	171215	63767.8	2.500 CAL	BB
Endrin	6.112	6.119	149122	57464.7	2.500 CAL	BB
DDD	6.375	6.381	87563	36806.4	2.500 CAL	BB
Endosulfan II	6.587	6.592	180984	67691.5	2.500 CAL	BB
DDT	7.184	7.189	110790	45767.6	2.500 CAL	BB
Endrin Aldehyde	7.497	7.503	159663	63225.1	2.500 CAL	BB
Endosulfan Sulfate	8.392	8.399	188605	72181.4	2.500 CAL	BB
Methoxychlor	9.648	9.656	393201	29841.8	12.500 CAL	BB
Endrin Ketone	10.045	10.052	191366	72592.4	2.500 CAL	BB
DCB	12.251	12.257	139050	105441.3	1.250 CAL	BB

RW 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1102 (2.5/5/25ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11011.dat
User: ESanto
Acquired: 05/11/16 13:14:38
Printed: 05/11/16 16:28:26



Channel A Signal (ECD) Results

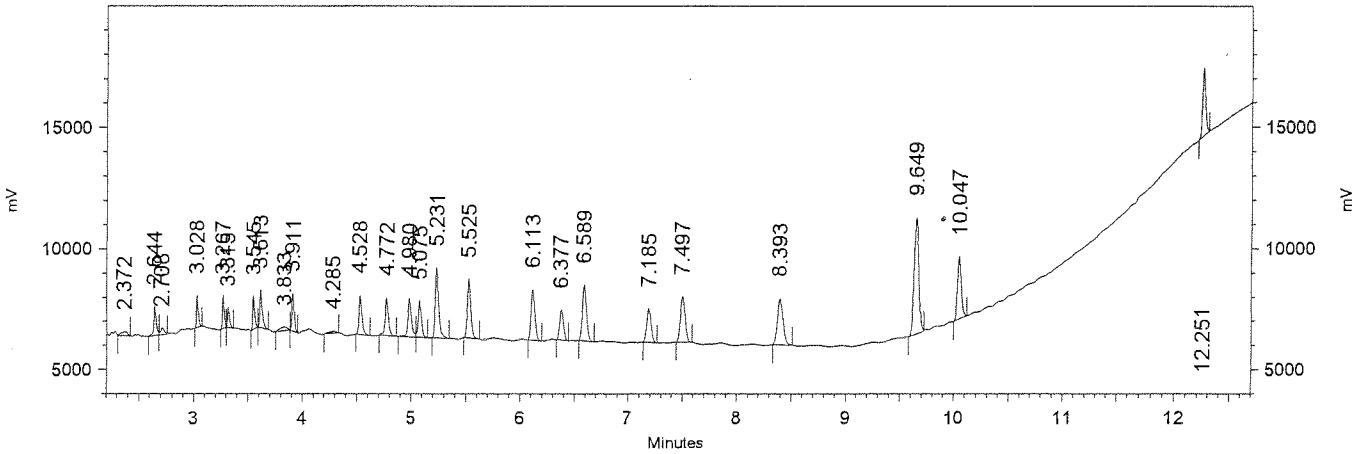
Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.473	154402	62846.1	2.500 CAL	BB
alpha-BHC	2.805	2.807	203653	93919.0	2.500 CAL	SB
gamma-BHC	2.999	2.999	217469	97010.5	2.500 CAL	BV
beta-BHC	3.047	3.048	158368	61093.2	2.500 CAL	VB
delta-BHC	3.161	3.161	230999	103944.1	2.500 CAL	BV
Heptachlor	3.301	3.303	312610	124693.7	2.500 CAL	VB
Aldrin	3.517	3.519	284842	118874.0	2.500 CAL	SB
Heptachlor Epoxide	4.023	4.023	321582	129093.5	2.500 CAL	BV
gamma-Chlordane	4.141	4.143	326980	131674.2	2.500 CAL	VV
alpha-Chlordane	4.277	4.277	343213	136473.7	2.500 CAL	VV
DDE	4.355	4.355	605783	123859.0	5.000 CAL	VV
Endosulfan I	4.428	4.428	362722	142551.8	2.500 CAL	VB
Dieldrin	4.711	4.711	656239	132373.3	5.000 CAL	SB
Endrin	5.019	5.020	571092	114242.0	5.000 CAL	BV
DDD	5.124	5.124	411930	87496.1	5.000 CAL	VB
Endosulfan II	5.351	5.351	738883	142283.1	5.000 CAL	SB
DDT	5.576	5.577	537740	109067.2	5.000 CAL	SB
Endrin aldehyde	6.096	6.097	731281	134129.0	5.000 CAL	SB
Methoxychlor	6.619	6.617	1999327	70878.7	25.000 CAL	BB
Endosulfan Sulfate	7.068	7.068	832362	155144.6	5.000 CAL	BB
Endrin Ketone	7.801	7.801	863013	164888.0	5.000 CAL	SB
DCB	10.849	10.851	694584	241147.5	2.500 CAL	BB

5-20-16

800

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1102 (2.5/5/25ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11011.dat
User: ESanto
Acquired: 05/11/16 13:14:38
Printed: 05/11/16 16:28:26



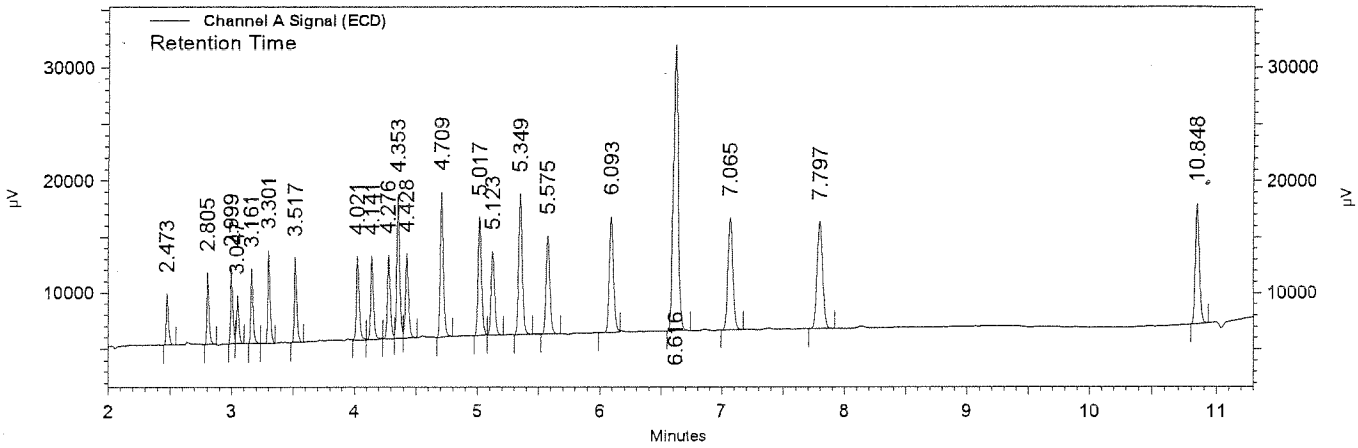
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.644	100052	34035.2	2.500 CAL	BV
alpha-BHC	3.027	3.028	86006	42482.0	2.500 CAL	BB
gamma-BHC	3.265	3.267	87945	42631.3	2.500 CAL	vv
beta-BHC	3.313	3.315	56061	27567.7	2.500 CAL	vv
delta-BHC	3.544	3.545	97369	46499.3	2.500 CAL	vv
Heptachlor	3.613	3.613	135187	56808.7	2.500 CAL	vv
Aldrin	3.909	3.911	125821	55562.8	2.500 CAL	vv
Heptachlor Epoxide	4.528	4.528	169701	63899.7	2.500 CAL	BB
gamma-Chlordane	4.771	4.772	176976	64359.4	2.500 CAL	BB
alpha-Chlordane	4.980	4.980	195211	69323.1	2.500 CAL	BV
Endosulfan I	5.073	5.075	164678	64951.9	2.500 CAL	VB
DDE	5.228	5.231	347392	67986.8	5.000 CAL	BB
Dieldrin	5.524	5.525	296151	63767.8	5.000 CAL	BB
Endrin	6.112	6.113	282158	57464.7	5.000 CAL	BB
DDD	6.375	6.377	169053	36806.4	5.000 CAL	BB
Endosulfan II	6.587	6.589	341025	67691.5	5.000 CAL	BB
DDT	7.184	7.185	221690	45767.6	5.000 CAL	BB
Endrin Aldehyde	7.497	7.497	319743	63225.1	5.000 CAL	BB
Endosulfan Sulfate	8.392	8.393	373772	72181.4	5.000 CAL	BB
Methoxychlor	9.648	9.649	775864	29841.8	25.000 CAL	BB
Endrin Ketone	10.045	10.047	356794	72592.4	5.000 CAL	BB
DCB	12.251	12.251	287903	105441.3	2.500 CAL	BB

RC 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1103 (5/10/50ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11012.dat
User: ESanto
Acquired: 05/11/16 13:34:40
Printed: 05/11/16 16:29:03



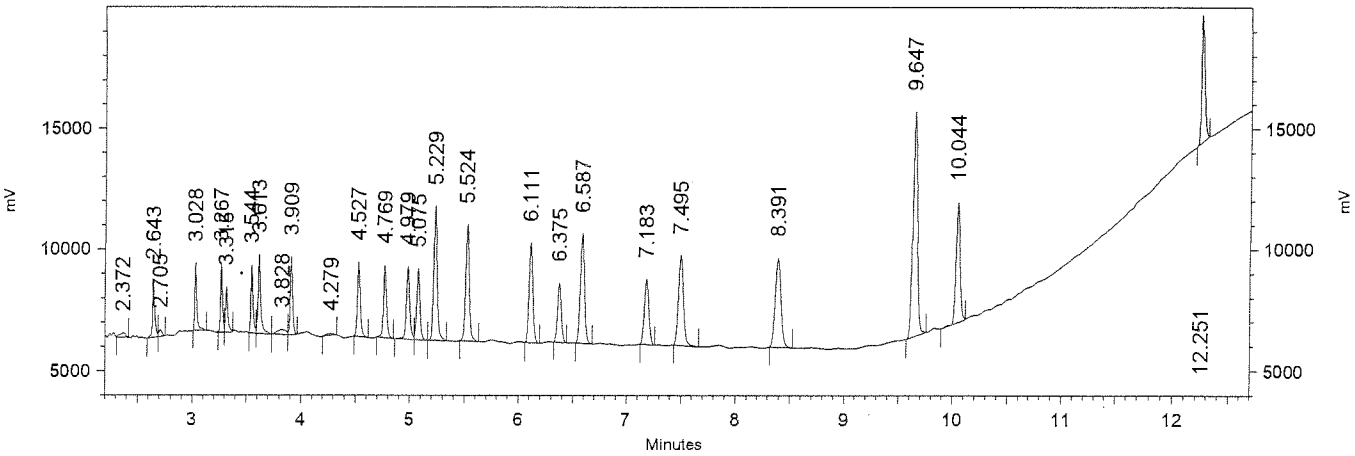
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.473	316985	62846.1	5.000 CAL	BB
alpha-BHC	2.805	2.805	420080	93919.0	5.000 CAL	SB
gamma-BHC	2.999	2.999	442868	97010.5	5.000 CAL	BV
beta-BHC	3.047	3.047	300063	61093.2	5.000 CAL	VB
delta-BHC	3.161	3.161	460009	103944.1	5.000 CAL	BV
Heptachlor	3.301	3.301	613181	124693.7	5.000 CAL	VB
Aldrin	3.517	3.517	568053	118874.0	5.000 CAL	SB
Heptachlor Epoxide	4.023	4.021	661736	129093.5	5.000 CAL	SV
gamma-Chlordane	4.141	4.141	669409	131674.2	5.000 CAL	VV
alpha-Chlordane	4.277	4.276	679411	136473.7	5.000 CAL	VV
DDE	4.355	4.353	1179581	123859.0	10.000 CAL	VV
Endosulfan I	4.428	4.428	707186	142551.8	5.000 CAL	VB
Dieldrin	4.711	4.709	1270543	132373.3	10.000 CAL	SB
Endrin	5.019	5.017	1106073	114242.0	10.000 CAL	BV
DDD	5.124	5.123	794126	87496.1	10.000 CAL	VB
Endosulfan II	5.351	5.349	1413737	142283.1	10.000 CAL	SV
DDT	5.576	5.575	1031315	109067.2	10.000 CAL	SB
Endrin aldehyde	6.096	6.093	1391721	134129.0	10.000 CAL	SS
Methoxychlor	6.619	6.616	3731769	70878.7	50.000 CAL	BB
Endosulfan Sulfate	7.068	7.065	1579387	155144.6	10.000 CAL	SB
Endrin Ketone	7.801	7.797	1632207	164888.0	10.000 CAL	SB
DCB	10.849	10.848	1296198	241147.5	5.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1103 (5/10/50ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11012.dat
User: ESanto
Acquired: 05/11/16 13:34:40
Printed: 05/11/16 16:29:03



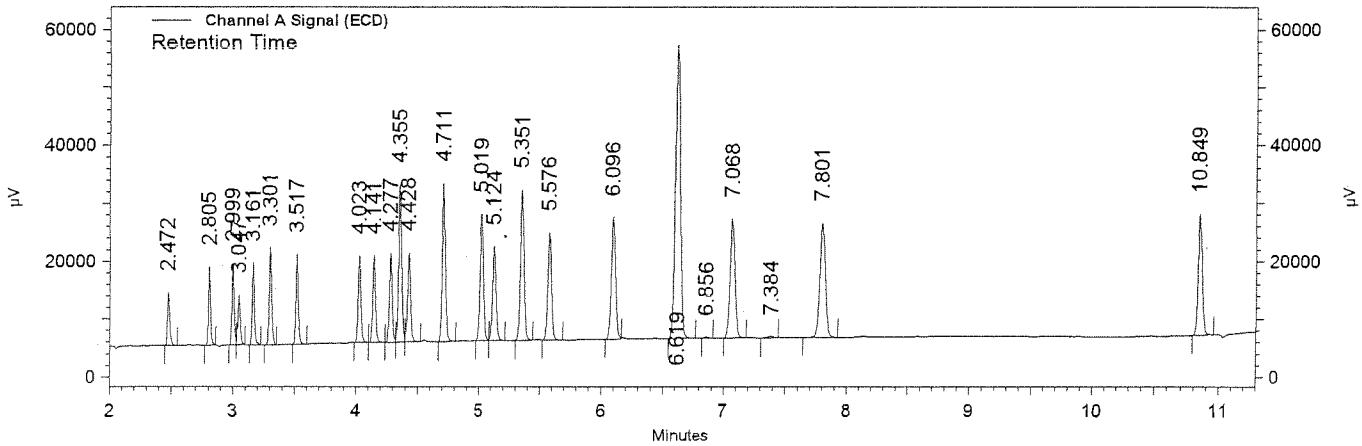
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.643	181319	34035.2	5.000 CAL	BV
alpha-BHC	3.027	3.028	201529	42482.0	5.000 CAL	BB
gamma-BHC	3.265	3.267	196467	42631.3	5.000 CAL	BV
beta-BHC	3.313	3.315	145904	27567.7	5.000 CAL	VB
delta-BHC	3.544	3.544	215302	46499.3	5.000 CAL	BV
Heptachlor	3.613	3.613	309164	56808.7	5.000 CAL	VB
Aldrin	3.909	3.909	268332	55562.8	5.000 CAL	VB
Heptachlor Epoxide	4.528	4.527	308881	63899.7	5.000 CAL	BB
gamma-Chlordane	4.771	4.769	321443	64359.4	5.000 CAL	BB
alpha-Chlordane	4.980	4.979	349201	69323.1	5.000 CAL	BV
Endosulfan I	5.073	5.075	323580	64951.9	5.000 CAL	VB
DDE	5.228	5.229	646096	67986.8	10.000 CAL	BB
Dieldrin	5.524	5.524	591866	63767.8	10.000 CAL	BB
Endrin	6.112	6.111	550268	57464.7	10.000 CAL	BB
DDD	6.375	6.375	330900	36806.4	10.000 CAL	BB
Endosulfan II	6.587	6.587	648785	67691.5	10.000 CAL	BB
DDT	7.184	7.183	428526	45767.6	10.000 CAL	BB
Endrin Aldehyde	7.497	7.495	645045	63225.1	10.000 CAL	BB
Endosulfan Sulfate	8.392	8.391	713587	72181.4	10.000 CAL	BB
Methoxychlor	9.648	9.647	1479496	29841.8	50.000 CAL	BB
Endrin Ketone	10.045	10.044	704686	72592.4	10.000 CAL	BB
DCB	12.251	12.251	548579	105441.3	5.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1104 (10/20/100ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11013.dat
User: ESanto
Acquired: 05/11/16 13:54:46
Printed: 05/11/16 16:29:27



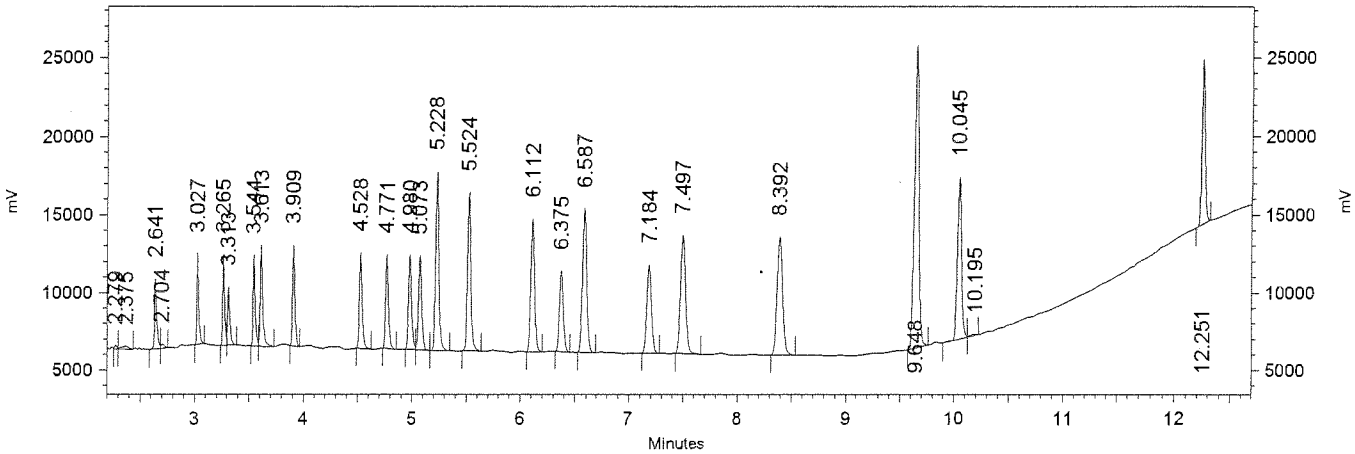
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.472	647788	62846.1	10.000 CAL	BB
alpha-BHC	2.805	2.805	890669	93919.0	10.000 CAL	SI
gamma-BHC	2.999	2.999	934779	97010.5	10.000 CAL	BV
beta-BHC	3.047	3.047	608988	61093.2	10.000 CAL	VS
delta-BHC	3.161	3.161	984973	103944.1	10.000 CAL	BB
Heptachlor	3.301	3.301	1241797	124693.7	10.000 CAL	SB
Aldrin	3.517	3.517	1176668	118874.0	10.000 CAL	SB
Heptachlor Epoxide	4.023	4.023	1288792	129093.5	10.000 CAL	SV
gamma-Chlordane	4.141	4.141	1315312	131674.2	10.000 CAL	VB
alpha-Chlordane	4.277	4.277	1378209	136473.7	10.000 CAL	BV
DDE	4.355	4.355	2479136	123859.0	20.000 CAL	VV
Endosulfan I	4.428	4.428	1451815	142551.8	10.000 CAL	VB
Dieldrin	4.711	4.711	2674989	132373.3	20.000 CAL	SB
Endrin	5.019	5.019	2319924	114242.0	20.000 CAL	BV
DDD	5.124	5.124	1716021	87496.1	20.000 CAL	VB
Endosulfan II	5.351	5.351	2930527	142283.1	20.000 CAL	SV
DDT	5.576	5.576	2186211	109067.2	20.000 CAL	VB
Endrin aldehyde	6.096	6.096	2816575	134129.0	20.000 CAL	BS
Methoxychlor	6.619	6.619	7572751	70878.7	100.000 CAL	BB
Endosulfan Sulfate	7.068	7.068	3227527	155144.6	20.000 CAL	BB
Endrin Ketone	7.801	7.801	3409816	164888.0	20.000 CAL	SB
DCB	10.849	10.849	2560458	241147.5	10.000 CAL	BB

mu 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1104 (10/20/100ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11013.dat
User: ESanto
Acquired: 05/11/16 13:54:46
Printed: 05/11/16 16:29:27



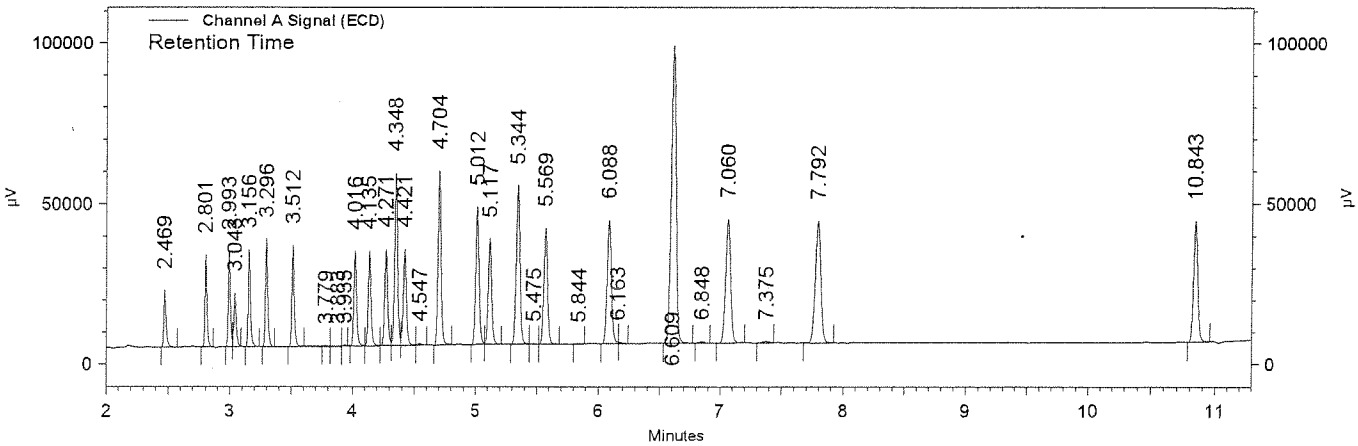
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.641	345267	34035.2	10.000 CAL	BV
alpha-BHC	3.027	3.027	394133	42482.0	10.000 CAL	BI
gamma-BHC	3.265	3.265	404406	42631.3	10.000 CAL	BV
beta-BHC	3.313	3.313	285434	27567.7	10.000 CAL	VB
delta-BHC	3.544	3.544	443065	46499.3	10.000 CAL	BV
Heptachlor	3.613	3.613	575102	56808.7	10.000 CAL	VB
Aldrin	3.909	3.909	538778	55562.8	10.000 CAL	BB
Heptachlor Epoxide	4.528	4.528	621527	63899.7	10.000 CAL	BB
gamma-Chlordane	4.771	4.771	622394	64359.4	10.000 CAL	BB
alpha-Chlordane	4.980	4.980	661228	69323.1	10.000 CAL	BV
Endosulfan I	5.073	5.073	665338	64951.9	10.000 CAL	VB
DDE	5.228	5.228	1322323	67986.8	20.000 CAL	BB
Dieldrin	5.524	5.524	1237846	63767.8	20.000 CAL	BB
Endrin	6.112	6.112	1147409	57464.7	20.000 CAL	BB
DDD	6.375	6.375	714052	36806.4	20.000 CAL	BB
Endosulfan II	6.587	6.587	1358474	67691.5	20.000 CAL	BB
DDT	7.184	7.184	921864	45767.6	20.000 CAL	BB
Endrin Aldehyde	7.497	7.497	1330392	63225.1	20.000 CAL	BB
Endosulfan Sulfate	8.392	8.392	1492267	72181.4	20.000 CAL	BB
Methoxychlor	9.648	9.648	3090663	29841.8	100.000 CAL	BB
Endrin Ketone	10.045	10.045	1475619	72592.4	20.000 CAL	BV
DCB	12.251	12.251	1117234	105441.3	10.000 CAL	BB

mr 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1105 (20/40/200ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11014.dat
User: ESanto
Acquired: 05/11/16 14:14:49
Printed: 05/11/16 16:29:43



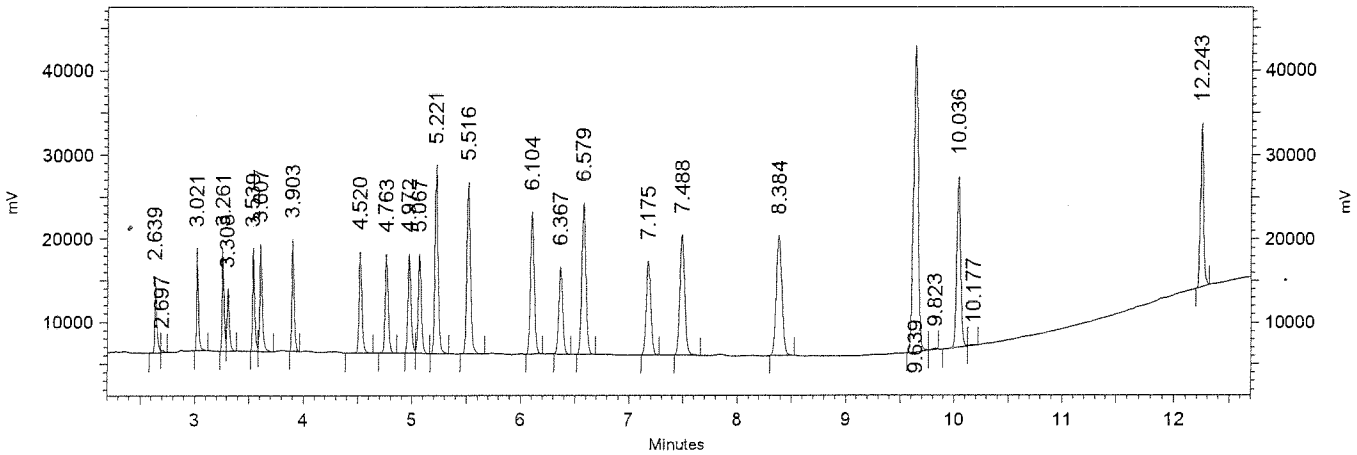
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.469	1276511	62846.1	20.000 CAL	BB
alpha-BHC	2.805	2.801	1885666	93919.0	20.000 CAL	SI
gamma-BHC	2.999	2.993	1963458	97010.5	20.000 CAL	BV
beta-BHC	3.047	3.043	1230230	61093.2	20.000 CAL	VS
delta-BHC	3.161	3.156	2084336	103944.1	20.000 CAL	BB
Heptachlor	3.301	3.296	2473601	124693.7	20.000 CAL	BB
Aldrin	3.517	3.512	2402674	118874.0	20.000 CAL	SV
Heptachlor Epoxide	4.023	4.016	2585615	129093.5	20.000 CAL	SV
gamma-Chlordane	4.141	4.135	2628160	131674.2	20.000 CAL	VV
alpha-Chlordane	4.277	4.271	2729119	136473.7	20.000 CAL	VV
DDE	4.355	4.348	4930892	123859.0	40.000 CAL	VV
Endosulfan I	4.428	4.421	2849397	142551.8	20.000 CAL	VV
Dieldrin	4.711	4.704	5318198	132373.3	40.000 CAL	SB
Endrin	5.019	5.012	4548263	114242.0	40.000 CAL	BV
DDD	5.124	5.117	3449110	87496.1	40.000 CAL	VB
Endosulfan II	5.351	5.344	5630706	142283.1	40.000 CAL	SV
DDT	5.576	5.569	4264551	109067.2	40.000 CAL	VB
Endrin aldehyde	6.096	6.088	5235051	134129.0	40.000 CAL	SS
Methoxychlor	6.619	6.609	14057794	70878.7	200.000 CAL	BB
Endosulfan Sulfate	7.068	7.060	6070337	155144.6	40.000 CAL	BB
Endrin Ketone	7.801	7.792	6526183	164888.0	40.000 CAL	SB
DCB	10.849	10.843	4757298	241147.5	20.000 CAL	BB

JM 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1105 (20/40/200ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11014.dat
User: ESanto
Acquired: 05/11/16 14:14:49
Printed: 05/11/16 16:29:43



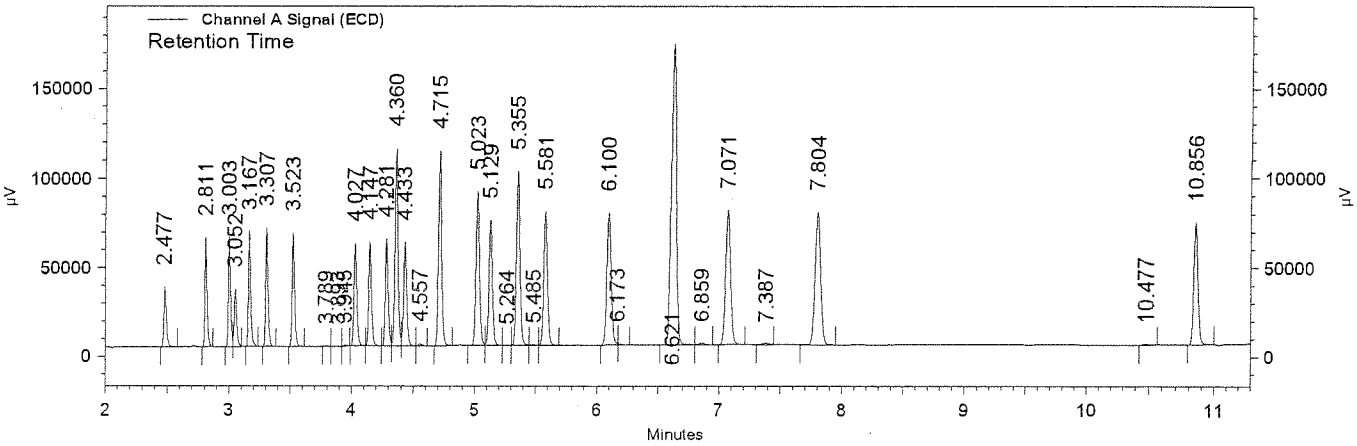
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.639	650231	34035.2	20.000 CAL	BV
alpha-BHC	3.027	3.021	851462	42482.0	20.000 CAL	BB
gamma-BHC	3.265	3.261	856809	42631.3	20.000 CAL	BV
beta-BHC	3.313	3.308	592711	27567.7	20.000 CAL	VB
delta-BHC	3.544	3.539	917787	46499.3	20.000 CAL	BV
Heptachlor	3.613	3.607	1110605	56808.7	20.000 CAL	VB
Aldrin	3.909	3.903	1109032	55562.8	20.000 CAL	BB
Heptachlor Epoxide	4.528	4.520	1236684	63899.7	20.000 CAL	BB
gamma-Chlordane	4.771	4.763	1239748	64359.4	20.000 CAL	BB
alpha-Chlordane	4.980	4.972	1283331	69323.1	20.000 CAL	BV
Endosulfan I	5.073	5.067	1307186	64951.9	20.000 CAL	VB
DDE	5.228	5.221	2568080	67986.8	40.000 CAL	BB
Dieldrin	5.524	5.516	2498116	63767.8	40.000 CAL	BB
Endrin	6.112	6.104	2260128	57464.7	40.000 CAL	BB
DDD	6.375	6.367	1430615	36806.4	40.000 CAL	BB
Endosulfan II	6.587	6.579	2646268	67691.5	40.000 CAL	BB
DDT	7.184	7.175	1802549	45767.6	40.000 CAL	BB
Endrin Aldehyde	7.497	7.488	2515562	63225.1	40.000 CAL	BB
Endosulfan Sulfate	8.392	8.384	2841344	72181.4	40.000 CAL	BB
Methoxychlor	9.648	9.639	5974040	29841.8	200.000 CAL	BV
Endrin Ketone	10.045	10.036	2862327	72592.4	40.000 CAL	BV
DCB	12.251	12.243	2112669	105441.3	20.000 CAL	BB

pc 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1106 (40/80/400ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11015.dat
User: ESanto
Acquired: 05/11/16 14:34:55
Printed: 05/11/16 16:29:59



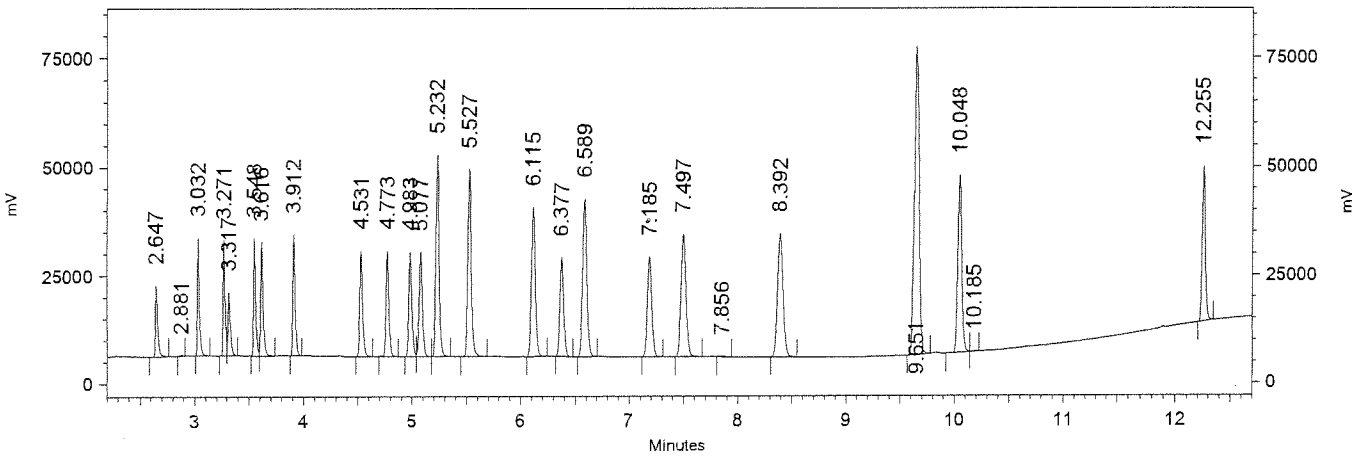
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.477	2493489	62846.1	40.000 CAL	BB
alpha-BHC	2.805	2.811	4094112	93919.0	40.000 CAL	BI
gamma-BHC	2.999	3.003	4163641	97010.5	40.000 CAL	BV
beta-BHC	3.047	3.052	2418571	61093.2	40.000 CAL	VS
delta-BHC	3.161	3.167	4526978	103944.1	40.000 CAL	BS
Heptachlor	3.301	3.307	4973163	124693.7	40.000 CAL	BB
Aldrin	3.517	3.523	4890810	118874.0	40.000 CAL	SB
Heptachlor Epoxide	4.023	4.027	4962394	129093.5	40.000 CAL	BV
gamma-Chlordane	4.141	4.147	5143252	131674.2	40.000 CAL	VB
alpha-Chlordane	4.277	4.281	5399270	136473.7	40.000 CAL	BV
DDE	4.355	4.360	10088691	123859.0	80.000 CAL	VV
Endosulfan I	4.428	4.433	5611062	142551.8	40.000 CAL	VV
Dieldrin	4.711	4.715	10783544	132373.3	80.000 CAL	SB
Endrin	5.019	5.023	9210605	114242.0	80.000 CAL	BV
DDD	5.124	5.129	7400285	87496.1	80.000 CAL	VV
Endosulfan II	5.351	5.355	11158298	142283.1	80.000 CAL	VV
DDT	5.576	5.581	8874363	109067.2	80.000 CAL	VS
Endrin aldehyde	6.096	6.100	10006708	134129.0	80.000 CAL	BS
Methoxychlor	6.619	6.621	26047759	70878.7	400.000 CAL	BV
Endosulfan Sulfate	7.068	7.071	11713047	155144.6	80.000 CAL	BB
Endrin Ketone	7.801	7.804	12849967	164888.0	80.000 CAL	SB
DCB	10.849	10.856	8678452	241147.5	40.000 CAL	BB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1106 (40/80/400ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11015.dat
User: ESanto
Acquired: 05/11/16 14:34:55
Printed: 05/11/16 16:29:59



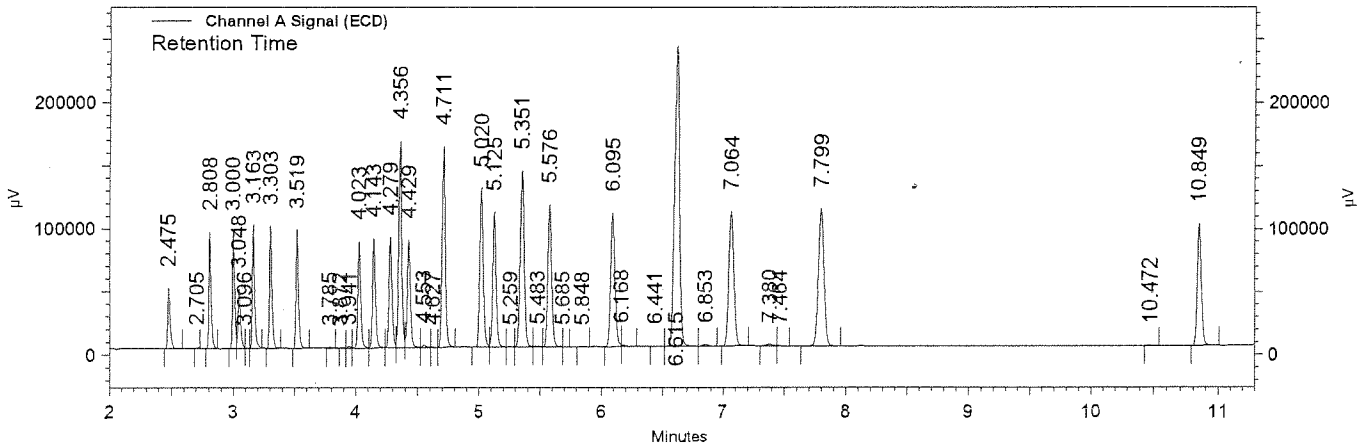
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.647	1274213	34035.2	40.000 CAL	BB
alpha-BHC	3.027	3.032	1878792	42482.0	40.000 CAL	BB
gamma-BHC	3.265	3.271	1867594	42631.3	40.000 CAL	BV
beta-BHC	3.313	3.317	1189502	27567.7	40.000 CAL	VB
delta-BHC	3.544	3.548	2029485	46499.3	40.000 CAL	BV
Heptachlor	3.613	3.616	2233504	56808.7	40.000 CAL	VB
Aldrin	3.909	3.912	2346684	55562.8	40.000 CAL	BI
Heptachlor Epoxide	4.528	4.531	2427703	63899.7	40.000 CAL	BB
gamma-Chlordane	4.771	4.773	2499278	64359.4	40.000 CAL	BB
alpha-Chlordane	4.980	4.983	2606023	69323.1	40.000 CAL	BV
Endosulfan I	5.073	5.077	2658707	64951.9	40.000 CAL	VB
DDE	5.228	5.232	5267890	67986.8	80.000 CAL	BB
Dieldrin	5.524	5.527	5243723	63767.8	80.000 CAL	BB
Endrin	6.112	6.115	4642941	57464.7	80.000 CAL	BB
DDD	6.375	6.377	3070347	36806.4	80.000 CAL	BB
Endosulfan II	6.587	6.589	5377402	67691.5	80.000 CAL	BB
DDT	7.184	7.185	3729810	45767.6	80.000 CAL	BB
Endrin Aldehyde	7.497	7.497	4951110	63225.1	80.000 CAL	BB
Endosulfan Sulfate	8.392	8.392	5643015	72181.4	80.000 CAL	BB
Methoxychlor	9.648	9.651	11657951	29841.8	400.000 CAL	BB
Endrin Ketone	10.045	10.048	5776854	72592.4	80.000 CAL	BV
DCB	12.251	12.255	3992888	105441.3	40.000 CAL	BB

TM 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1107 (60/120/600ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11016.dat
User: ESanto
Acquired: 05/11/16 14:54:54
Printed: 05/11/16 16:30:15



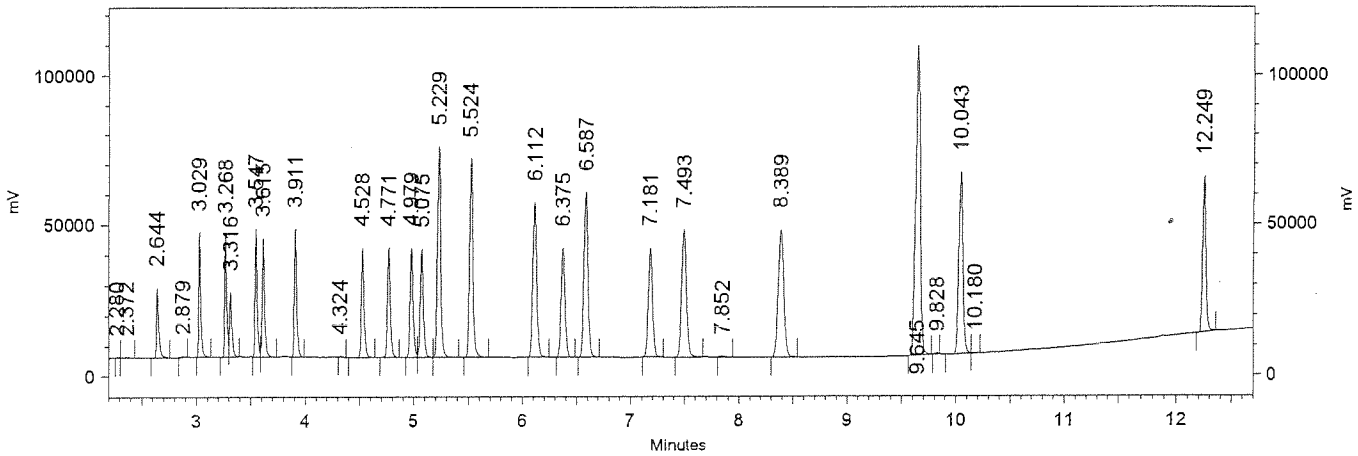
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.475	3508022	62846.1	60.000 CAL	BB
alpha-BHC	2.805	2.808	6188576	93919.0	60.000 CAL	BI
gamma-BHC	2.999	3.000	6244420	97010.5	60.000 CAL	BV
beta-BHC	3.047	3.048	3468392	61093.2	60.000 CAL	VS
delta-BHC	3.161	3.163	6918622	103944.1	60.000 CAL	BS
Heptachlor	3.301	3.303	7242771	124693.7	60.000 CAL	BB
Aldrin	3.517	3.519	7209732	118874.0	60.000 CAL	SB
Heptachlor Epoxide	4.023	4.023	7412630	129093.5	60.000 CAL	SV
gamma-Chlordane	4.141	4.143	7713143	131674.2	60.000 CAL	VV
alpha-Chlordane	4.277	4.279	8031986	136473.7	60.000 CAL	VV
DDE	4.355	4.356	15079653	123859.0	120.000 CAL	VV
Endosulfan I	4.428	4.429	8287695	142551.8	60.000 CAL	VV
Dieldrin	4.711	4.711	15818124	132373.3	120.000 CAL	BS
Endrin	5.019	5.020	13537582	114242.0	120.000 CAL	BV
DDD	5.124	5.125	11289032	87496.1	120.000 CAL	VV
Endosulfan II	5.351	5.351	16222816	142283.1	120.000 CAL	VV
DDT	5.576	5.576	13327922	109067.2	120.000 CAL	VS
Endrin aldehyde	6.096	6.095	14457848	134129.0	120.000 CAL	BS
Methoxychlor	6.619	6.615	36836479	70878.7	600.000 CAL	BV
Endosulfan Sulfate	7.068	7.064	16961144	155144.6	120.000 CAL	BB
Endrin Ketone	7.801	7.799	18883241	164888.0	120.000 CAL	SB
DCB	10.849	10.849	12385619	241147.5	60.000 CAL	BI

RW 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1107 (60/120/600ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11016.dat
User: ESanto
Acquired: 05/11/16 14:54:54
Printed: 05/11/16 16:30:15



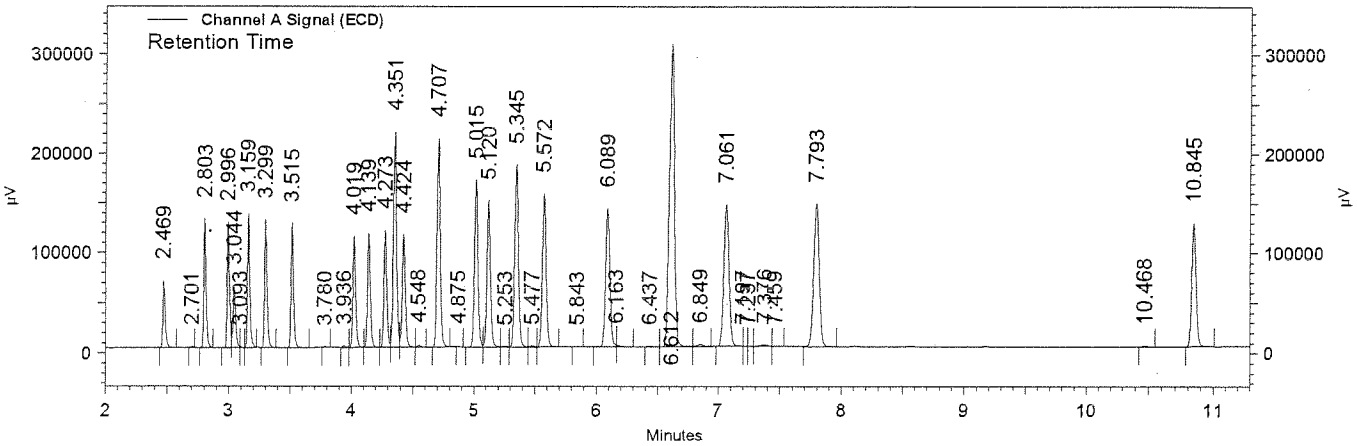
Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.644	1783716	34035.2	60.000 CAL	BB
alpha-BHC	3.027	3.029	2866373	42482.0	60.000 CAL	BB
gamma-BHC	3.265	3.268	2858977	42631.3	60.000 CAL	BV
beta-BHC	3.313	3.316	1712060	27567.7	60.000 CAL	VB
delta-BHC	3.544	3.547	3151544	46499.3	60.000 CAL	BV
Heptachlor	3.613	3.615	3280423	56808.7	60.000 CAL	VB
Aldrin	3.909	3.911	3540955	55562.8	60.000 CAL	BI
Heptachlor Epoxide	4.528	4.528	3599192	63899.7	60.000 CAL	BB
gamma-Chlordane	4.771	4.771	3718731	64359.4	60.000 CAL	BB
alpha-Chlordane	4.980	4.979	3892012	69323.1	60.000 CAL	BV
Endosulfan I	5.073	5.075	3969968	64951.9	60.000 CAL	VV
DDE	5.228	5.229	7971354	67986.8	120.000 CAL	VB
Dieldrin	5.524	5.524	7918106	63767.8	120.000 CAL	BB
Endrin	6.112	6.112	6934842	57464.7	120.000 CAL	BB
DDD	6.375	6.375	4793416	36806.4	120.000 CAL	BB
Endosulfan II	6.587	6.587	8018175	67691.5	120.000 CAL	BB
DDT	7.184	7.181	5693055	45767.6	120.000 CAL	BB
Endrin Aldehyde	7.497	7.493	7309410	63225.1	120.000 CAL	BB
Endosulfan Sulfate	8.392	8.389	8328378	72181.4	120.000 CAL	BB
Methoxychlor	9.648	9.645	17078330	29841.8	600.000 CAL	BB
Endrin Ketone	10.045	10.043	8636503	72592.4	120.000 CAL	BV
DCB	12.251	12.249	5778741	105441.3	60.000 CAL	SB

5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1108 (80/160/800ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11017.dat
User: ESanto
Acquired: 05/11/16 15:14:58
Printed: 05/11/16 16:30:36



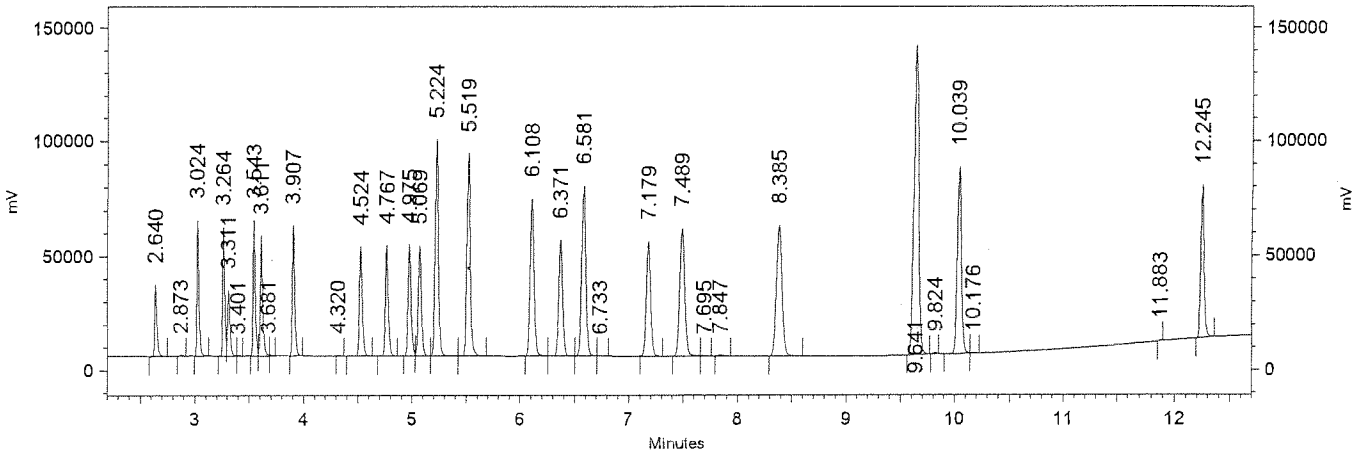
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.472	2.469	4997651	62846.1	80.000 CAL	BV
alpha-BHC	2.805	2.803	8838509	93919.0	80.000 CAL	VS
gamma-BHC	2.999	2.996	8598806	97010.5	80.000 CAL	SV
beta-BHC	3.047	3.044	4671180	61093.2	80.000 CAL	VS
delta-BHC	3.161	3.159	9528735	103944.1	80.000 CAL	VS
Heptachlor	3.301	3.299	9639333	124693.7	80.000 CAL	BB
Aldrin	3.517	3.515	9623079	118874.0	80.000 CAL	SB
Heptachlor Epoxide	4.023	4.019	9615949	129093.5	80.000 CAL	VV
gamma-Chlordane	4.141	4.139	10154229	131674.2	80.000 CAL	VV
alpha-Chlordane	4.277	4.273	10581101	136473.7	80.000 CAL	VV
DDE	4.355	4.351	20236009	123859.0	160.000 CAL	VV
Endosulfan I	4.428	4.424	10795737	142551.8	80.000 CAL	VV
Dieldrin	4.711	4.707	20920098	132373.3	160.000 CAL	SS
Endrin	5.019	5.015	17997774	114242.0	160.000 CAL	BV
DDD	5.124	5.120	15527711	87496.1	160.000 CAL	VV
Endosulfan II	5.351	5.345	21355304	142283.1	160.000 CAL	VV
DDT	5.576	5.572	18063162	109067.2	160.000 CAL	VS
Endrin aldehyde	6.096	6.089	18988531	134129.0	160.000 CAL	SS
Methoxychlor	6.619	6.612	47559738	70878.7	800.000 CAL	BV
Endosulfan Sulfate	7.068	7.061	22583055	155144.6	160.000 CAL	BS
Endrin Ketone	7.801	7.793	25071582	164888.0	160.000 CAL	BB
DCB	10.849	10.845	16026967	241147.5	80.000 CAL	BI

PW 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CPE8E1108 (80/160/800ppb PEST ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11017.dat
User: ESanto
Acquired: 05/11/16 15:14:58
Printed: 05/11/16 16:30:36



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.640	2448163	34035.2	80.000 CAL	BB
alpha-BHC	3.027	3.024	4148055	42482.0	80.000 CAL	BB
gamma-BHC	3.265	3.264	4009198	42631.3	80.000 CAL	BV
beta-BHC	3.313	3.311	2331839	27567.7	80.000 CAL	VV
delta-BHC	3.544	3.543	4448724	46499.3	80.000 CAL	BV
Heptachlor	3.613	3.611	4405773	56808.7	80.000 CAL	VS
Aldrin	3.909	3.907	4832889	55562.8	80.000 CAL	BI
Heptachlor Epoxide	4.528	4.524	4813225	63899.7	80.000 CAL	BB
gamma-Chlordane	4.771	4.767	5008688	64359.4	80.000 CAL	BB
alpha-Chlordane	4.980	4.975	5245753	69323.1	80.000 CAL	BV
Endosulfan I	5.073	5.069	5338409	64951.9	80.000 CAL	VV
DDE	5.228	5.224	10839808	67986.8	160.000 CAL	VB
Dieldrin	5.524	5.519	10778204	63767.8	160.000 CAL	BB
Endrin	6.112	6.108	9425557	57464.7	160.000 CAL	BV
DDD	6.375	6.371	6837222	36806.4	160.000 CAL	VB
Endosulfan II	6.587	6.581	10870246	67691.5	160.000 CAL	BV
DDT	7.184	7.179	7906020	45767.6	160.000 CAL	BB
Endrin Aldehyde	7.497	7.489	9803698	63225.1	160.000 CAL	BV
Endosulfan Sulfate	8.392	8.385	11249284	72181.4	160.000 CAL	BI
Methoxychlor	9.648	9.641	22614448	29841.8	800.000 CAL	BB
Endrin Ketone	10.045	10.039	11655102	72592.4	160.000 CAL	BV
DCB	12.251	12.245	7513741	105441.3	80.000 CAL	IB

ru 5-20-16

INITIAL CALIBRATION
METHOD EPA 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
LFID & Datetime: ME11028A 05/11/16 18:58
LFID & Datetime: ME11029A 05/11/16 19:18
LFID & Datetime: ME11030A 05/11/16 19:38
LFID & Datetime: ME11031A 05/11/16 19:58
LFID & Datetime: ME11032A 05/11/16 20:18
LFID & Datetime: ME11033A 05/11/16 20:39
LFID & Datetime: ME11034A 05/11/16 20:59
LFID & Datetime: ME11035A 05/11/16 21:19
Conc Unit : ppb
Method Name : TOE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	10.00X	15.00X	20.00X	30.00X	40.00X	MEAN	%RSD
Toxaphene	50.00	115115	113823	105312	99255	97014	94955	92254	91674	101175.3	9.2

FORM VI TOXA -2 1/96

PM 5-20-16

INITIAL CALIBRATION
METHOD EPA 8081

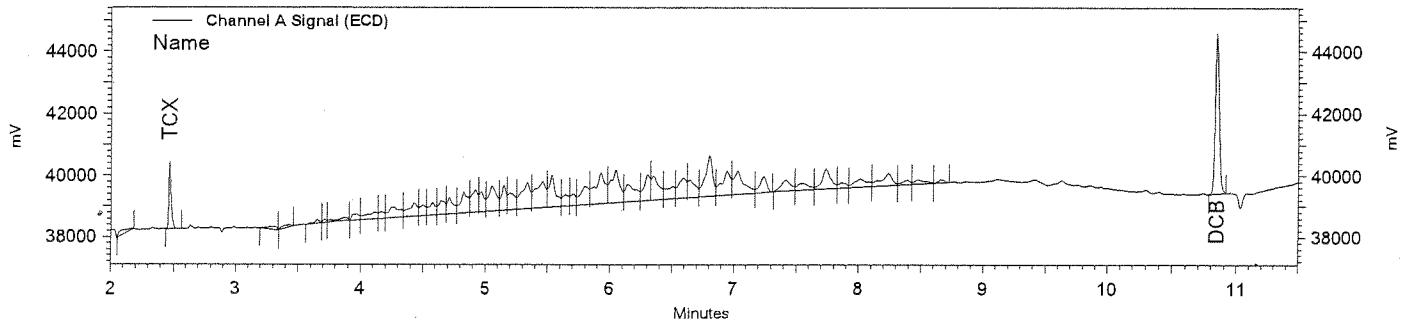
Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
LFID & Datetime: ME11028B 05/11/16 18:58
LFID & Datetime: ME11029B 05/11/16 19:18
LFID & Datetime: ME11030B 05/11/16 19:38
LFID & Datetime: ME11031B 05/11/16 19:58
LFID & Datetime: ME11032B 05/11/16 20:18
LFID & Datetime: ME11033B 05/11/16 20:39
LFID & Datetime: ME11034B 05/11/16 20:59
LFID & Datetime: ME11035B 05/11/16 21:19
Conc Unit : ppb
Method Name : TOE8E11.met

COMPOUND	CONC X	CALIBRATION FACTORS (AREA or HEIGHT)/UNIT 1.00X	2.00X	5.00X	10.00X	15.00X	20.00X	30.00X	40.00X	MEAN	%RSD
Toxaphene	50.00	30464	28288	24902	24990	25628	25515	26636	27502	26740.7	7.2

pw 5-20-16

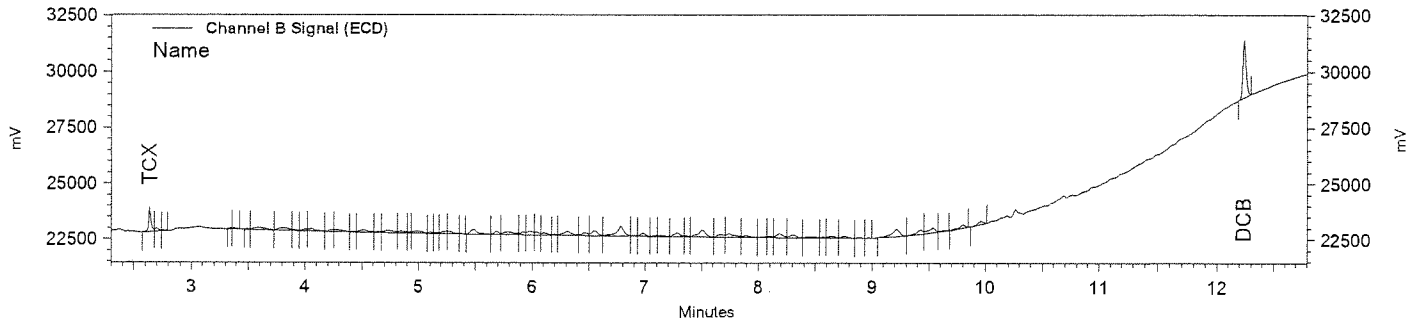
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1101 (50/2.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11028.dat
User: ESanto
Acquired: 05/11/16 18:58:01
Printed: 05/12/16 10:24:35



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.467	147995	63261.8	2.50 CAL	IB
DCB	10.843	10.840	620520	219138.3	2.50 CAL	BI
Toxaphene			5755729	101175.3	50.00 CAL	



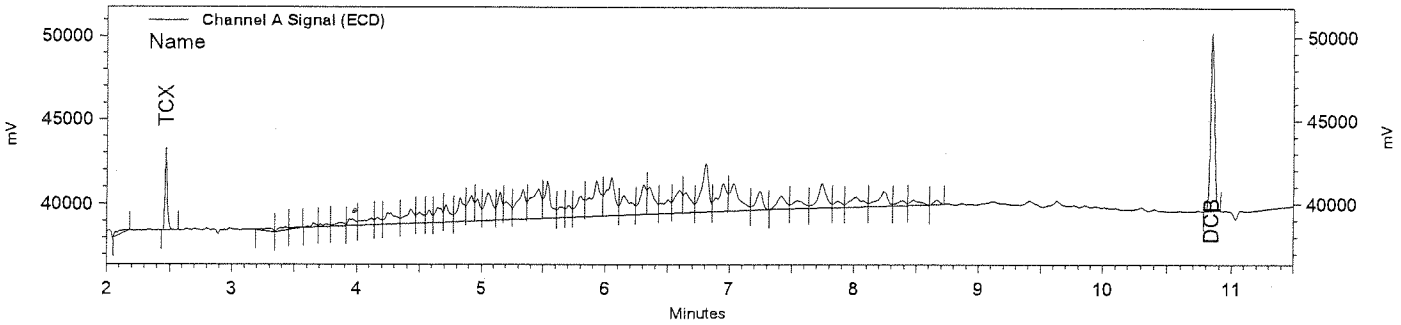
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.636	90112	32052.5	2.50 CAL	BV
DCB	12.244	12.239	263350	98137.0	2.50 CAL	BB
Toxaphene			1523192	26740.7	50.00 CAL	

pu 5-20-16

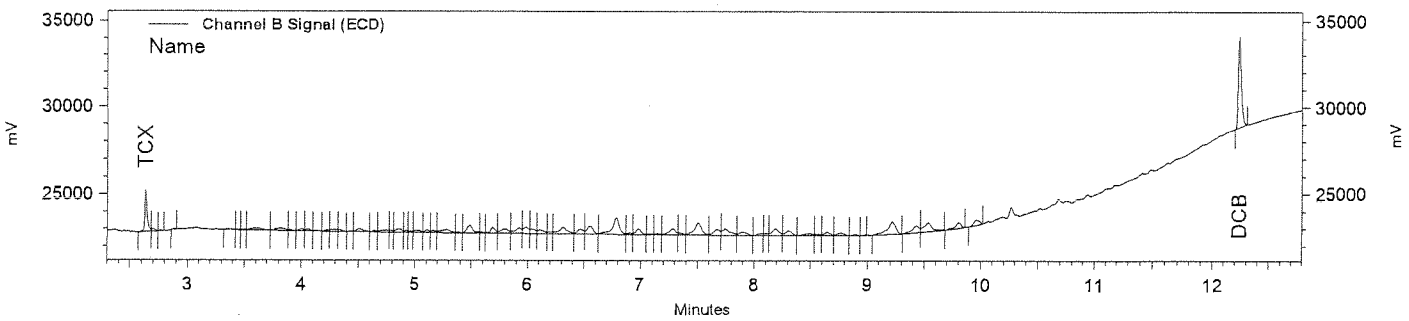
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1102 (100/5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11029.dat
User: ESanto
Acquired: 05/11/16 19:18:18
Printed: 05/12/16 10:24:59



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.468	335031	63261.8	5.00 CAL	IB
DCB	10.843	10.843	1276666	219138.3	5.00 CAL	BI
Toxaphene			11382290	101175.3	100.00 CAL	



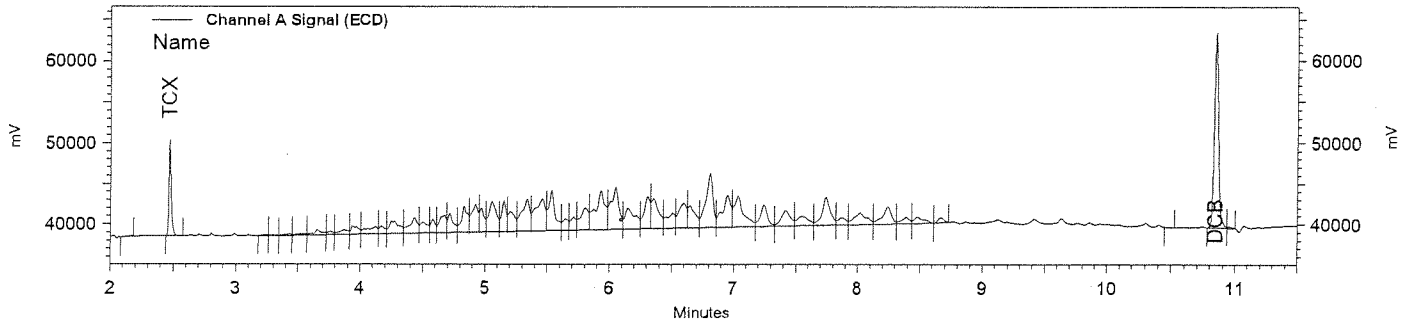
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.636	180695	32052.5	5.00 CAL	BV
DCB	12.244	12.241	554740	98137.0	5.00 CAL	BB
Toxaphene			2828820	26740.7	100.00 CAL	

Per 5-20-16

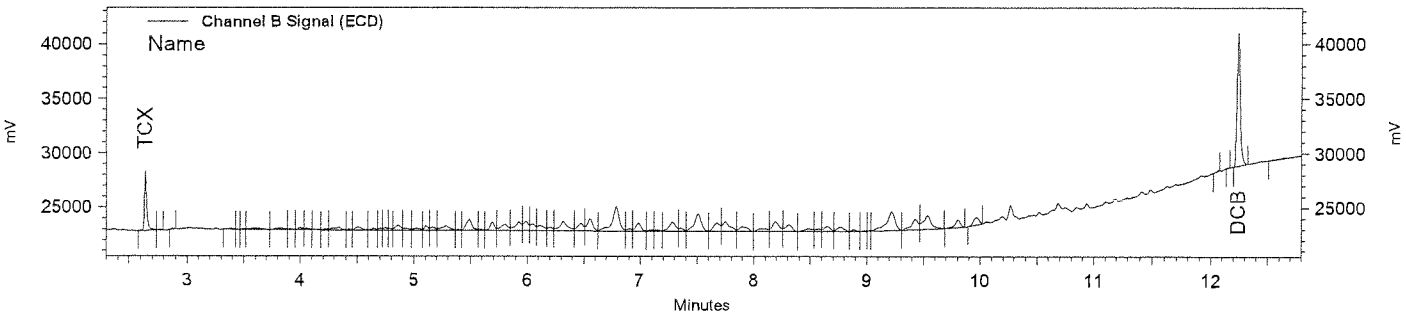
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1103 (250/12.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11030.dat
User: ESanto
Acquired: 05/11/16 19:38:32
Printed: 05/12/16 10:25:15



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	838366	63261.8	12.50 CAL	IB
DCB	10.843	10.844	2975972	219138.3	12.50 CAL	BV
Toxaphene			26328107	101175.3	250.00 CAL	



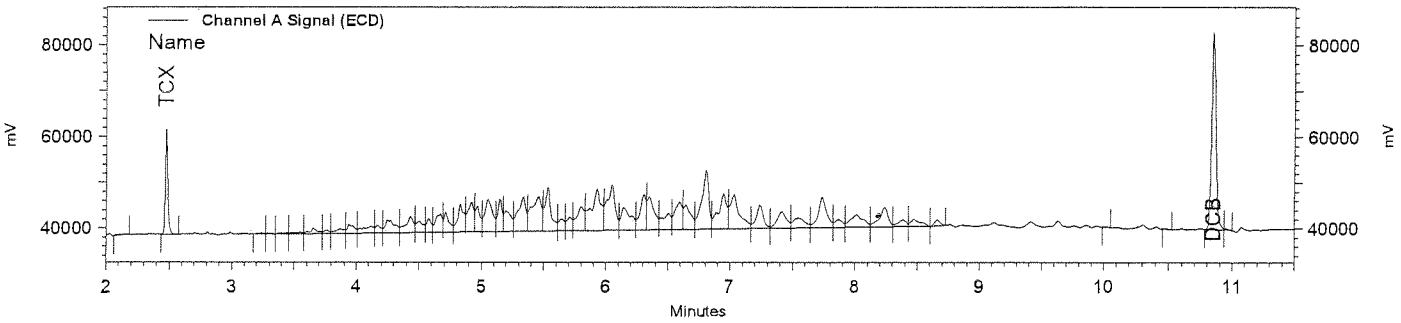
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	422373	32052.5	12.50 CAL	BV
DCB	12.244	12.243	1313606	98137.0	12.50 CAL	BB
Toxaphene			6225422	26740.7	250.00 CAL	

AM 5-20-16

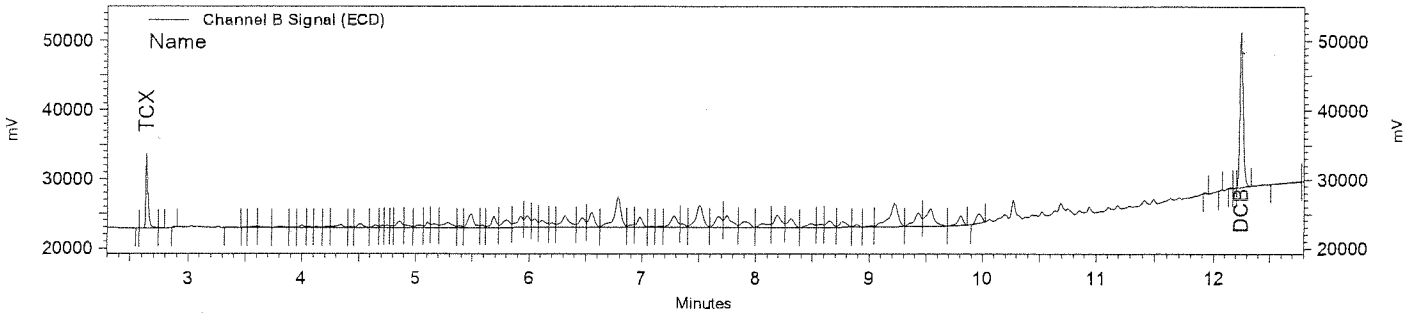
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1104 (500/25ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11031.dat
User: ESanto
Acquired: 05/11/16 19:58:45
Printed: 05/12/16 10:25:42



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.472	1654865	63261.8	25.00 CAL	IB
DCB	10.843	10.847	5480476	219138.3	25.00 CAL	BV
Toxaphene			49627425	101175.3	500.00 CAL	



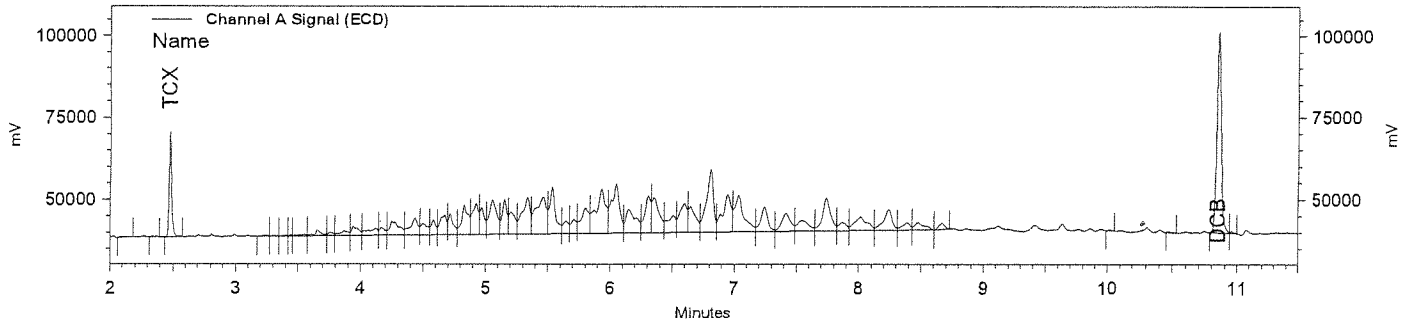
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.641	810491	32052.5	25.00 CAL	BV
DCB	12.244	12.248	2479122	98137.0	25.00 CAL	BB
Toxaphene			12495139	26740.7	500.00 CAL	

ne 5-20-16

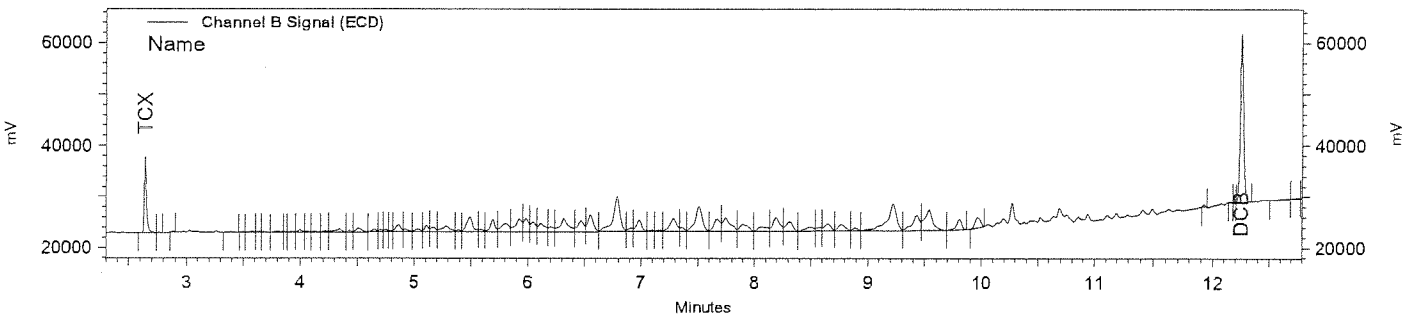
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1105 (750/37.5ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11032.dat
User: ESanto
Acquired: 05/11/16 20:18:58
Printed: 05/12/16 10:25:58



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.473	2325027	63261.8	37.50 CAL	IB
DCB	10.843	10.849	7938067	219138.3	37.50 CAL	BV
Toxaphene			72760428	101175.3	750.00 CAL	



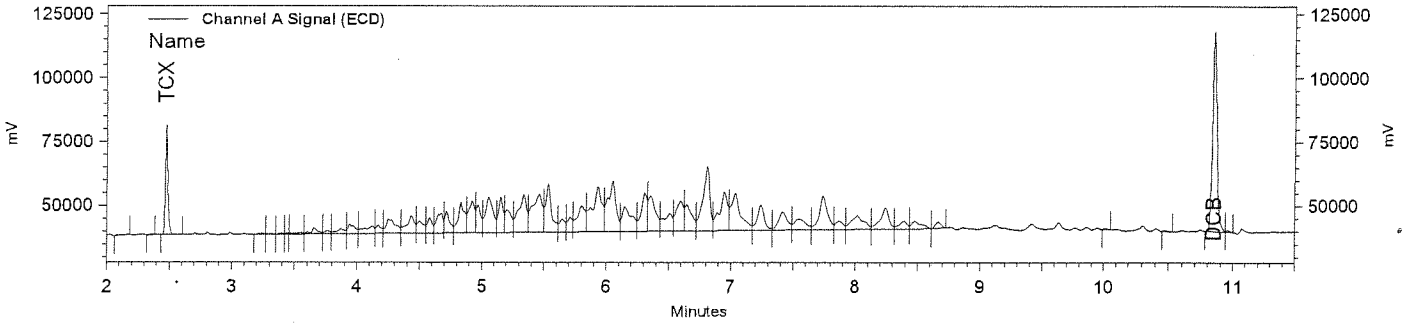
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.643	1125490	32052.5	37.50 CAL	BV
DCB	12.244	12.252	3629605	98137.0	37.50 CAL	BB
Toxaphene			19221247	26740.7	750.00 CAL	

RW 5-20-16

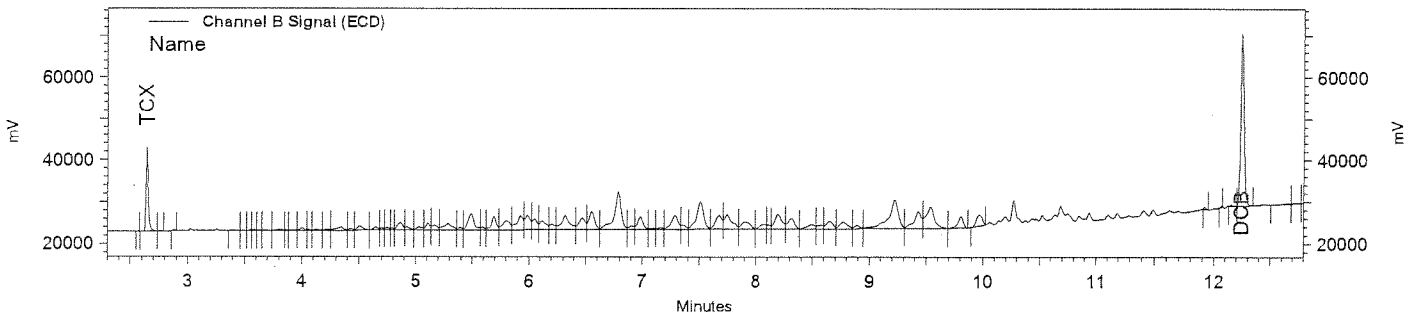
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1106 (1000/50ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11033.dat
User: ESanto
Acquired: 05/11/16 20:39:14
Printed: 05/12/16 10:26:14



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.473	3135270	63261.8	50.00 CAL	IB
DCB	10.843	10.848	10156666	219138.3	50.00 CAL	BV
Toxaphene			94955217	101175.3	1000.00 CAL	



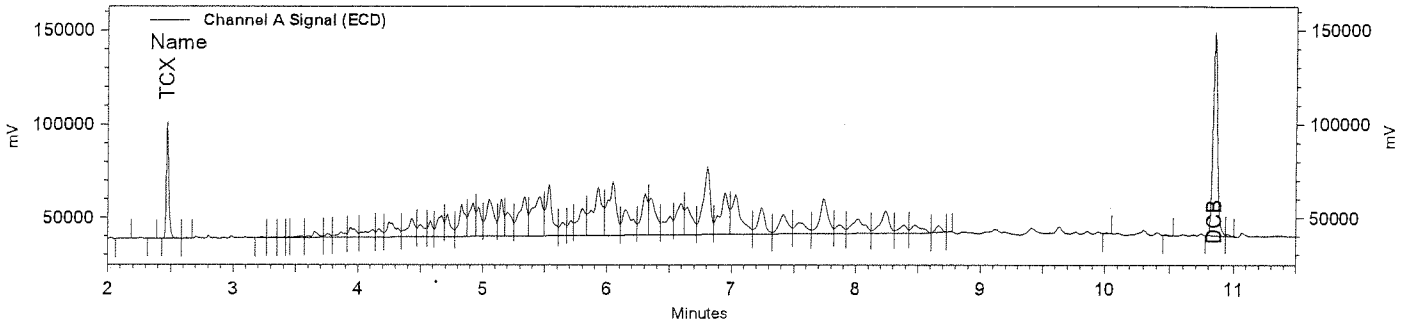
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.643	1517628	32052.5	50.00 CAL	BV
DCB	12.244	12.248	4675867	98137.0	50.00 CAL	BB
Toxaphene			25515420	26740.7	1000.00 CAL	

RC 5-20-16

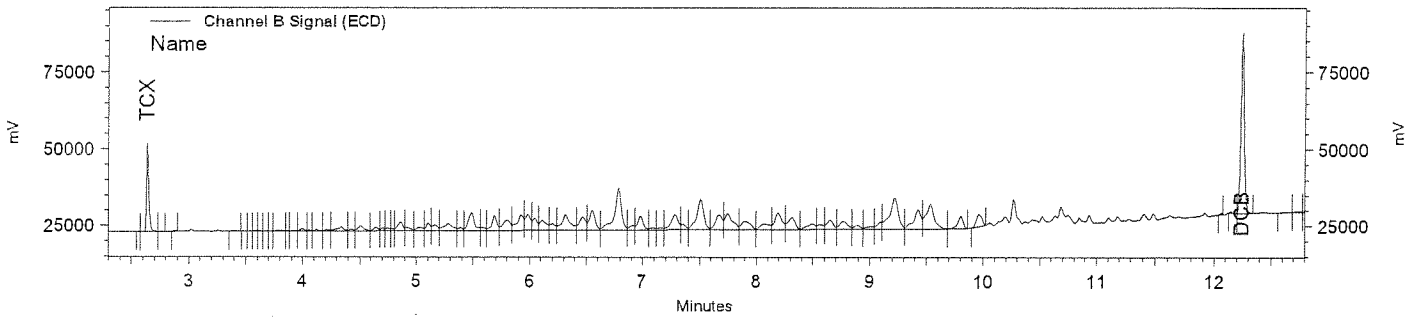
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1107 (1500/75ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11034.dat
User: ESanto
Acquired: 05/11/16 20:59:25
Printed: 05/12/16 10:26:29



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	4619703	63261.8	75.00 CAL	IB
DCB	10.843	10.844	14309613	219138.3	75.00 CAL	BV
Toxaphene			138381387	101175.3	1500.00 CAL	



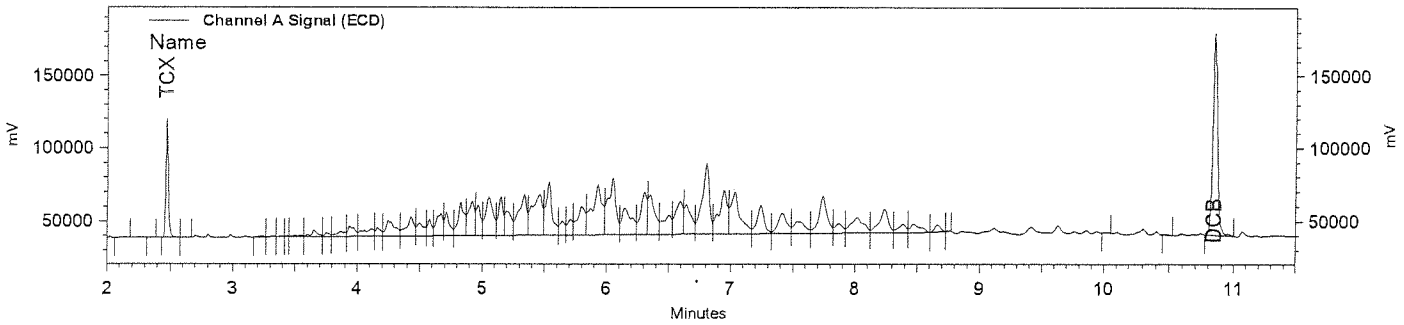
Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	2190152	32052.5	75.00 CAL	BV
DCB	12.244	12.244	6623795	98137.0	75.00 CAL	BB
Toxaphene			39954194	26740.7	1500.00 CAL	

5-20-16

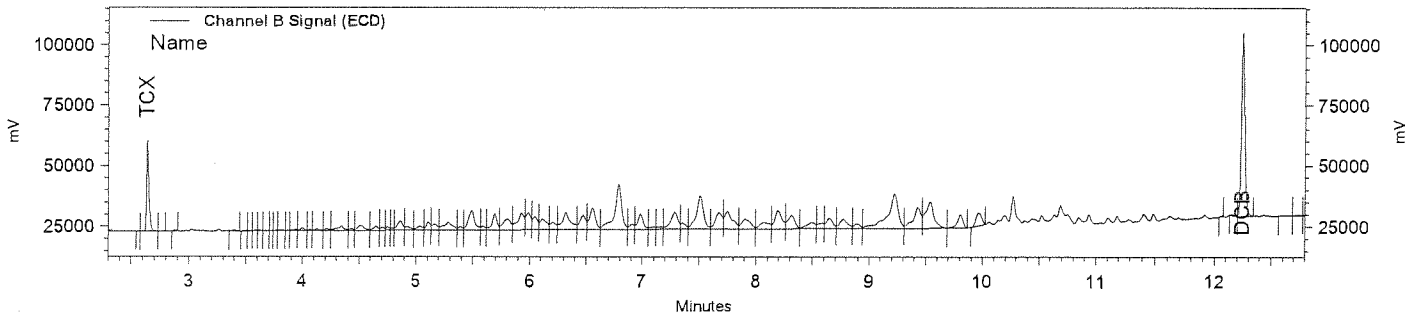
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: TOE8E1108 (2000/100ppb TOXA ICAL)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11035.dat
User: ESanto
Acquired: 05/11/16 21:19:33
Printed: 05/12/16 10:26:46



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.468	6032455	63261.8	100.00 CAL	IV
DCB	10.843	10.843	18665807	219138.3	100.00 CAL	BI
Toxaphene			183348628	101175.3	2000.00 CAL	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	2845940	32052.5	100.00 CAL	BV
DCB	12.244	12.244	8593048	98137.0	100.00 CAL	BB
Toxaphene			55003271	26740.7	2000.00 CAL	

PM 5-20-16

SECOND SOURCE VERIFICATION

INITIAL CALIBRATION VERIFICATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Mid Conc Init LFID & Datetime: ME11022A 05/11/2016 16:55
Conc Cont LFID & Datetime: ME11026A 05/11/2016 18:17
Conc Cont LFID & Datetime: ME11027A 05/11/2016 18:37
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	2.804	2.784	2.824	20.0	93919.0	2108306	22.45	12		20
gamma-BHC	2.996	2.974	3.018	20.0	97010.5	2161021	22.28	11		20
beta-BHC	3.044	3.022	3.066	20.0	61093.2	1317139	21.56	8		20
delta-BHC	3.159	3.138	3.180	20.0	103944.1	2228030	21.43	7		20
Heptachlor	3.300	3.276	3.324	20.0	124693.7	2658892	21.32	7		20
Aldrin	3.516	3.490	3.542	20.0	118874.0	2581066	21.71	9		20
Heptachlor Epoxide	4.020	3.990	4.050	20.0	129093.5	2761139	21.39	7		20
gamma-Chlordane	4.140	4.108	4.172	20.0	131674.2	2827648	21.48	7		20
alpha-Chlordane	4.275	4.243	4.307	20.0	136473.7	2914004	21.35	7		20
DDE	4.352	4.320	4.384	20.0	123859.0	2606930	21.05	5		20
Endosulfan I	4.425	4.390	4.460	20.0	142551.8	2875444	20.17	1		20
Dieldrin	4.708	4.676	4.740	20.0	132373.3	2785682	21.04	5		20
Endrin	5.016	4.986	5.046	20.0	114242.0	2551229	22.33	12		20
DDD	5.121	5.091	5.151	20.0	87496.1	1800054	20.57	3		20
Endosulfan II	5.348	5.319	5.377	20.0	142283.1	3021432	21.24	6		20
DDT	5.575	5.545	5.605	20.0	109067.2	2551388	23.39	17		20
Endrin Aldehyde	6.092	6.060	6.124	20.0	134129.0	2998278	22.35	12		20
Methoxychlor	6.615	6.577	6.653	200.0	70878.7	14825611	209.17	5		20
Endosulfan Sulfate	7.063	7.027	7.099	20.0	155144.6	3362411	21.67	8		20
Endrin Ketone	7.796	7.760	7.832	20.0	164888.0	3619429	21.95	10		20
Oxychlordane	3.931	3.912	3.950	20.0	131914.4	2786316	21.12	6		20
2,4'-DDE	4.007	3.985	4.029	20.0	94433.9	1907844	20.20	1		20
trans-Nonachlor	4.260	4.237	4.283	20.0	172481.3	3135511	18.18	-9		20
2,4'-DDD	4.556	4.531	4.581	20.0	74743.5	1555095	20.81	4		20
2,4'-DDT	4.880	4.857	4.903	20.0	100162.9	2199397	21.96	10		20
cis-Nonachlor	5.067	5.045	5.089	20.0	186821.8	3430873	18.36	-8		20
Mirex	6.764	6.736	6.792	20.0	183686.2	3635426	19.79	-1		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.471	2.451	2.491	20.0	62846.1	1353293	21.53	8		20
DCB	10.845	10.795	10.895	20.0	241147.5	4901347	20.33	2		20

5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Mid Conc Init LFID & Datetime: ME11022B 05/11/2016 16:55
Conc Cont LFID & Datetime: ME11026B 05/11/2016 18:17
Conc Cont LFID & Datetime: ME11027B 05/11/2016 18:37
CONC UNIT : ppb

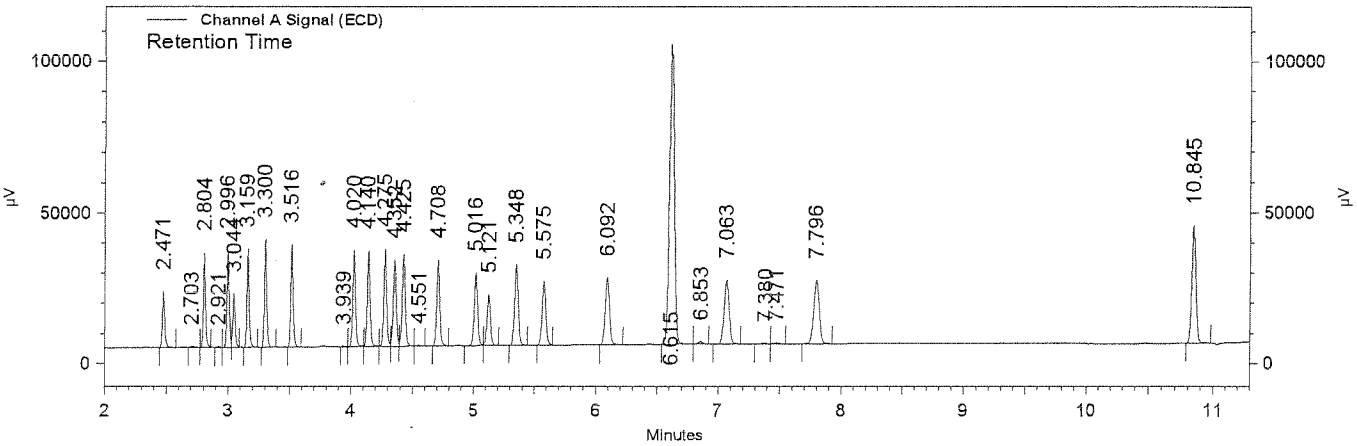
COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	3.024	3.006	3.042	20.0	42482.0	906052	21.33	7		20
gamma-BHC	3.263	3.246	3.280	20.0	42631.3	909345	21.33	7		20
beta-BHC	3.311	3.294	3.328	20.0	27567.7	617707	22.41	12		20
delta-BHC	3.541	3.524	3.558	20.0	46499.3	954021	20.52	3		20
Heptachlor	3.611	3.593	3.629	20.0	56808.7	1156705	20.36	2		20
Aldrin	3.905	3.886	3.924	20.0	55562.8	1172850	21.11	6		20
Heptachlor Epoxide	4.524	4.501	4.547	20.0	63899.7	1290872	20.20	1		20
gamma-Chlordane	4.767	4.746	4.788	20.0	64359.4	1311940	20.39	2		20
alpha-Chlordane	4.976	4.958	4.994	20.0	69323.1	1343160	19.38	-3		20
DDE	5.224	5.208	5.240	20.0	67986.8	1341053	19.73	-1		20
Endosulfan I	5.069	5.050	5.088	20.0	64951.9	1311708	20.19	1		20
Dieldrin	5.519	5.502	5.536	20.0	63767.8	1258798	19.74	-1		20
Endrin	6.107	6.087	6.127	20.0	57464.7	1217134	21.18	6		20
DDD	6.369	6.350	6.388	20.0	36806.4	725546	19.71	-1		20
Endosulfan II	6.581	6.559	6.603	20.0	67691.5	1365277	20.17	1		20
DDT	7.177	7.153	7.201	20.0	45767.6	946263	20.67	3		20
Endrin Aldehyde	7.489	7.467	7.511	20.0	63225.1	1384003	21.89	9		20
Methoxychlor	9.641	9.613	9.669	200.0	29841.8	6297029	211.01	6		20
Endosulfan Sulfate	8.383	8.359	8.407	20.0	72181.4	1521896	21.08	5		20
Endrin Ketone	10.039	10.009	10.069	20.0	72592.4	1553903	21.41	7		20
Oxychlordane	4.415	4.395	4.435	20.0	61014.1	1301059	21.32	7		20
2,4'-DDE	4.759	4.738	4.780	20.0	51616.6	971353	18.82	-6		20
trans-Nonachlor	4.897	4.879	4.915	20.0	79950.3	1464927	18.32	-8		20
2,4'-DDD	5.584	5.566	5.602	20.0	32216.3	665945	20.67	3		20
2,4'-DDT	6.204	6.185	6.223	20.0	41555.1	911335	21.93	10		20
cis-Nonachlor	6.289	6.271	6.307	20.0	88931.5	1620655	18.22	-9		20
Mirex	9.864	9.840	9.888	20.0	83525.6	1658608	19.86	-1		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.640	2.617	2.663	20.0	34035.2	623583	18.32	-8		20
DCB	12.245	12.210	12.280	20.0	105441.3	2182560	20.70	3		20

TM 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: ICPE8E1101 (20/200ppb PEST ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11026.dat
User: ESanto
Acquired: 05/11/16 18:17:20
Printed: 05/12/16 09:55:43



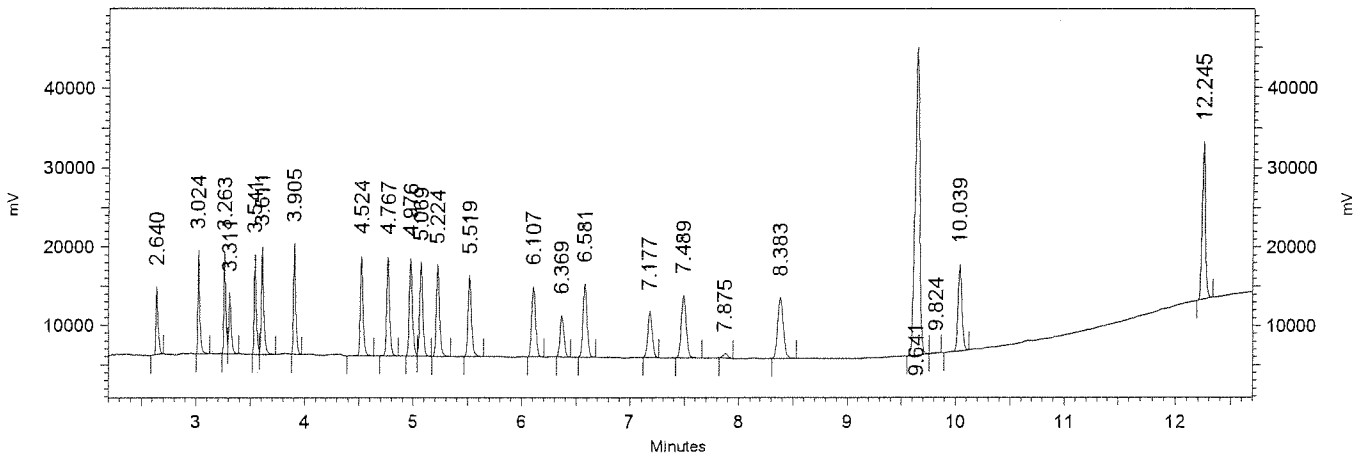
Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.471	2.471	1353293	62846.1	21.533	BV
alpha-BHC	2.804	2.804	2108306	93919.0	22.448	VS
gamma-BHC	2.996	2.996	2161021	97010.5	22.276	VV
beta-BHC	3.044	3.044	1317139	61093.2	21.559	VS
delta-BHC	3.159	3.159	2228030	103944.1	21.435	BB
Heptachlor	3.300	3.300	2658892	124693.7	21.323	BB
Aldrin	3.516	3.516	2581066	118874.0	21.713	SB
Heptachlor Epoxide	4.020	4.020	2761139	129093.5	21.389	SV
gamma-Chlordane	4.140	4.140	2827648	131674.2	21.475	VV
alpha-Chlordane	4.275	4.275	2914004	136473.7	21.352	VV
DDE	4.352	4.352	2606930	123859.0	21.048	VV
Endosulfan I	4.425	4.425	2875444	142551.8	20.171	VV
Dieldrin	4.708	4.708	2785682	132373.3	21.044	SB
Endrin	5.016	5.016	2551229	114242.0	22.332	SV
DDD	5.121	5.121	1800054	87496.1	20.573	VB
Endosulfan II	5.348	5.348	3021432	142283.1	21.235	SB
DDT	5.575	5.575	2551388	109067.2	23.393	SI
Endrin aldehyde	6.092	6.092	2998278	134129.0	22.354	BB
Methoxychlor	6.615	6.615	14825611	70878.7	209.169	BV
Endosulfan Sulfate	7.063	7.063	3362411	155144.6	21.673	SB
Endrin Ketone	7.796	7.796	3619429	164888.0	21.951	SB
DCB	10.845	10.845	4901347	241147.5	20.325	BB

RM 5-20-16

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: ICPE8E1101 (20/200ppb PEST ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11026.dat
User: ESanto
Acquired: 05/11/16 18:17:20
Printed: 05/12/16 09:55:43



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.640	2.640	623583	34035.2	18.322	BB
alpha-BHC	3.024	3.024	906052	42482.0	21.328	BB
gamma-BHC	3.263	3.263	909345	42631.3	21.330	BV
beta-BHC	3.311	3.311	617707	27567.7	22.407	VB
delta-BHC	3.541	3.541	954021	46499.3	20.517	BV
Heptachlor	3.611	3.611	1156705	56808.7	20.361	VB
Aldrin	3.905	3.905	1172850	55562.8	21.109	BB
Heptachlor Epoxide	4.524	4.524	1290872	63899.7	20.202	BB
gamma-Chlordane	4.767	4.767	1311940	64359.4	20.385	BB
alpha-Chlordane	4.976	4.976	1343160	69323.1	19.375	BV
Endosulfan I	5.069	5.069	1311708	64951.9	20.195	VB
DDE	5.224	5.224	1341053	67986.8	19.725	BB
Dieldrin	5.519	5.519	1258798	63767.8	19.740	BB
Endrin	6.107	6.107	1217134	57464.7	21.181	BB
DDD	6.369	6.369	725546	36806.4	19.713	BB
Endosulfan II	6.581	6.581	1365277	67691.5	20.169	BB
DDT	7.177	7.177	946263	45767.6	20.675	BB
Endrin Aldehyde	7.489	7.489	1384003	63225.1	21.890	BB
Endosulfan Sulfate	8.383	8.383	1521896	72181.4	21.084	BB
Methoxychlor	9.641	9.641	6297029	29841.8	211.014	BV
Endrin Ketone	10.039	10.039	1553903	72592.4	21.406	BB
DCB	12.245	12.245	2182560	105441.3	20.699	IB

5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD EPA 8081

Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME11036A 05/11/2016 21:39
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	55801448	551.53	10		20

pm 5-20-16

INITIAL CALIBRATION VERIFICATION
METHOD EPA 8081

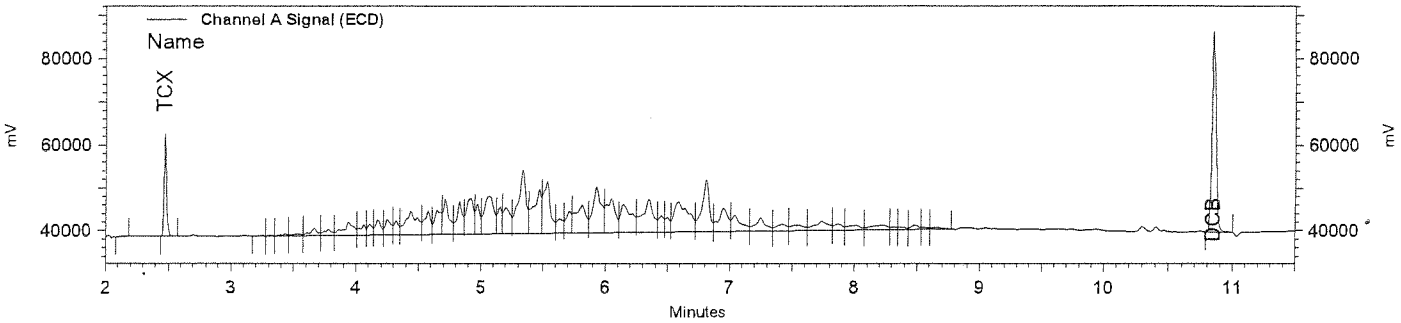
Lab Name : EMAX Laboratories, Inc.
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME11036B 05/11/2016 21:39
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	14872228	556.16	11		20

AW 5-26-16

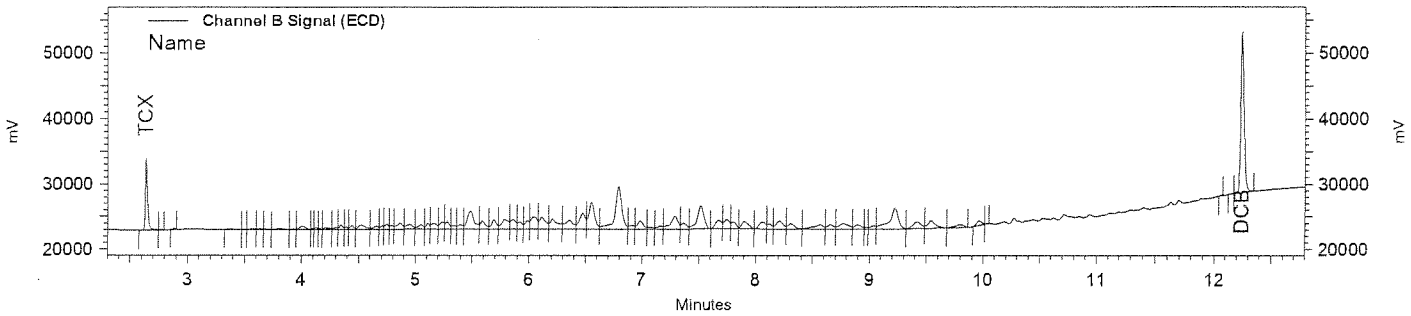
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: ITOE8E1101 (500/25ppb TOXA ICV)
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME11\ME11036.dat
User: ESanto
Acquired: 05/11/16 21:39:41
Printed: 05/12/16 10:27:01



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	1710247	63261.8	27.03	IB
DCB	10.843	10.844	5941055	219138.3	27.11	BI
Toxaphene			55801449	101175.3	551.53	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.639	838702	32052.5	26.17	BV
DCB	12.244	12.244	2686458	98137.0	27.37	VB
Toxaphene			14872228	26740.7	556.16	

TM 5-20-16

DAILY CALIBRATIONS

PEM PEST BREAKDOWN CALCULATION
METHOD 8081

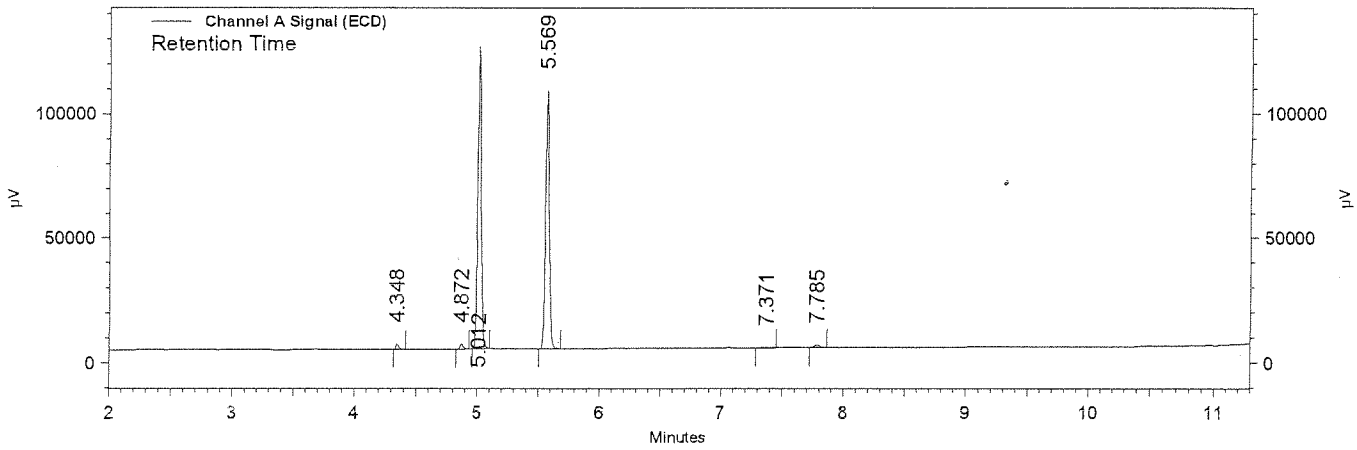
Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.32UM 30MX0.32MMIDX0.25UM
PEM LFID & Datetime : ME24003A ME24003B 05/24/16 11:54

Based on AREA

	AREA				% Breakdown				
LFID	DDD	DDE	DDT	TOTAL	DDD	DDE	TOTAL	QL	QCLIMIT
ME24003A	0.0	191490.0	12247557.0	12439047.0	0.00	1.54	1.54		15
ME24003B	0.0	164446.0	5249535.0	5413981.0	0.00	3.04	3.04		15
LFID	ENDRIN	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	ENDRIN ALDEHYDE	ENDRIN KETONE	TOTAL	QL	QCLIMIT
ME24003A	12955775.0	0.0	185422.0	13141197.0	0.00	1.41	1.41		15
ME24003B	6602966.0	0.0	70824.0	6673790.0	0.00	1.06	1.06		15

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1126
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24003.dat
User: ESanto
Acquired: 05/24/16 11:54:46
Printed: 05/24/16 13:10:52

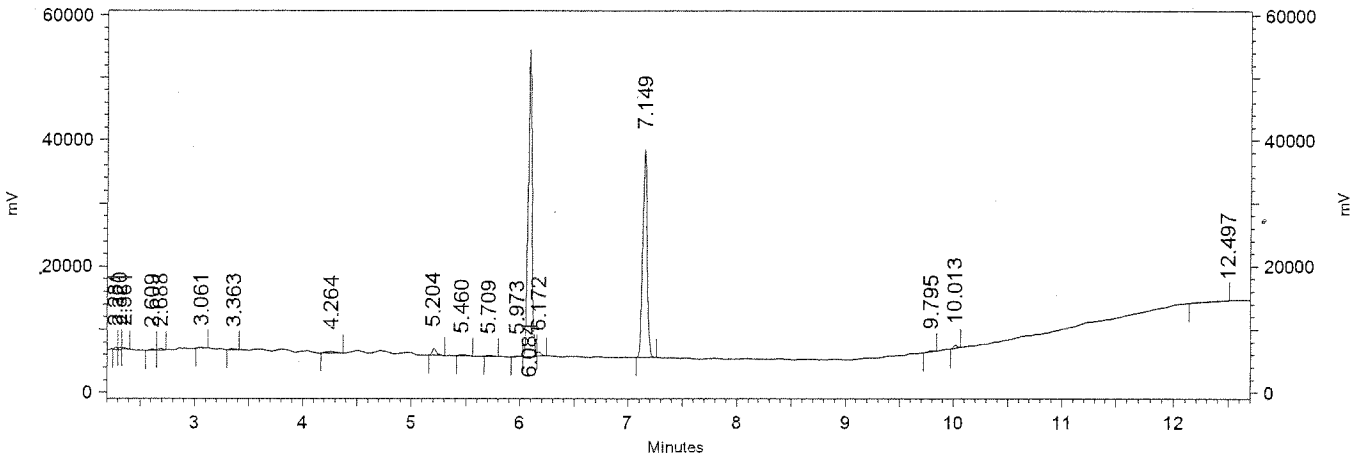


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473				0.000 BDL	
alpha-BHC	2.807				0.000 BDL	
gamma-BHC	2.999				0.000 BDL	
beta-BHC	3.047				0.000 BDL	
delta-BHC	3.161				0.000 BDL	
Heptachlor	3.301				0.000 BDL	
Aldrin	3.517				0.000 BDL	
Heptachlor Epoxide	4.019				0.000 BDL	
gamma-Chlordane	4.139				0.000 BDL	
alpha-Chlordane	4.273				0.000 BDL	
DDE	4.351	4.348	191490	123859.0	1.546	BB
Endosulfan I	4.424				0.000 BDL	
Dieldrin	4.705				0.000 BDL	
Endrin	5.012	5.012	12955775	114242.0	113.406	SB
DDD	5.117				0.000 BDL	
Endosulfan II	5.343				0.000 BDL	
DDT	5.569	5.569	12247557	109067.2	112.294	SS
Endrin aldehyde	6.087				0.000 BDL	
Methoxychlor	6.607				0.000 BDL	
Endosulfan Sulfate	7.056				0.000 BDL	
Endrin Ketone	7.787	7.785	185422	164888.0	1.125	BB
DCB	10.841				0.000 BDL	

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: PEE8E1126
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24003.dat
User: ESanto
Acquired: 05/24/16 11:54:46
Printed: 05/24/16 13:10:52



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639				0.000 BDL	
alpha-BHC	3.021				0.000 BDL	
gamma-BHC	3.260				0.000 BDL	
beta-BHC	3.307				0.000 BDL	
delta-BHC	3.536				0.000 BDL	
Heptachlor	3.604				0.000 BDL	
Aldrin	3.897				0.000 BDL	
Heptachlor Epoxide	4.512				0.000 BDL	
gamma-Chlordane	4.752				0.000 BDL	
alpha-Chlordane	4.961				0.000 BDL	
Endosulfan I	5.055				0.000 BDL	
DDE	5.208	5.204	164446	67986.8	2.419	vv
Dieldrin	5.501				0.000 BDL	
Endrin	6.087	6.084	6602966	57464.7	114.905	BV
DDD	6.347				0.000 BDL	
Endosulfan II	6.557				0.000 BDL	
DDT	7.151	7.149	5249535	45767.6	114.700	BB
Endrin Aldehyde	7.460				0.000 BDL	
Endosulfan Sulfate	8.352				0.000 BDL	
Methoxychlor	9.613				0.000 BDL	
Endrin Ketone	10.016	10.013	70824	72592.4	0.976	BB
DCB	12.232				0.000 BDL	

CONTINUE CALIBRATION
METHOD 8081

Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Conc Cont LFID & Datetime: ME24004A 05/24/2016 12:14
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	2.807	2.787	2.827	20.0	93919.0	1793385	19.09	-5		20
gamma-BHC	2.999	2.977	3.021	20.0	97010.5	1900623	19.59	-2		20
beta-BHC	3.047	3.025	3.069	20.0	61093.2	1225846	20.07	0		20
delta-BHC	3.161	3.140	3.182	20.0	103944.1	2124819	20.44	2		20
Heptachlor	3.301	3.277	3.325	20.0	124693.7	2498856	20.04	0		20
Aldrin	3.517	3.491	3.543	20.0	118874.0	2359440	19.85	-1		20
Heptachlor Epoxide	4.019	3.989	4.049	20.0	129093.5	2491916	19.30	-3		20
gamma-Chlordane	4.139	4.107	4.171	20.0	131674.2	2544489	19.32	-3		20
alpha-Chlordane	4.273	4.241	4.305	20.0	136473.7	2714986	19.89	-1		20
DDE	4.351	4.319	4.383	40.0	123859.0	4990961	40.30	1		20
Endosulfan I	4.424	4.389	4.459	20.0	142551.8	2866736	20.11	1		20
Dieldrin	4.705	4.673	4.737	40.0	132373.3	5407088	40.85	2		20
Endrin	5.012	4.982	5.042	40.0	114242.0	5161797	45.18	13		20
DDD	5.117	5.087	5.147	40.0	87496.1	3626481	41.45	4		20
Endosulfan II	5.343	5.314	5.372	40.0	142283.1	5695855	40.03	0		20
DDT	5.569	5.539	5.599	40.0	109067.2	4648064	42.62	7		20
Endrin Aldehyde	6.087	6.055	6.119	40.0	134129.0	5412175	40.35	1		20
Methoxychlor	6.607	6.569	6.645	200.0	70878.7	15114323	213.24	7		20
Endosulfan Sulfate	7.056	7.020	7.092	40.0	155144.6	6517088	42.01	5		20
Endrin Ketone	7.787	7.751	7.823	40.0	164888.0	6817735	41.35	3		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.473	2.453	2.493	20.0	62846.1	1212026	19.29	-4		20
DCB	10.841	10.791	10.891	20.0	241147.5	4746125	19.68	-2		20

CONTINUE CALIBRATION
METHOD 8081

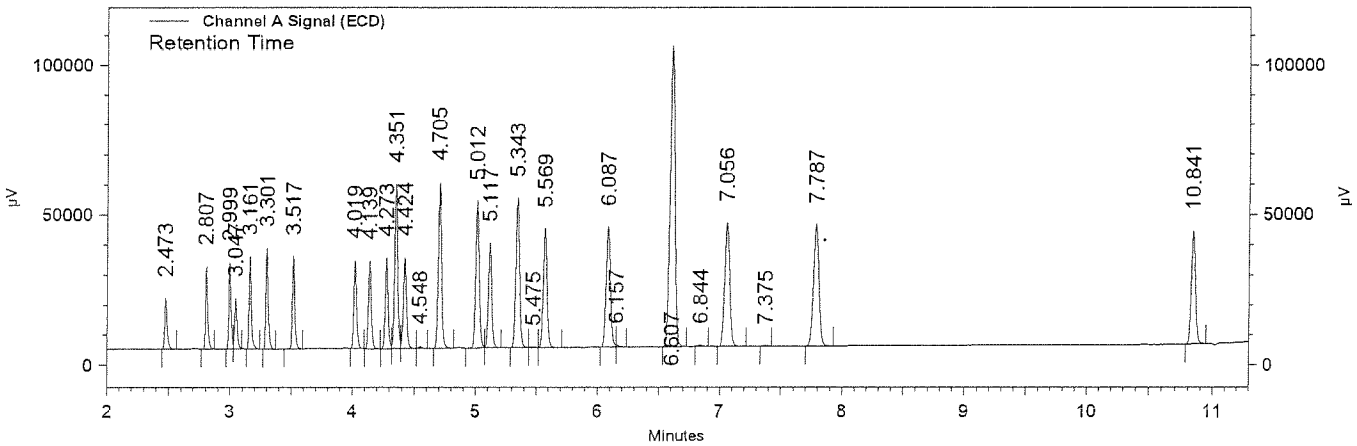
Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Conc Cont LFID & Datetime: ME24004B 05/24/2016 12:14
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
alpha-BHC	3.021	3.003	3.039	20.0	42482.0	861961	20.29	1		20
gamma-BHC	3.260	3.243	3.277	20.0	42631.3	877528	20.58	3		20
beta-BHC	3.307	3.290	3.324	20.0	27567.7	610394	22.14	11		20
delta-BHC	3.536	3.519	3.553	20.0	46499.3	979669	21.07	5		20
Heptachlor	3.604	3.586	3.622	20.0	56808.7	1208286	21.27	6		20
Aldrin	3.897	3.878	3.916	20.0	55562.8	1112533	20.02	0		20
Heptachlor Epoxide	4.512	4.489	4.535	20.0	63899.7	1333721	20.87	4		20
gamma-Chlordane	4.752	4.731	4.773	20.0	64359.4	1345907	20.91	5		20
alpha-Chlordane	4.961	4.943	4.979	20.0	69323.1	1352787	19.51	-2		20
DDE	5.208	5.192	5.224	40.0	67986.8	2671926	39.30	-2		20
Endosulfan I	5.055	5.036	5.074	20.0	64951.9	1384940	21.32	7		20
Dieldrin	5.501	5.484	5.518	40.0	63767.8	2689892	42.18	5		20
Endrin	6.087	6.067	6.107	40.0	57464.7	2528166	43.99	10		20
DDD	6.347	6.328	6.366	40.0	36806.4	1598204	43.42	9		20
Endosulfan II	6.557	6.535	6.579	40.0	67691.5	2791481	41.24	3		20
DDT	7.151	7.127	7.175	40.0	45767.6	1959661	42.82	7		20
Endrin Aldehyde	7.460	7.438	7.482	40.0	63225.1	2694625	42.62	7		20
Methoxychlor	9.613	9.585	9.641	200.0	29841.8	6742000	225.93	13		20
Endosulfan Sulfate	8.352	8.328	8.376	40.0	72181.4	3166535	43.87	10		20
Endrin Ketone	10.016	9.986	10.046	40.0	72592.4	3052652	42.05	5		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.639	2.616	2.662	20.0	34035.2	596189	17.52	-12		20
DCB	12.232	12.197	12.267	20.0	105441.3	2152296	20.41	2		20

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1126
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24004.dat
User: ESanto
Acquired: 05/24/16 12:14:50
Printed: 05/24/16 13:09:58

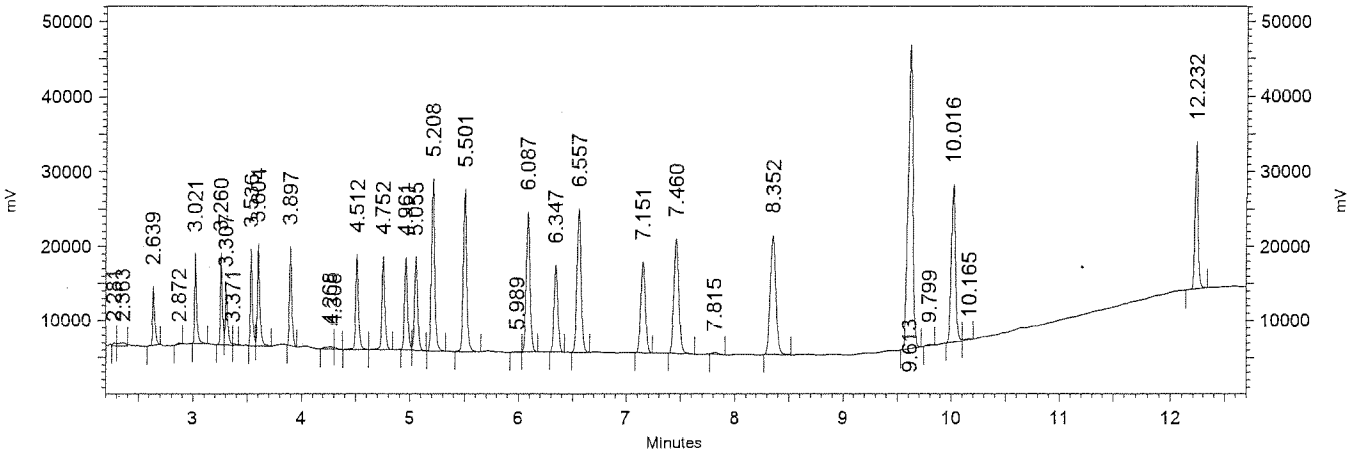


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.473	2.473	1212026	62846.1	19.286	BB
alpha-BHC	2.807	2.807	1793385	93919.0	19.095	SS
gamma-BHC	2.999	2.999	1900623	97010.5	19.592	BV
beta-BHC	3.047	3.047	1225846	61093.2	20.065	VS
delta-BHC	3.161	3.161	2124819	103944.1	20.442	BB
Heptachlor	3.301	3.301	2498856	124693.7	20.040	BB
Aldrin	3.517	3.517	2359440	118874.0	19.848	SB
Heptachlor Epoxide	4.019	4.019	2491916	129093.5	19.303	SB
gamma-Chlordane	4.139	4.139	2544489	131674.2	19.324	BB
alpha-Chlordane	4.273	4.273	2714986	136473.7	19.894	BV
DDE	4.351	4.351	4990961	123859.0	40.296	VV
Endosulfan I	4.424	4.424	2866736	142551.8	20.110	VV
Dieldrin	4.705	4.705	5407088	132373.3	40.847	SB
Endrin	5.012	5.012	5161797	114242.0	45.183	SV
DDD	5.117	5.117	3626481	87496.1	41.447	VB
Endosulfan II	5.343	5.343	5695855	142283.1	40.032	SV
DDT	5.569	5.569	4648064	109067.2	42.617	VB
Endrin aldehyde	6.087	6.087	5412175	134129.0	40.351	BS
Methoxychlor	6.607	6.607	15114323	70878.7	213.242	BS
Endosulfan Sulfate	7.056	7.056	6517088	155144.6	42.007	SB
Endrin Ketone	7.787	7.787	6817735	164888.0	41.348	BB
DCB	10.841	10.841	4746125	241147.5	19.681	BB

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1126
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24004.dat
User: ESanto
Acquired: 05/24/16 12:14:50
Printed: 05/24/16 13:09:58



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.639	2.639	596189	34035.2	17.517	BI
alpha-BHC	3.021	3.021	861961	42482.0	20.290	BB
gamma-BHC	3.260	3.260	877528	42631.3	20.584	BV
beta-BHC	3.307	3.307	610394	27567.7	22.142	VV
delta-BHC	3.536	3.536	979669	46499.3	21.068	VV
Heptachlor	3.604	3.604	1208286	56808.7	21.269	VB
Aldrin	3.897	3.897	1112533	55562.8	20.023	BB
Heptachlor Epoxide	4.512	4.512	1333721	63899.7	20.872	BV
gamma-Chlordane	4.752	4.752	1345907	64359.4	20.912	VB
alpha-Chlordane	4.961	4.961	1352787	69323.1	19.514	BV
Endosulfan I	5.055	5.055	1384940	64951.9	21.323	VB
DDE	5.208	5.208	2671926	67986.8	39.301	BB
Dieldrin	5.501	5.501	2689892	63767.8	42.183	BB
Endrin	6.087	6.087	2528166	57464.7	43.995	VB
DDD	6.347	6.347	1598204	36806.4	43.422	BB
Endosulfan II	6.557	6.557	2791481	67691.5	41.238	BB
DDT	7.151	7.151	1959661	45767.6	42.818	BB
Endrin Aldehyde	7.460	7.460	2694625	63225.1	42.620	BB
Endosulfan Sulfate	8.352	8.352	3166535	72181.4	43.869	BB
Methoxychlor	9.613	9.613	6742000	29841.8	225.925	BB
Endrin Ketone	10.016	10.016	3052652	72592.4	42.052	BV
DCB	12.232	12.232	2152296	105441.3	20.412	IB

CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME24005A 05/24/2016 12:34
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	45813432	452.81	-9		20

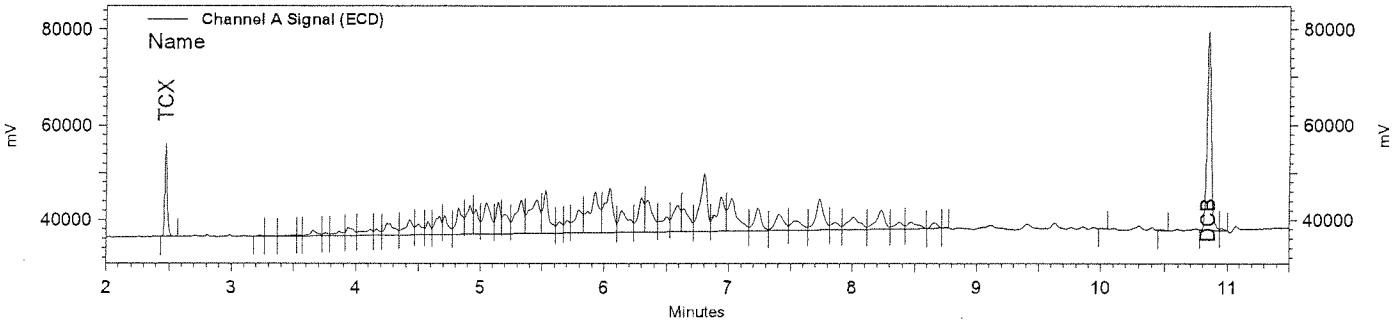
CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME24005B 05/24/2016 12:34
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	13039411	487.62	-2		20

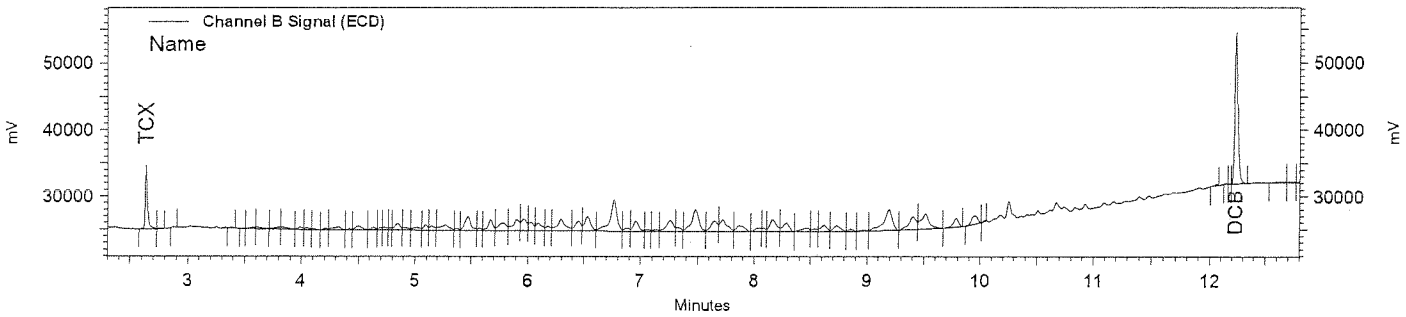
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: CTOE8E1126
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24005.dat
User: ESanto
Acquired: 05/24/16 12:34:45
Printed: 05/24/16 13:12:02



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.471	1417295	63261.8	22.40	IB
DCB	10.843	10.843	5433899	219138.3	24.80	BV
Toxaphene			45813430	101175.3	452.81	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.636	736614	32052.5	22.98	BV
DCB	12.244	12.233	2475215	98137.0	25.22	BB
Toxaphene			13039411	26740.7	487.62	

CONTINUE CALIBRATION
METHOD 8081

Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Column : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11014A 05/11/2016 14:14
Conc Cont LFID & Datetime: ME24015A 05/24/2016 15:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS	
alpha-BHC	2.809	2.789	2.829	20.0	93919.0	2101717	22.38	12		20	
gamma-BHC	3.001	2.979	3.023	20.0	97010.5	2230607	22.99	15		20	
beta-BHC	3.049	3.027	3.071	20.0	61093.2	1420557	23.25	16		20	
delta-BHC	3.164	3.143	3.185	20.0	103944.1	2492958	23.98	20		20	
Heptachlor	3.304	3.280	3.328	20.0	124693.7	2899799	23.25	16		20	
Aldrin	3.520	3.494	3.546	20.0	118874.0	2702063	22.73	14		20	
Heptachlor Epoxide	4.024	3.994	4.054	20.0	129093.5	2865661	22.20	11		20	
gamma-Chlordane	4.143	4.111	4.175	20.0	131674.2	2934749	22.29	11		20	
alpha-Chlordane	4.279	4.247	4.311	20.0	136473.7	3111985	22.80	14		20	
DDE	4.356	4.324	4.388	40.0	123859.0	5711768	46.12	15		20	
Endosulfan I	4.429	4.394	4.464	20.0	142551.8	3264412	22.90	14		20	
Dieldrin	4.711	4.679	4.743	40.0	132373.3	6175463	46.65	17		20	
Endrin	5.019	4.989	5.049	40.0	114242.0	5773760	50.54	26	*	20	ok in B
DDD	5.124	5.094	5.154	40.0	87496.1	4083327	46.67	17		20	
Endosulfan II	5.349	5.320	5.378	40.0	142283.1	6417147	45.10	13		20	
DDT	5.576	5.546	5.606	40.0	109067.2	5325500	48.83	22	*	NT 20	
Endrin Aldehyde	6.093	6.061	6.125	40.0	134129.0	6160970	45.93	15		20	
Methoxychlor	6.615	6.577	6.653	200.0	70878.7	16909200	238.57	19		20	
Endosulfan Sulfate	7.063	7.027	7.099	40.0	155144.6	7299600	47.05	18		20	
Endrin Ketone	7.795	7.759	7.831	40.0	164888.0	7683177	46.60	16		20	

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.476	2.456	2.496	20.0	62846.1	1389306	22.11	11		20
DCB	10.851	10.801	10.901	20.0	241147.5	5109953	21.19	6		20

CONTINUE CALIBRATION
METHOD 8081

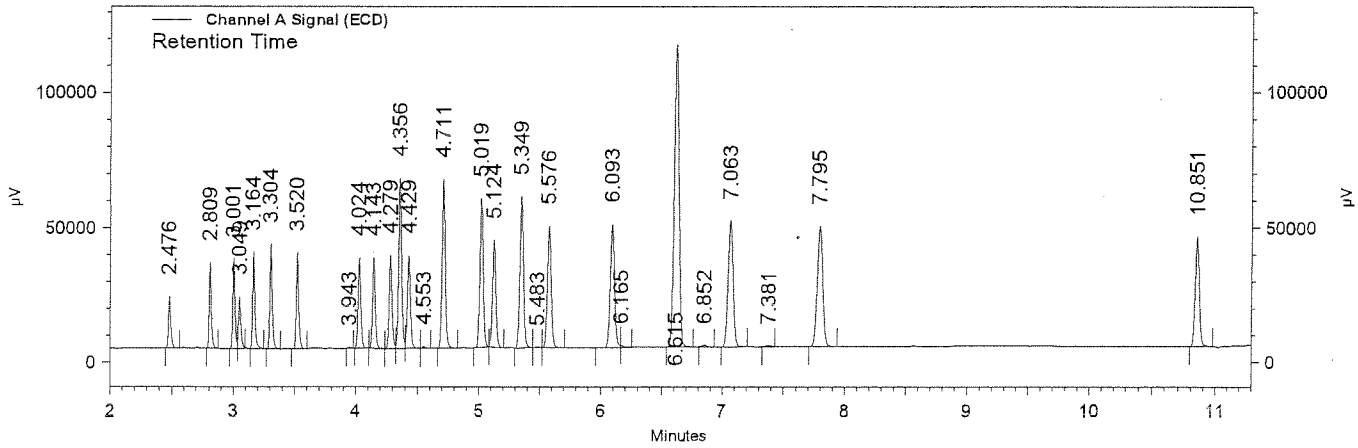
Lab Name : EMAX Inc
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11014B 05/11/2016 14:14
Conc Cont LFID & Datetime: ME24015B 05/24/2016 15:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS	
alpha-BHC	3.024	3.006	3.042	20.0	42482.0	926345	21.81	9		20	
gamma-BHC	3.263	3.246	3.280	20.0	42631.3	953382	22.36	12		20	
beta-BHC	3.309	3.292	3.326	20.0	27567.7	656492	23.81	19		20	
delta-BHC	3.539	3.522	3.556	20.0	46499.3	1065012	22.90	15		20	
Heptachlor	3.608	3.590	3.626	20.0	56808.7	1325603	23.33	17		20	
Aldrin	3.901	3.882	3.920	20.0	55562.8	1224761	22.04	10		20	
Heptachlor Epoxide	4.516	4.493	4.539	20.0	63899.7	1373429	21.49	7		20	
gamma-Chlordane	4.757	4.736	4.778	20.0	64359.4	1414139	21.97	10		20	
alpha-Chlordane	4.965	4.947	4.983	20.0	69323.1	1448749	20.90	4		20	
DDE	5.213	5.197	5.229	40.0	67986.8	2864185	42.13	5		20	
Endosulfan I	5.060	5.041	5.079	20.0	64951.9	1492510	22.98	15		20	
Dieldrin	5.507	5.490	5.524	40.0	63767.8	2906559	45.58	14		20	
Endrin	6.092	6.072	6.112	40.0	57464.7	2746724	47.80	19		20	
DDD	6.353	6.334	6.372	40.0	36806.4	1763816	47.92	20		20	
Endosulfan II	6.564	6.542	6.586	40.0	67691.5	2992747	44.21	11		20	
DDT	7.157	7.133	7.181	40.0	45767.6	2195964	47.98	20		20	
Endrin Aldehyde	7.467	7.445	7.489	40.0	63225.1	2926067	46.28	16		20	
Methoxychlor	9.621	9.593	9.649	200.0	29841.8	7570870	253.70	27	*	20	OKin
Endosulfan Sulfate	8.356	8.332	8.380	40.0	72181.4	3358952	46.53	16		20	
Endrin Ketone	10.024	9.994	10.054	40.0	72592.4	3332411	45.91	15		20	

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
TCX	2.641	2.618	2.664	20.0	34035.2	678360	19.93	-0		20
DCB	12.239	12.204	12.274	20.0	105441.3	2245254	21.29	6		20

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1127
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24015.dat
User: ESanto
Acquired: 05/24/16 15:54:28
Printed: 05/24/16 16:40:27

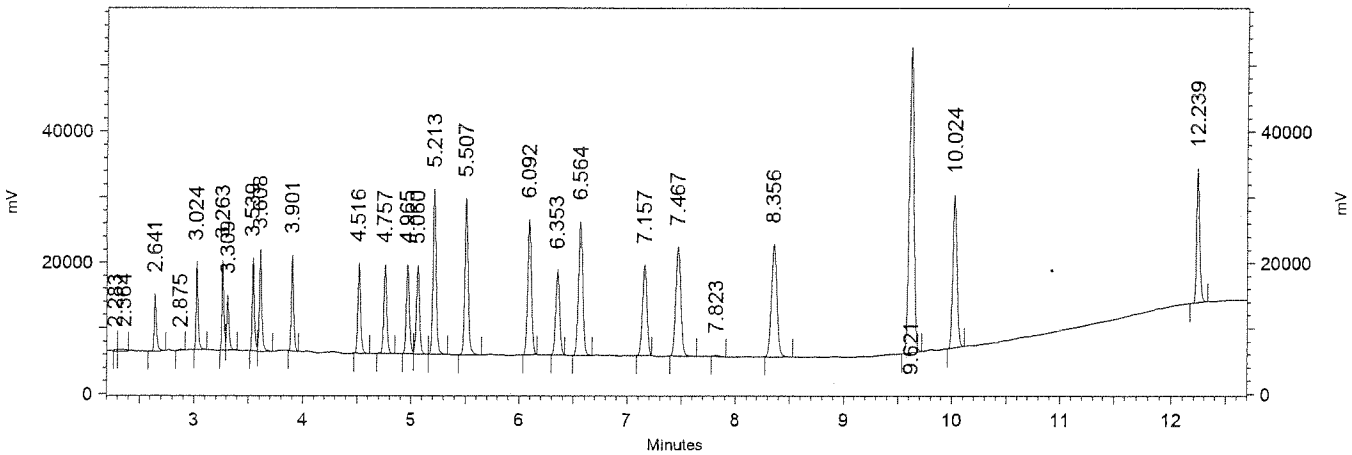


Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.476	2.476	1389306	62846.1	22.106	BB
alpha-BHC	2.809	2.809	2101717	93919.0	22.378	SS
gamma-BHC	3.001	3.001	2230607	97010.5	22.993	BV
beta-BHC	3.049	3.049	1420557	61093.2	23.252	VS
delta-BHC	3.164	3.164	2492958	103944.1	23.984	BB
Heptachlor	3.304	3.304	2899799	124693.7	23.255	BB
Aldrin	3.520	3.520	2702063	118874.0	22.730	SB
Heptachlor Epoxide	4.024	4.024	2865661	129093.5	22.198	BB
gamma-Chlordane	4.143	4.143	2934749	131674.2	22.288	BB
alpha-Chlordane	4.279	4.279	3111985	136473.7	22.803	BV
DDE	4.356	4.356	5711768	123859.0	46.115	VV
Endosulfan I	4.429	4.429	3264412	142551.8	22.900	VV
Dieldrin	4.711	4.711	6175463	132373.3	46.652	SB
Endrin	5.019	5.019	5773760	114242.0	50.540	vv
DDD	5.124	5.124	4083327	87496.1	46.669	vv
Endosulfan II	5.349	5.349	6417147	142283.1	45.101	SV
DDT	5.576	5.576	5325500	109067.2	48.828	VB
Endrin aldehyde	6.093	6.093	6160970	134129.0	45.933	SS
Methoxychlor	6.615	6.615	16909199	70878.7	238.565	BI
Endosulfan Sulfate	7.063	7.063	7299600	155144.6	47.050	BB
Endrin Ketone	7.795	7.795	7683177	164888.0	46.596	BB
DCB	10.851	10.851	5109953	241147.5	21.190	BI

Organochlorine Pesticides by GC/ECD
EMAX Laboratories, Inc.

Sample ID: CCPE8E1127
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\CPE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24015.dat
User: ESanto
Acquired: 05/24/16 15:54:28
Printed: 05/24/16 16:40:27



Channel B Signal
(ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration (ppb)	Integration Codes
TCX	2.641	2.641	678360	34035.2	19.931	BB
alpha-BHC	3.024	3.024	926345	42482.0	21.806	BB
gamma-BHC	3.263	3.263	953382	42631.3	22.363	BV
beta-BHC	3.309	3.309	656492	27567.7	23.814	VB
delta-BHC	3.539	3.539	1065012	46499.3	22.904	BV
Heptachlor	3.608	3.608	1325603	56808.7	23.334	VB
Aldrin	3.901	3.901	1224761	55562.8	22.043	BB
Heptachlor Epoxide	4.516	4.516	1373429	63899.7	21.494	BB
gamma-Chlordane	4.757	4.757	1414139	64359.4	21.973	BB
alpha-Chlordane	4.965	4.965	1448749	69323.1	20.898	BV
Endosulfan I	5.060	5.060	1492510	64951.9	22.979	VB
DDE	5.213	5.213	2864185	67986.8	42.129	BB
Dieldrin	5.507	5.507	2906559	63767.8	45.580	BB
Endrin	6.092	6.092	2746724	57464.7	47.798	BI
DDD	6.353	6.353	1763816	36806.4	47.921	BI
Endosulfan II	6.564	6.564	2992747	67691.5	44.212	BB
DDT	7.157	7.157	2195964	45767.6	47.981	BI
Endrin Aldehyde	7.467	7.467	2926067	63225.1	46.280	BB
Endosulfan Sulfate	8.356	8.356	3358952	72181.4	46.535	BB
Methoxychlor	9.621	9.621	7570870	29841.8	253.700	BI
Endrin Ketone	10.024	10.024	3332411	72592.4	45.906	BB
DCB	12.239	12.239	2245254	105441.3	21.294	BB

CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES
Column size ID : 30MX0.32MMIDX0.32UM
Mid Conc Init LFID & Datetime: ME11031A 05/11/2016 19:58
Conc Cont LFID & Datetime: ME24016A 05/24/2016 16:14
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	101175.3	52073012	514.68	3		20

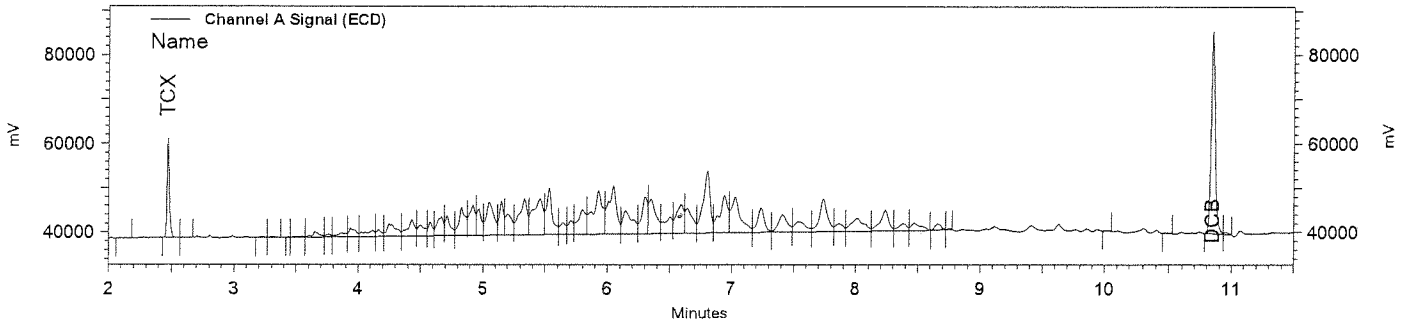
CONTINUE CALIBRATION
METHOD EPA 8081

Lab Name : EMAX
Instrument ID : E8 (PE CLARUS680 GC)
GC Columm : RTX-CLPESTICIDES2
Column size ID : 30MX0.32MMIDX0.25UM
Mid Conc Init LFID & Datetime: ME11031B 05/11/2016 19:58
Conc Cont LFID & Datetime: ME24016B 05/24/2016 16:14
CONC UNIT : PPB

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Toxaphene	0.000	0.000	0.000	500.0	26740.7	14208692	531.35	6		20

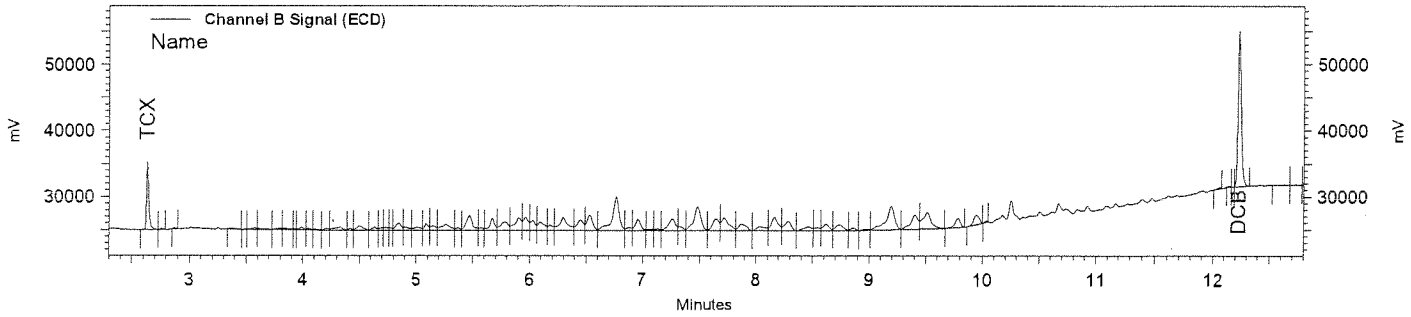
EPA 8081 by GC/ECD
EMAX Analytical Laboratories, Inc.

Sample ID: CTOE8E1127
Instrument ID: E8
Method Name: C:\EZChrom Elite\Methods\TOE8E11.met
Data: C:\EZChrom Elite\Data\ME24\ME24016.dat
User: ESanto
Acquired: 05/24/16 16:14:32
Printed: 05/24/16 16:30:55



Channel A Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.468	2.469	1608270	63261.8	25.42	IB
DCB	10.843	10.843	5837090	219138.3	26.64	BV
Toxaphene			52073012	101175.3	514.68	



Channel B Signal (ECD) Results

Name	Expected RT (mins)	Retention Time (mins)	Area	Average RF	ESTD concentration	Integration Codes
TCX	2.639	2.635	777306	32052.5	24.25	BV
DCB	12.244	12.232	2591579	98137.0	26.41	BB
Toxaphene			14208692	26740.7	531.35	

ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PESTICIDES/PCBs

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

ICAL LEVEL (PEST)	(MIX3)	CONCENTRATION (ppb) (PEST)	(MIX3)
1	9	1.25/2.5/12.5	1.25/1.25
2	10	2.5/5/25	2.5/2.5
3	11	5/10/50	5/5
4	12	10/20/100	10/10
5	13	20/40/200	20/20
6	14	40/80/400	40/40
7	15	60/120/600	60/60
8	16	80/160/800	80/80

ICAL LEVEL (TOXAPHENE)	CONCENTRATION (ppb)
1	50/2.5
2	100/5
3	250/12.5
4	500/25
5	750/37.5
6	1000/50
7	1500/75
8	2000/100

ICAL LEVEL (CHLORDANE)	CONCENTRATION (ppb)
1	25/1.25
2	50/2.5
3	100/5
4	250/12.5
5	500/25
6	750/37.5
7	1000/50
8	1500/75

Book #: AE8-007

Instrument No.: E8

Analytical Sequence: ME11

Method File: CPES811, TOES811 CRES811, CPES811A

Analytical Batch: ME11010

SOP #	Rev. #
☑ EMAX-8081	7
☐ EMAX-8082	4
☐ EMAX-608	1

ICAL REFERENCE

ICAL ID	BATCH	DATE
CPES811	ME11	05-11-2016
TOES811	ME11	05-11-2016
CRES811	ME11	05-11-2016
CPES811A	ME11	05-11-2016

STANDARDS ID		Conc (µg/L)
IB	SSIC-12-96-03	40/40
PEM	SSIC-12-96-01	100/100
PEST ICAL	SSIC-12-98-02	see comments
PEST ICV	SSIC-12-98-03	20/200
MIX3 ICAL	SSIC-12-99-01	see comments
MIX3 ICV	SSIC-12-99-02	20/20
TOXA ICAL	SSIC-12-99-03	see comments
TOXA ICV	SSIC-12-100-01	500/25
CHLO ICAL	SSIC-12-100-02	see comments
CHLO ICV	SSIC-12-100-03	500/25

Hexane Lot # SWLA-006-01-05

Column	
	☐ A. Elite-CLP I B. Elite-CLP II
	☑ A. RTX/STX CLPEST I B. RTX/STX CLPEST II
	☐ A. ZB-MULTI RES I B. ZB-MULTI RES II

ELECTRONIC DATA ARCHIVAL

Location	Date
☐ EZChrom Elite_PEST E8	

Analyzed By: [signature] Date: 05-11-2016

Date Disposed: Disposed By:

This page is checked during data review.

Sequence: ME11.seq

Run #	Status	Vial	Volume	Sample ID	Method	Filename	Multiplie	Description
1	Acquiring	1	1	HEXANE RINSE	CPE8E11.met	ME11001.dat	1	
2		2	1	PEST PRIME	CPE8E11.met	ME11002.dat	1	
3		3	1	PEM TEST	CPE8E11.met	ME11003.dat	1	
4		4	1	PEST TEST	CPE8E11.met	ME11004.dat	1	
5		5	1	MIX3 TEST	CPE8E11.met	ME11005.dat	1	
6		6	1	TOXA TEST	CPE8E11.met	ME11006.dat	1	
7		7	1	CHLO TEST	CPE8E11.met	ME11007.dat	1	
8		8	1	IBE8E1101	CPE8E11.met	ME11008.dat	1	
9		9	1	PEE8E1101	CPE8E11.met	ME11009.dat	1	
10		10	1	CPE8E1101 (1.25/2.5/12.5ppb PEST ICAL)	CPE8E11.met	ME11010.dat	1	
11		11	1	CPE8E1102 (2.5/5/25ppb PEST ICAL)	CPE8E11.met	ME11011.dat	1	
12		12	1	CPE8E1103 (5/10/50ppb PEST ICAL)	CPE8E11.met	ME11012.dat	1	
13		13	1	CPE8E1104 (10/20/100ppb PEST ICAL)	CPE8E11.met	ME11013.dat	1	
14		14	1	CPE8E1105 (20/40/200ppb PEST ICAL)	CPE8E11.met	ME11014.dat	1	
15		15	1	CPE8E1106 (40/80/400ppb PEST ICAL)	CPE8E11.met	ME11015.dat	1	
16		16	1	CPE8E1107 (60/120/600ppb PEST ICAL)	CPE8E11.met	ME11016.dat	1	
17		17	1	CPE8E1108 (80/160/800ppb PEST ICAL)	CPE8E11.met	ME11017.dat	1	
18		18	1	CPE8E1109 (1.25/1.25ppb MIX3 ICAL)	CPE8E11.met	ME11018.dat	1	
19		19	1	CPE8E1110 (2.5/2.5ppb MIX3 ICAL)	CPE8E11.met	ME11019.dat	1	
20		20	1	CPE8E1111 (5/5ppb MIX3 ICAL)	CPE8E11.met	ME11020.dat	1	
21		21	1	CPE8E1112 (10/10ppb MIX3 ICAL)	CPE8E11.met	ME11021.dat	1	
22		22	1	CPE8E1113 (20/20ppb MIX3 ICAL)	CPE8E11.met	ME11022.dat	1	
23		23	1	CPE8E1114 (40/40ppb MIX3 ICAL)	CPE8E11.met	ME11023.dat	1	
24		24	1	CPE8E1115 (60/60ppb MIX3 ICAL)	CPE8E11.met	ME11024.dat	1	
25		25	1	CPE8E1116 (80/80ppb MIX3 ICAL)	CPE8E11.met	ME11025.dat	1	
26		26	1	ICPE8E1101 (20/200ppb PEST ICV)	CPE8E11.met	ME11026.dat	1	
27		27	1	ICPE8E1101A (20/20ppb MIX3 ICV)	CPE8E11.met	ME11027.dat	1	
28		28	1	TOE8E1101 (50/2.5ppb TOXA ICAL)	TOE8E11.met	ME11028.dat	1	
29		29	1	TOE8E1102 (100/5ppb TOXA ICAL)	TOE8E11.met	ME11029.dat	1	
30		30	1	TOE8E1103 (250/12.5ppb TOXA ICAL)	TOE8E11.met	ME11030.dat	1	
31		31	1	TOE8E1104 (500/25ppb TOXA ICAL)	TOE8E11.met	ME11031.dat	1	
32		32	1	TOE8E1105 (750/37.5ppb TOXA ICAL)	TOE8E11.met	ME11032.dat	1	
33		33	1	TOE8E1106 (1000/50ppb TOXA ICAL)	TOE8E11.met	ME11033.dat	1	
34		34	1	TOE8E1107 (1500/75ppb TOXA ICAL)	TOE8E11.met	ME11034.dat	1	
35		35	1	TOE8E1108 (2000/100ppb TOXA ICAL)	TOE8E11.met	ME11035.dat	1	
36		36	1	ITOE8E1101 (500/25ppb TOXA ICV)	TOE8E11.met	ME11036.dat	1	
37		37	1	CRE8E1101 (25/1.25ppb CHLO ICAL)	CRE8E11.met	ME11037.dat	1	
38		38	1	CRE8E1102 (50/2.5ppb CHLO ICAL)	CRE8E11.met	ME11038.dat	1	
39		39	1	CRE8E1103 (100/5ppb CHLO ICAL)	CRE8E11.met	ME11039.dat	1	
40		40	1	CRE8E1104 (250/12.5ppb CHLO ICAL)	CRE8E11.met	ME11040.dat	1	
41		41	1	CRE8E1105 (500/25ppb CHLO ICAL)	CRE8E11.met	ME11041.dat	1	
42		42	1	CRE8E1106 (750/37.5ppb CHLO ICAL)	CRE8E11.met	ME11042.dat	1	
43		43	1	CRE8E1107 (1000/50ppb CHLO ICAL)	CRE8E11.met	ME11043.dat	1	
44		44	1	CRE8E1108 (1500/75ppb CHLO ICAL)	CRE8E11.met	ME11044.dat	1	
45		45	1	ICRE8E1101 (500/25ppb CHLO ICV)	CRE8E11.met	ME11045.dat	1	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PESTICIDES/PCBs

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #: AE8-007

Instrument No.: E8

Analytical Sequence: ME24

Method File: CPES8E11, TOES8E11

Analytical Batch: ME24004

SOP #	Rev. #
☑ EMAX-8081	7
☐ EMAX-8082	4
☐ EMAX-608	1

ICAL REFERENCE

ICAL ID	BATCH	DATE
CPES8E11	ME11	05-11-2016
TOES8E11	ME11	05-11-2016

STANDARDS ID		Conc (µg/L)
IB	SSIC-12-101-01	40/40
PEM	SSIC-12-96-01	100/100
PEST DCC	SSIC-12-98-01	20/40/200
TOXA DCC	SSIC-12-97-03	500/25

Hexane Lot # SWLA-006-01-05

Column	
	☐ A. Elite-CLP I B. Elite-CLP II
	☑ A. RTX/STX CLPEST I B. RTX/STX CLPEST II
	☐ A. ZB-MULTI RES I B. ZB-MULTI RES II

ELECTRONIC DATA ARCHIVAL

Location	Date
☐ EZChrom Elite_PEST E8	

Analyzed By: [signature] Date: 05-24-2016

Date Disposed: Disposed By:

This page is checked during data review.

Sequence: ME24.seq

Run #	Status	Vial	Volume	Sample ID	Method	Filename	Multiplic	Description
1	Acquiring	1	1	HEXANE RINSE	CPE8E11.met	ME24001.dat	1	
2		2	1	IBE8E1126	CPE8E11.met	ME24002.dat	1	
3		3	1	PEE8E1126	CPE8E11.met	ME24003.dat	1	
4		4	1	CCPE8E1126	CPE8E11.met	ME24004.dat	1	
5		5	1	CTOE8E1126	TOE8E11.met	ME24005.dat	1	
6		6	1	CPE018WB	CPE8E11.met	ME24006.dat	1	
7		7	1	CPE018WL	CPE8E11.met	ME24007.dat	1	
8		8	1	CPE018WC	CPE8E11.met	ME24008.dat	1	
9		9	1	E181-01 (QC WATER)	CPE8E11.met	ME24009.dat	1	
10		10	1	TXE013SB	CPE8E11.met	ME24010.dat	1	
11		11	1	E767-01	CPE8E11.met	ME24011.dat	1	
12		12	1	TXE014SB	CPE8E11.met	ME24012.dat	1	
13		13	1	E133-03	CPE8E11.met	ME24013.dat	1	
14		14	1	IBE8E1127	CPE8E11.met	ME24014.dat	1	
15		15	1	CCPE8E1127	CPE8E11.met	ME24015.dat	1	
16		16	1	CTOE8E1127	TOE8E11.met	ME24016.dat	1	

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
PESTICIDES

SOP	Rev. #
☐ EMAX-608	2
☑ EMAX-3520	5
☐ EMAX-3540	2
☐ EMAX-3546	0
☐ EMAX-3550	4
☐ EMAX-3580	2
☐ EMAX-3620	2
☐ EMAX-3660	1
☐ EMAX-3665	2

Note: For samples, relevant QCs/Standards extracted, ✓ refer to attached extraction sequence.

☐ MS/MSD can not be extracted due to insufficient amount of samples

Comments:

Book #: ECP-081
Preparation Batch: CPE 018 W
Matrix: WATER / TCLP Extract
Micropipette ID: 1000 µl: PE00-03 ✓
Micropipette ID:

STANDARDS	ID	Amount Added (ml)
Surrogate	SSIC-12-96-02	0.4 ✓
LCS/MS (PEST #)	SSIC-12-97-02	0.5 ✓
LCS/MS (PCB ▲)	SSIC-12-1492-01	0.5 ✓
LCS/MS		

Reagents	Lot # / ID
CH_2Cl_2	SS219
Hexane	SS149
Acetone	
Na_2SO_4	SWIB-003-08-08
H_2SO_4	
TBA Reagent	
Silica Sand	
Florisil & Eluting Solvent	
Isopropyl Alcohol	SPIA-07-01-16
Reagent Water	SWIA-006-01-02
Residual Chlorine Strip	6/24
pH strip	HC574756
Hexane/Acetone Soln. (50:50)	
Filter Paper	96922 35B

Lab Sample ID	Sonicator #	Cell #	Concentrator #
CPE018-WB			6 / 6
WL #			6 / 6
WC #			6 / 6
60E018 WL ▲			6 / 6
WC ▲			6 / 6
E181-01			5 / 5
TXE013SB			6 / 6
E767-01			4 / 6
TXE014WB			4 / 6
E133-03			4 / 6
E174-01			4 / 6
02			

Tuning	
Sonicator #	Reading

Concentrator	Water Bath Temperature Setting (°C)	Thermometer Reading (°C)
1		
2		
3		
4	35	35
5	35/60	35/60
6	35/60	35/60
7		
8		

Test Thermometer = SVOC-T1

Prepared By: JM — Witnessed By: TW
Standard Added By: JM — Checked By: ML
Extract Received By: 5/24/16 — Location: SE02-04A
Disposed By: — Disposed On:

FileID: CPE018W

EMAX

EXTRACTION LOG FOR PESTICIDES/PCBs

PrepBatchID	LabSampleID	Aliquot	Unit	Ve (ml)	EA	EVe (ml)	PF	FlorisilCleanup EMAX-3620	SulfurCleanup EMAX-3660	[1]AcidCleanup EMAX-3665	Comments
16CPE018W01	CPE018WB	1000	ml	10	1000	10	1				
16CPE018W02	CPE018WL	1000	ml	10	1000	10	1				
16CPE018W03	CPE018WC	1000	ml	10	1000	10	1				
16CPE018W04	60E018WL	1000	ml	10	1000	10	1				
16CPE018W05	60E018WC	1000	ml	10	1000	10	1				
16CPE018W06	E181-01	1000	ml	10	1000	10	1				QC Water LOT 10
16CPE018W07	TXE013 SB	100	ml	10	1000	10	10				TCLP Extract
16CPE018W08	E767-01	100	ml	10	1000	10	10				TCLP Extract
16CPE018W09	TXE014 SB	100	ml	10	1000	10	10				TCLP Extract
16CPE018W10	E133-03	100	ml	10	1000	10	10				TCLP Extract
16CPE018W11	E174-01	900	ml	10	1000	10	1.11				PCB
16CPE018W12	E174-02	1010	ml	10	1000	10	0.99				PCB

☑ ExtractionStarted @ 5/23/2016 10:00

Ve=ExtractVolume EA= ExpectedAliquot EVe=ExpectedExtractVolume PF=(EA/Aliquot)(Ve/EVe)

☑ Extraction Ended @ 5/24/2016 4:00

Prepared By: JMuert

Comment: [1]Acid cleanup is only for PCB anlaysis.

Checked By: ML

pH 7 and chlorine undetected

Date 5/24/16

SOP EMAX-3520 Rev. 5

FileID: TXE014S

EMAX LABORATORIES, INC.

TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	TCLPSoln	TCLPVol	Exrtract pH	Preservation	Comments
16TXE014S01	TXE014SB	0	g	5/20/16 17:59		2000		HNO_3	
16TXE014S02	E133-03	100.02	g	5/20/16 17:59	#2	2000	5.89	HNO_3	8270, 8151, 8081, Metals & Hg (UNPRESERVED)

☑ DateTimeStarted 5/20/2016 18:30 ☑ Thermometer Reset on 4/9/1900 8:38 Balance ID: 10203192. Calibration check was verified prior to use.

☑ DateTimeEnded 5/21/2016 12:30 Note: Sample preserved with HNO_3 is for metals analysis. MS/MSD were spiked prio Prepared By: DFelic/ TWangc

Extract Location: Metals Received By: MJM 5/23/16 9:46 Checked By: ML

Comment: Date 5/23/16

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

Determination of TLCP Solution							Determination of TCLP Extract Filtration			Determination of % solids for aqueos phase			
LabSampleID	Phase(s)	Aliquot	Sample pH	HCl	pH	TCLPSolnReq'd	(ml)	(g)	Pressure	WtS(g)	WtF(g)	WtDFS(g)	% Solids
TXE014SB							100						
E133-03	1	5.02	9.31	3.5	6.14	#2	100	100.36	Vacuum				

Calibration of pH Meter		InstrumentID:	96
BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/20/16 18:04
SW1-01-794	7	7	5/20/16 18:03
SW1A-005-12-24	CalVer 5	5.04	5/20/16 18:05
SW1-01-780	4	4.01	5/21/16 15:16
SW1-01-794	7	7	5/21/16 15:15
SW1A-005-12-24	CalVer 5	5.04	5/21/16 15:17
ID	Reagent	Desc	Expiration Date
SP1A-07-01-08	HCl	1N	04/01/17
SW1A-005-14-09	HNO_3	Conc	04/29/17
SP1B-08-65-01	TCLP Soln	#2	10/11/16
	TCLP Soln		
Rotary Agitator #	Criteria	rpm	DateTime
1	30 ± 2 rpm	30	5/20/16 18:06
	30 ± 2 rpm		
Thermostat Setting:		Thermometer ID:	122273404
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	23.3	5/21/16 11:03
Room Temp (°C) Low	23 ± 2 °C	21.1	5/21/16 6:23
Pipette ID	PE00-01		
CONCENTRATOR (WATER BATH)			
Concentrator #	Temp Setting	Thermometer Rdg	Thermometer ID
5	50	50	SVOC-T1
Filter ID/Lot #	20916/ 62513		
pH strip Lot#	HC577678		

Legend:

WtS = weight of sample

WtF = weight of filter

WtDFS = weight of dried filter + solids

Prepared By: DFelic/ TWangc

Checked By: ML

Date 5/23/16

HERBICIDES

METHOD 8151A
HERBICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/18/16 10:40
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/19/16 13:24
Lab Samp ID:	E133-02I	Dilution Factor:	5
Lab File ID:	WE19006A	Matrix :	WATER
Ext Btch ID:	HEE007W	% Moisture :	NA
Calib. Ref.:	WE19002A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	5.7|(10)	2.0	0.50	1.0
2,4,5-TP (SILVEX)	(ND)|ND	2.0	0.50	1.0

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	(11.78)|10.99	10.00	(118)|110	50-130

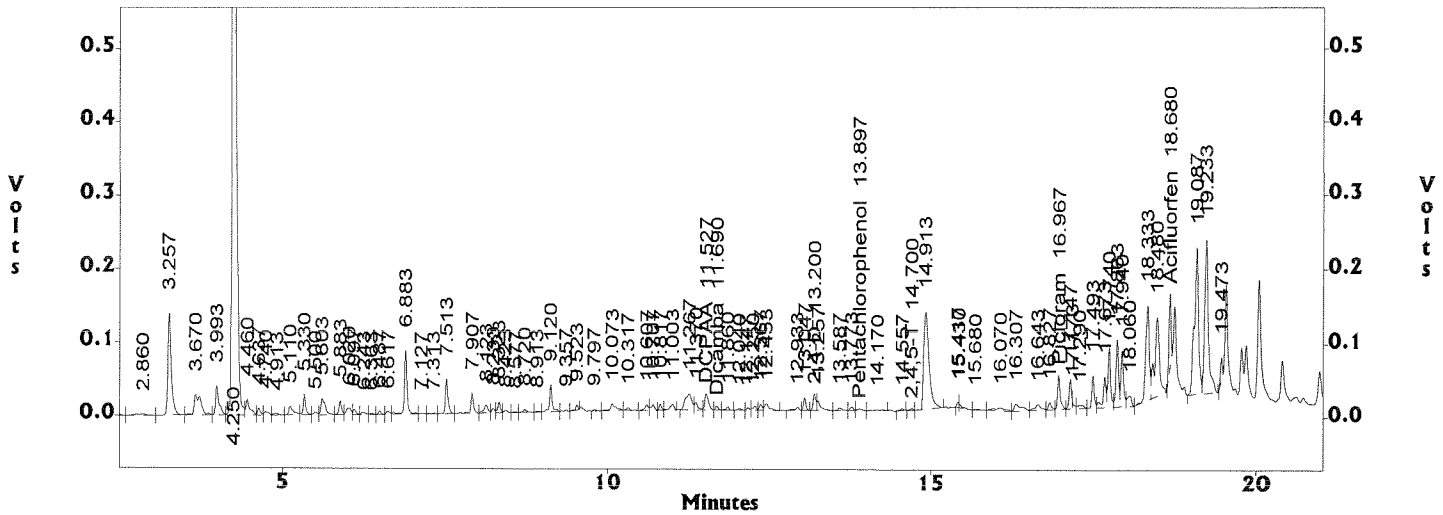
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\WE19\WE19.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : E133-02I DF=5
Acquired : May 19, 2016 13:24:26
Printed : May 19, 2016 14:10:40
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.733	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	9.897	0.0	0.00	0.000	--
4-Nitrophenol	10.767	0.0	0.00	0.000	--
DCPAA	11.527	85695.0	363.72	1178.038	VV
Dicamba	11.690	15471.0	1295.75	59.699	Vx
MCPP	11.790	0.0	0.00	0.000	--
MCPA	12.290	0.0	0.00	0.000	--
DCP	12.643	0.0	0.00	0.000	--
2,4-D	13.200	65342.0	575.75	567.449	Bx
Pentachlorophenol	13.897	18025.0	4721.25	19.089	SV
Silvex	14.070	0.0	0.00	0.000	--
2,4,5-T	14.700	7046.0	1955.79	18.013	xv
Chloramben	14.957	0.0	0.00	0.000	--
Dinoseb	15.123	0.0	0.00	0.000	--
2,4-DB	15.300	0.0	0.00	0.000	--
Bentazon	16.190	0.0	0.00	0.000	--
Dacthal	16.470	0.0	0.00	0.000	--
Picloram	16.967	135576.0	2122.79	319.335	VV
Acifluorfen	18.680	212904.0	1242.47	856.776	VS

c:\ezchrom\chrom\WE19\WE19.006 -- Channel A



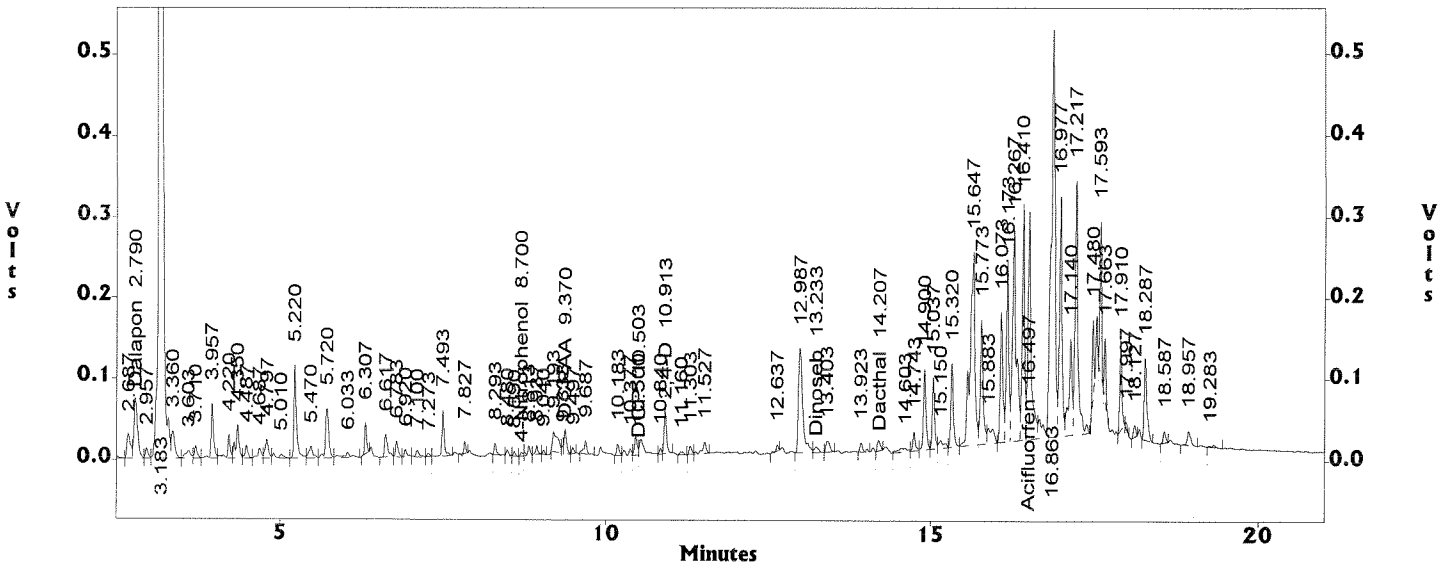
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\WE19\WE19.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : E133-02I DF=5
Acquired : May 19, 2016 13:24:26
Printed : May 19, 2016 14:10:40
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.790	279888.0	670.72	2086.459	SV
3,5 Dichlorobenzoic	7.880	0.0	0.00	0.000	--
4-Nitrophenol	8.700	14680.0	449.15	163.419	VS
DCPAA	9.370	79694.0	362.66	1098.755	xV
Dicamba	9.613	0.0	0.00	0.000	--
MCPP	9.787	0.0	0.00	0.000	--
MCPA	10.100	0.0	0.00	0.000	--
DCP	10.503	66684.0	524.78	635.347	SS
2,4-D	10.913	136521.0	655.43	1041.455	xI
Pentachlorophenol	11.383	0.0	0.00	0.000	--
Silvex	11.880	0.0	0.00	0.000	--
2,4,5-T	12.327	0.0	0.00	0.000	--
Chloramben	12.373	0.0	0.00	0.000	--
2,4-DB	12.903	0.0	0.00	0.000	--
Dinoseb	13.233	31146.0	1572.22	99.051	VV
Bentazon	13.837	0.0	0.00	0.000	--
Dacthal	14.207	40596.0	2502.35	81.116	SS
Picloram	14.310	0.0	0.00	0.000	--
Acifluorfen	16.497	978073.0	1790.42	2731.411	SS

c:\ezchrom\chrom\WE19\WE19.006 -- Channel B



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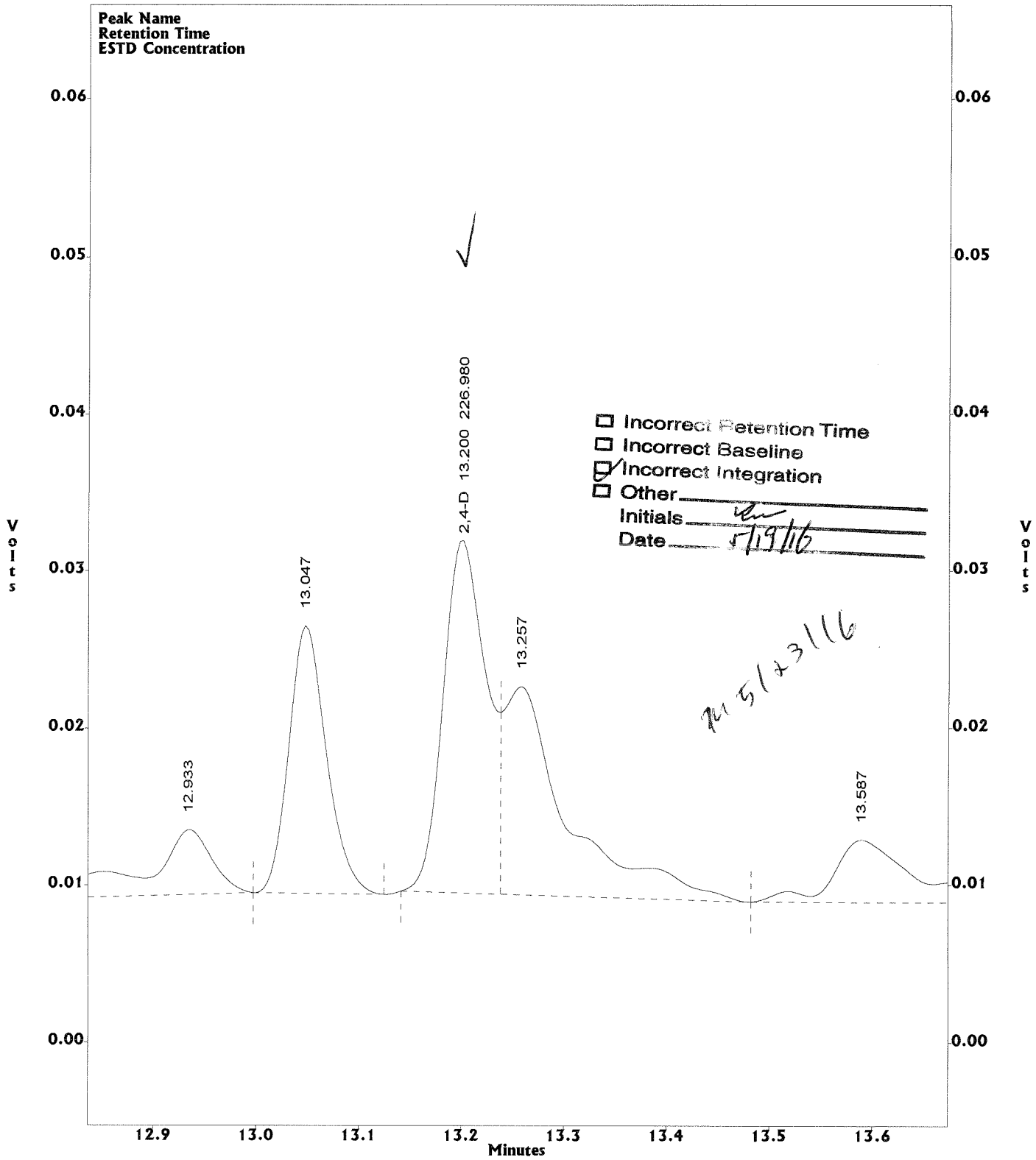
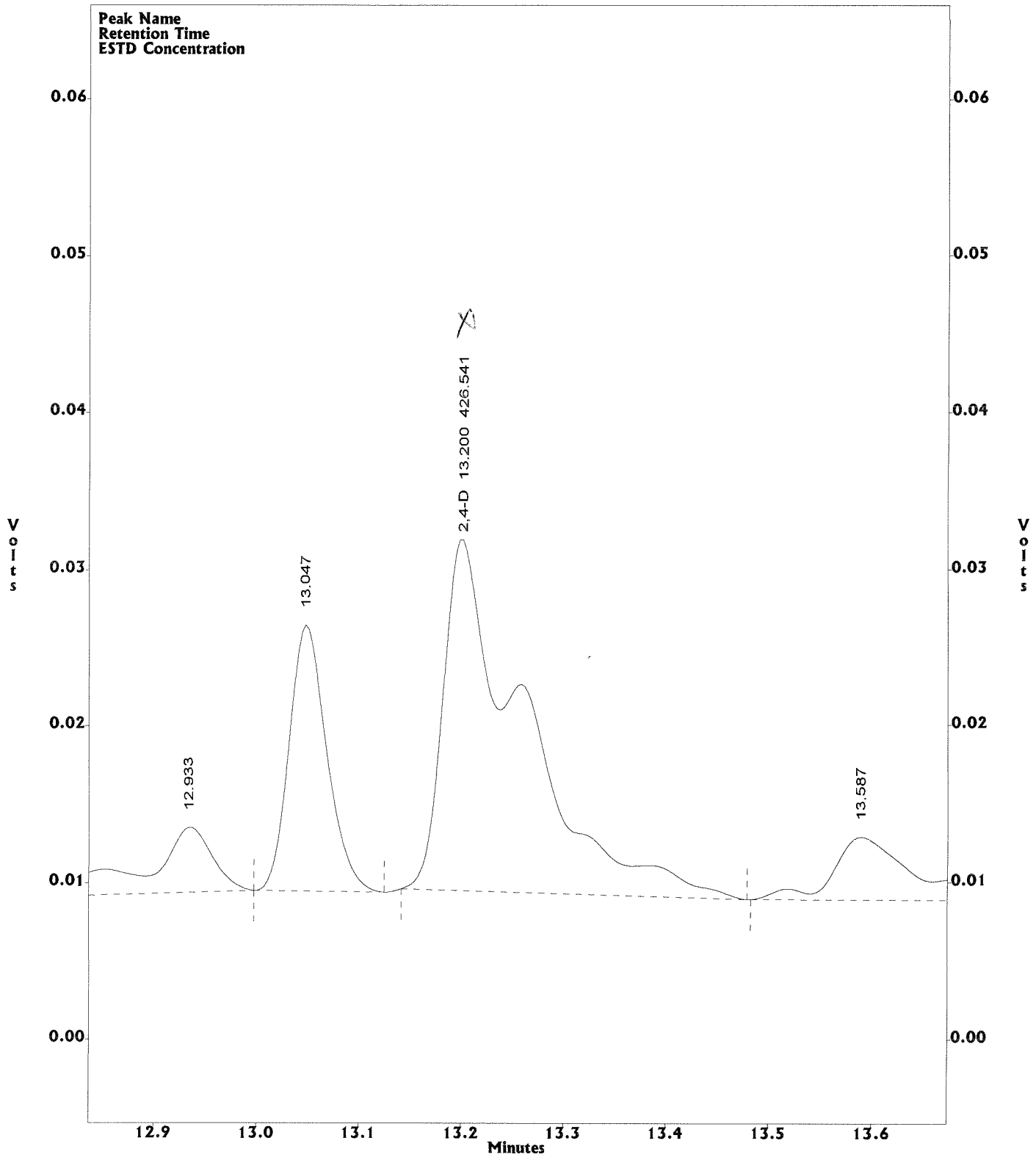


c:\ezchrom\chrom\we19\we19.006, Channel A



QC SUMMARIES

METHOD 8151A
HERBICIDES

Client : URS CORPORATION	Date Collected: NA
Project : CANNON AFB PBR	Date Received: 05/18/16
Batch No. : 16E133	Date Extracted: 05/18/16 10:40
Sample ID: MBLK1W	Date Analyzed: 05/19/16 12:01
Lab Samp ID: HEE007WB	Dilution Factor: 1
Lab File ID: WE19003A	Matrix : WATER
Ext Btch ID: HEE007W	% Moisture : NA
Calib. Ref.: WE19002A	Instrument ID : GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	0.40	0.10	0.20
2,4,5-TP (SILVEX)	(ND)|ND	0.40	0.10	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	6.758|(7.320)	10.00	67.6|(73.2)	50-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: 8151A

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HEE007WB	HEE007WL	HEE007WC		
LAB FILE ID:	WE19003A	WE19004A	WE19005A		
DATE EXTRACTED:	05/18/1610:40	05/18/1610:40	05/18/1610:40	DATE COLLECTED:	NA
DATE ANALYZED:	05/19/1612:01	05/19/1612:28	05/19/1612:56	DATE RECEIVED:	05/18/16
PREP. BATCH:	HEE007W	HEE007W	HEE007W		
CALIB. REF:	WE19002A	WE19002A	WE19002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4-D	(ND)|ND	1.00	0.675|(0.946)	68|(95)	1.00	0.789|(0.995)	79|(100)	16|(5)	35-115	30
2,4,5-TP (Silvex)	(ND)|ND	1.00	0.753|(1.01)	75|(101)	1.00	0.881|(1.12)	88|(112)	16|(10)	50-115	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4-DCPAA	10.00	6.772|(7.556)	67.7|(75.6)	10.00	8.377|(9.262)	83.8|(92.6)	50-130

QC DATA

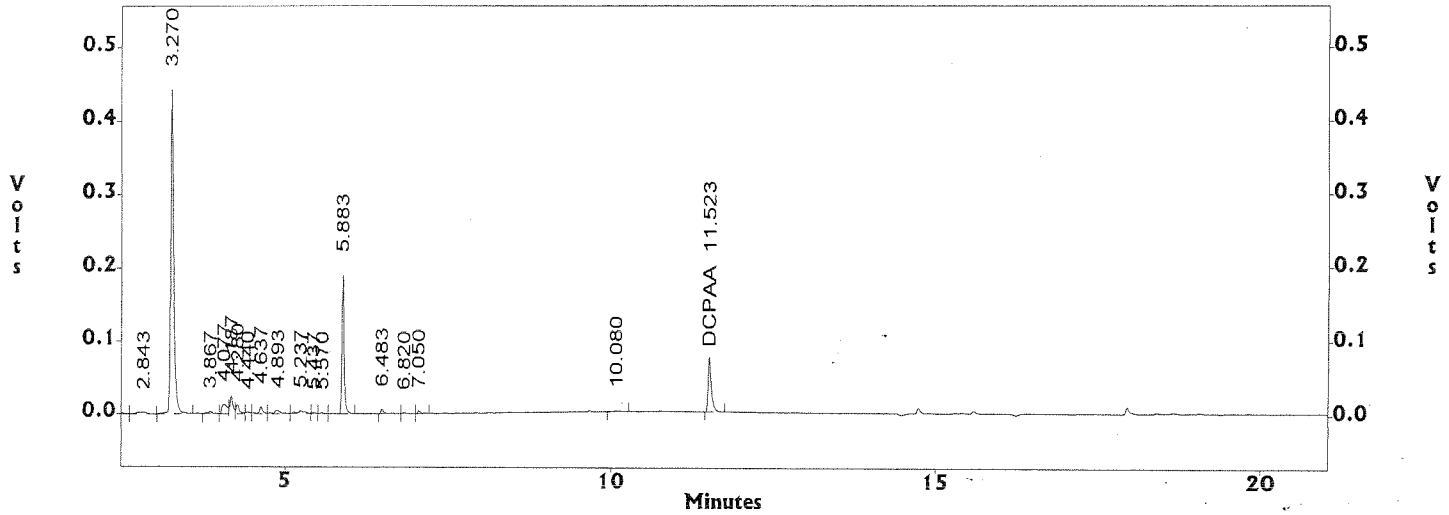
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE007WB
Acquired : May 19, 2016 12:01:18
Printed : May 19, 2016 13:51:08
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.733	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	9.897	0.0	0.00	0.000	--
4-Nitrophenol	10.767	0.0	0.00	0.000	--
DCPAA	11.523	247259.0	363.72	679.808	Vx
Dicamba	11.690	0.0	0.00	0.000	--
MCPP	11.790	0.0	0.00	0.000	--
MCPA	12.290	0.0	0.00	0.000	--
DCP	12.643	0.0	0.00	0.000	--
2,4-D	13.207	0.0	0.00	0.000	--
Pentachlorophenol	13.897	0.0	0.00	0.000	--
Silvex	14.070	0.0	0.00	0.000	--
2,4,5-T	14.710	0.0	0.00	0.000	--
Chloramben	14.957	0.0	0.00	0.000	--
Dinoseb	15.123	0.0	0.00	0.000	--
2,4-DB	15.300	0.0	0.00	0.000	--
Bentazon	16.190	0.0	0.00	0.000	--
Dacthal	16.470	0.0	0.00	0.000	--
Picloram	16.977	0.0	0.00	0.000	--
Acifluorfen	18.693	0.0	0.00	0.000	--

c:\ezchrom\chrom\we19\we19.003 -- Channel A



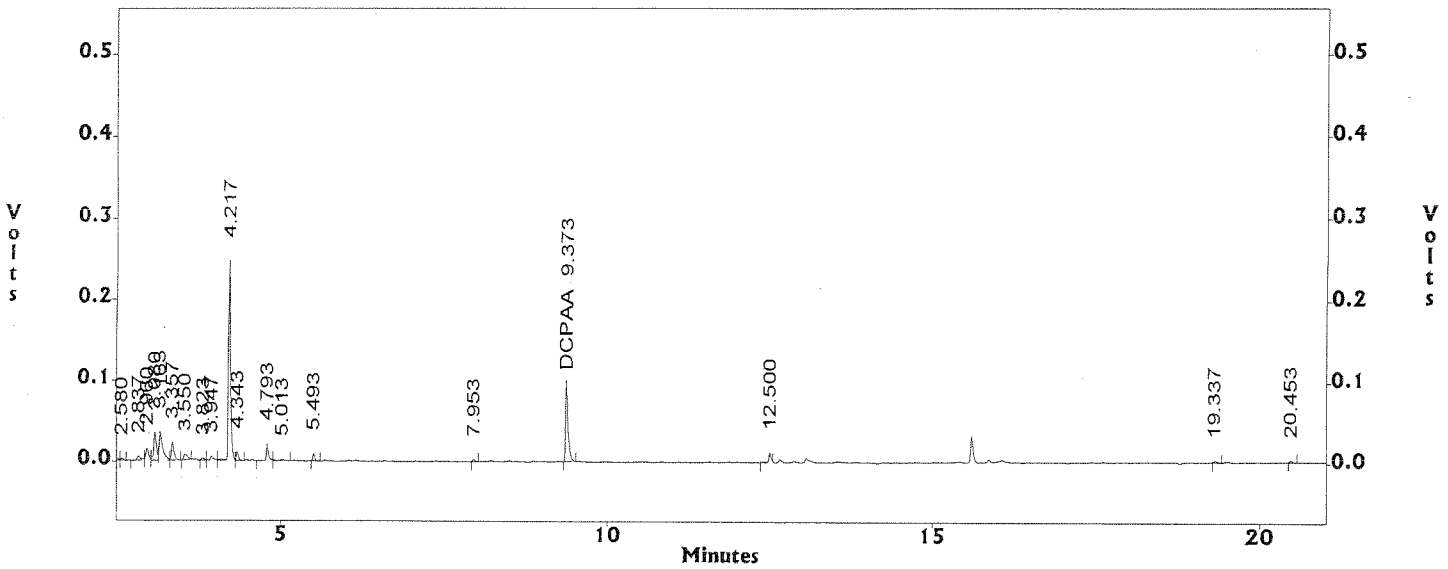
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE007WB
Acquired : May 19, 2016 12:01:18
Printed : May 19, 2016 13:51:08
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.880	0.0	0.00	0.000	--
4-Nitrophenol	8.697	0.0	0.00	0.000	--
DCPAA	9.373	268286.0	362.66	739.781	BV
Dicamba	9.613	0.0	0.00	0.000	--
MCPP	9.787	0.0	0.00	0.000	--
MCPA	10.100	0.0	0.00	0.000	--
DCP	10.530	0.0	0.00	0.000	--
2,4-D	10.923	0.0	0.00	0.000	--
Pentachlorophenol	11.383	0.0	0.00	0.000	--
Silvex	11.880	0.0	0.00	0.000	--
2,4,5-T	12.327	0.0	0.00	0.000	--
Chloramben	12.373	0.0	0.00	0.000	--
2,4-DB	12.903	0.0	0.00	0.000	--
Dinoseb	13.237	0.0	0.00	0.000	--
Bentazon	13.837	0.0	0.00	0.000	--
Dacthal	14.233	0.0	0.00	0.000	--
Picloram	14.310	0.0	0.00	0.000	--
Acifluorfen	16.503	0.0	0.00	0.000	--

c:\ezchrom\chrom\we19\we19.003 -- Channel B



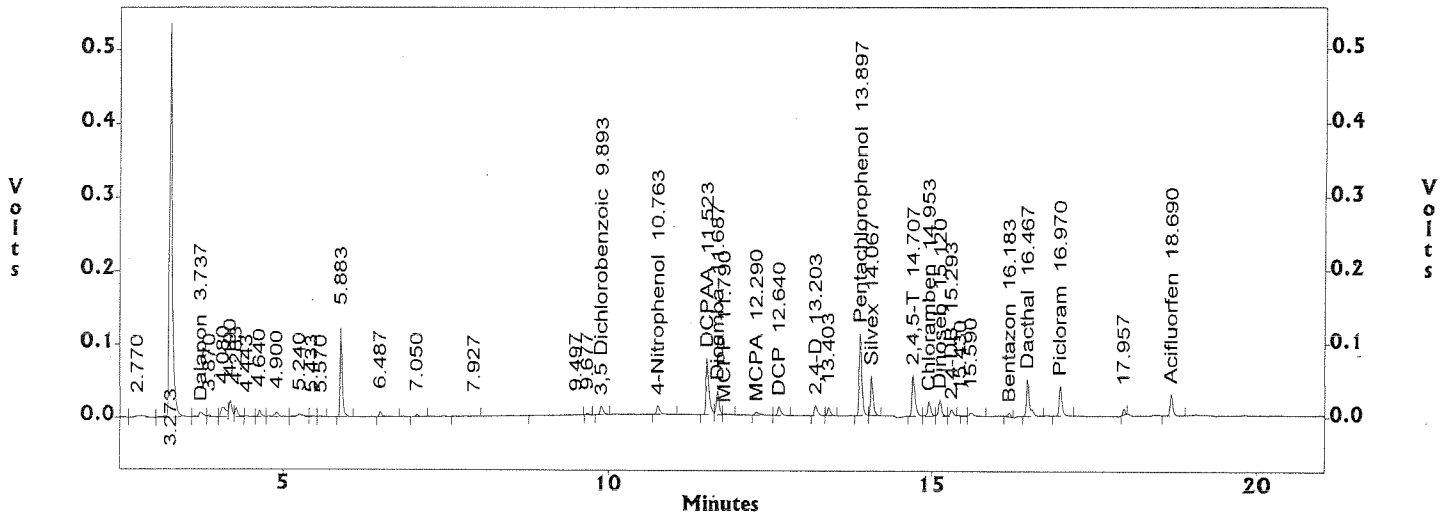
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE007WL
Acquired : May 19, 2016 12:28:58
Printed : May 19, 2016 13:53:39
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.737	30664.0	656.35	46.719	VV
3,5 Dichlorobenzoic	9.893	37680.0	653.22	57.683	VV
4-Nitrophenol	10.763	44085.0	343.86	128.206	BV
DCPAA	11.523	246492.0	363.72	677.699	BV
Dicamba	11.687	92554.0	1295.75	71.429	Vx
MCPP	11.790	10053.0	2.25	4471.463	xx
MCPA	12.290	24028.0	5.06	4745.494	VV
DCP	12.640	41853.0	486.34	86.056	VV
2,4-D	13.203	48585.0	575.75	84.385	VV
Pentachlorophenol	13.897	311897.0	4721.25	66.062	VV
Silvex	14.067	141821.0	1884.14	75.271	VI
2,4,5-T	14.707	190495.0	1955.79	97.400	xV
Chloramben	14.953	65693.0	1396.68	47.035	VV
Dinoseb	15.120	71081.0	1172.65	60.616	VV
2,4-DB	15.293	31609.0	323.63	97.671	Vx
Bentazon	16.183	16681.0	210.68	79.176	BV
Dacthal	16.467	157956.0	2232.57	70.751	BV
Picloram	16.970	125275.0	2122.79	59.014	Vx
Acifluorfen	18.690	82200.0	1242.47	66.158	VV

c:\ezchrom\chrom\we19\we19.004 -- Channel A



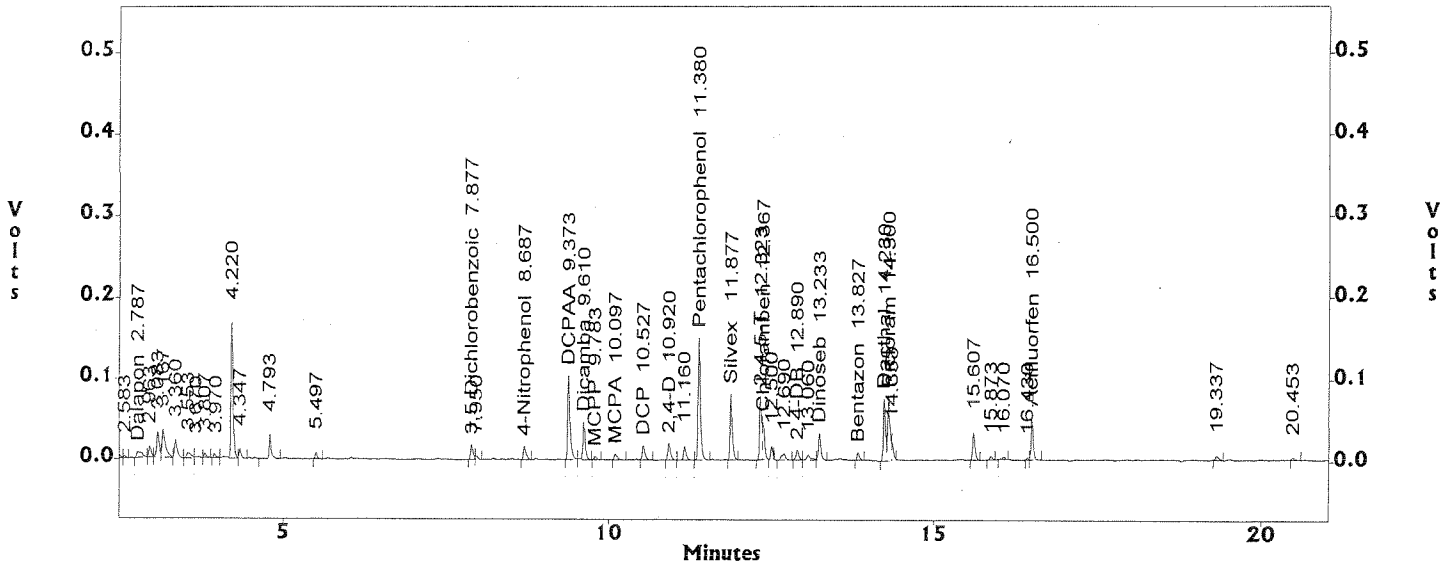
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE007WL
Acquired : May 19, 2016 12:28:58
Printed : May 19, 2016 13:53:39
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	39965.0	670.72	59.585	MM
3,5 Dichlorobenzoic	7.877	46418.0	715.76	64.852	BS
4-Nitrophenol	8.687	46655.0	449.15	103.874	BV
DCPAA	9.373	275444.0	362.66	759.519	BV
Dicamba	9.610	119860.0	1453.81	82.445	VV
MCPP	9.783	10775.0	2.68	4019.293	VV
MCPA	10.097	22612.0	5.25	4306.550	BV
DCP	10.527	47769.0	524.78	91.026	BB
2,4-D	10.920	57174.0	655.43	87.231	BV
Pentachlorophenol	11.380	382087.0	5377.45	71.054	VV
Silvex	11.877	197556.0	2195.19	89.995	BV
2,4,5-T	12.323	181055.0	1811.11	99.969	MM
Chloramben	12.367	139962.0	2217.34	63.122	MM
2,4-DB	12.890	35875.0	358.09	100.184	BV
Dinoseb	13.233	84418.0	1572.22	53.693	VV
Bentazon	13.827	22748.0	334.23	68.062	BI
Dacthal	14.230	178637.0	2502.35	71.388	BV
Picloram	14.300	208940.0	2928.76	71.341	VS
Acifluorfen	16.500	124816.0	1790.42	69.713	SB

c:\ezchrom\chrom\we19\we19.004 -- Channel B



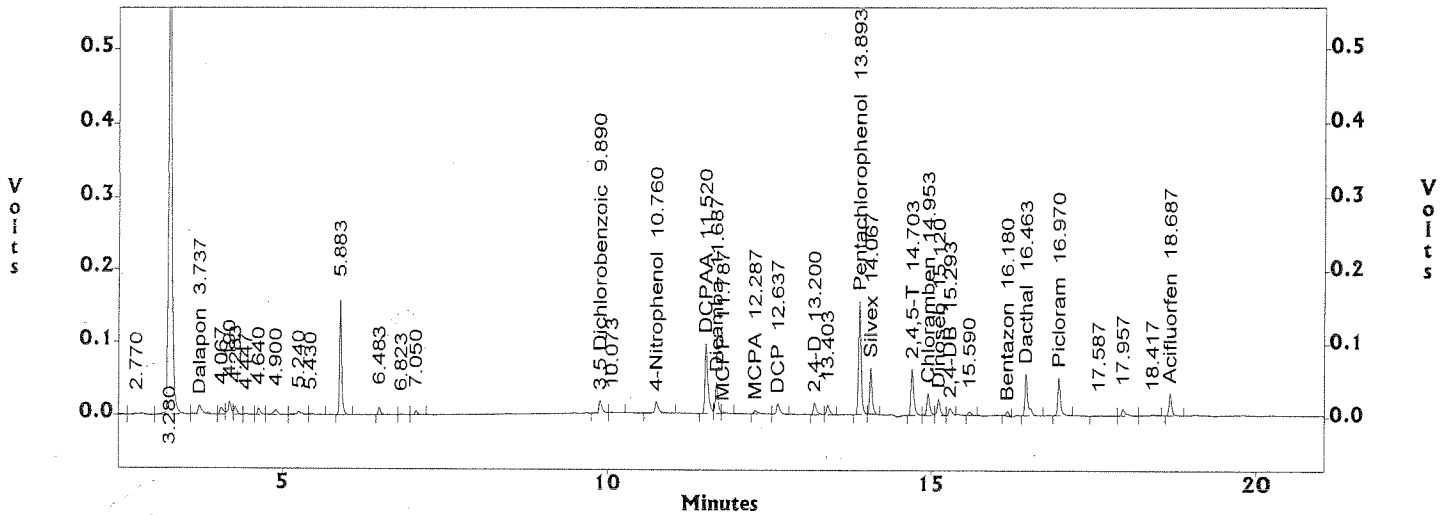
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.005
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE007WC
Acquired : May 19, 2016 12:56:42
Printed : May 19, 2016 13:58:32
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.737	59698.0	656.35	90.955	VV
3,5 Dichlorobenzoic	9.890	54051.0	653.22	82.745	VV
4-Nitrophenol	10.760	57229.0	343.86	166.431	BV
DCPAA	11.520	304682.0	363.72	837.685	BV
Dicamba	11.687	118721.0	1295.75	91.623	Vx
MCPP	11.787	10751.0	2.25	4781.926	xx
MCPA	12.287	24963.0	5.06	4930.155	VV
DCP	12.637	48466.0	486.34	99.654	VV
2,4-D	13.200	55680.0	575.75	96.708	VV
Pentachlorophenol	13.893	437238.0	4721.25	92.611	VV
Silvex	14.067	165934.0	1884.14	88.069	VI
2,4,5-T	14.703	190518.0	1955.79	97.412	xV
Chloramben	14.953	89467.0	1396.68	64.057	VV
Dinoseb	15.120	70593.0	1172.65	60.200	VV
2,4-DB	15.293	31887.0	323.63	98.530	Vx
Bentazon	16.180	18868.0	210.68	89.557	BV
Dacthal	16.463	177724.0	2232.57	79.605	BV
Picloram	16.970	158109.0	2122.79	74.482	Bx
Acifluorfen	18.687	85369.0	1242.47	68.709	BV

c:\ezchrom\chrom\we19\we19.005 -- Channel A



EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

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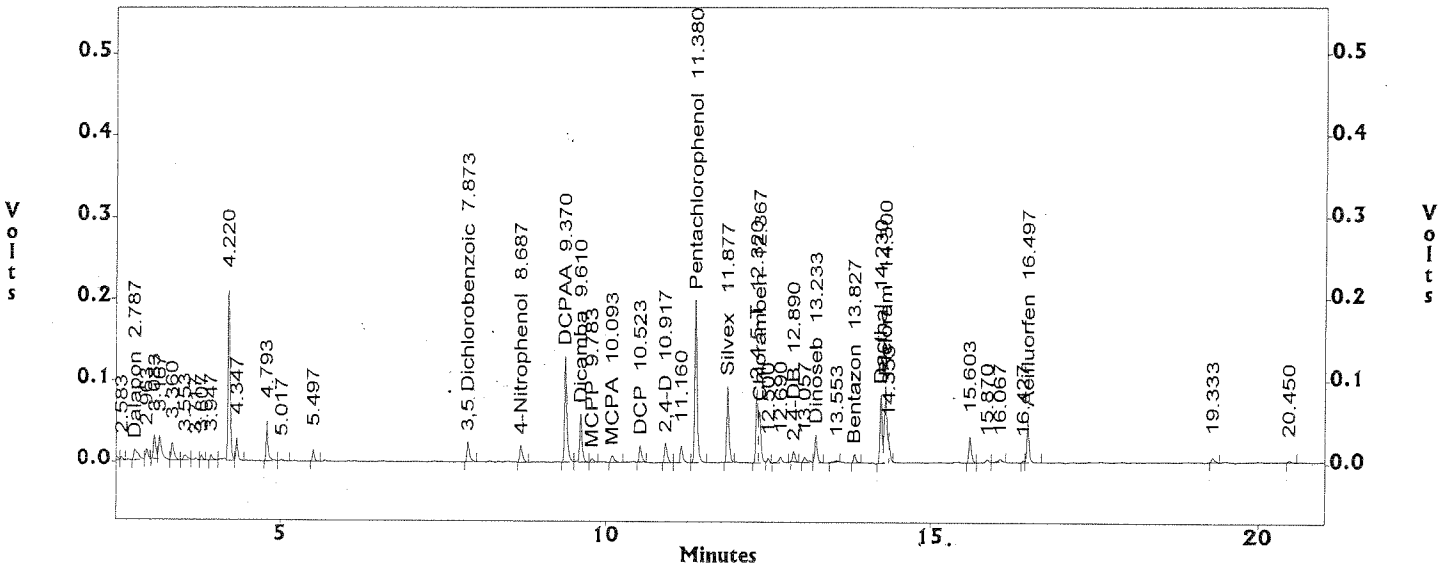
Sample ID : HEE007WC
Acquired : May 19, 2016 12:56:42
Printed : May 19, 2016 13:58:33
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	58632.0	670.72	87.416	VV
3,5 Dichlorobenzoic	7.873	68310.0	715.76	95.438	BV
4-Nitrophenol	8.687	58566.0	449.15	130.393	BV
DCPAA	9.370	337870.0	362.66	931.655	BV
Dicamba	9.610	151276.0	1453.81	104.055	VV
MCPP	9.783	13429.0	2.68	5009.289	VV
MCPA	10.093	26443.0	5.25	5036.180	BV
DCP	10.523	53927.0	524.78	102.760	BI
2,4-D	10.917	65600.0	655.43	100.086	BV
Pentachlorophenol	11.380	511135.0	5377.45	95.052	VV
Silvex	11.877	226640.0	2195.19	103.244	BV
2,4,5-T	12.320	190964.0	1811.11	105.440	MM
Chloramben	12.367	181271.0	2217.34	81.752	MM
2,4-DB	12.890	32552.0	358.09	90.904	BI
Dinoseb	13.233	85717.0	1572.22	54.520	VV
Bentazon	13.827	26306.0	334.23	78.707	BI
Dacthal	14.230	191246.0	2502.35	76.427	BV
Picloram	14.300	265730.0	2928.76	90.731	VS
Acifluorfen	16.497	129015.0	1790.42	72.059	SV

c:\ezchrom\chrom\we19\we19.005 -- Channel B



875

INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
LFID & Datetime: WC04009A 03/04/16 15:35
LFID & Datetime: WC04008A 03/04/16 15:07
LFID & Datetime: WC04007A 03/04/16 14:39
LFID & Datetime: WC04006A 03/04/16 14:12
LFID & Datetime: WC04005A 03/04/16 13:44
LFID & Datetime: WC04004A 03/04/16 13:17
LFID & Datetime: WC04003A 03/04/16 12:49
LFID & Datetime: WC04002A 03/04/16 12:21
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	7.00X	10.00X	13.00X	16.00X	20.00X	MEAN	%RSD
Dalapon	9.10	0	611	661	685	673	663	667	635	656.3	3.8
3,5-Dichlorobenzo	9.31	0	683	656	675	656	643	645	613	653.2	3.5
4-Nitrophenol	9.09	0	343	343	354	348	345	348	325	343.9	2.6
Dicamba	9.40	0	1229	1262	1329	1321	1314	1332	1283	1295.8	3.0
MCPP	469.30	0	0	2.32	2.33	2.24	2.18	2.24	2.18	2.25	2.8
MCPA	467.30	0	0	6.20	5.48	5.22	4.74	4.62	4.12	5.06	14.5
Dichloroprop	9.44	0	500	480	503	498	480	489	454	486.3	3.5
2,4-D	9.40	0	600	584	593	581	568	564	539	575.8	3.6
Pentachlorophenol	9.50	3770	4151	4467	5001	5094	5102	5189	4996	4721.3	11.2
2,4,5-TP(Silvex)	9.50	0	1689	1709	1896	1942	1969	2020	1965	1884.1	7.0
Chloramben	9.36	0	1272	1231	1366	1438	1466	1517	1487	1396.7	7.9
2,4,5-T	9.48	0	1800	1788	1961	2043	2029	2069	2000	1955.8	5.9
2,4-DB	9.47	0	345	319	327	324	319	319	312	323.6	3.3
Dinoseb	9.45	0	1192	1132	1176	1191	1178	1191	1148	1172.7	2.0
Bentazon	9.45	0	205	201	212	212	213	219	213	210.7	2.7
Dacthal	9.15	0	1897	1967	2233	2316	2370	2453	2391	2232.6	9.7
Picloram	9.45	0	1740	1810	2065	2199	2296	2395	2354	2122.8	12.3
Acifluorfen	9.63	0	1208	1196	1253	1278	1262	1271	1228	1242.5	2.6

SURROGATE	X	1.00X	2.00X	4.00X	7.00X	10.00X	13.00X	16.00X	20.00X	MEAN	%RSD
2,4-DCPAA	93.58	0	426	390	377	357	342	337	317	363.7	10.2

3/21/16

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Column : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
LFID & Datetime: WC04009B 03/04/16 15:35
LFID & Datetime: WC04008B 03/04/16 15:07
LFID & Datetime: WC04007B 03/04/16 14:39
LFID & Datetime: WC04006B 03/04/16 14:12
LFID & Datetime: WC04005B 03/04/16 13:44
LFID & Datetime: WC04004B 03/04/16 13:17
LFID & Datetime: WC04003B 03/04/16 12:49
LFID & Datetime: WC04002B 03/04/16 12:21
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	7.00X	10.00X	13.00X	16.00X	20.00X	MEAN	%RSD
Dalapon	9.10	0	540	736	691	713	690	681	644	670.7	9.6
3,5-Dichlorobenzo	9.31	0	819	759	748	707	677	670	630	715.8	8.9
4-Nitrophenol	9.09	0	526	477	486	449	421	408	377	449.2	11.4
Dicamba	9.40	0	1539	1503	1508	1455	1417	1411	1344	1453.8	4.7
MCPP	469.30	0	0	2.67	2.86	2.76	2.67	2.63	2.49	2.68	4.7
MCPA	467.30	0	0	6.23	6.00	5.40	5.00	4.77	4.11	5.25	15.1
Dichloroprop	9.44	0	585	555	557	518	503	490	466	524.8	8.1
2,4-D	9.40	0	753	697	680	648	622	612	576	655.4	9.1
Pentachlorophenol	9.50	5641	5789	5516	5521	5331	5165	5154	4902	5377.4	5.5
2,4,5-TP(Silvex)	9.50	0	2267	2208	2276	2222	2168	2166	2059	2195.2	3.4
Chloramben	9.36	0	2035	2223	2319	2283	2225	2241	2196	2217.3	4.1
2,4,5-T	9.48	0	1844	1817	1896	1854	1819	1805	1643	1811.1	4.4
2,4-DB	9.47	0	376	345	345	374	363	361	344	358.1	3.9
Dinoseb	9.45	0	1716	1622	1608	1580	1531	1513	1436	1572.2	5.7
Bentazon	9.45	0	423	355	344	306	305	305	303	334.2	13.3
Dacthal	9.15	0	2563	2505	2620	2545	2489	2472	2323	2502.4	3.7
Picloram	9.45	0	2668	2756	3017	3039	3018	3051	2953	2928.8	5.2
Acifluorfen	9.63	0	1838	1775	1827	1825	1788	1779	1700	1790.4	2.6
SURROGATE	**X**	**1.00X**	**2.00X**	**4.00X**	**7.00X**	**10.00X**	**13.00X**	**16.00X**	**20.00X**	**MEAN**	**%RSD**
2,4-DCPAA	93.58	0	446	395	373	350	334	330	311	362.7	12.8

Rev 3/21/16

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
LFID & Datetime: WC04009A 03/04/16 15:35
LFID & Datetime: WC04008A 03/04/16 15:07
LFID & Datetime: WC04007A 03/04/16 14:39
LFID & Datetime: WC04006A 03/04/16 14:12
LFID & Datetime: WC04005A 03/04/16 13:44
LFID & Datetime: WC04004A 03/04/16 13:17
LFID & Datetime: WC04003A 03/04/16 12:49
LFID & Datetime: WC04002A 03/04/16 12:21

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Dalapon	3.787	3.787	3.787	3.783	3.783	3.783	3.783	3.783	3.784	3.757	3.811	0.027
3,5-Dichlorobenzo	9.973	9.970	9.973	9.970	9.970	9.970	9.970	9.970	9.970	9.932	10.008	0.038
4-Nitrophenol	0.000	10.847	10.847	10.843	10.843	10.843	10.843	10.843	10.844	10.806	10.882	0.038
Dicamba	11.770	11.767	11.770	11.767	11.770	11.770	11.770	11.770	11.769	11.730	11.808	0.039
MCPP	0.000	0.000	11.873	11.867	11.867	11.867	11.870	11.867	11.868	11.830	11.907	0.039
MCPA	0.000	12.373	12.373	12.370	12.370	12.367	12.370	12.367	12.369	12.330	12.408	0.039
Dichloroprop	12.727	12.720	12.723	12.720	12.723	12.720	12.723	12.720	12.721	12.683	12.759	0.038
2,4-D	13.293	13.290	13.290	13.287	13.287	13.287	13.287	13.287	13.288	13.243	13.333	0.045
Pentachlorophenol	13.987	13.983	13.987	13.983	13.987	13.983	13.987	13.987	13.986	13.941	14.031	0.045
2,4,5-TP(Silvex)	14.157	14.153	14.157	14.153	14.153	14.153	14.153	14.153	14.154	14.111	14.197	0.043
Chloramben	0.000	15.047	15.047	15.043	15.043	15.043	15.043	15.043	15.044	15.001	15.087	0.043
2,4,5-T	0.000	14.797	14.797	14.793	14.793	14.793	14.793	14.793	14.794	14.751	14.837	0.043
2,4-DB	0.000	15.387	15.387	15.383	15.383	15.383	15.383	15.383	15.384	15.346	15.422	0.038
Dinoseb	15.213	15.210	15.210	15.210	15.210	15.210	15.210	15.210	15.210	15.166	15.254	0.044
Bentazon	16.277	16.273	16.277	16.273	16.277	16.277	16.277	16.277	16.276	16.228	16.324	0.048
Dacthal	16.560	16.557	16.560	16.557	16.557	16.557	16.557	16.557	16.557	16.512	16.602	0.045
Picloram	17.077	17.070	17.070	17.067	17.067	17.067	17.067	17.067	17.068	17.020	17.116	0.048
Acifluorfen	0.000	18.787	18.787	18.783	18.783	18.783	18.783	18.783	18.784	18.743	18.825	0.041
SURROGATE	**1.0X**	**2.0X**	**4.0X**	**7.0X**	**10.0X**	**13.0X**	**16.0X**	**20.0X**	**RT**	**FROM**	**TO**	**WIDTH**
2,4-DCPAA	0.000	11.603	11.607	11.603	11.603	11.603	11.603	11.603	11.604	11.561	11.647	0.043

3/21/16

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
LFID & Datetime: WC04009B 03/04/16 15:35
LFID & Datetime: WC04008B 03/04/16 15:07
LFID & Datetime: WC04007B 03/04/16 14:39
LFID & Datetime: WC04006B 03/04/16 14:12
LFID & Datetime: WC04005B 03/04/16 13:44
LFID & Datetime: WC04004B 03/04/16 13:17
LFID & Datetime: WC04003B 03/04/16 12:49
LFID & Datetime: WC04002B 03/04/16 12:21

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Dalapon	0.000	2.840	2.843	2.840	2.840	2.840	2.840	2.840	2.840	2.822	2.858	0.018
3,5-Dichlorobenzo	7.987	7.983	7.987	7.983	7.983	7.983	7.983	7.980	7.983	7.948	8.018	0.035
4-Nitrophenol	8.813	8.807	8.810	8.803	8.803	8.803	8.803	8.803	8.805	8.770	8.840	0.035
Dicamba	9.730	9.727	9.727	9.727	9.727	9.727	9.727	9.727	9.727	9.688	9.766	0.039
MCPP	0.000	0.000	9.897	9.897	9.897	9.897	9.897	9.897	9.897	9.858	9.936	0.039
MCPA	0.000	10.213	10.213	10.210	10.210	10.210	10.210	10.207	10.210	10.172	10.248	0.038
Dichloroprop	10.647	10.643	10.643	10.640	10.640	10.640	10.640	10.640	10.641	10.603	10.679	0.038
2,4-D	0.000	11.040	11.040	11.037	11.037	11.037	11.037	11.037	11.038	11.003	11.073	0.035
Pentachlorophenol	11.510	11.503	11.507	11.503	11.507	11.507	11.507	11.507	11.506	11.467	11.545	0.039
2,4,5-TP(Silvex)	12.007	12.000	12.003	12.000	12.000	12.000	12.000	12.000	12.000	11.962	12.038	0.038
Chloramben	12.507	12.500	12.500	12.497	12.497	12.497	12.497	12.493	12.497	12.458	12.536	0.039
2,4,5-T	12.457	12.450	12.450	12.447	12.447	12.447	12.447	12.447	12.448	12.409	12.487	0.039
2,4-DB	0.000	13.027	13.027	13.020	13.020	13.020	13.020	13.017	13.022	12.984	13.060	0.038
Dinoseb	13.363	13.360	13.360	13.360	13.360	13.360	13.360	13.360	13.360	13.327	13.393	0.033
Bentazon	13.960	13.957	13.960	13.960	13.960	13.960	13.960	13.960	13.960	13.917	14.003	0.043
Dacthal	14.363	14.360	14.363	14.360	14.360	14.360	14.360	14.360	14.360	14.320	14.400	0.040
Picloram	0.000	14.443	14.443	14.440	14.437	14.437	14.437	14.437	14.439	14.400	14.478	0.039
Acifluorfen	16.637	16.633	16.633	16.633	16.633	16.633	16.633	16.633	16.633	16.595	16.671	0.038

SURROGATE	1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	RT	FROM	TO	WIDTH
2,4-DCPAA	9.490	9.487	9.487	9.483	9.483	9.483	9.483	9.483	9.484	9.452	9.516	0.032

JC 3/21/16

880

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

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Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C041
Acquired : Mar 04, 2016 15:35:17
Printed : Mar 09, 2016 11:53:22
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	5581.0	656.35	-1.000	BV
3,5 Dichlorobenzoic	9.973	6269.0	653.22	-1.000	BV
4-Nitrophenol	10.830	0.0	0.00	0.000	--
DCPAA	11.587	0.0	0.00	0.000	--
Dicamba	11.770	11990.0	1295.75	-1.000	Vx
MCPP	11.853	0.0	0.00	0.000	--
MCPA	12.353	0.0	0.00	0.000	--
DCP	12.727	5041.0	486.34	-1.000	VB
2,4-D	13.293	5704.0	575.75	-1.000	BB
Pentachlorophenol	13.987	35804.0	4721.25	9.496	BV
Silvex	14.157	16068.0	1884.14	-1.000	VB
2,4,5-T	14.777	0.0	0.00	0.000	--
Chloramben	15.027	0.0	0.00	0.000	--
Dinoseb	15.213	10472.0	1172.65	-1.000	VV
2,4-DB	15.367	0.0	0.00	0.000	--
Bentazon	16.277	1927.0	210.68	-1.000	VV
Dacthal	16.560	18082.0	2232.57	-1.000	VV
Picloram	17.077	15025.0	2122.79	-1.000	Bx
Acifluorfen	18.767	0.0	0.00	0.000	--

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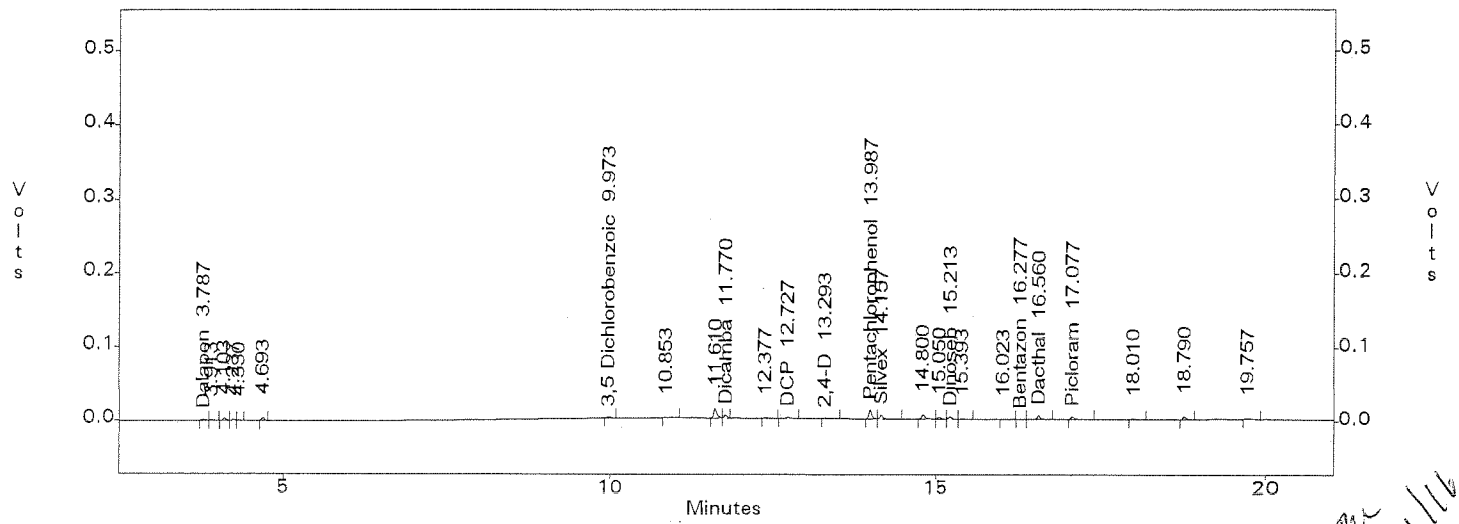

RZ 3/21/16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

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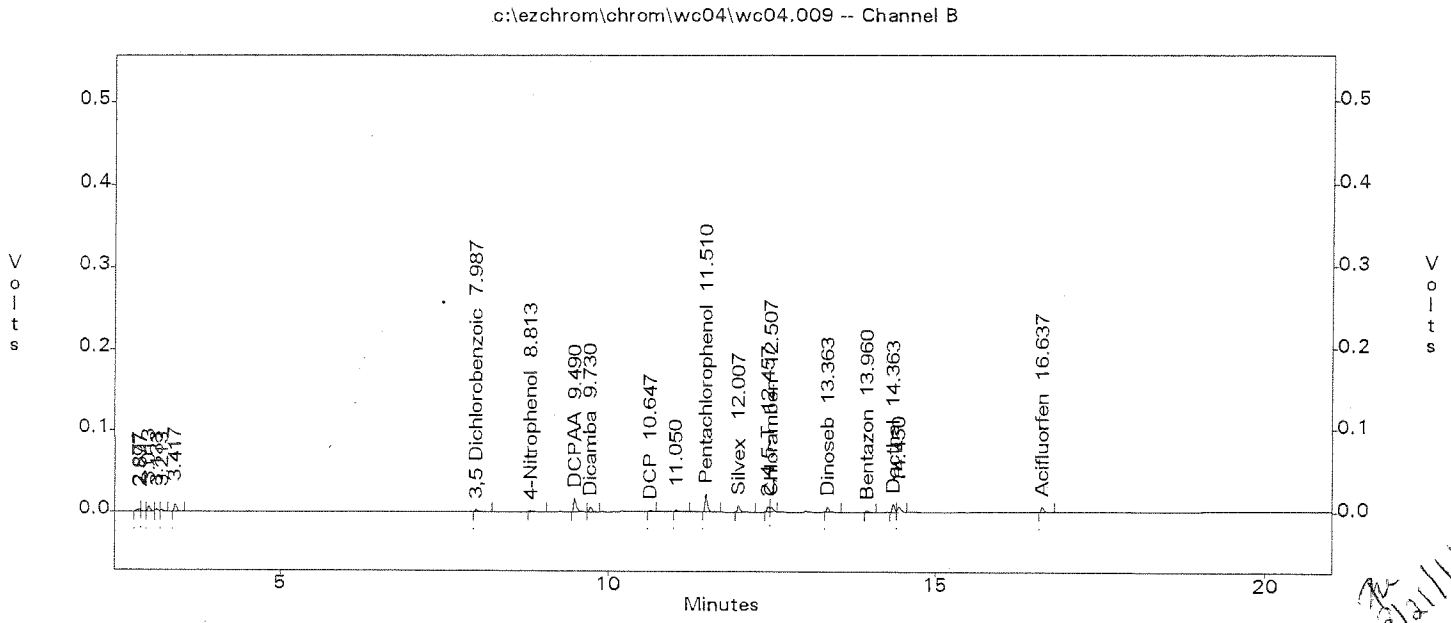
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C041
Acquired : Mar 04, 2016 15:35:17
Printed : Mar 09, 2016 11:53:23
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.833	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.987	8241.0	715.76	-1.000	BV
4-Nitrophenol	8.813	5414.0	449.15	-1.000	BV
DCPAA	9.490	47711.0	362.66	-1.000	BV
Dicamba	9.730	15747.0	1453.81	-1.000	VV
MCPP	9.883	0.0	0.00	0.000	--
MCPA	10.197	0.0	0.00	0.000	--
DCP	10.647	5640.0	524.78	-1.000	BV
2,4-D	11.027	0.0	0.00	0.000	--
Pentachlorophenol	11.510	53567.0	5377.45	9.496	BB
Silvex	12.007	21041.0	2195.19	-1.000	BV
2,4,5-T	12.457	16273.0	1811.11	-1.000	MM
Chloramben	12.507	16710.0	2217.34	-1.000	MM
2,4-DB	13.007	0.0	0.00	0.000	--
Dinoseb	13.363	16753.0	1572.22	-1.000	BB
Bentazon	13.960	5425.0	334.23	-1.000	BB
Dacthal	14.363	22766.0	2502.35	-1.000	BV
Picloram	14.423	0.0	0.00	0.000	--
Acifluorfen	16.637	18123.0	1790.42	-1.000	BV



9/21/16

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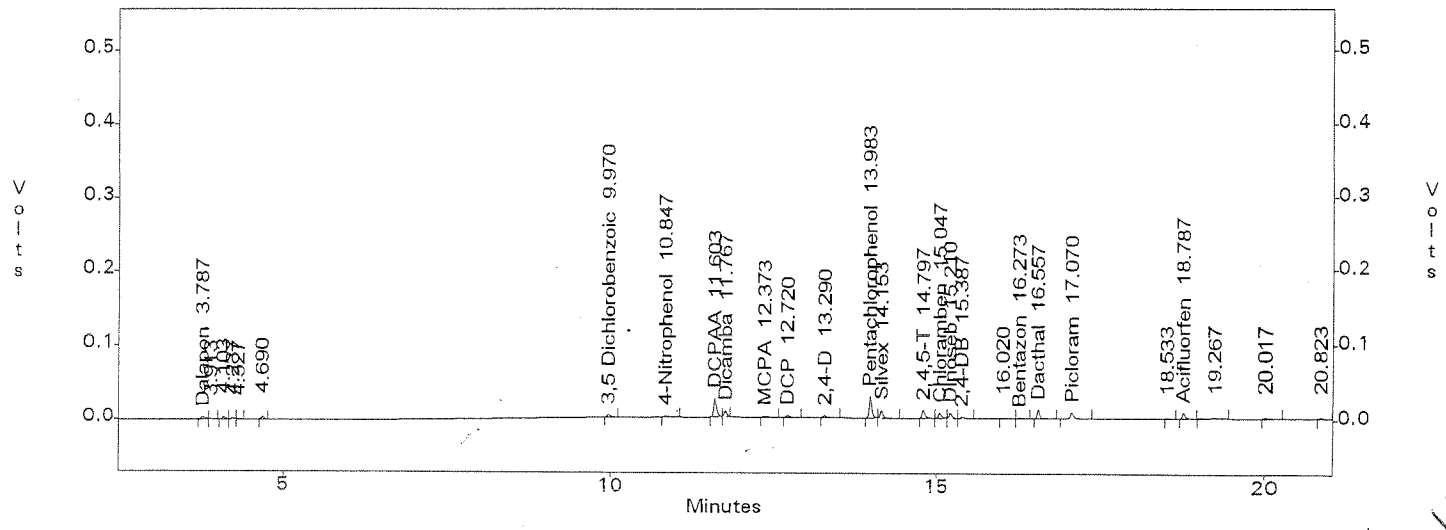
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C042
Acquired : Mar 04, 2016 15:07:41
Printed : Mar 09, 2016 11:53:29
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	11123.0	656.35	18.206	Bx
3,5 Dichlorobenzoic	9.970	12731.0	653.22	18.628	BV
4-Nitrophenol	10.847	6234.0	343.86	18.170	BB
DCPAA	11.603	79811.0	363.72	187.160	BV
Dicamba	11.767	23110.0	1295.75	18.804	Vx
MCPP	11.853	0.0	0.00	0.000	--
MCPA	12.373	7304.0	5.06	-1.000	BV
DCP	12.720	9429.0	486.34	18.870	BB
2,4-D	13.290	11290.0	575.75	18.804	BB
Pentachlorophenol	13.983	78834.0	4721.25	18.992	BV
Silvex	14.153	32097.0	1884.14	19.006	VB
2,4,5-T	14.797	34122.0	1955.79	18.954	BV
Chloramben	15.047	23814.0	1396.68	18.722	VV
Dinoseb	15.210	22528.0	1172.65	18.898	VV
2,4-DB	15.387	6535.0	323.63	18.932	VB
Bentazon	16.273	3880.0	210.68	18.898	VB
Dacthal	16.557	34725.0	2232.57	18.302	BB
Picloram	17.070	32889.0	2122.79	18.898	BB
Acifluorfen	18.787	23254.0	1242.47	19.254	vv

c:\ezchrom\chrom\wc04\wc04.008 -- Channel A



3-21-16

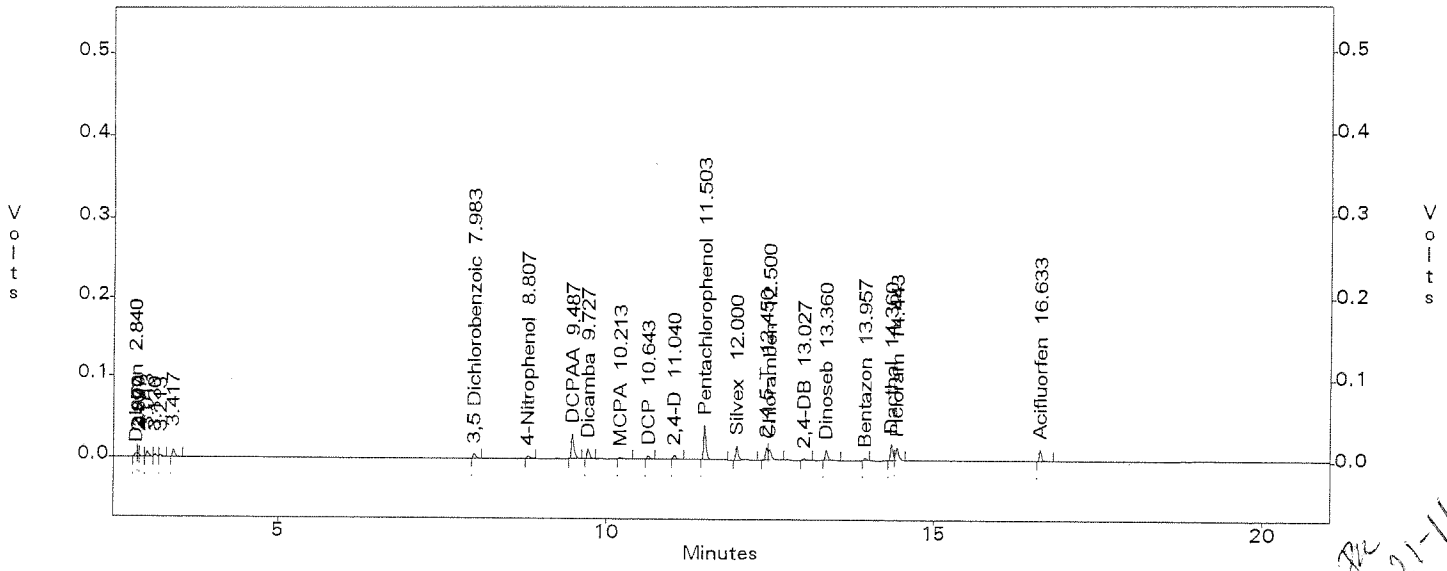
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C042
Acquired : Mar 04, 2016 15:07:41
Printed : Mar 09, 2016 11:53:29
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	9829.0	670.72	18.206	xx
3,5 Dichlorobenzoic	7.983	15256.0	715.76	18.628	BI
4-Nitrophenol	8.807	9556.0	449.15	18.170	BI
DCPAA	9.487	83502.0	362.66	187.160	BI
Dicamba	9.727	28930.0	1453.81	18.804	BI
MCPP	9.883	0.0	0.00	0.000	--
MCPA	10.213	7201.0	5.25	-1.000	BV
DCP	10.643	11042.0	524.78	18.870	BB
2,4-D	11.040	14155.0	655.43	18.804	BI
Pentachlorophenol	11.503	109949.0	5377.45	18.992	BB
Silvex	12.000	43092.0	2195.19	19.006	BB
2,4,5-T	12.450	34942.0	1811.11	18.954	MM
Chloramben	12.500	38099.0	2217.34	18.722	MM
2,4-DB	13.027	7114.0	358.09	18.932	SB
Dinoseb	13.360	32425.0	1572.22	18.898	BB
Bentazon	13.957	7986.0	334.23	18.898	BI
Dacthal	14.360	46910.0	2502.35	18.302	BV
Picloram	14.443	50425.0	2928.76	18.898	Vx
Acifluorfen	16.633	35398.0	1790.42	19.254	BV

c:\ezchrom\chrom\wc04\wc04.008 -- Channel B



RZ 3-21-16

884

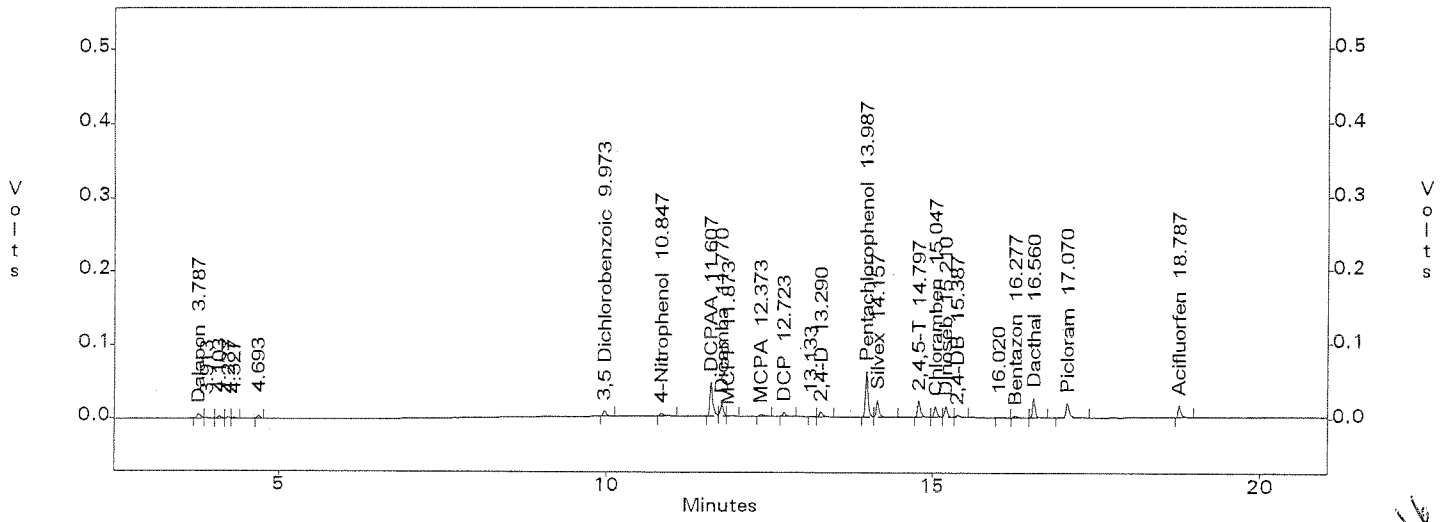
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C043
Acquired : Mar 04, 2016 14:39:59
Printed : Mar 09, 2016 11:53:34
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	24057.0	656.35	36.412	xx
3,5 Dichlorobenzoic	9.973	24437.0	653.22	37.256	BV
4-Nitrophenol	10.847	12481.0	343.86	36.340	BB
DCPAA	11.607	145968.0	363.72	374.320	BV
Dicamba	11.770	47469.0	1295.75	37.608	Vx
MCPP	11.873	4351.0	2.25	1876.600	xx
MCPA	12.373	11590.0	5.06	1869.200	BI
DCP	12.723	18123.0	486.34	37.740	BB
2,4-D	13.290	21972.0	575.75	37.608	VB
Pentachlorophenol	13.987	169667.0	4721.25	37.984	BV
Silvex	14.157	64972.0	1884.14	38.012	VB
2,4,5-T	14.797	67784.0	1955.79	37.908	BV
Chloramben	15.047	46089.0	1396.68	37.444	VV
Dinoseb	15.210	42788.0	1172.65	37.796	VV
2,4-DB	15.387	12082.0	323.63	37.864	VV
Bentazon	16.277	7613.0	210.68	37.796	VV
Dacthal	16.560	72015.0	2232.57	36.604	VB
Picloram	17.070	68397.0	2122.79	37.796	Bx
Acifluorfen	18.787	46051.0	1242.47	38.508	vv

c:\ezchrom\chrom\wc04\wc04.007 -- Channel A



RZ 3-21-16

885

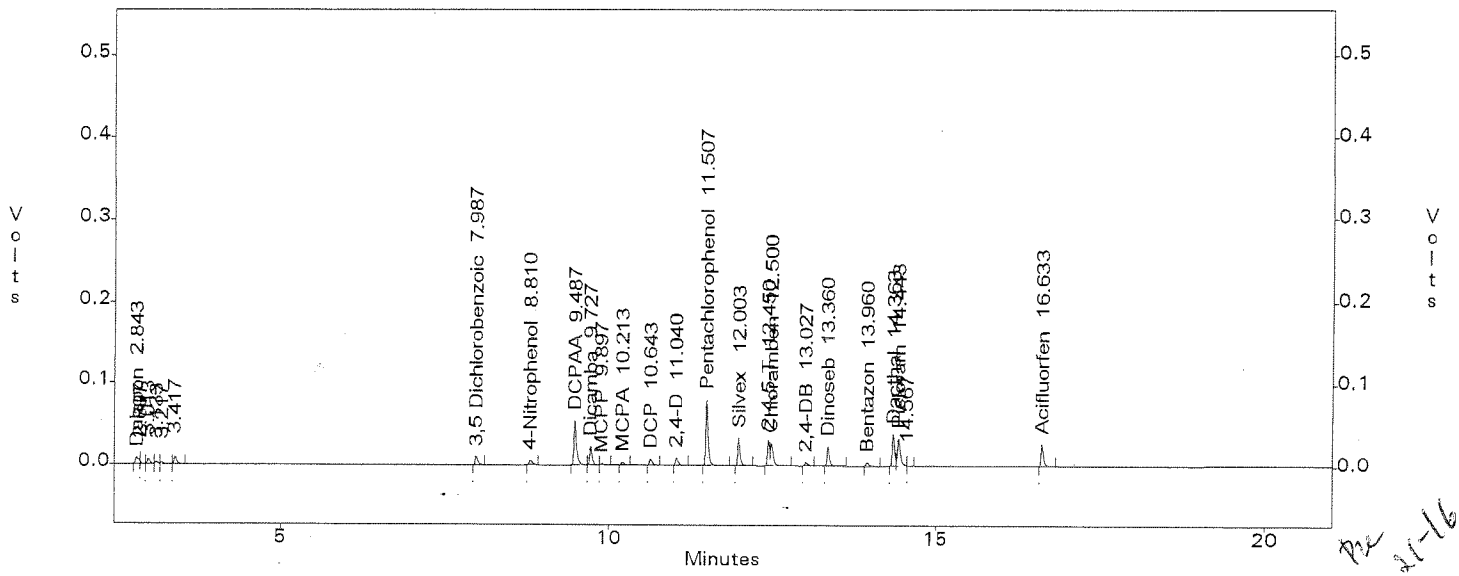
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C043
Acquired : Mar 04, 2016 14:39:59
Printed : Mar 09, 2016 11:53:34
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.843	26790.0	670.72	36.412	xx
3,5 Dichlorobenzoic	7.987	28277.0	715.76	37.256	BI
4-Nitrophenol	8.810	17319.0	449.15	36.340	BI
DCPAA	9.487	147810.0	362.66	374.320	BV
Dicamba	9.727	56521.0	1453.81	37.608	VV
MCPP	9.897	5017.0	2.68	1876.600	VV
MCPA	10.213	11642.0	5.25	1869.200	BI
DCP	10.643	20947.0	524.78	37.740	BB
2,4-D	11.040	26225.0	655.43	37.608	BB
Pentachlorophenol	11.507	209534.0	5377.45	37.984	BB
Silvex	12.003	83930.0	2195.19	38.012	BB
2,4,5-T	12.450	68877.0	1811.11	37.908	BS
Chloramben	12.500	83225.0	2217.34	37.444	SB
2,4-DB	13.027	13050.0	358.09	37.864	BB
Dinoseb	13.360	61303.0	1572.22	37.796	BB
Bentazon	13.960	13403.0	334.23	37.796	BB
Dacthal	14.363	91692.0	2502.35	36.604	BV
Picloram	14.443	104165.0	2928.76	37.796	Vx
Acifluorfen	16.633	68349.0	1790.42	38.508	BV

c:\ezchrom\chrom\wc04\wc04.007 -- Channel B



PZ 3-21-16

886

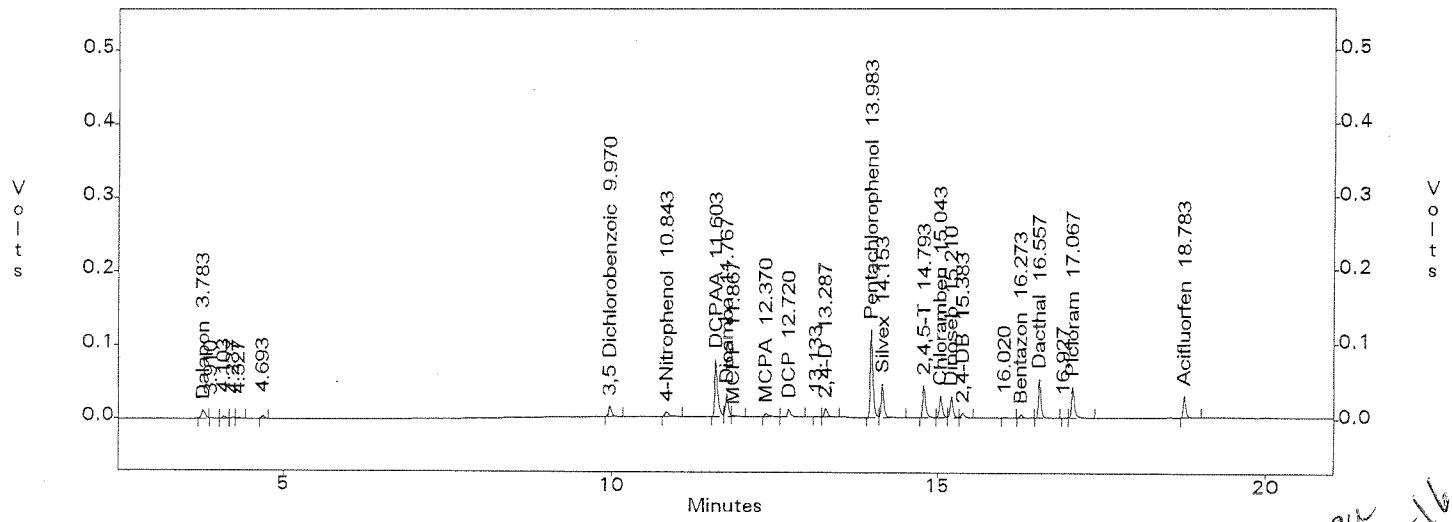
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C044
Acquired : Mar 04, 2016 14:12:21
Printed : Mar 09, 2016 11:53:39
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	43622.0	656.35	63.721	xx
3,5 Dichlorobenzoic	9.970	43989.0	653.22	65.198	BV
4-Nitrophenol	10.843	22529.0	343.86	63.595	BB
DCPAA	11.603	246836.0	363.72	655.060	BV
Dicamba	11.767	87484.0	1295.75	65.814	Vx
MCPP	11.867	7641.0	2.25	3284.050	xx
MCPA	12.370	17935.0	5.06	3271.100	BV
DCP	12.720	33244.0	486.34	66.045	VB
2,4-D	13.287	39054.0	575.75	65.814	VB
Pentachlorophenol	13.983	332435.0	4721.25	66.472	BV
Silvex	14.153	126094.0	1884.14	66.521	VV
2,4,5-T	14.793	130094.0	1955.79	66.339	BV
Chloramben	15.043	89484.0	1396.68	65.527	VV
Dinoseb	15.210	77797.0	1172.65	66.143	VV
2,4-DB	15.383	21647.0	323.63	66.262	VV
Bentazon	16.273	14003.0	210.68	66.143	VV
Dacthal	16.557	143059.0	2232.57	64.057	VV
Picloram	17.067	136610.0	2122.79	66.143	Vx
Acifluorfen	18.783	84431.0	1242.47	67.389	vv

c:\ezchrom\chrom\wc04\wc04.006 -- Channel A



3-21-16

887

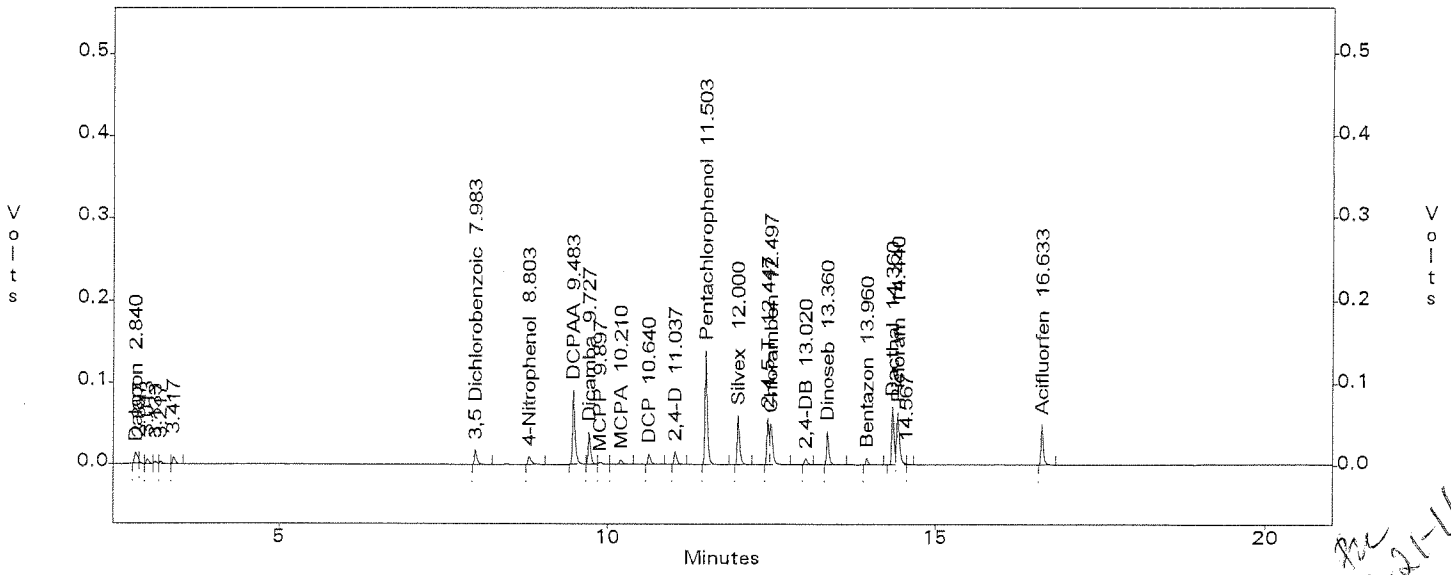
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C044
Acquired : Mar 04, 2016 14:12:21
Printed : Mar 09, 2016 11:53:40
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	44014.0	670.72	63.721	xx
3,5 Dichlorobenzoic	7.983	48740.0	715.76	65.198	BB
4-Nitrophenol	8.803	30926.0	449.15	63.595	BV
DCPAA	9.483	244182.0	362.66	655.060	BV
Dicamba	9.727	99247.0	1453.81	65.814	VV
MCPP	9.897	9385.0	2.68	3284.050	VV
MCPA	10.210	19614.0	5.25	3271.100	VV
DCP	10.640	36780.0	524.78	66.045	BB
2,4-D	11.037	44763.0	655.43	65.814	BB
Pentachlorophenol	11.503	367020.0	5377.45	66.472	BB
Silvex	12.000	151380.0	2195.19	66.521	BB
2,4,5-T	12.447	125752.0	1811.11	66.339	BS
Chloramben	12.497	151963.0	2217.34	65.527	SV
2,4-DB	13.020	22847.0	358.09	66.262	BB
Dinoseb	13.360	106346.0	1572.22	66.143	BB
Bentazon	13.960	22741.0	334.23	66.143	BV
Dacthal	14.360	167833.0	2502.35	64.057	xV
Picloram	14.440	199532.0	2928.76	66.143	Vx
Acifluorfen	16.633	123140.0	1790.42	67.389	BV

c:\ezchrom\chrom\wc04\wc04.006 -- Channel B



RZ 3-21-16

888

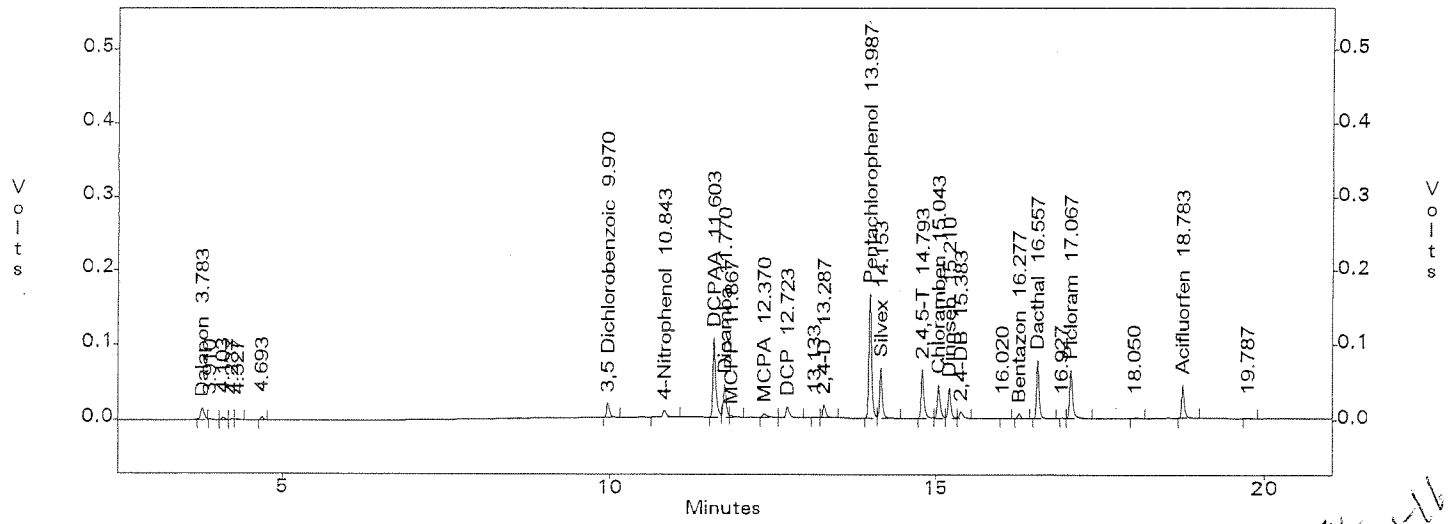
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.005
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C045
Acquired : Mar 04, 2016 13:44:39
Printed : Mar 09, 2016 11:53:46
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	61270.0	656.35	91.030	xx
3,5 Dichlorobenzoic	9.970	61131.0	653.22	93.140	BV
4-Nitrophenol	10.843	31655.0	343.86	90.850	VB
DCPAA	11.603	333693.0	363.72	935.800	BV
Dicamba	11.770	124191.0	1295.75	94.020	Vx
MCPP	11.867	10529.0	2.25	4691.500	xx
MCPA	12.370	24407.0	5.06	4673.000	BV
DCP	12.723	46960.0	486.34	94.350	VB
2,4-D	13.287	54654.0	575.75	94.020	VB
Pentachlorophenol	13.987	483708.0	4721.25	94.960	BV
Silvex	14.153	184545.0	1884.14	95.030	VB
2,4,5-T	14.793	193597.0	1955.79	94.770	BV
Chloramben	15.043	134633.0	1396.68	93.610	VV
Dinoseb	15.210	112501.0	1172.65	94.490	VV
2,4-DB	15.383	30695.0	323.63	94.660	VV
Bentazon	16.277	20000.0	210.68	94.490	VV
Dacthal	16.557	211912.0	2232.57	91.510	VV
Picloram	17.067	207749.0	2122.79	94.490	VB
Acifluorfen	18.783	123079.0	1242.47	96.270	vv

c:\ezchrom\chrom\wc04\wc04.005 -- Channel A



3-21-16

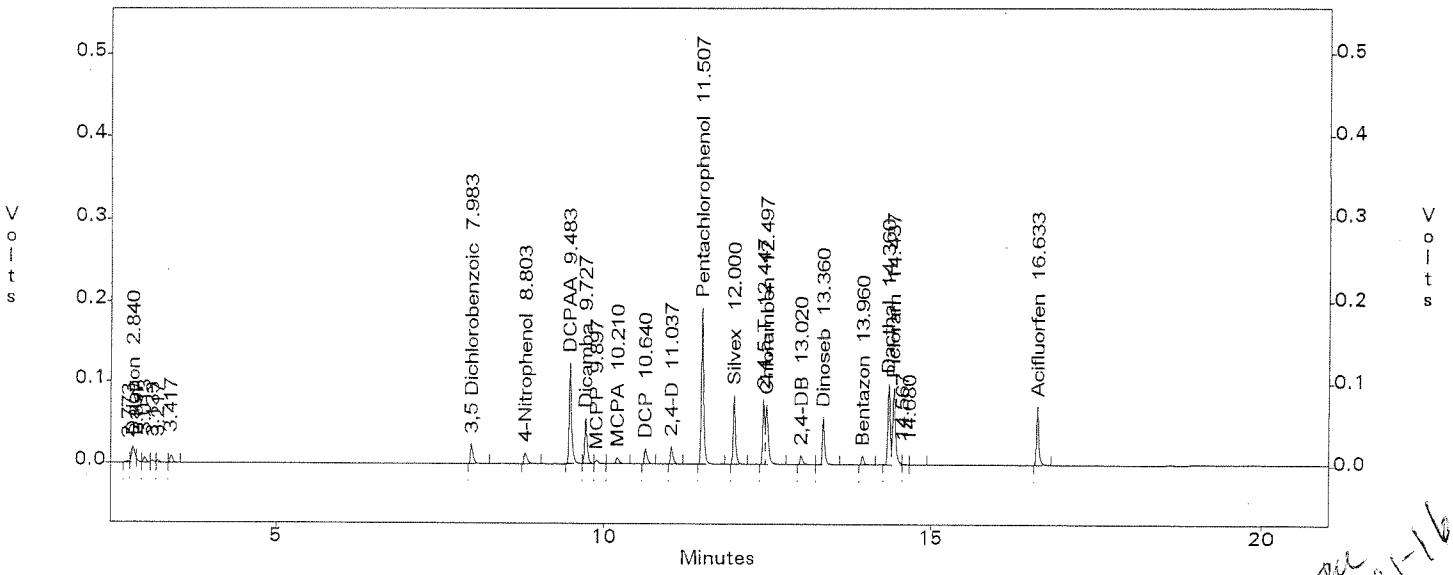
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.005
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C045
Acquired : Mar 04, 2016 13:44:39
Printed : Mar 09, 2016 11:53:46
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	64887.0	670.72	91.030	xx
3,5 Dichlorobenzoic	7.983	65890.0	715.76	93.140	BB
4-Nitrophenol	8.803	40801.0	449.15	90.850	BV
DCPAA	9.483	327337.0	362.66	935.800	BV
Dicamba	9.727	136796.0	1453.81	94.020	VV
MCPP	9.897	12962.0	2.68	4691.500	VV
MCPA	10.210	25240.0	5.25	4673.000	VV
DCP	10.640	48896.0	524.78	94.350	BB
2,4-D	11.037	60900.0	655.43	94.020	BB
Pentachlorophenol	11.507	506244.0	5377.45	94.960	BB
Silvex	12.000	211139.0	2195.19	95.030	BB
2,4,5-T	12.447	175688.0	1811.11	94.770	BS
Chloramben	12.497	213696.0	2217.34	93.610	SV
2,4-DB	13.020	35359.0	358.09	94.660	BV
Dinoseb	13.360	149294.0	1572.22	94.490	VB
Bentazon	13.960	28919.0	334.23	94.490	BB
Dacthal	14.360	232905.0	2502.35	91.510	xV
Picloram	14.437	287113.0	2928.76	94.490	Vx
Acifluorfen	16.633	175712.0	1790.42	96.270	BV

c:\ezchrom\chrom\wc04\wc04.005 -- Channel B



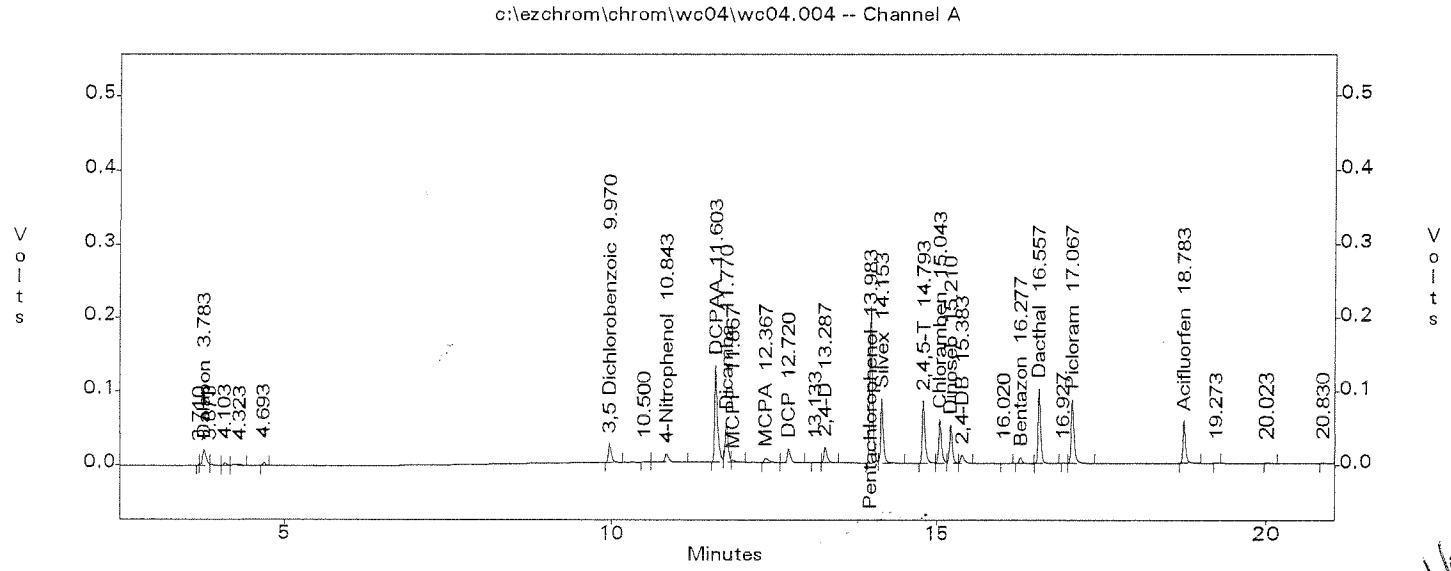
Rec 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C046
Acquired : Mar 04, 2016 13:17:03
Printed : Mar 09, 2016 11:53:51
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	78504.0	656.35	118.339	xx
3,5 Dichlorobenzoic	9.970	77900.0	653.22	121.082	BV
4-Nitrophenol	10.843	40703.0	343.86	118.105	VB
DCPAA	11.603	416535.0	363.72	1216.540	BV
Dicamba	11.770	160559.0	1295.75	122.226	Vx
MCPP	11.867	13298.0	2.25	6098.950	xx
MCPA	12.367	28805.0	5.06	6074.900	VV
DCP	12.720	58907.0	486.34	122.655	VV
2,4-D	13.287	69392.0	575.75	122.226	VB
Pentachlorophenol	13.983	629848.0	4721.25	123.448	BV
Silvex	14.153	243197.0	1884.14	123.539	VV
2,4,5-T	14.793	250010.0	1955.79	123.201	BV
Chloramben	15.043	178401.0	1396.68	121.693	VV
Dinoseb	15.210	144679.0	1172.65	122.837	VV
2,4-DB	15.383	39303.0	323.63	123.058	VV
Bentazon	16.277	26199.0	210.68	122.837	VV
Dacthal	16.557	281997.0	2232.57	118.963	VV
Picloram	17.067	282088.0	2122.79	122.837	Vx
Acifluorfen	18.783	157998.0	1242.47	125.151	vv



RC 3-21-16

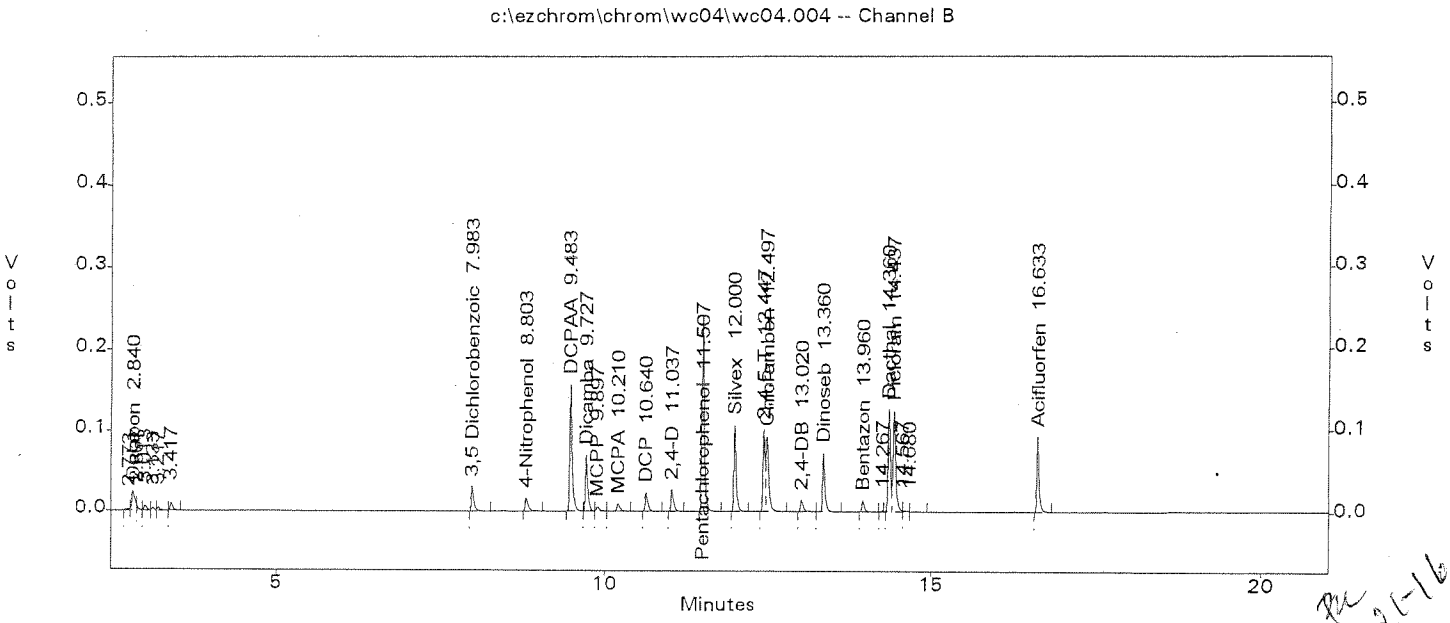
891

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C046
Acquired : Mar 04, 2016 13:17:03
Printed : Mar 09, 2016 11:53:51
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	81692.0	670.72	118.339	xx
3,5 Dichlorobenzoic	7.983	82007.0	715.76	121.082	BB
4-Nitrophenol	8.803	49734.0	449.15	118.105	BV
DCPAA	9.483	406688.0	362.66	1216.540	BV
Dicamba	9.727	173205.0	1453.81	122.226	VV
MCPP	9.897	16282.0	2.68	6098.950	VV
MCPA	10.210	30350.0	5.25	6074.900	VV
DCP	10.640	61649.0	524.78	122.655	BB
2,4-D	11.037	76018.0	655.43	122.226	BB
Pentachlorophenol	11.507	637557.0	5377.45	123.448	BB
Silvex	12.000	267842.0	2195.19	123.539	BB
2,4,5-T	12.447	224132.0	1811.11	123.201	BS
Chloramben	12.497	270740.0	2217.34	121.693	SV
2,4-DB	13.020	44685.0	358.09	123.058	BV
Dinoseb	13.360	188039.0	1572.22	122.837	VB
Bentazon	13.960	37487.0	334.23	122.837	BV
Dacthal	14.360	296056.0	2502.35	118.963	VV
Picloram	14.437	370737.0	2928.76	122.837	Vx
Acifluorfen	16.633	223758.0	1790.42	125.151	BV



PM 3-21-16

892

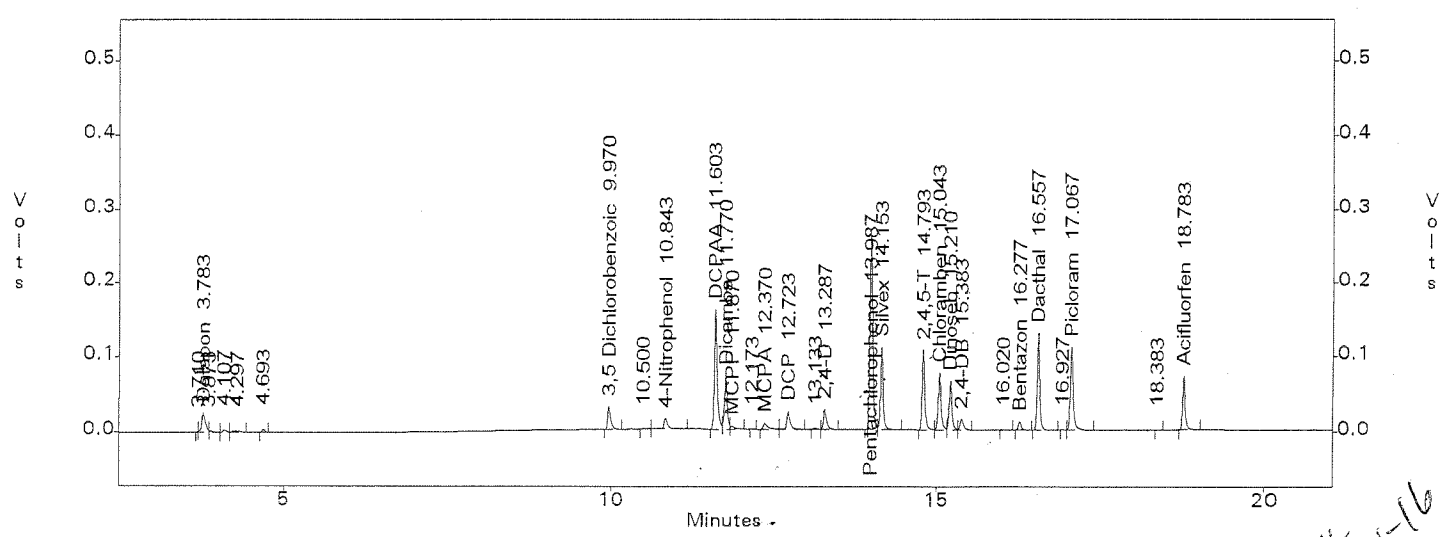
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C047
Acquired : Mar 04, 2016 12:49:26
Printed : Mar 09, 2016 11:53:56
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	97128.0	656.35	145.648	xx
3,5 Dichlorobenzoic	9.970	96167.0	653.22	149.024	BV
4-Nitrophenol	10.843	50540.0	343.86	145.360	VB
DCPAA	11.603	504520.0	363.72	1497.280	BV
Dicamba	11.770	200359.0	1295.75	150.432	Vx
MCPP	11.870	16814.0	2.25	7506.400	xx
MCPA	12.370	34516.0	5.06	7476.800	VV
DCP	12.723	73776.0	486.34	150.960	VV
2,4-D	13.287	84916.0	575.75	150.432	VB
Pentachlorophenol	13.987	788403.0	4721.25	151.936	BV
Silvex	14.153	307109.0	1884.14	152.048	VB
2,4,5-T	14.793	313780.0	1955.79	151.632	BV
Chloramben	15.043	227245.0	1396.68	149.776	VV
Dinoseb	15.210	180106.0	1172.65	151.184	VV
2,4-DB	15.383	48269.0	323.63	151.456	VV
Bentazon	16.277	33049.0	210.68	151.184	VV
Dacthal	16.557	359117.0	2232.57	146.416	VV
Picloram	17.067	362156.0	2122.79	151.184	Vx
Acifluorfen	18.783	195829.0	1242.47	154.032	vv

c:\ezchrom\chrom\wc04\wc04.003 -- Channel A



RZ 3-21-16

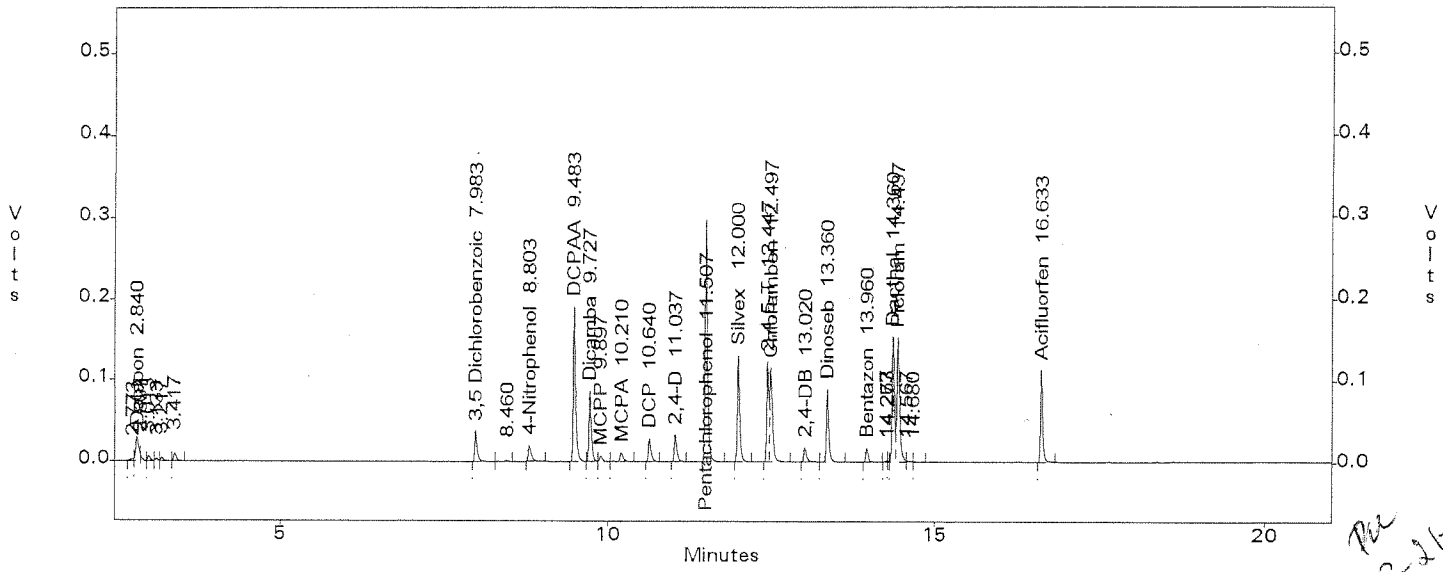
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C047
Acquired : Mar 04, 2016 12:49:26
Printed : Mar 09, 2016 11:53:57
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	99220.0	670.72	145.648	xx
3,5 Dichlorobenzoic	7.983	99914.0	715.76	149.024	BV
4-Nitrophenol	8.803	59293.0	449.15	145.360	BV
DCPAA	9.483	493814.0	362.66	1497.280	BV
Dicamba	9.727	212308.0	1453.81	150.432	VV
MCPP	9.897	19773.0	2.68	7506.400	VV
MCPA	10.210	35655.0	5.25	7476.800	VV
DCP	10.640	73901.0	524.78	150.960	BB
2,4-D	11.037	92088.0	655.43	150.432	BB
Pentachlorophenol	11.507	783055.0	5377.45	151.936	BB
Silvex	12.000	329400.0	2195.19	152.048	BB
2,4,5-T	12.447	273739.0	1811.11	151.632	BS
Chloramben	12.497	335633.0	2217.34	149.776	SV
2,4-DB	13.020	54654.0	358.09	151.456	BV
Dinoseb	13.360	228712.0	1572.22	151.184	VB
Bentazon	13.960	46049.0	334.23	151.184	BV
Dacthal	14.360	361939.0	2502.35	146.416	VV
Picloram	14.437	461212.0	2928.76	151.184	Vx
Acifluorfen	16.633	274075.0	1790.42	154.032	BV

c:\ezchrom\chrom\wc04\wc04.003 -- Channel B



TRC 3-21-16

894

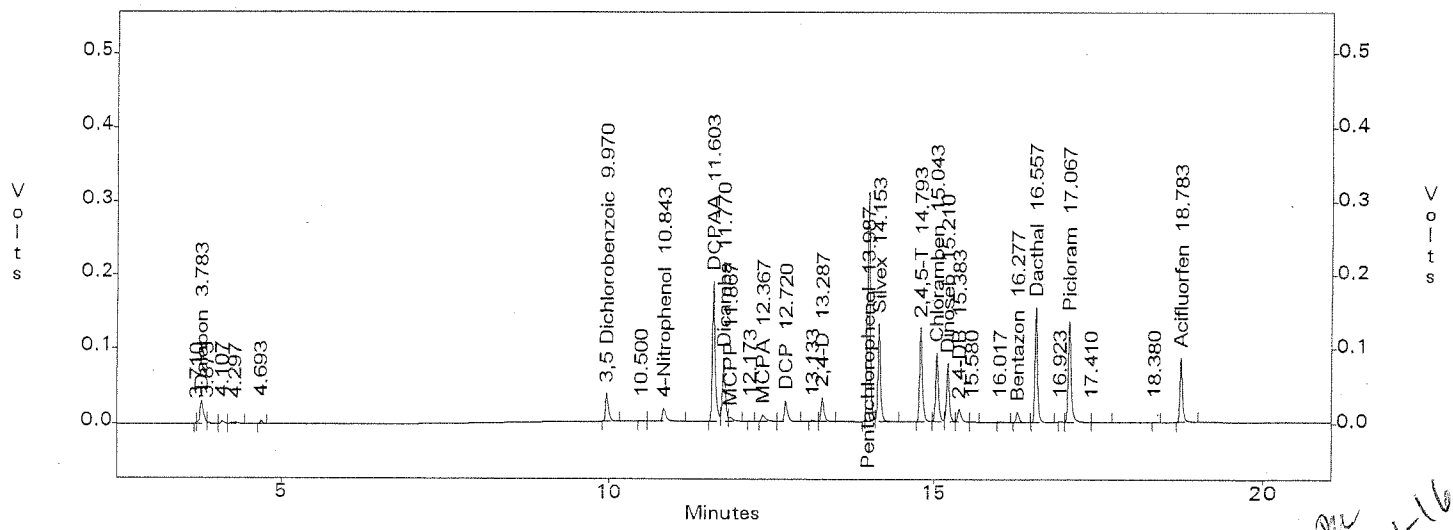
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C048
Acquired : Mar 04, 2016 12:21:51
Printed : Mar 09, 2016 11:54:04
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	115585.0	656.35	182.060	xx
3,5 Dichlorobenzoic	9.970	114280.0	653.22	186.280	BV
4-Nitrophenol	10.843	59138.0	343.86	181.700	VB
DCPAA	11.603	593101.0	363.72	1871.600	BV
Dicamba	11.770	241331.0	1295.75	188.040	Vx
MCPP	11.867	20452.0	2.25	9383.000	xx
MCPA	12.367	38464.0	5.06	9346.000	VV
DCP	12.720	85758.0	486.34	188.700	VV
2,4-D	13.287	101298.0	575.75	188.040	VB
Pentachlorophenol	13.987	948799.0	4721.25	189.920	BV
Silvex	14.153	373477.0	1884.14	190.060	VB
2,4,5-T	14.793	379018.0	1955.79	189.540	BV
Chloramben	15.043	278367.0	1396.68	187.220	VV
Dinoseb	15.210	217038.0	1172.65	188.980	VV
2,4-DB	15.383	59085.0	323.63	189.320	VV
Bentazon	16.277	40212.0	210.68	188.980	VV
Dacthal	16.557	437608.0	2232.57	183.020	VV
Picloram	17.067	444787.0	2122.79	188.980	Vx
Acifluorfen	18.783	236534.0	1242.47	192.540	vv

c:\ezchrom\chrom\wc04\wc04.002 -- Channel A



RZ 3-21-16

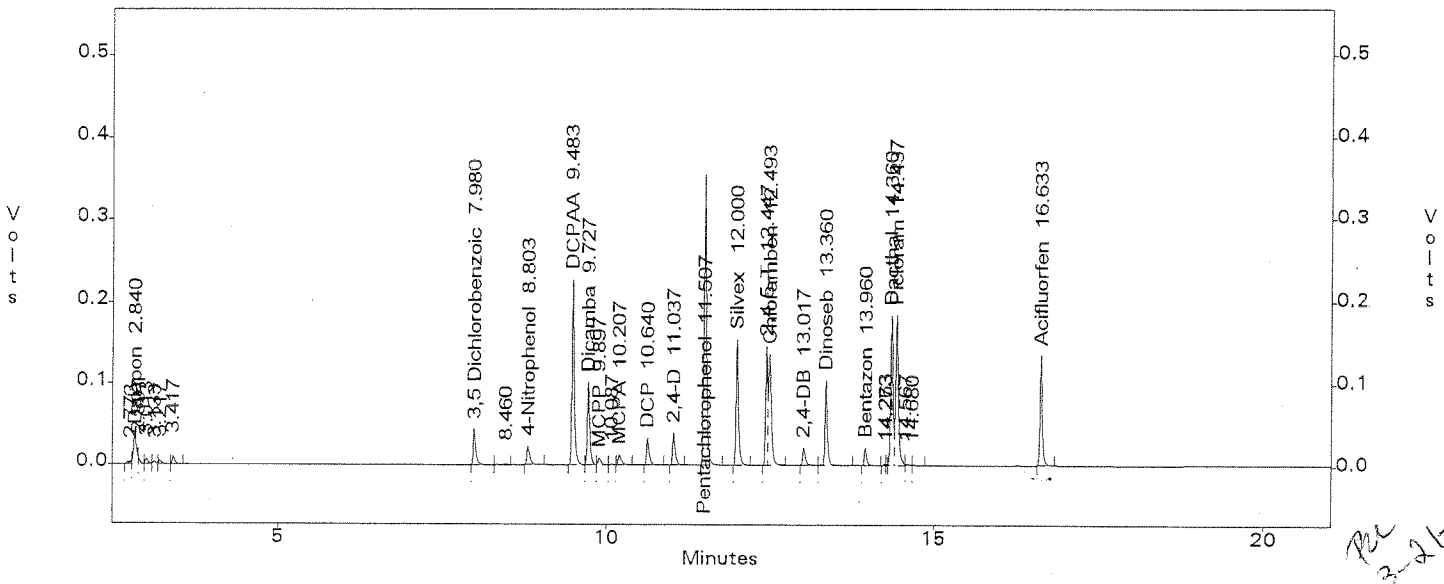
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C048
Acquired : Mar 04, 2016 12:21:51
Printed : Mar 09, 2016 11:54:04
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	117312.0	670.72	182.060	xx
3,5 Dichlorobenzoic	7.980	117278.0	715.76	186.280	BV
4-Nitrophenol	8.803	68528.0	449.15	181.700	BV
DCPAA	9.483	581878.0	362.66	1871.600	BV
Dicamba	9.727	252710.0	1453.81	188.040	VV
MCPP	9.897	23336.0	2.68	9383.000	VV
MCPA	10.207	38442.0	5.25	9346.000	VV
DCP	10.640	87934.0	524.78	188.700	BV
2,4-D	11.037	108305.0	655.43	188.040	VB
Pentachlorophenol	11.507	930984.0	5377.45	189.920	BB
Silvex	12.000	391342.0	2195.19	190.060	BB
2,4,5-T	12.447	311481.0	1811.11	189.540	BS
Chloramben	12.493	411156.0	2217.34	187.220	SB
2,4-DB	13.017	65110.0	358.09	189.320	BV
Dinoseb	13.360	271452.0	1572.22	188.980	VB
Bentazon	13.960	57213.0	334.23	188.980	BV
Dacthal	14.360	425074.0	2502.35	183.020	VV
Picloram	14.437	558063.0	2928.76	188.980	Vx
Acifluorfen	16.633	327274.0	1790.42	192.540	BV

c:\ezchrom\chrom\wc04\wc04.002 -- Channel B



RZ 3-21-16

896

SECOND SOURCE VERIFICATION

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04010A 03/04/2016 16:02
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.783	3.756	3.810	91.0	656.300	57517	87.63	-4		15
3,5-Dichlorobenzo	9.970	9.932	10.008	93.1	653.200	54361	83.22	-11		15
4-Nitrophenol	10.843	10.805	10.881	90.8	343.900	32177	93.58	3		15
Dicamba	11.770	11.731	11.809	94.0	1295.8	121789	93.99	-0		15
Dichloroprop	12.720	12.682	12.758	94.3	486.300	48291	99.29	5		15
2,4-D	13.287	13.242	13.332	94.0	575.800	53803	93.45	-1		15
Pentachlorophenol	13.987	13.942	14.032	95.0	4721.3	486111	102.96	8		15
2,4,5-TP(Silvex)	14.153	14.110	14.196	95.0	1884.1	184874	98.12	3		15
Chloramben	15.043	15.000	15.086	93.6	1396.7	135729	97.18	4		15
2,4,5-T	14.793	14.750	14.836	94.8	1955.8	194353	99.37	5		15
2,4-DB	15.383	15.345	15.421	94.7	323.600	29579	91.40	-3		15
Dinoseb	15.210	15.166	15.254	94.5	1172.7	109978	93.79	-1		15
Bentazon	16.277	16.229	16.325	94.5	210.700	20499	97.30	3		15
Dacthal	16.557	16.512	16.602	91.5	2232.6	219543	98.34	7		15
Picloram	17.067	17.019	17.115	94.5	2122.8	207812	97.90	4		15
Acifluorfen	18.787	18.746	18.828	96.3	1242.5	116558	93.81	-3		15

RL 3-21-16

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04010B 03/04/2016 16:02
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.840	2.822	2.858	91.0	670.700	57275	85.39	-6		15
3,5-Dichlorobenzo	7.983	7.948	8.018	93.1	715.800	58182	81.29	-13		15
4-Nitrophenol	8.803	8.768	8.838	90.8	449.200	41631	92.69	2		15
Dicamba	9.727	9.688	9.766	94.0	1453.8	138855	95.51	2		15
Dichloroprop	10.640	10.602	10.678	94.3	524.800	50704	96.62	2		15
2,4-D	11.037	11.002	11.072	94.0	655.400	57810	88.20	-6		15
Pentachlorophenol	11.507	11.468	11.546	95.0	5377.4	501504	93.26	-2		15
2,4,5-TP(Silvex)	11.997	11.959	12.035	95.0	2195.2	210442	95.86	1		15
Chloramben	12.497	12.458	12.536	93.6	2217.3	220164	99.29	6		15
2,4,5-T	12.447	12.408	12.486	94.8	1811.1	173613	95.86	1		15
2,4-DB	13.020	12.982	13.058	94.7	358.100	33731	94.20	-0		15
Dinoseb	13.357	13.324	13.390	94.5	1572.2	149695	95.21	1		15
Bentazon	13.957	13.914	14.000	94.5	334.200	31670	94.76	0		15
Dacthal	14.360	14.320	14.400	91.5	2502.4	240374	96.06	5		15
Picloram	14.437	14.398	14.476	94.5	2928.8	284201	97.04	3		15
Acifluorfen	16.633	16.595	16.671	96.3	1790.4	168423	94.07	-2		15

Pu 3-21-16

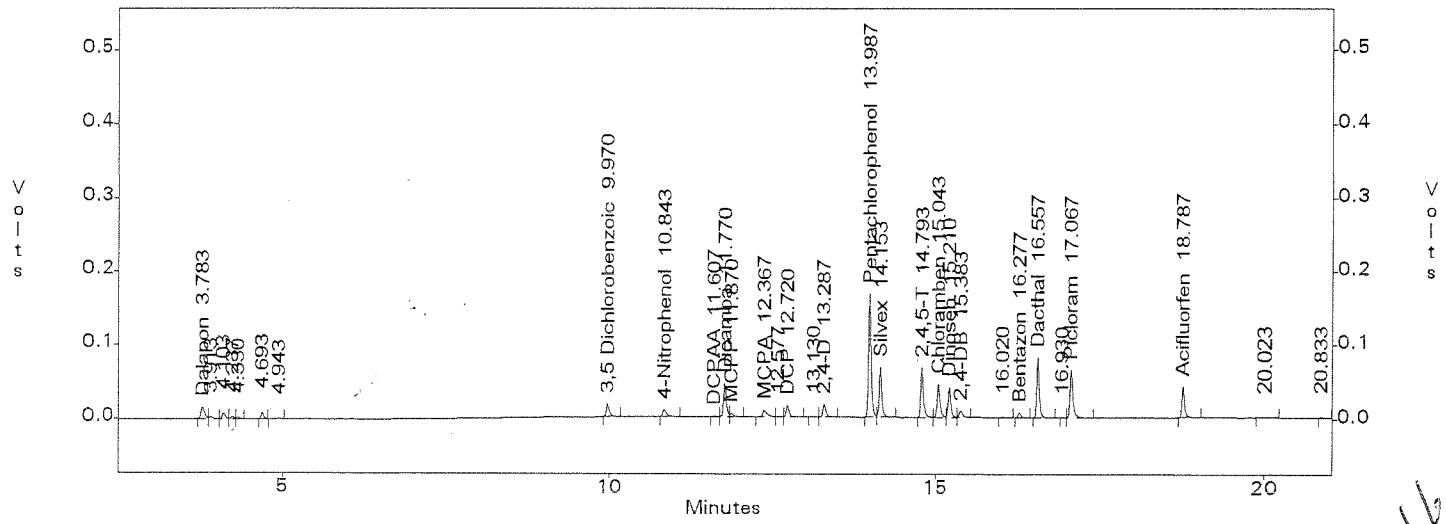
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.010
Method : c:\ezchrom\methods\he16c04.met
Sample ID : IHE16C04001
Acquired : Mar 04, 2016 16:02:57
Printed : Mar 09, 2016 11:56:26
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	57517.0	656.35	87.632	xx
3,5 Dichlorobenzoic	9.970	54361.0	653.22	83.220	BV
4-Nitrophenol	10.843	32177.0	343.86	93.576	BB
DCPAA	11.607	2780.0	363.72	7.643	BV
Dicamba	11.770	121789.0	1295.75	93.991	VV
MCPP	11.870	17819.0	2.25	7925.694	xx
MCPA	12.367	38733.0	5.06	7649.710	xV
DCP	12.720	48291.0	486.34	99.294	VV
2,4-D	13.287	53803.0	575.75	93.448	xB
Pentachlorophenol	13.987	486111.0	4721.25	102.962	BV
Silvex	14.153	184874.0	1884.14	98.121	VB
2,4,5-T	14.793	194353.0	1955.79	99.373	BV
Chloramben	15.043	135729.0	1396.68	97.180	VV
Dinoseb	15.210	109978.0	1172.65	93.786	VV
2,4-DB	15.383	29579.0	323.63	91.398	VV
Bentazon	16.277	20499.0	210.68	97.298	VV
Dacthal	16.557	219543.0	2232.57	98.336	VV
Picloram	17.067	207812.0	2122.79	97.896	Vx
Acifluorfen	18.787	116558.0	1242.47	93.811	vv

c:\ezchrom\chrom\wc04\wc04.010 -- Channel A



RZ 3-21-16

900

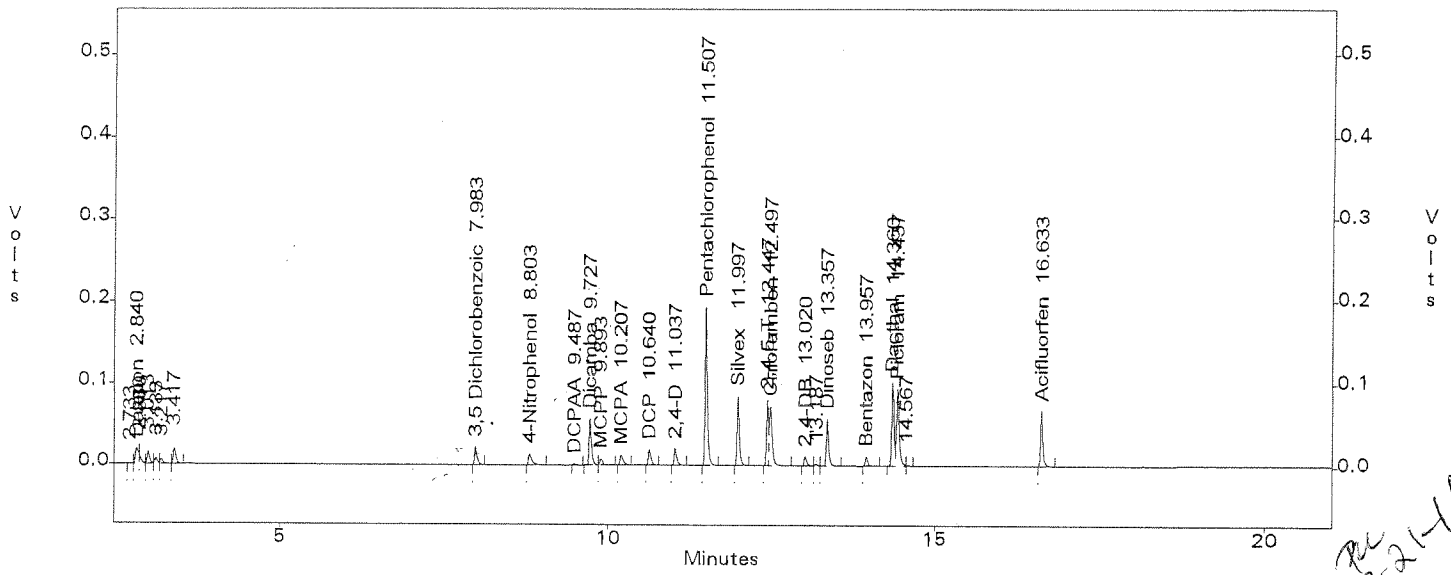
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.010
Method : c:\ezchrom\methods\he16c04.met
Sample ID : IHE16C04001
Acquired : Mar 04, 2016 16:02:57
Printed : Mar 09, 2016 11:56:26
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	57275.0	670.72	85.393	xx
3,5 Dichlorobenzoic	7.983	58182.0	715.76	81.287	BV
4-Nitrophenol	8.803	41631.0	449.15	92.688	BV
DCPAA	9.487	4345.0	362.66	11.981	BV
Dicamba	9.727	138855.0	1453.81	95.511	VV
MCPP	9.893	22989.0	2.68	8575.363	VB
MCPA	10.207	38753.0	5.25	7380.670	BB
DCP	10.640	50704.0	524.78	96.619	BB
2,4-D	11.037	57810.0	655.43	88.201	BB
Pentachlorophenol	11.507	501504.0	5377.45	93.261	BV
Silvex	11.997	210442.0	2195.19	95.865	BV
2,4,5-T	12.447	173613.0	1811.11	95.860	BS
Chloramben	12.497	220164.0	2217.34	99.292	SB
2,4-DB	13.020	33731.0	358.09	94.196	BV
Dinoseb	13.357	149695.0	1572.22	95.212	VV
Bentazon	13.957	31670.0	334.23	94.756	BV
Dacthal	14.360	240374.0	2502.35	96.059	xV
Picloram	14.437	284201.0	2928.76	97.038	Vx
Acifluorfen	16.633	168423.0	1790.42	94.069	BV

c:\ezchrom\chrom\wc04\wc04.010 -- Channel B



RC 3-21-16

DAILY CALIBRATIONS

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE19002A 05/19/2016 11:33
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.733	3.706	3.760	91.0	656.300	61516	93.72	3		20
3,5-Dichlorobenzo	9.897	9.859	9.935	93.1	653.200	56486	86.47	-7		20
4-Nitrophenol	10.767	10.729	10.805	90.8	343.900	29127	84.71	-7		20
Dicamba	11.690	11.651	11.729	94.0	1295.8	119471	92.20	-2		20
MCPP	11.790	11.751	11.829	4693.0	2.250	11080	4928.26	5		20
MCPA	12.290	12.251	12.329	4673.0	5.060	21759	4297.37	-8		20
Dichloroprop	12.643	12.605	12.681	94.3	486.300	43407	89.25	-5		20
2,4-D	13.207	13.162	13.252	94.0	575.800	53423	92.79	-1		20
Pentachlorophenol	13.897	13.852	13.942	95.0	4721.3	470410	99.64	5		20
2,4,5-TP(Silvex)	14.070	14.027	14.113	95.0	1884.1	179667	95.36	0		20
Chloramben	14.957	14.914	15.000	93.6	1396.7	127183	91.06	-3		20
2,4,5-T	14.710	14.667	14.753	94.8	1955.8	183671	93.91	-1		20
2,4-DB	15.300	15.262	15.338	94.7	323.600	30236	93.43	-1		20
Dinoseb	15.123	15.079	15.167	94.5	1172.7	99020	84.44	-11		20
Bentazon	16.190	16.142	16.238	94.5	210.700	21117	100.23	6		20
Dacthal	16.470	16.425	16.515	91.5	2232.6	207162	92.79	1		20
Picloram	16.977	16.929	17.025	94.5	2122.8	196831	92.72	-2		20
Acifluorfen	18.693	18.652	18.734	96.3	1242.5	108751	87.53	-9		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.527	11.484	11.570	935.8	363.700	319448	878.28	-6		20

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE19002B 05/19/2016 11:33
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.787	2.769	2.805	91.0	670.700	65817	98.13	8		20
3,5-Dichlorobenzo	7.880	7.845	7.915	93.1	715.800	71769	100.27	8		20
4-Nitrophenol	8.697	8.662	8.732	90.8	449.200	42288	94.15	4		20
Dicamba	9.613	9.574	9.652	94.0	1453.8	147950	101.77	8		20
MCPP	9.787	9.748	9.826	4693.0	2.680	14062	5245.41	12		20
MCPA	10.100	10.062	10.138	4673.0	5.250	27344	5207.78	11		20
Dichloroprop	10.530	10.492	10.568	94.3	524.800	53494	101.93	8		20
2,4-D	10.923	10.888	10.958	94.0	655.400	68599	104.66	11		20
Pentachlorophenol	11.383	11.344	11.422	95.0	5377.4	545829	101.50	7		20
2,4,5-TP(Silvex)	11.880	11.842	11.918	95.0	2195.2	229239	104.43	10		20
Chloramben	12.373	12.334	12.412	93.6	2217.3	230977	104.17	11		20
2,4,5-T	12.327	12.288	12.366	94.8	1811.1	198740	109.73	16		20
2,4-DB	12.903	12.865	12.941	94.7	358.100	35766	99.88	6		20
Dinoseb	13.237	13.204	13.270	94.5	1572.2	148796	94.64	0		20
Bentazon	13.837	13.794	13.880	94.5	334.200	30108	90.08	-5		20
Dacthal	14.233	14.193	14.273	91.5	2502.4	258348	103.24	13		20
Picloram	14.310	14.271	14.349	94.5	2928.8	329767	112.60	19		20
Acifluorfen	16.503	16.465	16.541	96.3	1790.4	187504	104.73	9		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.373	9.341	9.405	935.8	362.700	360217	993.28	6		20

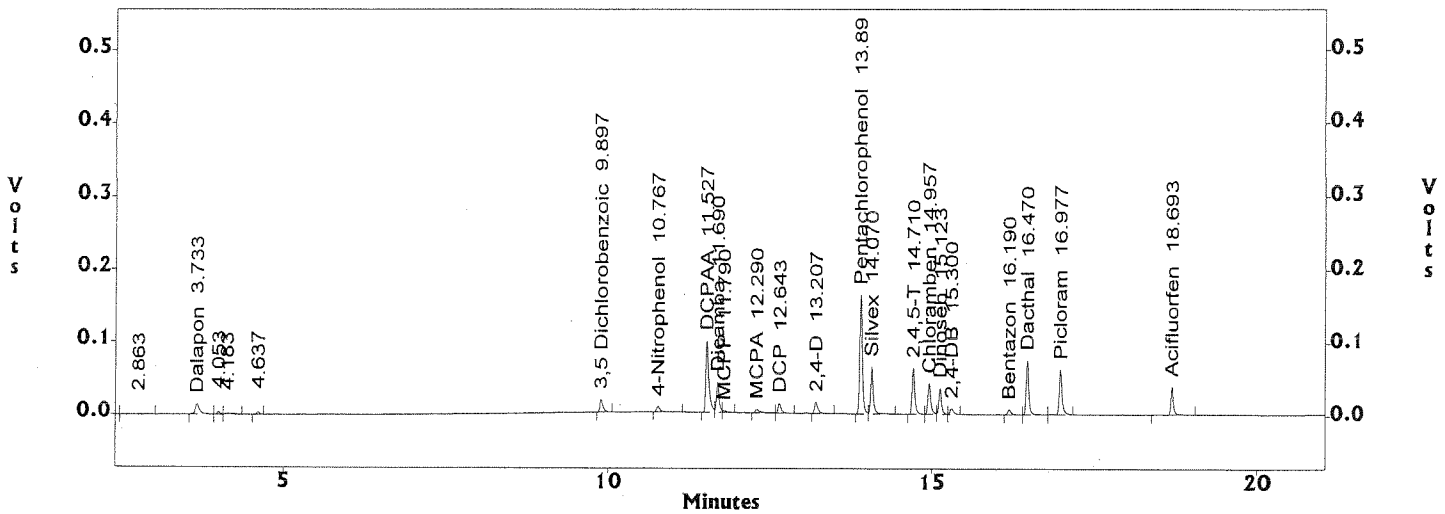
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04062
Acquired : May 19, 2016 11:33:37
Printed : May 19, 2016 13:50:06
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.733	61516.0	656.35	93.725	BV
3,5 Dichlorobenzoic	9.897	56486.0	653.22	86.473	BV
4-Nitrophenol	10.767	29127.0	343.86	84.706	BV
DCPAA	11.527	319448.0	363.72	878.282	BV
Dicamba	11.690	119471.0	1295.75	92.202	Vx
MCPP	11.790	11080.0	2.25	4928.261	xx
MCPA	12.290	21759.0	5.06	4297.370	xV
DCP	12.643	43407.0	486.34	89.252	VV
2,4-D	13.207	53423.0	575.75	92.788	VB
Pentachlorophenol	13.897	470410.0	4721.25	99.637	BV
Silvex	14.070	179667.0	1884.14	95.357	VI
2,4,5-T	14.710	183671.0	1955.79	93.911	xV
Chloramben	14.957	127183.0	1396.68	91.061	VV
Dinoseb	15.123	99020.0	1172.65	84.441	VV
2,4-DB	15.300	30236.0	323.63	93.428	Vx
Bentazon	16.190	21117.0	210.68	100.232	BV
Dacthal	16.470	207162.0	2232.57	92.791	VV
Picloram	16.977	196831.0	2122.79	92.723	Vx
Acifluorfen	18.693	108751.0	1242.47	87.528	BB

c:\ezchrom\chrom\we19\we19.002 -- Channel A

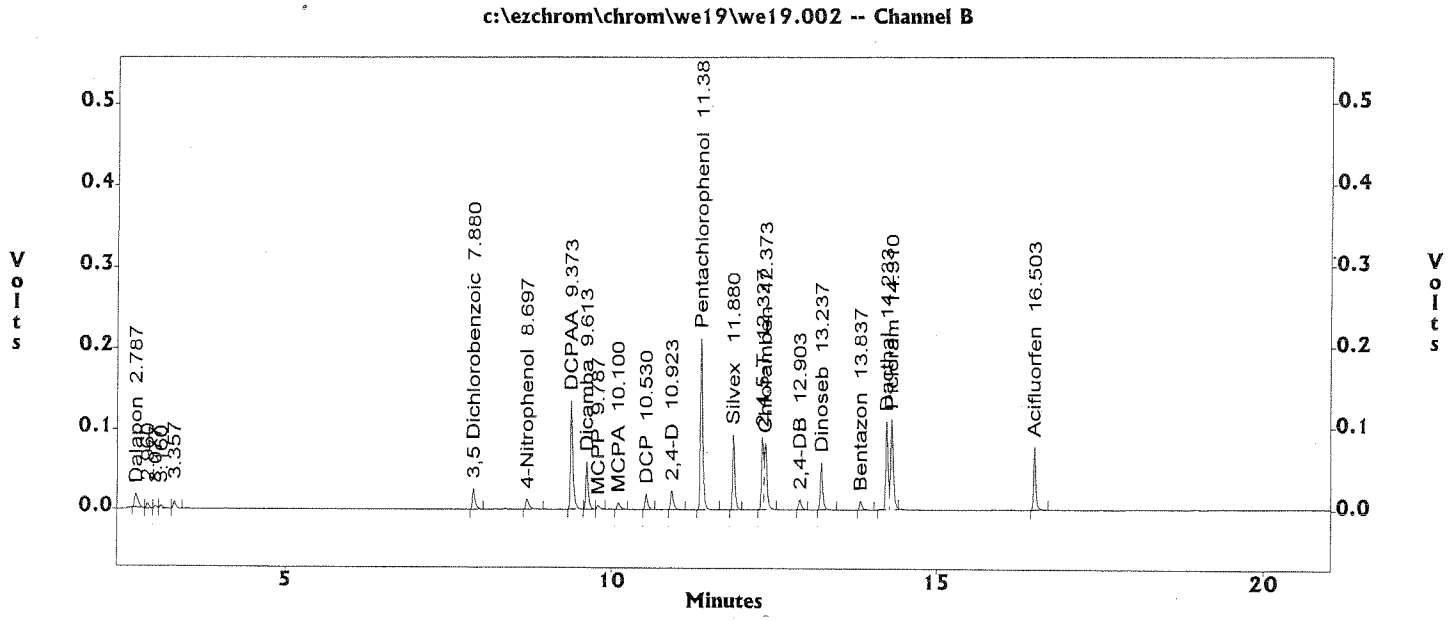


EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04062
Acquired : May 19, 2016 11:33:37
Printed : May 19, 2016 13:50:06
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	65817.0	670.72	98.128	BV
3,5 Dichlorobenzoic	7.880	71769.0	715.76	100.270	BV
4-Nitrophenol	8.697	42288.0	449.15	94.151	BV
DCPAA	9.373	360217.0	362.66	993.275	BV
Dicamba	9.613	147950.0	1453.81	101.767	VV
MCPP	9.787	14062.0	2.68	5245.411	VI
MCPA	10.100	27344.0	5.25	5207.779	BI
DCP	10.530	53494.0	524.78	101.935	BB
2,4-D	10.923	68599.0	655.43	104.662	BV
Pentachlorophenol	11.383	545829.0	5377.45	101.503	BB
Silvex	11.880	229239.0	2195.19	104.428	BI
2,4,5-T	12.327	198740.0	1811.11	109.734	MM
Chloramben	12.373	230977.0	2217.34	104.169	MM
2,4-DB	12.903	35766.0	358.09	99.879	BB
Dinoseb	13.237	148796.0	1572.22	94.640	BB
Bentazon	13.837	30108.0	334.23	90.083	BV
Dacthal	14.233	258348.0	2502.35	103.242	VV
Picloram	14.310	329767.0	2928.76	112.596	Vx
Acifluorfen	16.503	187504.0	1790.42	104.726	BV



CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE19009A 05/19/2016 15:10
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.730	3.703	3.757	91.0	656.300	60169	91.67	1		20
3,5-Dichlorobenzo	9.887	9.849	9.925	93.1	653.200	53294	81.59	-12		20
4-Nitrophenol	10.760	10.722	10.798	90.8	343.900	27137	78.92	-13		20
Dicamba	11.683	11.644	11.722	94.0	1295.8	113759	87.79	-7		20
MCPP	11.783	11.744	11.822	4693.0	2.250	11469	5101.28	9		20
MCPA	12.283	12.244	12.322	4673.0	5.060	24667	4871.70	4		20
Dichloroprop	12.633	12.595	12.671	94.3	486.300	42142	86.65	-8		20
2,4-D	13.197	13.152	13.242	94.0	575.800	50174	87.14	-7		20
Pentachlorophenol	13.890	13.845	13.935	95.0	4721.3	445574	94.38	-1		20
2,4,5-TP(Silvex)	14.063	14.020	14.106	95.0	1884.1	167792	89.06	-6		20
Chloramben	14.950	14.907	14.993	93.6	1396.7	120049	85.95	-8		20
2,4,5-T	14.700	14.657	14.743	94.8	1955.8	174519	89.23	-6		20
2,4-DB	15.290	15.252	15.328	94.7	323.600	26775	82.73	-13		20
Dinoseb	15.117	15.073	15.161	94.5	1172.7	96980	82.70	-12		20
Bentazon	16.180	16.132	16.228	94.5	210.700	20290	96.31	2		20
Dacthal	16.460	16.415	16.505	91.5	2232.6	194211	86.99	-5		20
Picloram	16.967	16.919	17.015	94.5	2122.8	205114	96.63	2		20
Acifluorfen	18.687	18.646	18.728	96.3	1242.5	114411	92.08	-4		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.517	11.474	11.560	935.8	363.700	302152	830.73	-11		20

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE19009B 05/19/2016 15:10
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.783	2.765	2.801	91.0	670.700	68593	102.27	12		20
3,5-Dichlorobenzo	7.873	7.838	7.908	93.1	715.800	69328	96.86	4		20
4-Nitrophenol	8.687	8.652	8.722	90.8	449.200	40985	91.25	0		20
Dicamba	9.607	9.568	9.646	94.0	1453.8	141428	97.28	3		20
MCPP	9.780	9.741	9.819	4693.0	2.680	13076	4877.61	4		20
MCPA	10.090	10.052	10.128	4673.0	5.250	27111	5163.40	10		20
Dichloroprop	10.523	10.485	10.561	94.3	524.800	52714	100.45	6		20
2,4-D	10.917	10.882	10.952	94.0	655.400	67090	102.36	9		20
Pentachlorophenol	11.373	11.334	11.412	95.0	5377.4	527301	98.06	3		20
2,4,5-TP(Silvex)	11.873	11.835	11.911	95.0	2195.2	223113	101.64	7		20
Chloramben	12.367	12.328	12.406	93.6	2217.3	218569	98.57	5		20
2,4,5-T	12.320	12.281	12.359	94.8	1811.1	196885	108.71	15		20
2,4-DB	12.893	12.855	12.931	94.7	358.100	37757	105.44	11		20
Dinoseb	13.230	13.197	13.263	94.5	1572.2	144155	91.69	-3		20
Bentazon	13.827	13.784	13.870	94.5	334.200	29799	89.16	-6		20
Dacthal	14.227	14.187	14.267	91.5	2502.4	250862	100.25	10		20
Picloram	14.300	14.261	14.339	94.5	2928.8	323542	110.47	17		20
Acifluorfen	16.497	16.459	16.535	96.3	1790.4	175736	98.15	2		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.367	9.335	9.399	935.8	362.700	344937	951.14	2		20

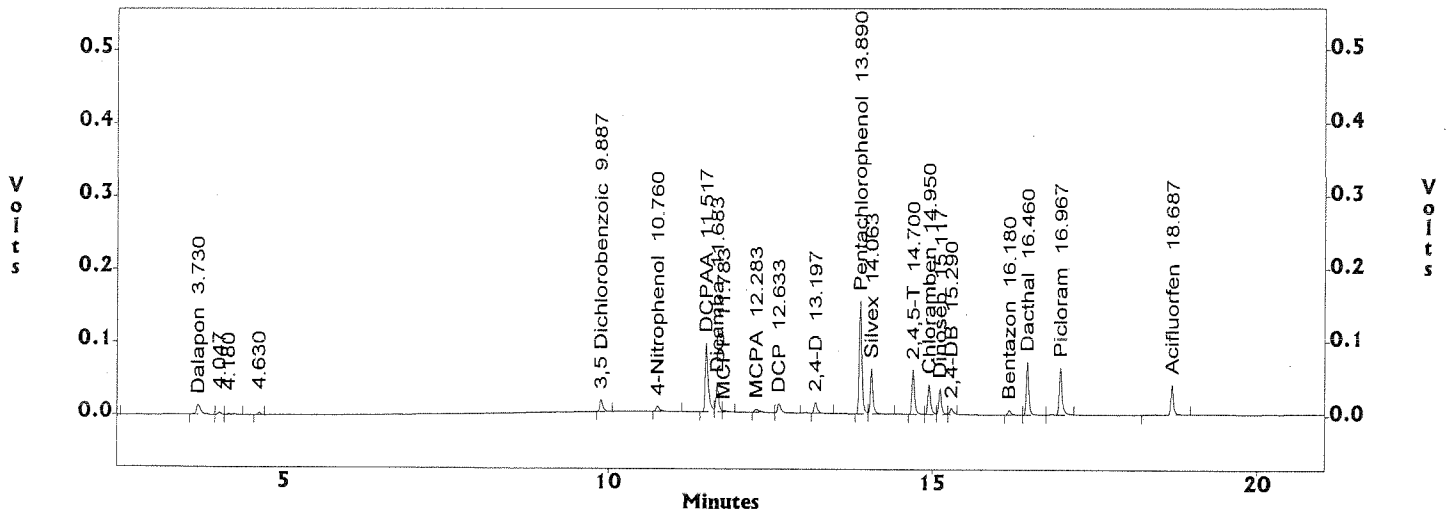
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.009
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04063
Acquired : May 19, 2016 15:10:46
Printed : May 23, 2016 09:53:47
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.730	60169.0	656.35	91.673	BV
3,5 Dichlorobenzoic	9.887	53294.0	653.22	81.586	BV
4-Nitrophenol	10.760	27137.0	343.86	78.919	BV
DCPAA	11.517	302152.0	363.72	830.729	BV
Dicamba	11.683	113759.0	1295.75	87.794	Vx
MCPP	11.783	11469.0	2.25	5101.284	xx
MCPA	12.283	24667.0	5.06	4871.696	VV
DCP	12.633	42142.0	486.34	86.651	VV
2,4-D	13.197	50174.0	575.75	87.145	VB
Pentachlorophenol	13.890	445574.0	4721.25	94.376	BV
Silvex	14.063	167792.0	1884.14	89.055	VB
2,4,5-T	14.700	174519.0	1955.79	89.232	xV
Chloramben	14.950	120049.0	1396.68	85.953	VV
Dinoseb	15.117	96980.0	1172.65	82.702	VV
2,4-DB	15.290	26775.0	323.63	82.734	Vx
Bentazon	16.180	20290.0	210.68	96.306	BV
Dacthal	16.460	194211.0	2232.57	86.990	VV
Picloram	16.967	205114.0	2122.79	96.625	Vx
Acifluorfen	18.687	114411.0	1242.47	92.083	BB

c:\ezchrom\chrom\we19\we19.009 -- Channel A

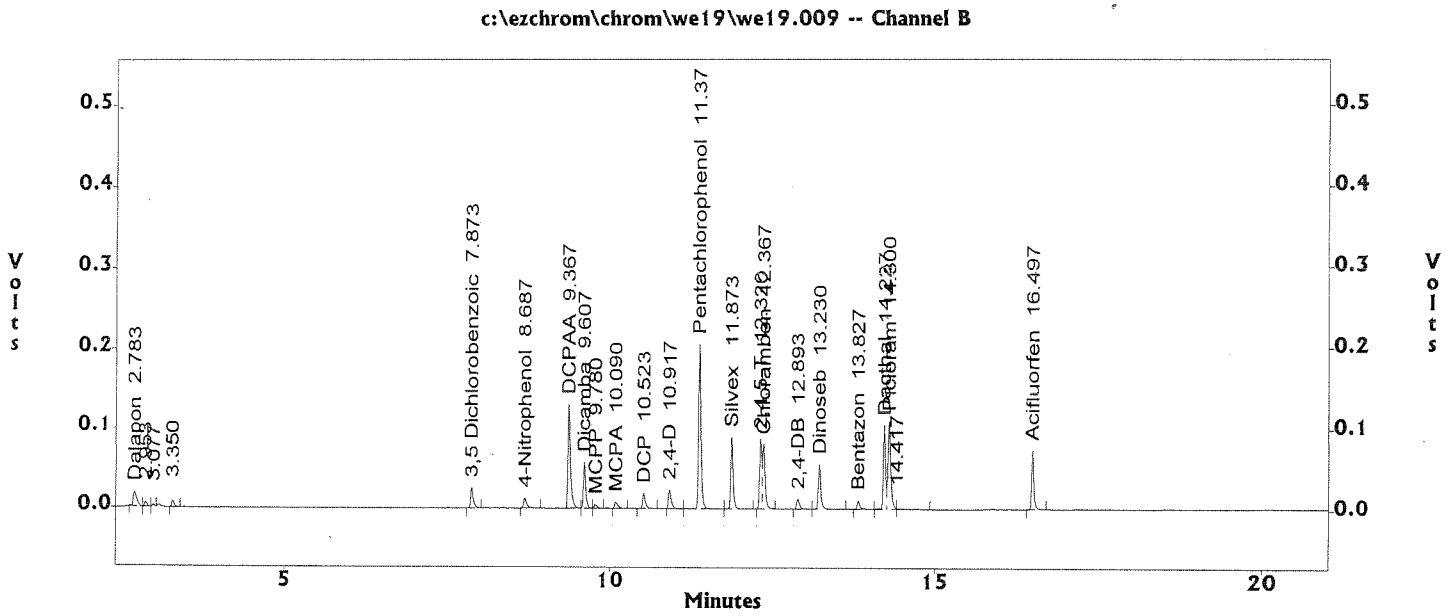


EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we19\we19.009
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04063
Acquired : May 19, 2016 15:10:46
Printed : May 23, 2016 09:53:47
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.783	68593.0	670.72	102.267	BV
3,5 Dichlorobenzoic	7.873	69328.0	715.76	96.860	BV
4-Nitrophenol	8.687	40985.0	449.15	91.250	BV
DCPAA	9.367	344937.0	362.66	951.141	xV
Dicamba	9.607	141428.0	1453.81	97.281	VV
MCPP	9.780	13076.0	2.68	4877.613	VI
MCPA	10.090	27111.0	5.25	5163.403	BV
DCP	10.523	52714.0	524.78	100.449	VV
2,4-D	10.917	67090.0	655.43	102.360	xV
Pentachlorophenol	11.373	527301.0	5377.45	98.058	VV
Silvex	11.873	223113.0	2195.19	101.637	VV
2,4,5-T	12.320	196885.0	1811.11	108.710	MM
Chloramben	12.367	218569.0	2217.34	98.573	MM
2,4-DB	12.893	37757.0	358.09	105.439	BV
Dinoseb	13.230	144155.0	1572.22	91.689	VB
Bentazon	13.827	29799.0	334.23	89.158	BV
Dacthal	14.227	250862.0	2502.35	100.251	VS
Picloram	14.300	323542.0	2928.76	110.471	Sx
Acifluorfen	16.497	175736.0	1790.42	98.154	BB



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PCB CONGENERS/HERBICIDES/EDB and DBCP

Note: For samples and relevant QC/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #:	A16-027
Instrument No.:	16
Analytical Sequence:	WC04
Method File:	HE16C04
Anlytical Batch:	WC04012

SOP #	Rev. #
☑ EMAX-8151	5
☐ EMAX-8082CON	1
☐ EMAX-504.1	4
☐ EMAX-	

ICAL REFERENCE

ICAL ID	BATCH	DATE
HE16C04	WC04	3/4/16

STANDARDS ID		Conc (µg/L)
DCC	SS4B-03-80-02	100/5000/1000
ICAL	SS4B-03-81-02	10/500/100-200/10000/2
ICV	↓ 81-03	100/10,000
		50/5000

Hexane Lot # SS14 9

Column	☑ A. ZB-35HT B. RTX CLPEST II

ELECTRONIC DATA ARCHIVAL

Location	Date
☑ EZC_4_Pesticides	3/8/16
☐	

Analyzed By: [illegible] Date: 3/4/16

Disposed By: RZ Date Disposed: 3/8/16

This page is checked during data review.

Syringe Lot #: ☑ 430353 ☑ 454251 ☐ 475284 ☑ 354311

Run	Sample ID	Method	Filename	Mult.	Description
1	IB16C04001	he16c04.met	WC04.001	1	
2	HE16C048	he16c04.met	WC04.002	1	
3	HE16C047	he16c04.met	WC04.003	1	
4	HE16C046	he16c04.met	WC04.004	1	
5	HE16C045	he16c04.met	WC04.005	1	
6	HE16C044	he16c04.met	WC04.006	1	
7	HE16C043	he16c04.met	WC04.007	1	
8	HE16C042	he16c04.met	WC04.008	1	
9	HE16C041	he16c04.met	WC04.009	1	
10	IHE16C04001	he16c04.met	WC04.010	1	
11	IHE16C04002	he16c04.met	WC04.011	1	
12	CHE16C04001	he16c04.met	WC04.012	1	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PCB CONGENERS/HERBICIDES/EDB and DBCP

Note: For samples and relevant QC/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #:	A16-027
Instrument No.:	16
Analytical Sequence:	WE19
Method File:	HE16C04
Anlytical Batch:	WE19002

SOP #	Rev. #
☑ EMAX-8151	5
☐ EMAX-8082CON	1
☐ EMAX-504.1	4
☐ EMAX-	

ICAL REFERENCE

ICAL ID	BATCH	DATE
HE16C04	WC04	3/4/16

STANDARDS ID		Conc (µg/L)
DCC	SS4B-03-80-02	100/5000/1000

Hexane Lot # RT148

Column	☑ A. ZB-35HT B. RTX CLPEST II

ELECTRONIC DATA ARCHIVAL

Location	Date
☑ EZC_4_Pesticides	
☐	

Syringe Lot #: ☑ 430353 ☑ 454251 ☐ 475284 ☐ 354311

Analyzed By: [illegible] Date: 5/19/16

Disposed By: [illegible] Date Disposed: 5/20/16

This page is checked during data review.

Run	Sample ID	Method	Filename	Mult.	Description
1	IB16C04062	he16c04.met	WE19.001	1	
2	CHE16C04062	he16c04.met	WE19.002	1	
3	HEE007WB	he16c04.met	WE19.003	1	
4	HEE007WL	he16c04.met	WE19.004	1	
5	HEE007WC	he16c04.met	WE19.005	1	
6	E133-02I DF=5	he16c04.met	WE19.006	5	orange
7	BLANK	he16c04.met	WE19.007	1	
8	IB16C04063	he16c04.met	WE19.008	1	
9	CHE16C04063	he16c04.met	WE19.009	1	
10	E134-01I DF=100 x	he16c04.met	WE19.010	100	need re-run
11	E134-02 x	he16c04.met	WE19.011	1	
12	E134-03 x	he16c04.met	WE19.012	1	
13	E134-04 x	he16c04.met	WE19.013	1	
14	E134-05 x	he16c04.met	WE19.014	1	
15	E134-06 x	he16c04.met	WE19.015	1	
16	BLANK	he16c04.met	WE19.016	1	
17	IB16C04064	he16c04.met	WE19.017	1	
18	CHE16C04064	he16c04.met	WE19.018	1	
19	E134-07I DF=50	he16c04.met	WE19.019	50	20 ul to 1 ml fin.vol.
20	E134-08I DF=50	he16c04.met	WE19.020	50	20 ul to 1 ml fin.vol.
21	E134-09	he16c04.met	WE19.021	1	
22	E134-10I DF=100	he16c04.met	WE19.022	100	YELLOW-10 ul to 1 ml fin.vol.
23	E134-11	he16c04.met	WE19.023	1	
24	E153-01I DF=100	he16c04.met	WE19.024	100	10 ul to 1 ml fin.vol.
25	E153-02I DF=100	he16c04.met	WE19.025	100	10 ul to 1 ml fin.vol.

Run	Sample ID	Method	Filename	Mult.	Description
26	E153-03I DF=100	he16c04.met	WE19.026	100	BROWN-10 ul to 1 ml fin.vol.
27	E153-03J DF=2000	he16c04.met	WE19.027	2000	50 ul of 100x to 1 ml fin.vol.
28	E134-01J DF=5	he16c04.met	WE19.028	5	interference
29	BLANK	he16c04.met	WE19.029	1	
30	IB16C04065	he16c04.met	WE19.030	1	
31	CHE16C04065	he16c04.met	WE19.031	1	
32	E134-10J DF=2000	he16c04.met	WE19.032	2000	50 ul of 100x to 1 ml fin.vol.
33	E134-02	he16c04.met	WE19.033	1	
34	E134-03	he16c04.met	WE19.034	1	
35	E134-04	he16c04.met	WE19.035	1	
36	E134-05	he16c04.met	WE19.036	1	
37	E134-06	he16c04.met	WE19.037	1	
38	E153-03K DF=10000	he16c04.met	WE19.038	10000	10 ul of 100x to 1 ml fin. vol.
39	E134-10K DF=10000 not needed	he16c04.met	WE19.039	10000	10 ul of 100x to 1 ml fin. vol.
40	BLANK	he16c04.met	WE19.040	1	
41	IB16C04066	he16c04.met	WE19.041	1	
42	CHE16C04066	he16c04.met	WE19.042	1	

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
HERBICIDES

SOP	Rev. #
☑ EMAX-8151	4
☐ EMAX-	

Note: For samples, relevant QCs/Standards extracted, refer to attached extraction sequence.

Comments:
- MS/MSD not done due to insufficient amount of samples.

Book #.: EHE-020
Preparation Batch: HEE007W
Matrix: Water
Micropipette ID: 100µl: PE97C-03
Micropipette ID: 1000µl: PE00-03

Standards	ID	Amount Added (ml)
Surrogate	SS41B-03-12-02	1.0
LCS/MS	SS41A-02-155	0.1

Reagent	Lot # / ID
CH_2Cl_2	–
Hexane	55149
Ethyl Ether	SWIA-006-01-04
Acified Na_2SO_4	~~SWIB~~ TW 5/19/16 SPIB-08-70-04
H_2SO_4	3114106
Diazo-methane	SPIB-08-72-03
Silica Sand	–
Silicic Acid	SPIA-07-01-15
Reagent Water	SWIA-006-01-02
Residual Chlorine Strip	6124
pH Strip	HC577678

TUNING

Sonicator #	Reading

Concentrator	Water Bath Temperature Setting(°C)	Thermometer Reading (°C)
1		
2	35	35
3	35	35
4	35	35
5	35	35
6		

Lab Sample ID	Sonicator #	Concentrator #
HEE007WB		2
-WL		2
-WC		2
E133-02		3
E134-01		3
-02		3
-03		3
-04		3
-05		3
-06		4
-07		4
-08		4
-09		4
-10		4
-11		4
E153-01		5
-02		5
-03		5

Test Thermometer = SVOC-T1

Prepared By: ML/TW
Standard Added By: TW
Witnessed By: JM
Checked By: ML
Extract Received By: KW
Extract Location: SE04 #4
Disposal Date:
Disposed By:

FileID: HEE007W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR HERBICIDES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16HEE007W01	HEE007WB	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W02	HEE007WL	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W03	HEE007WC	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W04	E133-02	500	ml	5/18/16 10:27	5	500	5	1	Foamy Orange
16HEE007W05	E134-01	500	ml	5/18/16 10:27	5	500	5	1	Cloudy White
16HEE007W06	E134-02	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W07	E134-03	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W08	E134-04	500	ml	5/18/16 10:27	5	500	5	1	Light Yellow
16HEE007W09	E134-05	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W10	E134-06	500	ml	5/18/16 10:27	5	500	5	1	Light Yellow
16HEE007W11	E134-07	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W12	E134-08	500	ml	5/18/16 10:27	5	500	5	1	Light Yellow
16HEE007W13	E134-09	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W14	E134-10	500	ml	5/18/16 10:27	5	500	5	1	Yellow
16HEE007W15	E134-11	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W16	E153-01	500	ml	5/18/16 10:27	5	500	5	1	
16HEE007W17	E153-02	500	ml	5/18/16 10:27	5	500	5	1	Light Yellow
16HEE007W18	E153-03	500	ml	5/18/16 10:27	5	500	5	1	Yellow

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 5/18/16 10:40 ☑ Drying Started @ 5/18/16 13:00

Prepared By: TWangc

☑ Extraction Ended @ 5/18/16 17:00 ☑ Drying Ended @ 5/18/16 15:00

Checked By: ML

Comments: Chlorine not detected.

Date 5/18/16

SOP EMAX-8151 Rev. 5

TCLP HERBICIDES

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 18:41
Lab Samp ID:	E133-03	Dilution Factor:	50
Lab File ID:	WE24018A	Matrix :	LEACHATE
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24014A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	20	5.0	10
2,4,5-TP (SILVEX)	(ND)|ND	20	5.0	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	410.6|(462.9)	500.0	82.1|(92.6)	50-130

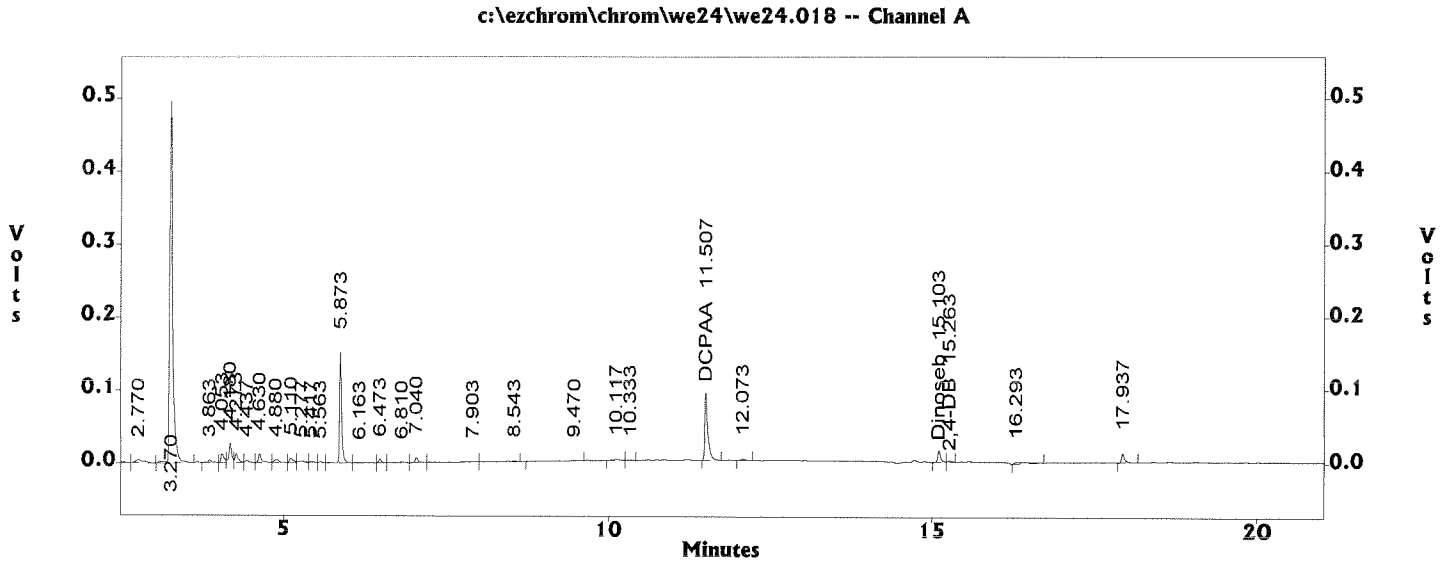
DateTime Leached: 05/20/16 18:30

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.018
Method : c:\ezchrom\methods\he16c04.met
Sample ID : E133-03 TCLP
Acquired : May 24, 2016 18:41:49
Printed : May 25, 2016 08:30:19
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.723	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	9.870	0.0	0.00	0.000	--
4-Nitrophenol	10.743	0.0	0.00	0.000	--
DCPAA	11.507	298687.0	363.72	821.203	Vx
Dicamba	11.663	0.0	0.00	0.000	--
MCPP	11.763	0.0	0.00	0.000	--
MCPA	12.263	0.0	0.00	0.000	--
DCP	12.617	0.0	0.00	0.000	--
2,4-D	13.180	0.0	0.00	0.000	--
Pentachlorophenol	13.870	0.0	0.00	0.000	--
Silvex	14.043	0.0	0.00	0.000	--
2,4,5-T	14.680	0.0	0.00	0.000	--
Chloramben	14.930	0.0	0.00	0.000	--
Dinoseb	15.103	47954.0	1172.65	40.894	BV
2,4-DB	15.263	9475.0	323.63	29.277	VV
Bentazon	16.160	0.0	0.00	0.000	--
Dacthal	16.440	0.0	0.00	0.000	--
Picloram	16.947	0.0	0.00	0.000	--
Acifluorfen	18.667	0.0	0.00	0.000	--

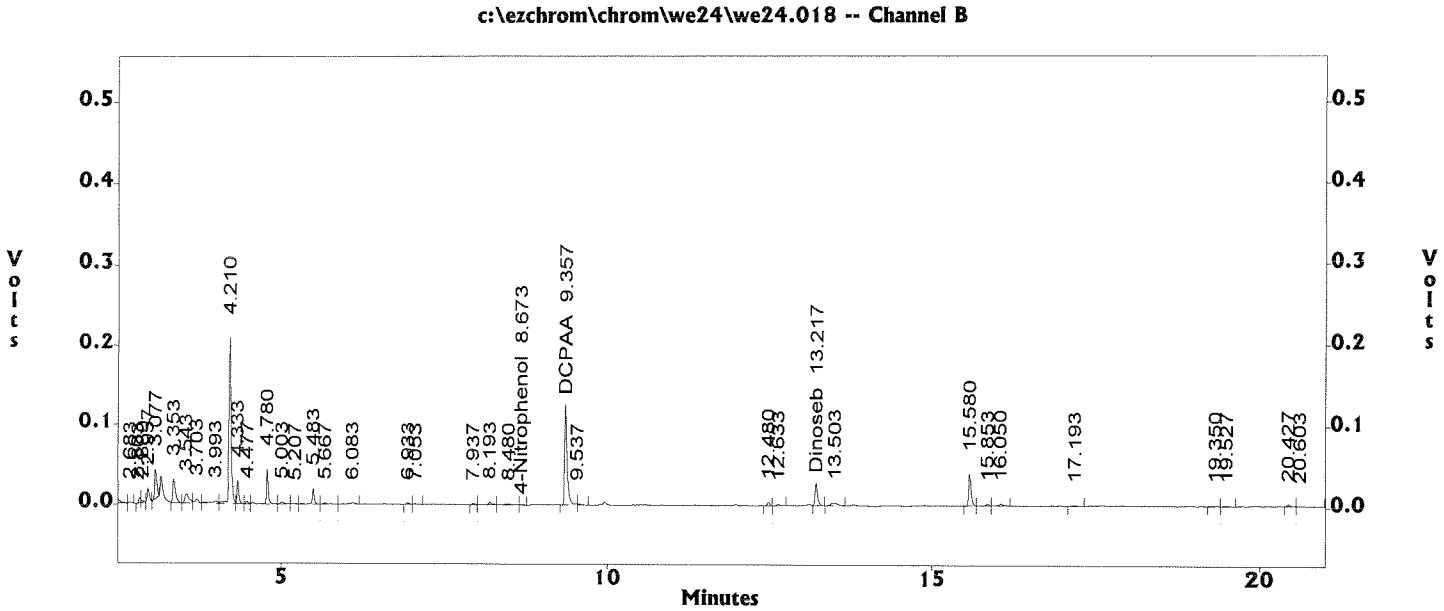


EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.018
Method : c:\ezchrom\methods\he16c04.met
Sample ID : E133-03 TCLP
Acquired : May 24, 2016 18:41:49
Printed : May 25, 2016 08:30:20
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.780	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.857	0.0	0.00	0.000	--
4-Nitrophenol	8.673	3612.0	449.15	8.042	VV
DCPAA	9.357	335728.0	362.66	925.748	Bx
Dicamba	9.587	0.0	0.00	0.000	--
MCPP	9.760	0.0	0.00	0.000	--
MCPA	10.073	0.0	0.00	0.000	--
DCP	10.503	0.0	0.00	0.000	--
2,4-D	10.900	0.0	0.00	0.000	--
Pentachlorophenol	11.357	0.0	0.00	0.000	--
Silvex	11.857	0.0	0.00	0.000	--
2,4,5-T	12.303	0.0	0.00	0.000	--
Chloramben	12.347	0.0	0.00	0.000	--
2,4-DB	12.873	0.0	0.00	0.000	--
Dinoseb	13.217	70420.0	1572.22	44.790	BV
Bentazon	13.803	0.0	0.00	0.000	--
Dacthal	14.207	0.0	0.00	0.000	--
Picloram	14.280	0.0	0.00	0.000	--
Acifluorfen	16.477	0.0	0.00	0.000	--



QC SUMMARIES

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 12:45
Lab Samp ID:	HEE008WB	Dilution Factor:	1
Lab File ID:	WE24006A	Matrix :	WATER
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24002A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	0.40	0.10	0.20
2,4,5-TP (SILVEX)	(ND)|ND	0.40	0.10	0.20

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	7.172|(8.407)	10.00	71.7|(84.1)	50-130

EMAX QUALITY CONTROL DATA
LCS/LCD ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/8151A

MATRIX:	WATER			% MOISTURE:	NA
DILUTION FACTOR:	1	1	1		
SAMPLE ID:	MBLK1W				
LAB SAMP ID:	HEE008WB	HEE008WL	HEE008WC		
LAB FILE ID:	WE24006A	WE24007A	WE24008A		
DATE EXTRACTED:	05/23/1611:00	05/23/1611:00	05/23/1611:00	DATE COLLECTED:	NA
DATE ANALYZED:	05/24/1612:45	05/24/1613:12	05/24/1613:40	DATE RECEIVED:	05/23/16
PREP. BATCH:	HEE008W	HEE008W	HEE008W		
CALIB. REF:	WE24002A	WE24002A	WE24002A		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	RPD (%)	QC LIMIT (%)	MAX RPD (%)
2,4-D	(ND)|ND	1.00	0.826|(0.888)	83|(89)	1.00	0.850|(0.955)	85|(96)	3|(7)	35-115	30
2,4,5-TP (Silvex)	(ND)|ND	1.00	0.846|(0.992)	85|(99)	1.00	0.810|(1.01)	81|(101)	4|(2)	50-115	30

SURROGATE PARAMETER	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	SPIKE AMT (ug/L)	BSD RSLT (ug/L)	BSD % REC	QC LIMIT (%)
2,4-DCPAA	10.00	7.122|(8.189)	71.2|(81.9)	10.00	7.168|(8.210)	71.7|(82.1)	50-130

METHOD SW1311/8151A
TCLP HERBICIDES

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
Batch No.	: 16E133	Date Extracted:	05/23/16 11:00
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 17:30
Lab Samp ID:	TXE014SB	Dilution Factor:	50
Lab File ID:	WE24016A	Matrix :	LEACHATE
Ext Btch ID:	HEE008W	% Moisture :	NA
Calib. Ref.:	WE24014A	Instrument ID :	GCT016

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
2,4-D	(ND)|ND	20	5.0	10
2,4,5-TP (SILVEX)	(ND)|ND	20	5.0	10

SURROGATE PARAMETERS	RESULTS	SPK_AMT	% RECOVERY	QC LIMIT
2,4-DCPAA	434.9|(490.6)	500.0	87.0|(98.1)	50-130

DateTime Leached: 05/20/16 18:30

QC DATA

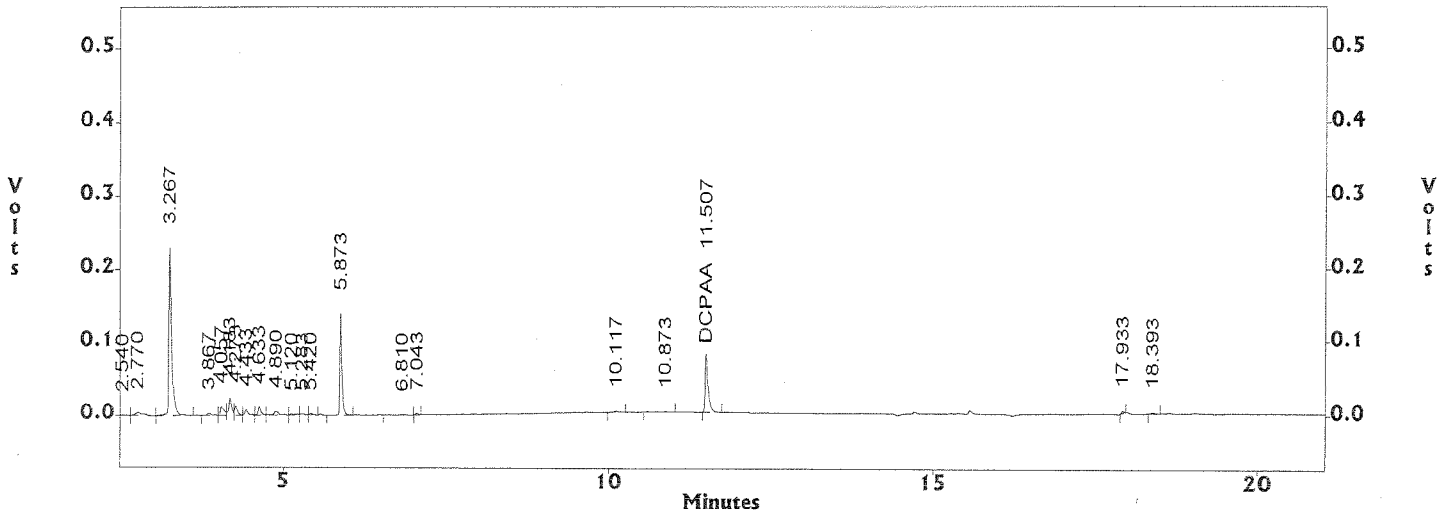
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WB
Acquired : May 24, 2016 12:45:09
Printed : May 24, 2016 13:43:24
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.730	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	9.880	0.0	0.00	0.000	--
4-Nitrophenol	10.750	0.0	0.00	0.000	--
DCPAA	11.507	260851.0	363.72	717.177	Vx
Dicamba	11.673	0.0	0.00	0.000	--
MCPP	11.773	0.0	0.00	0.000	--
MCPA	12.273	0.0	0.00	0.000	--
DCP	12.623	0.0	0.00	0.000	--
2,4-D	13.187	0.0	0.00	0.000	--
Pentachlorophenol	13.880	0.0	0.00	0.000	--
Silvex	14.050	0.0	0.00	0.000	--
2,4,5-T	14.690	0.0	0.00	0.000	--
Chloramben	14.937	0.0	0.00	0.000	--
Dinoseb	15.107	0.0	0.00	0.000	--
2,4-DB	15.280	0.0	0.00	0.000	--
Bentazon	16.167	0.0	0.00	0.000	--
Dacthal	16.450	0.0	0.00	0.000	--
Picloram	16.957	0.0	0.00	0.000	--
Acifluorfen	18.673	0.0	0.00	0.000	--

c:\ezchrom\chrom\we24\we24.006 -- Channel A



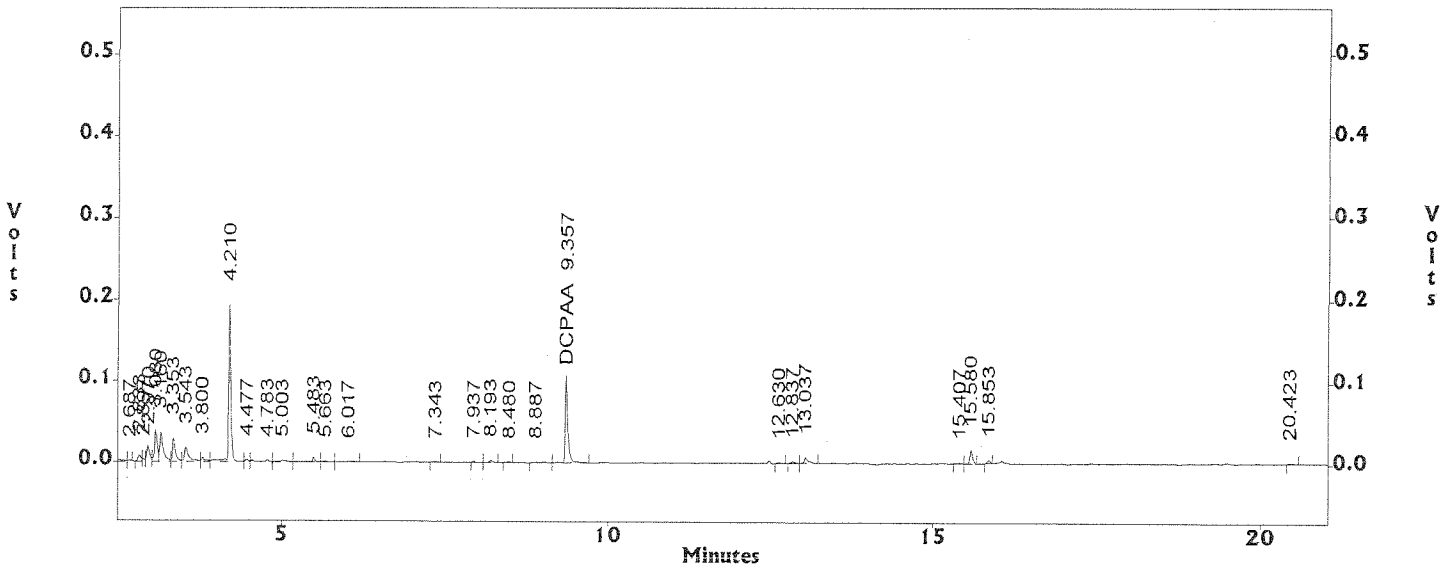
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WB
Acquired : May 24, 2016 12:45:09
Printed : May 24, 2016 13:43:25
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.863	0.0	0.00	0.000	--
4-Nitrophenol	8.677	0.0	0.00	0.000	--
DCPAA	9.357	304868.0	362.66	840.654	VV
Dicamba	9.597	0.0	0.00	0.000	--
MCPP	9.767	0.0	0.00	0.000	--
MCPA	10.080	0.0	0.00	0.000	--
DCP	10.510	0.0	0.00	0.000	--
2,4-D	10.907	0.0	0.00	0.000	--
Pentachlorophenol	11.363	0.0	0.00	0.000	--
Silvex	11.863	0.0	0.00	0.000	--
2,4,5-T	12.310	0.0	0.00	0.000	--
Chloramben	12.353	0.0	0.00	0.000	--
2,4-DB	12.883	0.0	0.00	0.000	--
Dinoseb	13.220	0.0	0.00	0.000	--
Bentazon	13.813	0.0	0.00	0.000	--
Dacthal	14.213	0.0	0.00	0.000	--
Picloram	14.287	0.0	0.00	0.000	--
Acifluorfen	16.483	0.0	0.00	0.000	--

c:\ezchrom\chrom\we24\we24.006 -- Channel B



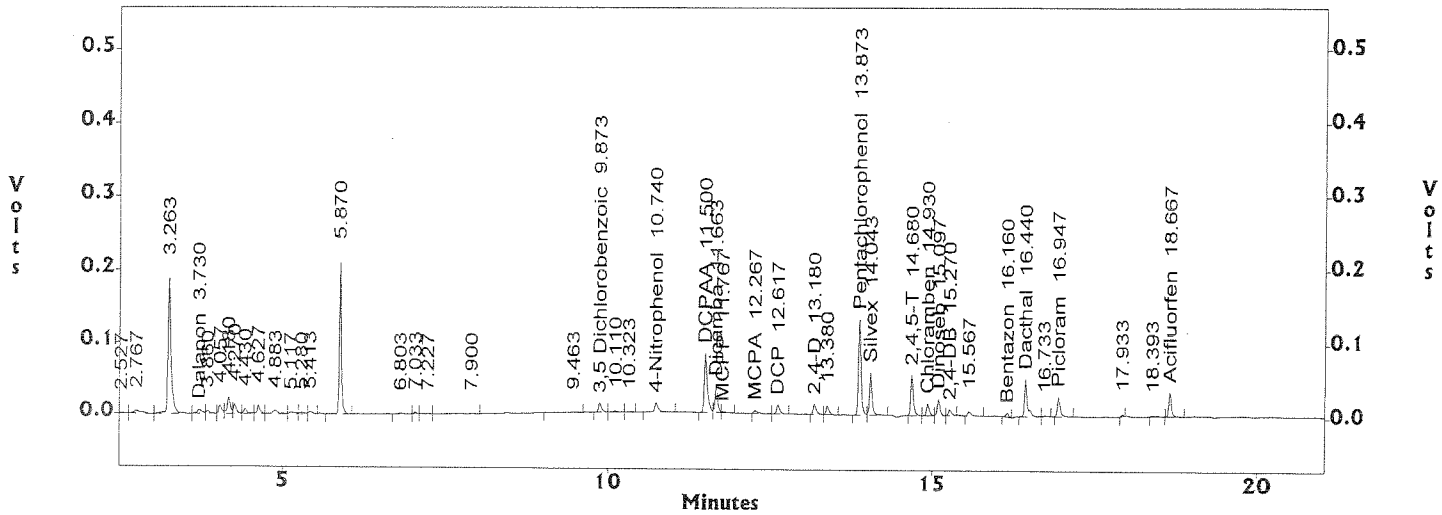
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WL
Acquired : May 24, 2016 13:12:48
Printed : May 24, 2016 13:48:57
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.730	27091.0	656.35	41.276	VV
3,5 Dichlorobenzoic	9.873	43036.0	653.22	65.883	BV
4-Nitrophenol	10.740	50084.0	343.86	145.652	BV
DCPAA	11.500	259037.0	363.72	712.190	BV
Dicamba	11.663	101697.0	1295.75	78.485	Vx
MCPP	11.767	9946.0	2.25	4423.871	xx
MCPA	12.267	20715.0	5.06	4091.182	xV
DCP	12.617	42286.0	486.34	86.947	VV
2,4-D	13.180	47542.0	575.75	82.574	VV
Pentachlorophenol	13.873	368738.0	4721.25	78.102	BV
Silvex	14.043	159382.0	1884.14	84.591	VV
2,4,5-T	14.680	160678.0	1955.79	82.155	xV
Chloramben	14.930	50398.0	1396.68	36.084	VV
Dinoseb	15.097	69298.0	1172.65	59.095	VV
2,4-DB	15.270	31797.0	323.63	98.251	Vx
Bentazon	16.160	16498.0	210.68	78.308	BV
Dacthal	16.440	158692.0	2232.57	71.080	BV
Picloram	16.947	87152.0	2122.79	41.055	xx
Acifluorfen	18.667	91623.0	1242.47	73.743	VV

c:\ezchrom\chrom\we24\we24.007 -- Channel A



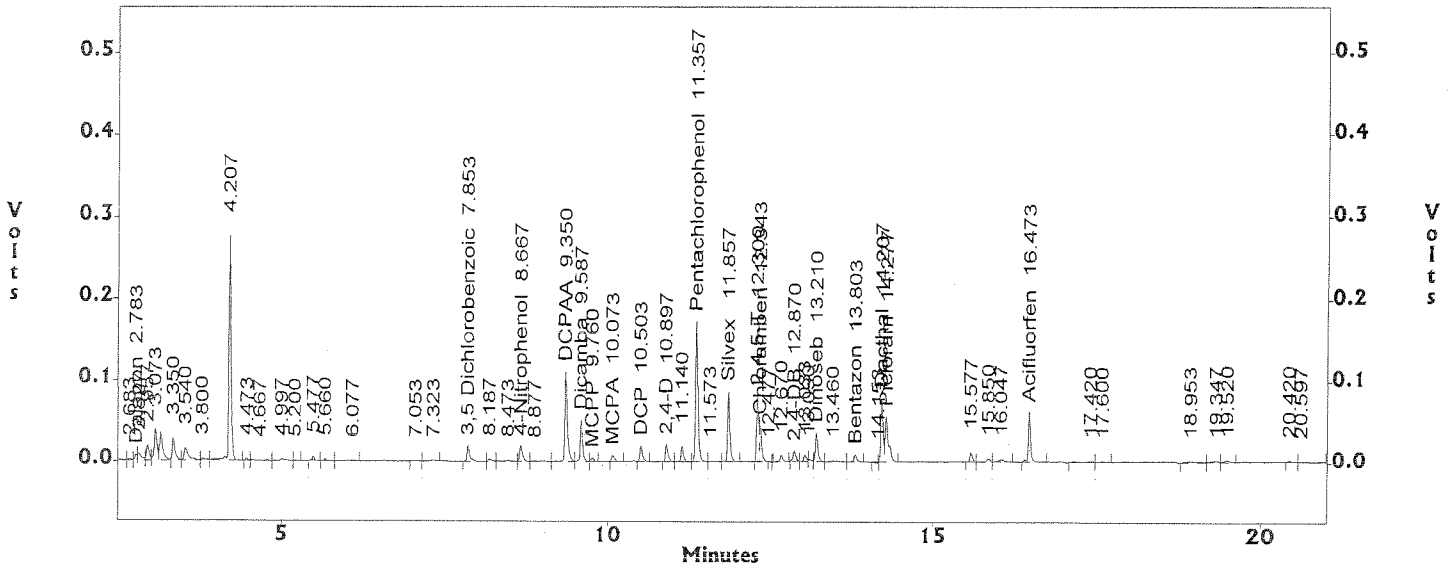
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WL
Acquired : May 24, 2016 13:12:48
Printed : May 24, 2016 13:48:57
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.783	16667.0	670.72	24.849	MM
3,5 Dichlorobenzoic	7.853	57318.0	715.76	80.080	BV
4-Nitrophenol	8.667	56588.0	449.15	125.989	VV
DCPAA	9.350	296997.0	362.66	818.950	VV
Dicamba	9.587	131847.0	1453.81	90.691	VV
MCPP	9.760	12202.0	2.68	4551.593	VV
MCPA	10.073	25066.0	5.25	4773.924	BV
DCP	10.503	51593.0	524.78	98.313	BI
2,4-D	10.897	58195.0	655.43	88.788	xV
Pentachlorophenol	11.357	440235.0	5377.45	81.867	VV
Silvex	11.857	217698.0	2195.19	99.171	xV
2,4,5-T	12.300	191336.0	1811.11	105.646	MM
Chloramben	12.343	107893.0	2217.34	48.659	MM
2,4-DB	12.870	33971.0	358.09	94.866	BV
Dinoseb	13.210	90509.0	1572.22	57.568	xV
Bentazon	13.803	25939.0	334.23	77.609	VI
Dacthal	14.207	180823.0	2502.35	72.261	MM
Picloram	14.277	192192.0	2928.76	65.622	MM
Acifluorfen	16.473	152758.0	1790.42	85.320	BB

c:\ezchrom\chrom\we24\we24.007 -- Channel B



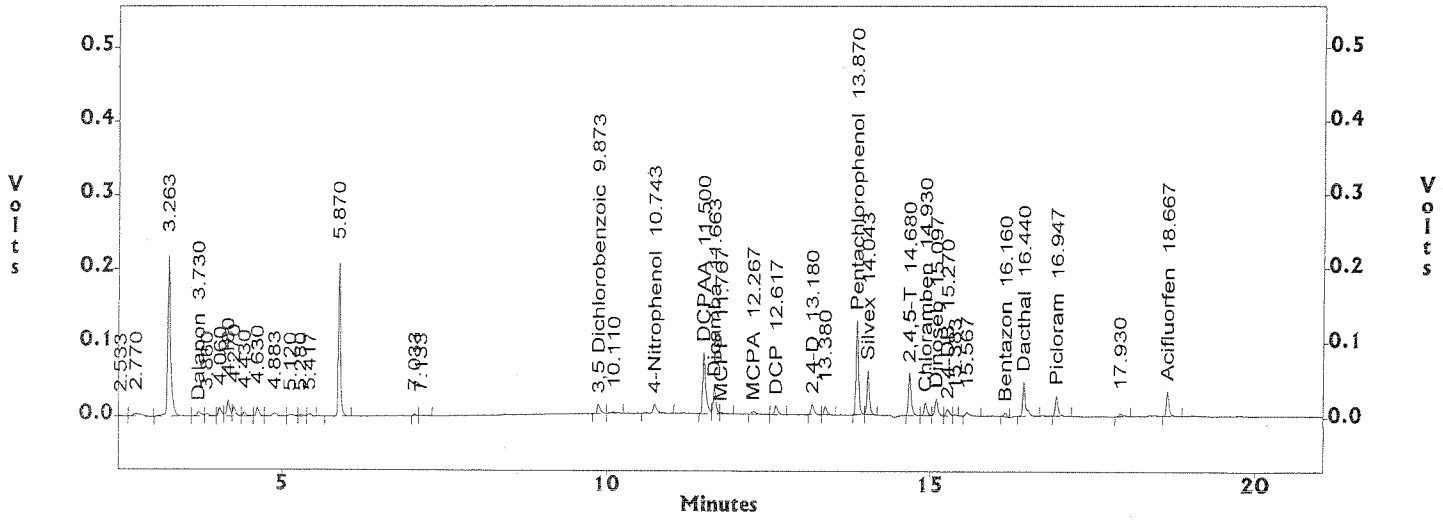
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WC
Acquired : May 24, 2016 13:40:29
Printed : May 24, 2016 14:09:18
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.730	28202.0	656.35	42.968	VV
3,5 Dichlorobenzoic	9.873	40347.0	653.22	61.766	BV
4-Nitrophenol	10.743	48005.0	343.86	139.606	BV
DCPAA	11.500	260720.0	363.72	716.817	VV
Dicamba	11.663	100271.0	1295.75	77.384	Vx
MCPP	11.767	9277.0	2.25	4126.307	xx
MCPA	12.267	20519.0	5.06	4052.472	xV
DCP	12.617	41168.0	486.34	84.648	VV
2,4-D	13.180	48918.0	575.75	84.964	VV
Pentachlorophenol	13.870	349147.0	4721.25	73.952	VV
Silvex	14.043	152679.0	1884.14	81.034	VI
2,4,5-T	14.680	165714.0	1955.79	84.730	xV
Chloramben	14.930	54726.0	1396.68	39.183	VV
Dinoseb	15.097	71333.0	1172.65	60.831	VV
2,4-DB	15.270	31059.0	323.63	95.971	Vx
Bentazon	16.160	16224.0	210.68	77.007	BV
Dacthal	16.440	140825.0	2232.57	63.078	BV
Picloram	16.947	82653.0	2122.79	38.936	xx
Acifluorfen	18.667	92105.0	1242.47	74.130	BV

c:\ezchrom\chrom\we24\we24.008 -- Channel A



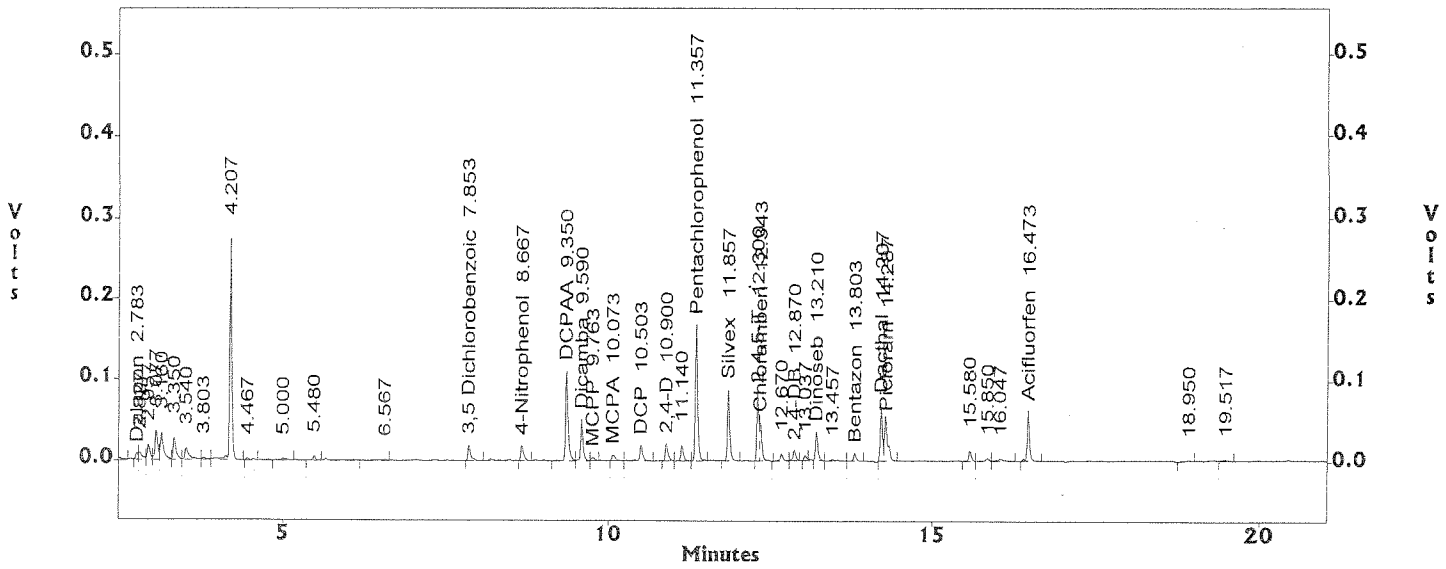
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HEE008WC
Acquired : May 24, 2016 13:40:29
Printed : May 24, 2016 14:09:18
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.783	17485.0	670.72	26.069	MM
3,5 Dichlorobenzoic	7.853	54763.0	715.76	76.511	BV
4-Nitrophenol	8.667	54509.0	449.15	121.360	VV
DCPAA	9.350	297745.0	362.66	821.013	VV
Dicamba	9.590	130059.0	1453.81	89.461	VV
MCPP	9.763	12191.0	2.68	4547.490	VI
MCPA	10.073	26086.0	5.25	4968.188	BV
DCP	10.503	63474.0	524.78	120.953	VV
2,4-D	10.900	62588.0	655.43	95.491	xV
Pentachlorophenol	11.357	425414.0	5377.45	79.111	VV
Silvex	11.857	222325.0	2195.19	101.278	xv
2,4,5-T	12.300	197042.0	1811.11	108.796	MM
Chloramben	12.343	112634.0	2217.34	50.797	MM
2,4-DB	12.870	37983.0	358.09	106.070	VV
Dinoseb	13.210	89933.0	1572.22	57.201	xV
Bentazon	13.803	26611.0	334.23	79.620	VI
Dacthal	14.207	165202.0	2502.35	66.019	MM
Picloram	14.287	187853.0	2928.76	64.141	MM
Acifluorfen	16.473	153725.0	1790.42	85.860	BB

c:\ezchrom\chrom\we24\we24.008 -- Channel B



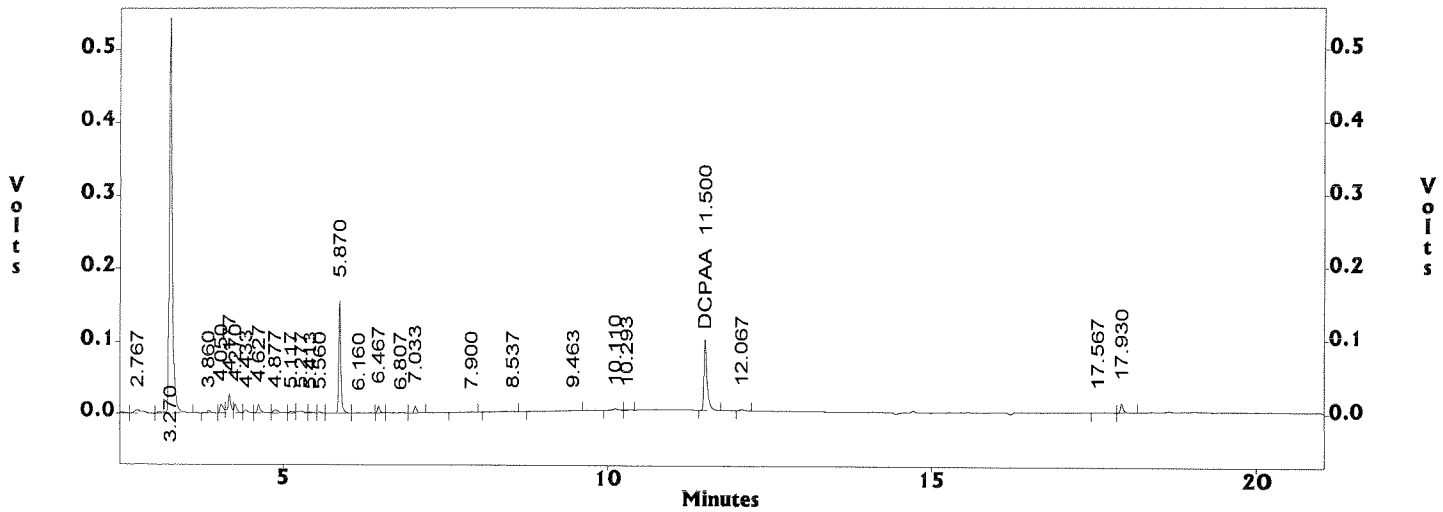
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.016
Method : c:\ezchrom\methods\he16c04.met
Sample ID : TXE014SB
Acquired : May 24, 2016 17:30:14
Printed : May 25, 2016 08:26:42
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.723	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	9.870	0.0	0.00	0.000	--
4-Nitrophenol	10.743	0.0	0.00	0.000	--
DCPAA	11.500	316376.0	363.72	869.836	Bx
Dicamba	11.663	0.0	0.00	0.000	--
MCPP	11.763	0.0	0.00	0.000	--
MCPA	12.263	0.0	0.00	0.000	--
DCP	12.617	0.0	0.00	0.000	--
2,4-D	13.180	0.0	0.00	0.000	--
Pentachlorophenol	13.870	0.0	0.00	0.000	--
Silvex	14.043	0.0	0.00	0.000	--
2,4,5-T	14.680	0.0	0.00	0.000	--
Chloramben	14.930	0.0	0.00	0.000	--
Dinoseb	15.097	0.0	0.00	0.000	--
2,4-DB	15.270	0.0	0.00	0.000	--
Bentazon	16.160	0.0	0.00	0.000	--
Dacthal	16.440	0.0	0.00	0.000	--
Picloram	16.947	0.0	0.00	0.000	--
Acifluorfen	18.667	0.0	0.00	0.000	--

c:\ezchrom\chrom\we24\we24.016 -- Channel A



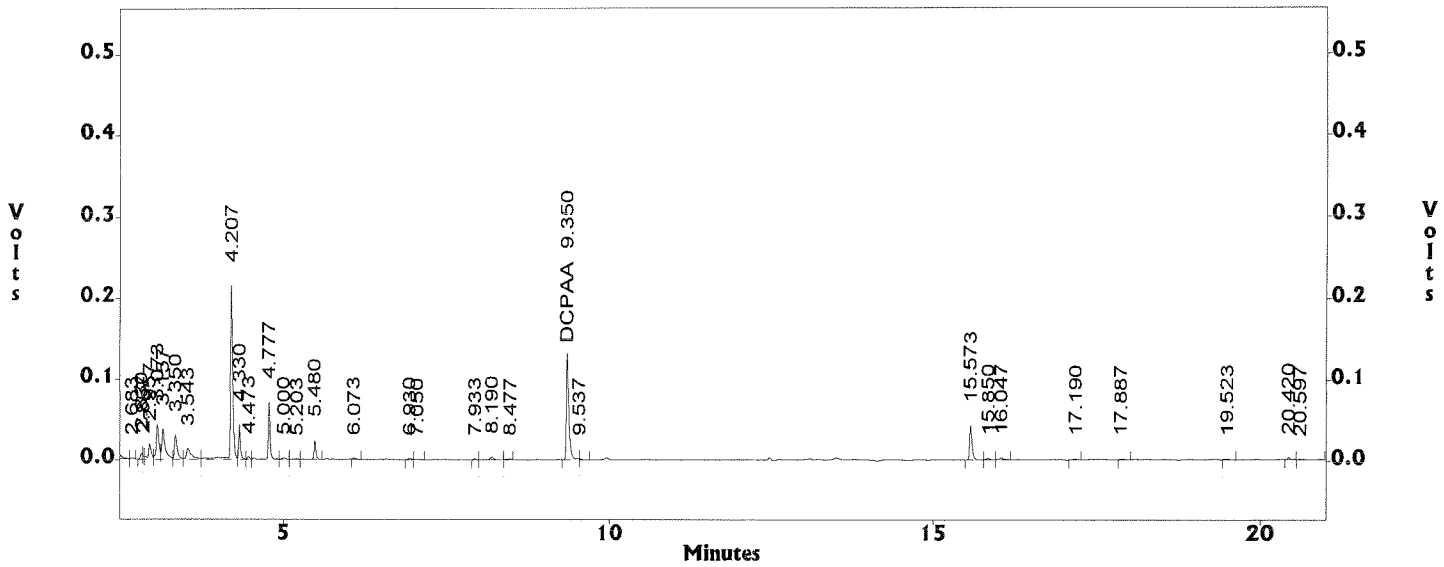
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.016
Method : c:\ezchrom\methods\he16c04.met
Sample ID : TXE014SB
Acquired : May 24, 2016 17:30:14
Printed : May 25, 2016 08:26:42
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.780	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.857	0.0	0.00	0.000	--
4-Nitrophenol	8.670	0.0	0.00	0.000	--
DCPAA	9.350	355835.0	362.66	981.192	Bx
Dicamba	9.587	0.0	0.00	0.000	--
MCPP	9.760	0.0	0.00	0.000	--
MCPA	10.073	0.0	0.00	0.000	--
DCP	10.503	0.0	0.00	0.000	--
2,4-D	10.900	0.0	0.00	0.000	--
Pentachlorophenol	11.357	0.0	0.00	0.000	--
Silvex	11.857	0.0	0.00	0.000	--
2,4,5-T	12.303	0.0	0.00	0.000	--
Chloramben	12.347	0.0	0.00	0.000	--
2,4-DB	12.873	0.0	0.00	0.000	--
Dinoseb	13.210	0.0	0.00	0.000	--
Bentazon	13.803	0.0	0.00	0.000	--
Dacthal	14.207	0.0	0.00	0.000	--
Picloram	14.280	0.0	0.00	0.000	--
Acifluorfen	16.477	0.0	0.00	0.000	--

c:\ezchrom\chrom\we24\we24.016 -- Channel B



INITIAL CALIBRATIONS

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Column : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
LFID & Datetime: WC04009B 03/04/16 15:35
LFID & Datetime: WC04008B 03/04/16 15:07
LFID & Datetime: WC04007B 03/04/16 14:39
LFID & Datetime: WC04006B 03/04/16 14:12
LFID & Datetime: WC04005B 03/04/16 13:44
LFID & Datetime: WC04004B 03/04/16 13:17
LFID & Datetime: WC04003B 03/04/16 12:49
LFID & Datetime: WC04002B 03/04/16 12:21
CONC UNIT: ppb

COMPOUND	CONC X	CALIBRATION FACTORS (AREA)/UNIT 1.00X	2.00X	4.00X	7.00X	10.00X	13.00X	16.00X	20.00X	MEAN	%RSD
Dalapon	9.10	0	540	736	691	713	690	681	644	670.7	9.6
3,5-Dichlorobenzo	9.31	0	819	759	748	707	677	670	630	715.8	8.9
4-Nitrophenol	9.09	0	526	477	486	449	421	408	377	449.2	11.4
Dicamba	9.40	0	1539	1503	1508	1455	1417	1411	1344	1453.8	4.7
MCPP	469.30	0	0	2.67	2.86	2.76	2.67	2.63	2.49	2.68	4.7
MCPA	467.30	0	0	6.23	6.00	5.40	5.00	4.77	4.11	5.25	15.1
Dichloroprop	9.44	0	585	555	557	518	503	490	466	524.8	8.1
2,4-D	9.40	0	753	697	680	648	622	612	576	655.4	9.1
Pentachlorophenol	9.50	5641	5789	5516	5521	5331	5165	5154	4902	5377.4	5.5
2,4,5-TP(Silvex)	9.50	0	2267	2208	2276	2222	2168	2166	2059	2195.2	3.4
Chloramben	9.36	0	2035	2223	2319	2283	2225	2241	2196	2217.3	4.1
2,4,5-T	9.48	0	1844	1817	1896	1854	1819	1805	1643	1811.1	4.4
2,4-DB	9.47	0	376	345	345	374	363	361	344	358.1	3.9
Dinoseb	9.45	0	1716	1622	1608	1580	1531	1513	1436	1572.2	5.7
Bentazon	9.45	0	423	355	344	306	305	305	303	334.2	13.3
Dacthal	9.15	0	2563	2505	2620	2545	2489	2472	2323	2502.4	3.7
Picloram	9.45	0	2668	2756	3017	3039	3018	3051	2953	2928.8	5.2
Acifluorfen	9.63	0	1838	1775	1827	1825	1788	1779	1700	1790.4	2.6
SURROGATE	X	1.00X	2.00X	4.00X	7.00X	10.00X	13.00X	16.00X	20.00X	MEAN	%RSD
2,4-DCPAA	93.58	0	446	395	373	350	334	330	311	362.7	12.8

RC 3/21/16

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
LFID & Datetime: WC04009A 03/04/16 15:35
LFID & Datetime: WC04008A 03/04/16 15:07
LFID & Datetime: WC04007A 03/04/16 14:39
LFID & Datetime: WC04006A 03/04/16 14:12
LFID & Datetime: WC04005A 03/04/16 13:44
LFID & Datetime: WC04004A 03/04/16 13:17
LFID & Datetime: WC04003A 03/04/16 12:49
LFID & Datetime: WC04002A 03/04/16 12:21

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Dalapon	3.787	3.787	3.787	3.783	3.783	3.783	3.783	3.783	3.784	3.757	3.811	0.027
3,5-Dichlorobenzo	9.973	9.970	9.973	9.970	9.970	9.970	9.970	9.970	9.970	9.932	10.008	0.038
4-Nitrophenol	0.000	10.847	10.847	10.843	10.843	10.843	10.843	10.843	10.844	10.806	10.882	0.038
Dicamba	11.770	11.767	11.770	11.767	11.770	11.770	11.770	11.770	11.769	11.730	11.808	0.039
MCPP	0.000	0.000	11.873	11.867	11.867	11.867	11.870	11.867	11.868	11.830	11.907	0.039
MCPA	0.000	12.373	12.373	12.370	12.370	12.367	12.370	12.367	12.369	12.330	12.408	0.039
Dichloroprop	12.727	12.720	12.723	12.720	12.723	12.720	12.723	12.720	12.721	12.683	12.759	0.038
2,4-D	13.293	13.290	13.290	13.287	13.287	13.287	13.287	13.287	13.288	13.243	13.333	0.045
Pentachlorophenol	13.987	13.983	13.987	13.983	13.987	13.983	13.987	13.987	13.986	13.941	14.031	0.045
2,4,5-TP(Silvex)	14.157	14.153	14.157	14.153	14.153	14.153	14.153	14.153	14.154	14.111	14.197	0.043
Chloramben	0.000	15.047	15.047	15.043	15.043	15.043	15.043	15.043	15.044	15.001	15.087	0.043
2,4,5-T	0.000	14.797	14.797	14.793	14.793	14.793	14.793	14.793	14.794	14.751	14.837	0.043
2,4-DB	0.000	15.387	15.387	15.383	15.383	15.383	15.383	15.383	15.384	15.346	15.422	0.038
Dinoseb	15.213	15.210	15.210	15.210	15.210	15.210	15.210	15.210	15.210	15.166	15.254	0.044
Bentazon	16.277	16.273	16.277	16.273	16.277	16.277	16.277	16.277	16.276	16.228	16.324	0.048
Dacthal	16.560	16.557	16.560	16.557	16.557	16.557	16.557	16.557	16.557	16.512	16.602	0.045
Picloram	17.077	17.070	17.070	17.067	17.067	17.067	17.067	17.067	17.068	17.020	17.116	0.048
Acifluorfen	0.000	18.787	18.787	18.783	18.783	18.783	18.783	18.783	18.784	18.743	18.825	0.041
SURROGATE	1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	RT	FROM	TO	WIDTH
2,4-DCPAA	0.000	11.603	11.607	11.603	11.603	11.603	11.603	11.603	11.604	11.561	11.647	0.043

3/21/16

INITIAL CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Column : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
LFID & Datetime: WC04009B 03/04/16 15:35
LFID & Datetime: WC04008B 03/04/16 15:07
LFID & Datetime: WC04007B 03/04/16 14:39
LFID & Datetime: WC04006B 03/04/16 14:12
LFID & Datetime: WC04005B 03/04/16 13:44
LFID & Datetime: WC04004B 03/04/16 13:17
LFID & Datetime: WC04003B 03/04/16 12:49
LFID & Datetime: WC04002B 03/04/16 12:21

COMPOUND	RT OF STANDARDS (MIN) 1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	MEAN RT	RT WINDOW FROM	TO	RTWINDOW WIDTH
Dalapon	0.000	2.840	2.843	2.840	2.840	2.840	2.840	2.840	2.840	2.822	2.858	0.018
3,5-Dichlorobenzo	7.987	7.983	7.987	7.983	7.983	7.983	7.983	7.980	7.983	7.948	8.018	0.035
4-Nitrophenol	8.813	8.807	8.810	8.803	8.803	8.803	8.803	8.803	8.805	8.770	8.840	0.035
Dicamba	9.730	9.727	9.727	9.727	9.727	9.727	9.727	9.727	9.727	9.688	9.766	0.039
MCPP	0.000	0.000	9.897	9.897	9.897	9.897	9.897	9.897	9.897	9.858	9.936	0.039
MCPA	0.000	10.213	10.213	10.210	10.210	10.210	10.210	10.207	10.210	10.172	10.248	0.038
Dichloroprop	10.647	10.643	10.643	10.640	10.640	10.640	10.640	10.640	10.641	10.603	10.679	0.038
2,4-D	0.000	11.040	11.040	11.037	11.037	11.037	11.037	11.037	11.038	11.003	11.073	0.035
Pentachlorophenol	11.510	11.503	11.507	11.503	11.507	11.507	11.507	11.507	11.506	11.467	11.545	0.039
2,4,5-TP(Silvex)	12.007	12.000	12.003	12.000	12.000	12.000	12.000	12.000	12.000	11.962	12.038	0.038
Chloramben	12.507	12.500	12.500	12.497	12.497	12.497	12.497	12.493	12.497	12.458	12.536	0.039
2,4,5-T	12.457	12.450	12.450	12.447	12.447	12.447	12.447	12.447	12.448	12.409	12.487	0.039
2,4-DB	0.000	13.027	13.027	13.020	13.020	13.020	13.020	13.017	13.022	12.984	13.060	0.038
Dinoseb	13.363	13.360	13.360	13.360	13.360	13.360	13.360	13.360	13.360	13.327	13.393	0.033
Bentazon	13.960	13.957	13.960	13.960	13.960	13.960	13.960	13.960	13.960	13.917	14.003	0.043
Dacthal	14.363	14.360	14.363	14.360	14.360	14.360	14.360	14.360	14.360	14.320	14.400	0.040
Picloram	0.000	14.443	14.443	14.440	14.437	14.437	14.437	14.437	14.439	14.400	14.478	0.039
Acifluorfen	16.637	16.633	16.633	16.633	16.633	16.633	16.633	16.633	16.633	16.595	16.671	0.038

SURROGATE	1.0X	2.0X	4.0X	7.0X	10.0X	13.0X	16.0X	20.0X	RT	FROM	TO	WIDTH
2,4-DCPAA	9.490	9.487	9.487	9.483	9.483	9.483	9.483	9.483	9.484	9.452	9.516	0.032

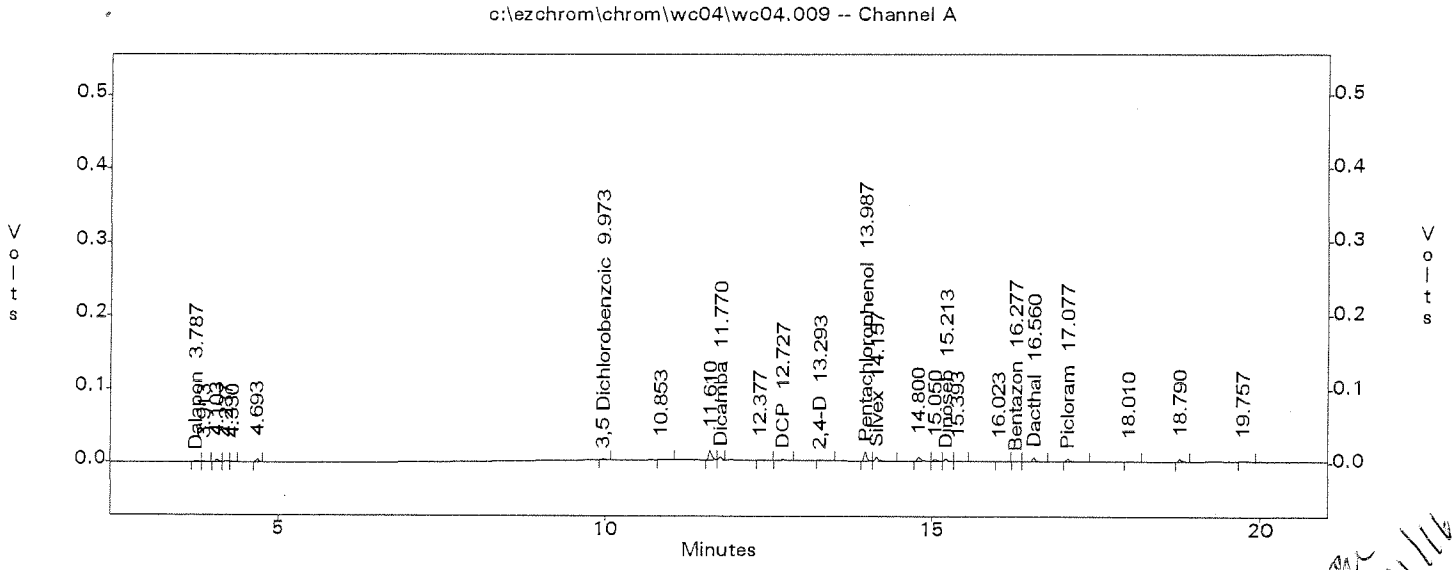
3/21/16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.009
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C041
Acquired : Mar 04, 2016 15:35:17
Printed : Mar 09, 2016 11:53:22
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	5581.0	656.35	-1.000	BV
3,5 Dichlorobenzoic	9.973	6269.0	653.22	-1.000	BV
4-Nitrophenol	10.830	0.0	0.00	0.000	--
DCPAA	11.587	0.0	0.00	0.000	--
Dicamba	11.770	11990.0	1295.75	-1.000	Vx
MCPP	11.853	0.0	0.00	0.000	--
MCPA	12.353	0.0	0.00	0.000	--
DCP	12.727	5041.0	486.34	-1.000	VB
2,4-D	13.293	5704.0	575.75	-1.000	BB
Pentachlorophenol	13.987	35804.0	4721.25	9.496	BV
Silvex	14.157	16068.0	1884.14	-1.000	VB
2,4,5-T	14.777	0.0	0.00	0.000	--
Chloramben	15.027	0.0	0.00	0.000	--
Dinoseb	15.213	10472.0	1172.65	-1.000	VV
2,4-DB	15.367	0.0	0.00	0.000	--
Bentazon	16.277	1927.0	210.68	-1.000	VV
Dacthal	16.560	18082.0	2232.57	-1.000	VV
Picloram	17.077	15025.0	2122.79	-1.000	Bx
Acifluorfen	18.767	0.0	0.00	0.000	--



3/21/16

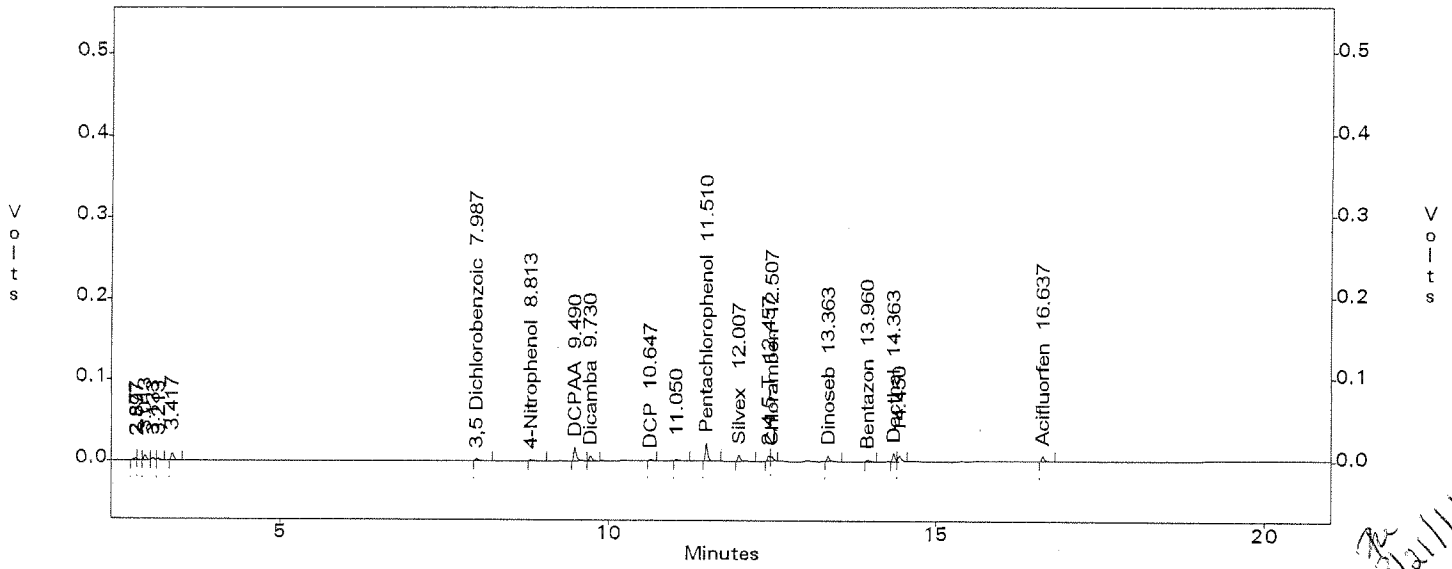
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.009
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C041
Acquired : Mar 04, 2016 15:35:17
Printed : Mar 09, 2016 11:53:23
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.833	0.0	0.00	0.000	--
3,5 Dichlorobenzoic	7.987	8241.0	715.76	-1.000	BV
4-Nitrophenol	8.813	5414.0	449.15	-1.000	BV
DCPAA	9.490	47711.0	362.66	-1.000	BV
Dicamba	9.730	15747.0	1453.81	-1.000	VV
MCPP	9.883	0.0	0.00	0.000	--
MCPA	10.197	0.0	0.00	0.000	--
DCP	10.647	5640.0	524.78	-1.000	BV
2,4-D	11.027	0.0	0.00	0.000	--
Pentachlorophenol	11.510	53567.0	5377.45	9.496	BB
Silvex	12.007	21041.0	2195.19	-1.000	BV
2,4,5-T	12.457	16273.0	1811.11	-1.000	MM
Chloramben	12.507	16710.0	2217.34	-1.000	MM
2,4-DB	13.007	0.0	0.00	0.000	--
Dinoseb	13.363	16753.0	1572.22	-1.000	BB
Bentazon	13.960	5425.0	334.23	-1.000	BB
Dacthal	14.363	22766.0	2502.35	-1.000	BV
Picloram	14.423	0.0	0.00	0.000	--
Acifluorfen	16.637	18123.0	1790.42	-1.000	BV

c:\ezchrom\chrom\wc04\wc04.009 -- Channel B



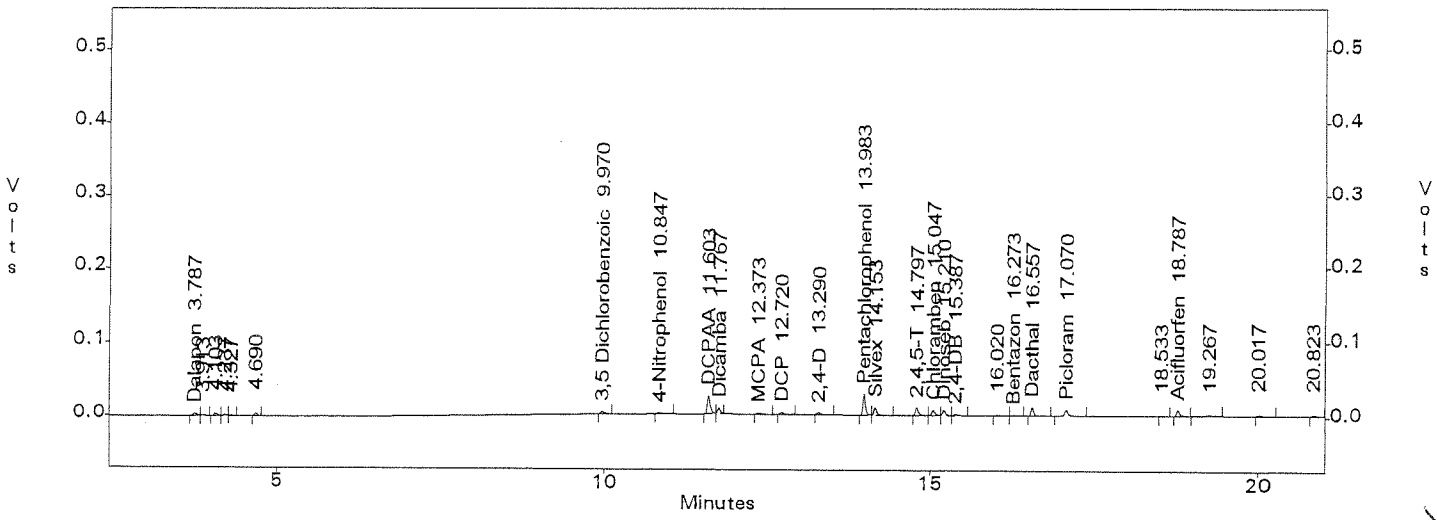
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C042
Acquired : Mar 04, 2016 15:07:41
Printed : Mar 09, 2016 11:53:29
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	11123.0	656.35	18.206	Bx
3,5 Dichlorobenzoic	9.970	12731.0	653.22	18.628	BV
4-Nitrophenol	10.847	6234.0	343.86	18.170	BB
DCPAA	11.603	79811.0	363.72	187.160	BV
Dicamba	11.767	23110.0	1295.75	18.804	Vx
MCPP	11.853	0.0	0.00	0.000	--
MCPA	12.373	7304.0	5.06	-1.000	BV
DCP	12.720	9429.0	486.34	18.870	BB
2,4-D	13.290	11290.0	575.75	18.804	BB
Pentachlorophenol	13.983	78834.0	4721.25	18.992	BV
Silvex	14.153	32097.0	1884.14	19.006	VB
2,4,5-T	14.797	34122.0	1955.79	18.954	BV
Chloramben	15.047	23814.0	1396.68	18.722	VV
Dinoseb	15.210	22528.0	1172.65	18.898	VV
2,4-DB	15.387	6535.0	323.63	18.932	VB
Bentazon	16.273	3880.0	210.68	18.898	VB
Dacthal	16.557	34725.0	2232.57	18.302	BB
Picloram	17.070	32889.0	2122.79	18.898	BB
Acifluorfen	18.787	23254.0	1242.47	19.254	vv

c:\ezchrom\chrom\wc04\wc04.008 -- Channel A



3-21-16

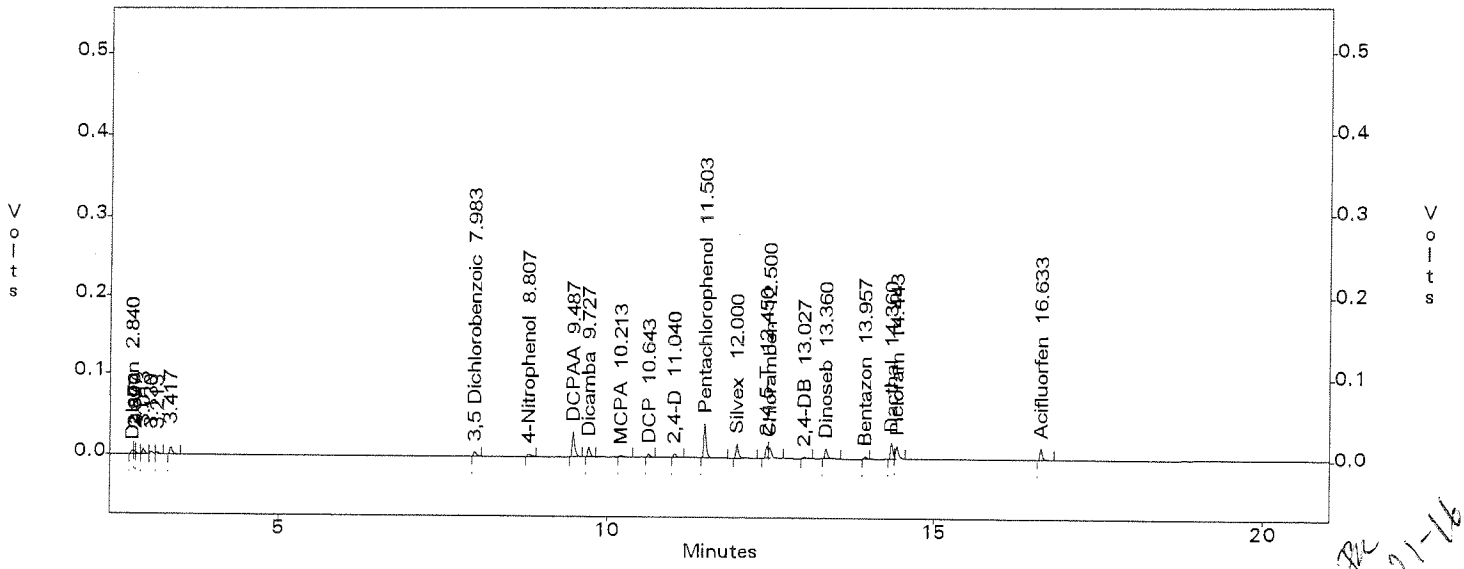
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.008
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C042
Acquired : Mar 04, 2016 15:07:41
Printed : Mar 09, 2016 11:53:29
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	9829.0	670.72	18.206	xx
3,5 Dichlorobenzoic	7.983	15256.0	715.76	18.628	BI
4-Nitrophenol	8.807	9556.0	449.15	18.170	BI
DCPAA	9.487	83502.0	362.66	187.160	BI
Dicamba	9.727	28930.0	1453.81	18.804	BI
MCPP	9.883	0.0	0.00	0.000	--
MCPA	10.213	7201.0	5.25	-1.000	BV
DCP	10.643	11042.0	524.78	18.870	BB
2,4-D	11.040	14155.0	655.43	18.804	BI
Pentachlorophenol	11.503	109949.0	5377.45	18.992	BB
Silvex	12.000	43092.0	2195.19	19.006	BB
2,4,5-T	12.450	34942.0	1811.11	18.954	MM
Chloramben	12.500	38099.0	2217.34	18.722	MM
2,4-DB	13.027	7114.0	358.09	18.932	SB
Dinoseb	13.360	32425.0	1572.22	18.898	BB
Bentazon	13.957	7986.0	334.23	18.898	BI
Dacthal	14.360	46910.0	2502.35	18.302	BV
Picloram	14.443	50425.0	2928.76	18.898	Vx
Acifluorfen	16.633	35398.0	1790.42	19.254	BV

c:\ezchrom\chrom\wc04\wc04.008 -- Channel B



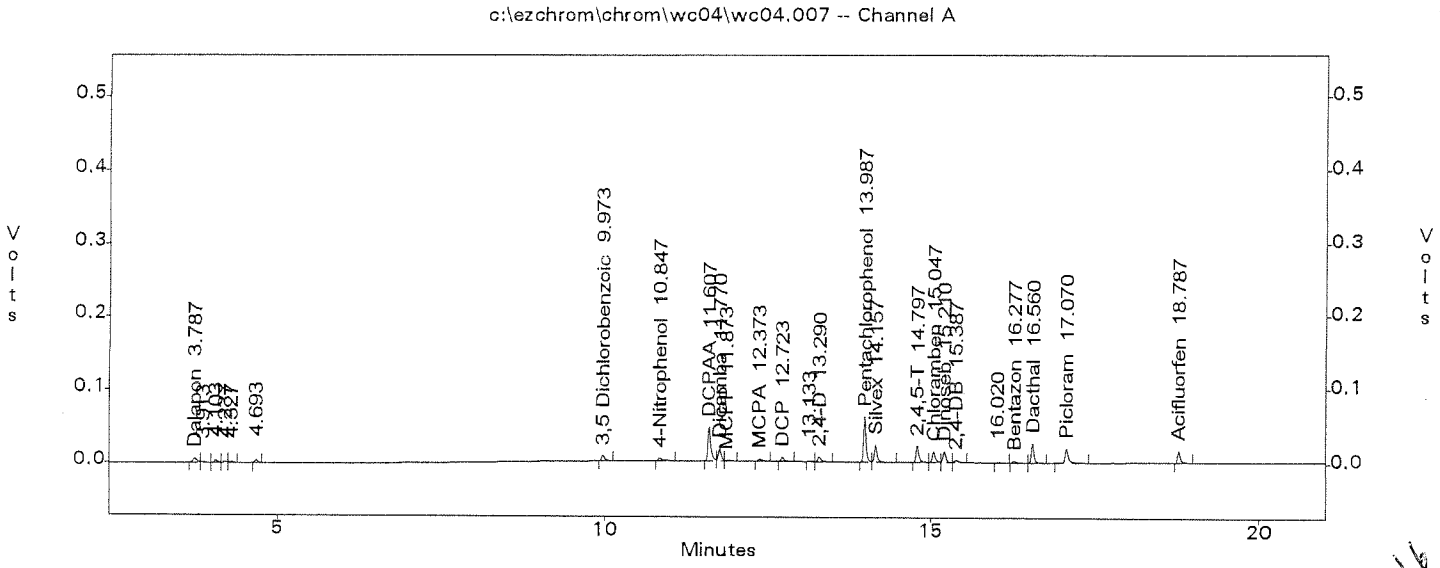
RZ 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C043
Acquired : Mar 04, 2016 14:39:59
Printed : Mar 09, 2016 11:53:34
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	24057.0	656.35	36.412	xx
3,5 Dichlorobenzoic	9.973	24437.0	653.22	37.256	BV
4-Nitrophenol	10.847	12481.0	343.86	36.340	BB
DCPAA	11.607	145968.0	363.72	374.320	BV
Dicamba	11.770	47469.0	1295.75	37.608	Vx
MCPP	11.873	4351.0	2.25	1876.600	xx
MCPA	12.373	11590.0	5.06	1869.200	BI
DCP	12.723	18123.0	486.34	37.740	BB
2,4-D	13.290	21972.0	575.75	37.608	VB
Pentachlorophenol	13.987	169667.0	4721.25	37.984	BV
Silvex	14.157	64972.0	1884.14	38.012	VB
2,4,5-T	14.797	67784.0	1955.79	37.908	BV
Chloramben	15.047	46089.0	1396.68	37.444	VV
Dinoseb	15.210	42788.0	1172.65	37.796	VV
2,4-DB	15.387	12082.0	323.63	37.864	VV
Bentazon	16.277	7613.0	210.68	37.796	VV
Dacthal	16.560	72015.0	2232.57	36.604	VB
Picloram	17.070	68397.0	2122.79	37.796	Bx
Acifluorfen	18.787	46051.0	1242.47	38.508	vv



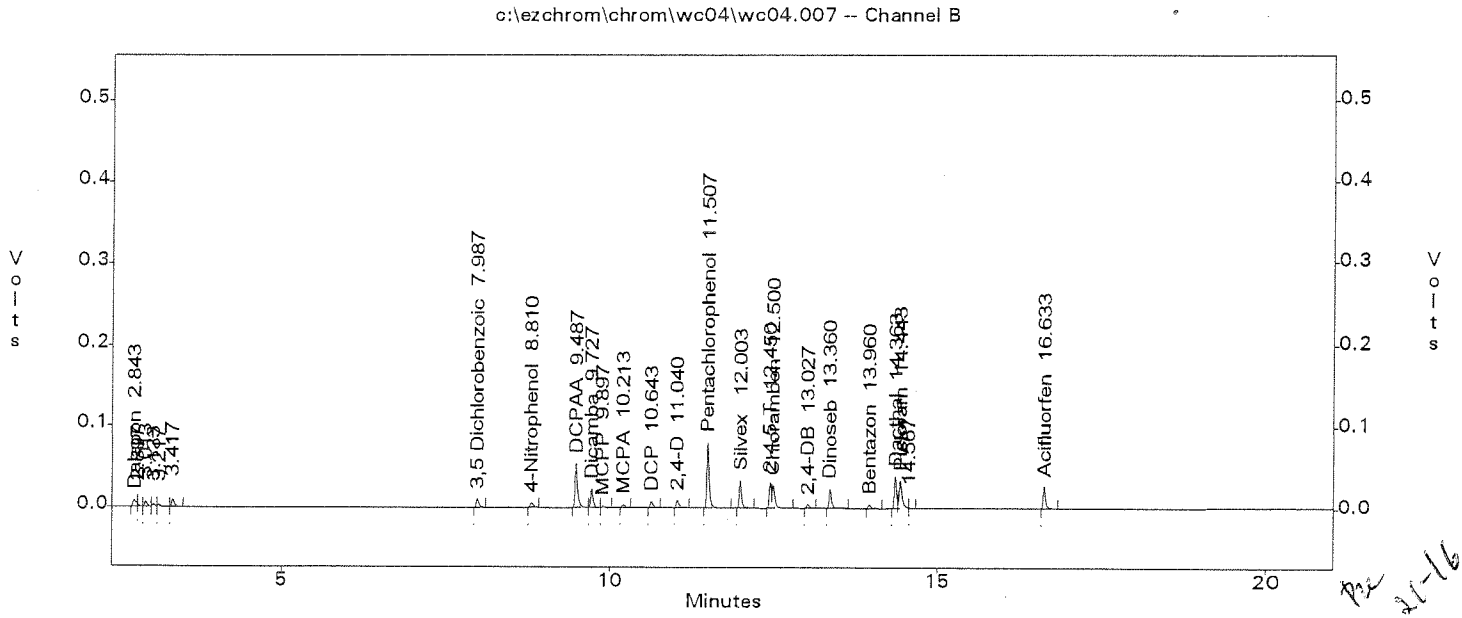
RZ 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.007
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C043
Acquired : Mar 04, 2016 14:39:59
Printed : Mar 09, 2016 11:53:34
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.843	26790.0	670.72	36.412	xx
3,5 Dichlorobenzoic	7.987	28277.0	715.76	37.256	BI
4-Nitrophenol	8.810	17319.0	449.15	36.340	BI
DCPAA	9.487	147810.0	362.66	374.320	BV
Dicamba	9.727	56521.0	1453.81	37.608	VV
MCPP	9.897	5017.0	2.68	1876.600	VV
MCPA	10.213	11642.0	5.25	1869.200	BI
DCP	10.643	20947.0	524.78	37.740	BB
2,4-D	11.040	26225.0	655.43	37.608	BB
Pentachlorophenol	11.507	209534.0	5377.45	37.984	BB
Silvex	12.003	83930.0	2195.19	38.012	BB
2,4,5-T	12.450	68877.0	1811.11	37.908	BS
Chloramben	12.500	83225.0	2217.34	37.444	SB
2,4-DB	13.027	13050.0	358.09	37.864	BB
Dinoseb	13.360	61303.0	1572.22	37.796	BB
Bentazon	13.960	13403.0	334.23	37.796	BB
Dacthal	14.363	91692.0	2502.35	36.604	BV
Picloram	14.443	104165.0	2928.76	37.796	Vx
Acifluorfen	16.633	68349.0	1790.42	38.508	BV



3-21-16

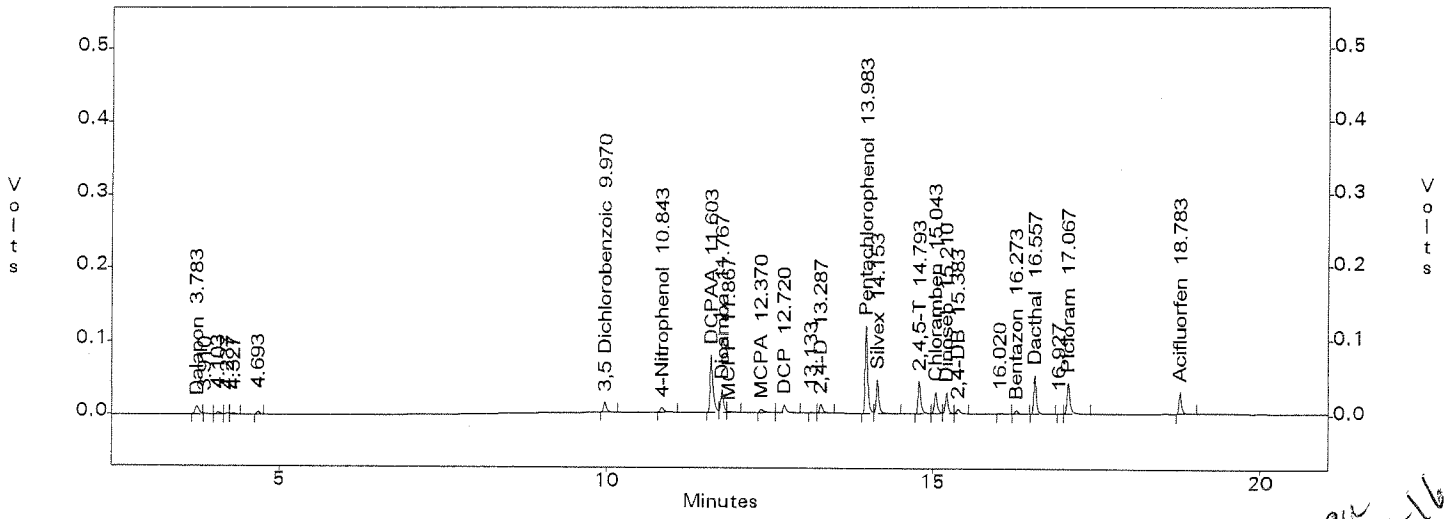
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C044
Acquired : Mar 04, 2016 14:12:21
Printed : Mar 09, 2016 11:53:39
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	43622.0	656.35	63.721	xx
3,5 Dichlorobenzoic	9.970	43989.0	653.22	65.198	BV
4-Nitrophenol	10.843	22529.0	343.86	63.595	BB
DCPAA	11.603	246836.0	363.72	655.060	BV
Dicamba	11.767	87484.0	1295.75	65.814	Vx
MCPP	11.867	7641.0	2.25	3284.050	xx
MCPA	12.370	17935.0	5.06	3271.100	BV
DCP	12.720	33244.0	486.34	66.045	VB
2,4-D	13.287	39054.0	575.75	65.814	VB
Pentachlorophenol	13.983	332435.0	4721.25	66.472	BV
Silvex	14.153	126094.0	1884.14	66.521	VV
2,4,5-T	14.793	130094.0	1955.79	66.339	BV
Chloramben	15.043	89484.0	1396.68	65.527	VV
Dinoseb	15.210	77797.0	1172.65	66.143	VV
2,4-DB	15.383	21647.0	323.63	66.262	VV
Bentazon	16.273	14003.0	210.68	66.143	VV
Dacthal	16.557	143059.0	2232.57	64.057	VV
Picloram	17.067	136610.0	2122.79	66.143	Vx
Acifluorfen	18.783	84431.0	1242.47	67.389	vv

c:\ezchrom\chrom\wc04\wc04.006 -- Channel A



RZ 3-21-16

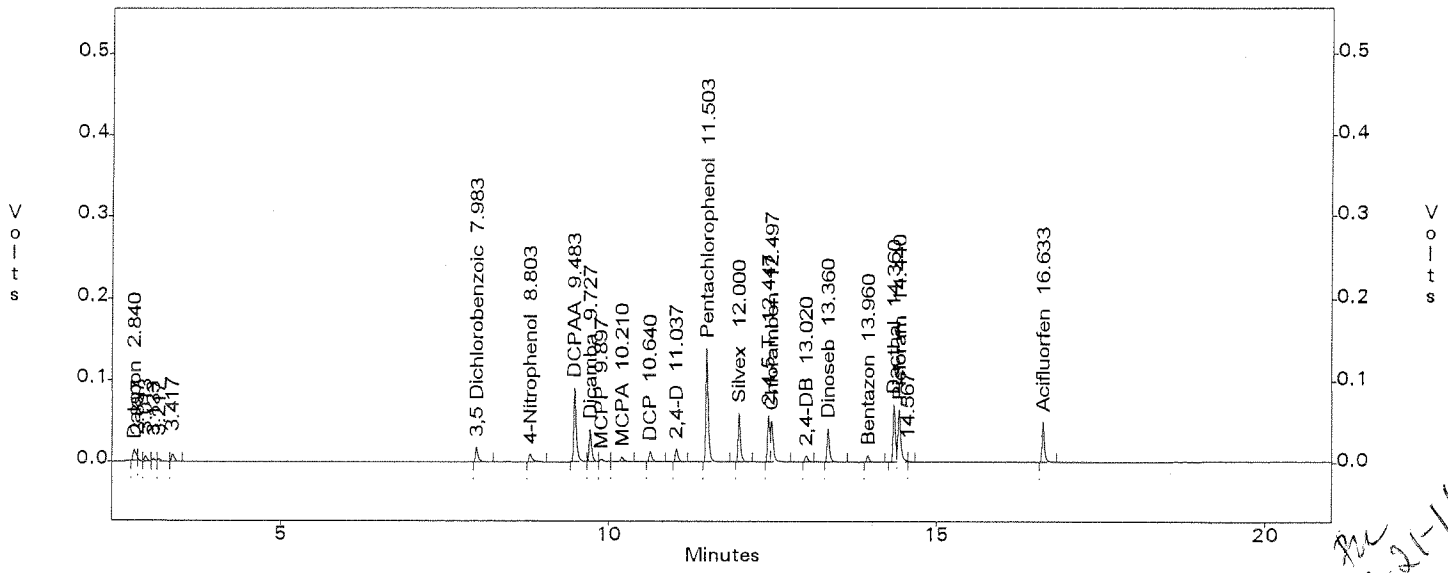
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.006
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C044
Acquired : Mar 04, 2016 14:12:21
Printed : Mar 09, 2016 11:53:40
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	44014.0	670.72	63.721	xx
3,5 Dichlorobenzoic	7.983	48740.0	715.76	65.198	BB
4-Nitrophenol	8.803	30926.0	449.15	63.595	BV
DCPAA	9.483	244182.0	362.66	655.060	BV
Dicamba	9.727	99247.0	1453.81	65.814	VV
MCPP	9.897	9385.0	2.68	3284.050	VV
MCPA	10.210	19614.0	5.25	3271.100	VV
DCP	10.640	36780.0	524.78	66.045	BB
2,4-D	11.037	44763.0	655.43	65.814	BB
Pentachlorophenol	11.503	367020.0	5377.45	66.472	BB
Silvex	12.000	151380.0	2195.19	66.521	BB
2,4,5-T	12.447	125752.0	1811.11	66.339	BS
Chloramben	12.497	151963.0	2217.34	65.527	SV
2,4-DB	13.020	22847.0	358.09	66.262	BB
Dinoseb	13.360	106346.0	1572.22	66.143	BB
Bentazon	13.960	22741.0	334.23	66.143	BV
Dacthal	14.360	167833.0	2502.35	64.057	xV
Picloram	14.440	199532.0	2928.76	66.143	Vx
Acifluorfen	16.633	123140.0	1790.42	67.389	BV

c:\ezchrom\chrom\wc04\wc04.006 -- Channel B



RL 3-21-16

948

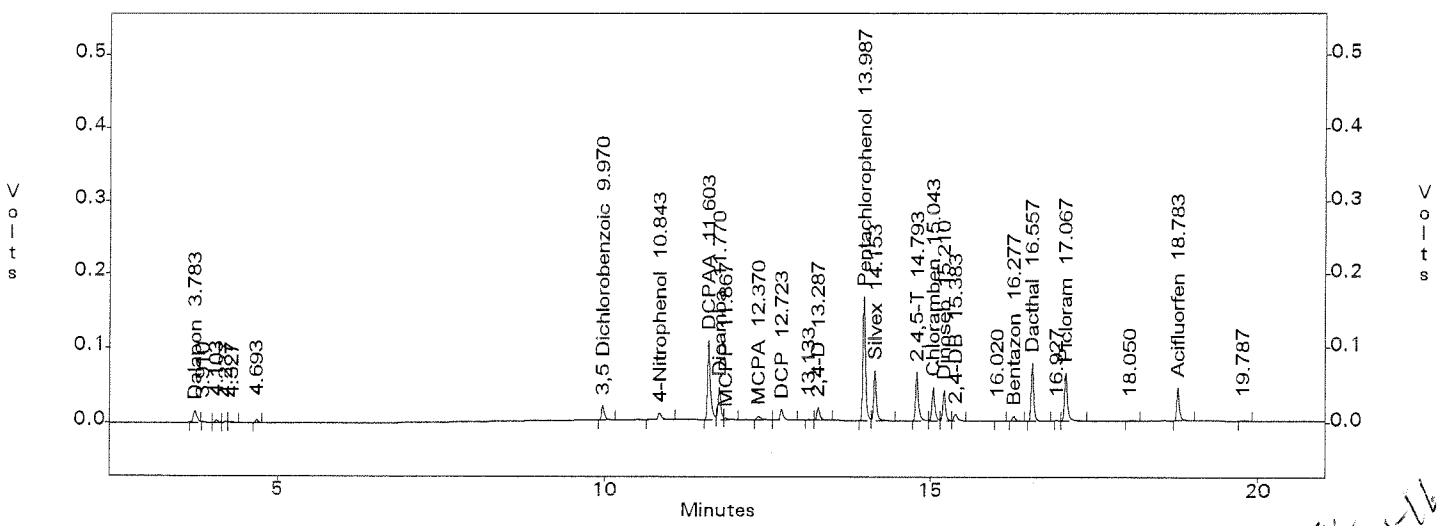
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.005
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C045
Acquired : Mar 04, 2016 13:44:39
Printed : Mar 09, 2016 11:53:46
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	61270.0	656.35	91.030	xx
3,5 Dichlorobenzoic	9.970	61131.0	653.22	93.140	BV
4-Nitrophenol	10.843	31655.0	343.86	90.850	VB
DCPAA	11.603	333693.0	363.72	935.800	BV
Dicamba	11.770	124191.0	1295.75	94.020	Vx
MCPP	11.867	10529.0	2.25	4691.500	xx
MCPA	12.370	24407.0	5.06	4673.000	BV
DCP	12.723	46960.0	486.34	94.350	VB
2,4-D	13.287	54654.0	575.75	94.020	VB
Pentachlorophenol	13.987	483708.0	4721.25	94.960	BV
Silvex	14.153	184545.0	1884.14	95.030	VB
2,4,5-T	14.793	193597.0	1955.79	94.770	BV
Chloramben	15.043	134633.0	1396.68	93.610	VV
Dinoseb	15.210	112501.0	1172.65	94.490	VV
2,4-DB	15.383	30695.0	323.63	94.660	VV
Bentazon	16.277	20000.0	210.68	94.490	VV
Dacthal	16.557	211912.0	2232.57	91.510	VV
Picloram	17.067	207749.0	2122.79	94.490	VB
Acifluorfen	18.783	123079.0	1242.47	96.270	vv

c:\ezchrom\chrom\wc04\wc04.005 -- Channel A



3-21-16

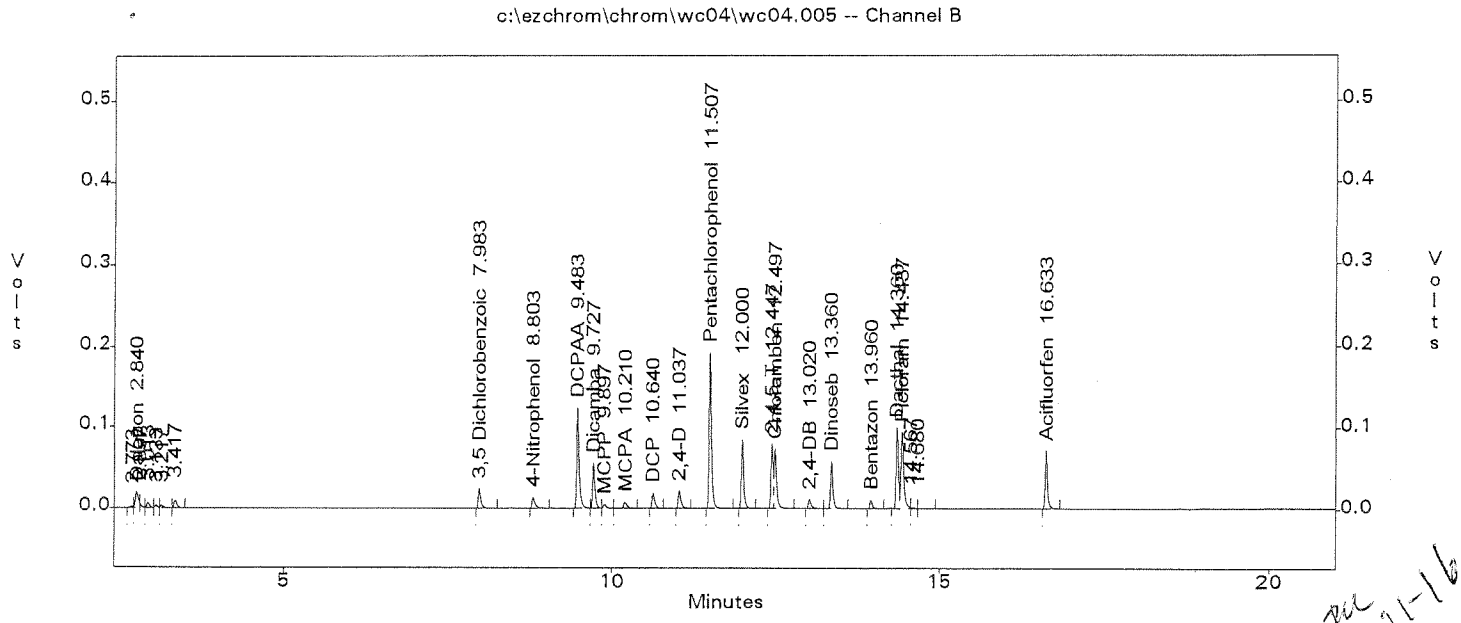
949

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.005
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C045
Acquired : Mar 04, 2016 13:44:39
Printed : Mar 09, 2016 11:53:46
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	64887.0	670.72	91.030	xx
3,5 Dichlorobenzoic	7.983	65890.0	715.76	93.140	BB
4-Nitrophenol	8.803	40801.0	449.15	90.850	BV
DCPAA	9.483	327337.0	362.66	935.800	BV
Dicamba	9.727	136796.0	1453.81	94.020	VV
MCPP	9.897	12962.0	2.68	4691.500	VV
MCPA	10.210	25240.0	5.25	4673.000	VV
DCP	10.640	48896.0	524.78	94.350	BB
2,4-D	11.037	60900.0	655.43	94.020	BB
Pentachlorophenol	11.507	506244.0	5377.45	94.960	BB
Silvex	12.000	211139.0	2195.19	95.030	BB
2,4,5-T	12.447	175688.0	1811.11	94.770	BS
Chloramben	12.497	213696.0	2217.34	93.610	SV
2,4-DB	13.020	35359.0	358.09	94.660	BV
Dinoseb	13.360	149294.0	1572.22	94.490	VB
Bentazon	13.960	28919.0	334.23	94.490	BB
Dacthal	14.360	232905.0	2502.35	91.510	xV
Picloram	14.437	287113.0	2928.76	94.490	Vx
Acifluorfen	16.633	175712.0	1790.42	96.270	BV



RZ 3-21-16

950

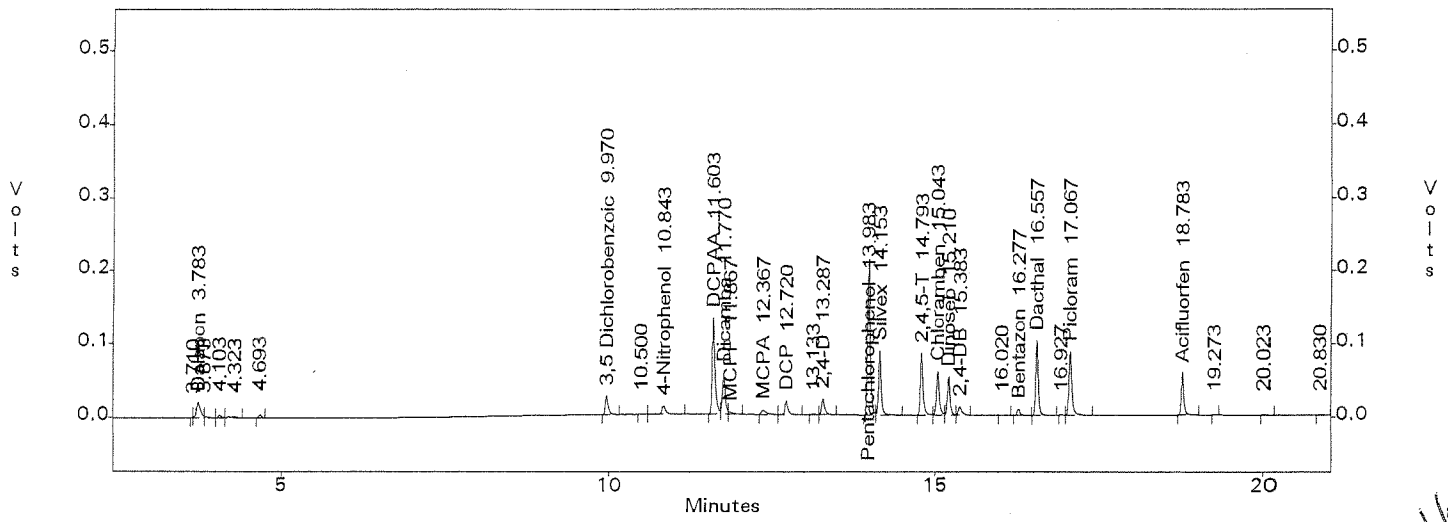
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C046
Acquired : Mar 04, 2016 13:17:03
Printed : Mar 09, 2016 11:53:51
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	78504.0	656.35	118.339	xx
3,5 Dichlorobenzoic	9.970	77900.0	653.22	121.082	BV
4-Nitrophenol	10.843	40703.0	343.86	118.105	VB
DCPAA	11.603	416535.0	363.72	1216.540	BV
Dicamba	11.770	160559.0	1295.75	122.226	Vx
MCPP	11.867	13298.0	2.25	6098.950	xx
MCPA	12.367	28805.0	5.06	6074.900	VV
DCP	12.720	58907.0	486.34	122.655	VV
2,4-D	13.287	69392.0	575.75	122.226	VB
Pentachlorophenol	13.983	629848.0	4721.25	123.448	BV
Silvex	14.153	243197.0	1884.14	123.539	VV
2,4,5-T	14.793	250010.0	1955.79	123.201	BV
Chloramben	15.043	178401.0	1396.68	121.693	VV
Dinoseb	15.210	144679.0	1172.65	122.837	VV
2,4-DB	15.383	39303.0	323.63	123.058	VV
Bentazon	16.277	26199.0	210.68	122.837	VV
Dacthal	16.557	281997.0	2232.57	118.963	VV
Picloram	17.067	282088.0	2122.79	122.837	Vx
Acifluorfen	18.783	157998.0	1242.47	125.151	vv

c:\ezchrom\chrom\wc04\wc04.004 -- Channel A



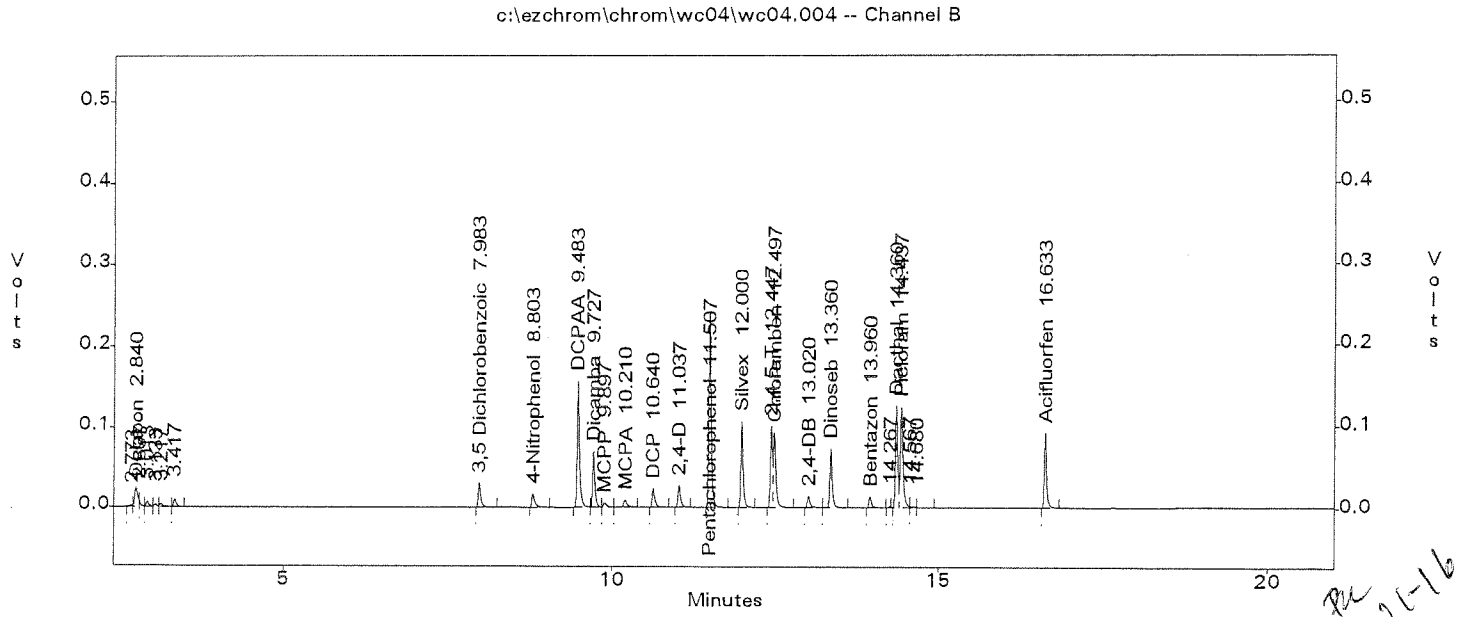
RZ 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.004
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C046
Acquired : Mar 04, 2016 13:17:03
Printed : Mar 09, 2016 11:53:51
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	81692.0	670.72	118.339	xx
3,5 Dichlorobenzoic	7.983	82007.0	715.76	121.082	BB
4-Nitrophenol	8.803	49734.0	449.15	118.105	BV
DCPAA	9.483	406688.0	362.66	1216.540	BV
Dicamba	9.727	173205.0	1453.81	122.226	VV
MCPP	9.897	16282.0	2.68	6098.950	VV
MCPA	10.210	30350.0	5.25	6074.900	VV
DCP	10.640	61649.0	524.78	122.655	BB
2,4-D	11.037	76018.0	655.43	122.226	BB
Pentachlorophenol	11.507	637557.0	5377.45	123.448	BB
Silvex	12.000	267842.0	2195.19	123.539	BB
2,4,5-T	12.447	224132.0	1811.11	123.201	BS
Chloramben	12.497	270740.0	2217.34	121.693	SV
2,4-DB	13.020	44685.0	358.09	123.058	BV
Dinoseb	13.360	188039.0	1572.22	122.837	VB
Bentazon	13.960	37487.0	334.23	122.837	BV
Dacthal	14.360	296056.0	2502.35	118.963	VV
Picloram	14.437	370737.0	2928.76	122.837	Vx
Acifluorfen	16.633	223758.0	1790.42	125.151	BV



RL 3-21-16

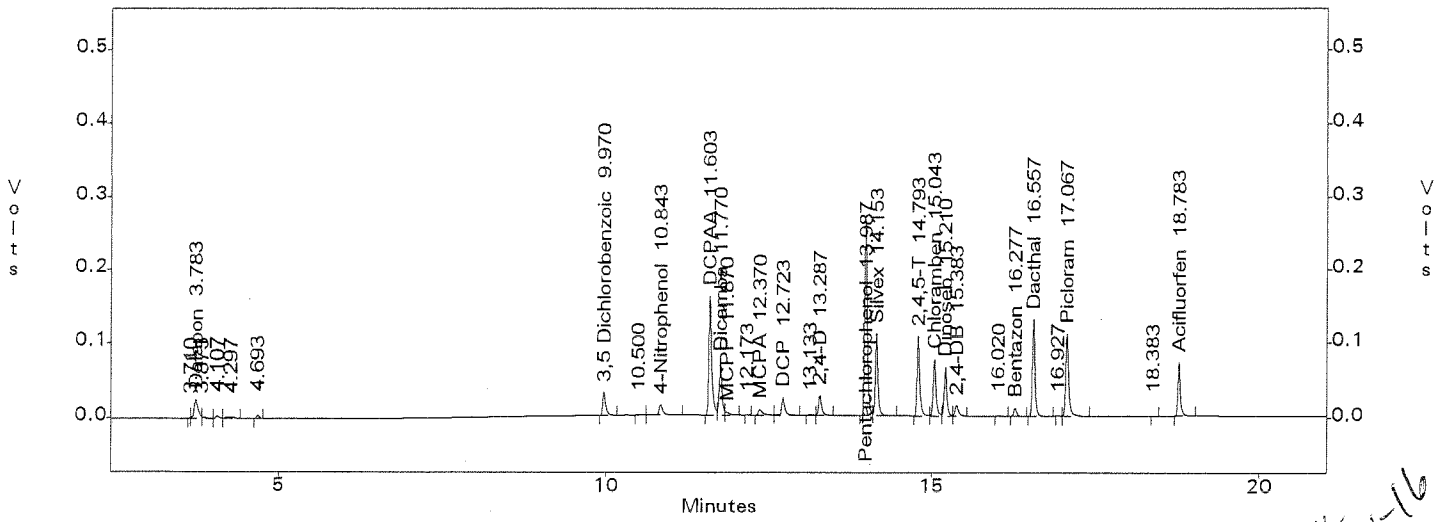
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C047
Acquired : Mar 04, 2016 12:49:26
Printed : Mar 09, 2016 11:53:56
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	97128.0	656.35	145.648	xx
3,5 Dichlorobenzoic	9.970	96167.0	653.22	149.024	BV
4-Nitrophenol	10.843	50540.0	343.86	145.360	VB
DCPAA	11.603	504520.0	363.72	1497.280	BV
Dicamba	11.770	200359.0	1295.75	150.432	Vx
MCPP	11.870	16814.0	2.25	7506.400	xx
MCPA	12.370	34516.0	5.06	7476.800	VV
DCP	12.723	73776.0	486.34	150.960	VV
2,4-D	13.287	84916.0	575.75	150.432	VB
Pentachlorophenol	13.987	788403.0	4721.25	151.936	BV
Silvex	14.153	307109.0	1884.14	152.048	VB
2,4,5-T	14.793	313780.0	1955.79	151.632	BV
Chloramben	15.043	227245.0	1396.68	149.776	VV
Dinoseb	15.210	180106.0	1172.65	151.184	VV
2,4-DB	15.383	48269.0	323.63	151.456	VV
Bentazon	16.277	33049.0	210.68	151.184	VV
Dacthal	16.557	359117.0	2232.57	146.416	VV
Picloram	17.067	362156.0	2122.79	151.184	Vx
Acifluorfen	18.783	195829.0	1242.47	154.032	vv

c:\ezchrom\chrom\wc04\wc04.003 -- Channel A



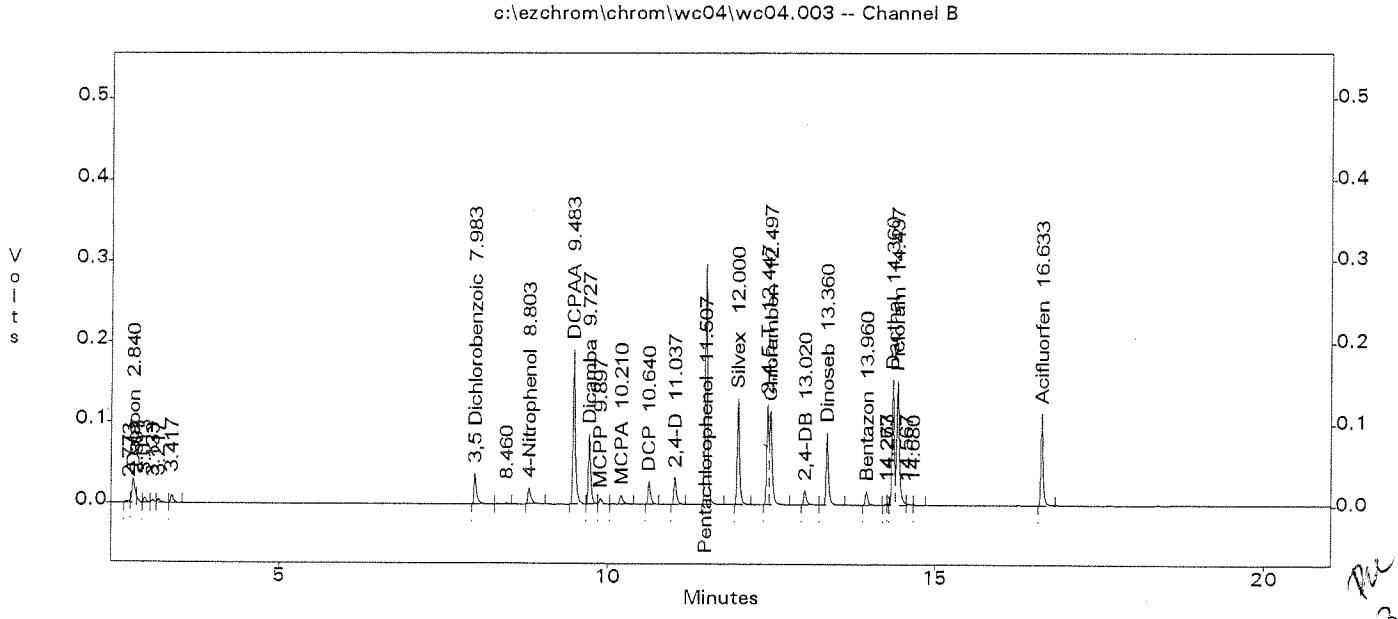
RZ 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.003
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C047
Acquired : Mar 04, 2016 12:49:26
Printed : Mar 09, 2016 11:53:57
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	99220.0	670.72	145.648	xx
3,5 Dichlorobenzoic	7.983	99914.0	715.76	149.024	BV
4-Nitrophenol	8.803	59293.0	449.15	145.360	BV
DCPAA	9.483	493814.0	362.66	1497.280	BV
Dicamba	9.727	212308.0	1453.81	150.432	VV
MCPP	9.897	19773.0	2.68	7506.400	VV
MCPA	10.210	35655.0	5.25	7476.800	VV
DCP	10.640	73901.0	524.78	150.960	BB
2,4-D	11.037	92088.0	655.43	150.432	BB
Pentachlorophenol	11.507	783055.0	5377.45	151.936	BB
Silvex	12.000	329400.0	2195.19	152.048	BB
2,4,5-T	12.447	273739.0	1811.11	151.632	BS
Chloramben	12.497	335633.0	2217.34	149.776	SV
2,4-DB	13.020	54654.0	358.09	151.456	BV
Dinoseb	13.360	228712.0	1572.22	151.184	VB
Bentazon	13.960	46049.0	334.23	151.184	BV
Dacthal	14.360	361939.0	2502.35	146.416	VV
Picloram	14.437	461212.0	2928.76	151.184	Vx
Acifluorfen	16.633	274075.0	1790.42	154.032	BV



Pic 3-21-16

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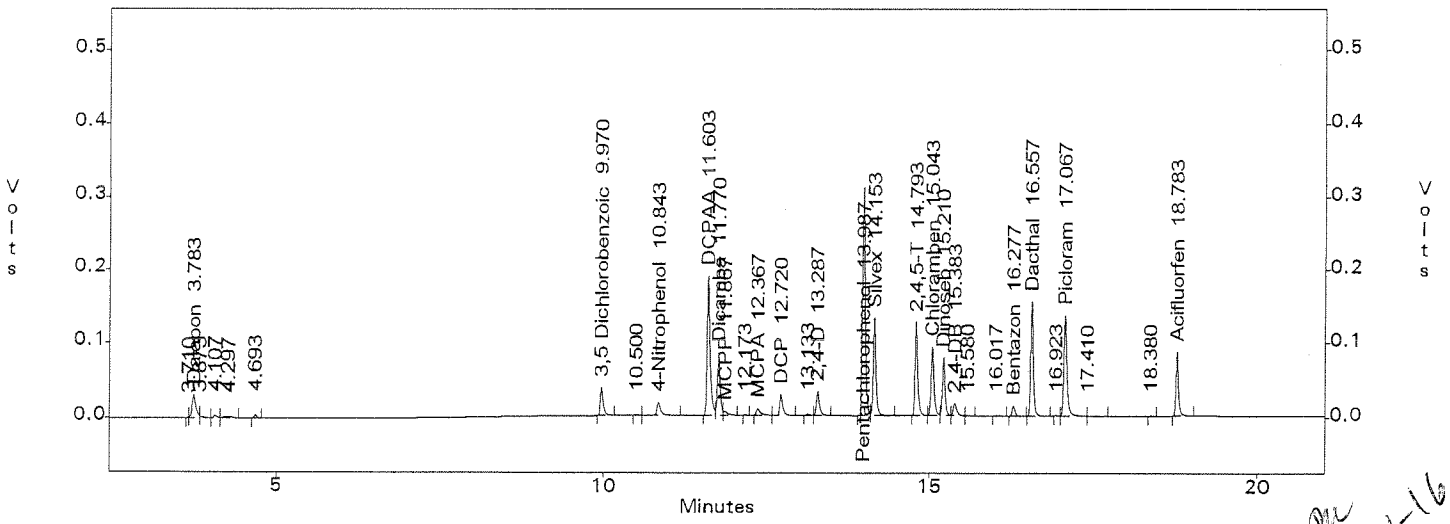
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C048
Acquired : Mar 04, 2016 12:21:51
Printed : Mar 09, 2016 11:54:04
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	115585.0	656.35	182.060	xx
3,5 Dichlorobenzoic	9.970	114280.0	653.22	186.280	BV
4-Nitrophenol	10.843	59138.0	343.86	181.700	VB
DCPAA	11.603	593101.0	363.72	1871.600	BV
Dicamba	11.770	241331.0	1295.75	188.040	Vx
MCPP	11.867	20452.0	2.25	9383.000	xx
MCPA	12.367	38464.0	5.06	9346.000	VV
DCP	12.720	85758.0	486.34	188.700	VV
2,4-D	13.287	101298.0	575.75	188.040	VB
Pentachlorophenol	13.987	948799.0	4721.25	189.920	BV
Silvex	14.153	373477.0	1884.14	190.060	VB
2,4,5-T	14.793	379018.0	1955.79	189.540	BV
Chloramben	15.043	278367.0	1396.68	187.220	VV
Dinoseb	15.210	217038.0	1172.65	188.980	VV
2,4-DB	15.383	59085.0	323.63	189.320	VV
Bentazon	16.277	40212.0	210.68	188.980	VV
Dacthal	16.557	437608.0	2232.57	183.020	VV
Picloram	17.067	444787.0	2122.79	188.980	Vx
Acifluorfen	18.783	236534.0	1242.47	192.540	vv

c:\ezchrom\chrom\wc04\wc04.002 -- Channel A



RZ 3-21-16

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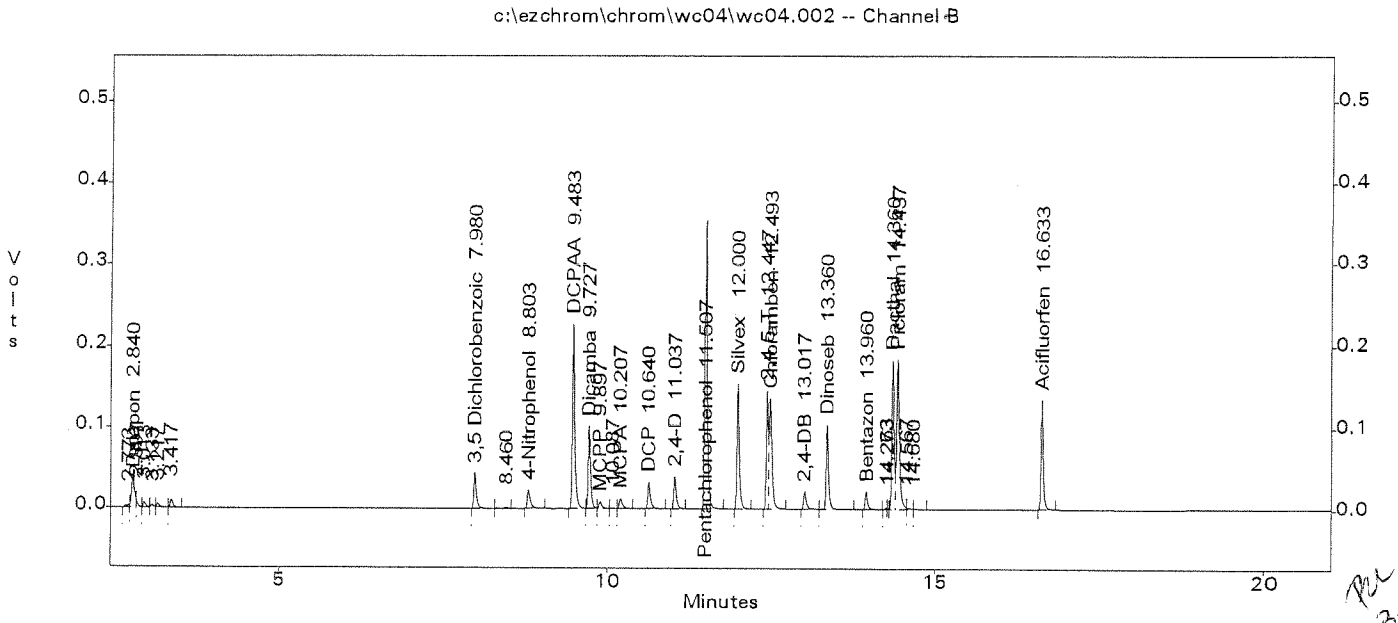
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : HE16C048
Acquired : Mar 04, 2016 12:21:51
Printed : Mar 09, 2016 11:54:04
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	117312.0	670.72	182.060	xx
3,5 Dichlorobenzoic	7.980	117278.0	715.76	186.280	BV
4-Nitrophenol	8.803	68528.0	449.15	181.700	BV
DCPAA	9.483	581878.0	362.66	1871.600	BV
Dicamba	9.727	252710.0	1453.81	188.040	VV
MCPP	9.897	23336.0	2.68	9383.000	VV
MCPA	10.207	38442.0	5.25	9346.000	VV
DCP	10.640	87934.0	524.78	188.700	BV
2,4-D	11.037	108305.0	655.43	188.040	VB
Pentachlorophenol	11.507	930984.0	5377.45	189.920	BB
Silvex	12.000	391342.0	2195.19	190.060	BB
2,4,5-T	12.447	311481.0	1811.11	189.540	BS
Chloramben	12.493	411156.0	2217.34	187.220	SB
2,4-DB	13.017	65110.0	358.09	189.320	BV
Dinoseb	13.360	271452.0	1572.22	188.980	VB
Bentazon	13.960	57213.0	334.23	188.980	BV
Dacthal	14.360	425074.0	2502.35	183.020	VV
Picloram	14.437	558063.0	2928.76	188.980	Vx
Acifluorfen	16.633	327274.0	1790.42	192.540	BV



PC 3-21-16

SECOND SOURCE VERIFICATION

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04010A 03/04/2016 16:02
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.783	3.756	3.810	91.0	656.300	57517	87.63	-4		15
3,5-Dichlorobenzo	9.970	9.932	10.008	93.1	653.200	54361	83.22	-11		15
4-Nitrophenol	10.843	10.805	10.881	90.8	343.900	32177	93.58	3		15
Dicamba	11.770	11.731	11.809	94.0	1295.8	121789	93.99	-0		15
Dichloroprop	12.720	12.682	12.758	94.3	486.300	48291	99.29	5		15
2,4-D	13.287	13.242	13.332	94.0	575.800	53803	93.45	-1		15
Pentachlorophenol	13.987	13.942	14.032	95.0	4721.3	486111	102.96	8		15
2,4,5-TP(Silvex)	14.153	14.110	14.196	95.0	1884.1	184874	98.12	3		15
Chloramben	15.043	15.000	15.086	93.6	1396.7	135729	97.18	4		15
2,4,5-T	14.793	14.750	14.836	94.8	1955.8	194353	99.37	5		15
2,4-DB	15.383	15.345	15.421	94.7	323.600	29579	91.40	-3		15
Dinoseb	15.210	15.166	15.254	94.5	1172.7	109978	93.79	-1		15
Bentazon	16.277	16.229	16.325	94.5	210.700	20499	97.30	3		15
Dacthal	16.557	16.512	16.602	91.5	2232.6	219543	98.34	7		15
Picloram	17.067	17.019	17.115	94.5	2122.8	207812	97.90	4		15
Acifluorfen	18.787	18.746	18.828	96.3	1242.5	116558	93.81	-3		15

JW 3-21-16

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Column : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04010B 03/04/2016 16:02
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.840	2.822	2.858	91.0	670.700	57275	85.39	-6		15
3,5-Dichlorobenzo	7.983	7.948	8.018	93.1	715.800	58182	81.29	-13		15
4-Nitrophenol	8.803	8.768	8.838	90.8	449.200	41631	92.69	2		15
Dicamba	9.727	9.688	9.766	94.0	1453.8	138855	95.51	2		15
Dichloroprop	10.640	10.602	10.678	94.3	524.800	50704	96.62	2		15
2,4-D	11.037	11.002	11.072	94.0	655.400	57810	88.20	-6		15
Pentachlorophenol	11.507	11.468	11.546	95.0	5377.4	501504	93.26	-2		15
2,4,5-TP(Silvex)	11.997	11.959	12.035	95.0	2195.2	210442	95.86	1		15
Chloramben	12.497	12.458	12.536	93.6	2217.3	220164	99.29	6		15
2,4,5-T	12.447	12.408	12.486	94.8	1811.1	173613	95.86	1		15
2,4-DB	13.020	12.982	13.058	94.7	358.100	33731	94.20	-0		15
Dinoseb	13.357	13.324	13.390	94.5	1572.2	149695	95.21	1		15
Bentazon	13.957	13.914	14.000	94.5	334.200	31670	94.76	0		15
Dacthal	14.360	14.320	14.400	91.5	2502.4	240374	96.06	5		15
Picloram	14.437	14.398	14.476	94.5	2928.8	284201	97.04	3		15
Acifluorfen	16.633	16.595	16.671	96.3	1790.4	168423	94.07	-2		15

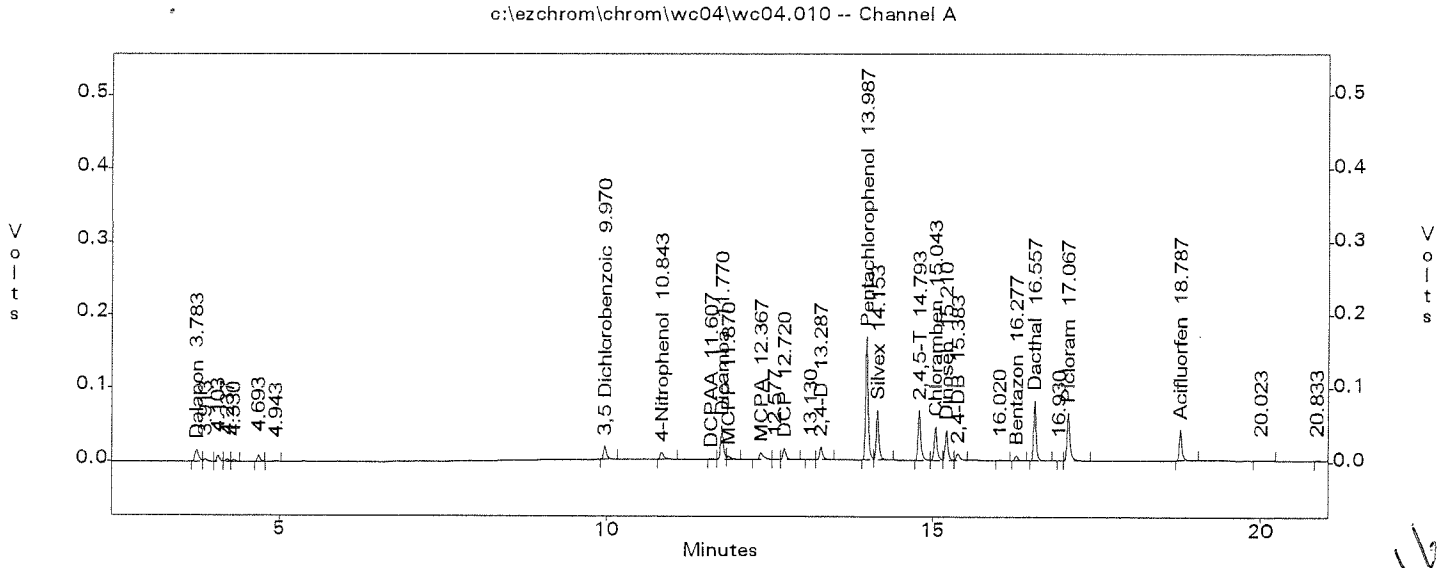
RW 3-21-16

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.010
Method : c:\ezchrom\methods\he16c04.met
Sample ID : IHE16C04001
Acquired : Mar 04, 2016 16:02:57
Printed : Mar 09, 2016 11:56:26
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.783	57517.0	656.35	87.632	xx
3,5 Dichlorobenzoic	9.970	54361.0	653.22	83.220	BV
4-Nitrophenol	10.843	32177.0	343.86	93.576	BB
DCPAA	11.607	2780.0	363.72	7.643	BV
Dicamba	11.770	121789.0	1295.75	93.991	VV
MCPP	11.870	17819.0	2.25	7925.694	xx
MCPA	12.367	38733.0	5.06	7649.710	xV
DCP	12.720	48291.0	486.34	99.294	VV
2,4-D	13.287	53803.0	575.75	93.448	xB
Pentachlorophenol	13.987	486111.0	4721.25	102.962	BV
Silvex	14.153	184874.0	1884.14	98.121	VB
2,4,5-T	14.793	194353.0	1955.79	99.373	BV
Chloramben	15.043	135729.0	1396.68	97.180	VV
Dinoseb	15.210	109978.0	1172.65	93.786	VV
2,4-DB	15.383	29579.0	323.63	91.398	VV
Bentazon	16.277	20499.0	210.68	97.298	VV
Dacthal	16.557	219543.0	2232.57	98.336	VV
Picloram	17.067	207812.0	2122.79	97.896	Vx
Acifluorfen	18.787	116558.0	1242.47	93.811	vv



RZ 3/21/16

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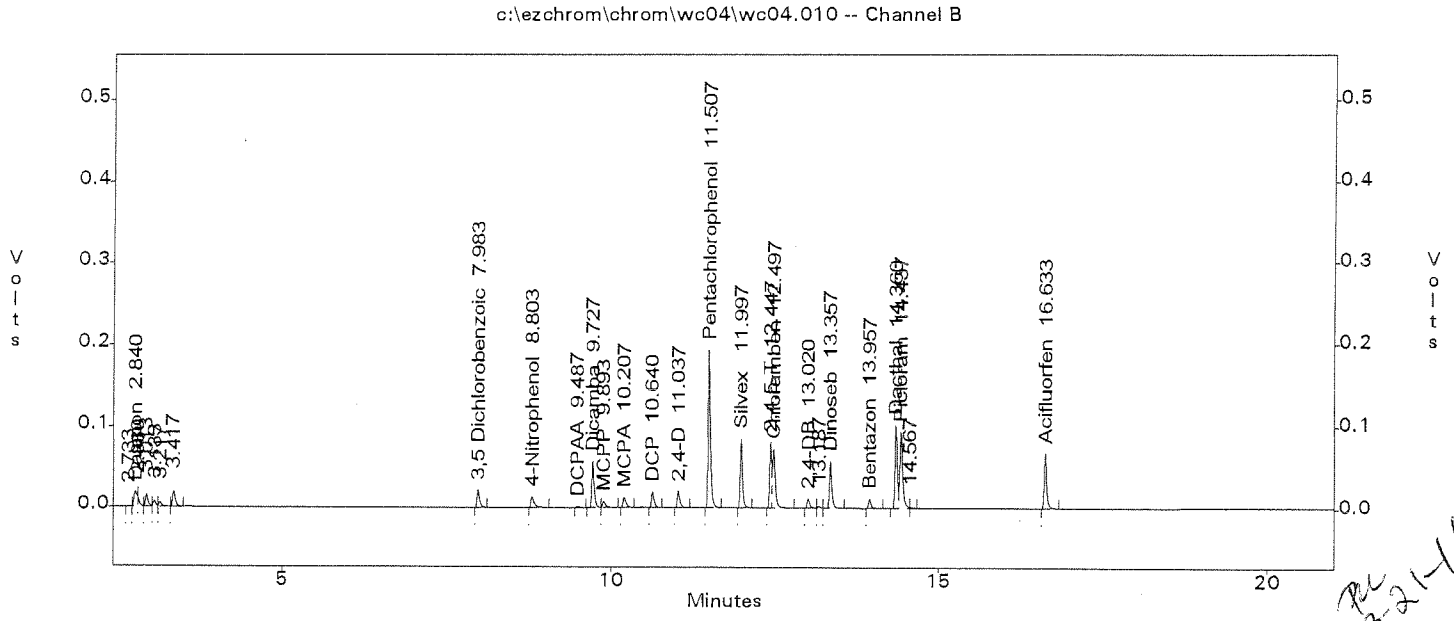
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.010
Method : c:\ezchrom\methods\hel6c04.met
Sample ID : IHE16C04001
Acquired : Mar 04, 2016 16:02:57
Printed : Mar 09, 2016 11:56:26
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.840	57275.0	670.72	85.393	xx
3,5 Dichlorobenzoic	7.983	58182.0	715.76	81.287	BV
4-Nitrophenol	8.803	41631.0	449.15	92.688	BV
DCPAA	9.487	4345.0	362.66	11.981	BV
Dicamba	9.727	138855.0	1453.81	95.511	VV
MCPP	9.893	22989.0	2.68	8575.363	VB
MCPA	10.207	38753.0	5.25	7380.670	BB
DCP	10.640	50704.0	524.78	96.619	BB
2,4-D	11.037	57810.0	655.43	88.201	BB
Pentachlorophenol	11.507	501504.0	5377.45	93.261	BV
Silvex	11.997	210442.0	2195.19	95.865	BV
2,4,5-T	12.447	173613.0	1811.11	95.860	BS
Chloramben	12.497	220164.0	2217.34	99.292	SB
2,4-DB	13.020	33731.0	358.09	94.196	BV
Dinoseb	13.357	149695.0	1572.22	95.212	VV
Bentazon	13.957	31670.0	334.23	94.756	BV
Dacthal	14.360	240374.0	2502.35	96.059	xV
Picloram	14.437	284201.0	2928.76	97.038	Vx
Acifluorfen	16.633	168423.0	1790.42	94.069	BV



RL 3-21-16

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04011A 03/04/2016 16:30
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
MCPP	11.873	11.834	11.912	4693.0	2.250	9419	4189.47	-11		15
MCPA	12.370	12.331	12.409	4673.0	5.060	23538	4648.72	-1		15

JW 3-21-16

SECOND SOURCE VERIFICATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Column : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WC04011B 03/04/2016 16:30
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
MCPP	9.897	9.858	9.936	4693.0	2.680	12850	4793.31	2		15
MCPA	10.210	10.172	10.248	4673.0	5.250	24596	4684.41	0		15

3-21-16

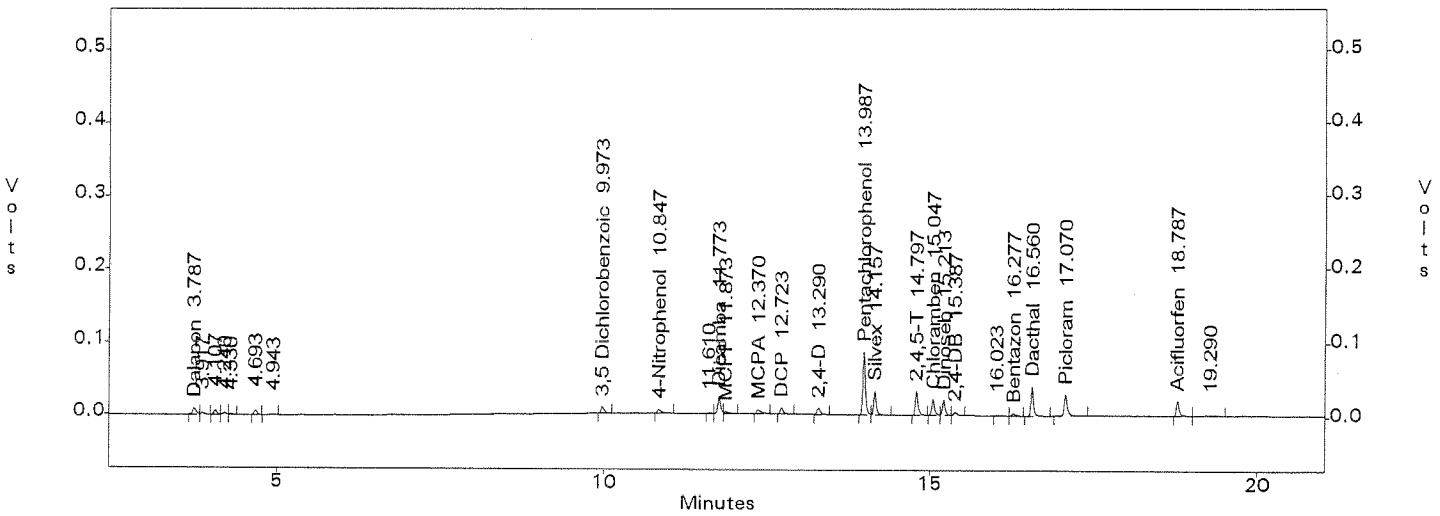
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.011
Method : c:\ezchrom\methods\hel6c04.met
Sample ID : IHE16C04002
Acquired : Mar 04, 2016 16:30:36
Printed : Mar 09, 2016 11:57:40
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.787	30622.0	656.35	46.655	xx
3,5 Dichlorobenzoic	9.973	28929.0	653.22	44.287	BV
4-Nitrophenol	10.847	17266.0	343.86	50.212	BB
DCPAA	11.587	0.0	0.00	0.000	--
Dicamba	11.773	62821.0	1295.75	48.482	VV
MCPP	11.873	9419.0	2.25	4189.467	Vx
MCPA	12.370	23538.0	5.06	4648.720	BV
DCP	12.723	25577.0	486.34	52.590	BB
2,4-D	13.290	28829.0	575.75	50.072	BB
Pentachlorophenol	13.987	240700.0	4721.25	50.982	BV
Silvex	14.157	90735.0	1884.14	48.157	VB
2,4,5-T	14.797	96480.0	1955.79	49.330	BI
Chloramben	15.047	64235.0	1396.68	45.991	BV
Dinoseb	15.213	56216.0	1172.65	47.939	VV
2,4-DB	15.387	15400.0	323.63	47.585	VV
Bentazon	16.277	10492.0	210.68	49.800	VV
Dacthal	16.560	105436.0	2232.57	47.226	VV
Picloram	17.070	96842.0	2122.79	45.620	xx
Acifluorfen	18.787	59643.0	1242.47	48.004	vv

c:\ezchrom\chrom\wc04\wc04.011 -- Channel A



RZ 3-21-16

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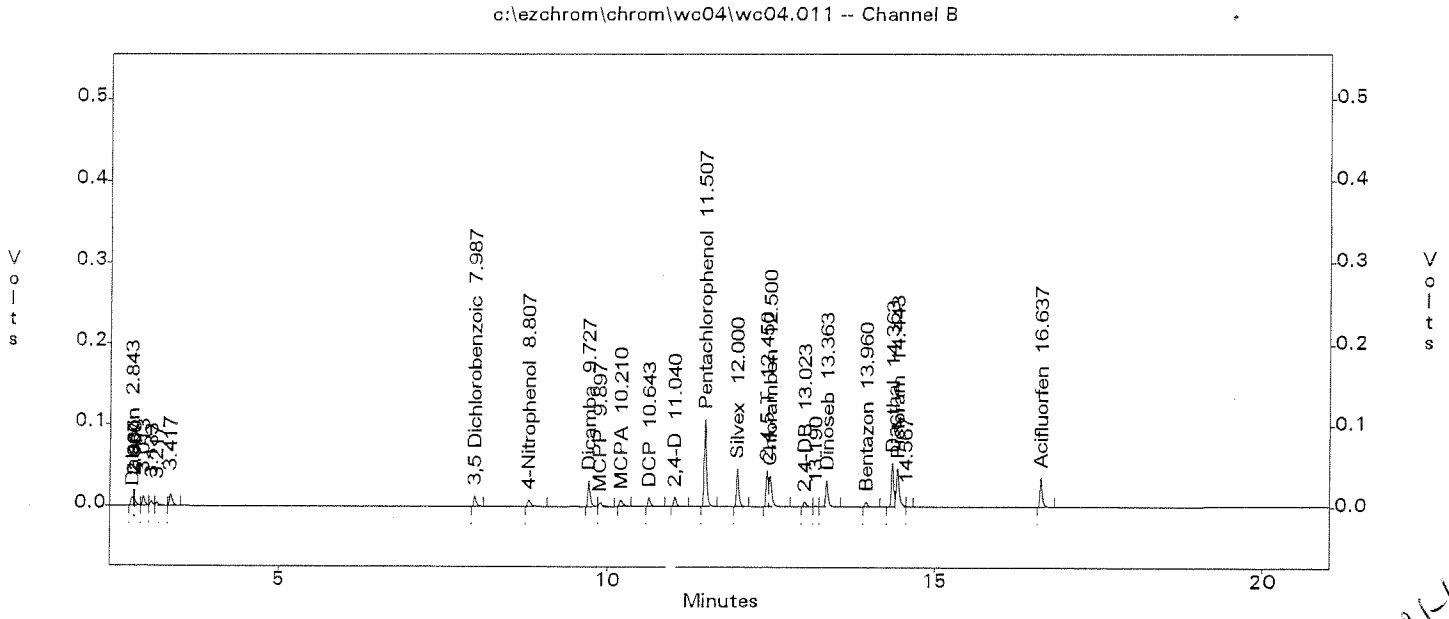
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\wc04\wc04.011
Method : c:\ezchrom\methods\he16c04.met
Sample ID : IHE16C04002
Acquired : Mar 04, 2016 16:30:36
Printed : Mar 09, 2016 11:57:40
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.843	24976.0	670.72	37.237	xx
3,5 Dichlorobenzoic	7.987	33071.0	715.76	46.204	BV
4-Nitrophenol	8.807	24734.0	449.15	55.068	BB
DCPAA	9.473	0.0	0.00	0.000	--
Dicamba	9.727	75686.0	1453.81	52.060	BV
MCPP	9.897	12850.0	2.68	4793.311	VB
MCPA	10.210	24596.0	5.25	4684.411	BB
DCP	10.643	29382.0	524.78	55.989	BB
2,4-D	11.040	32950.0	655.43	50.272	BV
Pentachlorophenol	11.507	276807.0	5377.45	51.476	BV
Silvex	12.000	112769.0	2195.19	51.371	BV
2,4,5-T	12.450	96849.0	1811.11	53.475	BS
Chloramben	12.500	112516.0	2217.34	50.744	SB
2,4-DB	13.023	18639.0	358.09	52.051	BV
Dinoseb	13.363	82874.0	1572.22	52.711	VV
Bentazon	13.960	17292.0	334.23	51.737	BV
Dacthal	14.363	127687.0	2502.35	51.027	xV
Picloram	14.443	145082.0	2928.76	49.537	Vx
Acifluorfen	16.637	88507.0	1790.42	49.434	BV



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DAILY CALIBRATIONS

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24002A 05/24/2016 10:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.730	3.703	3.757	91.0	656.300	61361	93.49	3		15
3,5-Dichlorobenzo	9.880	9.842	9.918	93.1	653.200	54959	84.14	-10		15
4-Nitrophenol	10.750	10.712	10.788	90.8	343.900	28413	82.63	-9		15
Dicamba	11.673	11.634	11.712	94.0	1295.8	116640	90.02	-4		15
MCPP	11.773	11.734	11.812	4693.0	2.250	11207	4984.75	6		15
MCPA	12.273	12.234	12.312	4673.0	5.060	22492	4442.14	-5		15
Dichloroprop	12.623	12.585	12.661	94.3	486.300	42988	88.39	-6		15
2,4-D	13.187	13.142	13.232	94.0	575.800	51035	88.64	-6		15
Pentachlorophenol	13.880	13.835	13.925	95.0	4721.3	462002	97.86	3		15
2,4,5-TP(Silvex)	14.050	14.007	14.093	95.0	1884.1	175359	93.07	-2		15
Chloramben	14.937	14.894	14.980	93.6	1396.7	124428	89.09	-5		15
2,4,5-T	14.690	14.647	14.733	94.8	1955.8	177760	90.89	-4		15
2,4-DB	15.280	15.242	15.318	94.7	323.600	30287	93.59	-1		15
Dinoseb	15.107	15.063	15.151	94.5	1172.7	101148	86.26	-9		15
Bentazon	16.167	16.119	16.215	94.5	210.700	20679	98.15	4		15
Dacthal	16.450	16.405	16.495	91.5	2232.6	200504	89.81	-2		15
Picloram	16.957	16.909	17.005	94.5	2122.8	187838	88.49	-6		15
Acifluorfen	18.673	18.632	18.714	96.3	1242.5	103850	83.58	-13		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.507	11.464	11.550	935.8	363.700	311512	856.46	-8		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24002B 05/24/2016 10:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.787	2.769	2.805	91.0	670.700	66913	99.76	10		15
3,5-Dichlorobenzo	7.863	7.828	7.898	93.1	715.800	68807	96.13	3		15
4-Nitrophenol	8.677	8.642	8.712	90.8	449.200	42969	95.67	5		15
Dicamba	9.597	9.558	9.636	94.0	1453.8	144037	99.07	5		15
MCPP	9.767	9.728	9.806	4693.0	2.680	13502	5036.52	7		15
MCPA	10.080	10.042	10.118	4673.0	5.250	28048	5341.86	14		15
Dichloroprop	10.510	10.472	10.548	94.3	524.800	52510	100.06	6		15
2,4-D	10.907	10.872	10.942	94.0	655.400	68714	104.84	12		15
Pentachlorophenol	11.363	11.324	11.402	95.0	5377.4	545012	101.35	7		15
2,4,5-TP(Silvex)	11.863	11.825	11.901	95.0	2195.2	231115	105.28	11		15
Chloramben	12.353	12.314	12.392	93.6	2217.3	237096	106.93	14		15
2,4,5-T	12.310	12.271	12.349	94.8	1811.1	189564	104.67	10		15
2,4-DB	12.883	12.845	12.921	94.7	358.100	38199	106.67	13		15
Dinoseb	13.220	13.187	13.253	94.5	1572.2	160705	102.21	8		15
Bentazon	13.813	13.770	13.856	94.5	334.200	31565	94.44	-0		15
Dacthal	14.213	14.173	14.253	91.5	2502.4	255978	102.29	12		15
Picloram	14.287	14.248	14.326	94.5	2928.8	314235	107.29	14		15
Acifluorfen	16.483	16.445	16.521	96.3	1790.4	192773	107.67	12		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.357	9.325	9.389	935.8	362.700	352297	971.44	4		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24002A 05/24/2016 10:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.730	3.703	3.757	91.0	656.300	61361	93.49	3		20
3,5-Dichlorobenzo	9.880	9.842	9.918	93.1	653.200	54959	84.14	-10		20
4-Nitrophenol	10.750	10.712	10.788	90.8	343.900	28413	82.63	-9		20
Dicamba	11.673	11.634	11.712	94.0	1295.8	116640	90.02	-4		20
MCPP	11.773	11.734	11.812	4693.0	2.250	11207	4984.75	6		20
MCPA	12.273	12.234	12.312	4673.0	5.060	22492	4442.14	-5		20
Dichloroprop	12.623	12.585	12.661	94.3	486.300	42988	88.39	-6		20
2,4-D	13.187	13.142	13.232	94.0	575.800	51035	88.64	-6		20
Pentachlorophenol	13.880	13.835	13.925	95.0	4721.3	462002	97.86	3		20
2,4,5-TP(Silvex)	14.050	14.007	14.093	95.0	1884.1	175359	93.07	-2		20
Chloramben	14.937	14.894	14.980	93.6	1396.7	124428	89.09	-5		20
2,4,5-T	14.690	14.647	14.733	94.8	1955.8	177760	90.89	-4		20
2,4-DB	15.280	15.242	15.318	94.7	323.600	30287	93.59	-1		20
Dinoseb	15.107	15.063	15.151	94.5	1172.7	101148	86.26	-9		20
Bentazon	16.167	16.119	16.215	94.5	210.700	20679	98.15	4		20
Dacthal	16.450	16.405	16.495	91.5	2232.6	200504	89.81	-2		20
Picloram	16.957	16.909	17.005	94.5	2122.8	187838	88.49	-6		20
Acifluorfen	18.673	18.632	18.714	96.3	1242.5	103850	83.58	-13		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.507	11.464	11.550	935.8	363.700	311512	856.46	-8		20

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24002B 05/24/2016 10:54
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.787	2.769	2.805	91.0	670.700	66913	99.76	10		20
3,5-Dichlorobenzo	7.863	7.828	7.898	93.1	715.800	68807	96.13	3		20
4-Nitrophenol	8.677	8.642	8.712	90.8	449.200	42969	95.67	5		20
Dicamba	9.597	9.558	9.636	94.0	1453.8	144037	99.07	5		20
MCPP	9.767	9.728	9.806	4693.0	2.680	13502	5036.52	7		20
MCPA	10.080	10.042	10.118	4673.0	5.250	28048	5341.86	14		20
Dichloroprop	10.510	10.472	10.548	94.3	524.800	52510	100.06	6		20
2,4-D	10.907	10.872	10.942	94.0	655.400	68714	104.84	12		20
Pentachlorophenol	11.363	11.324	11.402	95.0	5377.4	545012	101.35	7		20
2,4,5-TP(Silvex)	11.863	11.825	11.901	95.0	2195.2	231115	105.28	11		20
Chloramben	12.353	12.314	12.392	93.6	2217.3	237096	106.93	14		20
2,4,5-T	12.310	12.271	12.349	94.8	1811.1	189564	104.67	10		20
2,4-DB	12.883	12.845	12.921	94.7	358.100	38199	106.67	13		20
Dinoseb	13.220	13.187	13.253	94.5	1572.2	160705	102.21	8		20
Bentazon	13.813	13.770	13.856	94.5	334.200	31565	94.44	-0		20
Dacthal	14.213	14.173	14.253	91.5	2502.4	255978	102.29	12		20
Picloram	14.287	14.248	14.326	94.5	2928.8	314235	107.29	14		20
Acifluorfen	16.483	16.445	16.521	96.3	1790.4	192773	107.67	12		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.357	9.325	9.389	935.8	362.700	352297	971.44	4		20

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04067
Acquired : May 24, 2016 10:54:29
Printed : May 25, 2016 08:58:53
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.730	61361.0	656.35	93.489	BV
3,5 Dichlorobenzoic	9.880	54959.0	653.22	84.135	BV
4-Nitrophenol	10.750	28413.0	343.86	82.629	BV
DCPAA	11.507	311512.0	363.72	856.463	BV
Dicamba	11.673	116640.0	1295.75	90.017	Vx
MCPP	11.773	11207.0	2.25	4984.750	xx
MCPA	12.273	22492.0	5.06	4442.137	xV
DCP	12.623	42988.0	486.34	88.390	VB
2,4-D	13.187	51035.0	575.75	88.641	Vx
Pentachlorophenol	13.880	462002.0	4721.25	97.856	BV
Silvex	14.050	175359.0	1884.14	93.071	VB
2,4,5-T	14.690	177760.0	1955.79	90.889	xV
Chloramben	14.937	124428.0	1396.68	89.088	VV
Dinoseb	15.107	101148.0	1172.65	86.256	VV
2,4-DB	15.280	30287.0	323.63	93.586	Vx
Bentazon	16.167	20679.0	210.68	98.153	BV
Dacthal	16.450	200504.0	2232.57	89.809	VV
Picloram	16.957	187838.0	2122.79	88.486	xx
Acifluorfen	18.673	103850.0	1242.47	83.583	VB

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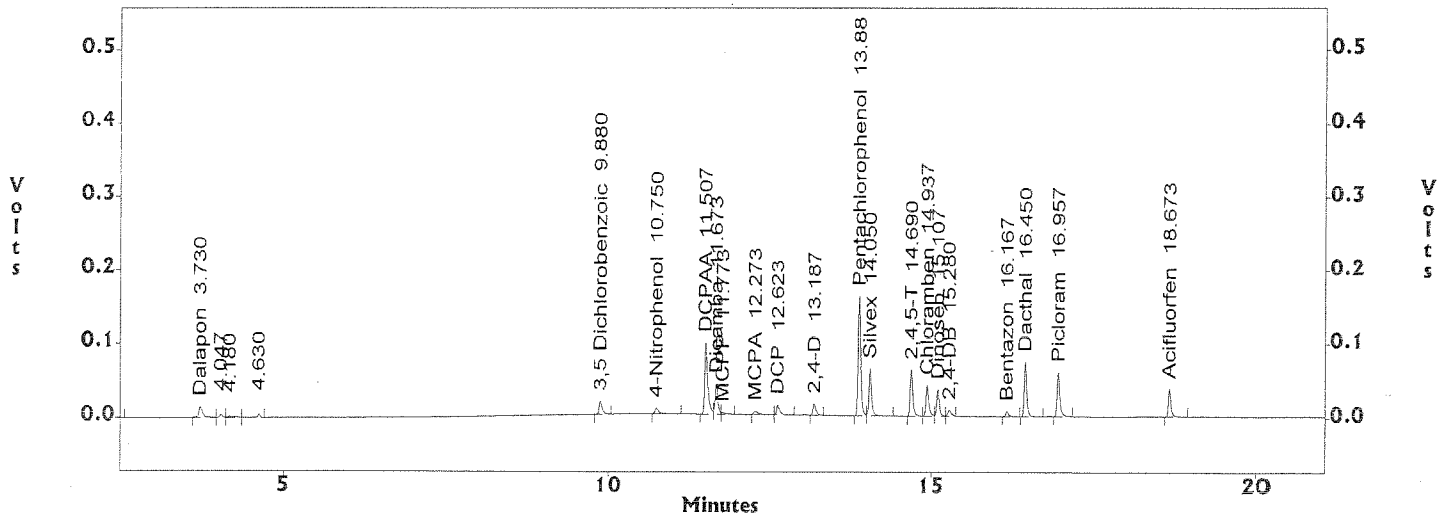

EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.002
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04067
Acquired : May 24, 2016 10:54:29
Printed : May 25, 2016 08:58:54
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.787	66913.0	670.72	99.762	Bx
3,5 Dichlorobenzoic	7.863	68807.0	715.76	96.132	BV
4-Nitrophenol	8.677	42969.0	449.15	95.667	BV
DCPAA	9.357	352297.0	362.66	971.436	BV
Dicamba	9.597	144037.0	1453.81	99.075	VV
MCPP	9.767	13502.0	2.68	5036.520	VI
MCPA	10.080	28048.0	5.25	5341.858	BI
DCP	10.510	52510.0	524.78	100.060	BV
2,4-D	10.907	68714.0	655.43	104.837	xV
Pentachlorophenol	11.363	545012.0	5377.45	101.351	VB
Silvex	11.863	231115.0	2195.19	105.283	BI
2,4,5-T	12.310	189564.0	1811.11	104.667	MM
Chloramben	12.353	237096.0	2217.34	106.928	MM
2,4-DB	12.883	38199.0	358.09	106.673	BI
Dinoseb	13.220	160705.0	1572.22	102.215	BB
Bentazon	13.813	31565.0	334.23	94.442	BV
Dacthal	14.213	255978.0	2502.35	102.295	MM
Picloram	14.287	314235.0	2928.76	107.293	MM
Acifluorfen	16.483	192773.0	1790.42	107.669	BB

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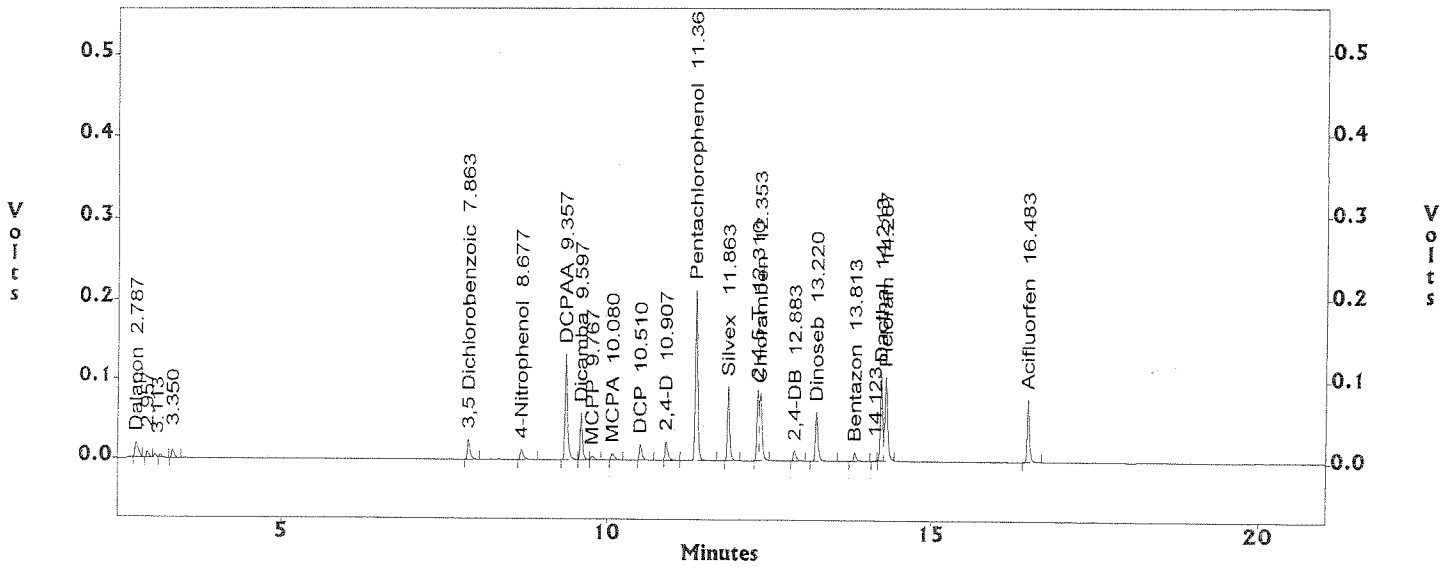


CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24014A 05/24/2016 16:26
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.723	3.696	3.750	91.0	656.300	59621	90.84	-0		15
3,5-Dichlorobenzo	9.870	9.832	9.908	93.1	653.200	55660	85.21	-9		15
4-Nitrophenol	10.743	10.705	10.781	90.8	343.900	29678	86.31	-5		15
Dicamba	11.663	11.624	11.702	94.0	1295.8	118665	91.58	-3		15
MCPP	11.763	11.724	11.802	4693.0	2.250	9416	4188.13	-11		15
MCPA	12.263	12.224	12.302	4673.0	5.060	22137	4372.02	-6		15
Dichloroprop	12.617	12.579	12.655	94.3	486.300	44798	92.11	-2		15
2,4-D	13.180	13.135	13.225	94.0	575.800	52625	91.40	-3		15
Pentachlorophenol	13.870	13.825	13.915	95.0	4721.3	469130	99.37	5		15
2,4,5-TP(Silvex)	14.043	14.000	14.086	95.0	1884.1	177346	94.13	-1		15
Chloramben	14.930	14.887	14.973	93.6	1396.7	126230	90.38	-3		15
2,4,5-T	14.680	14.637	14.723	94.8	1955.8	182421	93.27	-2		15
2,4-DB	15.270	15.232	15.308	94.7	323.600	27496	84.96	-10		15
Dinoseb	15.097	15.053	15.141	94.5	1172.7	99782	85.09	-10		15
Bentazon	16.160	16.112	16.208	94.5	210.700	20785	98.66	4		15
Dacthal	16.440	16.395	16.485	91.5	2232.6	206259	92.39	1		15
Picloram	16.947	16.899	16.995	94.5	2122.8	202694	95.49	1		15
Acifluorfen	18.667	18.626	18.708	96.3	1242.5	114438	92.11	-4		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.500	11.457	11.543	935.8	363.700	315748	868.11	-7		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24014B 05/24/2016 16:26
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.780	2.762	2.798	91.0	670.700	68756	102.51	13		15
3,5-Dichlorobenzo	7.857	7.822	7.892	93.1	715.800	71367	99.71	7		15
4-Nitrophenol	8.670	8.635	8.705	90.8	449.200	44834	99.82	10		15
Dicamba	9.587	9.548	9.626	94.0	1453.8	148039	101.83	8		15
MCPP	9.760	9.721	9.799	4693.0	2.680	14142	5275.25	12		15
MCPA	10.073	10.035	10.111	4673.0	5.250	27850	5304.15	14		15
Dichloroprop	10.503	10.465	10.541	94.3	524.800	54668	104.17	10		15
2,4-D	10.900	10.865	10.935	94.0	655.400	69195	105.57	12		15
Pentachlorophenol	11.357	11.318	11.396	95.0	5377.4	553707	102.97	8		15
2,4,5-TP(Silvex)	11.857	11.819	11.895	95.0	2195.2	233362	106.31	12		15
Chloramben	12.347	12.308	12.386	93.6	2217.3	223327	100.72	8		15
2,4,5-T	12.303	12.264	12.342	94.8	1811.1	195816	108.12	14		15
2,4-DB	12.873	12.835	12.911	94.7	358.100	37314	104.20	10		15
Dinoseb	13.210	13.177	13.243	94.5	1572.2	157639	100.26	6		15
Bentazon	13.803	13.760	13.846	94.5	334.200	32098	96.04	2		15
Dacthal	14.207	14.167	14.247	91.5	2502.4	258384	103.26	13		15
Picloram	14.280	14.241	14.319	94.5	2928.8	294396	100.52	6		15
Acifluorfen	16.477	16.439	16.515	96.3	1790.4	187050	104.47	9		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.350	9.318	9.382	935.8	362.700	361805	997.65	7		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24014A 05/24/2016 16:26
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.723	3.696	3.750	91.0	656.300	59621	90.84	-0		20
3,5-Dichlorobenzo	9.870	9.832	9.908	93.1	653.200	55660	85.21	-9		20
4-Nitrophenol	10.743	10.705	10.781	90.8	343.900	29678	86.31	-5		20
Dicamba	11.663	11.624	11.702	94.0	1295.8	118665	91.58	-3		20
MCPP	11.763	11.724	11.802	4693.0	2.250	9416	4188.13	-11		20
MCPA	12.263	12.224	12.302	4673.0	5.060	22137	4372.02	-6		20
Dichloroprop	12.617	12.579	12.655	94.3	486.300	44798	92.11	-2		20
2,4-D	13.180	13.135	13.225	94.0	575.800	52625	91.40	-3		20
Pentachlorophenol	13.870	13.825	13.915	95.0	4721.3	469130	99.37	5		20
2,4,5-TP(Silvex)	14.043	14.000	14.086	95.0	1884.1	177346	94.13	-1		20
Chloramben	14.930	14.887	14.973	93.6	1396.7	126230	90.38	-3		20
2,4,5-T	14.680	14.637	14.723	94.8	1955.8	182421	93.27	-2		20
2,4-DB	15.270	15.232	15.308	94.7	323.600	27496	84.96	-10		20
Dinoseb	15.097	15.053	15.141	94.5	1172.7	99782	85.09	-10		20
Bentazon	16.160	16.112	16.208	94.5	210.700	20785	98.66	4		20
Dacthal	16.440	16.395	16.485	91.5	2232.6	206259	92.39	1		20
Picloram	16.947	16.899	16.995	94.5	2122.8	202694	95.49	1		20
Acifluorfen	18.667	18.626	18.708	96.3	1242.5	114438	92.11	-4		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.500	11.457	11.543	935.8	363.700	315748	868.11	-7		20

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24014B 05/24/2016 16:26
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.780	2.762	2.798	91.0	670.700	68756	102.51	13		20
3,5-Dichlorobenzo	7.857	7.822	7.892	93.1	715.800	71367	99.71	7		20
4-Nitrophenol	8.670	8.635	8.705	90.8	449.200	44834	99.82	10		20
Dicamba	9.587	9.548	9.626	94.0	1453.8	148039	101.83	8		20
MCPP	9.760	9.721	9.799	4693.0	2.680	14142	5275.25	12		20
MCPA	10.073	10.035	10.111	4673.0	5.250	27850	5304.15	14		20
Dichloroprop	10.503	10.465	10.541	94.3	524.800	54668	104.17	10		20
2,4-D	10.900	10.865	10.935	94.0	655.400	69195	105.57	12		20
Pentachlorophenol	11.357	11.318	11.396	95.0	5377.4	553707	102.97	8		20
2,4,5-TP(Silvex)	11.857	11.819	11.895	95.0	2195.2	233362	106.31	12		20
Chloramben	12.347	12.308	12.386	93.6	2217.3	223327	100.72	8		20
2,4,5-T	12.303	12.264	12.342	94.8	1811.1	195816	108.12	14		20
2,4-DB	12.873	12.835	12.911	94.7	358.100	37314	104.20	10		20
Dinoseb	13.210	13.177	13.243	94.5	1572.2	157639	100.26	6		20
Bentazon	13.803	13.760	13.846	94.5	334.200	32098	96.04	2		20
Dacthal	14.207	14.167	14.247	91.5	2502.4	258384	103.26	13		20
Picloram	14.280	14.241	14.319	94.5	2928.8	294396	100.52	6		20
Acifluorfen	16.477	16.439	16.515	96.3	1790.4	187050	104.47	9		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.350	9.318	9.382	935.8	362.700	361805	997.65	7		20

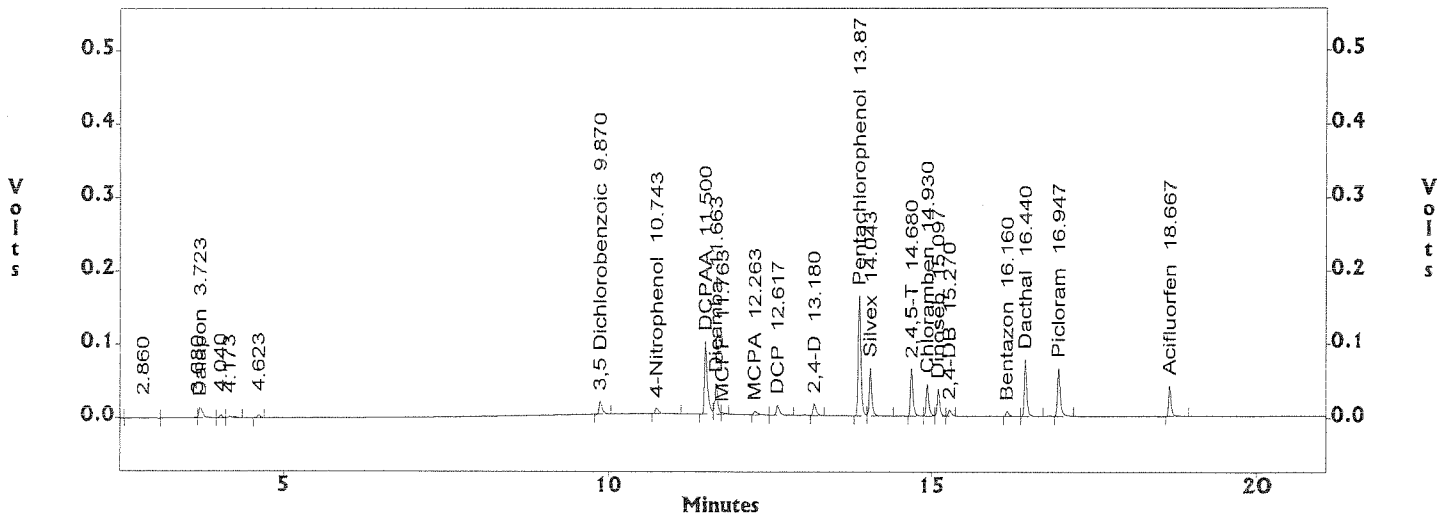
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.014
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04068
Acquired : May 24, 2016 16:26:40
Printed : May 24, 2016 16:59:01
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.723	59621.0	656.35	90.838	xV
3,5 Dichlorobenzoic	9.870	55660.0	653.22	85.208	BV
4-Nitrophenol	10.743	29678.0	343.86	86.308	BB
DCPAA	11.500	315748.0	363.72	868.110	BV
Dicamba	11.663	118665.0	1295.75	91.580	Vx
MCPP	11.763	9416.0	2.25	4188.132	xx
MCPA	12.263	22137.0	5.06	4372.024	xV
DCP	12.617	44798.0	486.34	92.112	VV
2,4-D	13.180	52625.0	575.75	91.402	Vx
Pentachlorophenol	13.870	469130.0	4721.25	99.366	BV
Silvex	14.043	177346.0	1884.14	94.126	VV
2,4,5-T	14.680	182421.0	1955.79	93.272	xV
Chloramben	14.930	126230.0	1396.68	90.379	VV
Dinoseb	15.097	99782.0	1172.65	85.091	VV
2,4-DB	15.270	27496.0	323.63	84.962	Vx
Bentazon	16.160	20785.0	210.68	98.656	BV
Dacthal	16.440	206259.0	2232.57	92.386	VV
Picloram	16.947	202694.0	2122.79	95.485	xx
Acifluorfen	18.667	114438.0	1242.47	92.105	BB

c:\ezchrom\chrom\we24\we24.014 -- Channel A



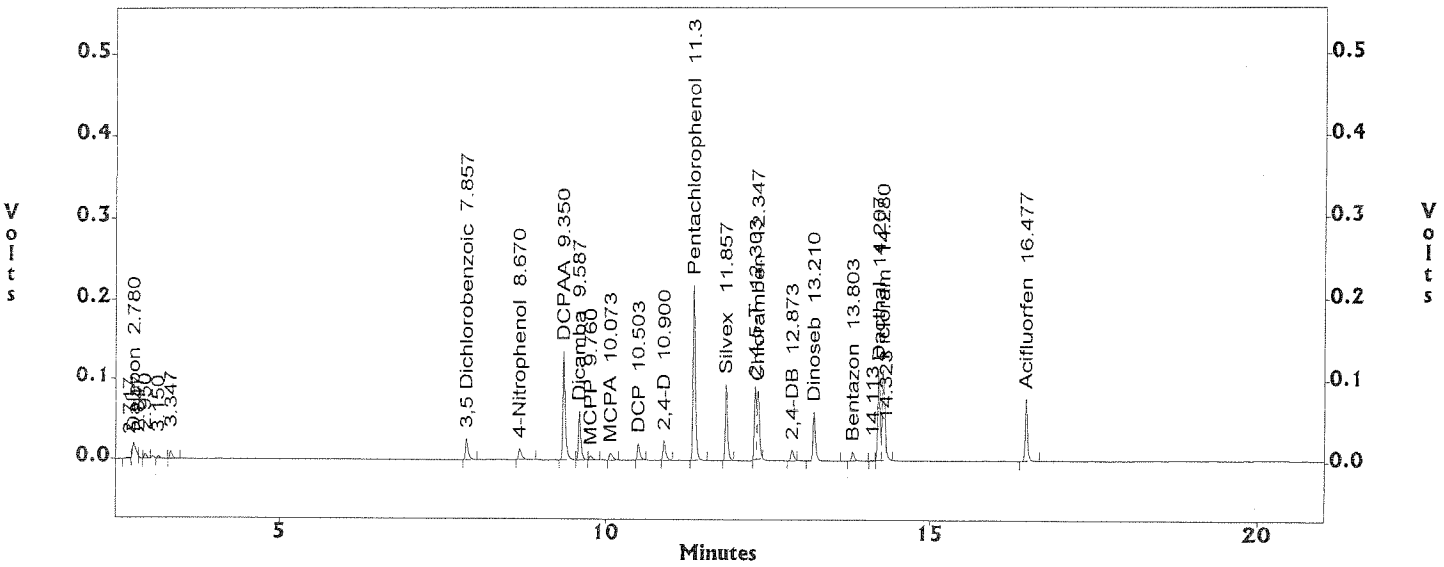
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.014
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04068
Acquired : May 24, 2016 16:26:40
Printed : May 24, 2016 16:59:02
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.780	68756.0	670.72	102.510	xx
3,5 Dichlorobenzoic	7.857	71367.0	715.76	99.709	BV
4-Nitrophenol	8.670	44834.0	449.15	99.819	BV
DCPAA	9.350	361805.0	362.66	997.654	BV
Dicamba	9.587	148039.0	1453.81	101.828	VV
MCPP	9.760	14142.0	2.68	5275.252	VV
MCPA	10.073	27850.0	5.25	5304.148	BI
DCP	10.503	54668.0	524.78	104.172	BI
2,4-D	10.900	69195.0	655.43	105.571	xI
Pentachlorophenol	11.357	553707.0	5377.45	102.968	BI
Silvex	11.857	233362.0	2195.19	106.306	BI
2,4,5-T	12.303	195816.0	1811.11	108.119	MM
Chloramben	12.347	223327.0	2217.34	100.719	MM
2,4-DB	12.873	37314.0	358.09	104.202	Bx
Dinoseb	13.210	157639.0	1572.22	100.265	VB
Bentazon	13.803	32098.0	334.23	96.037	BV
Dacthal	14.207	258384.0	2502.35	103.257	MM
Picloram	14.280	294396.0	2928.76	100.519	MM
Acifluorfen	16.477	187050.0	1790.42	104.473	BB

c:\ezchrom\chrom\we24\we24.014 -- Channel B



CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24023A 05/24/2016 21:40
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.727	3.700	3.754	91.0	656.300	59964	91.36	0		15
3,5-Dichlorobenzo	9.873	9.835	9.911	93.1	653.200	55625	85.15	-9		15
4-Nitrophenol	10.743	10.705	10.781	90.8	343.900	31316	91.07	0		15
Dicamba	11.667	11.628	11.706	94.0	1295.8	118482	91.44	-3		15
MCPP	11.767	11.728	11.806	4693.0	2.250	10464	4654.27	-1		15
MCPA	12.267	12.228	12.306	4673.0	5.060	26016	5138.12	10		15
Dichloroprop	12.617	12.579	12.655	94.3	486.300	47802	98.29	4		15
2,4-D	13.180	13.135	13.225	94.0	575.800	51661	89.73	-5		15
Pentachlorophenol	13.873	13.828	13.918	95.0	4721.3	466658	98.84	4		15
2,4,5-TP(Silvex)	14.043	14.000	14.086	95.0	1884.1	176084	93.46	-2		15
Chloramben	14.930	14.887	14.973	93.6	1396.7	124634	89.24	-5		15
2,4,5-T	14.683	14.640	14.726	94.8	1955.8	181014	92.55	-2		15
2,4-DB	15.270	15.232	15.308	94.7	323.600	26937	83.23	-12		15
Dinoseb	15.100	15.056	15.144	94.5	1172.7	100303	85.54	-9		15
Bentazon	16.160	16.112	16.208	94.5	210.700	21006	99.71	6		15
Dacthal	16.443	16.398	16.488	91.5	2232.6	208506	93.39	2		15
Picloram	16.950	16.902	16.998	94.5	2122.8	204880	96.51	2		15
Acifluorfen	18.667	18.626	18.708	96.3	1242.5	118591	95.45	-1		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	11.500	11.457	11.543	935.8	363.700	315911	868.56	-7		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24023B 05/24/2016 21:40
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.780	2.762	2.798	91.0	670.700	69194	103.16	13		15
3,5-Dichlorobenzo	7.857	7.822	7.892	93.1	715.800	70732	98.82	6		15
4-Nitrophenol	8.670	8.635	8.705	90.8	449.200	44449	98.96	9		15
Dicamba	9.590	9.551	9.629	94.0	1453.8	146829	101.00	7		15
MCPP	9.760	9.721	9.799	4693.0	2.680	14038	5236.46	12		15
MCPA	10.073	10.035	10.111	4673.0	5.250	27771	5289.10	13		15
Dichloroprop	10.503	10.465	10.541	94.3	524.800	56396	107.46	14		15
2,4-D	10.900	10.865	10.935	94.0	655.400	70197	107.10	14		15
Pentachlorophenol	11.357	11.318	11.396	95.0	5377.4	552277	102.70	8		15
2,4,5-TP(Silvex)	11.857	11.819	11.895	95.0	2195.2	234114	106.65	12		15
Chloramben	12.347	12.308	12.386	93.6	2217.3	228036	102.84	10		15
2,4,5-T	12.303	12.264	12.342	94.8	1811.1	194911	107.62	14		15
2,4-DB	12.873	12.835	12.911	94.7	358.100	37010	103.35	9		15
Dinoseb	13.210	13.177	13.243	94.5	1572.2	158725	100.96	7		15
Bentazon	13.803	13.760	13.846	94.5	334.200	32234	96.44	2		15
Dacthal	14.207	14.167	14.247	91.5	2502.4	251733	100.60	10		15
Picloram	14.277	14.238	14.316	94.5	2928.8	316855	108.19	14		15
Acifluorfen	16.477	16.439	16.515	96.3	1790.4	191294	106.84	11		15

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.350	9.318	9.382	935.8	362.700	357420	985.56	5		15

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : ZB-35HT
Column size ID : 30MX0.25MM 0.25UM
Mid Conc Init LFID & Datetime: WC04005A 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24023A 05/24/2016 21:40
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	3.727	3.700	3.754	91.0	656.300	59964	91.36	0		20
3,5-Dichlorobenzo	9.873	9.835	9.911	93.1	653.200	55625	85.15	-9		20
4-Nitrophenol	10.743	10.705	10.781	90.8	343.900	31316	91.07	0		20
Dicamba	11.667	11.628	11.706	94.0	1295.8	118482	91.44	-3		20
MCPP	11.767	11.728	11.806	4693.0	2.250	10464	4654.27	-1		20
MCPA	12.267	12.228	12.306	4673.0	5.060	26016	5138.12	10		20
Dichloroprop	12.617	12.579	12.655	94.3	486.300	47802	98.29	4		20
2,4-D	13.180	13.135	13.225	94.0	575.800	51661	89.73	-5		20
Pentachlorophenol	13.873	13.828	13.918	95.0	4721.3	466658	98.84	4		20
2,4,5-TP(Silvex)	14.043	14.000	14.086	95.0	1884.1	176084	93.46	-2		20
Chloramben	14.930	14.887	14.973	93.6	1396.7	124634	89.24	-5		20
2,4,5-T	14.683	14.640	14.726	94.8	1955.8	181014	92.55	-2		20
2,4-DB	15.270	15.232	15.308	94.7	323.600	26937	83.23	-12		20
Dinoseb	15.100	15.056	15.144	94.5	1172.7	100303	85.54	-9		20
Bentazon	16.160	16.112	16.208	94.5	210.700	21006	99.71	6		20
Dacthal	16.443	16.398	16.488	91.5	2232.6	208506	93.39	2		20
Picloram	16.950	16.902	16.998	94.5	2122.8	204880	96.51	2		20
Acifluorfen	18.667	18.626	18.708	96.3	1242.5	118591	95.45	-1		20
SURROGATE	**MINUTES**	**FROM**	**TO**	**TRUECON**	**CF**	**AREA**	**CONC**	**%D**	**QL**	**LIMITS**
2,4-DCPAA	11.500	11.457	11.543	935.8	363.700	315911	868.56	-7		20

CONTINUE CALIBRATION
METHOD 8151

Lab Name : EMAX Inc
Instrument ID : GC-W GC16
GC Columm : STX-CLPESTII
Column size ID : 30MX0.32MM 0.32UM
Mid Conc Init LFID & Datetime: WC04005B 03/04/2016 13:44
Conc Cont LFID & Datetime: WE24023B 05/24/2016 21:40
CONC UNIT : ppb

COMPOUND	RT MINUTES	RT WINDOW FROM	RT WINDOW TO	TRUE CONC	AVERAGE CF	RESULT AREA	RESULT CONC	%D	QL	%D LIMITS
Dalapon	2.780	2.762	2.798	91.0	670.700	69194	103.16	13		20
3,5-Dichlorobenzo	7.857	7.822	7.892	93.1	715.800	70732	98.82	6		20
4-Nitrophenol	8.670	8.635	8.705	90.8	449.200	44449	98.96	9		20
Dicamba	9.590	9.551	9.629	94.0	1453.8	146829	101.00	7		20
MCPP	9.760	9.721	9.799	4693.0	2.680	14038	5236.46	12		20
MCPA	10.073	10.035	10.111	4673.0	5.250	27771	5289.10	13		20
Dichloroprop	10.503	10.465	10.541	94.3	524.800	56396	107.46	14		20
2,4-D	10.900	10.865	10.935	94.0	655.400	70197	107.10	14		20
Pentachlorophenol	11.357	11.318	11.396	95.0	5377.4	552277	102.70	8		20
2,4,5-TP(Silvex)	11.857	11.819	11.895	95.0	2195.2	234114	106.65	12		20
Chloramben	12.347	12.308	12.386	93.6	2217.3	228036	102.84	10		20
2,4,5-T	12.303	12.264	12.342	94.8	1811.1	194911	107.62	14		20
2,4-DB	12.873	12.835	12.911	94.7	358.100	37010	103.35	9		20
Dinoseb	13.210	13.177	13.243	94.5	1572.2	158725	100.96	7		20
Bentazon	13.803	13.760	13.846	94.5	334.200	32234	96.44	2		20
Dacthal	14.207	14.167	14.247	91.5	2502.4	251733	100.60	10		20
Picloram	14.277	14.238	14.316	94.5	2928.8	316855	108.19	14		20
Acifluorfen	16.477	16.439	16.515	96.3	1790.4	191294	106.84	11		20

SURROGATE	MINUTES	FROM	TO	TRUECON	CF	AREA	CONC	%D	QL	LIMITS
2,4-DCPAA	9.350	9.318	9.382	935.8	362.700	357420	985.56	5		20

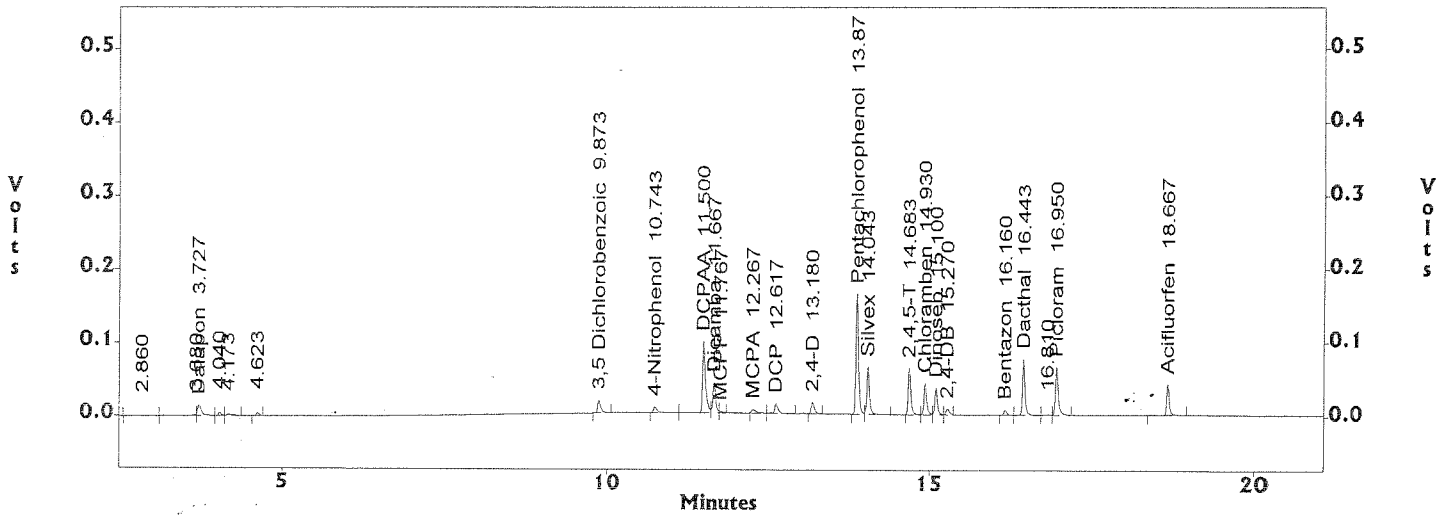
EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.023
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04069
Acquired : May 24, 2016 21:40:41
Printed : May 25, 2016 08:24:48
User : RZhou

Channel A Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	3.727	59964.0	656.35	91.360	xV
3,5 Dichlorobenzoic	9.873	55625.0	653.22	85.155	BV
4-Nitrophenol	10.743	31316.0	343.86	91.072	BV
DCPAA	11.500	315911.0	363.72	868.558	VV
Dicamba	11.667	118482.0	1295.75	91.439	Vx
MCPP	11.767	10464.0	2.25	4654.271	xx
MCPA	12.267	26016.0	5.06	5138.122	xV
DCP	12.617	47802.0	486.34	98.288	VB
2,4-D	13.180	51661.0	575.75	89.728	Vx
Pentachlorophenol	13.873	466658.0	4721.25	98.842	BV
Silvex	14.043	176084.0	1884.14	93.456	VB
2,4,5-T	14.683	181014.0	1955.79	92.553	xV
Chloramben	14.930	124634.0	1396.68	89.236	VV
Dinoseb	15.100	100303.0	1172.65	85.535	VV
2,4-DB	15.270	26937.0	323.63	83.234	Vx
Bentazon	16.160	21006.0	210.68	99.705	BV
Dacthal	16.443	208506.0	2232.57	93.393	VV
Picloram	16.950	204880.0	2122.79	96.515	xx
Acifluorfen	18.667	118591.0	1242.47	95.448	BB

c:\ezchrom\chrom\we24\we24.023 -- Channel A

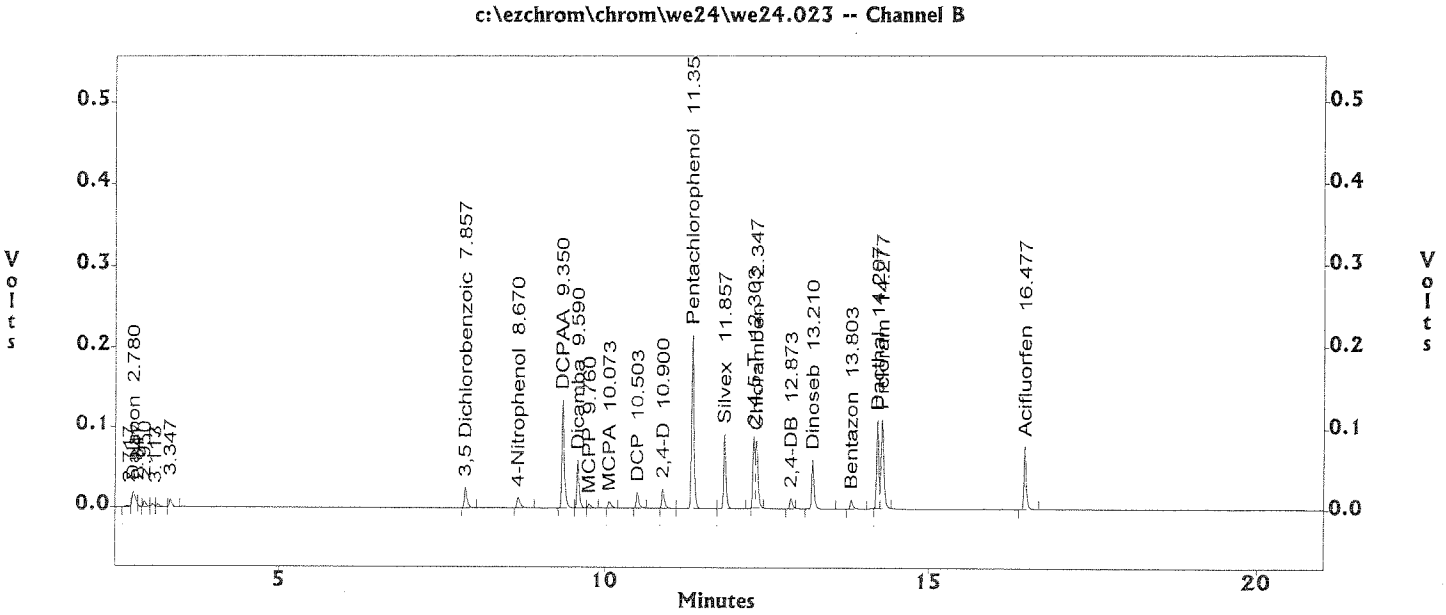


EPA 8151 by GC/ECD
EMAX Analytical Laboratories, Inc.

File : c:\ezchrom\chrom\we24\we24.023
Method : c:\ezchrom\methods\he16c04.met
Sample ID : CHE16C04069
Acquired : May 24, 2016 21:40:41
Printed : May 25, 2016 08:24:48
User : RZhou

Channel B Results

Peak Name	RT(min)	Area	Average RF	ESTD Conc(ppb)	ICODE
Dalapon	2.780	69194.0	670.72	103.163	xx
3,5 Dichlorobenzoic	7.857	70732.0	715.76	98.821	BV
4-Nitrophenol	8.670	44449.0	449.15	98.962	BV
DCPAA	9.350	357420.0	362.66	985.563	BV
Dicamba	9.590	146829.0	1453.81	100.996	VV
MCPP	9.760	14038.0	2.68	5236.458	VI
MCPA	10.073	27771.0	5.25	5289.103	BI
DCP	10.503	56396.0	524.78	107.465	BI
2,4-D	10.900	70197.0	655.43	107.100	xV
Pentachlorophenol	11.357	552277.0	5377.45	102.702	VV
Silvex	11.857	234114.0	2195.19	106.649	VV
2,4,5-T	12.303	194911.0	1811.11	107.620	MM
Chloramben	12.347	228036.0	2217.34	102.842	MM
2,4-DB	12.873	37010.0	358.09	103.353	Bx
Dinoseb	13.210	158725.0	1572.22	100.956	VB
Bentazon	13.803	32234.0	334.23	96.444	BV
Dacthal	14.207	251733.0	2502.35	100.599	MM
Picloram	14.277	316855.0	2928.76	108.188	MM
Acifluorfen	16.477	191294.0	1790.42	106.843	BB



ANALYTICAL LOGS

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PCB CONGENERS/HERBICIDES/EDB and DBCP

Note: For samples and relevant QC/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #:	A16-027
Instrument No.:	16
Analytical Sequence:	WC04
Method File:	HE16C04
Anlytical Batch:	WC04012

SOP #	Rev. #
☑ EMAX-8151	5
☐ EMAX-8082CON	1
☐ EMAX-504.1	4
☐ EMAX-	

ICAL REFERENCE

ICAL ID	BATCH	DATE
HE16C04	WC04	3/4/16

STANDARDS ID		Conc (µg/L)
DCC	SS4B-03-80-02	100/5000/1000
ICAL	SS4B-03-81-02	10/500/100-200/1000/2000
ICV	↓ 81-03	100/10,000
		50/5000

Hexane Lot # SS14 9

Column	☑ A. ZB-35HT B. RTX CLPEST II

ELECTRONIC DATA ARCHIVAL

Location	Date
☑ EZC_4_Pesticides	3/8/16
☐	

Analyzed By: [illegible] Date: 3/4/16

Disposed By: RZ Date Disposed: 3/8/16

This page is checked during data review.

Syringe Lot #: ☑ 430353 ☑ 454251 ☐ 475284 ☑ 354311

Run	Sample ID	Method	Filename	Mult.	Description
1	IB16C04001	he16c04.met	WC04.001	1	
2	HE16C048	he16c04.met	WC04.002	1	
3	HE16C047	he16c04.met	WC04.003	1	
4	HE16C046	he16c04.met	WC04.004	1	
5	HE16C045	he16c04.met	WC04.005	1	
6	HE16C044	he16c04.met	WC04.006	1	
7	HE16C043	he16c04.met	WC04.007	1	
8	HE16C042	he16c04.met	WC04.008	1	
9	HE16C041	he16c04.met	WC04.009	1	
10	IHE16C04001	he16c04.met	WC04.010	1	
11	IHE16C04002	he16c04.met	WC04.011	1	
12	CHE16C04001	he16c04.met	WC04.012	1	

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
PCB CONGENERS/HERBICIDES/EDB and DBCP

Note: For samples and relevant QC/Standards analyzed, refer to attached analytical sequence.

Comments:

Book #:	A16-027
Instrument No.:	16
Analytical Sequence:	WE24
Method File:	HE16COU
Anlytical Batch:	WE24002

SOP #	Rev. #
☑ EMAX-8151	5
☐ EMAX-8082CON	1
☐ EMAX-504.1	4
☐ EMAX-	

ICAL REFERENCE

ICAL ID	BATCH	DATE
HE16COU	WCOU	3/4/16

STANDARDS ID		Conc (µg/L)
DCC	SS413-03-80-02	100/5000/1000

Run	Sample ID	Method	Filename	Mult.	Description
1	IB16C04067	he16c04.met	WE24.001	1	
2	CHE16C04067	he16c04.met	WE24.002	1	
3	SS4A-02-164	he16c04.met	WE24.003	1	
4	E189-01	he16c04.met	WE24.004	1	
5	E189-02	he16c04.met	WE24.005	1	
6	HEE008WB	he16c04.met	WE24.006	1	
7	HEE008WL	he16c04.met	WE24.007	1	
8	HEE008WC	he16c04.met	WE24.008	1	
9	HEE009SB	he16c04.met	WE24.009	1	
10	HEE009SL	he16c04.met	WE24.010	1	
11	HEE009SC	he16c04.met	WE24.011	1	
12	BLANK	he16c04.met	WE24.012	1	
13	IB16C04068	he16c04.met	WE24.013	1	
14	CHE16C04068	he16c04.met	WE24.014	1	
15	TXE013SB	he16c04.met	WE24.015	1	
16	TXE014SB	he16c04.met	WE24.016	1	
17	E767-01 TCLP	he16c04.met	WE24.017	1	
18	E133-03 TCLP	he16c04.met	WE24.018	1	
19	E163-01	he16c04.met	WE24.019	1	
20	E767-01I DF=10	he16c04.met	WE24.020	10	yellow
21	BLANK	he16c04.met	WE24.021	1	
22	IB16C04069	he16c04.met	WE24.022	1	
23	CHE16C04069	he16c04.met	WE24.023	1	

EXTRACTION LOGS

EMAX LABORATORIES, INC.

EXTRACTION LOG
for
HERBICIDES

SOP	Rev. #
☑ EMAX-8151	4
☐ EMAX-	

Note: For samples, relevant QCs/Standards extracted, refer to attached extraction sequence.

Comments:
MS/MSD not done due to insufficient amount of sample.

Book #.: EHE-020
Preparation Batch: ~~HEE08~~ TW 5/23/16 HEE008 W
Matrix: Water / TCLP extract
Micropipette ID: 100µl: PE97C-03
Micropipette ID: 1000µl: PE00-03

Standards	ID	Amount Added (ml)
Surrogate	SSHB-03-12-02	1.0
LCS/MS	SSHA-02-155	0.1

Reagent	Lot # / ID
CH_2Cl_2	—
Hexane	55149
Ethyl Ether	SWIA-006-01-04
Acified Na_2SO_4	SPIB-08-70-04
H_2SO_4	3114106
Diazo-methane	SPIB-08-74-01
Silica Sand	—
Silicic Acid	SPIA-07-01-15
Reagent Water	SWIA-006-01-02
Residual Chlorine Strip	6124
pH Strip	HC574756

TUNING

Sonicator #	Reading

Concentrator	Water Bath Temperature Setting(°C)	Thermometer Reading (°C)
1	35	35
2	35	35
3		
4		
5		
6		

Lab Sample ID	Sonicator #	Concentrator #
HEE008 WB		1
↓ -WL		1
↓ -WC		1
TXE013 SB		2
E767-01		2
TXE014 SB		2
E133-03		2
E163-01		2
E189-01		1
↓ -02		1

Test Thermometer = SVOC-T1

Prepared By: TW / ML
Standard Added By: ML
Witnessed By: TW
Checked By: ML
Extract Received By: [illegible]
Extract Location: SE04-8151-4
Disposal Date:
Disposed By:

FileID: HEE008W

EMAX LABORATORIES, INC.

EXTRACTION LOG FOR HERBICIDES

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Ve(ml)	ExpAmt	ExpVe(ml)	PrepFctr	Comments
16HEE008W01	HEE008WB	500	ml	5/23/16 14:20	5	500	5	1	
16HEE008W02	HEE008WL	500	ml	5/23/16 14:20	5	500	5	1	
16HEE008W03	HEE008WC	500	ml	5/23/16 14:20	5	500	5	1	
16HEE008W04	TXE013SB	10	ml	5/23/16 14:20	5	500	5	50	TCLP Extract
16HEE008W05	E767-01	10	ml	5/23/16 14:20	5	500	5	50	TCLP Extract
16HEE008W06	TXE014SB	10	ml	5/23/16 14:20	5	500	5	50	TCLP Extract
16HEE008W07	E133-03	10	ml	5/23/16 14:20	5	500	5	50	TCLP Extract
16HEE008W08	E163-01	500	ml	5/23/16 14:20	5	500	5	1	
16HEE008W09	E189-01	200	ml	5/23/16 17:36	5	500	5	2.5	QC Ethyl Ether (SW1A-006-01-11)
16HEE008W10	E189-02	200	ml	5/23/16 17:36	5	500	5	2.5	QC Ethyl Ether (SW1A-006-01-12)

Ve=extract volume

PrepFctr=(ExpAmt/Aliquot)(Ve/ExpVe)

☑ Extraction Started @ 5/23/16 11:00 ☑ Drying Started @ 5/23/16 14:30

Prepared By: TWangc

☑ Extraction Ended @ 5/23/16 17:00 ☑ Drying Ended @ 5/23/16 16:30

Checked By: ML

Comments: Chlorine not detected.

Date 5/23/16

SOP EMAX-8151 Rev. 5

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	TCLPSoln	TCLPVol	Exrtract pH	Preservation	Comments
16TXE014S01	TXE014SB	0	g	5/20/16 17:59		2000		HNO_3	
16TXE014S02	E133-03	100.02	g	5/20/16 17:59	#2	2000	5.89	HNO_3	8270, 8151, 8081, Metals & Hg (UNPRESERVED)

☑ DateTimeStarted 5/20/2016 18:30 ☑ Thermometer Reset on 4/9/1900 8:38 Balance ID: 10203192. Calibration check was verified prior to use.

☑ DateTimeEnded 5/21/2016 12:30 Note: Sample preserved with HNO_3 is for metals analysis. MS/MSD were spiked prio Prepared By: DFelic/ TWangc

Extract Location: Metals Received By: MJM 5/23/16 9:46 Checked By: ML

Comment: Date 5/23/16

993

FileID: TXE014S

EMAX LABORATORIES, INC.

TCLP EXTRACTION LOG

Determination of TLCP Solution							Determination of TCLP Extract Filtration			Determination of % solids for aqueos phase			
LabSampleID	Phase(s)	Aliquot	Sample pH	HCl	pH	TCLPSolnReq'd	(ml)	(g)	Pressure	WtS(g)	WtF(g)	WtDFS(g)	% Solids
TXE014SB							100						
E133-03	1	5.02	9.31	3.5	6.14	#2	100	100.36	Vacuum				

Calibration of pH Meter		InstrumentID:	96
BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/20/16 18:04
SW1-01-794	7	7	5/20/16 18:03
SW1A-005-12-24	CalVer 5	5.04	5/20/16 18:05
SW1-01-780	4	4.01	5/21/16 15:16
SW1-01-794	7	7	5/21/16 15:15
SW1A-005-12-24	CalVer 5	5.04	5/21/16 15:17
ID	Reagent	Desc	Expiration Date
SP1A-07-01-08	HCl	1N	04/01/17
SW1A-005-14-09	HNO_3	Conc	04/29/17
SP1B-08-65-01	TCLP Soln	#2	10/11/16
	TCLP Soln		
Rotary Agitator #	Criteria	rpm	DateTime
1	30 ± 2 rpm	30	5/20/16 18:06
	30 ± 2 rpm		
Thermostat Setting:		Thermometer ID:	122273404
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	23.3	5/21/16 11:03
Room Temp (°C) Low	23 ± 2 °C	21.1	5/21/16 6:23
Pipette ID	PE00-01		
CONCENTRATOR (WATER BATH)			
Concentrator #	Temp Setting	Thermometer Rdg	Thermometer ID
5	50	50	SVOC-T1
Filter ID/Lot #	20916/ 62513		
pH strip Lot#	HC577678		

Legend:

WtS = weight of sample

WtF = weight of filter

WtDFS = weight of dried filter + solids

Prepared By: DFelic/ TWangc

Checked By: ML

Date 5/23/16

METALS / MERCURY

METALS

METHOD SW6020A
TOTAL METALS BY ICP-MS

Client	: URS CORPORATION	Date Collected:	05/13/16
Project	: CANNON AFB PBR	Date Received:	05/14/16
SDG NO.	: 16E133	Date Extracted:	05/20/16 11:41
Sample ID:	CAFB-IDW-W-05132016	Date Analyzed:	05/23/16 20:34
Lab Samp ID:	E133-02	Dilution Factor:	1
Lab File ID:	F6E10069	Matrix :	WATER
Ext Btch ID:	IME032W	% Moisture :	NA
Calib. Ref.:	F6E10062	Instrument ID :	T-IF6

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
Arsenic	1.78	1.00	0.200	0.100
Barium	149	1.00	0.500	0.250
Cadmium	1.97	1.00	0.200	0.100
Chromium, total	16.0	1.00	0.200	0.100
Lead	3.70	1.00	0.200	0.100
Selenium	17.3	1.00	0.300	0.150
Silver	ND	1.00	0.200	0.100

METHOD SW6020A
TOTAL METALS BY ICP-MS

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/20/16
SDG NO.	: 16E133	Date Extracted:	05/20/16 11:41
Sample ID:	MBLK1W	Date Analyzed:	05/23/16 20:13
Lab Samp ID:	IME032WB	Dilution Factor:	1
Lab File ID:	F6E10064	Matrix :	WATER
Ext Btch ID:	IME032W	% Moisture :	NA
Calib. Ref.:	F6E10062	Instrument ID :	T-IF6

PARAMETERS	RESULTS (ug/L)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)
Arsenic	ND	1.00	0.200	0.100
Barium	ND	1.00	0.500	0.250
Cadmium	ND	1.00	0.200	0.100
Chromium, total	ND	1.00	0.200	0.100
Lead	ND	1.00	0.200	0.100
Selenium	ND	1.00	0.300	0.150
Silver	ND	1.00	0.200	0.100

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W			
CONTROL NO.:	IME032WB	IME032WL		
LAB FILE ID:	F6E10064	F6E10065		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	NA
DATIME ANALYZD:	05/23/1620:13	05/23/1620:17	DATE RECEIVED:	05/20/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	BLNK RSLT (ug/L)	SPIKE AMT (ug/L)	BS RSLT (ug/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	30.0	29.7	99	80-120
Barium	ND	30.0	29.4	98	80-120
Cadmium	ND	30.0	28.8	96	80-120
Chromium, total	ND	30.0	30.6	102	80-120
Lead	ND	30.0	28.9	96	80-120
Selenium	ND	30.0	29.8	99	80-120
Silver	ND	30.0	29.3	98	80-120

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	CAFB-IDW-W-05132016			
CONTROL NO.:	E133-02	E133-02M		
LAB FILE ID:	F6E10069	F6E10067		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATIME ANALYZD:	05/23/1620:34	05/23/1620:26	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	MS RSLT (ug/L)	MS % REC	QC LIMIT (%)
Arsenic	1.78	30.0	33.6	106	80-120
Barium	149	30.0	189	133*	80-120
Cadmium	1.97	30.0	30.7	96	80-120
Chromium, total	16.0	30.0	46.4	101	80-120
Lead	3.70	30.0	32.1	95	80-120
Selenium	17.3	30.0	48.7	105	80-120
Silver	ND	30.0	28.2	94	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW6020A

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	5		
SAMPLE ID:	CAFB-IDW-W-051	CAFB-IDW-W-051		
EMAX SAMP ID:	E133-02	E133-02J		
LAB FILE ID:	F6E10069	F6E10070		
DATE EXTRACTED:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATE ANALYZED:	05/23/1620:34	05/23/1620:39	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SERIAL DIL RSLT (ug/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	1.78	1.8J	NA	10
Barium	149	149	0	10
Cadmium	1.97	2.07J	NA	10
Chromium, total	16	16.1	0	10
Lead	3.7	3.79J	NA	10
Selenium	17.3	16	8	10
Silver	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW6020A

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MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	CAFB-IDW-W-05132016			
CONTROL NO.:	E133-02	E133-02A		
LAB FILE ID:	F6E10069	F6E10068		
DATIME EXTRCTD:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATIME ANALYZD:	05/23/1620:34	05/23/1620:30	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	SPIKE AMT (ug/L)	AS RSLT (ug/L)	AS % REC	QC LIMIT (%)
Arsenic	1.78	30.0	34.1	108	75-125
Barium	149	30.0	186	125	75-125
Cadmium	1.97	30.0	32.0	100	75-125
Chromium, total	16.0	30.0	47.2	104	75-125
Lead	3.70	30.0	33.3	99	75-125
Selenium	17.3	30.0	50.8	111	75-125
Silver	ND	30.0	30.3	101	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW6020A

MATRIX:	WATER		% MOISTURE:	NA
DILUTION FACTOR:	1	1		
SAMPLE ID:	CAFB-IDW-W-051	CAFB-IDW-W-051		
EMAX SAMP ID:	E133-02	E133-02D		
LAB FILE ID:	F6E10069	F6E10071		
DATE EXTRACTED:	05/20/1611:41	05/20/1611:41	DATE COLLECTED:	05/13/16
DATE ANALYZED:	05/23/1620:34	05/23/1620:43	DATE RECEIVED:	05/14/16
PREP. BATCH:	IME032W	IME032W		
CALIB. REF:	F6E10062	F6E10062		

ACCESSION:

PARAMETER	SMPL RSLT (ug/L)	DUPL RSLT (ug/L)	RPD RSLT %	QC LIMIT (%)
Arsenic	1.78	1.74	2	20
Barium	149	149	0	20
Cadmium	1.97	1.94	2	20
Chromium, total	16	15.9	1	20
Lead	3.7	3.69	0	20
Selenium	17.3	17	2	20
Silver	ND	ND	0	20

ICP-MS QC CHECK TABLE

QC	CCV HIGH	ICV	CCV	ICSAB	ICSA
Limit%	95-105	90-110	90-110	80-120	80-120
Comp	ug/L	ug/L	ug/L	ug/L	ug/L
Al	50000	30000	25000	100000	100000
Sb	500	300	250	20	0
As	500	300	250	20	0
Ba	1000	300	500	20	0
Be	50	30	25	20	0
B	100	30	50	20	0
Cd	500	300	250	20	0
Ca	50000	30000	25000	100000	100000
Cr	500	300	250	20	0
Co	500	300	250	20	0
Cu	500	300	250	20	0
Fe	50000	30000	25000	100000	100000
Li	50	30	25	20	0
Pb	500	300	250	20	0
Mg	50000	30000	25000	100000	100000
Mn	3000	2000	1500	20	0
Mo	500	300	250	2000	2000
Ni	500	300	250	20	0
P	500	300	250	100000	100000
K	50000	30000	25000	100000	100000
Se	500	300	250	20	0
Si	5000	3000	2500	200	0
Ag	50	30	25	20	0
Na	50000	30000	25000	100000	100000
Sr	500	300	250	20	0
Tl	500	300	250	20	0
Sn	500	300	250	20	0
Ti	500	300	250	2000	2000
W	50	30	25	20	0
V	500	300	250	20	0
U	500	300	250	20	0
Zn	500	300	250	20	0
Zr	50	30	25	20	0

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP-MS

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 5/23/16 15:40

End Date: 5/23/16 23:24

Comments:

All soil/solid samples are diluted at 10x dilution prior to analysis.

Filter Lot #: NA

Book #: AF6-015

Instrument No.: F6

Analytical Batch: DF6E10

Analytical Sequence: F6E10

Method File: EMX6020H

Micropipette ID: ☑ 142781004

Micropipette ID: ☑ ICP-06

Micropipette ID: ☑ 339362028

Micropipette ID: ☑ GFAA-07

Micropipette ID: ☐

SOP #	Rev. #
☑ EMAX-6020	9
☑ EMAX-200.8	5
☐ EMAX-	

STANDARDS ID		STANDARDS ID	
S0	SM6B009.78-07	MRL1 (1)	SM6B009.80-03
S1	.78.08	MRL2 (0.5)	.80.04
S2	.79.01	MRL3 (0.25)	.80.04
S3	.79.02	MRL4	NA
S4	.79.03	MRL5	
S5	NA	MRL6	
S6		Internal Standard	SM6B009.68-07
S7		Post-Spike 1	SM6A.007.03-07
ICV	SM6B009.77.03	Post-Spike 2	03-06
CCV	79.04	Post-Spike 3	NA
ICSA	80.01	Post-Spike 4	
ICSAB	80.02		
6020 TUNE SOLN.	SM6B009.80-07		
200.8 TUNE SOLN.	80.08		

Analyzed By: [illegible]

Date: 5/23/16

SEQUENCE FILE : IF6E10

4-18	19-33	34-43	44-53	54-63
LFID	LSID	TIME	DATE	DF
F6E10003	BLNK	15:40	05/23/16	1.00
F6E10004	S0	15:44	05/23/16	1.00
F6E10005	S1 0.5	15:49	05/23/16	1.00
F6E10006	S2 50	15:53	05/23/16	1.00
F6E10007	S3 250	15:57	05/23/16	1.00
F6E10008	S4 500	16:01	05/23/16	1.00
F6E10009	ICV	16:05	05/23/16	1.00
F6E10010	IC8	16:09	05/23/16	1.00
F6E10011	MRLE2301	16:13	05/23/16	1.00
F6E10012	MRLE2302	16:18	05/23/16	1.00
F6E10013	ICSA	16:22	05/23/16	1.00
F6E10014	ICSAB	16:27	05/23/16	1.00
F6E10015	MRLE2303	16:31	05/23/16	1.00
F6E10016	MRLE2304	16:35	05/23/16	1.00
F6E10017	CCV1	16:40	05/23/16	1.00
F6E10018	CCB1	16:44	05/23/16	1.00
F6E10019	IME029SB	16:48	05/23/16	1.00
F6E10020	IME029SL	16:52	05/23/16	1.00
F6E10021	IME029SC	16:57	05/23/16	1.00
F6E10022	E123-01A	17:01	05/23/16	1.00
F6E10023	E123-01	17:05	05/23/16	1.00
F6E10024	E123-01J	17:09	05/23/16	5.00
F6E10025	E123-02	17:14	05/23/16	1.00
F6E10026	E123-03	17:18	05/23/16	1.00
F6E10027	E123-04	17:22	05/23/16	1.00
F6E10028	BLANK	17:38	05/23/16	1.00
F6E10029	CCV2	17:43	05/23/16	1.00
F6E10030	CCB2	17:47	05/23/16	1.00
F6E10031	E123-05	17:51	05/23/16	1.00
F6E10032	E123-06	17:55	05/23/16	1.00
F6E10033	E123-07	18:00	05/23/16	1.00
F6E10034	E123-08	18:04	05/23/16	1.00
F6E10035	E123-09	18:08	05/23/16	1.00
F6E10036	BLANK	18:13	05/23/16	1.00
F6E10037	BLANK	18:17	05/23/16	1.00
F6E10038	CCV3	18:21	05/23/16	1.00
F6E10039	CCB3	18:25	05/23/16	1.00
F6E10040	IME025WB	18:30	05/23/16	1.00
F6E10041	IME025WL	18:34	05/23/16	1.00
F6E10042	E107-01	18:38	05/23/16	1.00
F6E10043	E107-02M	18:42	05/23/16	1.00
F6E10044	E107-02A	18:47	05/23/16	1.00
F6E10045	E107-02	18:51	05/23/16	1.00
F6E10046	E107-02J	18:55	05/23/16	5.00
F6E10047	E107-02D	19:00	05/23/16	1.00
F6E10048	E107-03	19:04	05/23/16	1.00
F6E10049	BLANK	19:08	05/23/16	1.00
F6E10050	CCV4	19:13	05/23/16	1.00
F6E10051	CCB4	19:17	05/23/16	1.00
F6E10052	E107-04	19:21	05/23/16	1.00
F6E10053	E107-05	19:25	05/23/16	1.00

F6E10054	E122-01	19:30	05/23/16	1.00
F6E10055	E122-02	19:34	05/23/16	1.00
F6E10056	E122-04M	19:38	05/23/16	1.00
F6E10057	E122-04A	19:43	05/23/16	1.00
F6E10058	E122-04	19:47	05/23/16	1.00
F6E10059	E122-04J	19:51	05/23/16	5.00
F6E10060	E122-04D	19:56	05/23/16	1.00
F6E10061	BLANK	20:00	05/23/16	1.00
F6E10062	CCV5	20:04	05/23/16	1.00
F6E10063	CCB5	20:08	05/23/16	1.00
F6E10064	IME032WB	20:13	05/23/16	1.00
F6E10065	IME032WL	20:17	05/23/16	1.00
F6E10066	E122-05	20:21	05/23/16	1.00
F6E10067	E133-02M	20:26	05/23/16	1.00
F6E10068	E133-02A	20:30	05/23/16	1.00
F6E10069	E133-02	20:34	05/23/16	1.00
F6E10070	E133-02J	20:39	05/23/16	5.00
F6E10071	E133-02D	20:43	05/23/16	1.00
F6E10072	BLANK	20:47	05/23/16	1.00
F6E10073	BLANK	20:52	05/23/16	1.00
F6E10074	CCV6	20:56	05/23/16	1.00
F6E10075	CCB6	21:00	05/23/16	1.00
F6E10076	E144-02	21:05	05/23/16	1.00
F6E10077	E144-03	21:09	05/23/16	1.00
F6E10078	E144-04	21:13	05/23/16	1.00
F6E10079	E155-02	21:18	05/23/16	1.00
F6E10080	BLANK	21:22	05/23/16	1.00
F6E10081	CCV7	21:26	05/23/16	1.00
F6E10082	CCB7	21:30	05/23/16	1.00
F6E10083	E123-01A	21:35	05/23/16	5.00
F6E10084	E123-01I	21:39	05/23/16	5.00
F6E10085	E123-01J	21:43	05/23/16	25.00
F6E10086	E123-02I	21:47	05/23/16	5.00
F6E10087	E123-03I	21:52	05/23/16	5.00
F6E10088	E123-04I	21:56	05/23/16	5.00
F6E10089	E123-05I	22:00	05/23/16	5.00
F6E10090	E123-06I	22:04	05/23/16	5.00
F6E10091	E123-07I	22:09	05/23/16	5.00
F6E10092	BLANK	22:13	05/23/16	1.00
F6E10093	CCV8	22:17	05/23/16	1.00
F6E10094	CCB8	22:22	05/23/16	1.00
F6E10095	E123-08I	22:26	05/23/16	10.00
F6E10096	E123-08K	22:31	05/23/16	100.00
F6E10097	E123-09I	22:35	05/23/16	5.00
F6E10098	BLANK	22:40	05/23/16	1.00
F6E10099	CCV9	22:44	05/23/16	1.00
F6E10100	CCB9	22:49	05/23/16	1.00
F6E10101	IME031WB	22:53	05/23/16	1.00
F6E10102	IME031WL	22:58	05/23/16	1.00
F6E10103	IME031WC	23:02	05/23/16	1.00
F6E10104	E482-01	23:06	05/23/16	1.00
F6E10105	E482-01I	23:11	05/23/16	5.00
F6E10106	BLANK	23:15	05/23/16	1.00
F6E10107	CCV10	23:20	05/23/16	1.00

F6E10108 CCB10 23:24 05/23/16 1.00

SDG : 16E133 UNIT : % ICPMS CHECK : IF6E10 DATE : 05/23/16 INST : EMAXTIF6

ANALYTE	Li	Be	B	Na	Mg	Al	Si	P	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sr	Zr	Mo	Ag	Cd	Sn	Sb	Ba	W	Tl	Pb	U
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S1 0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S2 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S3 250	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S4 500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	104	107	108	98	100	101	100	97	102	96	98	99	99	97	101	94	95	94	98	100	98	100	106	101	104	100	101	101	104	93	100	98	98
IC8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2301	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2302	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA	----	----	----	100	99	99	----	101	103	96	105	----	----	----	101	----	----	----	----	----	----	----	----	105	----	----	----	----	----	----	----	----	----
ICSAB	99	100	95	98	98	98	106	100	103	96	106	102	104	99	101	98	96	96	102	104	109	101	109	106	95	98	98	101	99	101	97	95	98
MRLE2303	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2304	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	102	103	108	95	99	99	96	97	102	94	100	102	100	101	101	99	100	99	99	102	100	102	109	104	98	102	102	102	102	102	106	102	100
CCB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME029SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME029SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME029SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	100	100	99	100	102	101	101	98	105	96	101	102	101	103	103	101	100	99	103	103	103	105	120*	107	100	105	102	101	103	103	102	100	101
CCB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	100	100	101	99	102	101	102	98	106	96	100	104	103	102	103	101	101	102	102	104	103	104	120*	108	101	104	103	103	104	101	101	100	100
CCB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME025WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME025WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	99	99	104	100	100	99	101	95	105	96	99	104	104	102	103	101	101	103	105	102	100	105	117*	105	98	103	103	103	104	102	103	102	102
CCB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E122-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	98	98	102	100	102	101	101	95	105	96	99	104	102	103	104	101	100	101	103	103	100	106	115*	105	98	104	103	103	104	103	103	102	100
CCB5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME032WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME032WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	98	99	102	99	100	99	99	95	106	95	99	104	103	102	103	101	101	102	104	103	101	105	115*	105	97	104	103	103	104	101	103	101	101
CCB6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E144-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E144-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E144-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E155-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	97	100	104	99	99	99	100	94	106	95	99	105	104	103	103	101	101	103	104	103	100	106	115*	105	99	104	103	104	104	101	102	100	101
CCB7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-04I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-05I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-06I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-07I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	113*	4*	519*	47*	12*	4*	34*	5316*	698*	7*	62*	160*	37*	6*	1*	6*	9*	29*	44*	39*	7*	6*	40*	34*	84*	39*	236*	180*	50*	520*	43*	130*	28*
CCB8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-08I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-08K	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-09I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	120*	2*	857*	377*	39*	3*	59*	18548*	2648*	2*	52*	98	71*	21*	2*	11*	52*	57*	51*	25*	8*	5*	32*	62*	224*	84*	590*	490*	72*	5336*	204*	755*	93
CCB9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME031WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME031WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME031WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E482-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E482-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	99	101	104	96	97	97	97	93	106	95	99	104	103	102	103	100	101	103	102	104	100	103	112*	107	100	104	103	103	105	101	102	100	101

CCB10 ---- ---- ----

SDG : 16E133 UNIT : UG/L SUMMARY of CALIBRATION BLANKS : IF6E10 (WATER) DATE : 05/23/16 INST : EMAXTIF6

ANALYTE	Li	Be	B	Na	Mg	Al	Si	P	K	Ca	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	As	Se	Sr	Zr	Mo	Ag	Cd	Sn	Sb	Ba	W	Tl	Pb	U
BLNK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S0	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S1 0.5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S2 50	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S3 250	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S4 500	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	.008	.005	.323	7.67	1.37	.283	1.28	-.338	-2.84	.511	.012	-.068	-.035	.033	2.95	.013	.006	.010	.040	.040	.099	.003	.008	.106	.000	.006	.068	.033	.007	.025	.023	.003	.017
MRLE2301	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2302	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA	.340	.013	.391	----	----	----	5.61	----	----	----	----	.064	1.30	.311	----	.348	.275	.627	2.75	.259	.133	.637	.097	----	.019	.160	.029	.055	.093	.127	.002	.194	.004
ICSAB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2303	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2304	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	-.054	-.000	.280	7.09	2.62	.248	.763	-.395	-8.47	.265	.008	-.074	-.043	.010	2.65	.004	-.002	.008	.042	.014	.063	.000	.003	.101	-.000	.010	.035	.135	.000	.014	.006	-.003	.013
IME029SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME029SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME029SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	-.157	-.000	.281	4.18	1.02	.283	.805	-1.27	-15.5	.076	-.013	-.052	-.046	.016	2.22	.002	-.013	-.017	-.065	.010	.052	.003	.004	.067	.000	.000	.042	.267	.000	.008	.002	-.005	.012
E123-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-06	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-07	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-08	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-09	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	-.080	.000	.309	3.28	1.68	.371	.789	-1.38	-15.4	.525	-.009	-.084	-.042	.014	2.95	.002	-.010	.034	-.048	.018	.055	.004	.005	.057	-.000	.007	.045	.216	.002	.007	.000	.012	.012
IME025WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME025WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-02D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	-.146	-.000	1.94	28.6	.706	.160	.120	-3.51	-2.48	.037	-.011	-.188	-.045	.003	2.45	.000	-.014	.012	-.070	.008	.057	.006	.001	.062	.000	.002	.032	.309	-.003	.009	.000	-.003	.011
E107-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E107-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E122-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-04D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB5	-.173	-.002	1.66	25.3	1.06	.299	.063	-3.12	-4.76	.043	-.023	-.180	-.041	.024	2.51	.001	-.013	.004	-.051	.017	.058	.022	.008	.064	.000	.004	.028	.314	.003	.008	.003	-.005	.012
IME032WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME032WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E122-05	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-02D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	-.060	-.000	1.05	42.6	3.30	1.48	.546	-4.37	4.56	3.88	.011	-.201	-.039	.085	4.10	.015	-.003	.032	-.023	.039	.058	.058	.010	.086	.001	.006	.214	.308	.024	.009	.008	.004	.018
E144-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E144-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E144-04	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E155-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	-.016	.000	2.27	24.4	1.02	.298	.069	-5.21	-1.46	.171	-.015	-.233	-.045	.021	2.45	.008	-.008	-.003	-.054	.026	.061	.034	.014	.063	.000	.003	.103	.292	.001	.009	.003	-.005	.013
E123-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-02I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-03I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-04I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-05I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-06I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-07I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	28.2	1.12	363	18730	3321	666	1274	24210	213900	256	84.0	69.0	53.2	190	518	17.3	24.9	47.9	130	59.1	16.6	12.7	15.6	173	37.8	42.5	3223	1193	330	1113	454	1615	227
E123-08I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-08K	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E123-09I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	30.2	.989	439	80190	10060	879	1409	47160	792000	1694	152	150	160	332	447	31.2	81.0	142	133	43.7	25.3	11.7	7.99	193	62.1	191	1885	1315	484	2574	935	2717	404
IME031W8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME031WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IME031WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E482-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E482-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

CCB10	-.021	-.002	1.10	19.0	6.15	.521	.199	-6.39	-.302	1.12	.002	-.291	-.043	.045	3.94	.009	.103	.018	-.052	.023	.065	.017	.017	.072	.000	.006	.049	.249	.005	.012	.004	-.006	.014

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
1		Keyword		TUNBEG	Start of TUNE						
2	C:\ICPCHEM\1\METHODS\TN6020_C.M	Tun6	1301	F6E10001	6020tunchk		1.000				
3	C:\ICPCHEM\1\METHODS\TN200_8C.M	Tun2	1302	F6E10002	200.8tunchk		1.000				
4		Keyword		TUNEND	End of TUNE						
5		Keyword		CALBEG	Start of CALIB						
6	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalBlk	1101	F6E10003	BLNK		Level 1				
7	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalBlk	1201	F6E10004	S0		Level 1				
8	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1104	F6E10005	S1 0.5		Level 2				
9	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1105	F6E10006	S2 50		Level 3				
10	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1106	F6E10007	S3 250		Level 4				
11	C:\ICPCHEM\1\METHODS\EMX6020H.M	CalStd	1107	F6E10008	S4 500		Level 5				
12	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICV1	1204	F6E10009	ICV		1.000				
13	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICB	1201	F6E10010	ICB		1.000				
14	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1306	F6E10011	MRLE2301	0.5/50/4 ppb	1.000				
15	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1305	F6E10012	MRLE2302	1/100/10 ppb	1.000				
16	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICS-A	1303	F6E10013	ICSA		1.000				
17	C:\ICPCHEM\1\METHODS\EMX6020H.M	ICS-AB	1304	F6E10014	ICSAB		1.000				
18	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1207	F6E10015	MRLE2303	500 ppb CAT	1.000				
19	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1305	F6E10016	MRLE2304	1/100/10 ppb	1.000				
20	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10017	CCV1		1.000				
21	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10018	CCB1		1.000				
22		Keyword		CALEND	End of CALIB						
23		Keyword		SMPLBEG	Start of SMPL						
24	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBS	2101	F6E10019	IME029SB		1.000				
25	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2102	F6E10020	IME029SL		1.000				
26	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCSS	2103	F6E10021	IME029SC		1.000				
27	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2104	F6E10022	E123-01A	Ca>LDR	1.000				
28	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2105	F6E10023	E123-01		1.000				
29	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2106	F6E10024	E123-01J		5.000				
30	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2107	F6E10025	E123-02		1.000				
31	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2108	F6E10026	E123-03		1.000				
32	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2109	F6E10027	E123-04		1.000				
33	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10028	BLANK		1.000				
34	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10029	CCV2		1.000				
35	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10030	CCB2		1.000				
36	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2110	F6E10031	E123-05	Ca>LDR	1.000				
37	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2111	F6E10032	E123-06	Mg,Ca>LDR	1.000				
38	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2112	F6E10033	E123-07	Ca>LDR	1.000				
39	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2201	F6E10034	E123-08	Mg,Ca,Fe,Cu,Zn,Pb>LDR	1.000				
40	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2202	F6E10035	E123-09	Ca,Fe,Pb>LDR	1.000				
41	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10036	BLANK		1.000				

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
42	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10037	BLANK		1.000				
43	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10038	CCV3		1.000				
44	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10039	CCB3		1.000				
45	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBW	2203	F6E10040	IME025WB		1.000				
46	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2204	F6E10041	IME025WL	Zn failed	1.000				
47	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2205	F6E10042	E107-01		1.000				
48	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2206	F6E10043	E107-02M		1.000				
49	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2207	F6E10044	E107-02A		1.000				
50	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2208	F6E10045	E107-02		1.000				
51	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2209	F6E10046	E107-02J		5.000				
52	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2210	F6E10047	E107-02D		1.000				
53	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2211	F6E10048	E107-03		1.000				
54	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10049	BLANK		1.000				
55	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10050	CCV4		1.000				
56	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10051	CCB4		1.000				
57	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2212	F6E10052	E107-04		1.000				
58	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2301	F6E10053	E107-05		1.000				
59	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2302	F6E10054	E122-01		1.000				
60	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2303	F6E10055	E122-02		1.000				
61	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2304	F6E10056	E122-04M	Na, Mg, Ca > LPR	1.000				
62	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2305	F6E10057	E122-04A		1.000				
63	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2306	F6E10058	E122-04		1.000				
64	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2307	F6E10059	E122-04J		5.000				
65	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2308	F6E10060	E122-04D		1.000				
66	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10061	BLANK		1.000				
67	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10062	CCV5		1.000				
68	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10063	CCB5		1.000				
69	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBW	2310	F6E10064	IME032WB		1.000				
70	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2311	F6E10065	IME032WL		1.000				
71	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2309	F6E10066	E122-05		1.000				
72	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2312	F6E10067	E133-02M	Na, Ca > LPR (10X)	1.000				
73	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2401	F6E10068	E133-02A		1.000				
74	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2402	F6E10069	E133-02		1.000				
75	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2403	F6E10070	E133-02J		5.000				
76	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2404	F6E10071	E133-02D		1.000				
77	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10072	BLANK		1.000				
78	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10073	BLANK		1.000				
79	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10074	CCV6		1.000				
80	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10075	CCB6		1.000				
81	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2405	F6E10076	E144-02	Na > LPR	1.000				
82	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2406	F6E10077	E144-03		1.000				

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	Method	Type	Vial	Data File	Sample	Comment	Dil/Lvl	ISTD Conc	Action on Failure	Skip	Result
83	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2407	F6E10078	E144-04 Not COC		1.000				
84	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2408	F6E10079	E155-02		1.000				
85	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10080	BLANK		1.000				
86	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10081	CCV7		1.000				
87	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10082	CCB7		1.000				
88	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2502	F6E10083	E123-01A		5.000				
89	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2503	F6E10084	E123-01I		5.000				
90	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2504	F6E10085	E123-01J		25.00				
91	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2505	F6E10086	E123-02I		5.000				
92	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2506	F6E10087	E123-03I		5.000				
93	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2507	F6E10088	E123-04I		5.000				
94	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2508	F6E10089	E123-05I		5.000				
95	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2509	F6E10090	E123-06I		5.000				
96	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2510	F6E10091	E123-07I		5.000				
97	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10092	BLANK		1.000				
98	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10093	CCV8	autosampler error	1.000				
99	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10094	CCB8		1.000				
100	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2511	F6E10095	E123-08I		10.00				
101	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2512	F6E10096	E123-08K		100.0				
102	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	3101	F6E10097	E123-09I		5.000				
103	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10098	BLANK		1.000				
104	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10099	CCV9		1.000				
105	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10100	CCB9		1.000				
106	C:\ICPCHEM\1\METHODS\EMX6020H.M	MBW	2409	F6E10101	IME031WB		1.000				
107	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2410	F6E10102	IME031WL		1.000				
108	C:\ICPCHEM\1\METHODS\EMX6020H.M	LCS	2411	F6E10103	IME031WC		1.000				
109	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2412	F6E10104	E482-01		1.000				
110	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	2501	F6E10105	E482-01I		5.000				
111	C:\ICPCHEM\1\METHODS\EMX6020H.M	Sample	1101	F6E10106	BLANK		1.000				
112	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCV	1206	F6E10107	CCV10		1.000				
113	C:\ICPCHEM\1\METHODS\EMX6020H.M	CCB	1201	F6E10108	CCB10		1.000				
114		Keyword		StandBy							
115		Keyword		SMPLEND	End of SMPL						
116		Keyword		End	End of Sequence						
117		Keyword		CCVBEG	Start of CCV						
118		Keyword		CCVEND	End of CCV						
119		Keyword		BLKBEG	Start of BLANK						
120		Keyword		BLKEND	End of BLANK						
121		Keyword		ERRBEG	Start of ERRTERM						
122		Keyword		ERREND	End of ERRTERM						

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Last Calib: May 23, 2016 04:04 pm
Calibration Type: External Calibration Method
Calibration Title:
Weighting Method: 1/(SD*SD)
Mass Interpolation Fit for VIS: Point to Point
Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Multi Tune: #1 h2.u
#2 he.u
#3 norm.u

=== Standard Files ===
<Data Correction>
Bkg File: ---
Rejected Masses: ---
Interference Correction: ON

	Data File	Sample Name	Date Acquired
1	c:\data\if62016\e\if6e10.b\f6e10004.d\f6e10004.d#	S0	May 23 2016 03:44 pm
2	c:\data\if62016\e\if6e10.b\f6e10005.d\f6e10005.d#	S1 0.5	May 23 2016 03:49 pm
3	c:\data\if62016\e\if6e10.b\f6e10006.d\f6e10006.d#	S2 50	May 23 2016 03:53 pm
4	c:\data\if62016\e\if6e10.b\f6e10007.d\f6e10007.d#	S3 250	May 23 2016 03:57 pm
5	c:\data\if62016\e\if6e10.b\f6e10008.d\f6e10008.d#	S4 500	May 23 2016 04:01 pm
6	---		
7	---		
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14	---		
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16	---		
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18	---		
19	---		
20	---		

Calibration - C:\DATA\IF62016\E\IF6E10.B\EMX6020H.C

=== ISTD Table ===

Fix ISTD Conc: ON

	Step	Mass	Element	VIS	Units	All Levels
1	3	6	Li		ppb	100.0
2	1	45	Sc		ppb	100.0
3	2	45	Sc		ppb	100.0
4	3	45	Sc		ppb	100.0
5	1	72	Ge		ppb	100.0
6	2	72	Ge		ppb	100.0
7	3	72	Ge		ppb	100.0
8	3	115	In		ppb	100.0
9	3	159	Tb		ppb	100.0
10	3	209	Bi		ppb	100.0

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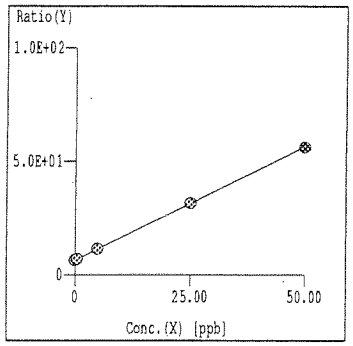
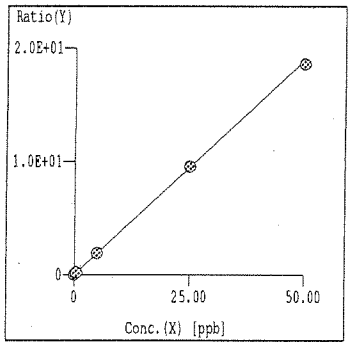
=== Graph Detail ===

Step Mass Element (3) 7 Li — ISTD 6 — Unit ppb



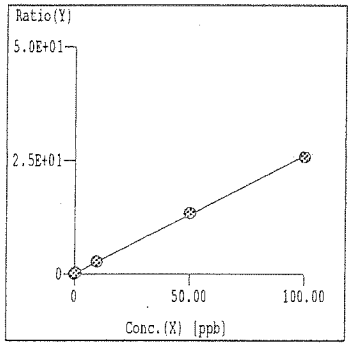
Curve Fit: Y=aX+b
r = 1.0000
Y = 1.007E+000*X +6.334E+000
X = 9.931E-001*Y -6.290E+000
DL = 1.037E-01 ppb
BEC = 6.290 ppb

Step Mass Element (3) 9 Be — ISTD 6 — Unit ppb



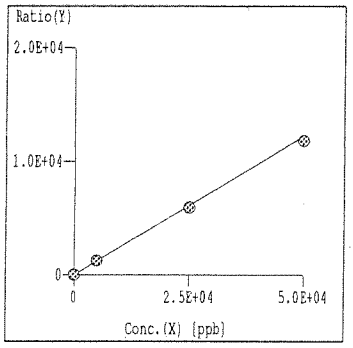
Curve Fit: Y=aX+b
r = 0.9999
Y = 3.806E-001*X +3.184E-003
X = 2.628E+000*Y -8.366E-003
DL = 6.083E-03 ppb
BEC = 8.366E-03 ppb

Step Mass Element (3) 11 B — ISTD 6 — Unit ppb



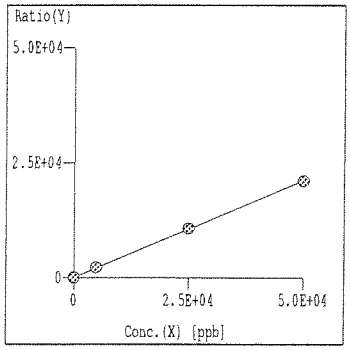
Curve Fit: Y=aX+b
r = 0.9998
Y = 2.612E-001*X +4.336E-002
X = 3.828E+000*Y -1.660E-001
DL = 1.256E-02 ppb
BEC = 1.660E-01 ppb

Step Mass Element (1) 23 Na — ISTD 45 — Unit ppb



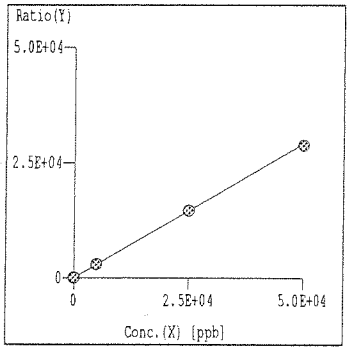
Curve Fit: Y=aX+b
r = 1.0000
Y = 2.452E-001*X +2.565E+000
X = 4.078E+000*Y -1.046E+001
DL = 2.741E-01 ppb
BEC = 10.46 ppb

Step Mass Element (3) 24 Mg — ISTD 45 — Unit ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 4.243E-001*X +5.282E-001
X = 2.357E+000*Y -1.245E+000
DL = 1.057E-01 ppb
BEC = 1.245 ppb

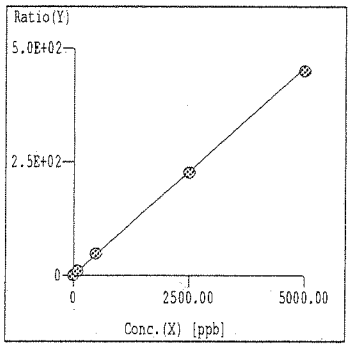
Step Mass Element (3) 27 Al — ISTD 45 — Unit ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 5.849E-001*X +8.206E-002
X = 1.710E+000*Y -1.403E-001
DL = 3.565E-02 ppb
BEC = 1.403E-01 ppb

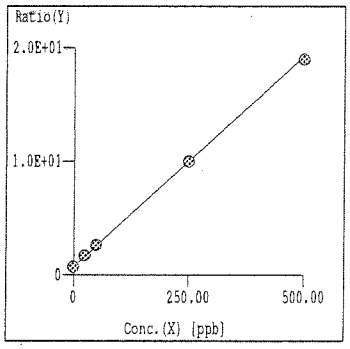
=== Graph Detail ===

Step Mass Element ISTD Unit
(1) 28 Si 45 ppb



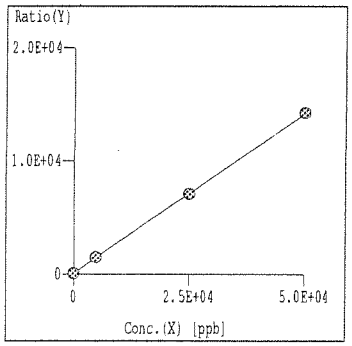
Curve Fit: Y=aX+b
r = 1.0000
Y = 9.161E-002*X +1.458E-001
X = 1.092E+001*Y -1.592E+000
DL = 2.117E-01 ppb
BEC = 1.592 ppb

Step Mass Element ISTD Unit
(3) 31 P 45 ppb



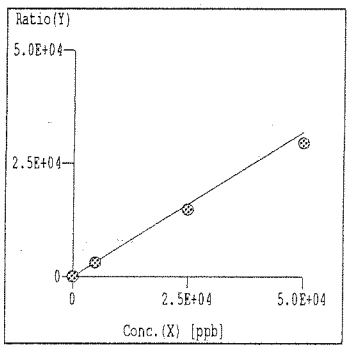
Curve Fit: Y=aX+b
r = 1.0000
Y = 3.722E-002*X +7.110E-001
X = 2.687E+001*Y -1.910E+001
DL = 4.085E-01 ppb
BEC = 19.10 ppb

Step Mass Element ISTD Unit
(2) 39 K 45 ppb



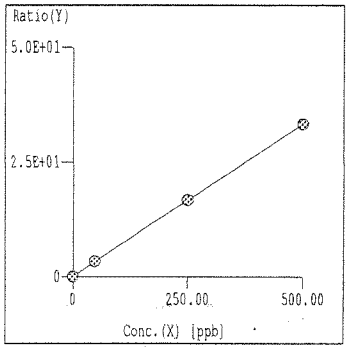
Curve Fit: Y=aX+b
r = 1.0000
Y = 2.824E-001*X +5.967E+001
X = 3.541E+000*Y -2.113E+002
DL = 9.806 ppb
BEC = 211.3 ppb

Step Mass Element ISTD Unit
(1) 40 Ca 45 ppb



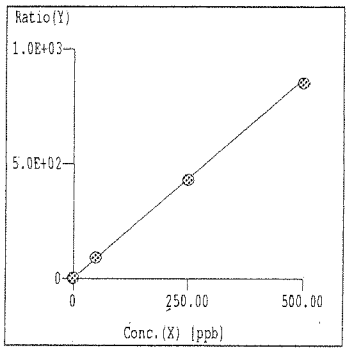
Curve Fit: Y=aX+b
r = 1.0000
Y = 6.380E-001*X +1.886E+000
X = 1.567E+000*Y -2.956E+000
DL = 8.204E-02 ppb
BEC = 2.956 ppb

Step Mass Element ISTD Unit
(3) 47 Ti 45 ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 6.677E-002*X +5.151E-003
X = 1.498E+001*Y -7.714E-002
DL = 1.013E-02 ppb
BEC = 7.714E-02 ppb

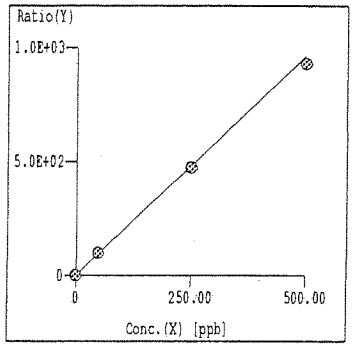
Step Mass Element ISTD Unit
(2) 51 V 45 ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 1.739E+000*X +1.507E+000
X = 5.751E-001*Y -8.665E-001
DL = 2.341E-02 ppb
BEC = 8.665E-01 ppb

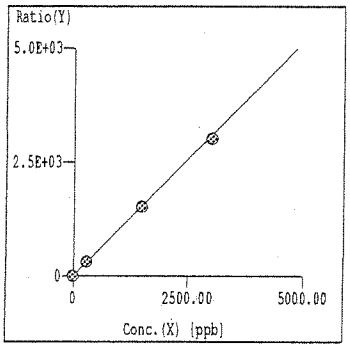
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(2) 52 Cr	45	ppb



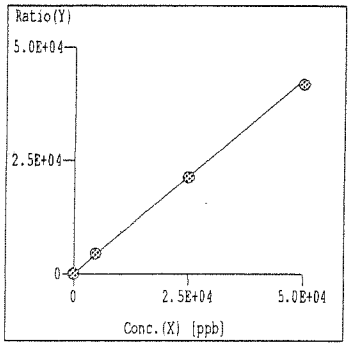
Curve Fit: Y=aX+b
r = 0.9999
Y = 1.933E+000*X +3.387E-001
X = 5.174E-001*Y -1.753E-001
DL = 2.009E-02 ppb
BEC = 1.753E-01 ppb

Step Mass Element	ISTD	Unit
(3) 55 Mn	45	ppb



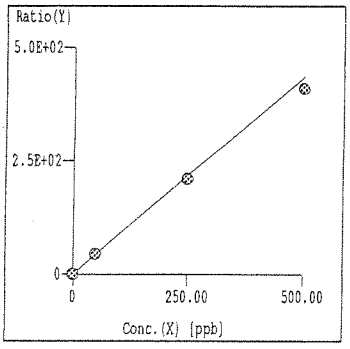
Curve Fit: Y=aX+b
r = 1.0000
Y = 1.034E+000*X +8.317E-002
X = 9.675E-001*Y -8.047E-002
DL = 7.220E-03 ppb
BEC = 8.047E-02 ppb

Step Mass Element	ISTD	Unit
(1) 56 Fe	45	ppb



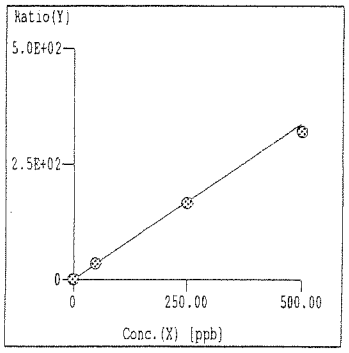
Curve Fit: Y=aX+b
r = 1.0000
Y = 8.590E-001*X +2.630E-001
X = 1.164E+000*Y -3.062E-001
DL = 2.144E-02 ppb
BEC = 3.062E-01 ppb

Step Mass Element	ISTD	Unit
(3) 59 Co	45	ppb



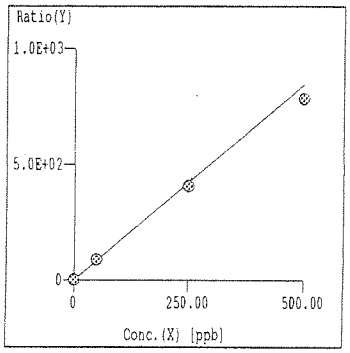
Curve Fit: Y=aX+b
r = 0.9999
Y = 8.706E-001*X +1.210E-002
X = 1.149E+000*Y -1.389E-002
DL = 4.092E-03 ppb
BEC = 1.389E-02 ppb

Step Mass Element	ISTD	Unit
(2) 60 Ni	45	ppb



Curve Fit: Y=aX+b
r = 0.9999
Y = 6.768E-001*X +2.281E-002
X = 1.478E+000*Y -3.370E-002
DL = 8.712E-03 ppb
BEC = 3.370E-02 ppb

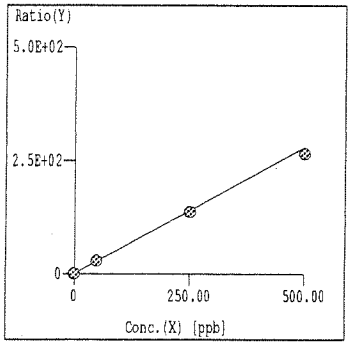
Step Mass Element	ISTD	Unit
(2) 63 Cu	45	ppb



Curve Fit: Y=aX+b
r = 0.9998
Y = 1.694E+000*X +1.561E-001
X = 5.905E-001*Y -9.217E-002
DL = 3.074E-03 ppb
BEC = 9.217E-02 ppb

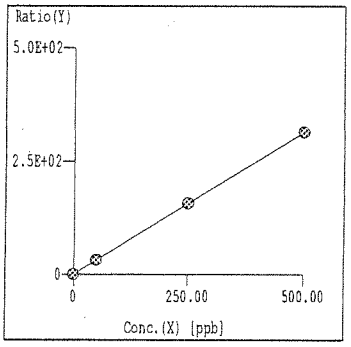
=== Graph Detail ===

Step Mass Element (3) 66 Zn — ISTD 72 — Unit ppb



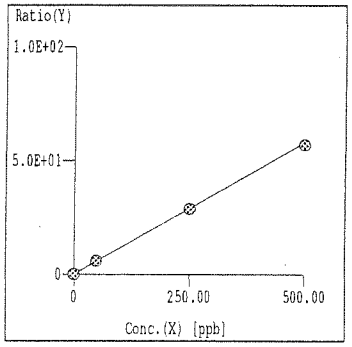
Curve Fit: Y=aX+b
r = 0.9999
Y = 5.606E-001*X +1.130E-001
X = 1.784E+000*Y -2.016E-001
DL = 2.728E-02 ppb
BEC = 2.016E-01 ppb

Step Mass Element (2) 75 As — ISTD 72 — Unit ppb



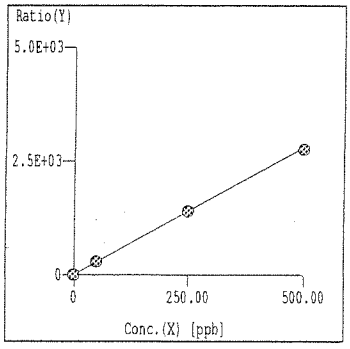
Curve Fit: Y=aX+b
r = 1.0000
Y = 6.288E-001*X +7.593E-002
X = 1.590E+000*Y -1.207E-001
DL = 2.090E-02 ppb
BEC = 1.207E-01 ppb

Step Mass Element (1) 78 Se — ISTD 72 — Unit ppb



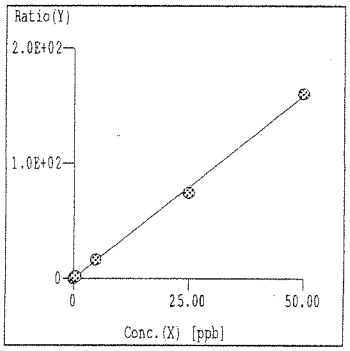
Curve Fit: Y=aX+b
r = 1.0000
Y = 1.163E-001*X +9.694E-004
X = 8.602E+000*Y -8.339E-003
DL = 1.099E-02 ppb
BEC = 8.339E-03 ppb

Step Mass Element (3) 88 Sr — ISTD 72 — Unit ppb



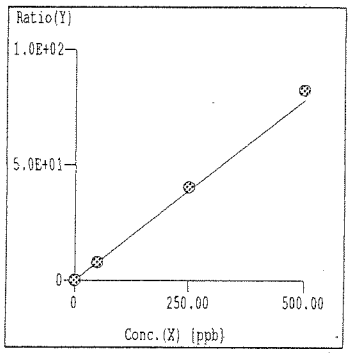
Curve Fit: Y=aX+b
r = 1.0000
Y = 5.612E+000*X +7.652E-002
X = 1.782E-001*Y -1.364E-002
DL = 1.208E-03 ppb
BEC = 1.364E-02 ppb

Step Mass Element (3) 90 Zr — ISTD 72 — Unit ppb



Curve Fit: Y=aX+b
r = 0.9993
Y = 3.178E+000*X +2.962E-002
X = 3.146E-001*Y -9.319E-003
DL = 1.368E-03 ppb
BEC = 9.319E-03 ppb

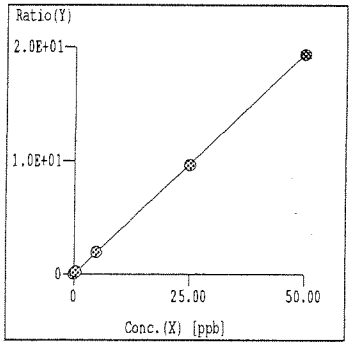
Step Mass Element (3) 95 Mo — ISTD 115 — Unit ppb



Curve Fit: Y=aX+b
r = 0.9999
Y = 1.558E-001*X +9.516E-004
X = 6.418E+000*Y -6.108E-003
DL = 6.632E-04 ppb
BEC = 6.108E-03 ppb

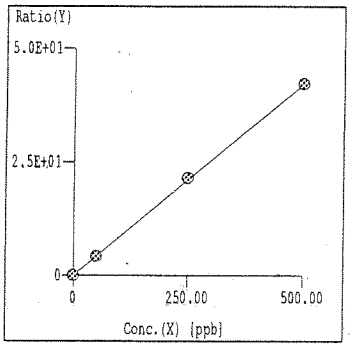
=== Graph Detail ===

Step Mass Element (3) 107 Ag — ISTD 115 — Unit ppb



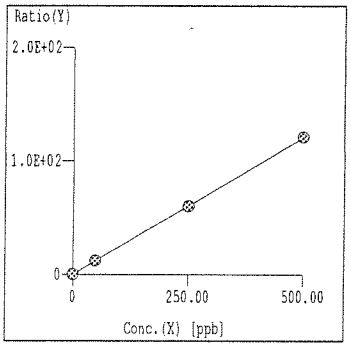
Curve Fit: Y=aX+b
r = 1.0000
Y = 3.895E-001*X +7.536E-004
X = 2.567E+000*Y -1.935E-003
DL = 1.781E-03 ppb
BEC = 1.935E-03 ppb

Step Mass Element (3) 111 Cd — ISTD 115 — Unit ppb



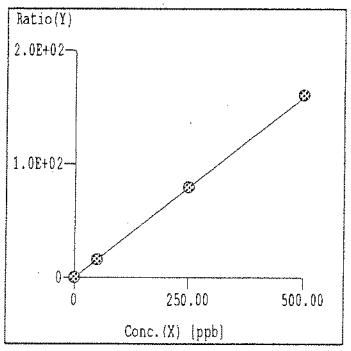
Curve Fit: Y=aX+b
r = 1.0000
Y = 8.438E-002*X +9.927E-005
X = 1.185E+001*Y -1.176E-003
DL = 9.066E-03 ppb
BEC = 1.176E-03 ppb

Step Mass Element (3) 118 Sn — ISTD 115 — Unit ppb



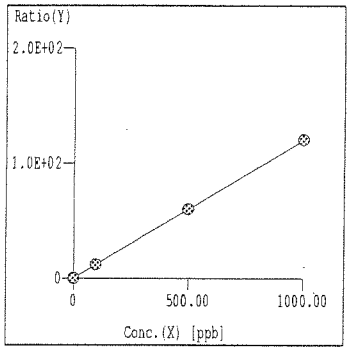
Curve Fit: Y=aX+b
r = 1.0000
Y = 2.414E-001*X +3.768E-003
X = 4.142E+000*Y -1.561E-002
DL = 6.989E-03 ppb
BEC = 1.561E-02 ppb

Step Mass Element (3) 121 Sb — ISTD 115 — Unit ppb



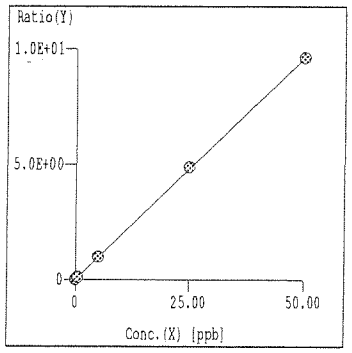
Curve Fit: Y=aX+b
r = 1.0000
Y = 3.178E-001*X +8.380E-003
X = 3.147E+000*Y -2.637E-002
DL = 5.934E-03 ppb
BEC = 2.637E-02 ppb

Step Mass Element (3) 137 Ba — ISTD 115 — Unit ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 1.202E-001*X +2.740E-003
X = 8.322E+000*Y -2.281E-002
DL = 1.798E-02 ppb
BEC = 2.281E-02 ppb

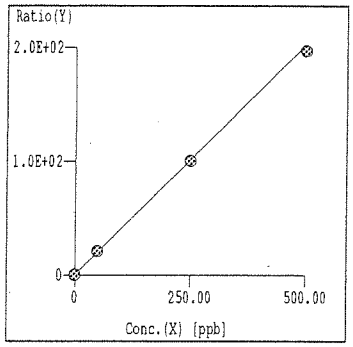
Step Mass Element (3) 182 W — ISTD 159 — Unit ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 1.928E-001*X +2.244E-003
X = 5.188E+000*Y -1.164E-002
DL = 8.092E-03 ppb
BEC = 1.164E-02 ppb

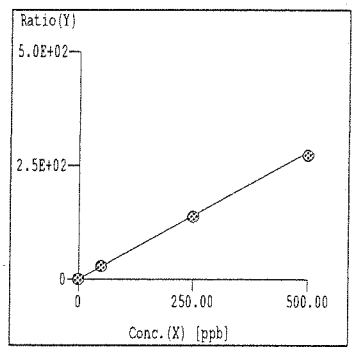
=== Graph Detail ===

Step Mass Element	ISTD	Unit
(3) 205 Tl	159	ppb



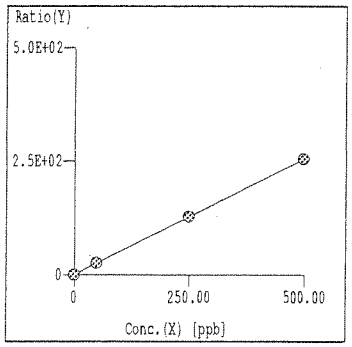
Curve Fit: Y=aX+b
r = 0.9999
Y = 4.065E-001*X +2.645E-003
X = 2.460E+000*Y -6.506E-003
DL = 1.320E-03 ppb
BEC = 6.506E-03 ppb

Step Mass Element	ISTD	Unit
(3) 208 Pb	159	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 5.616E-001*X +1.428E-002
X = 1.781E+000*Y -2.542E-002
DL = 8.524E-03 ppb
BEC = 2.542E-02 ppb

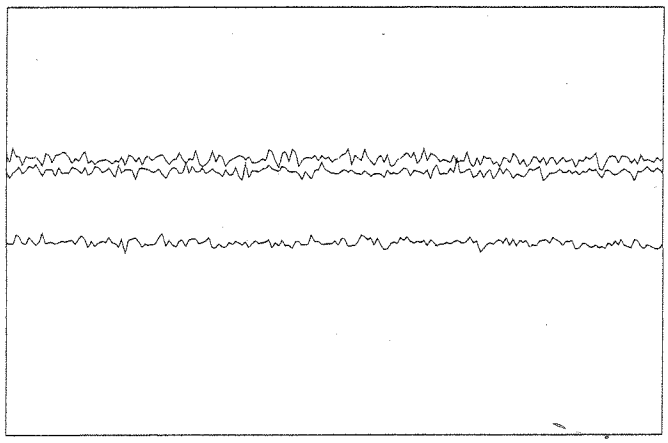
Step Mass Element	ISTD	Unit
(3) 238 U	159	ppb



Curve Fit: Y=aX+b
r = 1.0000
Y = 5.122E-001*X +6.711E-004
X = 1.952E+000*Y -1.310E-003
DL = 1.776E-03 ppb
BEC = 1.310E-03 ppb

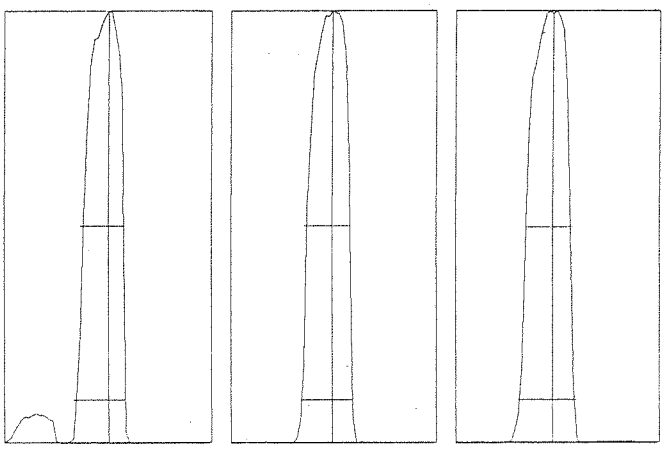
Tune Report

Tune File : NORM.U
Comment : IF6E10



Integration Time:	0.1000 sec	
Sampling Period:	0.6200 sec	
n:	200	
Oxide:	156/140	1.779%
Doubly Charged:	70/140	1.319%

m/z	Range	Count	Mean	RSD%	Background
7	20,000	12946.0	12927.4	1.63	13.10
89	100,000	60984.0	61669.4	1.43	16.50
205	50,000	22708.0	22510.0	1.90	34.30
156/140	5	1.854%	1.862%	5.40	
70/140	2	1.315%	1.342%	5.23	



m/z:	7	89	205
Height:	13,191	61,274	22,106
Axis:	7.05	89.00	204.95
W-50%:	0.65	0.70	0.70
W-10%:	0.7500	0.7500	0.8500

Integration Time: 0.1000 sec
Acquisition Time: 22.7600 sec

Y axis : Linear

Generated : May 23, 2016 14:54:53
Printed : May 23, 2016 14:54:56

Tune Report

Tune File : NORM.U
Comment : IF6E10

Tuning Parameters

===Plasma Condition===			===Ion Lenses===			===Q-Pole Parameters===		
RF Power	: 1500	W	Extract 1	: 0	V	AMU Gain	: 128	
RF Matching	: 1.74	V	Extract 2	: -120	V	AMU Offset	: 126	
Smpl Depth	: 8	mm	Omega Bias-ce	: -28	V	Axis Gain	: 0.9995	
Torch-H	: -1.4	mm	Omega Lens-ce	: 1.2	V	Axis Offset	: -0.02	
Torch-V	: -0.1	mm	Cell Entrance	: -26	V	QP Bias	: -3	V
Carrier Gas	: 0.9	L/min	QP Focus	: 1	V			
Makeup Gas	: 0.12	L/min	Cell Exit	: -30	V	===Detector Parameters===		
Optional Gas	: ---	%				Discriminator	: 8	mV
Nebulizer Pump	: 0.1	rps	===Octopole Parameters===			Analog HV	: 2010	V
Sample Pump	: ---	rps	OctP RF	: 169	V	Pulse HV	: 1040	V
S/C Temp	: 2	degC	OctP Bias	: -8	V			

===Reaction Cell===								
Reaction Mode	: OFF							
H2 Gas	: 0	mL/min	He Gas	: 0	mL/min	Optional Gas	: ---	%

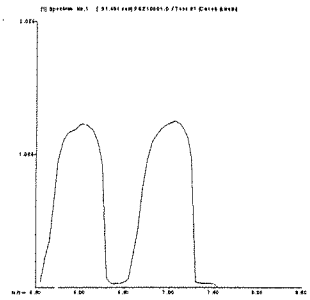
Generated : May 23, 2016 14:54:53
Printed : May 23, 2016 14:54:58

6020 QC Tune Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10001.D
Date Acquired:	May 23 2016 03:31 pm
Acq. Method:	TN6020_C.M
Operator:	MMendo
Sample Name:	6020tunchk
Misc Info:	
Vial Number:	1301
Current Method:	C:\ICPCHEM\1\METHODS\TN6020_C.M

RSD (%)

Element	Actual	Required	Flag
7 Li	1.91	5.00	
59 Co	2.33	5.00	
115 In	1.07	5.00	
205 Tl	1.88	5.00	



7 Li

Mass Calib.

Actual: 7.05

Required: 6.90 - 7.10

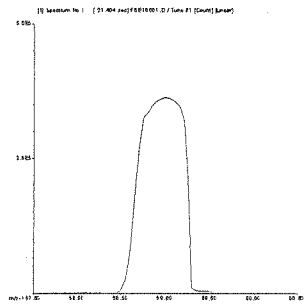
Flag:

Peak Width-10%

Actual: 0.65

Limit 0.90

Flag:



59 Co

Mass Calib.

Actual: 59.00

Required: 58.90 - 59.10

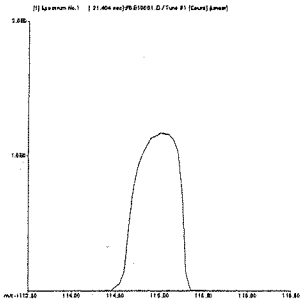
Flag:

Peak Width-10%

Actual: 0.65

Limit 0.90

Flag:



115 In

Mass Calib.

Actual: 115.00

Required: 114.90 - 115.10

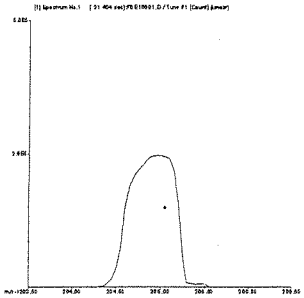
Flag:

Peak Width-10%

Actual: 0.65

Limit 0.90

Flag:



205 Tl

Mass Calib.

Actual: 205.00

Required: 204.90 - 205.10

Flag:

Peak Width-10%

Actual: 0.65

Limit 0.90

Flag:

Calibration Blank QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10003
Date Acquired: May 23 2016 03:40 pm
Operator: MMendo
Sample Name: BLNK
Misc Info:
Vial Number: 1101
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H
Last Cal Update: May 23 2016 03:43 pm
Sample Type: CalBlk
Total Dil Factor: 1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	1154125.00	A	9332.00	0.81
7	Li	74264.10	P	583.80	0.79
9	Be	46.67	P	14.53	31.14
11	B	3338.25	P	108.70	3.26
23	Na	71714.20	P	440.70	0.61
24	Mg	37835.60	P	564.50	1.49
27	Al	31003.49	P	512.30	1.65
28	Si	6199.31	P	121.10	1.95
31	P	31208.90	P	351.10	1.13
39	K	311735.59	P	3871.00	1.24
40	Ca	174847.80	P	2568.00	1.47
45	Sc	2261474.00	A	49770.00	2.20
45	Sc	537477.38	P	2865.00	0.53
45	Sc	4054755.00	A	29360.00	0.72
47	Ti	393.35	P	23.33	5.93
51	V	7901.27	P	193.90	2.45
52	Cr	2178.62	P	69.88	3.21
55	Mn	4783.14	P	77.21	1.61
56	Fe	39429.93	P	803.50	2.04
59	Co	766.72	P	46.67	6.09
60	Ni	138.22	P	13.47	9.75
63	Cu	2190.18	P	14.47	0.66
66	Zn	10219.43	P	162.30	1.59
72	Ge	625498.38	P	10910.00	1.74
72	Ge	278779.81	P	680.80	0.24
72	Ge	930373.38	P	6055.00	0.65
75	As	219.78	P	7.90	3.59
78	Se	10.44	P	1.02	9.75
88	Sr	1770.17	P	81.73	4.62
90	Zr	375.57	P	37.91	10.09
95	Mo	111.12	P	20.37	18.33
107	Ag	51.11	P	11.71	22.91
111	Cd	10.91	P	20.39	186.88
115	In	6035374.00	A	83110.00	1.38
118	Sn	334.46	P	21.43	6.41
121	Sb	720.05	P	47.26	6.56
137	Ba	361.13	P	18.36	5.08
159	Tb	6096093.00	A	105500.00	1.73
182	W	213.34	P	33.83	15.86
205	Tl	247.79	P	31.51	12.72
208	Pb	1225.62	P	38.92	3.18
209	Bi	3051625.00	A	16190.00	0.53
235	U	30.00	P	11.55	38.50
238	U	134.45	P	16.78	12.48

Calibration Blank QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10004
Date Acquired:	May 23 2016 03:44 pm
Operator:	MMendo
Sample Name:	S0
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H
Last Cal Update:	May 23 2016 03:43 pm
Sample Type:	CalBlk
Total Dil Factor:	1.00

QC&ISTD Elements

Element		CPS Mean		SD	RSD(%)
6	Li	1126052.00	A	14750.00	1.31
7	Li	71413.74	P	1112.00	1.56
9	Be	35.56	P	8.39	23.59
11	B	480.02	P	17.64	3.67
23	Na	56772.71	P	702.10	1.24
24	Mg	21248.77	P	270.20	1.27
27	Al	3313.82	P	236.90	7.15
28	Si	3253.80	P	147.50	4.53
31	P	28502.39	P	755.20	2.65
39	K	324042.19	P	4750.00	1.47
40	Ca	41306.19	P	63.11	0.15
45	Sc	2254321.00	A	18840.00	0.84
45	Sc	540300.81	P	5810.00	1.08
45	Sc	4051389.00	A	78770.00	1.94
47	Ti	205.56	P	9.62	4.68
51	V	7888.36	P	15.70	0.20
52	Cr	1665.88	P	52.71	3.16
55	Mn	3136.00	P	149.90	4.78
56	Fe	5892.49	P	91.04	1.55
59	Co	473.36	P	56.67	11.97
60	Ni	94.45	P	11.20	11.86
63	Cu	820.70	P	12.45	1.52
66	Zn	993.40	P	41.64	4.19
72	Ge	619628.31	P	4819.00	0.78
72	Ge	278444.00	P	4029.00	1.45
72	Ge	916029.63	P	5011.00	0.55
75	As	209.11	P	9.48	4.53
78	Se	5.56	P	2.69	48.49
88	Sr	688.93	P	23.65	3.43
90	Zr	271.12	P	13.47	4.97
95	Mo	55.56	P	1.93	3.46
107	Ag	43.34	P	13.33	30.76
111	Cd	4.89	P	14.83	303.05
115	In	5837326.00	A	60230.00	1.03
118	Sn	192.23	P	31.68	16.48
121	Sb	484.47	P	31.68	6.54
137	Ba	156.67	P	40.42	25.80
159	Tb	5778315.00	A	76260.00	1.32
182	W	167.79	P	31.68	18.88
205	Tl	150.01	P	8.82	5.88
208	Pb	816.71	P	100.20	12.27
209	Bi	2945490.00	A	37650.00	1.28
235	U	36.67	P	5.77	15.75
238	U	38.89	P	17.10	43.97

Calibration Standard QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10005.D\F6E10005.D#
Date Acquired:	May 23 2016 03:49 pm
Operator:	MMendo
Sample Name:	S1 0.5
Misc Info:	
Vial Number:	1104
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update:	May 23 2016 03:47 pm
Sample Type:	CalStd
Total Dil Factor:	1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	1178065.00	A	9741.00	0.83
7 Li	80397.95	P	1026.00	1.28
9 Be	2301.35	P	67.04	2.91
11 B	3219.34	P	154.90	4.81
23 Na	365856.81	P	8599.00	2.35
24 Mg	968138.63	A	15500.00	1.60
27 Al	1277640.00	A	30230.00	2.37
28 Si	232399.80	P	3483.00	1.50
31 P	69527.71	P	714.60	1.03
39 K	405351.19	P	2453.00	0.61
40 Ca	870098.69	A	18370.00	2.11
45 Sc	2318413.00	A	53740.00	2.32
45 Sc	550568.81	P	2183.00	0.40
45 Sc	4111427.00	A	10220.00	0.25
47 Ti	1793.50	P	75.07	4.19
51 V	13119.40	P	29.69	0.23
52 Cr	7235.57	P	12.68	0.18
55 Mn	27035.34	P	263.90	0.98
56 Fe	1128015.00	A	19810.00	1.76
59 Co	19749.36	P	403.30	2.04
60 Ni	2182.40	P	22.06	1.01
63 Cu	5632.66	P	43.30	0.77
66 Zn	7841.26	P	368.10	4.69
72 Ge	639152.69	P	14170.00	2.22
72 Ge	284875.00	P	1189.00	0.42
72 Ge	935330.50	M	19080.00	2.04
75 As	1148.28	P	62.79	5.47
78 Se	380.01	P	10.41	2.74
88 Sr	29486.19	P	564.40	1.91
90 Zr	15344.14	P	447.20	2.91
95 Mo	4730.95	P	98.23	2.08
107 Ag	12547.05	P	410.90	3.27
111 Cd	2659.41	P	157.20	5.91
115 In	6045450.00	A	39190.00	0.65
118 Sn	7710.14	P	80.63	1.05
121 Sb	10400.85	P	293.90	2.83
137 Ba	3852.88	P	195.20	5.07
159 Tb	6044550.00	A	61120.00	1.01
182 W	5950.40	P	75.03	1.26
205 Tl	13546.17	P	330.40	2.44
208 Pb	18149.94	P	430.50	2.37
209 Bi	2999429.00	A	17950.00	0.60
235 U	147.78	P	11.71	7.92
238 U	15365.12	P	387.40	2.52

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1178065.30	0.83	1126052.10	104.6	60 - 125	
45 Sc	2318413.00	2.32	2254321.30	102.8	60 - 125	
45 Sc	550568.88	0.40	540300.75	101.9	60 - 125	
45 Sc	4111426.50	0.25	4051388.80	101.5	60 - 125	
72 Ge	639152.69	2.22	619628.31	103.2	60 - 125	
72 Ge	284875.00	0.42	278443.97	102.3	60 - 125	
72 Ge	935330.50	2.04	916029.56	102.1	60 - 125	
115 In	6045450.50	0.65	5837326.00	103.6	60 - 125	
159 Tb	6044550.50	1.01	5778315.00	104.6	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10006.D\F6E10006.D#
Date Acquired: May 23 2016 03:53 pm
Operator: MMendo
Sample Name: S2 50
Misc Info:
Vial Number: 1105
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 03:52 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	1184702.00	A	34550.00	2.92
7 Li	134809.00	P	2567.00	1.90
9 Be	22299.04	P	202.00	0.91
11 B	32388.43	P	198.40	0.61
23 Na	27954480.00	A	65560.00	0.23
24 Mg	88629048.00	A	836200.00	0.94
27 Al	118887300.00	A	2361000.00	1.99
28 Si	1076962.00	A	10120.00	0.94
31 P	106154.60	P	1645.00	1.55
39 K	8052360.00	A	37080.00	0.46
40 Ca	69174008.00	A	452600.00	0.65
45 Sc	2272731.00	A	4706.00	0.21
45 Sc	541625.31	P	5603.00	1.03
45 Sc	4039644.00	A	73940.00	1.83
47 Ti	135675.09	P	2630.00	1.94
51 V	493877.31	P	7787.00	1.58
52 Cr	539296.50	P	7107.00	1.32
55 Mn	12679160.00	A	238800.00	1.88
56 Fe	100244000.00	A	698000.00	0.70
59 Co	1784797.00	A	24760.00	1.39
60 Ni	188654.30	P	2313.00	1.23
63 Cu	477443.81	P	5737.00	1.20
66 Zn	264539.91	P	5849.00	2.21
72 Ge	617437.00	P	4590.00	0.74
72 Ge	278862.19	P	3073.00	1.10
72 Ge	922587.50	P	19710.00	2.14
75 As	88463.11	P	1130.00	1.28
78 Se	36209.57	P	201.00	0.56
88 Sr	2662075.00	A	44180.00	1.66
90 Zr	149224.59	P	3283.00	2.20
95 Mo	455976.09	P	9023.00	1.98
107 Ag	114910.70	P	1564.00	1.36
111 Cd	247220.20	P	3620.00	1.46
115 In	5874272.00	A	102800.00	1.75
118 Sn	702884.19	P	18590.00	2.64
121 Sb	926380.13	P	21630.00	2.33
137 Ba	695882.31	P	15150.00	2.18
159 Tb	6039684.00	A	142700.00	2.36
182 W	59466.61	P	1321.00	2.22
205 Tl	1263592.00	A	31800.00	2.52
208 Pb	1719162.00	P	50350.00	2.93
209 Bi	2981451.00	A	83110.00	2.79
235 U	11194.07	P	304.50	2.72
238 U	1564353.00	A	70990.00	4.54

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1184702.50	2.92	1126052.10	105.2	60 - 125	
45 Sc	2272731.00	0.21	2254321.30	100.8	60 - 125	
45 Sc	541625.38	1.03	540300.75	100.2	60 - 125	
45 Sc	4039643.80	1.83	4051388.80	99.7	60 - 125	
72 Ge	617437.00	0.74	619628.31	99.6	60 - 125	
72 Ge	278862.19	1.10	278443.97	100.2	60 - 125	
72 Ge	922587.50	2.14	916029.56	100.7	60 - 125	
115 In	5874272.50	1.75	5837326.00	100.6	60 - 125	
159 Tb	6039683.50	2.36	5778315.00	104.5	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10007.D\F6E10007.D#
Date Acquired: May 23 2016 03:57 pm
Operator: MMendo
Sample Name: S3 250
Misc Info:
Vial Number: 1106
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 03:56 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	1119281.00	A	7065.00	0.63
7 Li	353329.00	P	1372.00	0.39
9 Be	106675.90	P	629.40	0.59
11 B	149850.50	P	2601.00	1.74
23 Na	131892200.00	A	382000.00	0.29
24 Mg	430092100.00	A	4089000.00	0.95
27 Al	587328320.00	A	7657000.00	1.30
28 Si	5035977.00	A	34970.00	0.69
31 P	402019.09	P	1628.00	0.40
39 K	37971340.00	A	120600.00	0.32
40 Ca	328719810.00	A	2028000.00	0.62
45 Sc	2229448.00	A	21480.00	0.96
45 Sc	537449.19	P	2814.00	0.52
45 Sc	4025888.00	A	13000.00	0.32
47 Ti	672167.13	P	1872.00	0.28
51 V	2306620.00	A	8322.00	0.36
52 Cr	2545684.00	A	17190.00	0.68
55 Mn	61351260.00	A	340400.00	0.55
56 Fe	472537600.00	A	3799000.00	0.80
59 Co	8432441.00	A	98480.00	1.17
60 Ni	888238.31	P	1412.00	0.16
63 Cu	2185617.00	A	16030.00	0.73
66 Zn	1242523.00	A	5821.00	0.47
72 Ge	589093.38	P	5077.00	0.86
72 Ge	273058.31	P	1619.00	0.59
72 Ge	910036.31	P	10070.00	1.11
75 As	428677.59	P	1191.00	0.28
78 Se	169009.50	P	1152.00	0.68
88 Sr	12704330.00	A	107100.00	0.84
90 Zr	675392.31	P	3734.00	0.55
95 Mo	2264564.00	A	14270.00	0.63
107 Ag	540430.69	P	6359.00	1.18
111 Cd	1208333.00	A	11200.00	0.93
115 In	5622509.00	A	46790.00	0.83
118 Sn	3377606.00	A	5224.00	0.15
121 Sb	4465535.00	A	41050.00	0.92
137 Ba	3380003.00	A	22770.00	0.67
159 Tb	5828902.00	A	66160.00	1.14
182 W	284535.19	P	3705.00	1.30
205 Tl	5854454.00	A	14550.00	0.25
208 Pb	8008144.00	A	67450.00	0.84
209 Bi	2789505.00	A	38790.00	1.39
235 U	54345.40	P	728.20	1.34
238 U	7436453.00	A	39170.00	0.53

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1119280.80	0.63	1126052.10	99.4	60 - 125	
45 Sc	2229448.30	0.96	2254321.30	98.9	60 - 125	
45 Sc	537449.19	0.52	540300.75	99.5	60 - 125	
45 Sc	4025887.80	0.32	4051388.80	99.4	60 - 125	
72 Ge	589093.38	0.86	619628.31	95.1	60 - 125	
72 Ge	273058.31	0.59	278443.97	98.1	60 - 125	
72 Ge	910036.31	1.11	916029.56	99.3	60 - 125	
115 In	5622508.50	0.83	5837326.00	96.3	60 - 125	
159 Tb	5828902.00	1.14	5778315.00	100.9	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Calibration Standard QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10008.D\F6E10008.D#
Date Acquired: May 23 2016 04:01 pm
Operator: MMendo
Sample Name: S4 500
Misc Info:
Vial Number: 1107
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 04:00 pm
Sample Type: CalStd
Total Dil Factor: 1.00

QC&ISTD Elements

Element	CPS Mean		SD	RSD(%)
6 Li	1121981.00	A	17380.00	1.55
7 Li	630697.13	M	4091.00	0.65
9 Be	208360.09	P	378.60	0.18
11 B	288559.81	P	2908.00	1.01
23 Na	265382700.00	A	4739000.00	1.79
24 Mg	849302400.00	A	6001000.00	0.71
27 Al	1161111000.00	A	5039000.00	0.43
28 Si	10116870.00	A	184200.00	1.82
31 P	767187.88	P	3127.00	0.41
39 K	76225104.00	A	424700.00	0.56
40 Ca	661460800.00	A	9447000.00	1.43
45 Sc	2249419.00	A	20460.00	0.91
45 Sc	535897.00	P	2361.00	0.44
45 Sc	4043022.00	A	20310.00	0.50
47 Ti	1343159.00	A	3220.00	0.24
51 V	4557323.00	A	18320.00	0.40
52 Cr	4980906.00	A	29440.00	0.59
55 Mn	121825500.00	A	361700.00	0.30
56 Fe	938596990.00	A	12100000.00	1.29
59 Co	16538620.00	A	97810.00	0.59
60 Ni	1714237.00	A	8733.00	0.51
63 Cu	4194782.00	A	20470.00	0.49
66 Zn	2400590.00	A	16040.00	0.67
72 Ge	582202.19	P	6111.00	1.05
72 Ge	271333.59	P	1056.00	0.39
72 Ge	905305.63	P	1517.00	0.17
75 As	851796.88	P	1770.00	0.21
78 Se	330836.59	P	4246.00	1.28
88 Sr	24942880.00	A	125000.00	0.50
90 Zr	1449714.00	A	7278.00	0.50
95 Mo	4421952.00	A	33400.00	0.76
107 Ag	1038758.00	M	6158.00	0.59
111 Cd	2271759.00	A	8569.00	0.38
115 In	5376740.00	A	49320.00	0.92
118 Sn	6503320.00	A	62470.00	0.96
121 Sb	8635543.00	A	47810.00	0.55
137 Ba	6471199.00	A	56800.00	0.88
159 Tb	5669162.00	A	19430.00	0.34
182 W	545312.63	P	3080.00	0.56
205 Tl	11163670.00	A	78460.00	0.70
208 Pb	15431230.00	A	133100.00	0.86
209 Bi	2632052.00	A	19370.00	0.74
235 U	104137.50	P	1026.00	0.99
238 U	14420460.00	A	42590.00	0.30

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1121980.90	1.55	1126052.10	99.6	60 - 125	
45 Sc	2249419.30	0.91	2254321.30	99.8	60 - 125	
45 Sc	535897.00	0.44	540300.75	99.2	60 - 125	
45 Sc	4043022.50	0.50	4051388.80	99.8	60 - 125	
72 Ge	582202.25	1.05	619628.31	94.0	60 - 125	
72 Ge	271333.56	0.39	278443.97	97.4	60 - 125	
72 Ge	905305.63	0.17	916029.56	98.8	60 - 125	
115 In	5376740.50	0.92	5837326.00	92.1	60 - 125	
159 Tb	5669162.00	0.34	5778315.00	98.1	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

--- :Element Failures --- :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICV QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10009.D\F6E10009.D#
Date Acquired:	May 23 2016 04:05 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	ICV
Misc Info:	
Vial Number:	1204
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	ICV1
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc. RSD(%)	Expected	QC Range(%)	Flag
7 Li	31.24	ppb	418022.6	1.29	30.00	90 - 110	
9 Be	32.04	ppb	134915.5	1.00	30.00	90 - 110	
11 B	32.40	ppb	94085.0	0.38	30.00	90 - 110	
23 Na	29480.00	ppb	158784800.0	0.98	30000.00	90 - 110	
24 Mg	30080.00	ppb	518261500.0	1.23	30000.00	90 - 110	
27 Al	30310.00	ppb	719859390.0	1.12	30000.00	90 - 110	
28 Si	3007.00	ppb	6051695.0	0.58	3000.00	90 - 110	
31 P	291.90	ppb	469945.3	0.37	300.00	90 - 110	
39 K	30450.00	ppb	46516568.0	0.53	30000.00	90 - 110	
40 Ca	28810.00	ppb	403706500.0	0.21	30000.00	90 - 110	
47 Ti	294.70	ppb	799196.7	0.64	300.00	90 - 110	
51 V	297.40	ppb	2787000.0	1.18	300.00	90 - 110	
52 Cr	295.70	ppb	3072372.0	0.28	300.00	90 - 110	
55 Mn	1944.00	ppb	81575208.0	0.99	2000.00	90 - 110	
56 Fe	30420.00	ppb	573874180.0	0.31	30000.00	90 - 110	
59 Co	281.10	ppb	9934608.0	1.38	300.00	90 - 110	
60 Ni	285.10	ppb	1036739.0	0.50	300.00	90 - 110	
63 Cu	283.00	ppb	2576340.0	0.19	300.00	90 - 110	
66 Zn	293.10	ppb	1501525.0	0.30	300.00	90 - 110	
75 As	300.60	ppb	514570.2	0.36	300.00	90 - 110	
78 Se	295.50	ppb	199173.7	0.65	300.00	90 - 110	
88 Sr	300.60	ppb	15407780.0	0.85	300.00	90 - 110	
90 Zr	31.69	ppb	919873.0	2.74	30.00	90 - 110	
95 Mo	302.00	ppb	2644721.0	1.69	300.00	90 - 110	
107 Ag	31.25	ppb	683998.0	2.55	30.00	90 - 110	
111 Cd	300.90	ppb	1427507.0	0.34	300.00	90 - 110	
118 Sn	303.90	ppb	4123992.0	1.31	300.00	90 - 110	
121 Sb	302.00	ppb	5394325.0	1.05	300.00	90 - 110	
137 Ba	311.80	ppb	2105926.0	1.34	300.00	90 - 110	
182 W	27.85	ppb	314038.3	1.11	30.00	90 - 110	
205 Tl	300.50	ppb	7141137.0	2.08	300.00	90 - 110	
208 Pb	293.30	ppb	9631303.0	1.35	300.00	90 - 110	
235 U	1.98	ppb	63096.3	2.46	2.20	90 - 110	
238 U	293.60	ppb	8792394.0	0.93	300.00	90 - 110	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1106141.6	0.73	1126052.10	98.2	60 - 125	
45 Sc	2196094.8	3.22	2254321.30	97.4	60 - 125	
45 Sc	537289.2	0.31	540300.75	99.4	60 - 125	
45 Sc	4060251.5	1.08	4051388.80	100.2	60 - 125	
72 Ge	579689.4	2.65	619628.31	93.6	60 - 125	
72 Ge	272078.4	0.13	278443.97	97.7	60 - 125	
72 Ge	913212.3	0.96	916029.56	99.7	60 - 125	
115 In	5621267.5	1.49	5837326.00	96.3	60 - 125	
159 Tb	5846984.0	1.37	5778315.00	101.2	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

ICB QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10010.D\F6E10010.D#
Date Acquired:	May 23 2016 04:09 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	ICB
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	ICB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.0083	ppb	70740.9	1090.30	0.20	
9 Be	0.0052	ppb	57.8	6.65	0.10	
11 B	0.3227	ppb	1423.4	11.89	5.00	
23 Na	7.6690	ppb	99353.3	5.90	40.00	
24 Mg	1.3650	ppb	43216.7	3.55	10.00	
27 Al	0.2834	ppb	9669.0	23.15	20.00	
28 Si	1.2770	ppb	5873.6	1.31	20.00	
31 P	-0.3376	ppb	27252.5	68.87	10.00	
39 K	-2.8440	ppb	307993.3	68.95	20.00	
40 Ca	0.5106	ppb	49418.6	15.60	25.00	
47 Ti	0.0116	ppb	231.1	118.65	0.50	
51 V	-0.0682	ppb	7262.7	4.59	0.50	
52 Cr	-0.0355	ppb	1413.4	15.80	0.20	
55 Mn	0.0332	ppb	4583.1	9.30	0.20	
56 Fe	2.9470	ppb	62422.0	7.42	10.00	
59 Co	0.0126	ppb	898.9	22.08	0.20	
60 Ni	0.0056	ppb	139.1	42.22	0.20	
63 Cu	0.0100	ppb	905.4	37.39	0.40	
66 Zn	0.0403	ppb	1209.0	59.24	2.00	
75 As	0.0399	ppb	274.7	28.63	0.20	
78 Se	0.0988	ppb	76.2	24.14	0.20	
90 Zr	0.0084	ppb	502.3	13.56	2.00	
95 Mo	0.1057	ppb	1029.0	12.55	0.40	
107 Ag	0.0009	ppb	64.4	99.83	0.20	
111 Cd	0.0060	ppb	36.1	95.83	0.20	
118 Sn	0.0680	ppb	1193.4	8.98	0.20	
121 Sb	0.0326	ppb	1106.8	16.92	0.40	
137 Ba	0.0068	ppb	210.0	38.11	0.20	
182 W	0.0249	ppb	415.6	4.53	1.00	
205 Tl	0.0228	ppb	701.2	2.94	0.20	
208 Pb	0.0034	ppb	952.3	44.68	0.10	
235 U	0.0002	ppb	38.9	164.67	1.00	
238 U	0.0174	ppb	563.4	10.18	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1115434.0	0.80	1126052.10	99.1	60 - 125	
45 Sc	2235256.8	1.54	2254321.30	99.2	60 - 125	
45 Sc	523218.9	0.75	540300.75	96.8	60 - 125	
45 Sc	3901968.3	0.08	4051388.80	96.3	60 - 125	
72 Ge	612859.0	1.21	619628.31	98.9	60 - 125	
72 Ge	271946.7	0.78	278443.97	97.7	60 - 125	
72 Ge	891966.4	0.46	916029.56	97.4	60 - 125	
115 In	5913200.0	1.45	5837326.00	101.3	60 - 125	
159 Tb	5892380.5	0.43	5778315.00	102.0	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10011.D\F6E10011.D#
Date Acquired:	May 23 2016 04:13 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	MRLE2301
Misc Info:	0.5/50/4 ppb
Vial Number:	1306
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	83337.0	0.0000	0.4385	ppb	29.81	50.00	
9 Be	# 3	6	2228.0	0.0000	0.4675	ppb	5.32	50.00	
11 B	# 3	6	5961.4	0.0000	1.6900	ppb	4.55	100.00	
23 Na	# 1	45	388253.7	0.0000	56.3800	ppb	0.20	50000.00	
24 Mg	# 3	45	1005717.0	0.0000	54.7900	ppb	2.19	50000.00	
27 Al	# 3	45	1311886.0	0.0000	52.8900	ppb	0.46	50000.00	
28 Si	# 1	45	10305.0	0.0000	3.1570	ppb	1.03	5000.00	
31 P	# 3	45	30166.9	0.0000	0.0592	ppb	343.97	500.00	
39 K	# 2	45	388519.6	0.0000	34.9500	ppb	3.75	50000.00	
40 Ca	# 1	45	898991.5	0.0000	56.5300	ppb	1.32	50000.00	
47 Ti	# 3	45	1662.4	0.0000	0.5115	ppb	2.26	500.00	
51 V	# 2	45	12961.5	0.0000	0.4677	ppb	3.80	500.00	
52 Cr	# 2	45	7113.3	0.0000	0.4835	ppb	1.93	500.00	
55 Mn	# 3	45	27767.8	0.0000	0.5547	ppb	1.74	3000.00	
56 Fe	# 1	45	1153734.0	0.0000	56.3900	ppb	1.18	50000.00	
59 Co	# 3	45	20263.4	0.0000	0.5364	ppb	1.83	500.00	
60 Ni	# 2	45	109747.9	0.0000	28.9900	ppb	0.53	500.00	
63 Cu	# 2	45	9083.0	0.0000	0.8678	ppb	1.13	500.00	
66 Zn	# 3	72	25617.4	0.0000	4.5180	ppb	0.65	500.00	
75 As	# 2	72	1181.6	0.0000	0.5293	ppb	1.78	500.00	
78 Se	# 1	72	413.3	0.0000	0.5369	ppb	1.68	500.00	
88 Sr	# 3	72	29978.4	0.0000	0.5381	ppb	1.14	500.00	
90 Zr	# 3	72	524.5	0.0000	0.0077	ppb	29.98	50.00	
95 Mo	# 3	115	5014.4	0.0000	0.5000	ppb	2.50	500.00	
107 Ag	# 3	115	6847.4	0.0000	0.2745	ppb	2.21	50.00	
111 Cd	# 3	115	2662.9	0.0000	0.4949	ppb	1.09	500.00	
118 Sn	# 3	115	8087.0	0.0000	0.5110	ppb	1.17	500.00	
121 Sb	# 3	115	10860.1	0.0000	0.5112	ppb	3.43	500.00	
137 Ba	# 3	115	4069.6	0.0000	0.5101	ppb	5.30	1000.00	
182 W	# 3	159	303.3	0.0000	0.0129	ppb	11.38	50.00	
205 Tl	# 3	159	14129.0	0.0000	0.5350	ppb	2.04	500.00	
208 Pb	# 3	159	19674.1	0.0000	0.5203	ppb	1.36	500.00	
235 U	# 3	159	142.2	0.0000	0.0031	ppb	29.07	30.00	
238 U	# 3	159	16487.6	0.0000	0.5002	ppb	1.72	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1230397.30	2.51	1126052.10	109.3	60 - 125	
45 Sc # 1	2368696.50	1.08	2254321.30	105.1	60 - 125	
45 Sc # 2	558713.25	0.47	540300.75	103.4	60 - 125	
45 Sc # 3	4229673.50	0.60	4051388.80	104.4	60 - 125	
72 Ge # 1	652142.75	1.35	619628.31	105.2	60 - 125	
72 Ge # 2	289070.69	0.50	278443.97	103.8	60 - 125	
72 Ge # 3	968236.31	1.24	916029.56	105.7	60 - 125	
115 In # 3	6359777.50	2.07	5837326.00	109.0	60 - 125	
159 Tb # 3	6419249.50	1.50	5778315.00	111.1	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10012.D\F6E10012.D#
Date Acquired:	May 23 2016 04:18 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	MRLE2302
Misc Info:	1/100/10 ppb
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	90088.7	0.0000	1.1090	ppb	3.87	50.00	
9 Be	# 3	6	4639.7	0.0000	0.9999	ppb	2.82	50.00	
11 B	# 3	6	35816.3	0.0000	11.1700	ppb	0.85	100.00	
23 Na	# 1	45	699575.2	0.0000	108.5000	ppb	1.22	50000.00	
24 Mg	# 3	45	2013047.0	0.0000	107.3000	ppb	0.85	50000.00	
27 Al	# 3	45	2698431.0	0.0000	105.4000	ppb	0.55	50000.00	
28 Si	# 1	45	8059.1	0.0000	2.0750	ppb	2.39	5000.00	
31 P	# 3	45	30081.7	0.0000	-0.6170	ppb	30.19	500.00	
39 K	# 2	45	503579.9	0.0000	90.9400	ppb	0.56	50000.00	
40 Ca	# 1	45	1685040.0	0.0000	107.1000	ppb	0.80	50000.00	
47 Ti	# 3	45	3269.4	0.0000	1.0430	ppb	1.90	500.00	
51 V	# 2	45	18816.1	0.0000	0.9675	ppb	1.84	500.00	
52 Cr	# 2	45	13637.4	0.0000	1.0210	ppb	0.30	500.00	
55 Mn	# 3	45	52526.0	0.0000	1.0820	ppb	2.00	3000.00	
56 Fe	# 1	45	2284727.0	0.0000	110.6000	ppb	0.51	50000.00	
59 Co	# 3	45	39912.6	0.0000	1.0350	ppb	1.49	500.00	
60 Ni	# 2	45	4441.6	0.0000	1.0790	ppb	0.59	500.00	
63 Cu	# 2	45	13238.8	0.0000	1.2330	ppb	0.66	500.00	
66 Zn	# 3	72	65937.9	0.0000	11.6200	ppb	0.85	500.00	
75 As	# 2	72	2197.5	0.0000	1.0360	ppb	1.28	500.00	
78 Se	# 1	72	795.6	0.0000	1.0300	ppb	3.65	500.00	
88 Sr	# 3	72	121890.8	0.0000	2.1700	ppb	1.10	500.00	
90 Zr	# 3	72	717.8	0.0000	0.0134	ppb	16.34	50.00	
95 Mo	# 3	115	10153.9	0.0000	1.0010	ppb	2.08	500.00	
107 Ag	# 3	115	13690.3	0.0000	0.5414	ppb	2.28	50.00	
111 Cd	# 3	115	5553.7	0.0000	1.0160	ppb	4.13	500.00	
118 Sn	# 3	115	15747.1	0.0000	0.9927	ppb	1.29	500.00	
121 Sb	# 3	115	20635.6	0.0000	0.9775	ppb	0.65	500.00	
137 Ba	# 3	115	7780.2	0.0000	0.9781	ppb	1.01	1000.00	
182 W	# 3	159	248.9	0.0000	0.0081	ppb	22.86	50.00	
205 Tl	# 3	159	28041.3	0.0000	1.0500	ppb	2.31	500.00	
208 Pb	# 3	159	37876.8	0.0000	1.0070	ppb	0.70	500.00	
235 U	# 3	159	272.2	0.0000	0.0067	ppb	5.15	30.00	
238 U	# 3	159	32938.8	0.0000	0.9837	ppb	1.40	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1209266.80	0.39	1126052.10	107.4	60 - 125	
45 Sc # 1	2398981.50	2.87	2254321.30	106.4	60 - 125	
45 Sc # 2	590031.38	0.49	540300.75	109.2	60 - 125	
45 Sc # 3	4371948.50	1.21	4051388.80	107.9	60 - 125	
72 Ge # 1	659168.38	2.17	619628.31	106.4	60 - 125	
72 Ge # 2	302232.72	0.82	278443.97	108.5	60 - 125	
72 Ge # 3	994953.75	1.25	916029.56	108.6	60 - 125	
115 In # 3	6468960.50	0.10	5837326.00	110.8	60 - 125	
159 Tb # 3	6529359.50	1.35	5778315.00	113.0	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

ICS-A QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10013.D\F6E10013.D#
Date Acquired:	May 23 2016 04:22 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	ICSA
Misc Info:	
Vial Number:	1303
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	ICS-A
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	0.34	ppb	67683.2	20.85	---	
9 Be	0.01	ppb	81.1	7.49	---	
11 B	0.39	ppb	1474.6	1.34	---	
23 Na	99760.00	ppb	543232700.0	0.32	120000.00	
24 Mg	98910.00	ppb	1595280000.0	0.47	120000.00	
27 Al	99410.00	ppb	2210040100.0	0.57	120000.00	
28 Si	5.61	ppb	14634.2	2.21	---	
31 P	101300.00	ppb	143363300.0	0.86	---	
39 K	102800.00	ppb	151792900.0	0.15	120000.00	
40 Ca	95570.00	ppb	1353677100.0	0.55	120000.00	
47 Ti	2107.00	ppb	5346275.0	0.23	2400.00	
51 V	0.06	ppb	8440.0	3.34	---	
52 Cr	1.31	ppb	14923.5	0.08	---	
55 Mn	0.31	ppb	15391.8	1.23	---	
56 Fe	100900.00	ppb	1924517000.0	0.26	120000.00	
59 Co	0.35	ppb	11970.8	0.82	---	
60 Ni	0.28	ppb	1089.8	1.26	---	
63 Cu	0.63	ppb	6348.7	0.22	---	
66 Zn	2.75	ppb	14765.7	1.83	---	
75 As	0.26	ppb	632.0	5.66	---	
78 Se	0.13	ppb	95.1	13.09	---	
88 Sr	0.64	ppb	32595.3	2.90	---	
90 Zr	0.10	ppb	3008.2	8.44	---	
95 Mo	2106.00	ppb	16860790.0	1.18	2400.00	
107 Ag	0.02	ppb	420.0	6.04	---	
111 Cd	0.16	ppb	699.5	36.67	---	
118 Sn	0.03	ppb	557.8	4.47	---	
121 Sb	0.05	ppb	1324.6	4.84	---	
137 Ba	0.09	ppb	712.3	5.80	---	
182 W	0.13	ppb	1465.7	1.91	---	
205 Tl	0.00	ppb	200.0	18.91	---	
208 Pb	0.19	ppb	6776.5	4.20	---	
235 U	0.00	ppb	50.0	63.28	---	
238 U	0.00	ppb	150.0	7.64	---	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1013880.3	0.46	1126052.10	90.0	60 - 125	
45 Sc	2220097.3	1.08	2254321.30	98.5	60 - 125	
45 Sc	521609.3	0.62	540300.75	96.5	60 - 125	
45 Sc	3800734.0	0.12	4051388.80	93.8	60 - 125	
72 Ge	578147.8	0.96	619628.31	93.3	60 - 125	
72 Ge	264762.6	0.54	278443.97	95.1	60 - 125	
72 Ge	893068.6	0.18	916029.56	97.5	60 - 125	
115 In	5139203.5	0.69	5837326.00	88.0	60 - 125	
159 Tb	5487221.0	1.14	5778315.00	95.0	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Pass

ISTD: Pass

ICS-AB QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10014.D\F6E10014.D#
Date Acquired:	May 23 2016 04:27 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	ICSAB
Misc Info:	
Vial Number:	1304
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	ICS-AB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	Expected	QC Range(%)	Flag
7 Li	19.77	ppb	257004.3	1.72	20.00	80 - 120	
9 Be	20.05	ppb	74764.5	2.04	20.00	80 - 120	
11 B	19.05	ppb	49172.0	1.01	20.00	80 - 120	
23 Na	98260.00	ppb	528267490.0	0.36	100000.00	80 - 120	
24 Mg	98050.00	ppb	1568123000.0	0.55	100000.00	80 - 120	
27 Al	98280.00	ppb	2166497000.0	0.74	100000.00	80 - 120	
28 Si	212.20	ppb	429254.1	0.14	200.00	80 - 120	
31 P	100500.00	ppb	140996700.0	0.19	100000.00	80 - 120	
39 K	102900.00	ppb	150554300.0	0.67	100000.00	80 - 120	
40 Ca	95690.00	ppb	1338400000.0	1.02	100000.00	80 - 120	
47 Ti	2124.00	ppb	5344959.0	0.54	2000.00	80 - 120	
51 V	20.39	ppb	191037.4	0.60	20.00	80 - 120	
52 Cr	20.90	ppb	210542.5	0.93	20.00	80 - 120	
55 Mn	19.82	ppb	775321.7	0.82	20.00	80 - 120	
56 Fe	100800.00	ppb	1897330900.0	0.65	100000.00	80 - 120	
59 Co	19.56	ppb	642453.0	0.28	20.00	80 - 120	
60 Ni	19.26	ppb	67485.3	0.46	20.00	80 - 120	
63 Cu	19.26	ppb	169416.8	0.81	20.00	80 - 120	
66 Zn	20.38	ppb	103373.2	0.79	20.00	80 - 120	
75 As	20.73	ppb	34681.3	0.20	20.00	80 - 120	
78 Se	21.78	ppb	14559.0	1.33	20.00	80 - 120	
88 Sr	20.18	ppb	1015358.0	0.97	20.00	80 - 120	
90 Zr	21.84	ppb	622166.2	1.46	20.00	80 - 120	
95 Mo	2120.00	ppb	17246180.0	0.35	2000.00	80 - 120	
107 Ag	19.01	ppb	386657.7	0.95	20.00	80 - 120	
111 Cd	19.62	ppb	86460.0	1.74	20.00	80 - 120	
118 Sn	19.58	ppb	246942.4	0.34	20.00	80 - 120	
121 Sb	20.12	ppb	334235.1	0.68	20.00	80 - 120	
137 Ba	19.90	ppb	125013.9	0.87	20.00	80 - 120	
182 W	20.19	ppb	213132.6	0.27	20.00	80 - 120	
205 Tl	19.36	ppb	430854.1	0.57	20.00	80 - 120	
208 Pb	18.93	ppb	582618.8	1.09	20.00	80 - 120	
235 U	0.14	ppb	4140.8	2.20	0.14	80 - 120	
238 U	19.60	ppb	549536.2	0.70	19.86	80 - 120	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	979514.4	1.62	1126052.10	87.0	60 - 125	
45 Sc	2192007.3	2.39	2254321.30	97.2	60 - 125	
45 Sc	516915.6	0.20	540300.75	95.7	60 - 125	
45 Sc	3768957.0	0.47	4051388.80	93.0	60 - 125	
72 Ge	574983.8	2.43	619628.31	92.8	60 - 125	
72 Ge	264496.4	0.21	278443.97	95.0	60 - 125	
72 Ge	896011.9	0.43	916029.56	97.8	60 - 125	
115 In	5220855.5	0.69	5837326.00	89.4	60 - 125	
159 Tb	5473273.0	0.27	5778315.00	94.7	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes: Pass
ISTD: Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10016.D\F6E10016.D#
Date Acquired:	May 23 2016 04:35 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	MRLE2304
Misc Info:	1/100/10 ppb
Vial Number:	1305
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	79077.3	0.0000	0.9732	ppb	6.12	50.00	
9 Be	# 3	6	4128.5	0.0000	0.9949	ppb	7.16	50.00	
11 B	# 3	6	32466.6	0.0000	11.3300	ppb	2.85	100.00	
23 Na	# 1	45	664384.1	0.0000	112.8000	ppb	0.69	50000.00	
24 Mg	# 3	45	1925008.0	0.0000	108.2000	ppb	1.65	50000.00	
27 Al	# 3	45	2551814.0	0.0000	105.1000	ppb	1.58	50000.00	
28 Si	# 1	45	6774.0	0.0000	1.7710	ppb	5.05	5000.00	
31 P	# 3	45	27763.5	0.0000	-1.1090	ppb	10.80	500.00	
39 K	# 2	45	473845.3	0.0000	96.8200	ppb	2.38	50000.00	
40 Ca	# 1	45	1521245.0	0.0000	105.5000	ppb	1.03	50000.00	
47 Ti	# 3	45	3202.7	0.0000	1.0800	ppb	3.92	500.00	
51 V	# 2	45	17613.4	0.0000	0.9935	ppb	2.06	500.00	
52 Cr	# 2	45	12540.2	0.0000	1.0160	ppb	0.65	500.00	
55 Mn	# 3	45	49160.1	0.0000	1.0670	ppb	1.84	3000.00	
56 Fe	# 1	45	2116982.0	0.0000	111.8000	ppb	1.08	50000.00	
59 Co	# 3	45	38314.9	0.0000	1.0480	ppb	0.74	500.00	
60 Ni	# 2	45	4097.3	0.0000	1.0780	ppb	1.47	500.00	
63 Cu	# 2	45	10805.5	0.0000	1.0790	ppb	0.48	500.00	
66 Zn	# 3	72	57277.6	0.0000	10.3500	ppb	1.01	500.00	
75 As	# 2	72	2006.2	0.0000	1.0040	ppb	2.01	500.00	
78 Se	# 1	72	719.1	0.0000	1.0040	ppb	0.92	500.00	
88 Sr	# 3	72	117181.5	0.0000	2.1420	ppb	0.61	500.00	
90 Zr	# 3	72	1575.7	0.0000	0.0419	ppb	4.69	50.00	
95 Mo	# 3	115	11064.6	0.0000	1.1090	ppb	2.61	500.00	
107 Ag	# 3	115	25220.8	0.0000	1.0140	ppb	2.61	50.00	
111 Cd	# 3	115	5471.9	0.0000	1.0170	ppb	5.24	500.00	
118 Sn	# 3	115	15277.7	0.0000	0.9777	ppb	1.69	500.00	
121 Sb	# 3	115	20578.9	0.0000	0.9901	ppb	0.84	500.00	
137 Ba	# 3	115	7665.7	0.0000	0.9785	ppb	1.41	1000.00	
182 W	# 3	159	197.8	0.0000	0.0041	ppb	29.80	50.00	
205 Tl	# 3	159	27033.7	0.0000	1.0150	ppb	2.73	500.00	
208 Pb	# 3	159	36856.8	0.0000	0.9827	ppb	2.62	500.00	
235 U	# 3	159	275.6	0.0000	0.0068	ppb	20.39	30.00	
238 U	# 3	159	31892.9	0.0000	0.9551	ppb	1.14	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	1081288.00	1.56	1126052.10	96.0	60 - 125	
45 Sc # 1	2198108.80	3.04	2254321.30	97.5	60 - 125	
45 Sc # 2	544592.25	0.35	540300.75	100.8	60 - 125	
45 Sc # 3	4145650.30	0.15	4051388.80	102.3	60 - 125	
72 Ge # 1	610713.00	3.47	619628.31	98.6	60 - 125	
72 Ge # 2	283565.41	0.87	278443.97	101.8	60 - 125	
72 Ge # 3	968598.19	0.29	916029.56	105.7	60 - 125	
115 In # 3	6370788.00	0.29	5837326.00	109.1	60 - 125	
159 Tb # 3	6511303.00	1.79	5778315.00	112.7	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10017.D\F6E10017.D#
Date Acquired: May 23 2016 04:40 pm
Operator: MMendo
Sample Name: CCV1
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 04:04 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
7 Li	25.38 ppb	1.73	25.00	90 - 110	
9 Be	25.85 ppb	0.90	25.00	90 - 110	
11 B	54.02 ppb	0.57	50.00	90 - 110	
23 Na	23830.00 ppb	0.12	25000.00	90 - 110	
24 Mg	24840.00 ppb	0.52	25000.00	90 - 110	
27 Al	24770.00 ppb	0.68	25000.00	90 - 110	
28 Si	2402.00 ppb	0.88	2500.00	90 - 110	
31 P	243.50 ppb	0.65	250.00	90 - 110	
39 K	25550.00 ppb	0.39	25000.00	90 - 110	
40 Ca	23470.00 ppb	0.78	25000.00	90 - 110	
47 Ti	250.80 ppb	0.44	250.00	90 - 110	
51 V	254.10 ppb	0.26	250.00	90 - 110	
52 Cr	251.00 ppb	0.46	250.00	90 - 110	
55 Mn	1510.00 ppb	0.74	1500.00	90 - 110	
56 Fe	25340.00 ppb	0.24	25000.00	90 - 110	
59 Co	248.10 ppb	0.18	250.00	90 - 110	
60 Ni	250.20 ppb	0.61	250.00	90 - 110	
63 Cu	247.50 ppb	0.50	250.00	90 - 110	
66 Zn	247.20 ppb	0.29	250.00	90 - 110	
75 As	254.60 ppb	0.53	250.00	90 - 110	
78 Se	249.10 ppb	0.36	250.00	90 - 110	
88 Sr	254.20 ppb	0.26	250.00	90 - 110	
90 Zr	27.28 ppb	0.39	25.00	90 - 110	
95 Mo	261.00 ppb	0.54	250.00	90 - 110	
107 Ag	24.61 ppb	0.69	25.00	90 - 110	
111 Cd	256.10 ppb	0.67	250.00	90 - 110	
118 Sn	254.80 ppb	0.15	250.00	90 - 110	
121 Sb	253.80 ppb	1.16	250.00	90 - 110	
137 Ba	509.60 ppb	0.38	500.00	90 - 110	
182 W	25.40 ppb	0.97	25.00	90 - 110	
205 Tl	264.50 ppb	1.13	250.00	90 - 110	
208 Pb	253.80 ppb	0.41	250.00	90 - 110	
235 U	1.69 ppb	1.78	1.80	90 - 110	
238 U	250.50 ppb	1.35	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1040589.80	0.57	1126052.10	92.4	60 - 125	
45 Sc	2207346.00	3.05	2254321.30	97.9	60 - 125	
45 Sc	541216.00	0.39	540300.75	100.2	60 - 125	
45 Sc	4158018.30	0.59	4051388.80	102.6	60 - 125	
72 Ge	584781.69	2.75	619628.31	94.4	60 - 125	
72 Ge	277161.91	0.17	278443.97	99.5	60 - 125	
72 Ge	959169.44	0.38	916029.56	104.7	60 - 125	
115 In	5942527.00	0.58	5837326.00	101.8	60 - 125	
159 Tb	6135423.00	1.02	5778315.00	106.2	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10018.D\F6E10018.D#
Date Acquired: May 23 2016 04:44 pm
Acq. Method: EMX6020H.M
Operator: MMendo
Sample Name: CCB1
Misc Info:
Vial Number: 1201
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update: May 23 2016 04:04 pm
Sample Type: CCB
Dilution Factor: 1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.0543	ppb	67264.3	132.76	0.20	
9 Be	-0.0010	ppb	30.0	270.38	0.10	
11 B	0.2803	ppb	1247.9	11.83	5.00	
23 Na	7.0870	ppb	94114.4	0.77	40.00	
24 Mg	2.6240	ppb	62998.6	1.64	10.00	
27 Al	0.2482	ppb	8720.6	22.48	20.00	
28 Si	0.7634	ppb	4714.2	14.38	20.00	
31 P	-0.3953	ppb	26716.0	109.08	10.00	
39 K	-8.4690	ppb	294832.7	42.17	20.00	
40 Ca	0.2647	ppb	44916.6	18.83	25.00	
47 Ti	0.0077	ppb	217.8	142.17	0.50	
51 V	-0.0743	ppb	7090.0	12.95	0.50	
52 Cr	-0.0428	ppb	1317.6	12.37	0.20	
55 Mn	0.0103	ppb	3599.5	17.91	0.20	
56 Fe	2.6470	ppb	55434.1	4.79	10.00	
59 Co	0.0042	ppb	604.5	70.71	0.20	
60 Ni	-0.0021	ppb	110.0	133.60	0.20	
63 Cu	0.0084	ppb	876.5	67.35	0.40	
66 Zn	0.0423	ppb	1221.2	47.97	2.00	
75 As	0.0141	ppb	226.9	18.98	0.20	
78 Se	0.0626	ppb	49.3	8.67	0.20	
88 Sr	0.0010	ppb	732.3	245.23	0.20	
90 Zr	0.0033	ppb	358.9	51.19	2.00	
95 Mo	0.1011	ppb	1002.3	5.59	0.40	
107 Ag	-0.0001	ppb	42.2	1149.20	0.20	
111 Cd	0.0101	ppb	57.5	71.79	0.20	
118 Sn	0.0346	ppb	726.7	26.01	0.20	
121 Sb	0.1346	ppb	3067.1	9.96	0.40	
137 Ba	0.0004	ppb	166.7	1535.20	0.20	
182 W	0.0138	ppb	295.6	32.50	1.00	
205 Tl	0.0056	ppb	296.7	15.15	0.20	
208 Pb	-0.0030	ppb	760.0	87.30	0.10	
235 U	0.0001	ppb	36.7	216.80	1.00	
238 U	0.0129	ppb	438.9	15.67	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1071281.5	3.20	1126052.10	95.1	60 - 125	
45 Sc	2186988.8	3.21	2254321.30	97.0	60 - 125	
45 Sc	514784.9	2.44	540300.75	95.3	60 - 125	
45 Sc	3837982.5	2.09	4051388.80	94.7	60 - 125	
72 Ge	598516.5	2.71	619628.31	96.6	60 - 125	
72 Ge	267665.4	1.35	278443.97	96.1	60 - 125	
72 Ge	893894.1	2.17	916029.56	97.6	60 - 125	
115 In	6000658.0	2.56	5837326.00	102.8	60 - 125	
159 Tb	6045677.0	3.50	5778315.00	104.6	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCV QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10062.D\F6E10062.D#
Date Acquired: May 23 2016 08:04 pm
Operator: MMendo
Sample Name: CCV5
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 04:04 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.62 ppb	0.76	25.00	90 - 110	
9 Be	24.42 ppb	3.07	25.00	90 - 110	
11 B	51.24 ppb	2.31	50.00	90 - 110	
23 Na	24970.00 ppb	0.52	25000.00	90 - 110	
24 Mg	25530.00 ppb	0.42	25000.00	90 - 110	
27 Al	25350.00 ppb	0.20	25000.00	90 - 110	
28 Si	2531.00 ppb	0.87	2500.00	90 - 110	
31 P	238.10 ppb	0.36	250.00	90 - 110	
39 K	26300.00 ppb	0.12	25000.00	90 - 110	
40 Ca	23920.00 ppb	0.37	25000.00	90 - 110	
47 Ti	247.40 ppb	0.61	250.00	90 - 110	
51 V	259.40 ppb	1.11	250.00	90 - 110	
52 Cr	256.00 ppb	0.49	250.00	90 - 110	
55 Mn	1548.00 ppb	0.80	1500.00	90 - 110	
56 Fe	25880.00 ppb	0.08	25000.00	90 - 110	
59 Co	251.50 ppb	0.42	250.00	90 - 110	
60 Ni	249.20 ppb	0.50	250.00	90 - 110	
63 Cu	253.20 ppb	0.40	250.00	90 - 110	
66 Zn	258.10 ppb	0.89	250.00	90 - 110	
75 As	256.40 ppb	0.41	250.00	90 - 110	
78 Se	250.40 ppb	0.37	250.00	90 - 110	
88 Sr	264.00 ppb	1.03	250.00	90 - 110	
90 Zr	28.85 ppb	0.59	25.00	90 - 110	Fail
95 Mo	261.30 ppb	0.24	250.00	90 - 110	
107 Ag	24.56 ppb	1.13	25.00	90 - 110	
111 Cd	259.00 ppb	0.12	250.00	90 - 110	
118 Sn	256.80 ppb	0.89	250.00	90 - 110	
121 Sb	257.50 ppb	0.52	250.00	90 - 110	
137 Ba	519.20 ppb	0.61	500.00	90 - 110	
182 W	25.73 ppb	0.36	25.00	90 - 110	
205 Tl	258.20 ppb	1.32	250.00	90 - 110	
208 Pb	253.90 ppb	1.89	250.00	90 - 110	
235 U	1.68 ppb	2.43	1.80	90 - 110	
238 U	251.00 ppb	1.06	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	984248.31	1.44	1126052.10	87.4	60 - 125	
45 Sc	1881108.50	1.18	2254321.30	83.4	60 - 125	
45 Sc	434199.31	0.37	540300.75	80.4	60 - 125	
45 Sc	3559131.30	1.04	4051388.80	87.8	60 - 125	
72 Ge	495869.31	0.71	619628.31	80.0	60 - 125	
72 Ge	223538.69	0.48	278443.97	80.3	60 - 125	
72 Ge	811011.31	1.81	916029.56	88.5	60 - 125	
115 In	5310744.50	1.58	5837326.00	91.0	60 - 125	
159 Tb	5729064.00	1.67	5778315.00	99.1	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10063.D\F6E10063.D#
Date Acquired:	May 23 2016 08:08 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	CCB5
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.1729	ppb	65491.3	22.87	0.20	
9 Be	-0.0017	ppb	26.7	334.29	0.10	
11 B	1.6640	ppb	5082.1	2.21	5.00	
23 Na	25.2800	ppb	169780.3	0.76	40.00	
24 Mg	1.0560	ppb	33894.3	13.85	10.00	
27 Al	0.2987	ppb	8909.6	27.34	20.00	
28 Si	0.0632	ppb	2937.1	97.55	20.00	
31 P	-3.1210	ppb	20652.6	8.17	10.00	
39 K	-4.7640	ppb	260839.4	17.83	20.00	
40 Ca	0.0429	ppb	37059.7	114.28	25.00	
47 Ti	-0.0230	ppb	125.6	23.96	0.50	
51 V	-0.1801	ppb	5337.2	9.23	0.50	
52 Cr	-0.0406	ppb	1164.1	14.34	0.20	
55 Mn	0.0242	ppb	3753.9	31.85	0.20	
56 Fe	2.5130	ppb	46907.0	5.72	10.00	
59 Co	0.0013	ppb	458.9	156.45	0.20	
60 Ni	-0.0126	ppb	64.0	27.90	0.20	
63 Cu	0.0041	ppb	728.9	74.58	0.40	
66 Zn	-0.0511	ppb	675.6	19.57	2.00	
75 As	0.0174	ppb	204.0	48.42	0.20	
78 Se	0.0579	ppb	40.7	18.55	0.20	
88 Sr	0.0223	ppb	1611.3	8.56	0.20	
90 Zr	0.0080	ppb	441.1	15.97	2.00	
95 Mo	0.0645	ppb	610.0	4.87	0.40	
107 Ag	0.0000	ppb	42.2	5023.30	0.20	
111 Cd	0.0039	ppb	23.4	150.32	0.20	
118 Sn	0.0283	ppb	587.8	31.41	0.20	
121 Sb	0.3136	ppb	5992.6	8.01	0.40	
137 Ba	0.0033	ppb	174.5	77.58	0.20	
182 W	0.0075	ppb	213.3	80.11	1.00	
205 Tl	0.0030	ppb	224.5	38.22	0.20	
208 Pb	-0.0046	ppb	675.6	12.07	0.10	
235 U	0.0001	ppb	34.4	558.51	1.00	
238 U	0.0122	ppb	400.0	8.55	0.10	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1063192.8	1.18	1126052.10	94.4	60 - 125	
45 Sc	1937158.5	0.75	2254321.30	85.9	60 - 125	
45 Sc	447216.8	0.20	540300.75	82.8	60 - 125	
45 Sc	3472208.3	0.97	4051388.80	85.7	60 - 125	
72 Ge	528614.2	0.61	619628.31	85.3	60 - 125	
72 Ge	234855.6	0.12	278443.97	84.3	60 - 125	
72 Ge	800268.3	1.32	916029.56	87.4	60 - 125	
115 In	5548123.5	1.29	5837326.00	95.0	60 - 125	
159 Tb	5777047.0	2.05	5778315.00	100.0	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

CCB QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10064.D\F6E10064.D#
Date Acquired:	May 23 2016 08:13 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	IME032WB
Misc Info:	
Vial Number:	2310
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	MBW
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.0882	ppb	67423.5	69.49	1.00	
9 Be	-0.0027	ppb	23.3	79.40	0.50	
11 B	1.4220	ppb	4477.5	2.67	5.00	
23 Na	30.7800	ppb	201131.3	1.15	50.00	
24 Mg	1.6920	ppb	45554.5	1.85	50.00	
27 Al	1.2740	ppb	30240.9	1.70	50.00	
28 Si	0.3671	ppb	3569.4	8.43	25.00	
31 P	-2.9110	ppb	22028.0	1.74	25.00	
39 K	-9.7810	ppb	270340.4	10.34	50.00	
40 Ca	19.1200	ppb	280147.6	1.05	50.00	
47 Ti	0.0034	ppb	196.7	54.65	1.00	
51 V	-0.2142	ppb	5386.1	6.63	0.50	
52 Cr	-0.0494	ppb	1154.7	13.53	0.50	
55 Mn	0.0396	ppb	4536.4	5.54	0.50	
56 Fe	2.7990	ppb	53049.1	1.44	50.00	
59 Co	-0.0003	ppb	433.4	373.44	0.50	
60 Ni	-0.0080	ppb	82.9	76.66	0.50	
63 Cu	0.1193	ppb	1701.9	2.93	0.50	
66 Zn	1.4400	ppb	7721.2	2.34	10.00	
75 As	-0.0153	ppb	164.4	24.16	0.50	
78 Se	0.0099	ppb	11.6	34.70	0.50	
88 Sr	0.0466	ppb	2837.0	6.43	1.00	
90 Zr	0.0026	ppb	317.8	23.39	2.50	
95 Mo	0.0223	ppb	256.7	6.31	1.00	
107 Ag	0.0006	ppb	56.7	79.96	0.50	
111 Cd	0.0007	ppb	9.3	228.70	0.50	
118 Sn	0.0085	ppb	337.8	25.57	0.50	
121 Sb	0.1761	ppb	3727.3	2.56	0.50	
137 Ba	0.0205	ppb	301.1	32.73	0.50	
182 W	0.0010	ppb	147.8	156.57	1.00	
205 Tl	-0.0004	ppb	151.1	391.45	0.50	
208 Pb	0.0065	ppb	1086.7	19.66	0.50	
235 U	-0.0001	ppb	31.1	722.10	---	
238 U	0.0039	ppb	162.2	6.53	0.50	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1079699.4	0.60	1126052.10	95.9	60 - 125	
45 Sc	1988983.3	1.28	2254321.30	88.2	60 - 125	
45 Sc	475085.2	2.52	540300.75	87.9	60 - 125	
45 Sc	3655290.0	0.76	4051388.80	90.2	60 - 125	
72 Ge	545366.8	0.83	619628.31	88.0	60 - 125	
72 Ge	248059.0	2.36	278443.97	89.1	60 - 125	
72 Ge	839010.1	0.91	916029.56	91.6	60 - 125	
115 In	5793533.5	1.01	5837326.00	99.2	60 - 125	
159 Tb	6053502.0	0.39	5778315.00	104.8	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

0 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:
Analytes: Pass
ISTD: Pass

LCS QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10065.D\F6E10065.D#
Date Acquired:	May 23 2016 08:17 pm
Operator:	MMendo
Sample Name:	IME032WL
Misc Info:	
Vial Number:	2311
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	LCS
Final Dil Factor:	1.00

Analyte Elements

Element	CPS Mean	Conc.		RSD(%)	Expected	QC Range(%)	Flag
7 Li	380746.00	29.08	ppb	0.30	30.00	80 - 120	
9 Be	120538.20	29.62	ppb	0.75	30.00	80 - 120	
11 B	84960.08	30.26	ppb	1.33	30.00	80 - 120	
23 Na	16829610.00	3011.00	ppb	1.06	3000.00	80 - 120	
24 Mg	52590288.00	3041.00	ppb	0.88	3000.00	80 - 120	
27 Al	70335192.00	2952.00	ppb	1.56	3000.00	80 - 120	
28 Si	7997.92	2.25	ppb	4.91	3000.00	80 - 120	Fail
31 P	21874.38	-4.68	ppb	2.82	300.00	80 - 120	Fail
39 K	5037368.00	3113.00	ppb	1.63	3000.00	80 - 120	
40 Ca	41279488.00	2845.00	ppb	1.03	3000.00	80 - 120	
47 Ti	79496.42	29.15	ppb	1.18	30.00	80 - 120	
51 V	292338.81	30.46	ppb	1.19	30.00	80 - 120	
52 Cr	319032.19	30.59	ppb	1.07	30.00	80 - 120	
55 Mn	1334961.00	31.63	ppb	1.71	30.00	80 - 120	
56 Fe	60778192.00	3114.00	ppb	0.95	3000.00	80 - 120	
59 Co	1095403.00	30.87	ppb	0.68	30.00	80 - 120	
60 Ni	112456.20	30.93	ppb	1.51	30.00	80 - 120	
63 Cu	286607.50	31.44	ppb	1.49	30.00	80 - 120	
66 Zn	318053.91	60.17	ppb	1.71	60.00	80 - 120	
75 As	52120.95	29.68	ppb	0.75	30.00	80 - 120	
78 Se	21102.51	29.80	ppb	0.41	30.00	80 - 120	
88 Sr	1661034.00	31.48	ppb	2.36	30.00	80 - 120	
90 Zr	1108.97	0.03	ppb	4.94	20.00	80 - 120	Fail
95 Mo	270823.00	28.20	ppb	0.77	30.00	80 - 120	
107 Ag	702276.19	29.26	ppb	1.32	30.00	80 - 120	
111 Cd	149754.80	28.80	ppb	0.33	30.00	80 - 120	
118 Sn	422131.41	28.36	ppb	0.79	30.00	80 - 120	
121 Sb	569624.13	29.06	ppb	0.84	30.00	80 - 120	
137 Ba	217996.20	29.42	ppb	1.40	30.00	80 - 120	
182 W	215.57	0.01	ppb	26.31	30.00	80 - 120	Fail
205 Tl	781846.19	29.57	ppb	0.64	30.00	80 - 120	
208 Pb	1056467.00	28.90	ppb	1.19	30.00	80 - 120	
235 U	7002.15	0.20	ppb	4.83	0.21	80 - 120	
238 U	939923.38	28.22	ppb	0.67	29.79	80 - 120	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	1068902.50	1.03	1126052.10	94.9	60 - 125	
45 Sc	2271864.50	1.50	2254321.30	100.8	60 - 125	
45 Sc	536670.81	0.96	540300.75	99.3	60 - 125	
45 Sc	4073547.80	0.90	4051388.80	100.5	60 - 125	
72 Ge	608952.94	0.94	619628.31	98.3	60 - 125	
72 Ge	278173.09	0.37	278443.97	99.9	60 - 125	
72 Ge	939949.44	1.93	916029.56	102.6	60 - 125	
115 In	6162780.50	0.64	5837326.00	105.6	60 - 125	
159 Tb	6503253.50	0.77	5778315.00	112.5	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

4 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10067.D\F6E10067.D#
Date Acquired: May 23 2016 08:26 pm
Acq. Method: EMX6020H.M
Operator: MMendo
Sample Name: E133-02M
Misc Info:
Vial Number: 2312
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update: May 23 2016 04:04 pm
Sample Type: Sample
Dilution Factor: 1.00
Autodil Factor: Undiluted
Final Dil Factor: 1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	855609.2	0.0000	86.6100	ppb	1.47	50.00	>LRS
9 Be	# 3	6	106251.0	0.0000	30.5200	ppb	0.27	50.00	
11 B	# 3	6	592120.4	0.0000	247.7000	ppb	1.21	100.00	>LRS
23 Na	# 1	45	1761097000.0	0.0000	345400.0000	ppb	0.45	50000.00	>LRS
24 Mg	# 3	45	309817410.0	0.0000	19330.0000	ppb	1.08	50000.00	
27 Al	# 3	45	130793500.0	0.0000	5920.0000	ppb	0.47	50000.00	
28 Si	# 1	45	27434090.0	0.0000	14410.0000	ppb	3.67	5000.00	>LRS
31 P	# 3	45	1007036.0	0.0000	697.2000	ppb	1.06	500.00	>LRS
39 K	# 2	45	49287320.0	0.0000	35910.0000	ppb	0.11	50000.00	
40 Ca	# 1	45	1120440100.0	0.0000	84490.0000	ppb	5.05	50000.00	>LRS
47 Ti	# 3	45	162052.0	0.0000	64.1700	ppb	3.04	500.00	
51 V	# 2	45	312848.0	0.0000	36.3600	ppb	0.35	500.00	
52 Cr	# 2	45	435276.1	0.0000	46.4300	ppb	0.52	500.00	
55 Mn	# 3	45	30640920.0	0.0000	784.7000	ppb	0.45	3000.00	
56 Fe	# 1	45	284134690.0	0.0000	15910.0000	ppb	0.54	50000.00	
59 Co	# 3	45	1595416.0	0.0000	48.5000	ppb	1.96	500.00	
60 Ni	# 2	45	313278.5	0.0000	95.7500	ppb	0.33	500.00	
63 Cu	# 2	45	590280.3	0.0000	72.0300	ppb	0.51	500.00	
66 Zn	# 3	72	2153797.0	0.0000	474.5000	ppb	0.54	500.00	
75 As	# 2	72	50876.2	0.0000	33.5800	ppb	0.18	500.00	
78 Se	# 1	72	29684.6	0.0000	48.7500	ppb	3.73	500.00	
88 Sr	# 3	72	27510690.0	0.0000	605.6000	ppb	0.52	500.00	>LRS
90 Zr	# 3	72	96606.2	0.0000	3.7460	ppb	5.28	50.00	
95 Mo	# 3	115	1212379.0	0.0000	152.0000	ppb	0.81	500.00	
107 Ag	# 3	115	561825.3	0.0000	28.1700	ppb	0.46	50.00	
111 Cd	# 3	115	132815.4	0.0000	30.7400	ppb	1.16	500.00	
118 Sn	# 3	115	1130825.0	0.0000	91.4600	ppb	1.18	500.00	
121 Sb	# 3	115	483997.6	0.0000	29.7200	ppb	0.23	500.00	
137 Ba	# 3	115	1162201.0	0.0000	188.9000	ppb	0.40	1000.00	
182 W	# 3	159	5044.4	0.0000	0.4667	ppb	2.12	50.00	
205 Tl	# 3	159	644573.9	0.0000	28.9800	ppb	0.60	500.00	
208 Pb	# 3	159	986523.2	0.0000	32.0800	ppb	1.33	500.00	
235 U	# 3	159	6085.0	0.0000	0.2034	ppb	1.77	30.00	
238 U	# 3	159	842793.3	0.0000	30.0800	ppb	1.83	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	914616.75	0.54	1126052.10	81.2	60 - 125	
45 Sc # 1	2078737.60	1.70	2254321.30	92.2	60 - 125	
45 Sc # 2	483276.50	0.19	540300.75	89.4	60 - 125	
45 Sc # 3	3777572.50	0.67	4051388.80	93.2	60 - 125	
72 Ge # 1	523587.28	0.91	619628.31	84.5	60 - 125	
72 Ge # 2	240048.05	0.26	278443.97	86.2	60 - 125	
72 Ge # 3	809452.56	0.41	916029.56	88.4	60 - 125	
115 In # 3	5120296.00	0.82	5837326.00	87.7	60 - 125	
159 Tb # 3	5470498.00	0.60	5778315.00	94.7	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

7 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10068.D\F6E10068.D#
Date Acquired:	May 23 2016 08:30 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	E133-02A
Misc Info:	
Vial Number:	2401
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	854627.2	0.0000	87.0000	ppb	1.12	50.00	>LRS
9 Be	# 3	6	111728.4	0.0000	32.2600	ppb	0.90	50.00	
11 B	# 3	6	586781.1	0.0000	246.8000	ppb	0.89	100.00	>LRS
23 Na	# 1	45	1746491000.0	0.0000	335800.0000	ppb	0.71	50000.00	>LRS
24 Mg	# 3	45	308656610.0	0.0000	18960.0000	ppb	0.35	50000.00	
27 Al	# 3	45	125156900.0	0.0000	5579.0000	ppb	0.25	50000.00	
28 Si	# 1	45	25608070.0	0.0000	13180.0000	ppb	1.68	5000.00	>LRS
31 P	# 3	45	995997.4	0.0000	678.7000	ppb	1.00	500.00	>LRS
39 K	# 2	45	48772072.0	0.0000	35270.0000	ppb	0.58	50000.00	
40 Ca	# 1	45	1109634900.0	0.0000	82010.0000	ppb	1.35	50000.00	>LRS
47 Ti	# 3	45	168532.4	0.0000	65.7400	ppb	1.41	500.00	
51 V	# 2	45	326366.5	0.0000	37.6900	ppb	0.55	500.00	
52 Cr	# 2	45	446016.4	0.0000	47.2400	ppb	0.45	500.00	
55 Mn	# 3	45	30134080.0	0.0000	760.1000	ppb	0.78	3000.00	
56 Fe	# 1	45	287234820.0	0.0000	15770.0000	ppb	0.29	50000.00	
59 Co	# 3	45	1640098.0	0.0000	49.1000	ppb	0.79	500.00	
60 Ni	# 2	45	316175.5	0.0000	95.9500	ppb	0.59	500.00	
63 Cu	# 2	45	597221.8	0.0000	72.3600	ppb	0.82	500.00	
66 Zn	# 3	72	2128740.0	0.0000	466.6000	ppb	0.74	500.00	
75 As	# 2	72	52376.0	0.0000	34.1200	ppb	0.55	500.00	
78 Se	# 1	72	31715.5	0.0000	50.7700	ppb	2.73	500.00	
88 Sr	# 3	72	27451520.0	0.0000	601.3000	ppb	0.44	500.00	>LRS
90 Zr	# 3	72	88244.5	0.0000	3.4040	ppb	0.82	50.00	
95 Mo	# 3	115	1220683.0	0.0000	150.1000	ppb	0.96	500.00	
107 Ag	# 3	115	616175.8	0.0000	30.3100	ppb	1.47	50.00	
111 Cd	# 3	115	140744.4	0.0000	31.9600	ppb	1.42	500.00	
118 Sn	# 3	115	1177594.0	0.0000	93.4400	ppb	0.45	500.00	
121 Sb	# 3	115	531428.7	0.0000	32.0200	ppb	0.38	500.00	
137 Ba	# 3	115	1169245.0	0.0000	186.4000	ppb	0.35	1000.00	
182 W	# 3	159	4827.7	0.0000	0.4441	ppb	2.16	50.00	
205 Tl	# 3	159	683112.2	0.0000	30.5700	ppb	1.71	500.00	
208 Pb	# 3	159	1027590.0	0.0000	33.2700	ppb	0.80	500.00	
235 U	# 3	159	6556.3	0.0000	0.2182	ppb	0.55	30.00	
238 U	# 3	159	891498.4	0.0000	31.6700	ppb	1.37	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	909753.00	0.90	1126052.10	80.8	60 - 125	
45 Sc # 1	2120747.30	2.14	2254321.30	94.1	60 - 125	
45 Sc # 2	486747.91	0.31	540300.75	90.1	60 - 125	
45 Sc # 3	3835382.80	0.76	4051388.80	94.7	60 - 125	
72 Ge # 1	537170.00	1.14	619628.31	86.7	60 - 125	
72 Ge # 2	243252.03	1.08	278443.97	87.4	60 - 125	
72 Ge # 3	813487.13	0.43	916029.56	88.8	60 - 125	
115 In # 3	5219154.00	0.47	5837326.00	89.4	60 - 125	
159 Tb # 3	5495306.00	0.17	5778315.00	95.1	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

7 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

1050

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10069.D\F6E10069.D#
Date Acquired:	May 23 2016 08:34 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	E133-02
Misc Info:	
Vial Number:	2402
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	511358.7	0.0000	49.2000	ppb	1.05	50.00	
9 Be	# 3	6	478.9	0.0000	0.1291	ppb	8.20	50.00	
11 B	# 3	6	510838.2	0.0000	213.5000	ppb	1.59	100.00	>LRS
23 Na	# 1	45	1747858000.0	0.0000	336700.0000	ppb	0.41	50000.00	>LRS
24 Mg	# 3	45	257368190.0	0.0000	15950.0000	ppb	0.39	50000.00	
27 Al	# 3	45	57629640.0	0.0000	2592.0000	ppb	0.61	50000.00	
28 Si	# 1	45	25701200.0	0.0000	13250.0000	ppb	1.78	5000.00	>LRS
31 P	# 3	45	993827.2	0.0000	683.3000	ppb	1.03	500.00	>LRS
39 K	# 2	45	44534552.0	0.0000	32260.0000	ppb	0.48	50000.00	
40 Ca	# 1	45	1088650000.0	0.0000	80620.0000	ppb	1.39	50000.00	>LRS
47 Ti	# 3	45	92516.0	0.0000	36.3700	ppb	0.16	500.00	
51 V	# 2	45	49536.8	0.0000	4.9990	ppb	0.47	500.00	
52 Cr	# 2	45	152214.9	0.0000	16.0400	ppb	0.10	500.00	
55 Mn	# 3	45	29159110.0	0.0000	742.0000	ppb	1.13	3000.00	
56 Fe	# 1	45	232268800.0	0.0000	12780.0000	ppb	1.04	50000.00	
59 Co	# 3	45	599325.0	0.0000	18.0900	ppb	0.73	500.00	
60 Ni	# 2	45	217787.2	0.0000	66.2300	ppb	0.18	500.00	
63 Cu	# 2	45	349943.5	0.0000	42.4500	ppb	0.47	500.00	
66 Zn	# 3	72	1829894.0	0.0000	401.1000	ppb	0.54	500.00	
75 As	# 2	72	2915.2	0.0000	1.7770	ppb	1.97	500.00	
78 Se	# 1	72	10875.6	0.0000	17.3400	ppb	1.11	500.00	
88 Sr	# 3	72	25943410.0	0.0000	568.3000	ppb	0.86	500.00	>LRS
90 Zr	# 3	72	87437.7	0.0000	3.3730	ppb	1.23	50.00	
95 Mo	# 3	115	923270.9	0.0000	114.1000	ppb	3.46	500.00	
107 Ag	# 3	115	688.9	0.0000	0.0321	ppb	6.68	50.00	
111 Cd	# 3	115	8655.3	0.0000	1.9740	ppb	1.67	500.00	
118 Sn	# 3	115	734502.3	0.0000	58.5700	ppb	0.96	500.00	
121 Sb	# 3	115	32225.1	0.0000	1.9260	ppb	0.90	500.00	
137 Ba	# 3	115	929069.6	0.0000	148.9000	ppb	1.06	1000.00	
182 W	# 3	159	4823.3	0.0000	0.4422	ppb	3.72	50.00	
205 Tl	# 3	159	1083.4	0.0000	0.0418	ppb	1.32	500.00	
208 Pb	# 3	159	115415.3	0.0000	3.7010	ppb	0.53	500.00	
235 U	# 3	159	257.8	0.0000	0.0076	ppb	8.31	30.00	
238 U	# 3	159	30937.3	0.0000	1.0940	ppb	1.89	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	915153.19	0.56	1126052.10	81.3	60 - 125	
45 Sc # 1	2116541.00	1.31	2254321.30	93.9	60 - 125	
45 Sc # 2	485658.69	0.15	540300.75	89.9	60 - 125	
45 Sc # 3	3801559.00	0.51	4051388.80	93.8	60 - 125	
72 Ge # 1	539323.69	1.05	619628.31	87.0	60 - 125	
72 Ge # 2	244332.05	0.35	278443.97	87.7	60 - 125	
72 Ge # 3	813501.00	0.58	916029.56	88.8	60 - 125	
115 In # 3	5193097.00	0.56	5837326.00	89.0	60 - 125	
159 Tb # 3	5514613.00	0.85	5778315.00	95.4	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

6 :Element Failures — 0 :Max. Number of Failures Allowed
0 :ISTD Failures — 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10070.D\F6E10070.D#
Date Acquired:	May 23 2016 08:39 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	E133-02J
Misc Info:	
Vial Number:	2403
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	5.00
Autodil Factor:	Undiluted
Final Dil Factor:	5.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	159556.7	0.0000	9.8910	ppb	1.40	50.00	
9 Be	# 3	6	113.3	0.0000	0.0221	ppb	21.49	50.00	
11 B	# 3	6	113251.3	0.0000	44.1100	ppb	1.12	100.00	
23 Na	# 1	45	368641310.0	0.0000	67920.0000	ppb	0.31	50000.00	>LRS
24 Mg	# 3	45	53911888.0	0.0000	3273.0000	ppb	3.17	50000.00	
27 Al	# 3	45	12073580.0	0.0000	531.7000	ppb	1.68	50000.00	
28 Si	# 1	45	5298625.0	0.0000	2612.0000	ppb	0.88	5000.00	
31 P	# 3	45	210651.9	0.0000	126.7000	ppb	0.89	500.00	
39 K	# 2	45	9391606.0	0.0000	6396.0000	ppb	0.63	50000.00	
40 Ca	# 1	45	223615010.0	0.0000	15830.0000	ppb	0.73	50000.00	
47 Ti	# 3	45	22002.2	0.0000	8.4130	ppb	13.21	500.00	
51 V	# 2	45	14888.1	0.0000	0.8344	ppb	1.50	500.00	
52 Cr	# 2	45	32940.2	0.0000	3.2110	ppb	0.69	500.00	
55 Mn	# 3	45	6307799.0	0.0000	157.2000	ppb	1.82	3000.00	
56 Fe	# 1	45	49842032.0	0.0000	2622.0000	ppb	0.64	50000.00	
59 Co	# 3	45	130728.6	0.0000	3.8550	ppb	2.45	500.00	
60 Ni	# 2	45	47431.8	0.0000	13.8900	ppb	1.40	500.00	
63 Cu	# 2	45	78188.9	0.0000	9.0790	ppb	0.79	500.00	
66 Zn	# 3	72	394231.6	0.0000	79.4200	ppb	1.58	500.00	
75 As	# 2	72	786.9	0.0000	0.3591	ppb	3.06	500.00	
78 Se	# 1	72	2196.8	0.0000	3.1910	ppb	1.89	500.00	
88 Sr	# 3	72	5597159.0	0.0000	112.9000	ppb	2.51	500.00	
90 Zr	# 3	72	19684.3	0.0000	0.6919	ppb	5.00	50.00	
95 Mo	# 3	115	193676.2	0.0000	21.7600	ppb	1.29	500.00	
107 Ag	# 3	115	261.1	0.0000	0.0098	ppb	9.04	50.00	
111 Cd	# 3	115	2002.1	0.0000	0.4142	ppb	6.98	500.00	
118 Sn	# 3	115	165292.6	0.0000	11.9700	ppb	0.41	500.00	
121 Sb	# 3	115	10396.4	0.0000	0.5466	ppb	2.18	500.00	
137 Ba	# 3	115	205337.8	0.0000	29.9000	ppb	2.36	1000.00	
182 W	# 3	159	1139.0	0.0000	0.0856	ppb	6.71	50.00	
205 Tl	# 3	159	497.8	0.0000	0.0137	ppb	20.34	500.00	
208 Pb	# 3	159	26763.6	0.0000	0.7586	ppb	1.17	500.00	
235 U	# 3	159	91.1	0.0000	0.0017	ppb	21.86	30.00	
238 U	# 3	159	6884.3	0.0000	0.2199	ppb	1.90	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	979224.69	0.50	1126052.10	87.0	60 - 125	
45 Sc # 1	2212871.80	1.31	2254321.30	98.2	60 - 125	
45 Sc # 2	503377.38	0.40	540300.75	93.2	60 - 125	
45 Sc # 3	3881922.80	1.95	4051388.80	95.8	60 - 125	
72 Ge # 1	590600.06	0.99	619628.31	95.3	60 - 125	
72 Ge # 2	260791.48	0.56	278443.97	93.7	60 - 125	
72 Ge # 3	883421.94	1.94	916029.56	96.4	60 - 125	
115 In # 3	5710112.50	0.66	5837326.00	97.8	60 - 125	
159 Tb # 3	6077796.50	1.12	5778315.00	105.2	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

1 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:

Analytes:	Fail
ISTD:	Pass

Sample QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10071.D\F6E10071.D#
Date Acquired:	May 23 2016 08:43 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	E133-02D
Misc Info:	
Vial Number:	2404
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	Sample
Dilution Factor:	1.00
Autodil Factor:	Undiluted
Final Dil Factor:	1.00

Tune #	Name
#1	h2.u
#2	he.u
#3	norm.u

QC Elements

Element	Tune	ISTD	CPS	Corr Conc	Raw Conc	Units	Conc RSD(%)	High Limit	Flag
7 Li	# 3	6	507571.5	0.0000	49.0000	ppb	1.34	50.00	
9 Be	# 3	6	470.0	0.0000	0.1271	ppb	9.72	50.00	
11 B	# 3	6	501756.1	0.0000	210.5000	ppb	0.66	100.00	>LRS
23 Na	# 1	45	1736177000.0	0.0000	330200.0000	ppb	0.93	50000.00	>LRS
24 Mg	# 3	45	252992400.0	0.0000	15620.0000	ppb	0.38	50000.00	
27 Al	# 3	45	58540320.0	0.0000	2623.0000	ppb	0.10	50000.00	
28 Si	# 1	45	25563260.0	0.0000	13020.0000	ppb	2.30	5000.00	>LRS
31 P	# 3	45	980748.0	0.0000	671.4000	ppb	0.31	500.00	>LRS
39 K	# 2	45	43732928.0	0.0000	31770.0000	ppb	0.20	50000.00	
40 Ca	# 1	45	1060034000.0	0.0000	77520.0000	ppb	2.04	50000.00	>LRS
47 Ti	# 3	45	88701.0	0.0000	34.7300	ppb	1.53	500.00	
51 V	# 2	45	49121.6	0.0000	4.9680	ppb	1.20	500.00	
52 Cr	# 2	45	150611.4	0.0000	15.9200	ppb	1.07	500.00	
55 Mn	# 3	45	28736790.0	0.0000	728.5000	ppb	1.35	3000.00	
56 Fe	# 1	45	232639810.0	0.0000	12630.0000	ppb	0.89	50000.00	
59 Co	# 3	45	590872.2	0.0000	17.7700	ppb	1.06	500.00	
60 Ni	# 2	45	213337.4	0.0000	65.0700	ppb	1.04	500.00	
63 Cu	# 2	45	342904.1	0.0000	41.7200	ppb	0.90	500.00	
66 Zn	# 3	72	1829517.0	0.0000	401.9000	ppb	0.84	500.00	
75 As	# 2	72	2837.4	0.0000	1.7440	ppb	0.15	500.00	
78 Se	# 1	72	10671.9	0.0000	16.9600	ppb	0.43	500.00	
88 Sr	# 3	72	25657240.0	0.0000	563.2000	ppb	0.03	500.00	>LRS
90 Zr	# 3	72	86849.7	0.0000	3.3570	ppb	1.98	50.00	
95 Mo	# 3	115	897841.1	0.0000	111.9000	ppb	1.04	500.00	
107 Ag	# 3	115	677.8	0.0000	0.0318	ppb	7.30	50.00	
111 Cd	# 3	115	8444.8	0.0000	1.9420	ppb	4.69	500.00	
118 Sn	# 3	115	723350.0	0.0000	58.1600	ppb	0.34	500.00	
121 Sb	# 3	115	30135.0	0.0000	1.8150	ppb	1.53	500.00	
137 Ba	# 3	115	922850.7	0.0000	149.1000	ppb	1.43	1000.00	
182 W	# 3	159	4773.2	0.0000	0.4402	ppb	1.90	50.00	
205 Tl	# 3	159	1050.1	0.0000	0.0406	ppb	7.89	500.00	
208 Pb	# 3	159	114529.5	0.0000	3.6950	ppb	0.21	500.00	
235 U	# 3	159	252.2	0.0000	0.0075	ppb	14.63	30.00	
238 U	# 3	159	30370.5	0.0000	1.0810	ppb	2.46	500.00	

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li # 3	911702.69	0.76	1126052.10	81.0	60 - 125	
45 Sc # 1	2144038.30	2.46	2254321.30	95.1	60 - 125	
45 Sc # 2	484237.03	1.02	540300.75	89.6	60 - 125	
45 Sc # 3	3816217.50	0.65	4051388.80	94.2	60 - 125	
72 Ge # 1	540900.06	1.78	619628.31	87.3	60 - 125	
72 Ge # 2	242031.27	0.47	278443.97	86.9	60 - 125	
72 Ge # 3	811721.31	0.75	916029.56	88.6	60 - 125	
115 In # 3	5150308.50	1.15	5837326.00	88.2	60 - 125	
159 Tb # 3	5481083.50	0.82	5778315.00	94.9	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

6 :Element Failures
0 :ISTD Failures

0 :Max. Number of Failures Allowed
0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCV QC Report

Data File: C:\DATA\IF62016\E\IF6E10.B\F6E10074.D\F6E10074.D#
Date Acquired: May 23 2016 08:56 pm
Operator: MMendo
Sample Name: CCV6
Misc Info:
Vial Number: 1206
Current Method: C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File: C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal Update: May 23 2016 04:04 pm
Sample Type: CCV
Total Dil Factor: 1.00

QC Elements

Element	Conc.	RSD(%)	Expected	QC Range(%)	Flag
7 Li	24.39 ppb	0.18	25.00	90 - 110	
9 Be	24.78 ppb	0.91	25.00	90 - 110	
11 B	51.12 ppb	1.26	50.00	90 - 110	
23 Na	24690.00 ppb	0.29	25000.00	90 - 110	
24 Mg	24940.00 ppb	0.86	25000.00	90 - 110	
27 Al	24730.00 ppb	0.44	25000.00	90 - 110	
28 Si	2486.00 ppb	0.48	2500.00	90 - 110	
31 P	237.40 ppb	1.00	250.00	90 - 110	
39 K	26520.00 ppb	1.44	25000.00	90 - 110	
40 Ca	23850.00 ppb	0.32	25000.00	90 - 110	
47 Ti	247.30 ppb	0.35	250.00	90 - 110	
51 V	260.60 ppb	0.16	250.00	90 - 110	
52 Cr	258.60 ppb	1.40	250.00	90 - 110	
55 Mn	1528.00 ppb	0.73	1500.00	90 - 110	
56 Fe	25860.00 ppb	0.79	25000.00	90 - 110	
59 Co	251.30 ppb	0.93	250.00	90 - 110	
60 Ni	251.50 ppb	0.89	250.00	90 - 110	
63 Cu	255.50 ppb	1.20	250.00	90 - 110	
66 Zn	259.70 ppb	1.78	250.00	90 - 110	
75 As	257.70 ppb	0.41	250.00	90 - 110	
78 Se	253.20 ppb	0.57	250.00	90 - 110	
88 Sr	263.00 ppb	1.13	250.00	90 - 110	
90 Zr	28.63 ppb	0.87	25.00	90 - 110	Fail
95 Mo	263.50 ppb	1.08	250.00	90 - 110	
107 Ag	24.36 ppb	0.80	25.00	90 - 110	
111 Cd	260.80 ppb	1.55	250.00	90 - 110	
118 Sn	257.90 ppb	1.20	250.00	90 - 110	
121 Sb	257.70 ppb	1.04	250.00	90 - 110	
137 Ba	517.70 ppb	0.28	500.00	90 - 110	
182 W	25.31 ppb	0.77	25.00	90 - 110	
205 Tl	256.70 ppb	0.54	250.00	90 - 110	
208 Pb	253.10 ppb	0.27	250.00	90 - 110	
235 U	1.68 ppb	0.68	1.80	90 - 110	
238 U	251.40 ppb	2.13	250.00	90 - 110	

ISTD Elements

Element	CPS Mean	RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	962990.81	0.50	1126052.10	85.5	60 - 125	
45 Sc	2130815.80	1.44	2254321.30	94.5	60 - 125	
45 Sc	490314.94	0.82	540300.75	90.7	60 - 125	
45 Sc	3802374.00	0.92	4051388.80	93.9	60 - 125	
72 Ge	557299.50	1.01	619628.31	89.9	60 - 125	
72 Ge	252219.42	0.32	278443.97	90.6	60 - 125	
72 Ge	850238.06	0.46	916029.56	92.8	60 - 125	
115 In	5477964.00	0.09	5837326.00	93.8	60 - 125	
159 Tb	5794164.00	1.00	5778315.00	100.3	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

1 :Element Failures 0 :Max. Number of Failures Allowed
0 :ISTD Failures 0 :Max. Number of ISTD Failures Allowed

Data Results:
Analytes: Fail
ISTD: Pass

CCB QC Report

Data File:	C:\DATA\IF62016\E\IF6E10.B\F6E10075.D\F6E10075.D#
Date Acquired:	May 23 2016 09:00 pm
Acq. Method:	EMX6020H.M
Operator:	MMendo
Sample Name:	CCB6
Misc Info:	
Vial Number:	1201
Current Method:	C:\ICPCHEM\1\METHODS\EMX6020H.M
Calibration File:	C:\DATA\IF62016\D\IF6D11.B\EMX6020H.C
Last Cal. Update:	May 23 2016 04:04 pm
Sample Type:	CCB
Dilution Factor:	1.00

QC Elements

Element	Conc.		CPS	Conc RSD(%)	High Limit	Flag
7 Li	-0.0601	ppb	62583.2	66.18	0.20	
9 Be	-0.0008	ppb	28.9	435.68	0.10	
11 B	1.0550	ppb	3181.5	3.27	5.00	
23 Na	42.6200	ppb	274575.2	1.69	40.00	~~Fail~~ CLOPW
24 Mg	3.3000	ppb	74623.5	2.78	10.00	
27 Al	1.4810	ppb	36694.5	4.86	20.00	
28 Si	0.5459	ppb	4129.6	18.85	20.00	
31 P	-4.3730	ppb	21212.3	7.18	10.00	
39 K	4.5640	ppb	306788.3	35.50	20.00	
40 Ca	3.8830	ppb	92019.3	5.19	25.00	
47 Ti	0.0107	ppb	226.7	138.39	0.50	
51 V	-0.2013	ppb	5820.5	5.15	0.50	
52 Cr	-0.0390	ppb	1325.0	10.62	0.20	
55 Mn	0.0851	ppb	6619.5	14.87	0.20	
56 Fe	4.1020	ppb	79862.0	6.40	10.00	
59 Co	0.0149	ppb	971.2	22.06	0.20	
60 Ni	-0.0026	ppb	105.8	6.84	0.20	
63 Cu	0.0324	ppb	1061.4	19.60	0.40	
66 Zn	-0.0232	ppb	876.7	51.25	2.00	
75 As	0.0391	ppb	260.2	19.60	0.20	
78 Se	0.0578	ppb	44.0	11.80	0.20	
88 Sr	0.0584	ppb	3541.7	0.92	0.20	
90 Zr	0.0103	ppb	546.7	11.71	2.00	
95 Mo	0.0862	ppb	850.1	9.64	0.40	
107 Ag	0.0014	ppb	76.7	28.01	0.20	
111 Cd	0.0058	ppb	34.9	89.63	0.20	
118 Sn	0.2137	ppb	3272.7	2.04	0.20	Fail
121 Sb	0.3076	ppb	6273.8	5.19	0.40	
137 Ba	0.0238	ppb	331.1	7.88	0.20	
182 W	0.0090	ppb	237.8	23.19	1.00	
205 Tl	0.0078	ppb	347.8	22.53	0.20	
208 Pb	0.0044	ppb	1001.2	38.66	0.10	
235 U	0.0000	ppb	34.4	318.32	1.00	
238 U	0.0181	ppb	595.6	9.05	0.10	

CK 5/24/16

ISTD Elements

Element	CPS Mean	CPS RSD(%)	Ref Value	Rec(%)	QC Range(%)	Flag
6 Li	997643.8	0.32	1126052.10	88.6	60 - 125	
45 Sc	2109215.8	0.71	2254321.30	93.6	60 - 125	
45 Sc	503275.2	0.23	540300.75	93.1	60 - 125	
45 Sc	3869751.5	2.25	4051388.80	95.5	60 - 125	
72 Ge	572102.9	0.43	619628.31	92.3	60 - 125	
72 Ge	258917.9	0.55	278443.97	93.0	60 - 125	
72 Ge	876313.5	0.63	916029.56	95.7	60 - 125	
115 In	5911486.0	0.59	5837326.00	101.3	60 - 125	
159 Tb	5982910.5	0.27	5778315.00	103.5	60 - 125	

ISTD Ref File : C:\DATA\IF62016\E\IF6E10.B\F6E10004.D\F6E10004.D#

2 :Element Failures — 0 :Max. Number of Failures Allowed

0 :ISTD Failures — 0 :Max. Nnumber of ISTD Failures Allowed

Data Results:

Analytes: Fail

ISTD: Pass

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP-MS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # VC-15-014-1

all the samples are pH < 2

Book #: EIM-059
Batch: TME032W
Matrix: Water
Digestor ID: E

SOP #	Rev. #
☐ EMAX-200.8	5
☑ EMAX-6020	9
☐ EMAX-	

Start	Temp	End	Temp
	91.4 °C		90.4 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM6A-007-03-05	0.15
LCS-2	SM6A-007-03-06	0.15
MS	same spike soln & vol as LCS 1 & 2	
Blank Soil (Bead)	NA	NA
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SW1A-005-16-15	0.5 + 1
HCl	SW1A-005-15-24	0.25 + 0.25
H_2O_2	NA	NA
HNO_3(1:1)	NA	NA
pH Strip (0-14)	HC577678	NA

Digestate Location	Metals
Extract Location	NA
☑ Reagent Water ID:	SM5A-03-09-07
☑ Thermometer ID:	150590610/ E14
☑ Pipette ID:	239360318
☐ Pipette ID:	NA
☐ Pipette ID:	NA
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask	
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask	

Prepared By: SP
Standard Added By: SP
Witnessed By: [illegible]
Extract Rcvd By: [illegible]
Checked By: [illegible]

EMAX LABORATORIES, INC.

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16IME032W01	IME032WB	50	ml	5/20/16 10:39	50	50	50	1	
16IME032W02	IME032WL	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W03	E133-02	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W04	E133-02M	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W05	E133-02D	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W06	E144-02	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W07	E144-03	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W08	E144-04	50	ml	5/20/16 10:41	50	50	50	1	
16IME032W09	E155-02	50	ml	5/20/16 10:41	50	50	50	1	

SP 5/20/16

Vd=digestate volume PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/20/16 11:41 Prepared By: SPara

☑ Digestion Ended @ 5/20/16 17:26 Checked By: Cw

Comments: Date 5/23/16

TCLP METALS

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	05/13/16 08:00
Project	: CANNON AFB PBR	Date Received:	05/14/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	CAFB-IDW-S-05132016	Date Analyzed:	05/24/16 16:23
Lab Samp ID:	E133-03	Dilution Factor:	5
Lab File ID:	ID8E025026	Matrix :	LEACHATE
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	0.0152J	0.0500	0.0150	0.0250
Barium	1.51	0.0500	0.00500	0.0100
Cadmium	ND	0.0500	0.00500	0.0100
Chromium	ND	0.0500	0.00750	0.0150
Lead	ND	0.0500	0.00850	0.0150
Selenium	ND	0.0500	0.0125	0.0250
Silver	ND	0.0500	0.00750	0.0150

DateTime Leached: 05/20/16 18:30

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	MBLK1W	Date Analyzed:	05/24/16 16:12
Lab Samp ID:	IPE033WB	Dilution Factor:	1
Lab File ID:	ID8E025022	Matrix :	WATER
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	ND	0.0100	0.00300	0.00500
Barium	ND	0.0100	0.00100	0.00200
Cadmium	ND	0.0100	0.00100	0.00200
Chromium	ND	0.0100	0.00150	0.00300
Lead	ND	0.0100	0.00170	0.00300
Selenium	ND	0.0100	0.00250	0.00500
Silver	ND	0.0100	0.00150	0.00300

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W			
CONTROL NO.:	IPE033WB	IPE033WL		
LAB FILE ID:	ID8E025022	ID8E025023		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	NA
DATIME ANALYZD:	05/24/1616:12	05/24/1616:15	DATE RECEIVED:	05/23/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	.5	.514	103	80-120
Barium	ND	.5	.496	99	80-120
Cadmium	ND	.5	.498	100	80-120
Chromium	ND	.5	.502	100	80-120
Lead	ND	.5	.496	99	80-120
Selenium	ND	.5	.513	103	80-120
Silver	ND	.5	.498	100	80-120

METHOD SW1311/3010A/6010C
TCLP METALS BY ICP

Client	: URS CORPORATION	Date Collected:	NA
Project	: CANNON AFB PBR	Date Received:	05/23/16
SDG NO.	: 16E133	Date Extracted:	05/23/16 14:43
Sample ID:	MBLK2W	Date Analyzed:	05/24/16 16:17
Lab Samp ID:	TXE014SB	Dilution Factor:	5
Lab File ID:	ID8E025024	Matrix :	LEACHATE
Ext Btch ID:	IPE033W	% Moisture :	NA
Calib. Ref.:	ID8E025020	Instrument ID :	EMAXTID8

PARAMETERS	RESULTS (mg/L)	LOQ (mg/L)	DL (mg/L)	LOD (mg/L)
Arsenic	ND	0.0500	0.0150	0.0250
Barium	ND	0.0500	0.00500	0.0100
Cadmium	ND	0.0500	0.00500	0.0100
Chromium	ND	0.0500	0.00750	0.0150
Lead	ND	0.0500	0.00850	0.0150
Selenium	0.0143J	0.0500	0.0125	0.0250
Silver	ND	0.0500	0.00750	0.0150

DateTime Leached: 05/20/16 18:30

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	WATER		% MOISTURE:	NA
DILTN FACTR:	1	1		
SAMPLE ID:	MBLK1W			
CONTROL NO.:	IPE033WB	IPE033WL		
LAB FILE ID:	ID8E025022	ID8E025023		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	NA
DATIME ANALYZD:	05/24/1616:12	05/24/1616:15	DATE RECEIVED:	05/23/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	BLNK RSLT (mg/L)	SPIKE AMT (mg/L)	BS RSLT (mg/L)	BS % REC	QC LIMIT (%)
Arsenic	ND	.5	.514	103	80-120
Barium	ND	.5	.496	99	80-120
Cadmium	ND	.5	.498	100	80-120
Chromium	ND	.5	.502	100	80-120
Lead	ND	.5	.496	99	80-120
Selenium	ND	.5	.513	103	80-120
Silver	ND	.5	.498	100	80-120

EMAX QUALITY CONTROL DATA
MS ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILTN FACTR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016			
CONTROL NO.:	E133-03	E133-03M		
LAB FILE ID:	ID8E025026	ID8E025029		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATIME ANALYZD:	05/24/1616:23	05/24/1616:32	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	MS RSLT (mg/L)	MS % REC	QC LIMIT (%)
Arsenic	ND	2.5	2.71	108	80-120
Barium	1.51	2.5	3.93	97	80-120
Cadmium	ND	2.5	2.46	98	80-120
Chromium	ND	2.5	2.48	99	80-120
Lead	ND	2.5	2.47	99	80-120
Selenium	ND	2.5	2.83	113	80-120
Silver	ND	2.5	2.62	105	80-120

EMAX QUALITY CONTROL DATA
SERIAL DILUTION ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILUTION FACTOR:	5	25		
SAMPLE ID:	CAFB-IDW-S-05132016	CAFB-IDW-S-05132016		
EMAX SAMP ID:	E133-03	E133-03J		
LAB FILE ID:	ID8E025026	ID8E025027		
DATE EXTRACTED:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATE ANALYZED:	05/24/1616:23	05/24/1616:26	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SERIAL DIL RSLT (mg/L)	DIF RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	10
Barium	1.51	1.43	5	10
Cadmium	ND	ND	0	10
Chromium	ND	ND	0	10
Lead	ND	ND	0	10
Selenium	ND	ND	0	10
Silver	ND	ND	0	10

EMAX QUALITY CONTROL DATA
ANALYTICAL SPIKE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
SDG NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILTN FACTR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016			
CONTROL NO.:	E133-03	E133-03A		
LAB FILE ID:	ID8E025026	ID8E025025		
DATIME EXTRCTD:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATIME ANALYZD:	05/24/1616:23	05/24/1616:20	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	SPIKE AMT (mg/L)	AS RSLT (mg/L)	AS % REC	QC LIMIT (%)
Arsenic	ND	2.5	2.8	112	75-125
Barium	1.51	2.5	3.98	99	75-125
Cadmium	ND	2.5	2.5	100	75-125
Chromium	ND	2.5	2.55	102	75-125
Lead	ND	2.5	2.57	103	75-125
Selenium	ND	2.5	2.88	115	75-125
Silver	ND	2.5	2.63	105	75-125

EMAX QUALITY CONTROL DATA
DUPLICATE SAMPLE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
BATCH NO.: 16E133
METHOD: SW1311/3010A/6010C

MATRIX:	LEACHATE		% MOISTURE:	NA
DILUTION FACTOR:	5	5		
SAMPLE ID:	CAFB-IDW-S-05132016	CAFB-IDW-S-05132016		
EMAX SAMP ID:	E133-03	E133-03D		
LAB FILE ID:	ID8E025026	ID8E025028		
DATE EXTRACTED:	05/23/1614:43	05/23/1614:43	DATE COLLECTED:	05/13/16 08:00
DATE ANALYZED:	05/24/1616:23	05/24/1616:29	DATE RECEIVED:	05/14/16
PREP. BATCH:	IPE033W	IPE033W		
CALIB. REF:	ID8E025020	ID8E025020		

ACCESSION:

PARAMETER	SMPL RSLT (mg/L)	DUPL RSLT (mg/L)	RPD RSLT %	QC LIMIT (%)
Arsenic	ND	ND	0	20
Barium	1.51	1.37	10	20
Cadmium	ND	ND	0	20
Chromium	ND	ND	0	20
Lead	ND	ND	0	20
Selenium	ND	ND	0	20
Silver	ND	ND	0	20

ICP QC CHECK TABLE

QC	ICV	CCV	ICSAB	ICSA	MLCV
Limit%	90-110	90-110	80-120	80-120	80-120
Comp	mg/L	mg/L	mg/L	mg/L	mg\L
Al	100	100	400	400	200
Sb	1.5	1.5	1	0	5
As	1	1	1	0	1
Ba	2	2	0.5	0	5
Be	1.5	1.5	0.5	0	5
B	2.5	2.5	0.5	0	5
Cd	2	2	1	0	5
Ca	75	75	500	500	250
Cr	2.5	2.5	0.5	0	5
Co	1	1	0.5	0	1
Cu	2.5	2.5	0.5	0	5
Fe	25	25	200	200	200
Pb	2.5	2.5	1	0	5
Li	0.5	0.5	1	0	0.5
Mg	60	60	200	200	100
Mn	2.5	2.5	0.5	0	5
Mo	2.5	2.5	1	0	5
Ni	2.5	2.5	1	0	5
K	60	60	75	0	250
Se	1	1	1	0	1
Ag	0.5	0.5	1	0	0.5
Na	60	60	75	0	150
Sr	0.5	0.5	0.5	0	0.5
Tl	2.5	2.5	1	0	5
Sn	0.5	0.5	1	0	0.5
Ti	0.5	0.5	1	0	0.5
V	1.5	1.5	0.5	0	5
Zn	2.5	2.5	1	0	5

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
ICP

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 5/24/16 15:09

End Date: 5/24/16 22:47

SOP #	Rev. #
☑ EMAX-6010	7
☐ EMAX-6010C	1
☐ EMAX-200.7	4
☐ EMAX-	

Comments: DA stbl/h

E577-01A @ ~~5x~~ 1x ↑Se → dilute 5x

Run E965-01 A, J, M, S @ 5x
E963-01 ↑Zn
E966-01 ↑Zn ↑Sb
E967-01 ↑Zn ↑Sb ↑Ba
E976-01 K value @ Ba
CCB8 ↑Ba ↑B ↑K ↑Na
CCV10 Se failed

Book #: AD8-039

Instrument No.: D8

Analytical Batch: 1D8E025

Analytical Sequence: S_16E6010(v49)

Method File: 16E6010(v49)

Database: Emax 22

Micropipette ID: ☑ 439340047

Micropipette ID: ☐ ICP-DOE4

Micropipette ID: ☑ 242780103

Micropipette ID: ☑ 439360087

Micropipette ID: ☐

	STANDARDS ID		STANDARDS ID
S0	SM1B016-83 06	S26	SM1B016 75 04
S1	NA	S27	76 01
S2		S28	88 01
S3		S29	88 02
S4		S30	87 02
S5		S31	87 03
S6		ICV	87 04
S7		CCV	86 01
S8		ICSA	81 04
S9		ICSAB	76 03
S10		CRI/MRL	69 03
S11		CRI/MRL	69 05
S12		Internal Standard	SM1A-613 11 22
S16		Post-Spike 1	11 12
S17		Post-Spike 2	11 13
S18		Post-Spike 3	12 14
S20	SM1B016 81 03		
S21	83 01		
S22	75 02		
S23	75 03		
S24	68 01		
S25	68 02		

Analyzed By: DA/JM TTV

Date: 5/25/16

SEQUENCE FILE : ID8E025

4-18	19-33	34-43	44-53	54-63
LFID	LSID	TIME	DATE	DF
ID8E025001	Blank	15:09	05/24/16	1.000
ID8E025002	S20	15:12	05/24/16	1.000
ID8E025003	S21	15:15	05/24/16	1.000
ID8E025004	S22	15:18	05/24/16	1.000
ID8E025005	S23	15:21	05/24/16	1.000
ID8E025006	S24	15:24	05/24/16	1.000
ID8E025007	S25	15:27	05/24/16	1.000
ID8E025008	S26	15:30	05/24/16	1.000
ID8E025009	S27	15:33	05/24/16	1.000
ID8E025010	S28	15:36	05/24/16	1.000
ID8E025011	S29	15:39	05/24/16	1.000
ID8E025012	S30	15:42	05/24/16	1.000
ID8E025013	S31	15:45	05/24/16	1.000
ID8E025014	ICV	15:48	05/24/16	1.000
ID8E025015	ICB	15:51	05/24/16	1.000
ID8E025016	ICSA1	15:54	05/24/16	1.000
ID8E025017	ICSAB1	15:57	05/24/16	1.000
ID8E025018	MRLE2401	16:00	05/24/16	1.000
ID8E025019	MRLE2402	16:03	05/24/16	1.000
ID8E025020	CCV1	16:06	05/24/16	1.000
ID8E025021	CCB1	16:09	05/24/16	1.000
ID8E025022	IPE033WB	16:12	05/24/16	1.000
ID8E025023	IPE033WL	16:15	05/24/16	1.000
ID8E025024	TXE014SB	16:17	05/24/16	1.000
ID8E025025	E133-03A	16:20	05/24/16	1.000
ID8E025026	E133-03	16:23	05/24/16	1.000
ID8E025027	E133-03J	16:26	05/24/16	5.000
ID8E025028	E133-03D	16:29	05/24/16	1.000
ID8E025029	E133-03M	16:32	05/24/16	1.000
ID8E025030	Blank	16:35	05/24/16	1.000
ID8E025031	CCV2	16:38	05/24/16	1.000
ID8E025032	CCB2	16:41	05/24/16	1.000
ID8E025033	MRLE2403	16:44	05/24/16	1.000
ID8E025034	MRLE2404	16:47	05/24/16	1.000
ID8E025035	CCV3	16:49	05/24/16	1.000
ID8E025036	CCB3	16:52	05/24/16	1.000
ID8E025037	IPE035WB	18:17	05/24/16	1.000
ID8E025038	IPE035WL	18:20	05/24/16	1.000
ID8E025039	IPE035WC	18:23	05/24/16	1.000
ID8E025040	WTE002SB	18:25	05/24/16	1.000
ID8E025041	E577-01A	18:29	05/24/16	1.000
ID8E025042	E577-01	18:32	05/24/16	1.000
ID8E025043	E577-01J	18:35	05/24/16	5.000
ID8E025044	E577-01M	18:38	05/24/16	1.000
ID8E025045	E577-01S	18:41	05/24/16	1.000
ID8E025046	Blank	18:45	05/24/16	1.000
ID8E025047	CCV4	18:48	05/24/16	1.000
ID8E025048	CCB4	18:50	05/24/16	1.000
ID8E025049	E541-01	19:03	05/24/16	1.000
ID8E025050	E571-01	19:06	05/24/16	1.000
ID8E025051	E572-01	19:09	05/24/16	1.000

ID8E025052	E573-01	19:13	05/24/16	1.000
ID8E025053	E574-01	19:16	05/24/16	1.000
ID8E025054	E575-01	19:19	05/24/16	1.000
ID8E025055	E576-01	19:22	05/24/16	1.000
ID8E025056	E578-01	19:25	05/24/16	1.000
ID8E025057	E597-01	19:28	05/24/16	1.000
ID8E025058	Blank	19:32	05/24/16	1.000
ID8E025059	CCV5	19:40	05/24/16	1.000
ID8E025060	CCB5	19:42	05/24/16	1.000
ID8E025061	IPE035WB	19:45	05/24/16	1.000
ID8E025062	E577-01A	19:48	05/24/16	5.000
ID8E025063	E577-01I	19:51	05/24/16	5.000
ID8E025064	E577-01J	19:54	05/24/16	25.00
ID8E025065	E577-01M	19:57	05/24/16	5.000
ID8E025066	E577-01S	20:00	05/24/16	5.000
ID8E025067	E598-01	20:03	05/24/16	1.000
ID8E025068	E767-01	20:06	05/24/16	1.000
ID8E025069	E950-01	20:09	05/24/16	1.000
ID8E025070	Blank	20:12	05/24/16	1.000
ID8E025071	CCV6	20:15	05/24/16	1.000
ID8E025072	CCB6	20:18	05/24/16	1.000
ID8E025073	IPE036WB	20:21	05/24/16	1.000
ID8E025074	IPE036WL	20:24	05/24/16	1.000
ID8E025075	IPE036WC	20:27	05/24/16	1.000
ID8E025076	WTE003SB	20:29	05/24/16	1.000
ID8E025077	E965-01A	20:32	05/24/16	1.000
ID8E025078	E965-01	20:35	05/24/16	1.000
ID8E025079	E965-01J	20:38	05/24/16	5.000
ID8E025080	E965-01M	20:41	05/24/16	1.000
ID8E025081	E965-01S	20:44	05/24/16	1.000
ID8E025082	Blank	20:47	05/24/16	1.000
ID8E025083	CCV7	20:50	05/24/16	1.000
ID8E025084	CCB7	20:52	05/24/16	1.000
ID8E025085	WTE002SB	20:55	05/24/16	5.000
ID8E025086	WTE002SB	20:59	05/24/16	1.000
ID8E025087	E468-01	21:02	05/24/16	1.000
ID8E025088	E963-01	21:05	05/24/16	1.000
ID8E025089	E966-01	21:08	05/24/16	1.000
ID8E025090	E967-01	21:11	05/24/16	1.000
ID8E025091	E976-01	21:14	05/24/16	1.000
ID8E025092	E977-01	21:17	05/24/16	1.000
ID8E025093	Blank	21:20	05/24/16	1.000
ID8E025094	CCV8	21:23	05/24/16	1.000
ID8E025095	CC88	21:26	05/24/16	1.000
ID8E025096	IPE037SB	21:29	05/24/16	1.000
ID8E025097	IPE037SL	21:32	05/24/16	1.000
ID8E025098	E149-01A	21:35	05/24/16	1.000
ID8E025099	E149-01	21:37	05/24/16	1.000
ID8E025100	E149-01J	21:40	05/24/16	5.000
ID8E025101	E149-01D	21:43	05/24/16	1.000
ID8E025102	E149-01M	21:46	05/24/16	1.000
ID8E025103	E149-02	21:48	05/24/16	1.000
ID8E025104	E149-03	21:51	05/24/16	1.000
ID8E025105	Blank	21:54	05/24/16	1.000

ID8E025106	CCV9	21:57	05/24/16	1.000
ID8E025107	CCB9	22:00	05/24/16	1.000
ID8E025108	IPE038SB	22:03	05/24/16	1.000
ID8E025109	IPE038SL	22:06	05/24/16	1.000
ID8E025110	IPE038SC	22:09	05/24/16	1.000
ID8E025111	E959-01A	22:11	05/24/16	1.000
ID8E025112	E959-01	22:14	05/24/16	1.000
ID8E025113	E959-01J	22:17	05/24/16	5.000
ID8E025114	E959-01M	22:20	05/24/16	1.000
ID8E025115	E959-01S	22:23	05/24/16	1.000
ID8E025116	E987-01	22:26	05/24/16	1.000
ID8E025117	Blank	22:29	05/24/16	1.000
ID8E025118	CCV10	22:32	05/24/16	1.000
ID8E025119	CCB10	22:35	05/24/16	1.000
ID8E025120	MRLE2405	22:38	05/24/16	1.000
ID8E025121	MRLE2406	22:41	05/24/16	1.000
ID8E025122	CCV11	22:44	05/24/16	1.000
ID8E025123	CCB11	22:47	05/24/16	1.000

VERSON : 16A UNIT : % SUMMARY of ICV and CCV : ID8E025 DATE : 05/24/16 INST : EMAXTID8

ANALYTE	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S21	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S24	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S25	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S26	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S27	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S28	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S29	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S30	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S31	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	96	103	104	99	103	97	99	105	99	98	99	95	98	107	94	96	102	101	102	107	97	103	97	94	101	99	98	104
ICB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSA1	92	----	----	----	----	----	----	97	----	----	----	93	----	----	95	----	----	----	----	----	----	----	----	----	----	----	----	----
ICSAB1	94	108	109	99	101	52*	97	98	99	99	108	95	99	115	95	97	104	102	108	109	109	109	100	86	101	99	101	105
MRLE2401	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2402	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	97	103	104	99	104	98	99	107	100	99	99	96	99	108	96	98	102	101	103	106	98	104	97	95	102	100	99	105
CCB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE033WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE033WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TXE014SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	97	103	104	100	104	98	99	107	101	99	100	97	99	108	96	98	103	102	103	106	98	105	97	96	102	100	99	105
CCB2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2403	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2404	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	98	104	105	102	106	99	100	108	101	101	100	97	100	109	98	100	104	104	104	108	99	106	98	96	104	102	99	107
CCB3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	96	103	105	100	103	98	100	106	100	99	99	96	98	108	94	95	102	102	103	107	97	103	97	96	102	100	99	105
CCB4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E541-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E571-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E572-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

2172

E573-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E574-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E575-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E576-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E578-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E597-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	95	104	105	99	102	98	101	105	100	98	99	96	98	108	92	92	102	101	103	109	98	101	98	96	101	99	98	105
CCB5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E598-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E767-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E950-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	95	104	104	99	102	99	101	106	101	98	100	96	98	107	93	93	102	101	102	109	99	102	98	95	101	99	98	105
CCB6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE003SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	94	103	103	98	101	98	100	105	100	97	99	95	98	106	92	92	102	100	102	109	98	101	98	94	100	98	97	104
CCB7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E468-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E963-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E966-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E967-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E976-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E977-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	94	102	101	99	101	99	99	105	100	98	99	95	98	107	92	92	102	101	102	107	98	101	98	93	100	99	98	105
CCB8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE037SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE037SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

CCV9	95	103	103	99	101	100	101	105	101	98	99	95	99	107	92	92	102	101	102	109	99	102	98	95	101	99	98	105
CCB9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E987-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	96	104	104	100	102	103	102	106	102	98	100	96	99	108	93	93	103	102	103	111*	100	103	99	95	101	100	98	106
CCB10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2405	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2406	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	96	103	103	99	102	100	101	106	101	98	100	96	99	107	93	92	102	101	103	109	99	103	98	95	101	99	98	105
CCB11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

VERSON : 16A UNIT : UG/L SUMMARY of CALIBRATION BLANKS : ID8E025 (WATER) DATE : 05/24/16 INST : EMAXTID8

ANALYTE	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S21	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S24	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S25	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S26	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S27	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S28	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S29	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S30	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S31	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	3.48	.520	1.82	.320	.130	4.95	.020	-7.53	.100	.070	.190	-3.08	-.290	-1.31	7.12	.210	.240	.080	146	.560	.060	29.3	.040	.090	.170	.420	.120	-1.00
ICSA1	----	5.33	-3.05	.190	.040	-240	1.25	----	1.89	-.640	.900	----	.390	12.3	----	.870	-.830	-.260	-11.3	-4.24	-.130	73.9	-.100	-3.08	1.16	1.90	-.190	1.000
ICSAB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2401	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2402	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	6.74	.450	3.01	.300	.140	4.21	-.010	-3.30	.090	.240	.080	.910	.030	-.260	3.81	.130	.290	.060	116	-1.80	.220	36.4	-.040	.660	-.060	.120	.220	-1.04
IPE033WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE033WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TXE014SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	3.73	-.290	1.95	.220	.080	3.41	.010	-2.33	-.030	.160	.410	-1.62	-.090	-.620	3.12	.090	.250	.130	123	-.800	-.020	31.7	-.050	-.410	-.110	.180	.200	-.920
MRLE2403	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2404	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	5.06	.080	1.58	.350	.170	3.87	.010	.240	.150	.140	.370	-1.58	-.630	.560	13.9	.350	.320	.080	86.9	.580	.130	25.4	-.030	-.280	.310	.370	.170	-.810
IPE035WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	4.65	.550	2.38	.730	.200	9.69	-.020	9.61	.050	.170	.000	-1.49	-.740	-.280	9.01	.510	.150	.140	302	.490	.120	820	.070	-.080	.180	.460	.030	-.850
E541-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E571-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E572-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E573-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E574-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E575-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E576-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E578-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E597-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB5	2.56	-.140	1.34	.360	.140	6.79	.040	-7.36	.000	.150	-.020	-4.46	-.030	-.230	9.51	.310	.220	.210	160	-.120	.090	772	.030	.700	-.020	.710	.010	-1.15
IPE035WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E598-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E767-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E950-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	2.26	.580	2.23	.540	.120	8.12	.020	-3.82	-.100	.170	.070	-1.98	-.370	-.340	4.96	-.140	.210	.130	306	-.660	-.050	1186	.020	.340	.120	.500	.170	-.560
IPE036WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE003SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	2.55	.820	2.45	.360	.100	4.07	-.010	27.5	.160	.270	.090	2.69	-.170	-.400	10.7	.180	.200	.310	360	.020	.150	1511	.050	.460	.670	.490	.110	-.250
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E468-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E963-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E966-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E967-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E976-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E977-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	1.47	-.410	.930	1.21	.150	13.1	.040	-4.81	.050	.170	-.070	-1.24	-.100	-.790	5.73	.310	.160	.090	340	-.010	.040	1816	.010	.480	-.090	.020	.140	-.930
IPE037SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE037SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	3.42	.400	.970	.030	.130	5.35	.040	-11.2	.090	.150	.030	-1.99	-.490	-.390	9.44	.060	.270	.050	140	.620	.050	530	-.020	.180	.190	.310	.050	-1.43
IPE038SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E987-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB10	3.11	.910	2.15	5.55	.180	53.6	.000	4.27	.110	.260	.120	-.310	-.560	-1.00	5.96	.200	.270	.150	112	.600	.180	328	.090	.330	.160	1.07	.080	.030
MRLE2405	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2406	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB11	2.34	.200	1.13	1.27	.120	24.3	.010	4.11	.000	.090	.180	-1.82	-.290	-.170	-1.12	.000	.280	.160	123	-.180	.100	327	.080	.530	.490	.170	.130	-.010

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

VERSON : 16A UNIT : UG/L SUMMARY of CALIBRATION BLANKS : ID8E025 (SOIL) DATE : 05/24/16 INST : EMAXTID8

ANALYTE	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S20	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S21	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S22	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S23	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S24	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S25	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S26	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S27	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S28	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S29	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S30	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
S31	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICV	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
ICB	3.48	.520	1.82	.320	.130	4.95	.020	-7.53	.100	.070	.190	-3.08	-.290	-1.31	7.12	.210	.240	.080	146	.560	.060	29.3	.040	.090	.170	.420	.120	-1.00
ICSA1	----	5.33	-3.05	.190	.040	-240	1.25	----	1.89	-.640	.900	----	.390	12.3	----	.870	-.830	-.260	-11.3	-4.24	-.130	73.9	-.100	-3.08	1.16	1.90	-.190	1.000
ICSAB1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2401	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2402	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV1	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB1	6.74	.450	3.01	.300	.140	4.21	-.010	-3.30	.090	.240	.080	.910	.030	-.260	3.81	.130	.290	.060	116	-1.80	.220	36.4	-.040	.660	-.060	.120	.220	-1.04
IPE033WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE033WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
TXE014SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E133-03M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV2	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB2	3.73	-.290	1.95	.220	.080	3.41	.010	-2.33	-.030	.160	.410	-1.62	-.090	-.620	3.12	.090	.250	.130	123	-.800	-.020	31.7	-.050	-.410	-.110	.180	.200	-.920
MRLE2403	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2404	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV3	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB3	5.06	.080	1.58	.350	.170	3.87	.010	.240	.150	.140	.370	-1.58	-.630	.560	13.9	.350	.320	.080	86.9	.580	.130	25.4	-.030	-.280	.310	.370	.170	-.810
IPE035W8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE035WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV4	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB4	4.65	.550	2.38	.730	.200	9.69	-.020	9.61	.050	.170	.000	-1.49	-.740	-.280	9.01	.510	.150	.140	302	.490	.120	820	.070	-.080	.180	.460	.030	-.850
E541-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E571-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E572-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

E573-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E574-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E575-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E576-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E578-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E597-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV5	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB5	2.56	-.140	1.34	.360	.140	6.79	.040	-7.36	.000	.150	-.020	-4.46	-.030	-.230	9.51	.310	.220	.210	160	-.120	.090	772	.030	.700	-.020	.710	.010	-1.15
IPE035WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01I	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E577-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E598-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E767-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E950-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV6	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB6	2.26	.580	2.23	.540	.120	8.12	.020	-3.82	-.100	.170	.070	-1.98	-.370	-.340	4.96	-.140	.210	.130	306	-.660	-.050	1186	.020	.340	.120	.500	.170	-.560
IPE036WB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE036WC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE003SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E965-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV7	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB7	2.55	.820	2.45	.360	.100	4.07	-.010	27.5	.160	.270	.090	2.69	-.170	-.400	10.7	.180	.200	.310	360	.020	.150	1511	.050	.460	.670	.490	.110	-.250
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
WTE002SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E468-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E963-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E966-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E967-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E976-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E977-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV8	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB8	1.47	-.410	.930	1.21	.150	13.1	.040	-4.81	.050	.170	-.070	-1.24	-.100	-.790	5.73	.310	.160	.090	340	-.010	.040	1816	.010	.480	-.090	.020	.140	-.930
IPE037SB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE037SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01D	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-02	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E149-03	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

CCV9	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB9	3.42	.400	.970	.030	.130	5.35	.040	-11.2	.090	.150	.030	-1.99	-.490	-.390	9.44	.060	.270	.050	140	.620	.050	530	-.020	.180	.190	.310	.050	-1.43
IPE03BSB	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SL	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
IPE038SC	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01A	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01J	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01M	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E959-01S	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
E987-01	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
BLANK	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV10	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB10	3.11	.910	2.15	5.55	.180	53.6	.000	4.27	.110	.260	.120	-.310	-.560	-1.00	5.96	.200	.270	.150	112	.600	.180	328	.090	.330	.160	1.07	.080	.030
MRLE2405	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
MRLE2406	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCV11	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
CCB11	2.34	.200	1.13	1.27	.120	24.3	.010	4.11	.000	.090	.180	-1.82	-.290	-.170	-1.12	.000	.280	.160	123	-.180	.100	327	.080	.530	.490	.170	.130	-.010

QC limit of each parameter are listed in a table attached next to all the ICP check forms

* : Out of QC Limit

	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Date File	Type	Anaylst	CorrFact	Check	Check Table	Fail Action
1	0	0	0	0	Unk	S0		ID8E025001		DAquin/MMend	1	☒	unk6010C	---
2	0	0	0	0	Unk	S20		ID8E025002		DAquin/MMend	1	☒	unk6010C	---
3	0	0	0	0	Unk	S21		ID8E025003		DAquin/MMend	1	☒	unk6010C	---
4	0	0	0	0	Unk	S22		ID8E025004		DAquin/MMend	1	☒	unk6010C	---
5	0	0	0	0	Unk	S23		ID8E025005		DAquin/MMend	1	☒	unk6010C	---
6	0	0	0	0	Unk	S24		ID8E025006		DAquin/MMend	1	☒	unk6010C	---
7	0	0	0	0	Unk	S25		ID8E025007		DAquin/MMend	1	☒	unk6010C	---
8	0	0	0	0	Unk	S26		ID8E025008		DAquin/MMend	1	☒	unk6010C	---
9	0	0	0	0	Unk	S27		ID8E025009		DAquin/MMend	1	☒	unk6010C	---
10	0	0	0	0	Unk	S28		ID8E025010		DAquin/MMend	1	☒	unk6010C	---
11	0	0	0	0	Unk	S29		ID8E025011		DAquin/MMend	1	☒	unk6010C	---
12	0	0	0	0	Unk	S30		ID8E025012		DAquin/MMend	1	☒	unk6010C	---
13	0	0	0	0	Unk	S31		ID8E025013		DAquin/MMend	1	☒	unk6010C	---
14	1	2	1	1	QC	ICV		ID8E025014		DAquin/MMend	1	☒	CCV	None
15	2	2	2	1	QC	ICB		ID8E025015		DAquin/MMend	1	☒	LOD	None
16	3	2	3	1	QC	ICSA1		ID8E025016		DAquin/MMend	1	☒	ICSA-DoD	None
17	4	2	4	1	QC	ICSAB1		ID8E025017		DAquin/MMend	1	☒	ICSAB	None
18	5	2	5	1	QC	MRLE2401		ID8E025018		DAquin/MMend	1	☒	MRL-EMAX	None
19	6	2	6	1	QC	MRLE2402		ID8E025019		DAquin/MMend	1	☒	MRL-AFCEE	None
20	7	2	7	1	QC	CCV1		ID8E025020		DAquin/MMend	1	☒	CCV	None
21	8	2	8	1	QC	CCB1		ID8E025021		DAquin/MMend	1	☒	LOD	None
22	9	2	9	1	QC	IPE033WB		ID8E025022		DAquin/MMend	1	☒	1/2LOQ	None
23	10	2	10	1	QC	IPE033WL		ID8E025023		DAquin/MMend	1	☒	LCS	None
24	11	2	11	1	QC	TXE014SB		ID8E025024		DAquin/MMend	1	☒	1/2LOQ	None
25	12	2	12	1	Unk	E133-03A		ID8E025025		DAquin/MMend	1	☒	unk6010C	---
26	13	2	1	2	Unk	E133-03		ID8E025026		DAquin/MMend	1	☒	unk6010C	---
27	14	2	2	2	Unk	E133-03J		ID8E025027		DAquin/MMend	1	☒	unk6010C	---
28	15	2	3	2	Unk	E133-03D		ID8E025028		DAquin/MMend	1	☒	unk6010C	---
29	16	2	4	2	Unk	E133-03M		ID8E025029		DAquin/MMend	1	☒	unk6010C	---
30	17	2	5	2	Blank	Blank		ID8E025030		DAquin/MMend	1	☐		---
31	18	2	6	2	QC	CCV2		ID8E025031		DAquin/MMend	1	☒	CCV	None
32	19	2	7	2	QC	CCB2		ID8E025032		DAquin/MMend	1	☒	LOD	None
33	20	2	8	2	QC	MRLE2403		ID8E025033		DAquin/MMend	1	☒	MRL-EMAX	None
34	21	2	9	2	QC	MRLE2404		ID8E025034		DAquin/MMend	1	☒	MRL-AFCEE	None
35	22	2	10	2	QC	CCV3		ID8E025035		DAquin/MMend	1	☒	CCV	None
36	23	2	11	2	QC	CCB3		ID8E025036		DAquin/MMend	1	☒	LOD	None
37	24	2	12	2	QC	IPE035WB		ID8E025037		DAquin/MMend	1	☒	1/2LOQ	None
38	25	2	1	3	QC	IPE035WL		ID8E025038		DAquin/MMend	1	☒	LCS	None
39	26	2	2	3	QC	IPE035WC		ID8E025039		DAquin/MMend	1	☒	LCS	None
40	27	2	3	3	QC	WTE002SB	STLC	ID8E025040		DAquin/MMend	1	☒	1/2LOQ	None
41	28	2	4	3	Unk	E577-01A	STLC	ID8E025041		DAquin/MMend	1	☒	unk	---
42	29	2	5	3	Unk	E577-01	STLC	ID8E025042		DAquin/MMend	1	☒	unk	---
43	30	2	6	3	Unk	E577-01J	STLC	ID8E025043		DAquin/MMend	1	☒	unk	---
44	31	2	7	3	Unk	E577-01M	STLC	ID8E025044		DAquin/MMend	1	☒	unk	---
45	32	2	8	3	Unk	E577-01S	STLC	ID8E025045		DAquin/MMend	1	☒	unk	---
46	33	2	9	3	Blank	Blank		ID8E025046		DAquin/MMend	1	☐		---
47	34	2	10	3	QC	CCV4		ID8E025047		DAquin/MMend	1	☒	CCV	None
48	35	2	11	3	QC	CCB4		ID8E025048		DAquin/MMend	1	☒	3XIDL	None
49	36	2	12	3	Unk	E541-01	STLC	ID8E025049		DAquin/MMend	1	☒	unk	---
50	37	2	1	4	Unk	E571-01	STLC	ID8E025050		DAquin/MMend	1	☒	unk	---

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	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Date File	Type	Anaylst	CorrFact	Check	Check Table	Fail Action
51	38	2	2	4	Unk	E572-01	STLC	ID8E025051		DAquin/MMend	1	☒	unk	---
52	39	2	3	4	Unk	E573-01	STLC	ID8E025052		DAquin/MMend	1	☒	unk	---
53	40	2	4	4	Unk	E574-01	STLC	ID8E025053		DAquin/MMend	1	☒	unk	---
54	41	2	5	4	Unk	E575-01	STLC	ID8E025054		DAquin/MMend	1	☒	unk	---
55	42	2	6	4	Unk	E576-01	STLC	ID8E025055		DAquin/MMend	1	☒	unk	---
56	43	2	7	4	Unk	E578-01	STLC	ID8E025056		DAquin/MMend	1	☒	unk	---
57	44	2	8	4	Unk	E597-01	STLC	ID8E025057		DAquin/MMend	1	☒	unk	---
58	45	2	9	4	Blank	Blank		ID8E025058		DAquin/MMend	1	☐		---
59	46	2	10	4	QC	CCV5		ID8E025059		DAquin/MMend	1	☒	CCV	None
60	47	2	11	4	QC	CCB5		ID8E025060		DAquin/MMend	1	☒	3XIDL	None
61	103	3	7	4	QC	IPE035WB		ID8E025061		DAquin/MMend	1	☒	1/2LOQ	None
62	105	3	9	4	Unk	E577-01A	STLC 5X	ID8E025062		DAquin/MMend	1	☒	unk	---
63	106	3	10	4	Unk	E577-01I	STLC 5X	ID8E025063		DAquin/MMend	1	☒	unk	---
64	107	3	11	4	Unk	E577-01J	STLC 5X	ID8E025064		DAquin/MMend	1	☒	unk	---
65	108	3	12	4	Unk	E577-01M	STLC 5X	ID8E025065		DAquin/MMend	1	☒	unk	---
66	109	3	1	5	Unk	E577-01S	STLC 5X	ID8E025066		DAquin/MMend	1	☒	unk	---
67	48	2	12	4	Unk	E598-01	STLC	ID8E025067		DAquin/MMend	1	☒	unk	---
68	49	2	1	5	Unk	E767-01	STLC	ID8E025068		DAquin/MMend	1	☒	unk	---
69	50	2	2	5	Unk	E950-01	STLC	ID8E025069		DAquin/MMend	1	☒	unk	---
70	110	3	2	5	Blank	Blank		ID8E025070		DAquin/MMend	1	☐		---
71	52	2	4	5	QC	CCV6		ID8E025071		DAquin/MMend	1	☒	CCV	None
72	53	2	5	5	QC	CCB6		ID8E025072		DAquin/MMend	1	☒	3XIDL	None
73	54	2	6	5	QC	IPE036WB	STLC	ID8E025073		DAquin/MMend	1	☒	1/2LOQ	None
74	55	2	7	5	QC	IPE036WL	STLC	ID8E025074		DAquin/MMend	1	☒	LCS	None
75	56	2	8	5	QC	IPE036WC	STLC	ID8E025075		DAquin/MMend	1	☒	LCS	None
76	57	2	9	5	QC	WTE003SB	STLC	ID8E025076		DAquin/MMend	1	☒	1/2LOQ	None
77	58	2	10	5	Unk	E965-01A	STLC	ID8E025077		DAquin/MMend	1	☒	unk	---
78	59	2	11	5	Unk	E965-01	STLC	ID8E025078		DAquin/MMend	1	☒	unk	---
79	60	2	12	5	Unk	E965-01J	STLC	ID8E025079		DAquin/MMend	1	☒	unk	---
80	61	3	1	1	Unk	E965-01M	STLC	ID8E025080		DAquin/MMend	1	☒	unk	---
81	62	3	2	1	Unk	E965-01S	STLC	ID8E025081		DAquin/MMend	1	☒	unk	---
82	63	3	3	1	Blank	Blank		ID8E025082		DAquin/MMend	1	☐		---
83	64	3	4	1	QC	CCV7		ID8E025083		DAquin/MMend	1	☒	CCV	None
84	65	3	5	1	QC	CCB7		ID8E025084		DAquin/MMend	1	☒	3XIDL	None
85	104	3	8	4	QC	WTE002SB	STLC 5X	ID8E025085		DAquin/MMend	1	☒	1/2LOQ	None
86	51	2	3	5	QC	WTE002SB	STLC	ID8E025086		DAquin/MMend	1	☒	1/2LOQ	None
87	66	3	6	1	Unk	E468-01	STLC	ID8E025087		DAquin/MMend	1	☒	unk	---
88	67	3	7	1	Unk	E963-01	STLC	ID8E025088		DAquin/MMend	1	☒	unk	---
89	68	3	8	1	Unk	E966-01	STLC	ID8E025089		DAquin/MMend	1	☒	unk	---
90	69	3	9	1	Unk	E967-01	STLC	ID8E025090		DAquin/MMend	1	☒	unk	---
91	70	3	10	1	Unk	E976-01	STLC	ID8E025091		DAquin/MMend	1	☒	unk	---
92	71	3	11	1	Unk	E977-01	STLC	ID8E025092		DAquin/MMend	1	☒	unk	---
93	72	3	12	1	Blank	Blank		ID8E025093		DAquin/MMend	1	☐		---
94	73	3	1	2	QC	CCV8		ID8E025094		DAquin/MMend	1	☒	CCV	None
95	74	3	2	2	QC	CCB8		ID8E025095		DAquin/MMend	1	☒	3XIDL	None
96	79	3	7	2	QC	IPE037SB		ID8E025096		DAquin/MMend	1	☒	1/2LOQ	None
97	80	3	8	2	QC	IPE037SL		ID8E025097		DAquin/MMend	1	☒	LCS	None
98	81	3	9	2	Unk	E149-01A		ID8E025098		DAquin/MMend	1	☒	unk	---
99	82	3	10	2	Unk	E149-01		ID8E025099		DAquin/MMend	1	☒	unk	---
100	83	3	11	2	Unk	E149-01J		ID8E025100		DAquin/MMend	1	☒	unk	---

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	Pos ID	Rack	Row	Col	Type	Samplename	Comment	Date File	Type	Anaylst	CorrFact	Check	Check Table	Fail Action
101	84	3	12	2	Unk	E149-01D		ID8E025101		DAquin/MMend	1	☒	unk	---
102	85	3	1	3	Unk	E149-01M		ID8E025102		DAquin/MMend	1	☒	unk	---
103	86	3	2	3	Unk	E149-02		ID8E025103		DAquin/MMend	1	☒	unk	---
104	87	3	3	3	Unk	E149-03		ID8E025104		DAquin/MMend	1	☒	unk	---
105	88	3	4	3	Blank	Blank		ID8E025105		DAquin/MMend	1	☐		---
106	89	3	5	3	QC	CCV9		ID8E025106		DAquin/MMend	1	☒	CCV	None
107	90	3	6	3	QC	CCB9		ID8E025107		DAquin/MMend	1	☒	3XIDL	None
108	91	3	7	3	QC	IPE038SB		ID8E025108		DAquin/MMend	1	☒	1/2LOQ	None
109	92	3	8	3	QC	IPE038SL		ID8E025109		DAquin/MMend	1	☒	LCS	None
110	93	3	9	3	QC	IPE038SC		ID8E025110		DAquin/MMend	1	☒	LCS	None
111	94	3	10	3	Unk	E959-01A		ID8E025111		DAquin/MMend	1	☒	unk	---
112	95	3	11	3	Unk	E959-01		ID8E025112		DAquin/MMend	1	☒	unk	---
113	96	3	12	3	Unk	E959-01J		ID8E025113		DAquin/MMend	1	☒	unk	---
114	97	3	1	4	Unk	E959-01M		ID8E025114		DAquin/MMend	1	☒	unk	---
115	98	3	2	4	Unk	E959-01S		ID8E025115		DAquin/MMend	1	☒	unk	---
116	99	3	3	4	Unk	E987-01		ID8E025116		DAquin/MMend	1	☒	unk	---
117	100	3	4	4	Blank	Blank		ID8E025117		DAquin/MMend	1	☐		---
118	101	3	5	4	QC	CCV10		ID8E025118		DAquin/MMend	1	☒	CCV	None
119	102	3	6	4	QC	CCB10		ID8E025119		DAquin/MMend	1	☒	3XIDL	None
120	75	3	3	2	QC	MRLE2405		ID8E025120		DAquin/MMend	1	☒	MRL-EMAX	None
121	76	3	4	2	QC	MRLE2406		ID8E025121		DAquin/MMend	1	☒	MRL-AFCEE	None
122	77	3	5	2	QC	CCV11		ID8E025122		DAquin/MMend	1	☒	CCV	None
123	78	3	6	2	QC	CCB11		ID8E025123		DAquin/MMend	1	☒	3XIDL	None

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Status

Revision	49	
Date Created	8/14/2006 16:36:29	by admin
Date Modified	5/24/2016 15:51:06	by admin
Date Calibrated	5/24/2016 15:48:18	
Current Status	by admin	
Number of Elements	31	
Number of Wavelengths	33	
Calibration Type	External	
Notes:		

Analysis Preferences

Sample Options	# Repeats:	3			
	Delay Time:	0.0 seconds			
	Sample Flush Time:	19 seconds			
	Analysis mode	Speed			
Source	Sample Introduction	Nebulizer			
	Plasma View:	Line Selection			
Analysis Maximum Integration Times (sec)	Low WL Range	Axial	15	Radial	15
	High WL Range:	Axial	10	Radial	5
Calibration Mode	Concentration				
Trailing Full Frame Options	Intelli-Frame:		No		
	Max Integration Time (sec):		30		
	WL Range:		Low		
	View:		Axial		
	Auto-Increment Sample Names:		Yes		
	Use Sample Weight Corrections:		No		

Source Settings

Nebulizer Pump	Flush Pump Rate (rpm):	67	
	Analysis Pump Rate (rpm):	13	
	Pump Relaxation Time (sec):	2	
	Pump Tubing Type:	Tygon Orange/White	
	RF Power:	1150	W
	Nebulizer Flow:	0.55	L/min
	Auxiliary Gas:	0.5	L/min

Automated Output

Option	Unknowns	QC Std	Blanks	Standards	Recoveries	Duplicate	Time Scan
Save results to database	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Print results	No	No	No	No	No	No	No
Export results to comma	Yes	Yes	Yes	Yes	Yes	Yes	Yes

ID8E025 Section 1 of 3

INDX	LSID	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	LSID
1	Blank	.00017	.00001	.00000	.00027	.00006	.00027	-.00004	.00035	-.00004	-.00111	Blank
2	S20					.78644		.10921				S20
3	S21					7.5904		1.0253				S21
4	S22				.51595						.15839	S22
5	S23				5.1026						1.6803	S23
6	S24						.07832					S24
7	S25						.80364					S25
8	S26	.05640							.86773	.11672		S26
9	S27	4.4463							8.0414	1.1403		S27
10	S28		.00476									S28
11	S29		.04743									S29
12	S30			.00090								S30
13	S31			.00366								S31
14	ICV	96.045	1.5409	1.0351	1.9807	1.5428	2.4334	1.9715	79.030	2.4833	.98277	ICV
15	ICB	.00348	.00052	.00182	.00032	.00013	.00495	.00002	-.00753	.00010	.00007	ICB
16	ICSA1	368.27	.00533	-.00305	.00019	.00004	-.23998*	.00125	482.75	.00189	-.00064	ICSA1
17	ICSAB1	376.60	1.0773	1.0890	.49424	.50354	.25832*	.97425	491.84	.49334	.49602	ICSAB1
18	MRLE2401	.22452	.10516	.01199	.01018	.01064	.10021	.01081	1.1952	.01054	.01005	MRLE2401
19	MRLE2402	.20253	.05134	.01261*	.00459	.00412	.09543	.00511	.56127	.01030	.00983	MRLE2402
20	CCV1	97.285	1.5407	1.0354	1.9876	1.5547	2.4415	1.9787	80.081	2.4949	.99015	CCV1
21	CCB1	.00674	.00045	.00301	.00030	.00014	.00421	-.00001	-.00330	.00009	.00024	CCB1
22	IPE033WB	.00523	.00007	.00049	-.00027	.00000	.00118	-.00003	.01011	.00006	.00030	IPE033WB
23	IPE033WL	4.9401	2.5635	.51421	.49612	.50666	.48126	.49795	52.953	.50150	.49542	IPE033WL
24	TXE014SB	.00579	.00020	.00205	.00008	.00007	.00333	-.00005	.10294	.00014	.00015	TXE014SB
25	E133-03A	5.3678	2.6658	.55970	.79589	.51076	.50311	.49903	501.86	.50942	.51810	E133-03A
26	E133-03	.08890	-.00041	.00303	.30224	.00001	.01098	-.00016	500.25	.00074	-.00049	E133-03
27	E133-03J	.01758	-.00020	.00428	.05728	-.00001	.00208	-.00008	98.668	.00036	.00005	E133-03J
28	E133-03D	.08049	-.00170	.00239	.27431	-.00004	.00875	-.00009	456.74	.00055	-.00056	E133-03D
29	E133-03M	5.2679	2.6397	.54184	.78627	.48952	.49890	.49102	532.00	.49583	.50217	E133-03M
30	Blank	.00006	.00080	.00160	-.00029	.00003	.00092	-.00004	.04470	-.00007	.00022	Blank
31	CCV2	97.037	1.5483	1.0422	1.9928	1.5596	2.4561	1.9895	80.543	2.5152	.99389	CCV2
32	CCB2	.00373	-.00029	.00195	.00022	.00008	.00341	.00001	-.00233	-.00003	.00016	CCB2
33	MRLE2403	.19896	.10187	.01009	.01017	.01059	.09703	.01035	1.1225	.01044	.00989	MRLE2403
34	MRLE2404	.19585	.05009	.01266*	.00475	.00419	.09448	.00506	.55678	.01038	.01009	MRLE2404
35	CCV3	97.660	1.5648	1.0536	2.0339	1.5878	2.4770	2.0052	81.079	2.5360	1.0071	CCV3
36	CCB3	.00506	.00008	.00158	.00035	.00017	.00387	.00001	.00024	.00015	.00014	CCB3
37	IPE035WB	.00032	-.00054	.00141	-.00031	.00003	-.00077	-.00007	.03709	.00000	.00015	IPE035WB
38	IPE035WL	5.0383	2.6077	.52668	.49658	.50850	.49304	.51729	52.789	.50981	.49526	IPE035WL
39	IPE035WC	5.1077	2.6241	.52992	.50462	.51894	.49756	.52146	53.594	.51700	.50341	IPE035WC
40	WTE002SB	.05217	-.00272	.01400*	.00153	.00012	.01116	-.00016	.24145	.00200	-.00002	WTE002SB
41	E577-01A	110.28	6.7830	.95439	16.287	.51544	5.5812	.49730	436.57	.75382	.65817	E577-01A
42	E577-01	107.80	4.0754	.32881	16.456	.01029	5.2078	.00022	401.13	.24503	.14252	E577-01
43	E577-01J	20.581	.75131	.05807	3.2640	.00210	1.0024	-.00004	84.517	.04954	.02829	E577-01J
44	E577-01M	115.32	6.8652	.92498	6.4680	.47420	5.8139	.45709	449.19	.72133	.62684	E577-01M
45	E577-01S	122.07	7.2333	.98391	12.862	.49520	6.0984	.48015	469.50	.75180	.65494	E577-01S
46	Blank	.01185	.00131	.00125	.00162	.00002	.01541	-.00001	.05086	.00002	.00016	Blank
47	CCV4	96.239	1.5435	1.0452	1.9948	1.5451	2.4554	1.9948	79.604	2.5052	.98735	CCV4
48	CCB4	.00465	.00055	.00238	.00073	.00020	.00969	-.00002	.00961	.00005	.00017	CCB4
49	E541-01	30.686	.00708	.09638	4.3035	.00090	2.8747	.03622	357.02	.06542	.01481	E541-01
50	E571-01	63.916	.05749	.13175	.61923	.00153	.73391	.00107	362.95	.18164	.02901	E571-01
51	E572-01	105.25	.29969	.20986	1.1633	.00868	.65137	.00037	357.69	.17009	.05494	E572-01

52	E573-01	103.44	1.7663	.20907	10.635	.00926	2.4699	-.00001	413.10	.16726	.09751	E573-01
53	E574-01	40.920	.55368	.10664	5.4671	.00399	2.8109	.00592	326.89	.13842	.19508	E574-01
54	E575-01	64.120	1.3176	.14477	5.3030	.00664	2.0331	-.00020	341.69	.13570	.03419	E575-01
55	E576-01	38.899	.44113	.05434	8.4398	.00327	5.2919	.04238	330.88	.07891	.04971	E576-01
56	E578-01	1.5624	.03945	.01373	.87680	.00006	.47585	.00017	291.90	.01254	.03907	E578-01
57	E597-01	2.7602	.14857	.29808	8.7871	.00038	4.2381	.00063	334.53	.08410	.09858	E597-01
58	Blank	.00261	.00006	.00115	.00093	-.00004	.01072	-.00005	.02262	-.00017	.00012	Blank
59	CCV5	95.108	1.5621	1.0502	1.9898	1.5247	2.4603	2.0218	78.516	2.4980	.97943	CCV5
60	CCB5	.00256	-.00014	.00134	.00036	.00014	.00679	.00004	-.00736	.00000	.00015	CCB5
61	IPE035WB	.00196	.00030	.00152	-.00025	.00005	.00442	-.00002	.03925	-.00012	.00007	IPE035WB
62	E577-01A	26.839	3.5322	.63175	3.8225	.51590	1.5634	.52688	138.07	.57611	.54910	E577-01A
63	E577-01I	21.328	.78596	.06086	3.3282	.00214	1.0389	-.00004	86.255	.05116	.02898	E577-01I
64	E577-01J	4.0704	.14916	.01302	.65628	.00038	.20126	-.00001	17.324	.01013	.00561	E577-01J
65	E577-01M	23.432	1.3536	.17207	1.3279	.10291	1.1866	.10340	100.56	.15536	.13101	E577-01M
66	E577-01S	23.495	1.3627	.17413	2.5520	.10296	1.1928	.10349	100.88	.15607	.13105	E577-01S
67	E598-01	42.756	.01338	.09619	6.9938	.00125	4.4185	.00298	423.04	.19632	.06872	E598-01
68	E767-01	7.2110	.00288	.01579	.78803	.00013	.18503	.00371	78.200	.03006	.00148	E767-01
69	E950-01	1.0358	.32785	.01661	31.545	.00005	7.5786	.00354	349.38	.00980	.10637	E950-01
70	Blank	-.00073	-.00016	.00302	.00323	-.00003	.01305	-.00002	.02527	-.00013	.00026	Blank
71	CCV6	95.412	1.5556	1.0374	1.9740	1.5276	2.4863	2.0145	79.161	2.5146	.98246	CCV6
72	CCB6	.00226	.00058	.00223	.00054	.00012	.00812	.00002	-.00382	-.00010	.00017	CCB6
73	IPE036WB	.00638	-.00065	.00028	-.00008	.00001	.00539	-.00012	.00644	-.00001	.00003	IPE036WB
74	IPE036WL	4.9818	2.6109	.51847	.49307	.50610	.50094	.51591	52.540	.51039	.49350	IPE036WL
75	IPE036WC	4.9994	2.6220	.51845	.49657	.50853	.50266	.51965	52.723	.51188	.49631	IPE036WC
76	WTE003SB	.05777	-.00104	.01332*	.00330	.00004	.04374	-.00012	.37731	.00224	.00007	WTE003SB
77	E965-01A	9.9551	3.3075	.79657	2.2489	.58730	.93272	.61752	165.68	.74739	.94049	E965-01A
78	E965-01	3.7700	.01832	.01911	1.6832	.00013	.32441	.01273	110.44	.13287	.34551	E965-01
79	E965-01J	.64943	.00313	.00132	.29706	.00002	.05583	.00221	20.063	.02375	.06162	E965-01J
80	E965-01M	8.9074	3.0738	.69917	2.0156	.52109	.85959	.55328	150.74	.66992	.85046	E965-01M
81	E965-01S	8.9566	3.1010	.70530	2.0271	.52474	.86424	.55953	151.47	.66890	.85164	E965-01S
82	Blank	.00001	-.00021	.00033	.00055	.00009	.00222	-.00006	.01592	.00017	.00024	Blank
83	CCV7	94.288	1.5450	1.0278	1.9571	1.5153	2.4585	2.0079	78.619	2.4976	.97156	CCV7
84	CCB7	.00255	.00082	.00245	.00036	.00010	.00407	-.00001	.02745	.00016	.00027	CCB7
85	WTE002SB	.01097	.00013	.00309	.00040	.00003	.00429	-.00005	.04518	.00036	.00007	WTE002SB
86	WTE002SB	.04966	-.00338	.01333*	.00156	.00000	.01291	-.00019	.24464	.00218	.00000	WTE002SB
87	E468-01	1.2429	.00242	.01421	.17229	.00013	.01525	.44040	4.3902	.45776	.01070	E468-01
88	E963-01	6.8356	.02079	.02048	1.0315	.00014	.63362	.02562	75.445	.46277	.30143	E963-01
89	E966-01	6.8098	18.050*	.03030	29.526	.00013	5.6309	.01298	50.979	.03846	.20858	E966-01
90	E967-01	6.3274	18.685*	.02484	67.633*	.00017	13.153	.01278	182.93	.03025	.42263	E967-01
91	E976-01	12.159	.07551	.02977	*****	.00024	35.477*	.04309	160.55	.07239	.41268	E976-01
92	E977-01	31.653	.03458	.19635	16.641	.00081	5.4027	.00182	393.36	.15842	.09882	E977-01
93	Blank	.00087	.00005	.00249	.00925	.00000	.02371	-.00008	.03905	-.00009	.00028	Blank
94	CCV8	94.203	1.5291	1.0137	1.9706	1.5215	2.4741	1.9869	78.635	2.5105	.97829	CCV8
95	CCB8	.00147	-.00041	.00093	.00121*	.00015	.01312*	.00004	-.00481	.00005	.00017	CCB8
96	IPE037SB	.02867	.00116	.00089	.00021	.00001	.00926	-.00007	.02534	.00048	.00008	IPE037SB
97	IPE037SL	4.8221	2.5718	.51321	.50639	.50979	.47645	.51719	53.971	.52878	.52333	IPE037SL
98	E149-01A	57.329	2.5548	.54116	1.2257	.51018	.40363	.50753	126.23	.61925	.60880	E149-01A
99	E149-01	52.557	.00478	.02979	.74565	.00439	-.06952*	.00242	76.219	.10374	.09514	E149-01
100	E149-01J	10.671	.00098	.00747	.15098	.00084	-.01067	.00043	15.532	.02099	.01868	E149-01J
101	E149-01D	47.897	.00296	.02264	.58700	.00351	-.06751*	.00201	117.30	.10009	.06350	E149-01D
102	E149-01M	64.707	2.5028	.53881	1.1691	.51114	.40406	.51532	77.236	.62514	.58148	E149-01M
103	E149-02	175.12	.00988	.05565	1.3016	.01073	-.27818*	.00199	43.982	.33546	.12284	E149-02
104	E149-03	118.28	.00833	.03876	.88355	.00409	-.23712*	.00207	49.373	.25452	.05142	E149-03
105	Blank	.01508	-.00005	.00093	.00009	.00000	.00313	-.00002	-.00797	.00000	.00004	Blank

106	CCV9	94.573	1.5517	1.0314	1.9735	1.5214	2.4890	2.0241	78.868	2.5249	.97807	CCV9
107	CCB9	.00342	.00040	.00097	.00003	.00013	.00535	.00004	-.01119	.00009	.00015	CCB9
108	IPE038SB	.02387	.00092	.00075	-.00015	.00001	.00349	-.00013	.03210	.00036	.00007	IPE038SB
109	IPE038SL	4.8614	2.6009	.51274	.51034	.51166	.47538	.52212	54.115	.52944	.52389	IPE038SL
110	IPE038SC	4.6343	2.6521	.48915	.48602	.48895	.48375	.49582	55.349	.50387	.49878	IPE038SC
111	E959-01A	87.267	2.6383	.53090	.70847	.49834	.36728	.51598	84.536	.79322	.61242	E959-01A
112	E959-01	82.474	.00049	.00502	.21097	.00235	-.11667*	.00066	32.778	.27968	.09514	E959-01
113	E959-01J	16.629	-.00010	.00216	.04260	.00050	-.02168*	.00001	6.6913	.05514	.01841	E959-01J
114	E959-01M	117.80	2.3273	.50967	.71804	.49770	.35011	.50769	92.147	.80676	.60686	E959-01M
115	E959-01S	124.76	2.3177	.50200	.71498	.48722	.33484	.49778	93.278	.81506	.60086	E959-01S
116	E987-01	37.950	.32775	-.03654*	*****	.00028	60.461*	.06666	202.11	14.160	2.0888	E987-01
117	Blank	.01197	.00066	.00168	.06704	.00000	.15006	.00002	.01603	.00144	.00036	Blank
118	CCV10	95.767	1.5622	1.0395	2.0017	1.5358	2.5865	2.0411	79.645	2.5508	.98470	CCV10
119	CCB10	.00311	.00091	.00215	.00555*	.00018	.05365*	.00000	.00427	.00011	.00026	CCB10
120	MRLE2405	.19632	.10113	.01218*	.01230*	.01011	.13507*	.01050	1.0973	.01023	.00971	MRLE2405
121	MRLE2406	.19481	.05047	.00979	.00699*	.00407	.12483*	.00515	.54218	.01043	.00985	MRLE2406
122	CCV11	96.285	1.5503	1.0289	1.9853	1.5294	2.5075	2.0134	79.240	2.5259	.98336	CCV11
123	CCB11	.00234	.00020	.00113	.00127*	.00012	.02427*	.00001	.00411	.00000	.00009	CCB11
INDX	LSID	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	LSID

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ID8E025 Section 2 of 3

INDX	LSID	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se	LSID
1	Blank	.00060	.00003	.00019	-.00020	-.00001	.00002	-.00001	-.00119	-.00031	.00001	Blank
2	S20			.21216			.08948					S20
3	S21			2.0621			.86860					S21
4	S22	.30167	.01120									S22
5	S23	2.9630	1.0315									S23
6	S24							.70199				S24
7	S25							7.0283				S25
8	S26								.82922	.27583		S26
9	S27								8.1109	2.7365		S27
10	S28					.02125						S28
11	S29					.21468						S29
12	S30				.02273						.00098	S30
13	S31				.11714						.00389	S31
14	ICV	2.4649	23.812	2.4515	.53560	56.647	2.4078	2.5390	2.5263	60.902	1.0681	ICV
15	ICB	.00019	-.00308	-.00029	-.00131	.00712	.00021	.00024	.00008	.14609*	.00056	ICB
16	ICSA1	.00090	185.99	.00039	.01230	189.33	.00087	-.00083	-.00026	-.01134	-.00424	ICSA1
17	ICSAB1	.53752	189.05	.98514	1.1517	190.49	.48623	1.0437	1.0183	81.361	1.0920	ICSAB1
18	MRLE2401	.01080	.21688	.00976	.00990	1.0339	.01082	.01000	.01072	1.2241*	.00973	MRLE2401
19	MRLE2402	.01016	.10288	.00288	.09982	.21880	.00520	.00964	.01050	1.0731	.00977	MRLE2402
20	CCV1	2.4840	24.000	2.4632	.54069	57.598	2.4485	2.5502	2.5372	61.615	1.0560	CCV1
21	CCB1	.00008	.00091	.00003	-.00026	.00381	.00013	.00029	.00006	.11609*	-.00180	CCB1
22	IPE033WB	.00076	.00082	-.00005	.00005	.00647	.00007	.00004	.00003	.08904	.00015	IPE033WB
23	IPE033WL	.48761	4.8712	.49553	.00053*	48.587	.49755	.50454	.51801	50.782	.51277	IPE033WL
24	TXE014SB	.00064	.00156	-.00060	-.00065	.03797	.00002	-.00001	.00001	.13916	.00285	TXE014SB
25	E133-03A	.52203	4.8881	.51333	.01701	54.298	.54244	.53271	.54345	55.243	.57574	E133-03A
26	E133-03	.00139	.03525	-.00075	.01670	6.9683	.03892	-.00036	.00147	.96296	.00028	E133-03
27	E133-03J	.00109	.00415	-.00088	.00215	1.3477	.00773	-.00016	.00020	.22108	.00061	E133-03J
28	E133-03D	.00136	.03074	-.00113	.01448	6.3162	.03566	-.0002B	.00146	.81183	.00000	E133-03D
29	E133-03M	.51704	4.8685	.49419	.01648	52.991	.52129	.52593	.52450	53.902	.56558	E133-03M
30	Blank	-.00006	-.00093	-.00037	.00047	.00056	-.00001	.00009	.00016	.10925	-.00141	Blank
31	CCV2	2.4973	24.160	2.4707	.53978	57.860	2.4574	2.5635	2.5520	61.848	1.0647	CCV2
32	CCB2	.00041	-.00162	-.00009	-.00062	.00312	.00009	.00025	.00013	.12267*	-.00080	CC82
33	MRLE2403	.01019	.19895	.00987	.01016	1.0227	.01068	.00986	.01049	1.0422	.00978	MRLE2403
34	MRLE2404	.01015	.09728	.00337	.10038	.21085	.00546	.00983	.01045	1.0295	.00981	MRLE2404
35	CCV3	2.5003	24.178	2.5117	.54739	58.513	2.4962	2.6048	2.5923	62.483	1.0806	CCV3
36	CCB3	.00037	-.00158	-.00063	.00056	.01393	.00035	.00032	.00008	.08685	.00058	CCB3
37	IPE035W8	.00046	-.00140	-.00004	-.00085	.01086	.00013	-.00004	.00016	-.01253	-.00007	IPE035WB
38	IPE035WL	.50355	5.0730	.49593	.00074*	47.295	.48399	.50639	.51852	51.216	.53060	IPE035WL
39	IPE035WC	.50743	5.1182	.50536	.00101*	48.187	.49499	.51215	.52656	52.038	.53599	IPE035WC
40	WTE002SB	.00183	.00942	-.00021	.00198	.06606	.00042	-.00027	.00067	1.2549*	.04616*	WTE002SB
41	E577-01A	.56775	29.027	.57217	.01629	101.93	4.5368	.59326	.56052	75.300	.74943	E577-01A
42	E577-01	.00334	25.226	.07886	.01449	56.768	4.2126	.04803	.02831	15.737	.03608	E577-01
43	E577-01J	.00134	5.2176	.01441	.00252	11.574	.86384	.00914	.00546	3.0145	.00874	E577-01J
44	E577-01M	.52529	29.864	.28793	.01539	101.20	4.6672	.56461	.51957	72.978	.69028	E577-01M
45	E577-01S	.55946	31.504	.40610	.01571	105.38	4.8934	.59205	.54356	77.473	.73502	E577-01S
46	Blank	-.00008	-.00213	-.00037	.00008	.01849	.00051	-.00001	.00006	.62023	-.00017	Blank
47	CCV4	2.4744	24.046	2.4602	.53877	56.578	2.3810	2.5473	2.5395	61.979	1.0698	CCV4
48	CCB4	.00000	-.00149	-.00074	-.00028	.00901	.00051	.00015	.00014	.30208*	.00049	CCB4
49	E541-01	.14819	14.721	.00286	.01140	3.2857	.40975	.01942	.04887	17.395	.03872	E541-01
50	E571-01	.06095	22.924	.01958	.01716	4.2335	.45392	.02147	.01317	13.364	.03171	E571-01
51	E572-01	.00889	29.262	.08786	.01819	49.027	3.7898	.01974	.02618	14.554	.03696	E572-01

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52	E573-01	.00199	19.869	.04225	.01932	53.287	3.9678	.02442	.02945	15.077	.04378	E573-01
53	E574-01	.11084	24.125	.02422	.01615	24.895	2.7901	.05688	.11172	17.973	.02665	E574-01
54	E575-01	.00246	11.528	.02242	.01677	44.683	2.9456	.01454	.01872	11.902	.03709	E575-01
55	E576-01	.11024	24.716	.01134	.06605	32.601	2.2053	.05021	.13079	19.191	.03261	E576-01
56	E578-01	.09416	.88681	-.00038	.01368	5.0821	.45987	.00424	.03374	12.155	.03488	E578-01
57	E597-01	.15312	17.757	.00005	.08019	5.5782	1.1196	.07294	.04449	20.553	.02748	E597-01
58	Blank	-.00008	-.00018	-.00018	-.00121	.00471	.00013	.00002	.00007	.53062	-.00034	Blank
59	CCV5	2.4811	23.918	2.4551	.53986	55.272	2.3028	2.5376	2.5195	61.864	1.0923	CCV5
60	CCB5	-.00002	-.00446	-.00003	-.00023	.00951	.00031	.00022	.00021	.16034	-.00012	CCB5
61	IPE035WB	.00063	-.00019	-.00046	-.00071	.02474	.00002	.00002	.00002	.11644	-.00007	IPE035WB
62	E577-01A	.53427	10.312	.52647	.00247	58.934	1.3393	.54690	.54261	58.664	.61780	E577-01A
63	E577-01I	.00135	5.3980	.01510	.00116	11.630	.86708	.00948	.00559	2.8276	.00720	E577-01I
64	E577-01J	.00056	1.0882	.00243	-.00092	2.3604	.17546	.00164	.00098	.62713	.00165	E577-01J
65	E577-01M	.10435	6.6091	.06069	.00196	21.352	1.0036	.11408	.10937	13.975	.12093	E577-01M
66	E577-01S	.10394	6.6199	.08372	.00269	21.440	1.0050	.11486	.10975	14.056	.12430	E577-01S
67	E598-01	.07109	40.484	.00916	.04602	19.419	2.6536	.02901	.08315	19.987	.02830	E598-01
68	E767-01	.03800	13.279	.02236	.00424	13.433	.32165	.01125	.03142	23.373	.04878	E767-01
69	E950-01	.08745	.81591	.00411	.01601	4.3032	.14375	.01449	.01937	5.6905	.03789	E950-01
70	Blank	-.00012	-.00299	.00012	-.00021	.00071	-.00004	.00006	.00007	.56983	.00161	Blank
71	CCV6	2.4962	23.976	2.4603	.53506	55.934	2.3264	2.5592	2.5289	61.498	1.0878	CCV6
72	CCB6	.00007	-.00198	-.00037	-.00034	.00496	-.00014	.00021	.00013	.30604*	-.00066	CCB6
73	IPE036WB	.00066	-.00112	-.00033	-.00131	.00744	.00009	-.00004	.00004	.23329	.00025	IPE036WB
74	IPE036WL	.50359	4.9920	.49676	.00042*	47.039	.47879	.50914	.51795	50.812	.53978	IPE036WL
75	IPE036WC	.50413	5.0112	.49990	.00041*	47.246	.48276	.51116	.51957	51.022	.54358	IPE036WC
76	WTE003SB	.00199	.00901	-.00144	.00056	.10293	.00025	-.00039	.00085	1.9764*	.04865*	WTE003SB
77	E965-01A	.92010	7.6476	.67098	.03141	58.110	.68077	.64285	1.1751	80.307	.97528	E965-01A
78	E965-01	.25899	1.9560	.09992	.02887	6.8811	.13100	.01227	.56216	11.180	.05749	E965-01
79	E965-01J	.04332	.35328	.01811	.00482	1.2690	.02378	.00229	.10028	2.1343	.01029	E965-01J
80	E965-01M	.81919	6.8773	.60623	.02687	53.604	.60508	.60087	1.0622	73.793	.85882	E965-01M
81	E965-01S	.82418	6.9183	.60708	.02813	53.790	.60792	.60207	1.0631	74.662	.86928	E965-01S
82	Blank	.00001	-.00258	-.00040	-.00029	.01081	-.00002	.00005	.00019	.68515	-.00056	Blank
83	CCV7	2.4696	23.733	2.4426	.53046	55.301	2.3007	2.5402	2.5049	61.015	1.0875	CCV7
84	CCB7	.00009	.00269	-.00017	-.00040	.01074	.00018	.00020	.00031	.36048*	.00002	CCB7
85	WTE002SB	.00101	.00046	.00024	.00002	.01961	.00015	-.00002	.00010	.50032*	.01003*	WTE002SB
86	WTE002SB	.00150	.01106	-.00133	.00086	.05860	.00036	-.00033	.00087	1.8366*	.04501*	WTE002SB
87	E468-01	.01138	20.124	.41548	.00145	.83593	.23693	.00159	.01585	2.6564	.04829	E468-01
88	E963-01	.57812	4.3527	.09510	.03572	16.490	.34083	.02058	1.5733	17.804	.07171	E963-01
89	E966-01	.07684	.66877	.13492	.04216	1.3642	.03476	.01881	.02219	9.6914	.06414	E966-01
90	E967-01	.11924	1.6188	.08423	.04584	1.6026	.08938	.03427	.02922	8.0603	.05660	E967-01
91	E976-01	2.0778	5.9729	.13254	.04409	2.3769	.16595	.17006	.59255	17.325	.08860	E976-01
92	E977-01	.19689	26.298	.01082	.01208	4.7501	.45469	.05324	.08048	16.122	.03517	E977-01
93	Blank	-.00005	.00189	-.00066	-.00029	.00421	.00008	-.00007	.00012	.47055	-.00021	Blank
94	CCV8	2.4683	23.752	2.4486	.53309	55.331	2.2976	2.5540	2.5205	61.376	1.0750	CCV8
95	CCB8	-.00007	-.00124	-.00010	-.00079	.00573	.00031	.00016	.00009	.34049*	-.00001	CCB8
96	IPE037SB	.00029	.00457	.00002	-.00092	.01239	.00024	.00023	.00011	.33924	-.00101	IPE037SB
97	IPE037SL	.50558	5.0642	.51273	-.00010*	47.924	.48813	.55240	.54657	51.679	.52412	IPE037SL
98	E149-01A	.59308	76.089	.60948	.03610	61.624	1.6889	.54093	.61945	58.860	.53174	E149-01A
99	E149-01	.08299	74.326	.10930	.03502	14.726	1.2684	.00274	.08343	7.3087	.00181	E149-01
100	E149-01J	.01698	15.277	.02147	.00628	3.0613	.25938	.00049	.01634	1.5180	.00017	E149-01J
101	E149-01D	.08476	70.827	.12841	.03330	14.020	1.4393	.00237	.07496	6.5801	.00155	E149-01D
102	E149-01M	.59832	79.855	.63944	.04074	59.787	1.8037	.54875	.61548	59.850	.53650	E149-01M
103	E149-02	.31663	280.94	.09360	.12380	46.213	5.8809	.00245	.27842	12.494	.00092	E149-02
104	E149-03	.27233	247.03	.07523	.07919	34.392	1.5436	.00142	.16776	9.9016	.00027	E149-03
105	Blank	.00005	.02694	-.00078	-.00076	.00206	.00036	-.00001	.00014	.08042	-.00090	Blank

106	CCV9	2.4788	23.866	2.4631	.53403	55.485	2.2978	2.5527	2.5213	61.470	1.0905	CCV9
107	CCB9	.00003	-.00199	-.00049	-.00039	.00944	.00006	.00027	.00005	.13950	.00062	CCB9
108	IPE038SB	.00041	.00690	-.00030	-.00090	.00938	.00018	.00033	.00004	.16221	.00105	IPE038SB
109	IPE038SL	.50870	5.0710	.51469	.00031*	48.111	.48829	.55272	.54720	51.823	.53033	IPE038SL
110	IPE038SC	.48382	4.8409	.48951	.00062*	49.349	.46701	.56207	.51991	52.964	.50731	IPE038SC
111	E959-01A	.87989	127.00	.54736	.02015	73.879	2.7235	.54591	.78092	58.600	.54225	E959-01A
112	E959-01	.36479	127.21	.03942	.01861	27.191	2.3276	.00095	.24753	6.0287	.00200	E959-01
113	E959-01J	.07314	25.514	.00743	.00301	5.5065	.47662	.00015	.04785	1.1762	-.00159	E959-01J
114	E959-01M	.88855	129.47	.54207	.02805	75.443	3.2915	.52830	.79373	57.919	.52909	E959-01M
115	E959-01S	.90276	138.55	.53419	.03135	76.553	3.1345	.52105	.79897	57.369	.51900	E959-01S
116	E987-01	1.3447	261.28	1.5125	.05097	6.1693	2.8864	.26513	.69005	5.6861	.00853	E987-01
117	Blank	.00037	.03478	-.00020	-.00056	.00756	.00057	.00015	.00020	.09827	-.00011	Blank
118	CCV10	2.4950	24.060	2.4808	.53863	56.003	2.3141	2.5713	2.5399	61.983	1.1059*	CCV10
119	CCB10	.00012	-.00031	-.00056	-.00100	.00596	.00020	.00027	.00015	.11166	.00060	CCB10
120	MRLE2405	.01034	.20081	.00976	.00941	.97069	.01009	.00965	.01025	1.0442	.01017	MRLE2405
121	MRLE2406	.01016	.09769	.00303	.09990	.19245	.00491	.00962	.01024	1.0507	.00965	MRLE2406
122	CCV11	2.4961	24.023	2.4681	.53695	55.627	2.3076	2.5612	2.5351	61.794	1.0881	CCV11
123	CCB11	.00018	-.00182	-.00029	-.00017	-.00112	.00000	.00028	.00016	.12316	-.00018	CCB11
INDX	LSID	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se	LSID

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INDX	LSID	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	LSID
1	Blank	.00010	.00061	-.00011	-.00003	.00001	-.00002	-.00010	.00130	Blank
2	S20									S20
3	S21									S21
4	S22							.13150		S22
5	S23							1.3330		S23
6	S24		.91613							S24
7	S25		5.2294							S25
8	S26									S26
9	S27									S27
10	S28				.00459					S28
11	S29				.04343					S29
12	S30	.03599		.11670		.02474	.01711		.56493	S30
13	S31	.18363		.59105		.12549	.08713		5.5926	S31
14	ICV	.48464	61.863	.48274	2.3592	.50614	.49684	1.4676	2.6075	ICV
15	ICB	.00006	.02935	.00004	.00009	.00017	.00042	.00012	-.00100	ICB
16	ICSA1	-.00013	.07392	-.00010	-.00308	.00116	.00190	-.00019	.00100	ICSA1
17	ICSAB1	1.0934	81.826	.49918	.86031	1.0102	.99022	.50619	1.0537	ICSAB1
18	MRLE2401	.01058	1.1427	.01047	.01126	.10432	.01044	.01040	.02085	MRLE2401
19	MRLE2402	.00977	.54554	.01003	.01074	.01019	.01027	.01000	.00990	MRLE2402
20	CCV1	.48753	62.600	.48354	2.3744	.51062	.49897	1.4788	2.6158	CCV1
21	CCB1	.00022	.03644	-.00004	.00066	-.00006	.00012	.00022	-.00104	CCB1
22	IPE033WB	.00005	.01914	.00002	-.00037	.00009	.00012	.00011	.00077	IPE033WB
23	IPE033WL	.49758	52.236	.47381	.48100	.51170	.50474	.47645	.51722	IPE033WL
24	TXE014SB	-.00002	.17827	.00109	-.00163	.00066	.00018	.00027	.00076	TXE014SB
25	E133-03A	.52634	57.498	1.0921	.46118	.52672	.51745	.50304	.54452	E133-03A
26	E133-03	-.00059	2.4591	.66822	-.00281	.00046	.00560	.00346	.00315	E133-03
27	E133-03J	-.00007	.44991	.12629	-.00097	.00025	.00286	.00063	.00124	E133-03J
28	E133-03D	-.00042	2.2066	.61411	-.00157	.00029	.00504	.00321	.00197	E133-03D
29	E133-03M	.52308	56.205	1.1398	.44758	.51415	.50267	.49451	.53073	E133-03M
30	Blank	.00005	.03264	.00005	.00026	.00019	.00023	.00015	-.00153	Blank
31	CCV2	.49092	62.758	.48692	2.3940	.51153	.50125	1.4881	2.6334	CCV2
32	CCB2	-.00002	.03173	-.00005	-.00041	-.00011	.00018	.00020	-.00092	CCB2
33	MRLE2403	.01021	1.0628	.01000	.01077	.10221	.01059	.00994	.01984	MRLE2403
34	MRLE2404	.00991	.52718	.00982	.01099	.01066	.01051	.00983	.01039	MRLE2404
35	CCV3	.49496	63.403	.49059	2.3976	.52022	.51166	1.4905	2.6682	CCV3
36	CCB3	.00013	.02536	-.00003	-.00028	.00031	.00037	.00017	-.00081	CCB3
37	IPE035WB	-.00001	.08628	.00047	-.00075	-.00013	.00033	.00006	-.00052	IPE035WB
38	IPE035WL	.50191	52.654	.48698	.49143	.51031	.50196	.50426	.52733	IPE035WL
39	IPE035WC	.50932	53.344	.48917	.49640	.51680	.50854	.50714	.53452	IPE035WC
40	WTE002SB	.00023	1860.9*	.00310	-.02368	.00838	.00109	.00037	.00304	WTE002SB
41	E577-01A	.61039	1612.7*	1.2004	.41096	.52191	3.6037	.95137	29.651	E577-01A
42	E577-01	-.00059	1619.9*	.73514	-.02047*	.00876	3.2149	.46051	30.236	E577-01
43	E577-01J	-.00044	431.46	.14432	-.00239	.00182	.64027	.09196	6.1262	E577-01J
44	E577-01M	.16430	1653.8*	1.1873	.37287	.49517	3.7086	.93316	30.921	E577-01M
45	E577-01S	.34765	1667.8*	1.2515	.39050	.51639	3.8774	.98806	32.276	E577-01S
46	Blank	.00019	2.1972	.00010	.00001	.00024	.00116	.00018	.00082	Blank
47	CCV4	.48721	61.636	.48576	2.3895	.50872	.49967	1.4791	2.6337	CCV4
48	CCB4	.00012	.82010*	.00007	-.00008	.00018	.00046	.00003	-.00085	CCB4
49	E541-01	-.00037	1579.6*	.43196	-.01623*	.00481	.15747	.12508	1.3944	E541-01
50	E571-01	-.00024	1515.3*	.58236	-.01500*	.00509	.19162	.16775	1.8234	E571-01
51	E572-01	-.00024	1576.8*	.58972	-.02095*	.00675	3.0245	.37018	8.4444	E572-01

52	E573-01	-.00043	1634.2*	.68302	-.02797*	.00915	3.1600	.27241	15.044	E573-01
53	E574-01	-.00084	1458.3*	1.0691	-.01555*	.00585	.66631	.37621	16.330	E574-01
54	E575-01	-.00035	1559.9*	.48431	-.02234*	.00861	1.8232	.18191	7.1379	E575-01
55	E576-01	-.00054	1687.4*	.70468	-.02047*	.00786	1.2832	.19170	3.1908	E576-01
56	E578-01	-.00031	1575.2*	.12793	-.02048*	.00842	.42230	.00960	.34455	E578-01
57	E597-01	-.00063	1453.3*	1.1979	-.01433*	.00433	.14509	.21318	.81342	E597-01
58	Blank	.00011	2.4751	.00002	.00109	.00009	.00019	.00002	-.00115	Blank
59	CCV5	.49171	60.745	.48842	2.4107	.50532	.49419	1.4723	2.6227	CCV5
60	CCB5	.00009	.77188*	.00003	.00070	-.00002	.00071	.00001	-.00115	CCB5
61	IPE035WB	-.00003	.73214*	.00041	.00034	.00021	.00003	.00000	-.00009	IPE035WB
62	E577-01A	.53904	505.60	.64433	.46057	.52739	1.1587	.61036	6.8182	E577-01A
63	E577-01I	-.00023	457.78	.15030	-.00408	.00192	.65074	.09556	6.3007	E577-01I
64	E577-01J	-.00010	96.290	.02978	-.00090	.00037	.12919	.01880	1.2057	E577-01J
65	E577-01M	.02957	490.80	.24930	.08600	.10374	.78020	.19971	6.6972	E577-01M
66	E577-01S	.06057	486.31	.25228	.08626	.10492	.78192	.20065	6.7072	E577-01S
67	E598-01	-.00096	1527.9*	1.6125	-.01713*	.00598	.86171	.33890	7.4543	E598-01
68	E767-01	.00084	1649.0*	1.0418	-.02597*	.01145	.06036	.01775	1.4571	E767-01
69	E950-01	-.00018	1613.6*	.46198	-.02245*	.00864	.03853	.00486	35.883	E950-01
70	Blank	.00006	2.7503	.00004	.00002	.00020	-.00015	.00014	.00076	Blank
71	CCV6	.49435	61.049	.49057	2.3789	.50393	.49365	1.4772	2.6302	CCV6
72	CCB6	-.00005	1.1863*	.00002	.00034	.00012	.00050	.00017	-.00056	CCB6
73	IPE036WB	.00011	1.0057*	.00006	-.00067	.00010	.00026	.00015	.00007	IPE036WB
74	IPE036WL	.50640	51.726	.48556	.48468	.50430	.49818	.49484	.52911	IPE036WL
75	IPE036WC	.50930	52.052	.48748	.48507	.50540	.50071	.49543	.52726	IPE036WC
76	WTE003SB	.00019	1750.7*	.00265	-.02615	.00830	.00099	.00037	.00384	WTE003SB
77	E965-01A	.71833	1983.9*	1.0223	.47625	.59614	.68569	.62987	61.003*	E965-01A
78	E965-01	.00020	1974.8*	.46796	-.03242*	.01640	.11275	.02121	62.089*	E965-01
79	E965-01J	.00008	513.86	.08297	-.00543*	.00294	.02059	.00392	11.606	E965-01J
80	E965-01M	.61141	1860.8*	.93248	.42684	.55734	.62922	.56288	55.849*	E965-01M
81	E965-01S	.61997	1854.2*	.93841	.43222	.55740	.63273	.56585	56.018*	E965-01S
82	Blank	.00008	3.5636	.00010	-.00011	-.00006	.00035	.00014	.00125	Blank
83	CCV7	.49065	60.445	.48778	2.3577	.49840	.49105	1.4615	2.6108	CCV7
84	CCB7	.00015	1.5114*	.00005	.00046	.00067	.00049	.00011	-.00025	CCB7
85	WTE002SB	.00012	482.94*	.00058	-.00396	.00132	.00024	.00027	.00070	WTE002SB
86	WTE002SB	.00015	1661.4*	.00305	-.02407	.00744	.00059	.00036	.00593	WTE002SB
87	E468-01	.00017	1662.9*	.05077	-.02516*	.00890	.31154	.01136	1.3636	E468-01
88	E963-01	.00018	2255.5*	.37507	-.03670*	.01919	.21571	.03679	58.695*	E963-01
89	E966-01	.00048	2089.9*	.20314	-.03659*	.01963	.17593	.04109	66.791*	E966-01
90	E967-01	.00022	1940.5*	.49525	-.03303*	.01819	.21807	.03325	107.64*	E967-01
91	E976-01	.00005	2808.6*	2.1840	-.05378*	.02927	.32261	.04121	208.80*	E976-01
92	E977-01	-.00069	1520.5*	.86724	-.01516*	.00495	.14675	.24935	5.5967	E977-01
93	Blank	.00004	3.7400	.00017	.00066	.00004	.00041	.00010	.00554	Blank
94	CCV8	.49051	60.354	.48837	2.3302	.50074	.49279	1.4633	2.6160	CCV8
95	CCB8	.00004	1.8163*	.00001	.00048	-.00009	.00002	.00014	-.00093	CCB8
96	IPE037SB	-.00011	1.8443*	-.00002	-.00118	.03521	.00046	.00016	.00202	IPE037SB
97	IPE037SL	.50217	52.256	.49912	.47171	.56306	.51432	.51547	.56398	IPE037SL
98	E149-01A	.50261	53.099	.57679	.45169	.55498	2.9331	.68371	.90514	E149-01A
99	E149-01	-.00084	1.9211	.08668	-.00498	.03579	2.4991	.18165	.3633B	E149-01
100	E149-01J	-.00026	.99940	.01743	-.00148	.00775	.50457	.03643	.07007	E149-01J
101	E149-01D	-.00072	1.6763	.09B97	-.00519*	.03651	2.4600	.16197	.28368	E149-01D
102	E149-01M	.51070	53.223	.58807	.45531	.56181	3.4416	.69127	.83261	E149-01M
103	E149-02	-.00232	1.8597	.16620	-.01229*	.03518	6.5978	.53935	.65915	E149-02
104	E149-03	-.00086	1.7085	.14361	-.00684*	.03464	5.1301	.39005	.46111	E149-03
105	Blank	.00030	.47223	-.00005	.00007	.00056	.00179	.00000	-.00144	Blank

106	CCV9	.49583	61.166	.48962	2.3783	.50272	.49367	1.4680	2.6299	CCV9
107	CCB9	.00005	.52961*	-.00002	.00018	.00019	.00031	.00005	-.00143	CCB9
108	IPE038SB	-.00013	.58997*	-.00002	-.00229	.03610	.00048	.00009	.00220	IPE038SB
109	IPE038SL	.50692	52.704	.50025	.47554	.56614	.51742	.51661	.56005	IPE038SL
110	IPE038SC	.48132	53.890	.50934	.45062	.57563	.52837	.49197	.53518	IPE038SC
111	E959-01A	.51358	125.79	.78557	.44927	.54919	12.956*	.77293	.81592	E959-01A
112	E959-01	-.00039	77.231	.30068	-.01128*	.02233	12.827*	.27046	.26540	E959-01
113	E959-01J	-.00005	15.594	.06052	-.00166	.00440	2.5733	.05306	.05296	E959-01J
114	E959-01M	.51858	126.50	.85216	.43916	.53506	12.791*	.76225	.82771	E959-01M
115	E959-01S	.50925	127.28	.85604	.42855	.52998	13.782*	.77220	.83620	E959-01S
116	E987-01	.00414	8.8584	5.8982	-.00165	.07008	3.6662	.17721	134.40*	E987-01
117	Blank	.00015	.28369	.00066	.00038	.00032	.00356	.00012	.02696	Blank
118	CCV10	.49955	62.028	.49347	2.3871	.50488	.49936	1.4772	2.6500	CCV10
119	CCB10	.00018	.32833*	.00009	.00033	.00016	.00107	.00008	.00003	CCB10
120	MRLE2405	.01013	1.3303*	.01008	.01112	.09922	.01010	.00994	.02096	MRLE2405
121	MRLE2406	.00997	.80906*	.00990	.01055	.01035	.01035	.00992	.01039	MRLE2406
122	CCV11	.49423	61.994	.49143	2.3699	.50488	.49534	1.4758	2.6329	CCV11
123	CCB11	.00010	.32720*	.00008	.00053	.00049	.00017	.00013	-.00001	CCB11
INDX	LSID	Ag	Na	Sr	Tl	Sn	Ti	V	Zn	LSID

ID8E025 Section 3 of 3

Sample Name: Blank Acquired: 5/24/2016 15:09:35 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00017	.00001	.00000	.00027	.00006	.00027	-.00004	.00035	-.00004
Stddev	.00001	.00000	.0000	.00004	.00001	.00000	.00000	.00000	.00001
%RSD	5.2231	40.424	10.634	14.376	15.356	1.1838	7.0755	.80789	26.203
#1	.00017	.00001	-.00001	.00029	.00007	.00027	-.00003	.00035	-.00005
#2	.00018	.00002	.00000	.00022	.00006	.00026	-.00004	.00035	-.00004
#3	.00016	.00001	.00000	.00029	.00005	.00027	-.00004	.00034	-.00003

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00111	.00060	.00003	.00019	-.00020	-.00001	.00002	-.00001	-.00119
Stddev	.00010	.00003	.00000	.00008	.00003	.00002	.00002	.00003	.00006
%RSD	8.9524	5.5710	13.095	38.814	17.378	127.09	75.967	234.08	5.3719
#1	-.00104	.00057	.00003	.00028	-.00017	.00000	.00004	-.00003	-.00117
#2	-.00122	.00063	.00003	.00014	-.00024	.00000	.00001	.00002	-.00114
#3	-.00108	.00061	.00003	.00017	-.00018	-.00003	.00002	-.00002	-.00126

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	-.00031	.00001	.00010	.00061	-.00011	-.00003	.00001	-.00002	-.00010
Stddev	.00007	.00000	.00002	.00004	.00003	.00000	.00007	.00001	.00002
%RSD	22.917	14.886	16.592	6.6167	30.255	3.9152	1048.3	56.803	19.915
#1	-.00024	.00001	.00011	.00063	-.00008	-.00003	.00008	-.00003	-.00011
#2	-.00032	.00001	.00011	.00056	-.00011	-.00003	.00000	-.00003	-.00008
#3	-.00038	.00001	.00008	.00063	-.00015	-.00003	-.00006	-.00001	-.00012

Elem	Zn
Units	Cts/S
Avg	.00130
Stddev	.00008
%RSD	5.8875
#1	.00128
#2	.00124
#3	.00139

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6753.8	110050.	180340.
Stddev	13.9	286.	142.
%RSD	.20618	.25983	.07873
#1	6739.2	110240.	180460.
#2	6766.9	110190.	180180.
#3	6755.3	109720.	180380.

Sample Name: S20 Acquired: 5/24/2016 15:12:32 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Be	Cd	Pb	Mn
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.78644	.10921	.21216	.08948
Stddev	.00213	.00024	.00023	.00019
%RSD	.27024	.21609	.10807	.20803
#1	.78479	.10933	.21228	.08941
#2	.78884	.10894	.21189	.08969
#3	.78570	.10936	.21229	.08934

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6837.3	111110.	182370.
Stddev	19.4	400.	403.
%RSD	.28321	.36021	.22088
#1	6823.4	111360.	181930.
#2	6829.1	110650.	182450.
#3	6859.4	111320.	182730.

Sample Name: S21 Acquired: 5/24/2016 15:15:26 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Be	Cd	Pb	Mn
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	7.5904	1.0253	2.0621	.86860
Stddev	.0164	.0024	.0029	.00289
%RSD	.21547	.23813	.13822	.33268
#1	7.6080	1.0267	2.0649	.86927
#2	7.5757	1.0225	2.0592	.87110
#3	7.5873	1.0266	2.0623	.86543

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6818.3	114180.	184720.
Stddev	11.6	313.	222.
%RSD	.17041	.27372	.12036
#1	6807.7	113970.	184490.
#2	6816.5	114030.	184930.
#3	6830.7	114540.	184730.

Sample Name: S22 Acquired: 5/24/2016 15:18:29 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Ba	Co	Cu	Fe	V
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.51595	.15839	.30167	.01120	.13150
Stddev	.00148	.00043	.00026	.00004	.00006
%RSD	.28762	.26988	.08691	.38123	.04633
#1	.51534	.15879	.30192	.01124	.13143
#2	.51764	.15843	.30140	.01119	.13155
#3	.51487	.15794	.30169	.01116	.13151

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6885.5	112840.	183220.
Stddev	16.4	279.	335.
%RSD	.23810	.24752	.18283
#1	6870.0	112890.	183110.
#2	6883.9	112540.	182950.
#3	6902.7	113100.	183590.

Sample Name: S23 Acquired: 5/24/2016 15:21:25 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Ba	Co	Cu	Fe	V
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	5.1026	1.6803	2.9630	1.0315	1.3330
Stddev	.0283	.0004	.0165	.0036	.0044
%RSD	.55370	.02559	.55579	.35193	.33099
#1	5.1352	1.6803	2.9450	1.0309	1.3326
#2	5.0846	1.6807	2.9774	1.0282	1.3288
#3	5.0881	1.6798	2.9667	1.0354	1.3376

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6413.8	114070.	179500.
Stddev	18.9	184.	158.
%RSD	.29501	.16106	.08780
#1	6407.0	113870.	179350.
#2	6399.2	114100.	179660.
#3	6435.2	114240.	179480.

Sample Name: S24 Acquired: 5/24/2016 15:24:33 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	B	Mo	Na
Units	Cts/S	Cts/S	Cts/S
Avg	.07832	.70199	.91613
Stddev	.00024	.00161	.00169
%RSD	.31150	.22907	.18462
#1	.07828	.70238	.91418
#2	.07810	.70337	.91707
#3	.07858	.70023	.91714

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6527.2	113240.	174590.
Stddev	27.5	326.	76.
%RSD	.42155	.28821	.04330
#1	6497.1	113540.	174670.
#2	6533.5	112890.	174530.
#3	6551.0	113290.	174570.

Sample Name: S25 Acquired: 5/24/2016 15:27:28 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	B	Mo	Na
Units	Cts/S	Cts/S	Cts/S
Avg	.80364	7.0283	5.2294
Stddev	.00133	.0120	.0242
%RSD	.16529	.17115	.46329
#1	.80394	7.0234	5.2229
#2	.80219	7.0420	5.2091
#3	.80480	7.0195	5.2563

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5991.4	112160.	163960.
Stddev	15.2	261.	124.
%RSD	.25351	.23264	.07535
#1	5982.4	112460.	164090.
#2	5982.8	111980.	163950.
#3	6008.9	112040.	163850.

Sample Name: S26 Acquired: 5/24/2016 15:30:31 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Al	Ca	Cr	Ni	K
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.05640	.86773	.11672	.82922	.27583
Stddev	.00019	.00104	.00012	.00107	.00056
%RSD	.33276	.11939	.10244	.12926	.20357
#1	.05662	.86882	.11677	.83046	.27569
#2	.05629	.86676	.11681	.82864	.27535
#3	.05629	.86760	.11659	.82856	.27645

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6399.5	112490.	173740.
Stddev	10.8	76.	558.
%RSD	.16799	.06738	.32109
#1	6387.6	112400.	173240.
#2	6402.6	112530.	173630.
#3	6408.4	112530.	174340.

Sample Name: S27 Acquired: 5/24/2016 15:33:25 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Al	Ca	Cr	Ni	K
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	4.4463	8.0414	1.1403	8.1109	2.7365
Stddev	.0354	.0493	.0035	.0127	.0085
%RSD	.79611	.61301	.30494	.15631	.31144
#1	4.4865	8.0310	1.1368	8.1247	2.7357
#2	4.4324	7.9981	1.1438	8.1082	2.7285
#3	4.4200	8.0951	1.1403	8.0998	2.7455

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5404.9	108070.	156960.
Stddev	14.7	516.	499.
%RSD	.27170	.47782	.31773
#1	5388.5	108200.	156660.
#2	5416.9	108510.	156680.
#3	5409.3	107500.	157530.

Sample Name: S28 Acquired: 5/24/2016 15:36:46 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Sb	Mg	Tl
Units	Cts/S	Cts/S	Cts/S
Avg	.00476	.02125	.00459
Stddev	.00002	.00006	.00001
%RSD	.36622	.28848	.28971
#1	.00475	.02118	.00460
#2	.00478	.02127	.00460
#3	.00475	.02129	.00458

Int. Std.	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S
Avg	111650.	182380.
Stddev	456.	676.
%RSD	.40815	.37090
#1	111510.	182070.
#2	111280.	181920.
#3	112160.	183160.

Sample Name: S29 Acquired: 5/24/2016 15:39:41 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	Sb	Mg	Tl
Units	Cts/S	Cts/S	Cts/S
Avg	.04743	.21468	.04343
Stddev	.00013	.00065	.00010
%RSD	.27657	.30060	.22137
#1	.04752	.21409	.04351
#2	.04749	.21457	.04346
#3	.04728	.21537	.04332

Int. Std.	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S
Avg	111400.	178200.
Stddev	289.	475.
%RSD	.25955	.26669
#1	111560.	177910.
#2	111570.	177940.
#3	111060.	178750.

Sample Name: S30 Acquired: 5/24/2016 15:42:37 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	As	Li	Se	Ag	Sr	Sn	Ti	Zn
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00090	.02273	.00098	.03599	.11670	.02474	.01711	.56493
Stddev	.00001	.00011	.00001	.00003	.00009	.00006	.00003	.00019
%RSD	.64815	.47353	.58207	.07391	.07314	.23308	.16141	.03371
#1	.00090	.02274	.00098	.03601	.11662	.02478	.01709	.56515
#2	.00090	.02262	.00098	.03599	.11669	.02467	.01714	.56481
#3	.00091	.02283	.00099	.03596	.11679	.02477	.01709	.56483

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6855.4	112440.	185770.
Stddev	20.5	707.	137.
%RSD	.29933	.62911	.07390
#1	6850.1	112970.	185620.
#2	6838.1	111640.	185860.
#3	6878.1	112720.	185840.

Sample Name: S31 Acquired: 5/24/2016 15:45:31 Type: Cal
Method: 16E6010(v49) Mode: IR Corr. Factor: 1.000000
User: admin Date File: Type: Anaylst:
Comment:

Elem	As	Li	Se	Ag	Sr	Sn	Ti	Zn
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.00366	.11714	.00389	.18363	.59105	.12549	.08713	5.5926
Stddev	.00001	.00011	.00000	.00030	.00143	.00008	.00033	.0039
%RSD	.17059	.09730	.11653	.16483	.24171	.06360	.37677	.06991
#1	.00366	.11722	.00389	.18369	.59236	.12542	.08746	5.5882
#2	.00367	.11700	.00389	.18390	.59126	.12547	.08680	5.5955
#3	.00366	.11718	.00388	.18330	.58953	.12558	.08711	5.5942

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6815.1	113710.	184890.
Stddev	24.0	491.	533.
%RSD	.35250	.43173	.28814
#1	6788.3	114020.	184370.
#2	6822.5	113950.	184860.
#3	6834.6	113140.	185430.

Sample Name: ICV Acquired: 5/24/2016 15:48:23 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025014 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	96.045	1.5409	1.0351	1.9807	1.5428	2.4334	1.9715	79.030	2.4833	.98277
Stddev	.643	.0045	.0018	.0052	.0055	.0037	.0047	.137	.0008	.00057
%RSD	.66989	.29467	.17814	.26107	.35436	.15182	.23989	.17322	.03335	.05761
#1	95.552	1.5364	1.0333	1.9798	1.5430	2.4292	1.9662	78.878	2.4825	.98333
#2	95.812	1.5407	1.0350	1.9863	1.5482	2.4361	1.9731	79.067	2.4832	.98219
#3	96.773	1.5455	1.0370	1.9761	1.5372	2.4350	1.9753	79.144	2.4842	.98278
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	2.4649	23.812	2.4515	.53560	56.647	2.4078	2.5390	2.5263	60.902	1.0681
Stddev	.0056	.056	.0042	.00070	.188	.0066	.0050	.0003	.210	.0009
%RSD	.22525	.23687	.17277	.13054	.33142	.27495	.19640	.01319	.34470	.08693
#1	2.4596	23.765	2.4468	.53640	56.590	2.4043	2.5348	2.5265	60.663	1.0682
#2	2.4644	23.797	2.4548	.53509	56.856	2.4154	2.5445	2.5259	60.982	1.0671
#3	2.4706	23.874	2.4530	.53531	56.494	2.4037	2.5378	2.5264	61.060	1.0690
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.48464	61.863	.48274	2.3592	.50614	.49684	1.4676	2.6075
Stddev	.00068	.150	.00087	.0063	.00089	.00202	.0035	.0025
%RSD	.13937	.24296	.18035	.26513	.17521	.40559	.23841	.09559
#1	.48391	61.721	.48257	2.3527	.50577	.49571	1.4645	2.6049
#2	.48476	61.847	.48197	2.3598	.50549	.49917	1.4669	2.6078
#3	.48524	62.020	.48369	2.3651	.50715	.49565	1.4714	2.6098
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5701.4	108880.	163700.
Stddev	9.3	202.	78.
%RSD	.16245	.18585	.04751
#1	5690.7	109010.	163780.
#2	5706.6	108650.	163700.
#3	5706.9	108990.	163620.

Sample Name: ICB Acquired: 5/24/2016 15:51:10 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025015 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00348	.00052	.00182	.00032	.00013	.00495	.00002	-.00753	.00010
Stddev	.00103	.00024	.00079	.00019	.00010	.00021	.00004	.00638	.00014
%RSD	29.610	46.404	43.571	58.521	77.090	4.1986	183.97	84.647	141.35
#1	.00405	.00056	.00233	.00052	.00025	.00515	.00002	-.00034	-.00004
#2	.00409	.00026	.00222	.00027	.00008	.00497	-.00002	-.00978	.00011
#3	.00229	.00075	.00091	.00016	.00007	.00473	.00006	-.01248	.00024
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00007	.00019	-.00308	-.00029	-.00131	.00712	.00021	.00024	.00008
Stddev	.00008	.00005	.00022	.00072	.00052	.00673	.00035	.00018	.00005
%RSD	110.08	28.292	6.9902	249.82	40.011	94.480	168.98	75.064	59.956
#1	.00004	.00022	-.00331	.00032	-.00083	.01352	.00060	.00044	.00011
#2	.00015	.00023	-.00289	-.00108	-.00186	.00774	.00012	.00017	.00009
#3	.00001	.00013	-.00304	-.00010	-.00122	.00011	-.00009	.00010	.00002
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	F .14609	.00056	.00006	.02935	.00004	.00009	.00017	.00042	.00012
Stddev	.02681	.00133	.00016	.00504	.00002	.00115	.00008	.00037	.00007
%RSD	18.353	237.78	274.31	17.159	54.661	1294.1	43.808	88.896	56.438
#1	.16489	.00209	-.00008	.03506	.00006	-.00027	.00017	.00078	.00019
#2	.15799	-.00003	.00003	.02745	.00002	.00137	.00025	.00004	.00009
#3	.11539	-.00038	.00023	.02554	.00005	-.00084	.00010	.00043	.00007
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.10000								
Low Limit	-.10000								

Elem	Zn
Units	mg/L
Avg	-.00100
Stddev	.00004
%RSD	4.3663
#1	-.00103
#2	-.00102
#3	-.00095
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: ICB Acquired: 5/24/2016 15:51:10 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025015 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6704.8	110040.	178720.
Stddev	13.0	544.	684.
%RSD	.19374	.49457	.38250
#1	6690.7	110520.	178990.
#2	6707.5	110140.	177950.
#3	6716.2	109450.	179240.

Sample Name: ICSA1 Acquired: 5/24/2016 15:54:07 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025016 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	368.27	.00533	-.00305	.00019	.00004	F -.23998	.00125	482.75
Stddev	1.37	.00100	.00164	.00005	.00004	.00015	.00018	2.04
%RSD	.37207	18.845	53.681	23.930	88.625	.06255	14.239	.42210
#1	369.79	.00518	-.00163	.00024	.00005	-.24013	.00104	482.60
#2	367.91	.00640	-.00268	.00015	.00007	-.23983	.00134	480.80
#3	367.12	.00441	-.00484	.00018	.00000	-.23999	.00136	484.87
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass
High Limit						.01000		
Low Limit						-.01000		

Elem	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00189	-.00064	.00090	185.99	.00039	.01230	189.33	.00087
Stddev	.00009	.00018	.00011	.19	.00299	.00050	.45	.00030
%RSD	4.9560	28.118	12.578	.10377	771.03	4.0762	.23903	34.345
#1	.00185	-.00046	.00077	185.91	.00108	.01286	188.82	.00099
#2	.00182	-.00063	.00097	185.85	-.00289	.01189	189.46	.00109
#3	.00199	-.00082	.00096	186.21	.00297	.01216	189.70	.00053
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Mo	Ni	K	Se	Ag	Na	Sr	Tl
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	-.00083	-.00026	-.01134	-.00424	-.00013	.07392	-.00010	-.00308
Stddev	.00054	.00011	.01352	.00090	.00013	.00176	.00002	.00213
%RSD	65.149	43.536	119.23	21.284	99.196	2.3847	15.894	69.405
#1	-.00023	-.00020	-.00020	-.00392	-.00029	.07241	-.00009	-.00406
#2	-.00128	-.00040	-.02638	-.00525	-.00008	.07586	-.00011	-.00063
#3	-.00098	-.00020	-.00743	-.00353	-.00003	.07350	-.00009	-.00454
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Elem	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L
Avg	.00116	.00190	-.00019	.00100
Stddev	.00012	.00026	.00016	.00053
%RSD	10.799	13.570	84.571	52.797
#1	.00114	.00201	-.00005	.00069
#2	.00128	.00208	-.00036	.00161
#3	.00104	.00160	-.00015	.00071
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit				
Low Limit				

Sample Name: ICSA1 Acquired: 5/24/2016 15:54:07 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025016 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5093.8	107230.	152640.
Stddev	3.8	122.	305.
%RSD	.07443	.11388	.19949
#1	5093.3	107160.	152350.
#2	5097.8	107370.	152960.
#3	5090.3	107160.	152610.

Sample Name: ICSAB1 Acquired: 5/24/2016 15:57:43 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025017 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	376.60	1.0773	1.0890	.49424	.50354	F .25832	.97425	491.84	.49334
Stddev	.64	.0050	.0033	.00175	.00167	.00080	.00108	4.04	.00076
%RSD	.16923	.46240	.30460	.35497	.33187	.30814	.11127	.82142	.15375
#1	376.98	1.0757	1.0859	.49522	.50519	.25774	.97434	496.51	.49246
#2	375.87	1.0734	1.0925	.49528	.50357	.25800	.97313	489.59	.49385
#3	376.97	1.0829	1.0887	.49221	.50185	.25923	.97529	489.43	.49369
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass
Value						.50000			
Range						-20.000%			

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.49602	.53752	189.05	.98514	1.1517	190.49	.48623	1.0437	1.0183
Stddev	.00087	.00206	.20	.00167	.0012	.81	.00226	.0010	.0029
%RSD	.17562	.38308	.10778	.16934	.10019	.42259	.46508	.09957	.28673
#1	.49677	.53981	189.13	.98527	1.1506	191.38	.48786	1.0448	1.0216
#2	.49624	.53691	188.82	.98341	1.1529	190.31	.48719	1.0438	1.0172
#3	.49507	.53583	189.20	.98674	1.1517	189.80	.48365	1.0427	1.0160
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	81.361	1.0920	1.0934	81.826	.49918	.86031	1.0102	.99022	.50619
Stddev	.222	.0029	.0007	.173	.00080	.00283	.0005	.00419	.00140
%RSD	.27317	.26798	.06696	.21185	.16002	.32872	.05137	.42334	.27656
#1	81.161	1.0951	1.0933	81.754	.49919	.86317	1.0106	.99505	.50778
#2	81.600	1.0917	1.0942	82.024	.49838	.86026	1.0096	.98812	.50561
#3	81.321	1.0893	1.0927	81.700	.49998	.85751	1.0104	.98750	.50516
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn
Units	mg/L
Avg	1.0537
Stddev	.0010
%RSD	.09085
#1	1.0539
#2	1.0527
#3	1.0546
Check ?	Chk Pass
Value	
Range	

Sample Name: ICSAB1 Acquired: 5/24/2016 15:57:43 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025017 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	4985.0	105570.	148460.
Stddev	16.5	595.	292.
%RSD	.33161	.56334	.19635
#1	4969.1	104940.	148130.
#2	4984.0	105650.	148570.
#3	5002.1	106120.	148690.

Sample Name: MRLE2401 Acquired: 5/24/2016 16:00:35 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025018 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.22452	.10516	.01199	.01018	.01064	.10021	.01081	1.1952	.01054
Stddev	.00141	.00076	.00205	.00010	.00004	.00012	.00006	.0187	.00013
%RSD	.62968	.72264	17.115	.94858	.38697	.12462	.58074	1.5617	1.2283
#1	.22290	.10543	.01018	.01013	.01063	.10035	.01082	1.2151	.01066
#2	.22549	.10574	.01422	.01029	.01060	.10014	.01074	1.1925	.01040
#3	.22518	.10430	.01158	.01011	.01068	.10013	.01086	1.1780	.01057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.01005	.01080	.21688	.00976	.00990	1.0339	.01082	.01000	.01072
Stddev	.00014	.00007	.00208	.00084	.00067	.0053	.00004	.00017	.00002
%RSD	1.4078	.65594	.96117	8.5673	6.7395	.51681	.37780	1.6773	.22037
#1	.00989	.01084	.21885	.00897	.01046	1.0400	.01086	.00980	.01070
#2	.01017	.01072	.21710	.01063	.01008	1.0310	.01083	.01011	.01074
#3	.01009	.01084	.21470	.00968	.00916	1.0306	.01078	.01008	.01072
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	F 1.2241	.00973	.01058	1.1427	.01047	.01126	.10432	.01044	.01040
Stddev	.0324	.00042	.00012	.0158	.00004	.00143	.00051	.00004	.00015
%RSD	2.6463	4.3510	1.1175	1.3800	.42531	12.715	.48678	.36304	1.4700
#1	1.2461	.00987	.01070	1.1533	.01043	.01017	.10377	.01046	.01050
#2	1.2392	.00925	.01057	1.1503	.01045	.01072	.10443	.01046	.01022
#3	1.1869	.01006	.01046	1.1246	.01052	.01288	.10477	.01040	.01047
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	1.0000								
Range	20.000%								

Elem	Zn
Units	mg/L
Avg	.02085
Stddev	.00013
%RSD	.63218
#1	.02100
#2	.02082
#3	.02074
Check ?	Chk Pass
Value	
Range	

Sample Name: MRLE2401 Acquired: 5/24/2016 16:00:35 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025018 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6482.9	107110.	171230.
Stddev	4.0	222.	257.
%RSD	.06107	.20717	.15037
#1	6478.3	107350.	170970.
#2	6485.0	106920.	171240.
#3	6485.3	107050.	171480.

Sample Name: MRLE2402 Acquired: 5/24/2016 16:03:31 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025019 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.20253	.05134	F .01261	.00459	.00412	.09543	.00511	.56127	.01030
Stddev	.00155	.00043	.00028	.00009	.00004	.00012	.00001	.00558	.00014
%RSD	.76318	.83962	2.2497	1.9258	1.0514	.12589	.15612	.99390	1.3530
#1	.20125	.05099	.01281	.00451	.00415	.09533	.00512	.56746	.01044
#2	.20209	.05120	.01229	.00458	.00413	.09540	.00510	.55971	.01016
#3	.20425	.05182	.01273	.00468	.00407	.09557	.00511	.55664	.01030
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			.01000						
Range			20.000%						

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00983	.01016	.10288	.00288	.09982	.21880	.00520	.00964	.01050
Stddev	.00003	.00012	.00050	.00010	.00063	.00521	.00019	.00018	.00009
%RSD	.30887	1.2209	.48567	3.4394	.62743	2.3822	3.6887	1.8167	.84949
#1	.00981	.01012	.10235	.00277	.09933	.22413	.00536	.00974	.01060
#2	.00987	.01005	.10334	.00296	.10053	.21855	.00499	.00975	.01042
#3	.00983	.01029	.10296	.00290	.09961	.21371	.00526	.00944	.01047
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	1.0731	.00977	.00977	.54554	.01003	.01074	.01019	.01027	.01000
Stddev	.0339	.00013	.00008	.00307	.00009	.00065	.00051	.00023	.00008
%RSD	3.1552	1.3122	.78014	.56347	.94480	6.0604	5.0325	2.2611	.75034
#1	1.1122	.00967	.00985	.54906	.01013	.01086	.00970	.01054	.01000
#2	1.0520	.00973	.00970	.54416	.01003	.01132	.01015	.01010	.01007
#3	1.0551	.00991	.00977	.54340	.00994	.01004	.01072	.01018	.00992
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn
Units	mg/L
Avg	.00990
Stddev	.00011
%RSD	1.1117
#1	.01003
#2	.00984
#3	.00983
Check ?	Chk Pass
Value	
Range	

Sample Name: MRLE2402 Acquired: 5/24/2016 16:03:31 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025019 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6703.3	109930.	178000.
Stddev	5.6	652.	162.
%RSD	.08346	.59319	.09100
#1	6698.5	110670.	177810.
#2	6709.4	109670.	178070.
#3	6701.8	109450.	178110.

Sample Name: CCV1 Acquired: 5/24/2016 16:06:26 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025020 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	97.285	1.5407	1.0354	1.9876	1.5547	2.4415	1.9787	80.081	2.4949	.99015
Stddev	.437	.0027	.0027	.0081	.0059	.0071	.0049	.187	.0083	.00045
%RSD	.44942	.17238	.26425	.40561	.38092	.29155	.24851	.23371	.33461	.04523
#1	96.810	1.5398	1.0384	1.9840	1.5504	2.4333	1.9742	79.868	2.4864	.99016
#2	97.671	1.5437	1.0332	1.9819	1.5522	2.4466	1.9839	80.158	2.5031	.99059
#3	97.375	1.5387	1.0344	1.9968	1.5614	2.4444	1.9781	80.217	2.4952	.98969
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	2.4840	24.000	2.4632	.54069	57.598	2.4485	2.5502	2.5372	61.615	1.0560
Stddev	.0000	.074	.0033	.00191	.271	.0131	.0046	.0013	.153	.0049
%RSD	.00169	.30973	.13413	.35235	.47019	.53367	.18027	.04916	.24837	.45921
#1	2.4840	23.915	2.4631	.53924	57.353	2.4426	2.5449	2.5358	61.442	1.0524
#2	2.4840	24.054	2.4599	.54285	57.553	2.4393	2.5527	2.5374	61.734	1.0616
#3	2.4840	24.030	2.4665	.53999	57.889	2.4634	2.5530	2.5383	61.669	1.0541
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.48753	62.600	.48354	2.3744	.51062	.49897	1.4788	2.6158
Stddev	.00149	.180	.00193	.0071	.00058	.00109	.0016	.0027
%RSD	.30623	.28779	.39821	.29720	.11429	.21814	.10932	.10340
#1	.48581	62.396	.48386	2.3712	.51127	.49810	1.4769	2.6129
#2	.48831	62.739	.48529	2.3825	.51015	.49862	1.4795	2.6183
#3	.48847	62.664	.48148	2.3695	.51043	.50019	1.4799	2.6161
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5638.3	107320.	162110.
Stddev	5.6	230.	348.
%RSD	.09999	.21441	.21436
#1	5632.1	107540.	162180.
#2	5639.9	107340.	161730.
#3	5643.0	107080.	162420.

Sample Name: CCB1 Acquired: 5/24/2016 16:09:13 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025021 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00674	.00045	.00301	.00030	.00014	.00421	-.00001	-.00330	.00009
Stddev	.00045	.00007	.00070	.00016	.00007	.00043	.00008	.00477	.00008
%RSD	6.6334	15.103	23.121	53.904	48.469	10.143	803.86	144.44	80.526
#1	.00624	.00053	.00240	.00048	.00021	.00466	.00000	.00172	.00018
#2	.00687	.00041	.00376	.00024	.00012	.00416	-.00009	-.00384	.00004
#3	.00711	.00042	.00286	.00018	.00008	.00381	.00006	-.00778	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00024	.00008	.00091	.00003	-.00026	.00381	.00013	.00029	.00006
Stddev	.00012	.00013	.00320	.00034	.00062	.00447	.00016	.00010	.00008
%RSD	47.252	149.16	351.72	1085.7	237.68	117.22	126.03	34.943	136.88
#1	.00038	.00012	-.00189	.00042	-.00056	.00449	.00027	.00040	.00013
#2	.00018	-.00006	.00439	-.00020	.00045	-.00096	-.00005	.00020	.00007
#3	.00017	.00019	.00023	-.00012	-.00068	.00790	.00017	.00028	-.00003
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	F .11609	-.00180	.00022	.03644	-.00004	.00066	-.00006	.00012	.00022
Stddev	.04747	.00104	.00015	.00783	.00006	.00020	.00108	.00040	.00013
%RSD	40.890	57.594	65.714	21.494	170.78	29.721	1750.2	320.19	56.380
#1	.13679	-.00259	.00007	.04539	.00003	.00046	.00043	.00029	.00031
#2	.06179	-.00219	.00036	.03305	-.00006	.00066	-.00130	-.00033	.00027
#3	.14970	-.00063	.00024	.03087	-.00008	.00086	.00069	.00041	.00008
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.10000								
Low Limit	-.10000								

Elem	Zn
Units	mg/L
Avg	-.00104
Stddev	.00011
%RSD	10.482
#1	-.00100
#2	-.00097
#3	-.00117
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: CCB1 Acquired: 5/24/2016 16:09:13 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025021 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6421.8	105360.	173450.
Stddev	12.0	330.	366.
%RSD	.18615	.31278	.21093
#1	6422.1	105380.	173330.
#2	6409.7	105020.	173160.
#3	6433.6	105680.	173860.

Sample Name: IPE033WB Acquired: 5/24/2016 16:12:11 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025022 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00523	.00007	.00049	-.00027	.00000	.00118	-.00003	.01011	.00006	.00030
Stddev	.00025	.00072	.00059	.00005	.0000	.00030	.00003	.00322	.00012	.00011
%RSD	4.8713	978.21	121.40	18.717	988.99	25.786	75.032	31.903	197.57	34.641
#1	.00538	.00079	.00040	-.00023	-.00001	.00153	-.00006	.01380	.00019	.00019
#2	.00537	-.00064	.00112	-.00033	.00001	.00097	-.00001	.00783	.00005	.00039
#3	.00493	.00007	-.00005	-.00026	-.00001	.00105	-.00004	.00870	-.00005	.00034
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00076	.00082	-.00005	.00005	.00647	.00007	.00004	.00003	.08904	.00015
Stddev	.00006	.00099	.00061	.00084	.00441	.00026	.00013	.00016	.00911	.00118
%RSD	8.0778	121.09	1292.8	1539.8	68.169	388.86	349.57	471.54	10.234	798.93
#1	.00083	-.00018	.00024	.00047	.01089	.00014	-.00008	.00008	.08974	.00106
#2	.00075	.00084	.00037	.00061	.00648	.00028	.00018	-.00015	.07960	-.00119
#3	.00071	.00181	-.00075	-.00091	.00206	-.00022	.00002	.00017	.09778	.00057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00005	.01914	.00002	-.00037	.00009	.00012	.00011	.00077
Stddev	.00021	.00384	.00002	.00005	.00047	.00065	.00007	.00016
%RSD	459.50	20.035	117.23	12.812	546.10	558.66	66.482	20.139
#1	-.00016	.01623	.00003	-.00038	-.00043	.00036	.00019	.00094
#2	.00005	.01770	-.00001	-.00031	.00022	.00061	.00006	.00063
#3	.00025	.02349	.00004	-.00041	.00047	-.00062	.00007	.00074
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6779.7	113190.	185360.
Stddev	20.6	209.	53.
%RSD	.30357	.18474	.02852
#1	6756.9	113430.	185310.
#2	6785.5	113080.	185410.
#3	6796.8	113050.	185380.

Sample Name: IPE033WL Acquired: 5/24/2016 16:15:08 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025023 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	4.9401	2.5635	.51421	.49612	.50666	.48126	.49795	52.953	.50150
Stddev	.0158	.0042	.00481	.00091	.00062	.00036	.00103	.083	.00103
%RSD	.32014	.16176	.93469	.18380	.12321	.07485	.20653	.15669	.20504
#1	4.9584	2.5675	.51908	.49528	.50660	.48098	.49811	52.959	.50072
#2	4.9312	2.5640	.50947	.49709	.50732	.48167	.49889	53.033	.50110
#3	4.9308	2.5592	.51408	.49598	.50607	.48113	.49685	52.868	.50266
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.49542	.48761	4.8712	.49553	F .00053	48.587	.49755	.50454	.51801
Stddev	.00058	.00267	.0087	.00112	.00074	.083	.00082	.00056	.00051
%RSD	.11743	.54816	.17868	.22665	140.71	.17109	.16396	.11078	.09816
#1	.49608	.49053	4.8812	.49543	-.00017	48.566	.49669	.50469	.51745
#2	.49518	.48701	4.8656	.49446	.00045	48.679	.49831	.50500	.51843
#3	.49499	.48529	4.8667	.49670	.00131	48.517	.49765	.50392	.51817
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					.50000				
Range					-20.000%				

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	50.782	.51277	.49758	52.236	.47381	.48100	.51170	.50474	.47645
Stddev	.178	.00240	.00069	.081	.00057	.00134	.00050	.00167	.00164
%RSD	.35097	.46843	.13777	.15538	.12062	.27948	.09706	.33008	.34422
#1	50.879	.51006	.49785	52.302	.47447	.48141	.51192	.50342	.47826
#2	50.891	.51466	.49680	52.262	.47345	.47950	.51113	.50661	.47507
#3	50.577	.51358	.49809	52.145	.47350	.48209	.51205	.50419	.47603
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn
Units	mg/L
Avg	.51722
Stddev	.00117
%RSD	.22592
#1	.51759
#2	.51816
#3	.51591
Check ?	Chk Pass
Value	
Range	

Sample Name: IPE033WL Acquired: 5/24/2016 16:15:08 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025023 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5860.6	110340.	169040.
Stddev	14.3	202.	430.
%RSD	.24465	.18272	.25415
#1	5845.5	110570.	168600.
#2	5874.1	110200.	169040.
#3	5862.2	110250.	169460.

Sample Name: TXE014SB Acquired: 5/24/2016 16:17:49 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025024 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00579	.00020	.00205	.00008	.00007	.00333	-.00005	.10294	.00014	.00015
Stddev	.00039	.00055	.00093	.00017	.00006	.00022	.00004	.00300	.00009	.00005
%RSD	6.8142	275.80	45.195	209.99	86.908	6.5218	93.794	2.9096	67.330	30.297
#1	.00622	.00033	.00301	.00027	.00012	.00358	-.00001	.10639	.00006	.00016
#2	.00570	.00068	.00116	.00002	.00008	.00317	-.00004	.10108	.00024	.00020
#3	.00544	-.00040	.00199	-.00005	.00001	.00324	-.00010	.10133	.00011	.00011
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00064	.00156	-.00060	-.00065	.03797	.00002	-.00001	.00001	.13916	.00285
Stddev	.00007	.00183	.00019	.00041	.00439	.00027	.00004	.00009	.01096	.00292
%RSD	11.554	116.95	31.464	63.522	11.563	1355.3	426.56	737.59	7.8726	102.37
#1	.00072	.00104	-.00080	-.00090	.04165	.00025	-.00004	-.00008	.15112	.00546
#2	.00057	.00359	-.00056	-.00017	.03916	-.00028	-.00003	.00003	.13676	-.00030
#3	.00062	.00005	-.00043	-.00087	.03311	.00009	.00004	.00010	.12961	.00339
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	-.00002	.17827	.00109	-.00163	.00066	.00018	.00027	.00076
Stddev	.00010	.00411	.00006	.00088	.00051	.00019	.00012	.00008
%RSD	468.66	2.3051	5.8185	54.378	77.787	104.52	44.311	10.070
#1	-.00006	.18237	.00116	-.00199	.00117	.00007	.00040	.00067
#2	.00009	.17829	.00103	-.00062	.00065	.00007	.00015	.00081
#3	-.00010	.17415	.00109	-.00227	.00015	.00040	.00027	.00081
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6647.9	114410.	186690.
Stddev	27.8	574.	432.
%RSD	.41831	.50130	.23148
#1	6619.8	115070.	186200.
#2	6648.6	114100.	186830.
#3	6675.4	114060.	187030.

Sample Name: E133-03A Acquired: 5/24/2016 16:20:47 Type: Unk
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025025 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	5.3678	2.6658	.55970	.79589	.51076	.50311	.49903	F 501.86	.50942
Stddev	.0069	.0026	.00296	.00090	.00124	.00150	.00156	1.03	.00127
%RSD	.12853	.09590	.52822	.11300	.24200	.29811	.31213	.20488	.24994
#1	5.3633	2.6676	.55784	.79518	.51012	.50181	.49901	503.00	.50826
#2	5.3757	2.6669	.55816	.79560	.50998	.50475	.50060	501.58	.51078
#3	5.3642	2.6629	.56311	.79691	.51219	.50277	.49748	501.00	.50923

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.51810	.52203	4.8881	.51333	.01701	54.298	.54244	.53271	.54345
Stddev	.00081	.00143	.0020	.00220	.00011	.181	.00223	.00060	.00063
%RSD	.15665	.27339	.04145	.42842	.63449	.33411	.41044	.11291	.11683
#1	.51808	.52074	4.8862	.51544	.01689	54.214	.54074	.53254	.54373
#2	.51730	.52356	4.8878	.51351	.01709	54.174	.54163	.53221	.54272
#3	.51893	.52179	4.8902	.51105	.01706	54.506	.54496	.53338	.54389

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	55.243	.57574	.52634	57.498	F 1.0921	.46118	.52672	.51745	.50304
Stddev	.179	.00402	.00111	.102	.0004	.00055	.00166	.00124	.00106
%RSD	.32414	.69768	.20999	.17666	.04140	.11836	.31487	.24005	.20998
#1	55.057	.57471	.52537	57.381	1.0920	.46124	.52602	.51602	.50194
#2	55.259	.58018	.52754	57.549	1.0917	.46061	.52554	.51816	.50405
#3	55.414	.57235	.52611	57.564	1.0926	.46170	.52862	.51818	.50313

Elem	Zn
Units	mg/L
Avg	.54452
Stddev	.00044
%RSD	.08169
#1	.54454
#2	.54407
#3	.54496

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5213.5	108150.	158040.
Stddev	11.6	194.	225.
%RSD	.22166	.17981	.14232
#1	5208.8	108240.	157930.
#2	5226.7	108290.	157900.
#3	5205.1	107930.	158300.

Sample Name: E133-03 Acquired: 5/24/2016 16:23:37 Type: Unk
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025026 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.08890	-.00041	.00303	.30224	.00001	.01098	-.00016	F 500.25	.00074
Stddev	.00126	.00068	.00256	.00020	.00003	.00021	.00005	2.31	.00010
%RSD	1.4157	167.21	84.627	.06562	193.75	1.8705	34.117	.46251	13.023
#1	.08990	.00017	.00563	.30237	.00003	.01112	-.00019	497.82	.00081
#2	.08749	-.00023	.00294	.30201	.00003	.01108	-.00010	502.43	.00063
#3	.08932	-.00116	.00051	.30234	-.00002	.01075	-.00020	500.50	.00078

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	-.00049	.00139	.03525	-.00075	.01670	6.9683	.03892	-.00036	.00147
Stddev	.00002	.00008	.00063	.00097	.00101	.0032	.00007	.00006	.00012
%RSD	3.5222	5.9206	1.7886	130.30	6.0604	.04534	.19247	16.595	8.1277
#1	-.00050	.00148	.03595	-.00044	.01714	6.9679	.03895	-.00042	.00161
#2	-.00049	.00134	.03507	-.00184	.01554	6.9717	.03897	-.00038	.00139
#3	-.00047	.00133	.03473	.00003	.01741	6.9654	.03883	-.00030	.00140

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.96296	.00028	-.00059	2.4591	.66822	-.00281	.00046	.00560	.00346
Stddev	.01131	.00184	.00015	.0034	.00175	.00132	.00049	.00042	.00009
%RSD	1.1747	661.49	25.881	.13610	.26260	46.805	106.47	7.4790	2.6642
#1	.96199	-.00043	-.00063	2.4628	.66648	-.00206	-.00008	.00588	.00336
#2	.97473	-.00110	-.00072	2.4563	.66999	-.00434	.00087	.00579	.00354
#3	.95217	.00236	-.00042	2.4583	.66819	-.00205	.00059	.00512	.00347

Elem	Zn
Units	mg/L
Avg	.00315
Stddev	.00011
%RSD	3.5701
#1	.00305
#2	.00327
#3	.00314

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5055.8	102700.	150780.
Stddev	22.6	390.	407.
%RSD	.44743	.37941	.26967
#1	5044.0	103140.	150310.
#2	5041.6	102570.	150970.
#3	5081.9	102400.	151050.

Sample Name: E133-03J Acquired: 5/24/2016 16:26:40 Type: Unk
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025027 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.01758	-.00020	.00428	.05728	-.00001	.00208	-.00008	98.668	.00036	.00005
Stddev	.00055	.00047	.00197	.00019	.00001	.00021	.00002	.321	.00009	.00004
%RSD	3.1490	227.94	46.038	.33399	68.426	10.217	25.066	.32510	25.979	90.664
#1	.01773	.00018	.00338	.05738	-.00001	.00201	-.00010	98.318	.00034	.00010
#2	.01804	-.00007	.00292	.05741	.00000	.00232	-.00008	98.737	.00047	.00003
#3	.01697	-.00072	.00654	.05706	-.00002	.00191	-.00006	98.949	.00029	.00001

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00109	.00415	-.00088	.00215	1.3477	.00773	-.00016	.00020	.22108	.00061
Stddev	.00009	.00352	.00036	.00030	.0132	.00032	.00013	.00012	.01956	.00013
%RSD	8.4799	85.007	41.081	13.705	.97828	4.0879	83.587	63.005	8.8492	21.590
#1	.00120	.00774	-.00065	.00243	1.3338	.00736	-.00029	.00034	.24274	.00057
#2	.00102	.00401	-.00130	.00184	1.3494	.00786	-.00003	.00014	.21579	.00050
#3	.00105	.00069	-.00070	.00219	1.3600	.00795	-.00014	.00011	.20470	.00075

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	-.00007	.44991	.12629	-.00097	.00025	.00286	.00063	.00124
Stddev	.00009	.00705	.00021	.00116	.00076	.00063	.00016	.00017
%RSD	123.93	1.5674	.16602	119.58	303.38	21.876	24.447	13.711
#1	-.00016	.45805	.12636	-.00086	-.00049	.00217	.00046	.00141
#2	.00002	.44613	.12605	.00013	.00021	.00339	.00069	.00123
#3	-.00007	.44556	.12645	-.00219	.00103	.00301	.00076	.00107

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6181.4	112210.	173720.
Stddev	29.2	454.	239.
%RSD	.47259	.40473	.13769
#1	6156.6	112730.	173550.
#2	6174.0	111920.	173610.
#3	6213.6	111980.	173990.

Sample Name: E133-03D Acquired: 5/24/2016 16:29:35 Type: Unk
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025028 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.08049	-.00170	.00239	.27431	-.00004	.00875	-.00009	F 456.74	.00055
Stddev	.00114	.00081	.00186	.00038	.00005	.00022	.00004	.97	.00015
%RSD	1.4213	47.561	77.570	.13915	129.52	2.5325	48.814	.21339	26.803
#1	.08015	-.00077	.00403	.27428	-.00010	.00856	-.00004	456.43	.00039
#2	.07955	-.00214	.00278	.27471	.00000	.00870	-.00012	457.84	.00061
#3	.08176	-.00219	.00038	.27395	-.00003	.00899	-.00012	455.97	.00067

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	-.00056	.00136	.03074	-.00113	.01448	6.3162	.03566	-.00028	.00146
Stddev	.00015	.00004	.00237	.00068	.00041	.0265	.00013	.00001	.00007
%RSD	26.108	3.0644	7.7000	60.550	2.8619	.41897	.35324	4.1967	4.8419
#1	-.00072	.00137	.03096	-.00175	.01404	6.3015	.03569	-.00026	.00139
#2	-.00043	.00140	.02826	-.00124	.01486	6.3468	.03578	-.00029	.00153
#3	-.00054	.00132	.03298	-.00039	.01453	6.3004	.03553	-.00028	.00146

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.81183	.00000	-.00042	2.2066	.61411	-.00157	.00029	.00504	.00321
Stddev	.01503	.00181	.00005	.0132	.00104	.00161	.00047	.00054	.00012
%RSD	1.8509	349670.	13.017	.59647	.16918	102.53	161.27	10.742	3.8481
#1	.82894	-.00150	-.00048	2.1915	.61293	-.00328	.00065	.00566	.00335
#2	.80578	-.00050	-.00037	2.2158	.61488	-.00132	.00047	.00466	.00315
#3	.80078	.00200	-.00043	2.2124	.61453	-.00010	-.00024	.00480	.00312

Elem	Zn
Units	mg/L
Avg	.00197
Stddev	.00021
%RSD	10.423
#1	.00213
#2	.00174
#3	.00205

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5689.0	116140.	168340.
Stddev	8.1	346.	191.
%RSD	.14211	.29794	.11369
#1	5680.0	116270.	168170.
#2	5691.3	115750.	168550.
#3	5695.7	116400.	168310.

Sample Name: E133-03M Acquired: 5/24/2016 16:32:37 Type: Unk
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025029 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	5.2679	2.6397	.54184	.78627	.48952	.49890	.49102	F 532.00	.49583
Stddev	.0096	.0116	.00372	.00071	.00106	.00112	.00147	2.85	.00091
%RSD	.18302	.43823	.68712	.09007	.21678	.22490	.30000	.53662	.18294
#1	5.2644	2.6406	.54590	.78574	.48933	.49766	.49044	532.19	.49551
#2	5.2606	2.6278	.53859	.78599	.48856	.49920	.48992	534.75	.49513
#3	5.2788	2.6508	.54103	.78707	.49066	.49984	.49269	529.05	.49686

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.50217	.51704	4.8685	.49419	.01648	52.991	.52129	.52593	.52450
Stddev	.00107	.00188	.0288	.00035	.00104	.115	.00376	.00121	.00034
%RSD	.21338	.36338	.59143	.07103	6.3399	.21773	.72069	.23044	.06498
#1	.50332	.51857	4.8618	.49458	.01530	52.861	.51806	.52657	.52481
#2	.50119	.51494	4.8436	.49408	.01684	53.032	.52041	.52453	.52413
#3	.50201	.51761	4.9000	.49390	.01729	53.081	.52541	.52669	.52455

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	53.902	.56558	.52308	56.205	F 1.1398	.44758	.51415	.50267	.49451
Stddev	.262	.00764	.00069	.162	.0008	.00180	.00182	.00080	.00228
%RSD	.48622	1.3505	.13107	.28878	.06896	.40203	.35364	.15961	.46100
#1	53.749	.56675	.52232	56.054	1.1407	.44802	.51611	.50359	.49520
#2	53.752	.55743	.52365	56.183	1.1393	.44560	.51380	.50230	.49196
#3	54.204	.57257	.52327	56.377	1.1393	.44911	.51253	.50212	.49636

Elem	Zn
Units	mg/L
Avg	.53073
Stddev	.00063
%RSD	.11896
#1	.53125
#2	.53092
#3	.53003

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5032.7	104560.	149740.
Stddev	18.0	237.	398.
%RSD	.35723	.22693	.26598
#1	5012.4	104510.	149530.
#2	5039.0	104350.	150200.
#3	5046.7	104810.	149500.

Sample Name: CCV2 Acquired: 5/24/2016 16:38:22 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025031 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	97.037	1.5483	1.0422	1.9928	1.5596	2.4561	1.9895	80.543	2.5152	.99389
Stddev	.472	.0037	.0054	.0023	.0032	.0018	.0022	.113	.0017	.00056
%RSD	.48645	.24215	.52216	.11622	.20724	.07120	.10893	.14073	.06583	.05605
#1	96.647	1.5484	1.0428	1.9901	1.5566	2.4578	1.9881	80.462	2.5162	.99436
#2	96.903	1.5445	1.0366	1.9938	1.5630	2.4543	1.9884	80.494	2.5162	.99403
#3	97.562	1.5520	1.0474	1.9944	1.5592	2.4562	1.9920	80.672	2.5133	.99327
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	2.4973	24.160	2.4707	.53978	57.860	2.4574	2.5635	2.5520	61.848	1.0647
Stddev	.0037	.059	.0045	.00140	.211	.0030	.0042	.0041	.162	.0033
%RSD	.14627	.24427	.18000	.25850	.36383	.12112	.16177	.16242	.26114	.31015
#1	2.4967	24.107	2.4680	.54048	57.665	2.4540	2.5597	2.5500	61.691	1.0661
#2	2.4939	24.224	2.4683	.53818	57.832	2.4589	2.5627	2.5492	61.840	1.0609
#3	2.5012	24.149	2.4758	.54069	58.084	2.4594	2.5679	2.5567	62.014	1.0671
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.49092	62.758	.48692	2.3940	.51153	.50125	1.4881	2.6334
Stddev	.00069	.182	.00037	.0041	.00145	.00045	.0016	.0037
%RSD	.13955	.29057	.07638	.17151	.28333	.08914	.10675	.14207
#1	.49136	62.653	.48698	2.3935	.51227	.50086	1.4864	2.6306
#2	.49013	62.652	.48726	2.3902	.50986	.50174	1.4896	2.6377
#3	.49127	62.968	.48653	2.3984	.51245	.50114	1.4884	2.6320
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5612.1	106950.	161020.
Stddev	6.3	304.	162.
%RSD	.11195	.28381	.10080
#1	5605.9	107250.	160870.
#2	5618.4	106960.	161190.
#3	5611.9	106640.	161010.

Sample Name: CCB2 Acquired: 5/24/2016 16:41:09 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025032 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00373	-.00029	.00195	.00022	.00008	.00341	.00001	-.00233	-.00003
Stddev	.00081	.00035	.00211	.00006	.00005	.00032	.00004	.00682	.00008
%RSD	21.717	117.66	108.21	26.604	60.366	9.2725	283.76	292.96	242.61
#1	.00281	-.00010	.00362	.00025	.00014	.00374	-.00003	.00549	-.00010
#2	.00432	-.00069	.00267	.00026	.00007	.00337	.00002	-.00540	-.00004
#3	.00407	-.00009	-.00043	.00015	.00004	.00311	.00005	-.00708	.00005
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00016	.00041	-.00162	-.00009	-.00062	.00312	.00009	.00025	.00013
Stddev	.00011	.00012	.00251	.00048	.00027	.00926	.00013	.00010	.00013
%RSD	67.952	30.067	154.62	535.86	43.777	296.58	151.24	40.667	101.84
#1	.00020	.00033	-.00448	-.00060	-.00075	.00990	.00015	.00016	.00025
#2	.00004	.00055	-.00066	-.00002	-.00081	.00690	.00018	.00024	.00013
#3	.00024	.00035	.00026	.00036	-.00031	-.00743	-.00007	.00036	.00000
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit									
Low Limit									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	F .12267	-.00080	-.00002	.03173	-.00005	-.00041	-.00011	.00018	.00020
Stddev	.01187	.00003	.00006	.00627	.00004	.00060	.00036	.00011	.00005
%RSD	9.6782	3.5284	261.44	19.747	73.650	146.05	338.58	60.723	25.789
#1	.13190	-.00080	.00005	.03896	-.00007	.00015	-.00034	.00018	.00022
#2	.12685	-.00082	-.00004	.02840	-.00001	-.00034	-.00030	.00007	.00014
#3	.10928	-.00077	-.00008	.02784	-.00007	-.00104	.00031	.00028	.00024
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit	.10000								
Low Limit	-.10000								

Elem	Zn
Units	mg/L
Avg	-.00092
Stddev	.00029
%RSD	31.093
#1	-.00085
#2	-.00123
#3	-.00067
Check ?	Chk Pass
High Limit	
Low Limit	

Sample Name: CCB2 Acquired: 5/24/2016 16:41:09 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025032 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6574.3	107590.	177310.
Stddev	10.5	668.	150.
%RSD	.15929	.62047	.08482
#1	6562.2	108360.	177180.
#2	6581.1	107280.	177280.
#3	6579.5	107140.	177470.

Sample Name: MRLE2403 Acquired: 5/24/2016 16:44:07 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025033 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.19896	.10187	.01009	.01017	.01059	.09703	.01035	1.1225	.01044	.00989
Stddev	.00116	.00023	.00103	.00011	.00005	.00037	.00008	.0012	.00014	.00005
%RSD	.58233	.22242	10.154	1.1159	.51633	.38314	.80046	.10899	1.3205	.54155
#1	.19763	.10195	.01053	.01030	.01065	.09711	.01043	1.1222	.01030	.00988
#2	.19969	.10205	.01083	.01011	.01060	.09663	.01034	1.1215	.01044	.00984
#3	.19958	.10162	.00892	.01009	.01054	.09736	.01027	1.1239	.01057	.00995
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.01019	.19895	.00987	.01016	1.0227	.01068	.00986	.01049	1.0422	.00978
Stddev	.00005	.00074	.00018	.00050	.0091	.00029	.00010	.00010	.0069	.00077
%RSD	.48602	.37256	1.8461	4.9075	.89332	2.6995	.96548	.92826	.66001	7.8358
#1	.01017	.19921	.00994	.01066	1.0291	.01041	.00975	.01059	1.0359	.00935
#2	.01024	.19952	.01001	.00966	1.0123	.01098	.00993	.01040	1.0495	.00932
#3	.01015	.19811	.00967	.01016	1.0269	.01065	.00988	.01049	1.0412	.01066
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.01021	1.0628	.01000	.01077	.10221	.01059	.00994	.01984
Stddev	.00006	.0083	.00007	.00013	.00080	.00012	.00011	.00008
%RSD	.62054	.77739	.69403	1.2164	.77992	1.1689	1.1270	.39505
#1	.01020	1.0671	.00998	.01090	.10129	.01058	.00996	.01975
#2	.01016	1.0533	.01008	.01077	.10271	.01047	.00982	.01985
#3	.01028	1.0681	.00994	.01064	.10262	.01072	.01004	.01991
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6500.5	107670.	177000.
Stddev	16.5	350.	311.
%RSD	.25321	.32506	.17588
#1	6482.2	108060.	176740.
#2	6505.0	107370.	176920.
#3	6514.2	107580.	177350.

Sample Name: MRLE2404 Acquired: 5/24/2016 16:47:02 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025034 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.19585	.05009	F .01266	.00475	.00419	.09448	.00506	.55678	.01038
Stddev	.00160	.00093	.00151	.00006	.00001	.00084	.00005	.00152	.00005
%RSD	.81738	1.8525	11.931	1.3005	.28088	.88828	.90300	.27368	.50802
#1	.19489	.04903	.01197	.00471	.00418	.09470	.00507	.55574	.01042
#2	.19770	.05052	.01161	.00473	.00420	.09519	.00501	.55853	.01040
#3	.19497	.05073	.01439	.00482	.00418	.09356	.00510	.55608	.01032
Check ?	Chk Pass	Chk Pass	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value			.01000						
Range			20.000%						

Elem	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.01009	.01015	.09728	.00337	.10038	.21085	.00546	.00983	.01045
Stddev	.00009	.00014	.00206	.00039	.00028	.00572	.00010	.00016	.00027
%RSD	.84228	1.3398	2.1154	11.707	.27646	2.7127	1.8068	1.6188	2.6090
#1	.01019	.01001	.09764	.00342	.10011	.21670	.00553	.01000	.01046
#2	.01005	.01016	.09506	.00295	.10037	.20527	.00549	.00968	.01072
#3	.01004	.01028	.09913	.00374	.10066	.21057	.00535	.00981	.01017
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	K	Se	Ag	Na	Sr	Tl	Sn	Ti	V
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	1.0295	.00981	.00991	.52718	.00982	.01099	.01066	.01051	.00983
Stddev	.0246	.00204	.00014	.00594	.00005	.00019	.00019	.00044	.00003
%RSD	2.3930	20.760	1.3803	1.1269	.52287	1.6911	1.8110	4.2299	.35580
#1	1.0290	.01186	.01002	.52084	.00986	.01114	.01049	.01016	.00987
#2	1.0051	.00779	.00996	.53263	.00977	.01105	.01063	.01101	.00980
#3	1.0544	.00979	.00976	.52806	.00985	.01078	.01087	.01035	.00982
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Elem	Zn
Units	mg/L
Avg	.01039
Stddev	.00005
%RSD	.44063
#1	.01043
#2	.01034
#3	.01039
Check ?	Chk Pass
Value	
Range	

Sample Name: MRLE2404 Acquired: 5/24/2016 16:47:02 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025034 Type: Anaylst: DAquin/MMend
Comment:

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6567.9	108940.	179070.
Stddev	20.1	316.	470.
%RSD	.30628	.28968	.26266
#1	6553.8	109310.	179190.
#2	6558.9	108770.	178560.
#3	6590.9	108750.	179470.

Sample Name: CCV3 Acquired: 5/24/2016 16:49:59 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025035 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	97.660	1.5648	1.0536	2.0339	1.5878	2.4770	2.0052	81.079	2.5360	1.0071
Stddev	.249	.0025	.0016	.0049	.0060	.0027	.0021	.334	.0013	.0002
%RSD	.25503	.15915	.15577	.23859	.37732	.11104	.10288	.41143	.04985	.02151
#1	97.774	1.5672	1.0554	2.0293	1.5816	2.4784	2.0069	80.732	2.5364	1.0073
#2	97.832	1.5623	1.0531	2.0334	1.5884	2.4788	2.0056	81.109	2.5370	1.0073
#3	97.374	1.5648	1.0522	2.0389	1.5935	2.4739	2.0029	81.397	2.5346	1.0069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	2.5003	24.178	2.5117	.54739	58.513	2.4962	2.6048	2.5923	62.483	1.0806
Stddev	.0062	.090	.0002	.00064	.380	.0136	.0070	.0037	.494	.0037
%RSD	.24680	.37137	.00917	.11737	.64873	.54470	.26749	.14163	.79073	.33990
#1	2.5005	24.106	2.5117	.54710	58.155	2.4850	2.6107	2.5959	62.014	1.0846
#2	2.5063	24.279	2.5119	.54812	58.474	2.4924	2.5971	2.5886	62.436	1.0774
#3	2.4940	24.150	2.5115	.54694	58.911	2.5113	2.6066	2.5925	62.999	1.0800
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.49496	63.403	.49059	2.3976	.52022	.51166	1.4905	2.6682
Stddev	.00052	.241	.00092	.0042	.00092	.00096	.0053	.0027
%RSD	.10433	.38010	.18762	.17470	.17660	.18800	.35260	.09934
#1	.49514	63.209	.49107	2.4014	.52023	.51076	1.4854	2.6655
#2	.49536	63.327	.48953	2.3983	.51930	.51154	1.4959	2.6708
#3	.49438	63.673	.49117	2.3931	.52114	.51267	1.4904	2.6683
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	5532.5	105810.	160380.
Stddev	11.4	513.	414.
%RSD	.20628	.48523	.25811
#1	5521.6	106400.	160090.
#2	5531.5	105540.	160190.
#3	5544.4	105490.	160860.

Sample Name: CCB3 Acquired: 5/24/2016 16:52:47 Type: QC
Method: 16E6010(v49) Mode: CONC Corr. Factor: 1.000000
User: admin Date File: ID8E025036 Type: Anaylst: DAquin/MMend
Comment:

Elem	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00506	.00008	.00158	.00035	.00017	.00387	.00001	.00024	.00015	.00014
Stddev	.00115	.00031	.00078	.00018	.00014	.00053	.00003	.00835	.00007	.00008
%RSD	22.674	386.78	49.333	51.661	87.717	13.826	252.43	3431.4	50.661	55.419
#1	.00561	-.00024	.00073	.00055	.00033	.00445	-.00002	.00968	.00021	.00015
#2	.00584	.00038	.00175	.00029	.00011	.00375	.00002	-.00275	.00007	.00022
#3	.00375	.00010	.00226	.00020	.00006	.00341	.00004	-.00620	.00016	.00006
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Cu	Fe	Pb	Li	Mg	Mn	Mo	Ni	K	Se
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00037	-.00158	-.00063	.00056	.01393	.00035	.00032	.00008	.08685	.00058
Stddev	.00011	.00046	.00004	.00062	.01075	.00036	.00018	.00006	.02142	.00114
%RSD	29.792	29.307	6.3262	110.01	77.162	105.37	55.035	70.983	24.666	197.13
#1	.00049	-.00206	-.00059	.00126	.02389	.00075	.00035	.00011	.10361	.00187
#2	.00026	-.00113	-.00067	.00037	.00254	.00024	.00048	.00001	.06272	.00013
#3	.00036	-.00155	-.00062	.00007	.01534	.00005	.00013	.00011	.09423	-.00027
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit										
Low Limit										

Elem	Ag	Na	Sr	Tl	Sn	Ti	V	Zn
Units	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Avg	.00013	.02536	-.00003	-.00028	.00031	.00037	.00017	-.00081
Stddev	.00003	.00743	.00008	.00015	.00052	.00011	.00003	.00014
%RSD	23.758	29.295	263.66	55.791	170.37	30.636	18.524	17.178
#1	.00010	.03386	-.00005	-.00020	-.00027	.00030	.00020	-.00097
#2	.00016	.02006	.00006	-.00046	.00044	.00030	.00014	-.00078
#3	.00013	.02217	-.00010	-.00018	.00075	.00050	.00015	-.00069
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit								
Low Limit								

Int. Std.	Sc2273_A	Sc3613_R	Sc3645_A
Units	Cts/S	Cts/S	Cts/S
Avg	6582.8	109220.	178260.
Stddev	21.8	312.	80.
%RSD	.33048	.28566	.04515
#1	6561.6	109500.	178170.
#2	6581.6	109290.	178300.
#3	6605.1	108880.	178320.

EMAX LABORATORIES, INC.

DIGESTION LOG
for
ICP METALS

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot # VC-15-014-1

Filter Lot # NA

all the samples are pH < 2

Book #: EIP-129

Batch: 3P0032W

Matrix: Water

Digestor ID: E

SOP #	Rev. #
☐ EMAX-3005	4
☑ EMAX-3010	6
☐ EMAX-3050	5
☐ EMAX-200.7	4
☐ EMAX-	

Start	Temp	End	Temp
	93.9 °C		92.4 °C

Standards	ID	Amount Added (ml/g)
LCS-1	SM1A-013-11-12	0.25
LCS-2	-11-13	0.25
LCS-3	-12-09	0.5
MS	same spike soln & vol	as LCS 1,2,3
Blank Soil (Bead)	NA	NA
Reagent	**Lot# / ID**	**Amount Added (ml)**
HNO_3	SWIA-005-16-18	1.5 + 1.5
HCl	SWIA-005-15-24	2.5 + 2.5
H_2O_2	NA	NA
HNO_3(1:1)	NA	NA
pH Strip (0-14)	HC577678	NA

Digestate Location	Metals
Extract Location	NA
☑ Reagent Water ID:	SM5A-03-02-07
☑ Thermometer ID:	150590610/E54
☑ Pipette ID:	142780357
☑ Pipette ID:	239360318
☐ Pipette ID:	NA
☐ HNO_3 dispenser checked @ 5.0 ml with Class A volumetric flask	
☐ HCl dispenser checked @ 5.0 ml with Class A volumetric flask	

Prepared By: SP

Standard Added By: MSM Witnessed By: AT

Extract Rcvd By: NT Checked By: NT

EMAX LABORATORIES, INC.

FileID: IPE033W

DIGESTION LOG FOR METALS

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16IPE033W01	IPE033WB	50	ml	5/23/16 10:59	50	50	50	1	
16IPE033W02	IPE033WL	50	ml	5/23/16 10:59	50	50	50	1	
16IPE033W03	TXE014SB	10	ml	5/23/16 10:59	50	50	50	5	TCLP
16IPE033W04	E133-03	10	ml	5/23/16 11:00	50	50	50	5	TCLP
16IPE033W05	E133-03M	10	ml	5/23/16 11:00	50	50	50	5	TCLP
16IPE033W06	E133-03D	10	ml	5/23/16 11:00	50	50	50	5	TCLP

SP 5/23/16

Vd=digestate volume

PrepFctr=)ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/23/16 14:43

☑ Digestion Ended @ 5/23/16 19:01

Comments:

Prepared By: SPara

Checked By: NT

Date 5/23/16

SOP EMAX-3010 Rev. 6

FileID: TXE014S

EMAX LABORATORIES, INC.

TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	TCLPSoln	TCLPVol	Exrtract pH	Preservation	Comments
16TXE014S01	TXE014SB	0	g	5/20/16 17:59		2000		HNO_3	
16TXE014S02	E133-03	100.02	g	5/20/16 17:59	#2	2000	5.89	HNO_3	8270, 8151, 8081, Metals & Hg (UNPRESERVED)

☑ DateTimeStarted 5/20/2016 18:30 ☑ Thermometer Reset on 4/9/1900 8:38 Balance ID: 10203192. Calibration check was verified prior to use.

☑ DateTimeEnded 5/21/2016 12:30 Note: Sample preserved with HNO_3 is for metals analysis. MS/MSD were spiked prio Prepared By: DFelic/ TWangc

Extract Location: Metals Received By: MMM 5/23/16 9:46 Checked By: ML

Comment: Date 5/23/16

1116

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

Determination of TLCP Solution							Determination of TCLP Extract Filtration			Determination of % solids for aqueos phase			
LabSampleID	Phase(s)	Aliquot	Sample pH	HCl	pH	TCLPSolnReq'd	(ml)	(g)	Pressure	WtS(g)	WtF(g)	WtDFS(g)	% Solids
TXE014SB							100						
E133-03	1	5.02	9.31	3.5	6.14	#2	100	100.36	Vacuum				

Calibration of pH Meter		InstrumentID:	96
BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/20/16 18:04
SW1-01-794	7	7	5/20/16 18:03
SW1A-005-12-24	CalVer 5	5.04	5/20/16 18:05
SW1-01-780	4	4.01	5/21/16 15:16
SW1-01-794	7	7	5/21/16 15:15
5W1A-005-12-24	CalVer 5	5.04	5/21/16 15:17
ID	Reagent	Desc	Expiration Date
SP1A-07-01-08	HCl	1N	04/01/17
SW1A-005-14-09	HNO_3	Conc	04/29/17
SP1B-08-65-01	TCLP Soln	#2	10/11/16
	TCLP Soln		
Rotary Agitator #	Criteria	rpm	DateTime
1	30 ± 2 rpm	30	5/20/16 18:06
	30 ± 2 rpm		
Thermostat Setting:		Thermometer ID:	122273404
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	23.3	5/21/16 11:03
Room Temp (°C) Low	23 ± 2 °C	21.1	5/21/16 6:23
Pipette ID	PE00-01		
CONCENTRATOR (WATER BATH)			
Concentrator #	Temp Setting	Thermometer Rdg	Thermometer ID
S	S0	50	SVOC-T1
Filter ID/Lot #	20916/ 62513		
pH strip Lot#	HC577678		

Legend:

WtS = weight of sample

WtF = weight of filter

WtDFS = weight of dried filter + solids

Prepared By: DFelic/ TWangc

Checked By: ML

Date 5/23/16

MERCURY

EMAX QUALITY CONTROL DATA
LCS ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

==========

MATRIX	: WATER	
DILUTION FACTOR	: 1	1
SAMPLE ID	: MBLK1W	LCS1W
LAB SAMPLE ID	: HGE014WB	HGE014WL
LAB FILE ID	: M47E011030	M47E011031
DATE PREPARED	: 05/19/1612:10	05/19/1612:10
DATE ANALYZED	: 05/19/1619:11	05/19/1619:13
PREP BATCH	: HGE014W	HGE014W
CALIBRATION REF	: M47E0110	M47E0110

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	QC LIMIT (%)
Mercury	ND	2.5	2.52	101	80-120

EMAX QUALITY CONTROL DATA
MATRIX SPIKE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: CAFB-IDW-W-05132016	CAFB-IDW-W-05132016MS
LAB SAMPLE ID	: E133-02	E133-02M
LAB FILE ID	: M47E011035	M47E011037
DATE PREPARED	: 05/19/1612:10	05/19/1612:10
DATE ANALYZED	: 05/19/1619:22	05/19/1619:27
PREP BATCH	: HGE014W	HGE014W
CALIBRATION REF	: M47E011	M47E011

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	QC LIMIT (%)
Mercury	ND	2.50	2.35	94	80-120

EMAX QUALITY CONTROL DATA
SAMPLE DUPLICATE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW7470A

==========

MATRIX	: WATER	% MOISTURE: NA
DILUTION FACTOR	: 1	1
SAMPLE ID	: CAFB-IDW-W-05132016	CAFB-IDW-W-05132016DUP
LAB SAMPLE ID	: E133-02	E133-02D
LAB FILE ID	: M47E011035	M47E011038
DATE PREPARED	: 05/19/1612:10	05/19/1612:10
DATE ANALYZED	: 05/19/1619:22	05/19/1619:29
PREP BATCH	: HGE014W	HGE014W
CALIBRATION REF	: M47E011	M47E011

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	DUP RESULT (ug/L)	RPD (%)	MAX RPD (%)
Mercury	ND	ND	0	20

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
MERCURY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 5/19/16 **Start Time:** 18:01

End Date: 5/19/16 **End Time:** 19:37

Comments:

QC OK

Book #:	A47-101
Instrument No.:	47
Analytical Sequence/Batch:	M47E011
Method File:	HG1
Micropipette ID:	☐ ICP DOE-1
Micropipette ID:	☑ HG-03
Micropipette ID:	☑ HG-04
Micropipette ID:	☐

SOP #	Rev. #
☑ EMAX-7470	7
☐ EMAX-7471	8
☐ EMAX-245.1	3
☐ EMAX-	

STANDARDS ID	
S1	BLANK
S2	JM38-13-15-03
S3	↓
S4	
S5	
S6	
CCV	↓
ICV	JM38-13-15-04
LCS	↓
Analytical Spike	
	JM38-13-15-05 TV 3 ug/L

Analyzed By: NT

Date: 5/19/16

"M47E011"

EMAXlfid	EMAXlsid	conc	Raw_resp	rsd/rf	adatetime	DF
M47E011001	STD01REP1	0	3445		05/19/1618:01	1
M47E011002	STD02REP1	.2	17149		05/19/1618:03	1
M47E011003	STD03REP1	.5	38251		05/19/1618:05	1
M47E011004	STD04REP1	1	70173		05/19/1618:08	1
M47E011005	STD05REP1	2	135916		05/19/1618:10	1
M47E011006	STD06REP1	5	334957		05/19/1618:12	1
M47E011007	ICV	1.99	135551	0	05/19/1618:18	1
M47E011008	ICB	-.025	2414	0	05/19/1618:20	1
M47E011009	CCV1	1.97	134471	0	05/19/1618:23	1
M47E011010	CCB1	-.042	1263	0	05/19/1618:25	1
M47E011011	HGE013WB	-.021	2678	0	05/19/1618:28	1
M47E011012	HGE013WL	2.5	169283	0	05/19/1618:30	1
M47E011013	HGE013WC	2.49	169029	0	05/19/1618:33	1
M47E011014	TXE007SB	-.002	3925	0	05/19/1618:35	1
M47E011015	E523-01A	2.73	184962	0	05/19/1618:37	1
M47E011016	E523-01	-.049	796	0	05/19/1618:39	1
M47E011017	E523-01J	-.052	589	0	05/19/1618:41	5
M47E011018	E523-01M	2.13	145110	0	05/19/1618:43	1
M47E011019	E523-01S	2.14	145404	0	05/19/1618:46	1
M47E011020	E542-01	-.055	412	0	05/19/1618:48	1
M47E011021	CCV2	1.97	134280	0	05/19/1618:50	1
M47E011022	CCB2	-.024	2419	0	05/19/1618:53	1
M47E011023	E144-02A	2.77	187433	0	05/19/1618:55	1
M47E011024	E144-02	-.052	613	0	05/19/1618:57	1
M47E011025	E144-02J	-.033	1883	0	05/19/1618:59	5
M47E011026	E144-02M	2.23	151468	0	05/19/1619:02	1
M47E011027	E144-02S	2.17	147551	0	05/19/1619:04	1
M47E011028	E144-03	-.041	1344	0	05/19/1619:07	1
M47E011029	E144-04	-.024	2452	0	05/19/1619:09	1
M47E011030	HGE014WB	-.008	3495	0	05/19/1619:11	1
M47E011031	HGE014WL	2.52	170502	0	05/19/1619:13	1
M47E011032	E133-02A	3	202618	0	05/19/1619:16	1
M47E011033	CCV3	1.96	134029	0	05/19/1619:18	1
M47E011034	CCB3	-.056	333	0	05/19/1619:20	1
M47E011035	E133-02	-.037	1613	0	05/19/1619:22	1
M47E011036	E133-02J	-.045	1043	0	05/19/1619:25	5
M47E011037	E133-02M	2.35	159366	0	05/19/1619:27	1
M47E011038	E133-02D	-.041	1347	0	05/19/1619:29	1
M47E011039	E155-02	-.024	2458	0	05/19/1619:32	1
M47E011040	CCV4	1.97	134693	0	05/19/1619:34	1
M47E011041	CCB4	-.027	2282	0	05/19/1619:37	1
**********	**********	**********	**********	**********	**********	***
EMAXlfid	EMAXlsid	Xint	Yint	rrf	adatetime	DF
M47E011001	BLANK	-.0610507	4039.547	.999988	05/19/1619:37	1

M47E011

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	ICV		1.0000	1.0000	
2	ICB		1.0000	1.0000	
3	CCV1		1.0000	1.0000	
4	CCB1		1.0000	1.0000	
5	HGE013WB		1.0000	1.0000	
6	HGE013WL		1.0000	1.0000	
7	HGE013WC		1.0000	1.0000	
8	TXE007SB	TCLP	1.0000	1.0000	
9	E523-01A	TCLP	1.0000	1.0000	
10	E523-01	TCLP	1.0000	1.0000	
11	E523-01J	TCLP	1.0000	1.0000	
12	E523-01M	TCLP	1.0000	1.0000	
13	E523-01S	TCLP	1.0000	1.0000	
14	E542-01	TCLP	1.0000	1.0000	
15	CCV2		1.0000	1.0000	
16	CCB2		1.0000	1.0000	
17	E144-02A		1.0000	1.0000	
18	E144-02		1.0000	1.0000	
19	E144-02J		1.0000	1.0000	
20	E144-02M		1.0000	1.0000	
21	E144-02S		1.0000	1.0000	
22	E144-03		1.0000	1.0000	
23	E144-04		1.0000	1.0000	
24	HGE014WB		1.0000	1.0000	
25	HGE014WL		1.0000	1.0000	
26	E133-02A		1.0000	1.0000	
27	CCV3		1.0000	1.0000	
28	CCB3		1.0000	1.0000	
29	E133-02		1.0000	1.0000	
30	E133-02J		1.0000	1.0000	
31	E133-02M		1.0000	1.0000	
32	E133-02D		1.0000	1.0000	
33	E155-02		1.0000	1.0000	
34	CCV4		1.0000	1.0000	
35	CCB4		1.0000	1.0000	
36			1.0000	1.0000	
37			1.0000	1.0000	
38			1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	
44			1.0000	1.0000	

NT 5/19/16

WinHg Database 1.3

File Utility Help

Protocol HG1 Dataset/Proto M47E011 /HG1

Protocol | Line info | Cal Curve | Report | Ctrl Chart | Viewer

Reset

Calib Coeffs

New Cal

Update Coeffs

Spike Coeffs

A

B 1.51129e-5

C -6.10145e-2

Rho .999988

Type Linear

Calibrated

Accepted

Accept

Rel. Abs.
334957

Accepted

New

Include S1 Rep 1 2 3 4 5

Conc. 5.00

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3
01	.00000	-.009	-.009	3445	1	3445		
02	.20000	.198	-.002	17149	0%	17149		
03	.50000	.517	.017	38251	0%	38251		
04	1.0000	1.00	-.000	70173	0%	70173		
05	2.0000	1.99	-.007	135916	0%	135916		
06	5.0000	5.00	.001	334958	0%	334957		

Ready CAP NUM

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Standard: 1 Rep: 1 Seq: 1 18:01:12 19 May 16 HG

Hg .000 ppb 3445

*** Standard: 2 Rep: 1 Seq: 2 18:03:37 19 May 16 HG

Hg .200 ppb 17149

*** Standard: 3 Rep: 1 Seq: 3 18:05:43 19 May 16 HG

Hg .500 ppb 38251

*** Standard: 4 Rep: 1 Seq: 4 18:08:12 19 May 16 HG

Hg 1.00 ppb 70173

*** Standard: 5 Rep: 1 Seq: 5 18:10:19 19 May 16 HG

Hg 2.00 ppb 135916

*** Standard: 6 Rep: 1 Seq: 6 18:12:28 19 May 16 HG

Hg 5.00 ppb 334957

*** Sample ID: ICV Seq: 7 18:18:42 19 May 16 HG

Hg 1.99 ppb 135551

*** Sample ID: ICB Seq: 8 18:20:49 19 May 16 HG

Hg -.025 ppb 2414

*** Sample ID: CCV1 Seq: 9 18:23:51 19 May 16 HG

Hg 1.97 ppb 134471

*** Sample ID: CCB1 Seq: 10 18:25:59 19 May 16 HG

Hg -.042 ppb 1263

*** Sample ID: HGE013WB Seq: 11 18:28:29 19 May 16 HG

Hg -.021 ppb 2678

*** Sample ID: HGE013WL Seq: 12 18:30:51 19 May 16 HG

Hg 2.50 ppb 169283

*** Sample ID: HGE013WC Seq: 13 18:33:12 19 May 16 HG

Hg 2.49 ppb 169029

*** Sample ID: TXE007SB Seq: 14 18:35:20 19 May 16 HG
TCLP
Hg -.002 ppb 3925

*** Sample ID: E523-01A Seq: 15 18:37:27 19 May 16 HG
TCLP
Hg 2.73 ppb 184962

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: E523-01 Seq: 16 18:39:37 19 May 16 HG
TCLP
Hg -.049 ppb 796

*** Sample ID: E523-01J Seq: 17 18:41:45 19 May 16 HG
TCLP
Hg -.052 ppb 589

*** Sample ID: E523-01M Seq: 18 18:43:52 19 May 16 HG
TCLP
Hg 2.13 ppb 145110

*** Sample ID: E523-01S Seq: 19 18:46:29 19 May 16 HG
TCLP
Hg 2.14 ppb 145404

*** Sample ID: E542-01 Seq: 20 18:48:34 19 May 16 HG
TCLP
Hg -.055 ppb 412

*** Sample ID: CCV2 Seq: 21 18:50:56 19 May 16 HG

Hg 1.97 ppb 134280

*** Sample ID: CCB2 Seq: 22 18:53:07 19 May 16 HG

Hg -.024 ppb 2419

*** Sample ID: E144-02A Seq: 23 18:55:18 19 May 16 HG

Hg 2.77 ppb 187433

*** Sample ID: E144-02 Seq: 24 18:57:25 19 May 16 HG

Hg -.052 ppb 613

*** Sample ID: E144-02J Seq: 25 18:59:37 19 May 16 HG

Hg -.033 ppb 1883

*** Sample ID: E144-02M Seq: 26 19:02:03 19 May 16 HG

Hg 2.23 ppb 151468

*** Sample ID: E144-02S Seq: 27 19:04:55 19 May 16 HG

Hg 2.17 ppb 147551

*** Sample ID: E144-03 Seq: 28 19:07:22 19 May 16 HG

Hg -.041 ppb 1344

*** Sample ID: E144-04 Seq: 29 19:09:42 19 May 16 HG

Hg -.024 ppb 2452

*** Sample ID: HGE014WB Seq: 30 19:11:50 19 May 16 HG

Hg -.008 ppb 3495

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: HGE014WL Seq: 31 19:13:59 19 May 16 HG

Hg 2.52 ppb 170502

*** Sample ID: E133-02A Seq: 32 19:16:08 19 May 16 HG

Hg 3.00 ppb 202618

*** Sample ID: CCV3 Seq: 33 19:18:16 19 May 16 HG

Hg 1.96 ppb 134029

*** Sample ID: CCB3 Seq: 34 19:20:23 19 May 16 HG

Hg -.056 ppb 333

*** Sample ID: E133-02 Seq: 35 19:22:53 19 May 16 HG

Hg -.037 ppb 1613

*** Sample ID: E133-02J Seq: 36 19:25:03 19 May 16 HG

Hg -.045 ppb 1043

*** Sample ID: E133-02M Seq: 37 19:27:31 19 May 16 HG

Hg 2.35 ppb 159366

*** Sample ID: E133-02D Seq: 38 19:29:39 19 May 16 HG

Hg -.041 ppb 1347

*** Sample ID: E155-02 Seq: 39 19:32:21 19 May 16 HG

Hg -.024 ppb 2458

*** Sample ID: CCV4 Seq: 40 19:34:32 19 May 16 HG

Hg 1.97 ppb 134693

*** Sample ID: CCB4 Seq: 41 19:37:19 19 May 16 HG

Hg -.027 ppb 2282

EMAX LABORATORIES, INC.

DIGESTION LOG
for
MERCURY

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Comments:

Digestion Vessel Lot #: 02515001

Samples pH = <2

ICAL on HGE0BW

Book #: E47-101
Batch No.: HGE014W
Matrix: Water

SOP #	Rev. #
☑ EMAX-7470	7
☐ EMAX-7471	8
☐ EMAX-245.1	3
☐ EMAX-	

Standards	ID	Conc. (µg/L)	Amount Added (ml)
ICAL	SM3B-03-15-03	50	0.2, 0.5, 1, 2, 5
CCV	↓	↓	2
ICV	SM3B-03-15-04	↓	2
LCS/MS	↓	↓	2.5

Reagent	ID / Lot #
HNO_3	SW1A-005-16-15
HCl	N/A
H_2SO_4	SW1A-005-15-01
$KMnO_4$	SM5B-03-71-01
$K_2S_2O_8$	SM5B-03-70-01
$NH_2OH \cdot HCl$	SM5B-03-70-04
$SnCl_2$	SM5B-03-70-02
Silica Sand	N/A
Reagent Water	SM5A-03-02-07
pH strip 0-14	HC957885

Digestor ID/ Temp (°C): A | 95.3

Thermometer ID/LOC: 111241125 | A15

Thermometer ID/LOC: N/A

Pipette ID: ICP DOE-1, HG-03, HG-04

☐ H_2SO_4 dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ HNO_3 dispenser checked @ ___ ml with Class A graduated cylinder

Prepared By: NT

Standard Added By: NT Witnessed By: [illegible]

EMAX LABORATORIES, INC.

DIGESTION LOG FOR MERCURY

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16HGE014W01	HGE014WB	50	ml	5/19/16 10:59	80	50	80	1	
16HGE014W02	HGE014WL	50	ml	5/19/16 10:59	80	50	80	1	
16HGE014W03	E133-02	50	ml	5/19/16 10:59	80	50	80	1	
16HGE014W04	E133-02M	50	ml	5/19/16 10:59	80	50	80	1	
16HGE014W05	E133-02D	50	ml	5/19/16 10:59	80	50	80	1	
16HGE014W06	E155-02	50	ml	5/19/16 10:59	80	50	80	1	

NT
5/19/16

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/19/16 12:10

Prepared By: NTan

☑ Digestion Ended @ 5/19/16 14:40

Checked By: NT

Comments:

Date 5/19/16

SOP EMAX-7470 Rev. 7

TCLP MERCURY

METHOD SW1311/7470A
TCLP MERCURY

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : LEACHATE
InstrumentID : 47

CLIENT SAMPLE ID	EMAX SAMPLE ID	RESULTS (ug/L)	DIL'N FACTOR	MOIST (%)	LOQ (ug/L)	DL (ug/L)	LOD (ug/L)	ANALYSIS DATETIME	PREPARATION DATETIME	DATA FILE ID	CAL REF	PREP BATCH	COLLECTION DATETIME	RECEIVED DATETIME
MBLK1W	HGE017WB	ND	1	NA	0.50	0.054	0.10	05/23/1618:35	05/23/1612:00	M47E013041	M47E013	HGE017W	NA	NA
LCS1W	HGE017WL	2.46	1	NA	0.50	0.054	0.10	05/23/1618:38	05/23/1612:00	M47E013042	M47E013	HGE017W	NA	NA
LCD1W	HGE017WC	2.45	1	NA	0.50	0.054	0.10	05/23/1618:40	05/23/1612:00	M47E013043	M47E013	HGE017W	NA	NA
MBLK2W	TXE014S8	ND	1	NA	5.0	0.54	1.0	05/23/1618:42	05/23/1612:00	M47E013044	M47E013	HGE017W	NA	NA
CAF8-IDW-S-05132016	E133-03	ND	1	NA	5.0	0.54	1.0	05/23/1618:51	05/23/1612:00	M47E013048	M47E013	HGE017W	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016MS	E133-03M	25.6	1	NA	5.0	0.54	1.0	05/23/1618:56	05/23/1612:00	M47E013050	M47E013	HGE017W	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016MSD	E133-03S	25.4	1	NA	5.0	0.54	1.0	05/23/1618:58	05/23/1612:00	M47E013051	M47E013	HGE017W	05/13/1608:00	05/14/16

DateTime Leached: 05/20/16 18:30
Note: 5 ml leachate was diluted to 50 ml reagent water prior to digestion.

EMAX QUALITY CONTROL DATA
LAB CONTROL SAMPLE ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW1311/7470A

MATRIX	WATER		% MOISTURE: N/A
DILUTION FACTOR	1	1	1
SAMPLE ID	MBLK1W	LCS1W	LCD1W
LAB SAMPLE ID	HGE017WB	HGE017WL	HGE017WC
LAB FILE ID	M47E013041	M47E013042	M47E013043
DATE PREPARED	05/23/1612:00	05/23/1612:00	05/23/1612:00
DATE ANALYZED	05/23/1618:35	05/23/1618:38	05/23/1618:40
PREP BATCH	HGE017W	HGE017W	HGE017W
CALIBRATION REF	M47E013	M47E013	M47E013

ACCESSION:

PARAMETER	MB RESULT (ug/L)	SPIKE AMT (ug/L)	BS RESULT (ug/L)	BS REC (%)	SPIKE AMT (ug/L)	BSD RESULT (ug/L)	BSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Mercury	ND	2.50	2.46	98	2.50	2.45	98	0	80-120	20

EMAX QUALITY CONTROL DATA
MS/MSD ANALYSIS

CLIENT : URS CORPORATION
PROJECT : CANNON AFB PBR
BATCH NO. : 16E133
METHOD : SW1311/7470A

MATRIX	LEACHATE		% MOISTURE: NA
DILUTION FACTOR	1	1	1
SAMPLE ID	CAFB-IDW-S-05132016	CAFB-IDW-S-05132016MS	CAFB-IDW-S-05132016MSD
LAB SAMPLE ID	E133-03	E133-03M	E133-03S
LAB FILE ID	M47E013048	M47E013050	M47E013051
DATE PREPARED	05/23/1612:00	05/23/1612:00	05/23/1612:00
DATE ANALYZED	05/23/1618:51	05/23/1618:56	05/23/1618:58
PREP BATCH	HGE017W	HGE017W	HGE017W
CALIBRATION REF	M47E013	M47E013	M47E013

ACCESSION:

PARAMETER	PARENT RESULT (ug/L)	SPIKE AMT (ug/L)	MS RESULT (ug/L)	MS REC (%)	SPIKE AMT (ug/L)	MSD RESULT (ug/L)	MSD REC (%)	RPD (%)	QC LIMIT (%)	MAX RPD (%)
Mercury	ND	25.0	25.6	102	25.0	25.4	102	1	80-120	20

EMAX LABORATORIES, INC.

ANALYSIS RUN LOG
for
MERCURY

Note: For samples and relevant QCs/Standards analyzed, refer to attached analytical sequence.

Start Date: 5/23/16 Start Time: 17:00

End Date: 5/23/16 End Time: 20:22

Comments:

QC OK

E577-01 MS/MSD were out of QC limit, However Post spike was analyzed

Book #: A47-101

Instrument No.: 47

Analytical Sequence/Batch: M47E013

Method File: HG1

Micropipette ID: ☐ ICP DOE-1

Micropipette ID: ☑ HG-03

Micropipette ID: ☑ HG-04

Micropipette ID: ☐

SOP #	Rev. #
☑ EMAX-7470	7
☐ EMAX-7471	8
☐ EMAX-245.1	3
☐ EMAX-	

STANDARDS ID	
S1	BLANK
S2	SM3B-13-15-09
S3	↓
S4	
S5	
S6	
CCV	
ICV	SM3B-13-15-10
LCS	↓
Analytical Spike	
SM3B-13-~~15~~16-01	TV 3ug/L
NT 5/23/16	

Analyzed By: NT

Date: 5/23/16

"M47E013"

EMAXlfid	EMAXlsid	conc	Raw_resp	rsd/rf	adatetime	DF
M47E013001	STD01REP1	0	3561		05/23/1617:00	1
M47E013002	STD02REP1	.2	18307		05/23/1617:03	1
M47E013003	STD03REP1	.5	36035		05/23/1617:05	1
M47E013004	STD04REP1	1	69893		05/23/1617:08	1
M47E013005	STD05REP1	2	131936		05/23/1617:10	1
M47E013006	STD06REP1	5	329386		05/23/1617:13	1
M47E013007	ICV	1.98	132698	0	05/23/1617:18	1
M47E013008	ICB	-.034	1754	0	05/23/1617:20	1
M47E013009	CCV1	1.97	132180	0	05/23/1617:22	1
M47E013010	CCB1	-.072	-723	0	05/23/1617:24	1
M47E013011	HGE016WB	-.025	2381	0	05/23/1617:26	1
M47E013012	HGE016WL	2.5	166676	0	05/23/1617:28	1
M47E013013	HGE016WC	2.41	160667	0	05/23/1617:31	1
M47E013014	TXE012WB	-.021	2648	0	05/23/1617:33	1
M47E013015	E522-01A	3.01	199366	0	05/23/1617:36	1
M47E013016	E522-01	-.06	114	0	05/23/1617:38	1
M47E013017	E522-01J	-.02	2672	0	05/23/1617:40	5
M47E013018	E522-01M	2.05	137269	0	05/23/1617:42	1
M47E013019	E522-01S	2.1	140181	0	05/23/1617:45	1
M47E013020	E522-03	-.055	406	0	05/23/1617:48	1
M47E013021	CCV2	1.99	133397	0	05/23/1617:50	1
M47E013022	CCB2	-.054	503	0	05/23/1617:52	1
M47E013023	TXE010SB	-.023	2501	0	05/23/1617:55	1
M47E013024	E568-01A	3.08	203862	0	05/23/1617:57	1
M47E013025	E568-01	-.051	687	0	05/23/1618:00	1
M47E013026	E568-01J	-.028	2195	0	05/23/1618:02	5
M47E013027	E568-01M	2.6	172654	0	05/23/1618:04	1
M47E013028	E568-01S	2.53	168047	0	05/23/1618:06	1
M47E013029	E522-02	-.063	-76	0	05/23/1618:09	1
M47E013030	E522-04	.013	4860	0	05/23/1618:11	1
M47E013031	E556-01	.001	4026	0	05/23/1618:13	1
M47E013032	E564-01	-.031	1982	0	05/23/1618:15	1
M47E013033	CCV3	1.95	130613	0	05/23/1618:17	1
M47E013034	CCB3	-.078	-1089	0	05/23/1618:19	1
M47E013035	E565-01	.022	5430	0	05/23/1618:21	1
M47E013036	E566-01	-.018	2836	0	05/23/1618:24	1
M47E013037	E567-01	-.016	2971	0	05/23/1618:26	1
M47E013038	E570-01	-.053	520	0	05/23/1618:29	1
M47E013039	E579-01	-.025	2360	0	05/23/1618:31	1
M47E013040	E962-01	-.009	3377	0	05/23/1618:33	1
M47E013041	HGE017WB	-.037	1592	0	05/23/1618:35	1
M47E013042	HGE017WL	2.46	163763	0	05/23/1618:38	1
M47E013043	HGE017WC	2.45	163354	0	05/23/1618:40	1
M47E013044	TXE014SB	-.074	-824	0	05/23/1618:42	1
M47E013045	CCV4	1.92	128589	0	05/23/1618:45	1
M47E013046	CCB4	-.071	-631	0	05/23/1618:47	1
M47E013047	E133-03A	2.58	171622	0	05/23/1618:49	1
M47E013048	E133-03	-.023	2491	0	05/23/1618:51	1
M47E013049	E133-03J	-.049	810	0	05/23/1618:53	5
M47E013050	E133-03M	2.56	170048	0	05/23/1618:56	1
M47E013051	E133-03S	2.54	168960	0	05/23/1618:58	1
M47E013052	TXE013SB	-.002	3840	0	05/23/1619:01	1
M47E013053	E767-01A	2.45	163451	0	05/23/1619:03	1
M47E013054	E767-01	-.046	1005	0	05/23/1619:05	1
M47E013055	E767-01J	-.014	3085	0	05/23/1619:07	5
M47E013056	TXE011SB	-.025	2342	0	05/23/1619:10	1
M47E013057	CCV5	1.98	132370	0	05/23/1619:12	1
M47E013058	CCB5	-.08	-1190	0	05/23/1619:14	1
M47E013059	E569-01A	2.92	193805	0	05/23/1619:17	1
M47E013060	E569-01	-.068	-440	0	05/23/1619:19	1
M47E013061	E569-01J	-.065	-253	0	05/23/1619:21	5
M47E013062	E569-01M	2.48	165281	0	05/23/1619:24	1
M47E013063	E569-01S	2.51	166906	0	05/23/1619:26	1
M47E013064	WTE002SB	-.065	-259	0	05/23/1619:28	1
M47E013065	E577-01A	2.93	194429	0	05/23/1619:30	1
M47E013066	E577-01	-.065	-221	0	05/23/1619:32	1
M47E013067	E577-01J	-.051	641	0	05/23/1619:35	5
M47E013068	E577-01M	1.77	119088	0	05/23/1619:37	1
M47E013069	CCV6	1.98	132299	0	05/23/1619:40	1
M47E013070	CCB6	-.08	-1212	0	05/23/1619:42	1
M47E013071	E577-01S	1.87	125271	0	05/23/1619:44	1
M47E013072	E541-01	-.06	82	0	05/23/1619:46	1
M47E013073	E571-01	-.063	-138	0	05/23/1619:49	1

M47E013074	E572-01	-.05	770	0	05/23/1619:51	1
M47E013075	E573-01	-.028	2147	0	05/23/1619:53	1
M47E013076	E574-01	0	3988	0	05/23/1619:55	1
M47E013077	E575-01	-.006	3591	0	05/23/1619:57	1
M47E013078	E576-01	-.022	2577	0	05/23/1620:00	1
M47E013079	E578-01	-.067	-347	0	05/23/1620:02	1
M47E013080	E597-01	-.069	-475	0	05/23/1620:04	1
M47E013081	CCV7	1.96	131633	0	05/23/1620:06	1
M47E013082	CCB7	-.054	468	0	05/23/1620:09	1
M47E013083	E598-01	-.024	2455	0	05/23/1620:12	1
M47E013084	E950-01	-.021	2623	0	05/23/1620:14	1
M47E013085	E767-01	-.026	2268	0	05/23/1620:16	1
M47E013086	E767-01A	2.98	197521	0	05/23/1620:18	1
M47E013087	CCV8	1.98	132747	0	05/23/1620:20	1
M47E013088	CCB8	-.083	-1438	0	05/23/1620:22	1
**********	**********	**********	**********	**********	**********	***
EMAXlfid	EMAXlsid	Xint	Yint	rrf	adatetime	DF
M47E013001	BLANK	-6.150912E-02	3995.579	.9999512	05/23/1620:22	1

M47E013

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	ICV		1.0000	1.0000	
2	ICB		1.0000	1.0000	
3	CCV1		1.0000	1.0000	
4	CCB1		1.0000	1.0000	
5	HGE016WB		1.0000	1.0000	
6	HGE016WL		1.0000	1.0000	
7	HGE016WC		1.0000	1.0000	
8	TXE012WB	TCLP	1.0000	1.0000	
9	E522-01A	TCLP	1.0000	1.0000	
10	E522-01	TCLP	1.0000	1.0000	
11	E522-01J	TCLP	1.0000	1.0000	
12	E522-01M	TCLP	1.0000	1.0000	
13	E522-01S	TCLP	1.0000	1.0000	
14	E522-03	TCLP	1.0000	1.0000	
15	CCV2		1.0000	1.0000	
16	CCB2		1.0000	1.0000	
17	TXE010SB	TCLP	1.0000	1.0000	
18	E568-01A	TCLP	1.0000	1.0000	
19	E568-01	TCLP	1.0000	1.0000	
20	E568-01J	TCLP	1.0000	1.0000	
21	E568-01M	TCLP	1.0000	1.0000	
22	E568-01S	TCLP	1.0000	1.0000	
23	E522-02	TCLP	1.0000	1.0000	
24	E522-04	TCLP	1.0000	1.0000	
25	E556-01	TCLP	1.0000	1.0000	
26	E564-01	TCLP	1.0000	1.0000	
27	CCV3		1.0000	1.0000	
28	CCB3		1.0000	1.0000	
29	E565-01	TCLP	1.0000	1.0000	
30	E566-01	TCLP	1.0000	1.0000	
31	E567-01	TCLP	1.0000	1.0000	
32	E570-01	TCLP	1.0000	1.0000	
33	E579-01	TCLP	1.0000	1.0000	
34	E962-01	TCLP	1.0000	1.0000	
35	HGE017WB	TCLP	1.0000	1.0000	
36	HGE017WL	TCLP	1.0000	1.0000	
37	HGE017WC	TCLP	1.0000	1.0000	
38	TXE014SB	TCLP	1.0000	1.0000	
39	CCV4		1.0000	1.0000	
40	CCB4		1.0000	1.0000	
41	E133-03A	TCLP	1.0000	1.0000	
42	E133-03	TCLP	1.0000	1.0000	
43	E133-03J	TCLP	1.0000	1.0000	
44	E133-03M	TCLP	1.0000	1.0000	

NT 5/23/16

cup	sample ID	extended ID	weight	volume	? A D F P S U SC UI US C1..7
1	E133-03S	TCLP	1.0000	1.0000	
2	TXE013SB	TCLP	1.0000	1.0000	
3	E767-01A	TCLP	1.0000	1.0000	
4	E767-01	TCLP	1.0000	1.0000	
5	E767-01J	TCLP	1.0000	1.0000	
6	TXE011SB	TCLP	1.0000	1.0000	
7	CCV5		1.0000	1.0000	
8	CCB5		1.0000	1.0000	
9	E569-01A	TCLP	1.0000	1.0000	
10	E569-01	TCLP	1.0000	1.0000	
11	E569-01J	TCLP	1.0000	1.0000	
12	E569-01M	TCLP	1.0000	1.0000	
13	E569-01S	TCLP	1.0000	1.0000	
14	WTE002SB	STLC	1.0000	1.0000	
15	E577-01A	STLC	1.0000	1.0000	
16	E577-01	STLC	1.0000	1.0000	
17	E577-01J	STLC	1.0000	1.0000	
18	E577-01M	STLC	1.0000	1.0000	
19	CCV6		1.0000	1.0000	
20	CCB6		1.0000	1.0000	
21	E577-01S	STLC	1.0000	1.0000	
22	E541-01	STLC	1.0000	1.0000	
23	E571-01	STLC	1.0000	1.0000	
24	E572-01	STLC	1.0000	1.0000	
25	E573-01	STLC	1.0000	1.0000	
26	E574-01	STLC	1.0000	1.0000	
27	E575-01	STLC	1.0000	1.0000	
28	E576-01	STLC	1.0000	1.0000	
29	E578-01	STLC	1.0000	1.0000	
30	E597-01	STLC	1.0000	1.0000	
31	CCV7		1.0000	1.0000	
32	CCB7		1.0000	1.0000	
33	E598-01	STLC	1.0000	1.0000	
34	E950-01	STLC	1.0000	1.0000	
35	E767-01	STLC	1.0000	1.0000	
36	E767-01A	TCLP	1.0000	1.0000	
37	CCV8		1.0000	1.0000	
38	CCB8		1.0000	1.0000	
39			1.0000	1.0000	
40			1.0000	1.0000	
41			1.0000	1.0000	
42			1.0000	1.0000	
43			1.0000	1.0000	
44			1.0000	1.0000	

NT 5/23/16

WinHg Database 1.3

File Utility Help

Protocol HG1 Dataset/Proto M47E013 /HG1

Protocol | Line info | Cal Curve | Report | Ctrl Chart | Viewer

Reset

Calib Coeffs

New Cal

Update Coeffs

Spike Coeffs

A

B 1.53928e-5

C -6.13618e-2

Rho .999951

Type Linear

Calibrated

Accepted

Accept

Rel. Abs.
329386

Accepted

New

Include S1 Rep 1 ☑ 2 ☐ 3 ☐ 4 ☐ 5 ☐

Conc. 5.01

S	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3
01	.00000	-.007	-.007	3562	0	3561		
02	.20000	.220	.020	18308	0%	18307		
03	.50000	.493	-.007	36035	0%	36035		
04	1.0000	1.01	.014	69893	0%	69893		
05	2.0000	1.97	-.030	131937	0%	131936		
06	5.0000	5.01	.009	329386	0%	329386		

Ready CAP NUM

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Standard: 1 Rep: 1				Seq: 1	17:00:57 23 May 16	HG		
Hg	.000	ppb	3561					
*** Standard: 2 Rep: 1				Seq: 2	17:03:08 23 May 16	HG		
Hg	.200	ppb	18307					
*** Standard: 3 Rep: 1				Seq: 3	17:05:46 23 May 16	HG		
Hg	.500	ppb	36035					
*** Standard: 4 Rep: 1				Seq: 4	17:08:29 23 May 16	HG		
Hg	1.00	ppb	69893					
*** Standard: 5 Rep: 1				Seq: 5	17:10:46 23 May 16	HG		
Hg	2.00	ppb	131936					
*** Standard: 6 Rep: 1				Seq: 6	17:13:05 23 May 16	HG		
Hg	5.00	ppb	329386					
*** Sample ID: ICV				Seq: 7	17:18:02 23 May 16	HG		
Hg	1.98	ppb	132698					
*** Sample ID: ICB				Seq: 8	17:20:18 23 May 16	HG		
Hg	-.034	ppb	1754					
*** Sample ID: CCV1				Seq: 9	17:22:29 23 May 16	HG		
Hg	1.97	ppb	132180					
*** Sample ID: CCB1				Seq: 10	17:24:35 23 May 16	HG		
Hg	-.072	ppb	-723					
*** Sample ID: HGE016WB				Seq: 11	17:26:43 23 May 16	HG		
Hg	-.025	ppb	2381					
*** Sample ID: HGE016WL				Seq: 12	17:28:59 23 May 16	HG		
Hg	2.50	ppb	166676					
*** Sample ID: HGE016WC				Seq: 13	17:31:25 23 May 16	HG		
Hg	2.41	ppb	160667					
*** Sample ID: TXE012WB			TCLP	Seq: 14	17:33:36 23 May 16	HG		
Hg	-.021	ppb	2648					
*** Sample ID: E522-01A			TCLP	Seq: 15	17:36:06 23 May 16	HG		
Hg	3.01	ppb	199366					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: E522-01				Seq: 16	17:38:17 23 May 16	HG		
			TCLP					
Hg	-.060	ppb	114					
*** Sample ID: E522-01J				Seq: 17	17:40:39 23 May 16	HG		
			TCLP					
Hg	-.020	ppb	2672					
*** Sample ID: E522-01M				Seq: 18	17:42:56 23 May 16	HG		
			TCLP					
Hg	2.05	ppb	137269					
*** Sample ID: E522-01S				Seq: 19	17:45:01 23 May 16	HG		
			TCLP					
Hg	2.10	ppb	140181					
*** Sample ID: E522-03				Seq: 20	17:48:29 23 May 16	HG		
			TCLP					
Hg	-.055	ppb	406					
*** Sample ID: CCV2				Seq: 21	17:50:45 23 May 16	HG		
Hg	1.99	ppb	133397					
*** Sample ID: CCB2				Seq: 22	17:52:56 23 May 16	HG		
Hg	-.054	ppb	503					
*** Sample ID: TXE010SB				Seq: 23	17:55:14 23 May 16	HG		
			TCLP					
Hg	-.023	ppb	2501					
*** Sample ID: E568-01A				Seq: 24	17:57:52 23 May 16	HG		
			TCLP					
Hg	3.08	ppb	203862					
*** Sample ID: E568-01				Seq: 25	18:00:09 23 May 16	HG		
			TCLP					
Hg	-.051	ppb	687					
*** Sample ID: E568-01J				Seq: 26	18:02:26 23 May 16	HG		
			TCLP					
Hg	-.028	ppb	2195					
*** Sample ID: E568-01M				Seq: 27	18:04:37 23 May 16	HG		
			TCLP					
Hg	2.60	ppb	172654					
*** Sample ID: E568-01S				Seq: 28	18:06:44 23 May 16	HG		
			TCLP					
Hg	2.53	ppb	168047					
*** Sample ID: E522-02				Seq: 29	18:09:01 23 May 16	HG		
			TCLP					
Hg	-.063	ppb	-76					
*** Sample ID: E522-04				Seq: 30	18:11:08 23 May 16	HG		
			TCLP					
Hg	.013	ppb	4860					

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: E556-01				Seq: 31	18:13:26 23 May 16	HG		
			TCLP					
Hg	.001	ppb	4026					
*** Sample ID: E564-01				Seq: 32	18:15:35 23 May 16	HG		
			TCLP					
Hg	-.031	ppb	1982					
*** Sample ID: CCV3				Seq: 33	18:17:45 23 May 16	HG		
Hg	1.95	ppb	130613					
*** Sample ID: CCB3				Seq: 34	18:19:52 23 May 16	HG		
Hg	-.078	ppb	-1089					
*** Sample ID: E565-01				Seq: 35	18:21:58 23 May 16	HG		
			TCLP					
Hg	.022	ppb	5430					
*** Sample ID: E566-01				Seq: 36	18:24:36 23 May 16	HG		
			TCLP					
Hg	-.018	ppb	2836					
*** Sample ID: E567-01				Seq: 37	18:26:56 23 May 16	HG		
			TCLP					
Hg	-.016	ppb	2971					
*** Sample ID: E570-01				Seq: 38	18:29:02 23 May 16	HG		
			TCLP					
Hg	-.053	ppb	520					
*** Sample ID: E579-01				Seq: 39	18:31:10 23 May 16	HG		
			TCLP					
Hg	-.025	ppb	2360					
*** Sample ID: E962-01				Seq: 40	18:33:16 23 May 16	HG		
			TCLP					
Hg	-.009	ppb	3377					
*** Sample ID: HGE017WB				Seq: 41	18:35:22 23 May 16	HG		
			TCLP					
Hg	-.037	ppb	1592					
*** Sample ID: HGE017WL				Seq: 42	18:38:01 23 May 16	HG		
			TCLP					
Hg	2.46	ppb	163763					
*** Sample ID: HGE017WC				Seq: 43	18:40:11 23 May 16	HG		
			TCLP					
Hg	2.45	ppb	163354					
*** Sample ID: TXE014SB				Seq: 44	18:42:29 23 May 16	HG		
			TCLP					
Hg	-.074	ppb	-824					
*** Sample ID: CCV4				Seq: 45	18:45:18 23 May 16	HG		
Hg	1.92	ppb	128589					

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: CCB4 Seq: 46 18:47:26 23 May 16 HG

Hg -.071 ppb -631

*** Sample ID: E133-03A Seq: 47 18:49:32 23 May 16 HG
TCLP
Hg 2.58 ppb 171622

*** Sample ID: E133-03 Seq: 48 18:51:44 23 May 16 HG
TCLP
Hg -.023 ppb 2491

*** Sample ID: E133-03J Seq: 49 18:53:55 23 May 16 HG
TCLP
Hg -.049 ppb 810

*** Sample ID: E133-03M Seq: 50 18:56:23 23 May 16 HG
TCLP
Hg 2.56 ppb 170048

*** Sample ID: E133-03S Seq: 51 18:58:50 23 May 16 HG
TCLP
Hg 2.54 ppb 168960

*** Sample ID: TXE013SB Seq: 52 19:01:10 23 May 16 HG
TCLP
Hg -.002 ppb 3840

*** Sample ID: E767-01A Seq: 53 19:03:30 23 May 16 HG
TCLP
Hg 2.45 ppb 163451

*** Sample ID: E767-01 Seq: 54 19:05:39 23 May 16 HG
TCLP
Hg -.046 ppb 1005

*** Sample ID: E767-01J Seq: 55 19:07:57 23 May 16 HG
TCLP
Hg -.014 ppb 3085

*** Sample ID: TXE011SB Seq: 56 19:10:23 23 May 16 HG
TCLP
Hg -.025 ppb 2342

*** Sample ID: CCV5 Seq: 57 19:12:34 23 May 16 HG

Hg 1.98 ppb 132370

*** Sample ID: CCB5 Seq: 58 19:14:41 23 May 16 HG

Hg -.080 ppb -1190

*** Sample ID: E569-01A Seq: 59 19:17:08 23 May 16 HG
TCLP
Hg 2.92 ppb 193805

*** Sample ID: E569-01 Seq: 60 19:19:26 23 May 16 HG
TCLP
Hg -.068 ppb -440

Line	Conc.	Units	SD/RSD	1	2	3	4	5

*** Sample ID: E569-01J Seq: 61 19:21:35 23 May 16 HG
TCLP
Hg -.065 ppb -253

*** Sample ID: E569-01M Seq: 62 19:24:11 23 May 16 HG
TCLP
Hg 2.48 ppb 165281

*** Sample ID: E569-01S Seq: 63 19:26:18 23 May 16 HG
TCLP
Hg 2.51 ppb 166906

*** Sample ID: WTE002SB Seq: 64 19:28:25 23 May 16 HG
STLC
Hg -.065 ppb -259

*** Sample ID: E577-01A Seq: 65 19:30:42 23 May 16 HG
STLC
Hg 2.93 ppb 194429

*** Sample ID: E577-01 Seq: 66 19:32:48 23 May 16 HG
STLC
Hg -.065 ppb -221

*** Sample ID: E577-01J Seq: 67 19:35:06 23 May 16 HG
STLC
Hg -.051 ppb 641

*** Sample ID: E577-01M Seq: 68 19:37:23 23 May 16 HG
STLC
Hg 1.77 ppb 119088

*** Sample ID: CCV6 Seq: 69 19:40:06 23 May 16 HG

Hg 1.98 ppb 132299

*** Sample ID: CCB6 Seq: 70 19:42:13 23 May 16 HG

Hg -.080 ppb -1212

*** Sample ID: E577-01S Seq: 71 19:44:41 23 May 16 HG
STLC
Hg 1.87 ppb 125271

*** Sample ID: E541-01 Seq: 72 19:46:51 23 May 16 HG
STLC
Hg -.060 ppb 82

*** Sample ID: E571-01 Seq: 73 19:49:03 23 May 16 HG
STLC
Hg -.063 ppb -138

*** Sample ID: E572-01 Seq: 74 19:51:09 23 May 16 HG
STLC
Hg -.050 ppb 770

*** Sample ID: E573-01 Seq: 75 19:53:17 23 May 16 HG
STLC
Hg -.028 ppb 2147

Line	Conc.	Units	SD/RSD	1	2	3	4	5
*** Sample ID: E574-01				Seq: 76	19:55:35 23 May 16	HG		
			STLC					
Hg	.000	ppb	3988					
*** Sample ID: E575-01				Seq: 77	19:57:53 23 May 16	HG		
			STLC					
Hg	-.006	ppb	3591					
*** Sample ID: E576-01				Seq: 78	20:00:12 23 May 16	HG		
			STLC					
Hg	-.022	ppb	2577					
*** Sample ID: E578-01				Seq: 79	20:02:31 23 May 16	HG		
			STLC					
Hg	-.067	ppb	-347					
*** Sample ID: E597-01				Seq: 80	20:04:38 23 May 16	HG		
			STLC					
Hg	-.069	ppb	-475					
*** Sample ID: CCV7				Seq: 81	20:06:58 23 May 16	HG		
Hg	1.96	ppb	131633					
*** Sample ID: CCB7				Seq: 82	20:09:20 23 May 16	HG		
Hg	-.054	ppb	468					
*** Sample ID: E598-01				Seq: 83	20:12:01 23 May 16	HG		
			STLC					
Hg	-.024	ppb	2455					
*** Sample ID: E950-01				Seq: 84	20:14:09 23 May 16	HG		
			STLC					
Hg	-.021	ppb	2623					
*** Sample ID: E767-01				Seq: 85	20:16:17 23 May 16	HG		
			STLC					
Hg	-.026	ppb	2268					
*** Sample ID: E767-01A				Seq: 86	20:18:25 23 May 16	HG		
			TCLP					
Hg	2.98	ppb	197521					
*** Sample ID: CCV8				Seq: 87	20:20:37 23 May 16	HG		
Hg	1.98	ppb	132747					
*** Sample ID: CCB8				Seq: 88	20:22:46 23 May 16	HG		
Hg	-.083	ppb	-1438					

EMAX LABORATORIES, INC.

DIGESTION LOG
for
MERCURY

Note: For samples, relevant QCs/Standards digested, refer to attached digestion sequence.

Book #: E47-101
Batch No.: HGE017W
Matrix: Water

Comments:

Digestion Vessel Lot #: D2515001

Samples pH = <2

Maximum amount of KMnO4 was added

ICAL on HGE016W

SOP #	Rev. #
☑ EMAX-7470	7
☐ EMAX-7471	8
☐ EMAX-245.1	3
☐ EMAX-	

Standards	ID	Conc. (µg/L)	Amount Added (ml)
ICAL	SH3B-13-15-09	50	0.2, 0.5, 1, 2, 5
CCV	↓	↓	2
ICV	SH3B-B-15-10	↓	2
LCS/MS	↓	↓	2.5

Reagent	ID / Lot #
HNO_3	SW1A-005-16-15
HCl	N/A
H_2SO_4	SW1A-005-15-01
$KMnO_4$	SH5B-03-71-01
$K_2S_2O_8$	SH5B-03-70-01
$NH_2OH \cdot HCl$	SH5B-03-70-04
$SnCl_2$	SH5B-03-70-02
Silica Sand	N/A
Reagent Water	SH5A-03-02-07
pH strip 0-14	HC577678

Digestor ID/ Temp (°C): B / 95.1

Thermometer ID/LOC: 150590604 / B32

Thermometer ID/LOC: N/A

Pipette ID: ICP DOE-1, HG-03, HG-04

☐ H_2SO_4 dispenser checked @ 2.5 ml with Class A graduated cylinder

☐ HCl dispenser checked @ ___ ml with Class A graduated cylinder

☐ HNO_3 dispenser checked @ ___ ml with Class A graduated cylinder

Prepared By: NT

Standard Added By: NT Witnessed By: SP

EMAX LABORATORIES, INC.

DIGESTION LOG FOR MERCURY

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	Vd(ml)	ExpAmt	ExpVd(ml)	PrepFctr	Comments
16HGE017W01	HGE017WB	50	ml	5/23/16 10:12	80	50	80	1	
16HGE017W02	HGE017WL	50	ml	5/23/16 10:12	80	50	80	1	
16HGE017W03	HGE017WC	50	ml	5/23/16 10:12	80	50	80	1	
16HGE017W04	TXE014SB	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W05	E133-03	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W06	E133-03M	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W07	E133-03S	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W08	TXE013SB	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W09	E767-01	5	ml	5/23/16 10:12	80	50	80	10	TCLP
16HGE017W10	WTE002SB	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W11	E577-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W12	E577-01M	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W13	E577-01S	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W14	E541-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W15	E571-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W16	E572-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W17	E573-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W18	E574-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W19	E575-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W20	E576-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W21	E578-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W22	E597-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W23	E598-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W24	E767-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W25	E950-01	5	ml	5/23/16 10:12	80	50	80	10	STLC
16HGE017W26	TXE011SB	5	ml	5/23/16 11:40	80	50	80	10	TCLP
16HGE017W27	E569-01	5	ml	5/23/16 11:40	80	50	80	10	TCLP
16HGE017W28	E569-01M	5	ml	5/23/16 11:40	80	50	80	10	TCLP
16HGE017W29	E569-01S	5	ml	5/23/16 11:40	80	50	80	10	TCLP

NT
5/23/16

Vd=digestate volume

PrepFctr=(ExpAmt/Aliquot)*(Vd/ExpVd)

☑ Digestion Started @ 5/23/16 12:00

Prepared By: NTan

☑ Digestion Ended @ 5/23/16 14:30

Checked By: NT

Comments:

Date 5/23/16

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

PrepBatchID	LabSampleID	Aliquot	Unit	DateTime	TCLPSoln	TCLPVol	Exrtract pH	Preservation	Comments
16TXE014S01	TXE014SB	0	g	5/20/16 17:59		2000		HNO_3	
16TXE014S02	E133-03	100.02	g	5/20/16 17:59	#2	2000	5.89	HNO_3	8270, 8151, 8081, Metals & Hg (UNPRESERVED)

☑ DateTimeStarted 5/20/2016 18:30 ☑ Thermometer Reset on 4/9/1900 8:38 Balance ID: 10203192. Calibration check was verified prior to use.

☑ DateTimeEnded 5/21/2016 12:30 Note: Sample preserved with HNO_3 is for metals analysis. MS/MSD were spiked prio Prepared By: DFelic/ TWangc

Extract Location: Metals Received By: MJM 5/23/16 9:46 Checked By: ML

Comment: Date 5/23/16

11173

EMAX LABORATORIES, INC.

FileID: TXE014S

TCLP EXTRACTION LOG

Determination of TLCP Solution							Determination of TCLP Extract Filtration			Determination of % solids for aqueos phase			
LabSampleID	Phase(s)	Aliquot	Sample pH	HCl	pH	TCLPSolnReq'd	(ml)	(g)	Pressure	WtS(g)	WtF(g)	WtDFS(g)	% Solids
TXE014SB							100						
E133-03	1	5.02	9.31	3.5	6.14	#2	100	100.36	Vacuum				

Calibration of pH Meter		InstrumentID:	96
BufferID	Value	Reading	DateTime
SW1-01-780	4	4.01	5/20/16 18:04
SW1-01-794	7	7	5/20/16 18:03
SW1A-005-12-24	CalVer 5	5.04	5/20/16 18:05
SW1-01-780	4	4.01	5/21/16 15:16
SW1-01-794	7	7	5/21/16 15:15
5W1A-005-12-24	CalVer 5	5.04	5/21/16 15:17
ID	Reagent	Desc	Expiration Date
SP1A-07-01-08	HCl	1N	04/01/17
5W1A-005-14-09	HNO_3	Conc	04/29/17
SP1B-08-65-01	TCLP Soln	#2	10/11/16
	TCLP Soln		
Rotary Agitator #	Criteria	rpm	DateTime
1	30 ± 2 rpm	30	5/20/16 18:06
	30 ± 2 rpm		
Thermostat Setting:		Thermometer ID:	122273404
TCLP Room Temperature	Criteria	Rdg	DateTime
Room Temp (°C) High	23 ± 2 °C	23.3	5/21/16 11:03
Room Temp (°C) Low	23 ± 2 °C	21.1	5/21/16 6:23
Pipette ID	PE00-01		
CONCENTRATOR (WATER BATH)			
Concentrator #	Temp Setting	Thermometer Rdg	Thermometer ID
5	50	50	SVOC-T1
Filter ID/Lot #	20916/ 62513		
pH strip Lot#	HC577678		

Legend:

WtS = weight of sample

WtF = weight of filter

WtDFS = weight of dried filter + solids

Prepared By: DFelic/ TWangc

Checked By: ML

Date 5/23/16

PAINT FILTER LIQUID TEST

METHOD SW9095B
Paint Filter Liquid Test

Client : URS CORPORATION
Project : CANNON AFB PBR
Batch No. : 16E133

Matrix : SOIL
Instrument ID : NA

SAMPLE ID	EMAX SAMPLE ID	RESULTS (ml)	DLF	MOIST	LOQ (ml)	LDD (ml)	Analysis DATETIME	Extraction DATETIME	LFID	CAL REF	PREP BATCH	Collection DATETIME	Received DATETIME
CAFB-IDW-S-05132016	E133-03	ND	1	4.0	5.21	NA	05/15/1615:10	NA	PFE00201	PFE002	PFE002S	05/13/1608:00	05/14/16
CAFB-IDW-S-05132016DUP	E133-03D	ND	1	4.0	5.21	NA	05/15/1615:10	NA	PFE00202	PFE002	PFE002S	05/13/1608:00	05/14/16

EMAX QUALITY CONTROL DATA
DUPLICATE ANALYSIS

CLIENT: URS CORPORATION
PROJECT: CANNON AFB PBR
METHOD: SW9095B
MATRIX: SOIL
% MOISTURE: 4.0

BATCH NO.: 16E133
SAMPLE ID: CAFB-IDW-S-05132016DUP
CONTROL NO.: E133-03D

DATE RECEIVED: 05/14/16
DATE EXTRACTED: NA
DATE ANALYZED: 05/15/16 15:10

ACCESSION:

PARAMETER	SAMPLE (ml)	DUP. SAMPLE (ml)	RPD (%)	RPD LIMIT (%)
FREE LIQUID	ND	ND	0	20

EMAX LABORATORIES, INC.

PAINT FILTER LIQUID ANALYSIS LOG

SOP ☑ EMAX-9095 Rev. No. 3 ☐ EMAX- Conical Paint Filter Used: 60 Mesh Temp (°C): NA Book # A45-004

Start Date/Time: 05/15/16 15:05 End Date/Time: 05/15/16 15:10

ANALYTICAL BATCH * PFE002

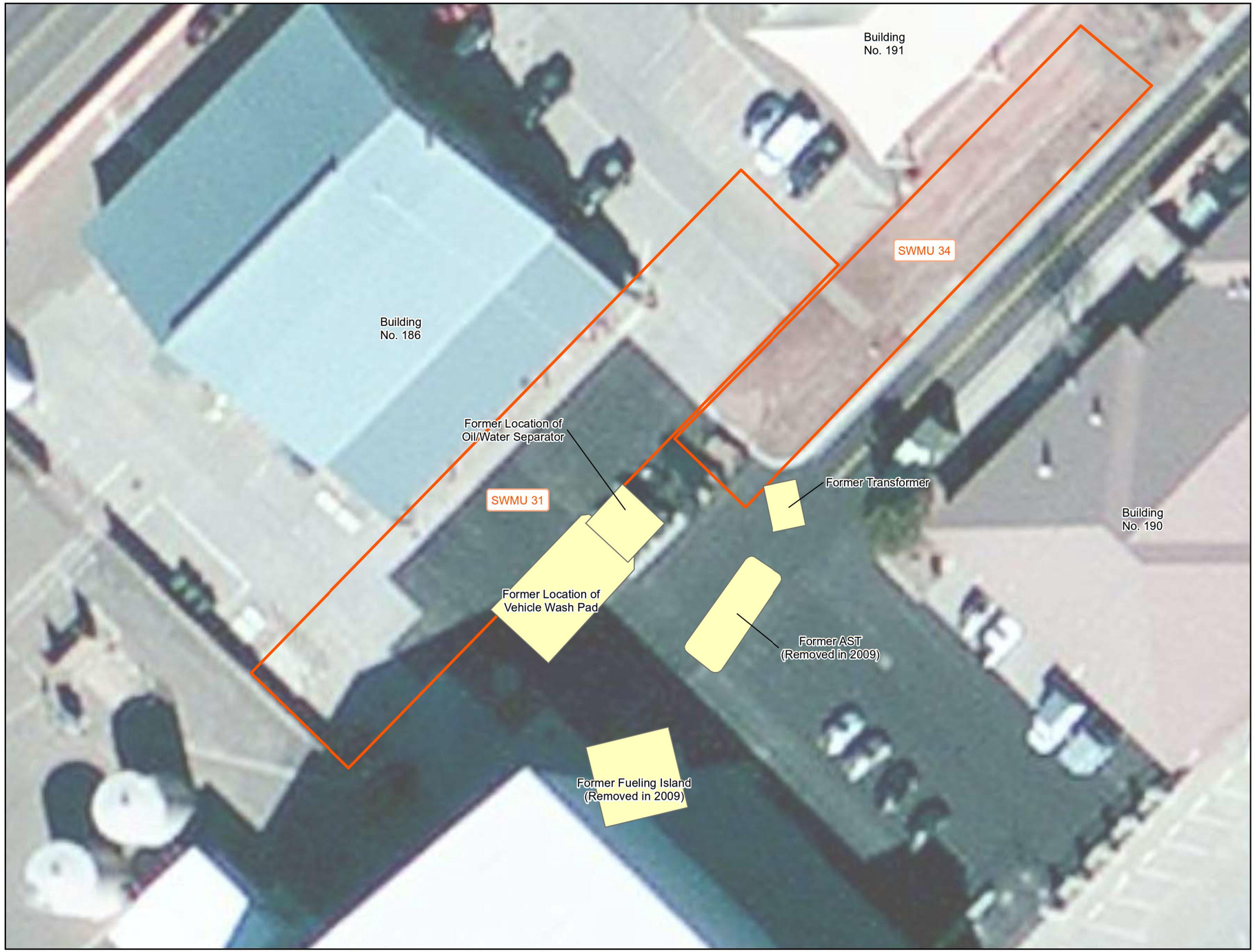
Date File Name	Analytical Batch	Lab Sample ID	Matrix	Sample Amt (g | ml)	Run Time (min)	Time Lapsed (min)	Filtrate Vol Collected (ml)	Free Liquids/ Results (ml/min)
1	PFE002	E133-03	Soil	100.08	15:05-15:10	5	0	ND
2	PFE002	E133-03D	Soil	100.04	15:05-15:10	5	0	ND
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24							TK 05/15/16	
25							~~TK 05/05/16~~	

Comments:
Balance ID: 10304418
Filter ID: SWRI-01-866

Analyzed by TK

Date 05/15/16

1178



LEGEND

- SWMU Boundary
- Former Structures
- Cannon AFB Boundary
- Highway
- Major Road

NOTES

AGE = Aerospace Ground Equipment
AST = Aboveground Storage Tank
No. = Number
SWMU = Solid Waste Management Unit

Former Structure Locations and SWMU Boundaries are approximated based on available information

N

SITE LOCATION

Revision Date:04/19/12

0 15 30 60
Feet

0 5 10 20
Meters

Projection : NAD_1983_StatePlane_New_Mexico_East_FIPS_3001_Feet

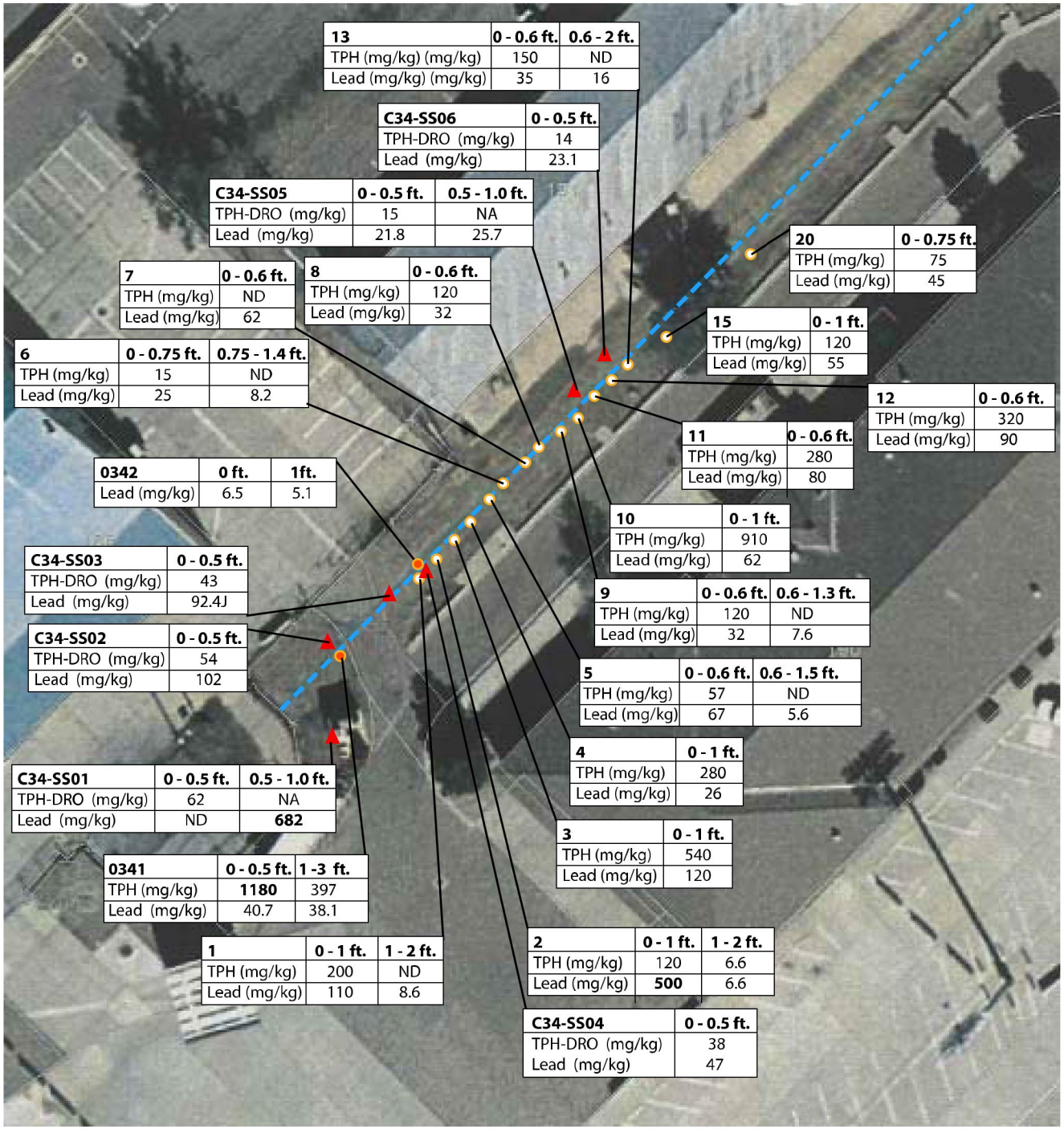
CANNON AIR FORCE BASE, NEW MEXICO

CORRECTIVE ACTION COMPLETE PROPOSAL
EIGHT SOLID WASTE MANGEMENT UNITS

FIGURE I-2

SITE FEATURES AND LOCATION MAP
SWMUs 31 (AGE Maintenance Pad) and 34 (AGE Drainage Ditch)

G:\Midwest_PBC\Cannon_AFB\GIS_Documents\Project_Maps\Cannon_CACP\john.nanceMidwestPBC_EG30000_013_FigI-2_SiteLayoutSWMU31-34.mxd 04/19/12



LEGEND

- Soil Boring Locations (Radian, 1987)
- Soil Boring Location (Woodward-Clyde, 1991)
- Soil Locations (URS, 2009)
- Ditch

NOTE: **Bold** Indicates an Exceedance

DRO = Diesel Range Organics
ft. = Feet
J = Estimated
(mg/kg) = milligram per kilogram
NA = Not Applicable
ND = Nondetect
RCRA = Resource Conservation and Recovery Act
SWMU = Solid Waste Management Unit
TPH = Total Petroleum Hydrocarbons

SITE LOCATION

Revision Date: 03/15/12

N

0 50 100
Feet

0 25
Meters

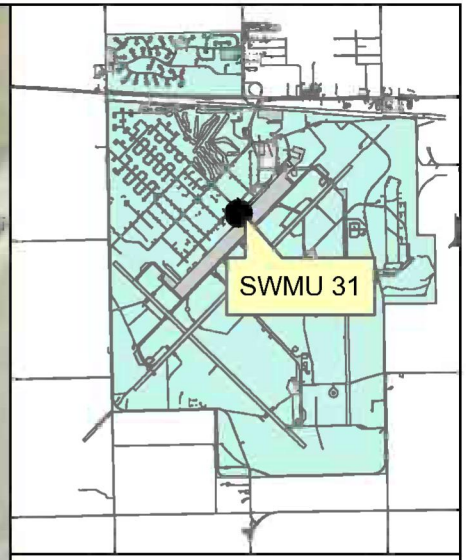
CANNON AIR FORCE BASE, NEW MEXICO

CORRECTIVE ACTION COMPLETE PROPOSAL
EIGHT SOLID WASTE MANAGEMENT UNITS

FIGURE I-8

FIELD INVESTIGATION RESULTS AT SWMU 34 (AGE DRAINAGE DITCH)

I:\144106_EG30000_A10.ai



Legend

Confirmation Soil Samples

Fence

Excavation Bound

Remedy Completion Report
SWMU 31 AGE Maintenance Facility Shop Pad
Cannon Air Force Base, New Mexico

Figure 3-2

SWMU 31 Completed Extent of Excavation

Revision Date: 2/23/2010

F:\projects\GisServices\ECAS\DK03 - CAFB SWMU 31, 109, 127\gis2\projects\022110_UpdateFigs\RemCompletionReport_Fig3-2.mxd