MEMORANDUM

TO:

FROM: JOEL I. CEHN

SUBJECT: 2017 TESTING RESULTS

DATE: MARCH 27, 2017

CC:

BACKGROUND & APPROACH

Environmental testing of the Brandeis Bardin Campus (BBC) occurs periodically, as part of an ongoing program to confirm the safety of the property. This year's testing included sediments and surface water near the property line with Boeing. There are a limited number of ravines that carry surface water runoff towards BBC. If contaminants are migrating from SSFL Area IV, they would be found in these ravines. Thus, the testing occurs there.

I collected fine sediments from the bottom of the ravines, since most contaminants would attach to these sediments. This campaign I visited four ravines: drainages from the old "sodium burn pit" (FSDF), from the old reactor area, from an old waste facility (RMDF), and from the sodium reactor area (SRE). Locations are listed in Tables 1 and 2, and shown in Figure 1. In December 2015, I placed sediment traps in two ravines that would catch any runoff occurring the rainy season. The trap in the reactor area drainage survived, but the one in the burn pit drainage did not. That trap (labeled BB-17) yielded fine sediments and rainwater runoff.

Groundwater springs near the property line were also tested, as was spring OS-10. Testing occurred the week of January 16th.

SUMMARY OF TESTING RESULTS

Radioactivity in Sediments

Sediments closest to the property line were tested for strontium-90, and gamma-emitting nuclides. Strontium-90 (a beta-emitting nuclide) is a reactor byproduct and a known Area IV contaminant. All results were negative for Sr-90. Results for gamma-emitting nuclides showed the presence of natural radioactivity (e.g., thorium and radium). Eleven nuclides were included in the analysis. Cesium-137 was detected at very low levels (up to 0.08 pCi/g). However, one sample result (BB-16L) was flagged as "All peaks have bad shape," which suggests a false positive result. This nuclide is present in the Northern Hemisphere, due to past nuclear weapons testing in the Pacific and elsewhere. Levels in

these samples are well within this background, given in DTSC's Lookup Table as 0.225 pCi/g.

PCBs in Sediments

Polychlorinated biphenyls (PCBs) were not detected in any sediment samples. In 2015, PCBs were detected at 14 and 18 parts per billion (ppb), which is in line with DTSC's Lookup Table value of 17 ppb.

Dioxins in Sediments

Samples from three drainages were tested for dioxins and furans. SSFL's sodium burn pit had the potential for creating these compounds. Results are given in parts per trillion (ppt), toxicity equivalent (TEQ), the measure used by California DTSC.*

Burn Pit Drainage – 0.505 ppt. Reactor Area Drainage – 0.564 ppt. SRE Drainage – 1.14 ppt.

The levels in the burn pit and reactor area drainages are at or below natural background levels. The level in the SRE drainage is in line with those found by DOE's contractor in this drainage in 2013.[†] This level is slightly above the Lookup Table's background value of 0.912 ppt, but may still be due to natural sources (i.e., forest fires). The level is below action levels found in the literature (7 ppt up to 1,000 ppt)[‡].

Hydrocarbons in Sediments

In 2013, DOE's contractor detected very low levels of SVOCs at BBC. In the current campaign, six sediment samples were taken; four from drainage ravines and two from background areas. These were analyzed for semi-volatile organic compounds (SVOCs) using EPA method 8270. No hydrocarbons were detected.

TCE in Groundwater

Trichloroethene (TCE) is a known SSFL contaminant. Water from springs OS-3 and OS-10 was collected before exposing the water to air, which would result in the loss of this volatile chemical. Other springs could not be sampled in this way. Tests of both springs were negative for TCE.

^{*} DTSC Human Health Risk Assessment, Note 2, Dioxins, May 2009.

[†] Phase 3 Chemical Data Gap Investigation, CDM Federal Programs, October 2014.

[‡] Review of State Soil Cleanup Levels For Dioxin, U.S. EPA, National Center for Environmental Assessment, December 2009.

Tritium in Water

Water was collected from three flowing springs, and three ravines. Two ravines had standing water, most likely spring-fed. The third ravine sample came from the sediment and rain runoff trap (see Table 2). Springs OS-3, OS-10, and spring water from the SRE drainage were negative for tritium. Tritium was detected in the three other samples.

Water from the reactor area sediment trap showed tritium at 29.0 ± 9.7 pCi/L. This is consistent with natural tritium in rainwater[§], which was the source of the sample. Spring OS-7 contained tritium at 16.1 ± 6.4 pCi/L. A spring northeast of OS-7 (BB-16A) contained tritium at 41.9 ± 6.4 pCi/L. Both of these are slightly elevated, due to past releases from SSFL. Tritium levels continue to fall—OS-7 tested at 25 pCi/L in 2015—and will eventually become not detectable.

Other Radioactivity in Water

In 2012, EPA's contractor detected gross alpha radioactivity in spring OS-10.** That result was attributed to sediment in the water sample (see discussion below). That test was repeated here and OS-10 was negative for gross alpha radiation. The spring was also tested for radioactive strontium-90, and none was detected.

Water collected in the sediment trap in the reactor area drainage was also tested for radioactivity. The test was negative for strontium-90, while the gross alpha test showed $16.2 \pm 6.9 \,\mathrm{pCi/L}$. This sample sat in the sediment trap, in contact with soil, for up to a year. This would account for a positive finding, with the most likely source of radioactivity being natural radioactive minerals dissolved out of the soil (e.g., thorium, radium). Reactor products can be largely ruled out since very few of these emit alpha radiation, and since Sr-90 was not detected. On the other hand, thorium, radium, and nearly all naturally radioactive minerals emit alpha radiation. There was insufficient volume to test for gamma-emitting nuclides.

CONCLUSIONS AND RECOMMENDATIONS

Results are unremarkable. Analytes are at or near background levels, or not present at all. Results continue to show that the BBC property is free of contamination. Drainage ravine sediments that could potentially carry contaminants toward BBC are free of contamination. Groundwater near the property line contains trace levels of tritium, but these are diminishing. I wouldn't recommend further testing for at least another year.

Copies of the lab reports are attached. Please contact me if you have any questions.

[§] A 2006 rainwater sample also contained 29 pCi/L tritium.

^{**} Final Groundwater Report Area IV Radiological Study, HydroGeologic, Inc., July 24, 2012. See also DTSC's re-test showing no radioactivity, (page 27)

http://www.dtsc-ssfl.com/files/lib offsite investig/bbi/Reports/67220 Feb 2014 OS-10 lab results.pdf

Table 1. Ravine Sediments Tested

Locations	Sample Code	Analyzed for:*	Comments
Boeing Runoff from old sodium burn pit area	BB-18	Rad, PCBs, dioxins, SVOCs	Just below the property line
Boeing Runoff from old reactor areas	BB-17	Rad, PCBs, dioxins	Very near the SW property line
Boeing Runoff from old RMDF areas	BB-16L	Rad, SVOCs	Below the property line
Downstream from the above runoffs.	OS-2	PCBs, SVOCs	Well below the property line, near the Red Tank
Boeing Runoff from old sodium reactor area (SRE)	BB-19M	Rad, PCBs, dioxins, SVOCs	Below the property line
Southwest corner of BBC, but not in drainages from Boeing	BB-16A and 16B	SVOCs	Background locations

Note: Locations shown on Figure 1.

* Rad = radioactivity; SVOC = semi-volatile organic compounds

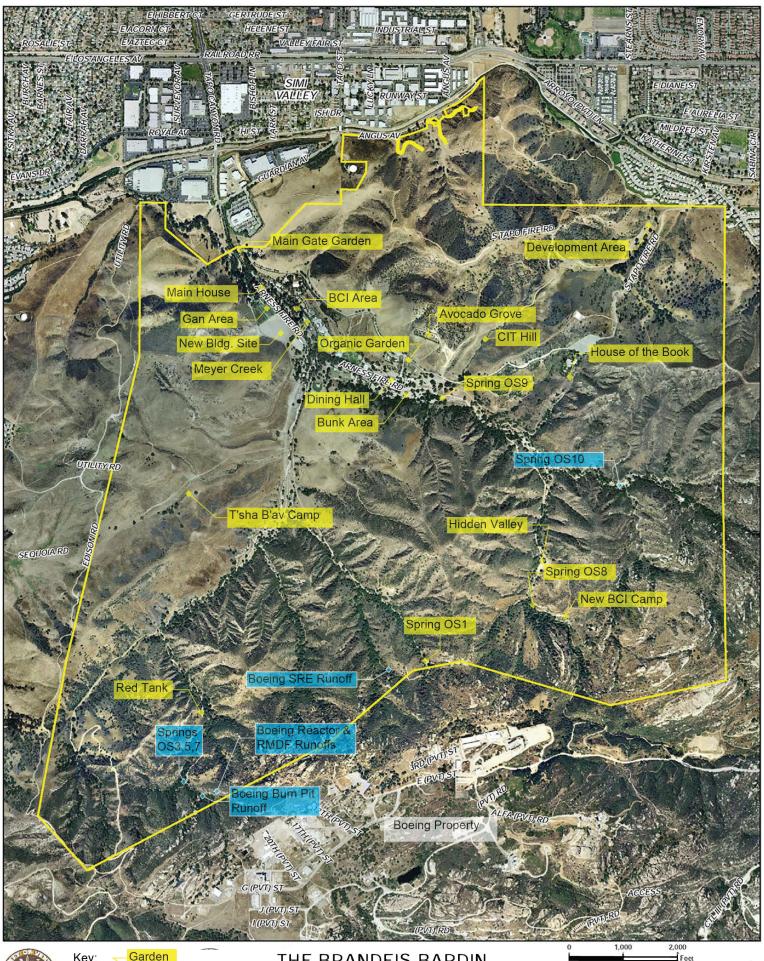
TESTING MEMO 2017

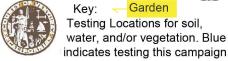
Table 2. Water Tested

Location	Analyzed for:	Comments
Spring OS-3	TCE, Tritium	Southwest corner of property
Spring OS-7	Tritium	Southwest corner of property
Spring OS-10	TCE, Tritium, Stronium-90, Gross alpha rad.	Near Old Well campsite
BB-16A*	Tritium	Southwest corner of property
BB-17*	Tritium, Stronium-90, Gross alpha rad.	Rainwater runoff collected in sediment trap, reactor area drainage
BB-19M *	Tritium	SRE drainage ravine

Note: Locations shown on Figure 1.

^{*} Surface water from ravines.







LABORATORY REPORTS

ARS and Eurofin Labs
.....University of Miami Tritium Lab

Note: Contents are shown and linked with pdf bookmarks.



ARS International, LLC

Laboratory Analysis Report

ARS1-17-00216 Revision 1

Prepared for:

Applied Sciences Company

Joel I. Cehn 4714 Windsor Blvd Cambria, CA 93428

cehn@aol.com

Phone: (510) 863-1570

Project Manager Review

Management Review

Notes: ARS International, LLC assumes no liability for the use or the interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

Contact Person: Questions regarding this analytical report should be addressed to:

Project Manager
ProjectManagers@amrad.com

Phone: 225.381.2991 Fax: 225.381.2996 ANAB ACCREDITED DODELAP

LELAP Cert# 01949

INTERNATIONAL

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

Case Narrative

SDG# ARS1-17-00216 COC SOLID SAMPLES



CASE NARRATIVE

Client:

Applied Sciences Company

Project:

BBI

SDG Number:

ARS1-17-00216

Received Date: Report Date: 1/24/2017 2/24/2017

SAMPLE RECEIPT

The samples were received in good condition and the samples were screened for radioactive contamination as per procedure **ARS-062 "Sample Receiving"**. The temperature of the samples upon receipt was 15 degrees C. After a discussion with the client, the decision was made to proceed with analysis. Sample OS-10 (VOA) collected 1/16/2017---not preserved---received 1/24/2017 with hold time exceeded. Decision made by client to proceed with all analysis.

ANALYTICAL DATA

This data package contains sample and QC results for eight (8) soil samples requested for the above referenced project on 1/23/2017.

The analysis for gamma spectroscopy were performed using SOP ARS-007/EPA 901.1M.

The analysis for Strontium was performed using SOP ARS-032/Eichrom SRW-01.

The analytical method utilized for the PCB analysis was ARS-159/SW846 8082.

The analytical method utilized for the PAH analysis was ARS-159/SW846 8270D.

The following analytical batches are associated with these samples: ARS1-B17-000169, batch ARS1-B17-00157 for Strontium, batch ARS1-17-00184 for PCB's and batch number ARS1-17-00170 for the PAH's.

The result data that are flagged with "U" indicate that the activity is below the MDC.

Sample results are being reported on "dry weight" basis.

The dioxin analyses were subcontracted to Eurofins Lancaster Laboratories Environmental, the report is attached as the Addendum Subcontract Work. Eurofins received the sample shipment on 1/26/17 and notified ARS that the samples were received above the 6 degree C maximum. Based on the previous discussion about the samples being received at ARS above the maximum temperature, the decision was made to authorize proceeding with the analysis.

Sample ARS1-17-00170 (BB-16L) and its MS/MSD had low surrogate recoveries and low MS/MSD recoveries due to sample matrix interference. The PCB analysis also had surrogate recoveries that exceeded the limits due to matrix interference as well as high MS and MSD recoveries and failing RSD results for Aroclor-1016.

Lastly, the CS-134 results for all samples were reported based on the most abundant peak which was at 604.7 keV.

American Radiation Services Project Manager/Laboratory Director's Comments:

"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. I certify that this electronic image and all hardcopies produced from this image accurately represent the data and is in compliance with the company specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

Val Eloch	Laboratory Manager, ARS International	3-8-17
Signature	Title	Date

	WTERWITOWAL	SDG	SDG ARS1-17-0021	0216	
#	SDG/ABatch	Date	Dept	Technical Note	User ID
-	ARS1-17-00216	01/25/2017 9:23 AM	MGMT	Environmental Samples, shipped in Plastic containers.	RVARNELL
7	ARS1-B17-00170	02/16/2017 3:22 PM	CHEMISTRY	Samples ARS1-17-00216-001 and its MS/MSD exhibited low surrogate recoveries and low matrix spike recoveries for several compounds due to sample matrix effects.	CSTRINGER
٣	3 ARS1-B17-00170	02/16/2017 3:24 PM	CHEMISTRY	report.	CSTRINGER
4	ARS1-B17-00184	02/22/2017 1:13 PM	CHEMISTRY	Surrogate recoveries exceeded limits due to sample matrixDWC 02/22/2017	JBYRD
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1 (800) 401-4277 • Fax (225) 381-2996

Notes (Case Narrative):

Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Soil and Sludge analysis are reported on a wet basis or an as received basis unless otherwise indicated.
- 3.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 4.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "m" to the procedure number (i.e. 900.0M).
- Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 6.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 7.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 8.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (HPGe).
- 9.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 10.0) Gamma spectroscopy results are calculated values based on the ORTEC GammaVision ENV32 Analysis Engine.
- ACLASS DOD and ISO 17025 certification applies only to the following analytes and methods: Gross Alpha and Gross Beta (EPA 900, SM7110B&C, SW846 9310); Radium 226 (EPA 903, EPA 903.1, SM 7500 Ra-B, SW846 9315); Radium 228 (EPA 904, SM 7500 Ra-B SW846 9320); Iodine-131(EPA 901.1); Uranium by ICPMS (EPA 200.8); Strontium 89/90 (EPA 905, Eichrom SRW01, HASL 300 Sr-03-RC); Tritium (EPA 906, EPA 906M); Gamma Emitters (EPA 901.1, SM7120B, HASL 300 Ga-01-R); Americium-241, Curium 242/244, Plutonium 239/240 and 241, Thorium 228/230/232, Uranium 234/233 and 238 (Eichrom ACW03 VBS); Lead 210 (HASL 300 Pb-01-RC, Eichrom OTW01); Polonium 210 (HASL 300 Po-01-RC, HASL 300 Po-02-RC); Technetium-99 (Eichrom TCW02, Eichrom TCS01M).

Method References:

- EPA 600/4-80-032; Prescribed Procedures for the Measurements of Radioactivity in Drinking Water, August 1980.
- 2.0) Standard Methods for the Examination of Water and Wastewater (On-Line Edition)
- 3.0) EPA SW-846; Test Methods for Evaluating Solid Waste, (On-Line edition)
- 4.0) EPA 600/4/79-020; Methods for Chemical Analysis of Water and Waste, March 1983.
- 5.0) HASL 300; The Procedures Manual of the Environmental Measurements Laboratory, Volume I, 28th Edition February, 1997.

Definitions:

CRDL Contract Required Detection Limit
CSU Combined Standard Uncertainty

DLC Decision Level Concentration (ANSI N42.23) or critical level

DUP Duplicate Original Method Duplicate

LCS/LCSD Laboratory Control Sample/Laboratory Control Sample Duplicate

MDA Minimum Detectable Activity

MDC (Minimum Detectable Concentration) minimum concentration of the analyte that ARS can detect utilizing the specific analysis

MBL Method Blank
MS/MSD Matrix Spike/N

MS/MSD Matrix Spike/Matrix Spike Duplicate

N/A Not Applicable
NP Not Provided
NR Not Referenced

Data Qualifiers:

B The analyte is found in both the associated method blank and the sample. This flag indicates probable blank contamination.

D Sample analysis accomplished through dilution.

J The reported result is an estimated value (e.g., matrix interference was observed or the analyte was detected at a concentration

outside the quantitation range).

One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

S Spike

*SC Subcontracted out to another qualified laboratory

U Activity is below the MDC or MDL

LELAP Cert# 01949

NELAP Cert# E87558

ARS-059-010 Revision: 9 Revision Date: 05-02-16



Sample Identification

Cross Reference

SDG# ARS1-17-00216 COC SOLID SAMPLES



SAMPLE IDENTIFICATION CROSS-REFERENCE

Applied Sciences Company SAMPLE ID's	ARS SAMPLE ID NUMBER(s)
BB-16L	ARS1-17-00216-001
BB-18	ARS1-17-00216-002
OS-2	ARS1-17-00216-003
BB-19M	ARS1-17-00216-004
BB16-B	ARS1-17-00216-005
BB-16A	ARS1-17-00216-006
BB17	ARS1-17-00216-007
BB-17 Mud/Sludge	ARS1-17-00216-008



Chain of Custody and Supporting Documentation

SDG# ARS1-17-00216 COC SOLID SAMPLES 7 ð Page 1

LAB ADDRESS:	ARS International	2609 North River Rd. Port Allen, LA 70767-3469		SPECIAL INSTRUCTIONS / NOTES												
SEND REPORT TO:	Joel I. Cehn, CHP			DATE & TIME COLLECTED		1/17/2017	1/16/2017	1/18/2017	1/18/2017	1/17/2017	1/17/2017	1/18/2017	1/17/2017		origin QC Requirements:	
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_		-	_	MAT-RIX	AQUEOUS	×	×	×	×	×	×	×	×		Sample Disposal:	
Quote Number 161115 SL	Project Name BBI	Project Manager Joel I. Cehn	Project Phone	# Sample ID# and Description		1 OS-3	2 OS-10	Trip blank	BB-16L	5 BB-18	0S-2	7 BB-19M	8 BB-16B		Sample TAT Req'd: 21d D	Notes/Comments:

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Chain of Custody Record

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Quo	Quote Number 161115 SL		Project Fax			©	ILLING A	BILLING ADDRESS:	;;	SEND REPORT TO:	LAB ADDRESS:
Proj	Project Name BBI	 	Req'd Report Date	ASAP			Joel I. Cehn, CHP	CHP		Joel I. Cehn, CHP	ARS International
Proj	Project Manager Joel I. Cehn	La La	Lab Contact	Virgene Mulligan	Iligan						2609 North River Rd. Port Allen, LA 70767-3469
Proj	Project Phone		Lab Phone	225.381.2991	91						
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BB-18					218	15	80
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Date/Time Surveyed: 1-24-17 12 of 19812

DQO Report for SDG

ARS1-17-00216

ARS International Baton Rouge Laboratory

Client Name: Applied Sciences Company

Profile Name: AJU-BBC Project (Other)

Report Level: 4

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Procedure	ARS-007	TO/TI SOI	75/125	75/125	75/125	75/125	75/125	75/125	75/125	75/125	75/125	75/125	ARS-160	TO/TH SOT	40/123	32/132	47/123	49/126	45/129	45/132	43/134	47/132	50/124	45/134	50/127	43/125	45/133	40/119	38/122	35/123
Prep Code	¥ V	HDF	0	0	0	0	0	0	0	0	0	0	3550C	RDL	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg	3 ug/kg
Alliquot	6					production of the state of the			MANAGERO A MANAGERO AND TRANSPORTED TO A SECURIORIST CONTRACTOR OF THE SECURIORIST CONTRACTOR OF	AND THE RESIDENCE OF THE PARTY AND THE PARTY		AND THE RESIDENCE OF THE PROPERTY OF THE PROPE	Ą									Annual Look Annual Annu				PROPERTY OF THE PROPERTY OF TH				Construction of property College and Colle
Units	Ö	Analyte										THE RESERVE OF THE PROPERTY OF	65	Analyta	3-32-9)	208-96-8)	12-7)	ne (56-55-3)	50-32-8)	iene (205-99-2)	ane (191-24-2)	ene (207-08-9)	(6-	scene (53-70-3)	5-44-0))	yrene (193-39-5	ene (90-12-0)	ene (91-57-6)	20-3)
Prep lype	DGAM		Ac-228	Bi-212	Bi-214	Cs-137	K-40	Pb-212	Pb-214	Th-234	TI-208	Cs-134	DSVO		Acenaphthene (83-32-9)	Acenaphthylene (208-96-8)	Anthracene (120-12-7)	Benzo(a)anthracene (56-55-3)	Benzo(a)pyrene (50-32-8)	Benzo(b)fluoranthene (205-99-2)	Benzo(g,h,i)perylene (191-24-2)	Benzo(k)fluoranthene (207-08-9)	Chrysene (218-01-9)	Dibenz(a,h)anthracene (53-70-3)	Fluoranthene (206-44-0)	Fluorene (86-73-7)	Indeno(1,2,3-cd)pyrene (193-39-5)	1-Methylnaphthalene (90-12-0)	2-Methylnaphthalene (91-57-6)	Naphthalene (91-20-3)
	GAM-A-020			The sac reason	g			in and a second	er a a reason	e mu euro d	e de la companya de l		GCMS-8270D-SO									_	le engel				and		CCX BAR-VOLUME	

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ARS International Baton Rouge Laboratory

N/A N/A	Phenanthrene (85-01-8) Pyrene (129-00-0)		3 ug/kg	50/121 47/127	50/121	30/110	40/110	T	25	N/A A/N
N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-157 N/A N/A N/A N/A ARS-1129 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 83/130	nol (Surr)) For C	7	4// 12/ mr. renementer commence and a second	4//12/ N/A	N/A	N/A	N/A	A/N	80/120
N/A N/A N/A N/A N/A N/A ARS-157 N/A N/A N/A N/A N/A A75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A	2-Fluorobiphenyl (Surr)	100 × 100 × 100	TO TO SHARE	N/A	N/A	N/A	N/A	N/A	N/A	80/120
N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-157 ARS-1157 ARS-110 ARS-110 ARS-110 ARS-110 ARS-157 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-032 ARS-110 ARS-110 ARS-110	2-Fluorophenol (Surr)	lett-netto-F201et	grape, to res	N/A	N/A	N/A	N/A	N/A	N/A	80/120
N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-157 ARS-157 ARS-157 ARS-157 ARS-157 ARS-157 ARS-157 BARS-157 ARS-110 A0/110 1 25 47/134 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A 1cs u/u N	Nitrobenzene-d5 (Surr)	hisaka aha s		N/A	N/A	N/A	A/N	N/A	N/A	80/120
ARS-157 M/A N/A N/A N/A N/A ARS-157 MS-LL/UL Caray LL/UL Caray LL/UL RPD 47/134 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-032 ARS-032 ARS-032 ARS-032 ARS-032 ARS-125	Phenol-d5 (Surr)		esirentia se su con	N/A	N/A	N/A	N/A	N/A	N/A	80/120
ARS-157 MS 11/UL REGY LL/UL Gravy LL/UL REB RDB 47/134 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 87/136 60/140 30/110 40/110 1 25 83/130 40/110 1 25 1 83/130 40/110 1 25 84S-032 86/140 30/110 40/110 1 25 851/25 86/140 30/110 40/110 1 25 851/25 86/140 30/110 40/110 1 25 851/25 86/140 30/110 40/110 <td>Terphenyl-d14 (Surr)</td> <td></td> <td>a in medical</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>N/A</td> <td>80/120</td>	Terphenyl-d14 (Surr)		a in medical	N/A	N/A	N/A	N/A	N/A	N/A	80/120
1-55 1. Vut No. 1. Vut BBRAN 1L Vut RPD 47/134 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A ARS-032 N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-032 ARS-032 ARS-032 ARS-032 75/125 60/140 30/110 40/110 1 25	ug kg 35!	35	3550C	ARS-157						survey see
47/134 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ASTL/UL ABACYLL/UL ABACYLL/UL ABACYLL/UL ABACYLL/UL ABACYLL/UL 75/125 60/140 30/110 40/110 1 25	Analyte	2	RD.L	LCS LL/UIL	MS LL/UL	Pady LL/UL	Gravy LL/UL	REK	CG2	Sur tt/UL
75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-U.0L A0/110 A0/110 A0/110 75/125 60/140 30/110 40/110 A A	Aroclor-1016 (12674-11-2)	1 ug	/kg	47/134	60/140	30/110	40/110	1	25	N/A
75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 53/130 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A ARS-032 N/A N/A N/A N/A ARS-032 ************************************	Aroclor-1221 (11104-28-2)	1 ug/	'kg	75/125	60/140	30/110	40/110	,	25	N/A
75/125 60/140 30/110 40/110 1 25 75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ARS-11/01 Ged****LL/UI Ged***CLL/UI RPR RPB 1 CS-L/UI ARS-11/01 A0/110 1 25 1 75/125 60/140 30/110 40/110 1 25	Aroclor-1232 (11141-16-5)	1 ug,	/kg	75/125	60/140	30/110	40/110	-	25	N/A
75/125 60/140 30/110 40/110 1 25 67/135 60/140 30/110 40/110 1 25 53/130 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-L/UL ARS-L/UL </td <td>Aroclor-1242 (53469-21-9)</td> <td>1 ug/</td> <td>kg.</td> <td>75/125</td> <td>60/140</td> <td>30/110</td> <td>40/110</td> <td>П</td> <td>25</td> <td>N/A</td>	Aroclor-1242 (53469-21-9)	1 ug/	kg.	75/125	60/140	30/110	40/110	П	25	N/A
67/135 60/140 30/110 40/110 1 25 53/130 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 ARS-032 ARS-032 1cs.t.vut Arst.t./ut Greet L/ut 75/125 60/140 30/110 40/110 1 25	Aroclor-1248 (12672-29-6)	1 ug	/kg	75/125	60/140	30/110	40/110	₩.	25	Α/N
53/130 60/140 30/110 40/110 1 25 N/A N/A N/A N/A N/A N/A N/A N/A N/A ARS-032 LCSII/UL Rest./UL Rest./UL 75/125 60/140 30/110 40/110 1 25	Aroclor-1254 (11097-69-1)	i.	1 ug/kg	67/135	60/140	30/110	40/110	Т	25	N/A
N/A	Aroclor-1260 (11096-82-5)	1 ug	/kg	53/130	60/140	30/110	40/110	-	25	N/A
N/A	DCBP (Surr)	en e	De D	N/A	N/A	N/A	N/A	N/A	A/A	80/120
ARS-032 LCS.LL/UL	TCMX (Surr)	ponto e no con		N/A	N/A	N/A	N/A	N/A	N/A	80/120
1CS1L/UL MS LL/UL GravY LL/UL RER RPD 75/125 60/140 30/110 40/110 1 25	PCI 9	ŹΝ		ARS-032						
75/125 60/140 30/110 40/110 1 25	Analyte			10/11 S21	HS LL/UL	Rody LL/UL	Gravy LL/UL	RER	CAN C	Surr LL/UL
)d T10 - 20	0.1 p(Ci/g	75/125	60/140	30/110	40/110		25	N/A
	A/A	Ž	N/A							
		inorate i	260,5470		nazv~	seron	4-000		erraectors	Š

Legend: Blue - RDL source was client profile. Green - RDL source was analyte library.

Analysis Code	Fraction	Units	Aliquot	Conductivity	Analyte Count
GAM-A-020	001	pCi	6	N/A	10
-com (SSC Abr I a		S7 0	dn	Atialyte	
en e		Applied Sciences		Applied Sciences	nomination 2 of Tillburgh
- grap and confidence during		Applied Sciences		Applied Sciences	
		Applied Sciences		Bi-214	
erenia sulfate.		Applied Sciences		Applied Sciences	

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K-40	Pb-212	Pb-214	Th-234	Т-208	Cs-134	N/A 10	Amelyte	Ac-228	Bi-212	Bi-214	Cs-137	K-40	Pb-212	Pb-214	Th-234	Т-208	Cs-134	N/A 10	Analyte	Ac-228	Bi-212	Bi-214	CS-137	K-40	Pb-212	Pb-214	Th-234	T-208	Cs-134	N/A 18	Analyte	Acenaphthene	Acenaphthylene
Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	pCi	Group	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	pCi	Group	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	Applied Sciences	LO KO	Group	Semi Volatiles	Semi Volatiles
GAM-A-020 001		માના સમાના સમાના સામાના સા	and the second s	us vansangan	The state of the Property of the State of th	GAM-A-020 002		Olen Levisco	500 CBs/L	ortho Y Storepus (Store Storepus (Store Storepus (Storepus (Storep	ማ ሩ ውድ የአንድል ነገር ነው።	·····································	10 (10 (10 (10 (10 (10 (10 (10 (· stalitynensis		GAM-A-020 004		ng disebut na disebut		and the state of t								GCMS-8270D-SO 001	18 30193 SH426H		

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Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene Chrysene Chrysene Chrysen Chr	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene	Phenanthrene	Pyrene		Analyte	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Naphthalene
							ancenceaning on the contraction of the contraction		ENDROPPINGS - CYPRIA CANANIA - CHANANIA - CHANANIA - CANANIA C							componence productive demonstrative de la componence de l	n :								PROFESSO PREMINISTRANCES AND A CHROMOSTIC CONTRACTOR CO								
Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	9	inoug	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles	Semi Volatiles
001																200																	
GCMS-8270D-SO	an managar mag	and the same and t	Problem L. Joh	erite er		enderry reduce	1911APOPARISTO	ecobec conductors	maer dergoer steule	and an angle of	inder-for the factor of the fa			***************************************		CS-00268-8020		ille gertirike tie herbe	Proc Managa		i nei Arealinu d	regional adviction	\$14,00\$ (* -4 dit 15	10. 40 to effect 40.	edestic for Porc			opundo rodint J	644 to 670-000	individual control of the control of	100 m 120 m	habre linetine	

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GCMS-8270D-SO	002	Semi Volatiles		Phenanthrene
		Semi Volatiles		Pyrene
GCMS-8270D-S0	003	DN	kg	where converse convex
		Group		Analyte
		Semi Volatiles	CONTRACTOR STATE OF THE STATE O	Acenaphthene
		Semi Volatiles		Acenaphthylene
ez haddau Wen Abr		Semi Volatiles		Anthracene
		Semi Volatiles		Benzo(a)anthracene
and which continues		Semi Volatiles		Benzo(a)pyrene
erekelek (h. Serek (ge.		Semi Volatiles		Benzo(b)fluoranthene
en e		Semi Volatiles		Benzo(g,h,i)perylene
		Semi Volatiles		Benzo(k)fluoranthene
		Semi Volatiles		Chrysene
e representativo de la constanta de la constan		Semi Volatiles		Dibenz(a,h)anthracene
en de la companie de		Semi Volatiles		Fluoranthene
athaine Annahair à		Semi Volatiles		Fluorene
handersjöldell.		Semi Volatiles		Indeno(1,2,3-cd)pyrene
THE SECTION SEC		Semi Volatiles		1-Methylnaphthalene
engeligier kalten de Art		Semi Volatiles		2-Methylnaphthalene
kanaganan este e e		Semi Volatiles		Naphthalene
		Semi Volatiles		Phenanthrene
		Semi Volatiles		Pyrene benegesperiorescentencescentences consequences contractor of transcriptor professional pr
GCMS-8270D-SO	004	δn	kg	N/A 18
n jakon vistoria		Group		Auniyie
nder kverthaliker		Semi Volatiles		Acenaphthene
eritane haudes		Semi Volatiles		Acenaphthylene
		Semi Volatiles		Anthracene
		Semi Volatiles		Benzo(a)anthracene
		Semi Volatiles		Benzo(a)pyrene
		Semi Volatiles		Benzo(b)fluoranthene
of 1		Semi Volatiles	TANANA TIRI KARIA	Benzo(g,h,i))perylene
		Semi Volatiles		Benzo(k)fluoranthene
	нея измене немени его честилименте интегленства у то в высокр	Semi Volatiles		Chrysene

CCMS-6270D-SO COM Seles Fluorenthere Fluore	GCMS-8270D-SO	004	Semi Volatiles		Dibenz(a,h)anthracene
GCMS-8270D-SO Townstree Fluorente GCMS-8270D-SO Semi Volatiles 1-Methylnaphthalene Semi Volatiles 2-Methylnaphthalene 1-Methylnaphthalene Semi Volatiles 2-Methylnaphthalene Naphthalene Semi Volatiles Pyrene N/A Semi Volatiles Acenaphthylne Acenaphthylne Semi Volatiles Benzo (a) pyrene Benzo (a) pyrene Semi Volatiles Benzo (a) pyrene Benzo (a) pyrene Semi Volatiles Benzo (a) pyrene Benzo (a) pyrene Semi Volatiles Benzo (b) filvoranthene Benzo (b) filvoranthene Semi Volatiles Benzo (b) filvoranthene Benzo (b) filvoranthene Semi Volatiles Semi Volatiles Benzo (b) filvoranthene Semi Volatiles Semi Volatiles Pyrene Semi Volatiles Semi Volatiles Pyrene Semi Volatile	e ne-doorweendo		Semi Volatiles		Fluoranthene
Semi Volatiles Indenno(1,2,3-cd)pyrene Semi Volatiles 2-Methylnaphthalene Semi Volatiles 2-Methylnaphthalene Semi Volatiles Phenanthrene Semi Volatiles Phenanthrene Semi Volatiles Acceraphthalene Semi Volatiles Acceraphthylene Semi Volatiles Acceraphthylene Semi Volatiles Acceraphthylene Semi Volatiles Benzo (a)anthracene Semi Volatiles Benzo (a)hithracene Semi Volatiles Benzo (a)hithracene Semi Volatiles Benzo (a)hithracene Semi Volatiles Benzo (b)hitoranthene Semi Volatiles Benzo (b)hitoranthene Semi Volatiles Flouranthene Semi Volatiles Flouranthene Semi Volatiles Semi Volatiles Semi Volatiles Semi Volatiles Semi Volatiles Phrenathracene			Semi Volatiles		Fluorene
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CCMS-8270D-SO Semi Volatiles 2-Methylnaphthalene Semi Volatiles Pyrene N/A CCMS-8270D-SO 0.05 Lug kg N/A Semi Volatiles Acenaphthrene Acenaphthrene Semi Volatiles Acenaphthrene Acenaphthrene Semi Volatiles Acenaphthrene Acenaphthrene Semi Volatiles Acenaphthrene Benzo(p)hrene Semi Volatiles Benzo(p)hrene Benzo(p)hrene Semi Volatiles Semi Volatiles Phrene Semi Volatiles Semi Volatiles Arenaphthralene Semi Volatiles Benzo(p)hrene Benzo(p)hrene Semi Volatiles Semi Volatiles Arenaphthralene Semi Volatiles Benzo(p)hrene Benzo(p)hrene			Semi Volatiles		1-Methylnaphthalene
Semi Volatiles Phenanthrene	m tannasan an		Semi Volatiles		2-Methylnaphthalene
GCMS-8270D-SO O05 Voi atlies Pyrene N/A Analyze GCMS-8270D-SO 005 Comi Voiatiles Acenaphthene Acenaphthene Semi Voiatiles Acenaphthene Acenaphthene Semi Voiatiles Benzo(a) phrane Semi Voiatiles Benzo(a) phrane Semi Voiatiles Benzo(a) phrane Semi Voiatiles Chrysene Semi Voiatiles Semi Voiatiles Semi Voiatiles Semi Voiatiles Semi Voiatiles Chrysene Semi Voiatiles Semi Voiatiles Semi Voiatiles Phenanthrene Semi Voiatiles Chrysene Semi Voiatiles Phenanthrene Semi Voiatiles Phenanthrene Semi Voiatiles Semi Voiatiles Semi Voiatiles Phenanthrene	Butter 122 th Parket		Semi Volatiles		Naphthalene
GCMS-8270D-SO Oug kg N/A GCMS-8270D-SO 0.05 ug kg N/A Semi Volatiles Semi Volatiles Accnaphthhene Accnaphthylene Semi Volatiles Anthracene Benzo(a)anthracene Benzo(a)anthracene Semi Volatiles Benzo(a)anthracene Benzo(a)anthracene Benzo(a)anthracene Semi Volatiles Benzo(a)anthracene Benzo(a)anthracene Benzo(a)anthracene Semi Volatiles Benzo(a)anthracene Benzo(a)anthracene Benzo(a)anthracene Semi Volatiles Chrysene Chrysene Chrysene Semi Volatiles Fluoranthene Semi Volatiles Thotenothene Semi Volatiles Semi Volatiles Pyrene Pyrene GCMS-8270D-SO 006 ug Accnaphthalene Semi Volatiles Pyrene N/A Anthracene Semi Volatiles Semi Volatiles Pyrene N/A Semi Volatiles Semi Volatiles Accnaphthalene Accnaphthene Semi Volatiles Semi Volatiles Accnaphthene			Semi Volatiles		Phenanthrene
CCMS-8270D-SO	Similar Medical Control		Semi Volatiles		Pyrene
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GCSV-8082A-SO 003		Aroclor-1232
GCSV-8082A-SO 003		Aroclor-1242
GCSV-8082A-SO 003		Aroclor-1248
GCSV-8082A-SO 003		Aroclor-1254
GCSV-8082A-SO 003		Aroclor-1260
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DQO Report for SDG

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SDG Report - Samples and Containers

Printed: 1/24/2017 1:50 PM Page 1 of 3

		SDG Spec	SDG Specific Data	
SDG	1-17-002	TAT Days 21	21	Project Type Environmental
Sample Count	Rpt Level 4	Date Received	1/24/2017	COC Number
Client	lent Applied Sciences Company	Client Deadline	2/14/2017	PO Number
Client Code	971	Internal Deadline	2/13/2017	Job Number
Profile Number		Lab Deadline	2/11/2017	Job Location
Temperature (C)		Comments		

FR Name 001 BB-16L IC_ID 255884		Carlo Train	End Date	Disp	Hold	Arch	Storage	ပိ	Conductivity		Comments
BB-16 IC_I							The officers on				
1C_1	SO 15	1/18/2017 12:00 PM	1/18/2017 12:00 PM	ェ	30	2	7				
25588	Catt	W (9)	Container Type	pH Orig	pH Final	CDM	uR Hr S	Stor VOA Head	Head \	AF Units AF Rate	AF Mins AF Vol
	34	211.00	4oz Glass Jar			8	15	z	N/A		
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255883	33 1	218.00	4oz Glass Jar			80	15	Z	N/A		
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255898	98 4		4oz Glass Jar		000000000	8	15	Z	A/A		
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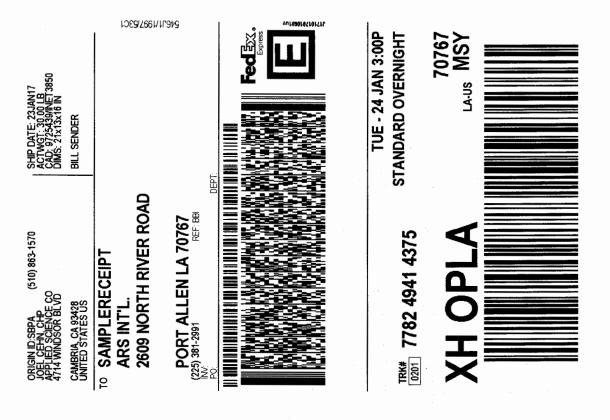
Printed: 1/24/2017 1:50 PM Page 2 of 3

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SDG Report - Analysis Assignments

Sample Count 8		Analysis Count 5-20
Spc ARS1-17-00216	INTERACTOR OF PROPERTY OF THE PROPERTY OF T	Clent Applied Sciences Company Analysis Coun

action	X = Assigned	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Analyses Assigned Per Fraction	Analysis Code	GAM-A-020	GCMS-8270D-SO	GPC-A-012	GAM-A-020	GCMS-8270D-SO	GCSV-8082A-SO	GPC-A-012	SUB-A-002	GCMS-8270D-SO	GCSV-8082A-SO	GAM-A-020	GCMS-8270D-SO	GCSV-8082A-SO	GPC-A-012	SUB-A-002	GCMS-8270D-SO	GCMS-8270D-SO	GCSV-8082A-SO	SUB-A-002	GPC-A-012
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2 Fold the printed page along the portzontal line

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Rodney Varnell

From:

Joel C. <cehn@aol.com>

Sent:

Tuesday, January 31, 2017 1:17 PM

To:

Susan Leese; Steve LaZar

Cc:

Rodney Varnell

Subject:

Re: Isotope list for Gamma analysis

Susan; Do the best you can. I was limited on some liquid samples.

--- Joel

-----Original Message-----

From: Susan Leese <sleese@amrad.com>

To: Steve LaZar <slazar@amrad.com>; cehn <cehn@aol.com>

Cc: Rodney Varnell rvarnell@amrad.com

Sent: Tue, Jan 31, 2017 10:07 am

Subject: RE: Isotope list for Gamma analysis

Steve and Joel,

For these ultra-low detection limits, we just don't have enough sample to achieve some of them. Especially for the liquids. But we will do our best and next time, we need to review required sample volumes ahead of time.

Thanks, Susan

From: Steve LaZar

Sent: Tuesday, January 24, 2017 5:03 PM

To: Susan Leese

Subject: RE: Isotope list for Gamma analysis

Susan,

Do we have all the information we need now?

Kind Regards,

Steve

Steve LaZar Vice President of Sales slazar@amrad.com

ARS International, LLC 2609 North River Road Port Allen, LA 70767-3469

720.692.6188 Mobile

303.646.1281 Fax www.amrad.com

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Let us know how we're doing! Please visit our website and complete our customer survey http://www.amrad.com/CustomerSurvey.html

From: Susan Leese

Sent: Tuesday, January 24, 2017 2:29 PM

To: Joel C.; Steve LaZar Cc: Rodney Varnell

Subject: RE: Isotope list for Gamma analysis

Hi Joel,

It may involve 2-3 hour count times, but our chemists think that 0.05 pCi/g is achievable.

From: Joel C. [mailto:cehn@aol.com] Sent: Tuesday, January 24, 2017 2:13 PM

To: Susan Leese; Steve LaZar

Cc: Rodney Varnell

Subject: Re: Isotope list for Gamma analysis

Susan; Can you get 0.05 pCi/L for Cs-137?

--- Joel

----Original Message----

From: Susan Leese <sleese@amrad.com> To: Steve LaZar <slazar@amrad.com>

Cc: Rodney Varnell <rvarnell@amrad.com>; cehn <cehn@aol.com>

Sent: Tue, Jan 24, 2017 12:00 pm

Subject: FW: Isotope list for Gamma analysis

Steve,

We received a list of isotopes requested by Joel (below). On your original quote, you stated that the detection limit for gamma spec would be 0.01 pCi/q, but didn't list any specific isotopes. What analyte(s) does this CRDL refer to? It is incredibly low, even for ARS.

Susan

From: Joel C. [mailto:cehn@aol.com] Sent: Monday, January 23, 2017 3:13 PM

To: Rodney Varnell Cc: Project Managers

Subject: Re: Isotope list for Gamma analysis

Rodney;

I'm shipping the samples today; for delivery Tuesday. Copy of CofC attached.

Regarding Gamma Suite, here's the nuclide list:

Ac-228 Bi-212, -214 Cs-134, -137 Pb-212, -214 K-40 Th-234 Ti-208

--- Joel

P.S. Please don't use my pikainc.com address. Use this one.

-----Original Message-----

From: Rodney Varnell < rvarnell@amrad.com>

To: 'jcehn@pikainc.com' <jcehn@pikainc.com'; 'cehn@aol.com' <cehn@aol.com'

Cc: Project Managers < projectmanagers@amrad.com >

Sent: Thu, Jan 19, 2017 2:36 pm

Subject: Isotope list for Gamma analysis

Good afternoon,

I need to see if you can send me a list of the isotopes/analytes for the Gamma Suite (Method 901.1) on ARS Quote : ARS_Applied Sciences 161115SL dated 11/15/16. I will be the project manager on the project and I am setting up the information in our LIMS system.

There is no need to reply back today, Monday or Tuesday will be fine. My last question is: Do you have a projection as to when we will receive the samples?

Thank you,

Rodney J. Varnell Project Manager rvarnell@amrad.com



ARS International, LLC 2609 North River Road Port Allen, LA 70767-3469

225.381.2991 Office 225.381.2996 FAX www.amrad.com

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 $Let us \ know \ how \ we're \ doing! \ Please \ visit \ our \ website \ and \ complete \ our \ customer \ survey \ \underline{http://www.amrad.com/CustomerSurvey.html}$

Rodney Varnell

From:

Joel C. <cehn@aol.com>

Sent:

Monday, February 06, 2017 11:41 AM

To:

Rodney Varnell

Cc: Subject: Project Managers Re: Sample update

A-OK.

--- Joel

----Original Message-----

From: Rodney Varnell rvarnell@amrad.com

To: 'Joel C.' <cehn@aol.com>

Cc: Project Managers projectmanagers@amrad.com>

Sent: Mon, Feb 6, 2017 8:16 am

Subject: Sample update

Joel,

I just want to send you a quick update on the samples, specifically the samples for the Dioxins analysis. The samples were shipped to Eurofins Lancaster Laboratories on 1/25/17 for overnight delivery by UPS. I received a call on 1/27/17 from Eurofins (Stacy Hess) saying that they had received the samples on 1/26/17 but that they were above the 6 degrees C maximum temperature and wanted to know if we were going to re-submit the samples. Taking the previous discussion with you about ARS receiving the samples above the 6 degrees C maximum temperature into consideration, I authorized her to proceed with the analysis. I thought I had sent you an update earlier but could not find it in my emails, I apologize for the oversight on my part.

Thank you,

Rodney J. Varnell Project Manager rvarnell@amrad.com



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 $Let \ us \ know \ how \ we're \ doing! \ Please \ visit \ our \ website \ and \ complete \ our \ customer \ survey \ \underline{http://www.amrad.com/CustomerSurvey.html}$

Rodney Varnell

From: Sent: To: Subject:	Joel C. <cehn@aol.com> Thursday, February 16, 2017 10:03 AM Rodney Varnell RE: E-mail address</cehn@aol.com>	
Yes. Use the AOL address.		
Joel		
Joel		
On Thursday, February 16, 2017 F	Rodney Varnell < <u>rvarnell@amrad.com</u> > wrote:	
Good morning Joel,		
	eport for the aqueous samples and notice that I had put in b Do you want me to remove the pikainc address?	ooth the aol and pikainc
Thank you,		
Rodney J. Varnell		
Project Manager		
rvarnell@amrad.com		



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Rodney Varnell

From: Sent: To: Subject:	Joel C. <cehn@aol.com> Thursday, February 16, 2017 10:05 AM Rodney Varnell RE: PO#</cehn@aol.com>
Rodney	
No need for a PO number on m	ny end.
Joel	
Joel	
On Thursday, February 16, 2017 R	odney Varnell < <u>rvarnell@amrad.com</u> > wrote:
Joel,	
I need to know if we need a PC	O# for billing/payment since our reports have a line in them for the PO#.
Thank you,	
Rodney J. Varnell	
Project Manager	
rvarnell@amrad.com	



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Analytical Results Sample Data Summary

SDG# ARS1-17-00216
COC SOLID SAMPLES



ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-16L

Sample Collection Date: 01/18/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 80.6%

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-001

Date Received: 01/24/17 **Report Date:** 03/08/17

Radiochemistry

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ac-228	2,270	0.212	0.179	0.090	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Bi-212	0.823	0.120	0.145	0.073	NP	dana na car	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Bi-214	0.895	0.080	0.047	0.024	NP	Gentle Couples of Cou	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Cs-134	0.000	0.016	0.024	0.012	NP	U	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Cs-137	0.078	0.023	0.022	0.011	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
K-40	22.158	1.533	0.307	0.154	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Pb-214	1.008	0.102	0.048	0.024	NP	Secretary Provinces	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Th-228	1.353	0.099	0.032	0.016	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Th-234	1.018	0,243	0.384	0.192	NP	GOVERNOON (MALL)	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
TI-208	0.373	0,044	0.027	0,013	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:40	BSCHREITER	N/A
Sr-90	0.043	0,060	0.099	0.047	0.1	U	pCi/g	ARS-032/Eichrom SRW-01	02/01/17 16:39	SC	98%

Sample Weight (g):

Injection Volume (uL):

Final Volume (mL):

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	LOD	LOQ	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<na< td=""><td>NA</td><td>81.2</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	81.2	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
91-57-6	2-Methylnaphthalene	<na< td=""><td>NA</td><td>79.3</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	79.3	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
83-32-9	Acenaphthene	<na< td=""><td>NA</td><td>67.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	67.5	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
208-96-8	Acenaphthylene	<na< td=""><td>NA</td><td>68.8</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	68.8	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
120-12-7	Anthracene	<na< td=""><td>NA</td><td>105</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	105	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
56-55-3	Benzo(a)anthracene	<na< td=""><td>NA</td><td>115</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	115	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
50-32-8	Benzo(a)pyrene	<na< td=""><td>NA</td><td>183</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	183	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<na< td=""><td>NA</td><td>179</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	179	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<na< td=""><td>NA</td><td>169</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	169	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<na< td=""><td>NA</td><td>182</td><td>3.00</td><td>1</td><td>IJ</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	182	3.00	1	IJ	ug/kg	02/08/17 18:51	CSTRINGER
218-01-9	Chrysene	<na< td=""><td>NA</td><td>118</td><td>3.00</td><td>1</td><td>Ü</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	118	3.00	1	Ü	ug/kg	02/08/17 18:51	CSTRINGER
53-70-3	Dibenz(a,h)anthracene	<na< td=""><td>NA</td><td>170</td><td>3.00</td><td>1</td><td>ป</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	170	3.00	1	ป	ug/kg	02/08/17 18:51	CSTRINGER
206-44-0	Fluoranthene	<na< td=""><td>NA</td><td>111</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	111	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
86-73-7	Fluorene	<na< td=""><td>NA</td><td>62.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	62.5	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<na< td=""><td>NA</td><td>173</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	173	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
91-20-3	Naphthalene	<na< td=""><td>NA</td><td>141</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	141	3.00	1	U	ug/kg	02/08/17 18:51	CSTRINGER
85-01-8	Phenanthrene	<na< td=""><td>NA</td><td>92.7</td><td>3.00</td><td>1</td><td>Ü</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	92.7	3.00	1	Ü	ug/kg	02/08/17 18:51	CSTRINGER
129-00-0	Pyrene	<na< td=""><td>NA</td><td>114</td><td>3.00</td><td>1</td><td>ury populari i vi tale e Alestadorio U</td><td>ug/kg</td><td>02/08/17 18:51</td><td>CSTRINGER</td></na<>	NA	114	3.00	1	ury populari i vi tale e Alestadorio U	ug/kg	02/08/17 18:51	CSTRINGER

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	1.65E+3	1.23E+3	ug/kg	74.4%	80/120
321-60-8	2-Fluorobiphenyl	1.65E+3	777	ug/kg	47.0%	80/120
367-12-4	2-Fluorophenol	1.65E+3	300	ug/kg	18.1%	80/120
4165-60-0	Nitrobenzene-d5	1.65E+3	404	ug/kg	24.4%	80/120
4165-62-2	Phenol-d5	1.65E+3	545	ug/kg	33.0%	80/120
1718-51-0	Terphenyl-d14	1.65E+3	1.24E+3	ug/kg	74.8%	80/120

Project Manager Nevlew

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ARS Sample Delivery Group: ARS1-17-00216

Cilent Sample ID: BB-18

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 86.4%

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-002

Date Received: 01/24/17 Report Date: 03/08/17

Radiochemistry

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ac-228	2.279	0.198	0.110	0.055	NP	O Practice Solvening 25	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Bi-212	0.756	0.123	0,126	0.063	NP	2.000	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Bi-214	0.752	0.059	0.036	0.018	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Cs-134	3.880E-4	0.014	0.021	0.011	NP	U	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Cs-137	0.078	0.014	0.016	0.008	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
K-40	23.017	1.568	0.195	0.098	NP	Personal disensi sele	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Pb-214	0.823	0.077	0,041	0.021	NP	Superior Control	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Th-228	1.256	0.090	0,033	0.017	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Th-234	0.708	0.264	0.338	0.169	NP	*************	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	· N/A
TI-208	0.412	0.033	0.017	0,009	NP	de injestuse indestuse	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:41	BSCHREITER	N/A
Sr-90	0.038	0.053	0.088	0.042	0.1	U	pCi/g	ARS-032/Eichrom SRW-01	02/01/17 16:39	SC	99%

Sample Weight (g):

Injection Volume (uL):

Final Volume (mL):

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	LOD	LOQ	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<na< td=""><td>NA</td><td>81.2</td><td>3,00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	81.2	3,00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
91-57-6	2-Methylnaphthalene	<na< td=""><td>NA</td><td>79.3</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	79.3	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
83-32-9	Acenaphthene	<na< td=""><td>NA</td><td>67.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	67.5	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
208-96-8	Acenaphthylene	<na< td=""><td>NA</td><td>68.8</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	68.8	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
120-12-7	Anthracene	<na< td=""><td>NA</td><td>105</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	105	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
56-55-3	Benzo(a)anthracene	<na< td=""><td>NA</td><td>115</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	115	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
50-32-8	Benzo(a)pyrene	<na< td=""><td>NA</td><td>183</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	183	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<na< td=""><td>NA</td><td>179</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	179	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<na< td=""><td>NA</td><td>169</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	169	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<na< td=""><td>NA</td><td>182</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	182	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
218-01-9	Chrysene	<na< td=""><td>NA</td><td>118</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	118	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
53-70-3	Dibenz(a,h)anthracene	<na< td=""><td>NA</td><td>170</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	170	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
206-44-0	Fluoranthene	<na< td=""><td>NA</td><td>111</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	111	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
86-73-7	Fluorene	<na< td=""><td>NA</td><td>62.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	62.5	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<na< td=""><td>NA</td><td>173</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	173	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
91-20-3	Naphthalene	<na< td=""><td>NA</td><td>141</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	141	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
85-01-8	Phenanthrene	<na< td=""><td>NA</td><td>92.7</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	92.7	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER
129-00-0	Pyrene	<na< td=""><td>NA</td><td>114</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 20:19</td><td>CSTRINGER</td></na<>	NA	114	3.00	1	U	ug/kg	02/08/17 20:19	CSTRINGER

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	1.54E+3	1.31E+3	ug/kg	84.9%	80/120
321-60-8	2-Fluorobiphenyl	1.54E+3	1.16E+3	ug/kg	75.4%	80/120
367-12-4	2-Fluorophenol	1,54E+3	845	ug/kg	54.7%	80/120
4165-60-0	Nitrobenzene-d5	1.54E+3	1.16E+3	ug/kg	75.0%	80/120
4165-62-2	Phenol-d5	1.54E+3	971	ug/kg	62.9%	80/120
1718-51-0	Terphenyl-d14	1.54E+3	1.24E+3	ug/kg	80.3%	80/120

Sample Weight (g): 30

Extraction Type: Sonification

Conc Extract Volume (mL): 1

Cleanup Type: None
Cleanup Factor: N/A

pH: N/A

Date Extracted: 01/31/17

Injection Volume (uL): 1

Preparation Method: ARS-156/3550C

Analysis Method: ARS-157/SW846 8082A

PCBs

CAS#	Analyte	GC Column	Analysis Result	LOD	LOQ	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
12674-11-2	Aroclor-1016	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U*</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U*	ug/kg	02/07/17 17:51	DCODY
11104-28-2	Aroclor-1221	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>į 1</td><td>U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	į 1	U	ug/kg	02/07/17 17:51	DCODY
11141-16-5	Aroclor-1232	ECD1 A	<na< td=""><td>NA</td><td>3,33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3,33	1.00	1	U	ug/kg	02/07/17 17:51	DCODY
53469-21-9	Aroclor-1242	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 17:51	DCODY
12672-29-6	Aroclor-1248	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 17:51	DCODY
11097-69-1	Aroclor-1254	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 17:51	DCODY
11096-82-5	Aroclor-1260	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U U</td><td>ug/kg</td><td>02/07/17 17:51</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U U	ug/kg	02/07/17 17:51	DCODY

CAS#	Surrogate	GC Column	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
2051-24-3	DCBP	ECD1 A	0.772	0.717	ug/kg	92.9%	80/120
877-09-8	TCMX	ECD1 A	0.772	0.735	ug/kg	95.2%	80/120

Project Manager Review

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: OS-2

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 77.7%

Sample Weight (g):

Injection Volume (uL):

Final Volume (mL):

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-003

Date Received: 01/24/17

Report Date: 03/07/17

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<25.5	25.5	81.2	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
91-57-6	2-Methylnaphthalene	<24.9	24.9	79.3	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
83-32-9	Acenaphthene	<21.2	21.2	67.5	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
208-96-8	Acenaphthylene	<21.6	21.6	68.8	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
120-12-7	Anthracene	<33.1	33.1	105	3,00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
56-55-3	Benzo(a)anthracene	<36.2	36.2	115	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
50-32-8	Benzo(a)pyrene	<57.4	57.4	183	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<56.4	56.4	179	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<53.0	53.0	169	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<57.1	57.1	182	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
218-01-9	Chrysene	<37.0	37.0	118	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
53-70-3	Dibenz(a,h)anthracene	<53.5	53.5	170	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
206-44-0	Fluoranthene	<34.8	34.8	111	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
86-73-7	Fluorene	<19.6	19.6	62.5	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<54.4	54.4	173	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
91-20-3	Naphthalene	<44.3	44.3	141	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
85-01-8	Phenanthrene	<29.1	29.1	92.7	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER
129-00-0	Pyrene	<35.8	35.8	114	3.00	1	U	ug/kg	02/09/17 12:56	CSTRINGER

CAS#	Surrogate	g una state de la companie de la com	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	1.72E+3	1.35E+3	ug/kg	78.6%	80/120
321-60-8	2-Fluorobiphenyl	2014-1100-1100-1100-1100-1100-1100-1100-	798	ug/kg	46.5%	80/120
367-12-4	2-Fluorophenol	1.72E+3	870	ug/kg	50.7%	80/120
4165-60-0	Nitrobenzene-d5	1.72E+3	1.00E+3	ug/kg	58.4%	80/120
4165-62-2	Phenol-d5	у положения пол	897	ug/kg	52.3%	80/120
1718-51-0	Terphenyl-d14	1.72E+3	1.06E+3	ug/kg	61.7%	80/120

Sample Weight (g): 30

Extraction Type: Sonification

Conc Extract Volume (mL): 1

Cleanup Type: None
Cleanup Factor: N/A

pH: N/A

Date Extracted: 01/31/17

Injection Volume (uL): 1

Preparation Method: ARS-156/3550C

Analysis Method: ARS-157/SW846 8082A

PCBs

CAS#	Analyte	GC Column	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
12674-11-2	Arocior-1016	ECD1 A	<3.33	3.33	3,33	1.00	1	U*	ug/kg	02/07/17 18:19	DCODY
11104-28-2	Aroclor-1221	ECD1 A	<3.33	3.33	3,33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY
11141-16-5	Aroclor-1232	ECD1 A	<3.33	3,33	3.33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY
53469-21-9	Aroclor-1242	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY
12672-29-6	Arocior-1248	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY
11097-69-1	Aroclor-1254	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY
11096-82-5	Aroclor-1260	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 18:19	DCODY

CAS#	Surrogate	GC Column	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
2051-24-3	DCBP	ECD1 A	0.858	0.731	ug/kg	85.2%	80/120
877-09-8	TCMX	ECD1 A	0.858	0.778	ug/kg	90,7%	80/120

Project Mayager Review

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-19M

Sample Collection Date: 01/18/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 59.5%

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-004

Date Received: 01/24/17

Report Date: 03/08/17

Radiochemistry

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ac-228	7.816	0.526	0.135	0.068	NP	de les marres au	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Bi-212	1.819	0.238	0.198	0.099	NP	do taladoro to taladoro	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Bi-214	2.136	0.157	0.048	0.024	NP	Great revision at executly	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Cs-134	0.001	0.024	0.027	0.014	NP	U	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Cs-137	0.043	0.018	0.024	0.012	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
K-40	20.681	1.416	0.279	0.140	NP	draw nove return	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Pb-214	2.440	0.216	0.049	0.025	NP	pares ar sec. of	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Th-228	2.492	0.182	0.049	0.025	NP		pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Th-234	0.851	0.297	0.433	0.217	NP	Park terrenania	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
TI-208	0.749	0.066	0.030	0.015	NP	***************************************	pCi/g	ARS-007/EPA 901.1M	01/30/17 14:56	BSCHREITER	N/A
Sr-90	0.039	0.056	0.093	0.044	0.1	U	pCi/g	ARS-032/Eichrom SRW-01	02/01/17 16:39	SC	98%

Sample Weight (g):

Injection Volume (uL):

Final Volume (mL):

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	FOD	LOQ	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<na< td=""><td>NA</td><td>81.2</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	81.2	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
91-57-6	2-Methylnaphthalene	<na< td=""><td>NA</td><td>79.3</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	79.3	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
83-32-9	Acenaphthene	<na< td=""><td>NA</td><td>67.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	67.5	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
208-96-8	Acenaphthylene	<na< td=""><td>NA</td><td>68.8</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	68.8	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
120-12-7	Anthracene	<na< td=""><td>NA</td><td>105</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	105	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
56-55-3	Benzo(a)anthracene	<na< td=""><td>NA</td><td>115</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	115	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
50-32-8	Benzo(a)pyrene	<na< td=""><td>NA</td><td>183</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	183	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<na< td=""><td>NA</td><td>179</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	179	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<na< td=""><td>NA</td><td>169</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	169	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<na< td=""><td>NA</td><td>182</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	182	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
218-01-9	Chrysene	<na< td=""><td>NA</td><td>118</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	118	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
53-70-3	Dibenz(a,h)anthracene	<na< td=""><td>NA</td><td>170</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	170	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
206-44-0	Fluoranthene	<na< td=""><td>NA</td><td>111</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	111	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
86-73-7	Fluorene	<na< td=""><td>NA</td><td>62.5</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	62.5	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<na< td=""><td>NA</td><td>173</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	173	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
91-20-3	Naphthalene	<na< td=""><td>NA</td><td>141</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	141	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
85-01-8	Phenanthrene	<na< td=""><td>NA</td><td>92.7</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	92.7	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER
129-00-0	Pyrene	<na< td=""><td>NA</td><td>114</td><td>3.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/08/17 21:18</td><td>CSTRINGER</td></na<>	NA	114	3.00	1	U	ug/kg	02/08/17 21:18	CSTRINGER

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	2.24E+3	1.79E+3	ug/kg	80.0%	80/120
321-60-8	2-Fluorobiphenyl	2.24E+3	1.19E+3	ug/kg	53.2%	80/120
367-12-4	2-Fluorophenol	2.24E+3	1.29E+3	ug/kg	57.8%	80/120
4165-60-0	Nitrobenzene-d5	2.24E+3	1,23E+3	ug/kg	55.1%	80/120
1165-62-2	Phenol-d5	2.24E+3	1.42E+3	ug/kg	63.3%	80/120
1718-51-0	Terphenyl-d14	2.24E+3	1.34E+3	ug/kg	60.0%	80/120

Sample Weight (g): 30

Extraction Type: Sonification

Conc Extract Volume (mL): 1

Cleanup Type: None
Cleanup Factor: N/A

pH: N/A

Date Extracted: 01/31/17

Injection Volume (uL): 1

Preparation Method: ARS-156/3550C

Analysis Method: ARS-157/SW846 8082A

PCBs

CAS#	Analyte	GC Column	Analysis Result	LOD	LOQ	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
12674-11-2	Aroclor-1016	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U*</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U*	ug/kg	02/07/17 18:48	DCODY
11104-28-2	Aroclor-1221	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY
11141-16-5	Aroclor-1232	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY
53469-21-9	Aroclor-1242	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY
12672-29-6	Aroclor-1248	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY
11097-69-1	Aroclor-1254	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY
11096-82-5	Aroclor-1260	ECD1 A	<na< td=""><td>NA</td><td>3.33</td><td>1.00</td><td>1</td><td>U</td><td>ug/kg</td><td>02/07/17 18:48</td><td>DCODY</td></na<>	NA	3.33	1.00	1	U	ug/kg	02/07/17 18:48	DCODY

CAS#	Surrogate	GC Column	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
2051-24-3	DCBP	ECD1 A	1.12	3.57	ug/kg	319%	80/120
877-09-8	TCMX	ECD1 A	1.12	9.30	ug/kg	830%	80/120

Project Manager Review

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-16B

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 88.9%

Sample Weight (g):

Injection Volume (uL):

Final Volume (mL):

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-005

Date Received: 01/24/17

Report Date: 03/07/17

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<25.5	25.5	81.2	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
91-57-6	2-Methylnaphthalene	<24.9	24.9	79.3	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
83-32-9	Acenaphthene	<21.2	21.2	67.5	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
208-96-8	Acenaphthylene	<21.6	21.6	68.8	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
120-12-7	Anthracene	<33.1	.33.1	105	3,00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
56-55-3	Benzo(a)anthracene	<36.2	36.2	115	3,00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
50-32-8	Benzo(a)pyrene	<57.4	57.4	183	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<56.4	56.4	179	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<53.0	53.0	169	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<57.1	57.1	182	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
218-01-9	Chrysene	<37.0	37.0	118	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
53-70-3	Dibenz(a,h)anthracene	<53.5	53.5	170	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
206-44-0	Fluoranthene	<34.8	34.8	111	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
86-73 - 7	Fluorene	<19.6	19.6	62.5	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<54.4	54.4	173	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
91-20-3	Naphthalene	<44.3	44,3	141	3.00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
85-01-8	Phenanthrene	<29.1	29.1	92.7	3,00	1	U	ug/kg	02/08/17 21:48	CSTRINGER
129-00-0	Pyrene	<35.8	35.8	114	3.00	efenneens seamanner en	U	ug/kg	02/08/17 21:48	CSTRINGER

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	1.50E+3	1.21E+3	ug/kg	80.6%	80/120
321-60-8	2-Fluorobiphenyl	1.50E+3	1.08E+3	ug/kg	72.3%	80/120
367-12-4	2-Fluorophenol	1.50E+3	685	ug/kg	45.7%	80/120
4165-60-0	Nitrobenzene-d5	1.50E+3	863	ug/kg	57.5%	80/120
4165-62-2	Phenol-d5	1.50E+3	852	ug/kg	56.8%	80/120
1718-51-0	Terphenyl-d14	1.50E+3	1.31E+3	ug/kg	87.3%	80/120

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-16A

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 86.7%

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-006

Date Received: 01/24/17

Report Date: 03/07/17

Sample Weight (g):

Injection Volume (uL):

1

Final Volume (mL):

GC Column: DB-5MS

Preparation Method: ARS-156/3550C

Analysis Method: ARS-160/EPA 8270D

Semi-Volatile Organics

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
90-12-0	1-Methylnaphthalene	<25.5	25.5	81.2	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
91-57-6	2-Methylnaphthalene	<24.9	24.9	79.3	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
83-32-9	Acenaphthene	<21.2	21.2	67.5	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
208-96-8	Acenaphthylene	<21.6	21.6	68.8	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
120-12-7	Anthracene	<33.1	33,1	105	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
56-55-3	Benzo(a)anthracene	<36,2	36.2	115	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
50-32-8	Benzo(a)pyrene	<57.4	57.4	183	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
205-99-2	Benzo(b)fluoranthene	<56.4	56.4	179	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
191-24-2	Benzo(g,h,i)perylene	<53.0	53.0	169	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
207-08-9	Benzo(k)fluoranthene	<57.1	57.1	182	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
218-01-9	Chrysene	<37.0	37.0	118	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
53-70 - 3	Dibenz(a,h)anthracene	<53.5	53.5	170	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
206-44-0	Fluoranthene	<34.8	34.8	111	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
86-73-7	Fluorene	<19.6	19.6	62.5	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
193-39-5	Indeno(1,2,3-cd)pyrene	<54.4	54.4	173	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
91-20-3	Naphthalene	<44.3	44.3	141	3,00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
85-01-8	Phenanthrene	<29.1	29.1	92.7	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER
129-00-0	Pyrene	<35.8	35.8	114	3.00	1	U	ug/kg	02/08/17 22:17	CSTRINGER

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
118-79-6	2,4,6-Tribromophenol	1.54E+3	1.45E+3	ug/kg	94.4%	80/120
321-60-8	2-Fluorobiphenyl	1.54E+3	1.17E+3	ug/kg	75.9%	80/120
367-12-4	2-Fluorophenol	1.54E+3	1.25E+3	ug/kg	81.1%	80/120
4165-60-0	Nitrobenzene-d5	1.54E+3	1.25E+3	ug/kg	81.5%	80/120
4165-62-2	Phenol-d5	1.54E+3	1,2 6 E+3	ug/kg	82.0%	80/120
1718-51-0	Terphenyl-d14 /	1.54E+3	1.27E+3	ug/kg	82.4%	80/120

Project Manager Review

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-17

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 82.5%

Sample Weight (g): 30

Extraction Type: Sonification

Conc Extract Volume (mL): 1

Cleanup Type: None
Cleanup Factor: N/A

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-007

Date Received: 01/24/17 **Report Date:** 03/07/17

pH: N/A

Date Extracted: 01/31/17

Injection Volume (uL): 1

Preparation Method: ARS-156/3550C

Analysis Method: ARS-157/SW846 8082A

PCBs

CAS#	Analyte	GC Column	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
12674-11-2	Aroclor-1016	ECD1 A	<3.33	3.33	3.33	1.00	1	U*	ug/kg	02/07/17 19:16	DCODY
11104-28-2	Aroclor-1221	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY
11141-16-5	Aroclor-1232	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY
53469-21-9	Aroclor-1242	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY
12672-29-6	Aroclor-1248	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY
11097-69-1	Aroclor-1254	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY
11096-82-5	Aroclor-1260	ECD1 A	<3.33	3.33	3.33	1.00	1	U	ug/kg	02/07/17 19:16	DCODY

CAS#	Surrogate	GC Column	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits	POR MANAGEMENT AND ADDRESS OF THE PARTY OF T
2051-24-3	DCBP	ECD1 A	0.808	0.166	ug/kg	20.6%	80/120	-
877-09 - 8	TCMX	ECD1 A	0.808	0.322	ug/kg	39.9%	80/120	

Project Mappger Review

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ARS Sample Delivery Group: ARS1-17-00216

Client Sample ID: BB-17 Mud/Sludge

Sample Collection Date: 01/17/17

Sample Matrix: Soil/Solid/Sludge

Percent Solids: 20.6%

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00216-008

Date Received: 01/24/17 **Report Date:** 03/07/17

Radiochemistry

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery	
Sr-90	-0.018	0.048	0.085	0.040	0.1	U	pCi/g	ARS-032/Eichrom SRW-01	02/01/17 16:39	SC	101%	

Project Manager Review

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Radiological Analysis Quality Control Results

SDG# ARS1-17-00216 COC SOLID SAMPLES



Analytical Batch	ARS1-B17-00157
CONTROL ACTION OF THE PARTY OF A STREET OF THE PARTY OF T	
SDG	ARS1-17-00216
PROPERTY SERVICE SERVI	OND PORTUGE AND
Analysis S	trontium-90 (Soil, Sludge, Biota,
форморический и и и и и и и и и и и и и и и и и и	semente en entre entre entre entre entre
Analysis Test Method Al	RS-032/Gas Proportional Counter
from the terretainment the terretainment of the ter	
Analysis Code	GPC-A-012
$\frac{1}{2} e^{\frac{1}{2} (1+\alpha)^2 + (1+\alpha)$.
Report Units	pCi/g
\$ reconstruction to the companies of the contract of the contr	ON BUIND NATURE STRUCK STRUCKS FROM THE REPORT OF THE PROPERTY OF THE STRUCK ST

Acce	Acceptable QC Performance Ranges								
QC Sample Type	Performance Items and Ranges								
Laboratory Control Sample	Recovery (%):	> 75	< 125						
Matrix Spike	Recovery (%):	> 60	< 140						
	Rep	licate Error Ratio (RER):	<1						
Duplicate	Duplicate Error Ratio (DER); < 3								
The Part of the State of the St	Relative Perc	ent Difference (RPD %):	≤ 25						

Laboratory Control Sa	ample		Analysis Date	02/01/17 16:38	Analysis Technician	S	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B17-00157-01	LCS	SR-90	19.527	2.961	19.319	101.1	0.266

Duplicate RER/DER/F	Duplicate RER/DER/RPD			02/01/17 16:39	Analysis Technician	S	C
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	RER	DER	RPD
SR-90	19.527	2.961	22.166	3.357	0.418	1.156	12.7

Method Blank		Analysis Date	02/01/17 16:39	Analysis Technician	5	С
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B17-00157-03	MBL	SR-90	, 0.051	0.140	0.237	U

Project Manager Review

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Analytical Batch	ARS1-B17-00169
SDG	ARS1-17-00216
Analysis	Gamma Spec (Solid)
Analysis Test Method	ARS-007/EPA 901,1M
Analysis Code	GAM-A-020
Report Units	pCi/g

Acceptable QC Performance Ranges									
QC Sample Type	Performance Items and Ranges								
Laboratory Control Sample	Recovery (%): > 75 < 125								
Matrix Spike	Recovery (%):	> 60	< 140						
	Re	plicate Error Ratio (RER):	< 1						
Duplicate	Duplicate Error Ratio (DER): < 3								
SANDANIANI MARTINE SANDANI	Relative Per	cent Difference (RPD %):	≤ 25						

Laboratory Control Sa	Laboratory Control Sample			01/30/17 09:19	Analysis Technician	W	/JS
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B17-00169-01	LCS	AM-241	3.921E+4	2.872E+3	4.000E+4	98.0	714.700
ARS1-B17-00169-01	LCS	CO-60	6.525E+4	3.026E+3	6.719E+4	97.1	1.100E+3
ARS1-B17-00169-01	LCS	CS-137	5,605E+4	2,897E+3	5.727E+4	97.9	454.100

Duplicate RER/DER/RPD			Analysis Date	01/30/17 09:30	Analysis Technician	W	JS
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	RER	DER	RPD
AM-241	3.921E+4	2.872E+3	4.085E+4	3.148E+3	0.272	0.753	4.1
CO-60	6.525E+4	3.026E+3	6.806E+4	2.901E+3	0.474	1.315	4.2
CS-137	5.605E+4	2.897E+3	5.812E+4	2.777E+3	0.364	1.010	3.6

Method Blank	Analysis Date	01/30/17 14:40	Analysis Technician	W	JS	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B17-00169-03	MBL	AM-241	-0.868	4.100	6.840	U
ARS1-B17-00169-03	MBL	CO-60	1.337	2.506	4.200	U
ARS1-B17-00169-03	MBL	CS-137	-0.905	88.167	4.700	U

Project Manager Review

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INTERNATIONAL

2609 North River Road, Port Allen, Louisiana 70767

1 (800) 401-4277 FAX (225) 381-2996

Stable Chemistry Analysis Quality Control Results

SDG# ARS1-17-00216 COC SOLID SAMPLES



Analytical Batch	ARS1-B17-00170
Section to the section of the contract of the	
SDG	ARS1-17-00216
Analysis	GCMS-8270D-SO
Province and the contract of t	
Method	ARS-156/160/EPA 8270D
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Analysis Code	GCMS-8270D-SO
\$5720 COLON	
Report Units	ug/kg
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Labor	atory Control Sample	An	alysis Date	02/08/17 17:52	Analysis 7	Гесhnician	CSTR	INGER
CAS#	Analyte	LCS Results	LCSD Results	Known Value	% Rec	Limits	RPD	Limits
90-12-0	1-Methylnaphthalene	559	465	667	83.8	40 - 119	18.4	25
91-57-6	2-Methylnaphthalene	564	457	667	84.6	38 - 122	20.8	25
83-32-9	Acenaphthene	597	507	667	89.6	40 - 123	16.3	25
208-96-8	Acenaphthylene	606	518	667	90.9	32 - 132	15.6	25
120-12-7	Anthracene	638	614	667	95.8	47 - 123	3.94	25
56-55-3	Benzo(a)anthracene	667	654	667	100	49 - 126	1.92	25
50-32-8	Benzo(a)pyrene	654	635	667	98.1	45 - 129	2.95	25
205-99-2	Benzo(b)fluoranthene	666	647	667	99.9	45 - 132	2.79	. 25
191-24-2	Benzo(g,h,i)perylene	650	649	667	97.5	43 - 134	0.154	25
207-08-9	Benzo(k)fluoranthene	665	659	667	99.7	47 - 132	0.856	25
218-01-9	Chrysene	665	656	667	99.7	50 - 124	1.31	25
53-70-3	Dibenz(a,h)anthracene	654	660	667	99.0	45 - 134	0.914	25
206-44-0	Fluoranthene	671	642	667	101	50 - 127	4.47	25
86-73-7	Fluorene	621	576	667	93.2	43 - 125	7.57	25
193-39-5	Indeno(1,2,3-cd)pyrene	658	656	667	98.8	45 - 133	0.406	25
91-20-3	Naphthalene	570	444	667	85.6	35 - 123	24.8	25
85-01-8	Phenanthrene	644	623	667	96.7	50 - 121	3.37	25
129-00-0	Pyrene	666	656	667	99.9	47 - 127	1.51	25

Metho	od Blank	Analysis Date	02/08/17 17:22	Analysis Technician	CSTRINGER
CAS#	Analyte	Blank Results	Qualifier	MDL	PQL
90-12-0	1-Methylnaphthalene	<25.5	· U	25.5	81.2
91-57-6	2-Methylnaphthalene	<24.9	му _{дел} у катира пријира заменика контиска и конти U	24.9	79.3
83-32-9	Acenaphthene	<21.2	U	21.2	67.5
208-96-8	Acenaphthylene	<21.6	U	21.6	68.8
120-12-7	Anthracene	<33.1	U	33.1	105
56-55-3	Benzo(a)anthracene	<36.2	<i>U</i>	36.2	115
50-32-8	Benzo(a)pyrene	< 57.4	U	57.4	183
205-99-2	Benzo(b)fluoranthene	< 56.4	U	56.4	179
191-24-2	Benzo(g,h,i)perylene	< 53.0	U	53.0	169
207-08-9	Benzo(k)fluoranthene	< 57.1	accommunicamente accommunicamente de la companie d U	57.1	182
218-01-9	Chrysene	<37.0	<i>U</i>	37.0	118
53-70-3	Dibenz(a,h)anthracene	< 53.5	U U U U U U U U U U U U U U U U U U U	53.5	170
206-44-0	Fluoranthene	<34.8	U	34.8	111
86-73-7	Fluorene	<19.6	U	19.6	62.5
193-39-5	Indeno(1,2,3-cd)pyrene	< 54.4	nan rumaaaaamaaaamaaaaaaaaaaaaaaaaaaaaaaaaa	54.4	173
91-20-3	Naphthalene	<44.3	u consecuente de la composition della compositio	44.3	141
85-01-8	Phenanthrene	<29.1	un manderstadende sick anderse de de sieder de de sieder de de sieder de de de sieder. L	29.1	92.7
129-00-0	Pyrene	**************************************	ungangan mangan menandakan dak dalah kebada bahas dalah dala	35.8	114



Analytical Batch	ARS1-B17-00170
SDG	ARS1-17-00216
- Commentarion Commentarion de Commentario de Comme	-1.0000117110111111111111111111111111111
Analysis	GCMS-8270D-SO
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Method	ARS-156/160/EPA 8270D
CONTRACTOR CONTRACTOR PERSONS AND	$-\frac{1}{2}\left(\frac{1}{2}\right)\right)\right)}{\frac{1}{2}\right)}\right)}{\frac{1}}\right)}\right)}\right)}\right)}\right)}\right)}\right)}\right)}\right)}\right)}\right)}}\right)}$
Analysis Code	GCMS-8270D-SO
- Paramanananananananananananananananananan	
Report Units	ug/kg
September 1 to the contract of	and the first that the second of the control of the

Matrix	Spike	Anal	ysis Date	02/08/1	l7 19:20	Analysis T	echnician	CSTR	INGER
QC Type	Analyte	MS Results	MSO Sample	MSO Results	Expected Value	MS % Rec	Limits	RPD	Limits
MS	1-Methylnaphthalene	325	04	<25.5	827	39.3	40 - 119	N/A	25
MSD	1-Methylnaphthalene	284	04	<25.5	827	34.4	40 - 119	13.4	25
MS	2-Methylnaphthalene	268	04	<24.9	827	32.5	38 - 122	N/A	25
MSD	2-Methylnaphthalene	237	04	<24.9	827	28.6	38 - 122	12.6	25
MS	Acenaphthene	433	04	<21.2	827	52.4	40 - 123	N/A	25
MSD	Acenaphthene	384	04	<21.2	827	46.4	40 - 123	12.1	25
MS	Acenaphthylene	463	04	<21.6	827	56.0	32 - 132	N/A	25
MSD	Acenaphthylene	400	04	<21.6	827	48.3	32 - 132	14.8	25
MS	Anthracene	592	04	<33.1	827	71.6	47 - 123	N/A	25
MSD	Anthracene	503	04	<33.1	827	60.8	47 - 123	16.4	25
MS	Benzo(a)anthracene	625	04	<36.2	827	75.6	49 - 126	N/A	25
MSD	Benzo(a)anthracene	516	04	<36.2	827	62.4	49 - 126	19.1	25
MS	Benzo(a)pyrene	583	04	<57.4	827	70.5	45 - 129	N/A	25
MSD	Benzo(a)pyrene	469	04	<57.4	827	56.7	45 - 129	21.7	25
MS	Benzo(b)fluoranthene	577	04	<56.4	827	69.7	45 - 132	N/A	25
MSD	Benzo(b)fluoranthene	470	04	<56.4	827	56.8	45 - 132	20.4	25
MS	Benzo(g,h,i)perylene	560	04	<53.0	827	67.7	43 - 134	N/A	25
MSD	Benzo(g,h,i)perylene	461	04	<53.0	827	55.8	43 - 134	19.4	25
MS	Benzo(k)fluoranthene	580	04	< 57.1	827	70.1	47 - 132	N/A	25
MSD	Benzo(k)fluoranthene	471	04	<57.1	827	57.0	47 - 132	20.7	25
MS	Chrysene	631	04	<37.0	827	76.3	50 - 124	N/A	25
MSD	Chrysene	515	04	<37.0	827	62.3	50 - 124	20.2	25
MS	Dibenz(a,h)anthracene	590	04	<53.5	827	71.3	45 - 134	N/A	25
MSD	Dibenz(a,h)anthracene	######################################	04	<53.5	827	58.2	45 - 134	20.3	25
MS	Fluoranthene	648	04	<34.8	827	78.3	50 - 127	N/A	25
MSD	Fluoranthene	535	04	<34.8	827	64.7	50 - 127	19.1	25
MS	Fluorene	502	04	<19.6	827	60.7	43 - 125	N/A	25
MSD	Fluorene	440	04	<19.6	827	53.2	43 - 125	13.1	25
MS	Indeno(1,2,3-cd)pyrene	579	04	<54.4	827	70.0	45 - 133	N/A	25
MSD	Indeno(1,2,3-cd)pyrene	472	04	<54.4	827	57.1	45 - 133	20.4	25
MS	Naphthalene	210	04	<44.3	827	25.4	35 - 123	N/A	25
MSD	Naphthalene	179	04	<44.3	827	21.6	35 - 123	16.0	25
MS	Phenanthrene	**************************************	04	<29.1	827	70.8	50 - 121	N/A	25
MSD	Phenanthrene	514	04	<29.1	827	62.1	50 - 121	13.1	25
MS	Pyrene	651	04	<35.8	827	78.8	47 - 127	N/A	25
MSD	верия поличения поличения и поличения поличения поличения поличения поличения поличения поличения поличения пол Ругепе	537	04	<35.8	827	64.9	47 - 127	19.3	25



Analytical Batch	ARS1-B17-00170
SDG	ARS1-17-00216
CONTROL OF A SECURIOR OF A SECURIOR SECU	
Analysis	GCMS-8270D-SO
PETA-DETA-DISABLE META-DISABLE DETA-DISABLE DISABLE VERBONIMON PERA-DISABLE VE	мана мага по то по по по по поставления на при на при на при по
Method	ARS-156/160/EPA 8270D
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Analysis Code	GCMS-8270D-SO
freezen ez er ez zone ez en	+ 0.00000000000000000000000000000000000
Report Units	ug/kg
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Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduc	tion of this
report in less than full requires the written consent of the client.	



personal control professional control and	
Analytical Batch	ARS1-B17-00184
SDG	ARS1-17-00216
Experience de la company de la	
Analysis	GCSV-8082A-SO
	Consideration and the contribution of the cont
Method	ARS-156/157/SW846 8082A
La como de la companya del la companya de la compan	CATE RECORD FOR THE ACTION AND THE PROPERTY OF THE ACTION
Analysis Code	GCSV-8082A-SO
francisco con consecuente con a consecuencia de consecuencia d	$\ \ \ \ \ \ \ \ \ \ \ \ \ $
Report Units	ug/kg

Labora	atory Control Sample	An	alysis Date	02/13/17 16:31	Analysis 1	Technici a n	DC	ODY
CAS#	Analyte	LCS Results	LCSD Results	Known Value	% Rec	Limits	RPD	Limits
12674-11-2	Aroclor-1016	26.3	26.4	33.3	79.2	47 - 134	0.513	25
11096-82-5	Aroclor-1260	30.9	30.5	33.3	92.7	53 - 130	1.42	25

Metho	d Blank	Analysis Date	02/07/17 15:00	Analysis Technician	DCODY
CAS#	Analyte	Blank Results	Qualifier	MDL	PQL
12674-11-2	Aroclor-1016	<3.33	U	3.33	3.33
11104-28-2	Aroclor-1221	<3.33	U	3.33	3.33
11141-16-5	Aroclor-1232	<3.33	U	3.33	3.33
53469-21-9	Aroclor-1242	<3.33	<u>U</u>	3.33	3.33
12672-29-6	Aroclor-1248	<3.33	U	3.33	3.33
11097-69-1	Aroclor-1254	<3.33	<u> </u>	3.33	3.33
11096-82-5	Aroclor-1260	<3.33	<u> </u>	3.33	3.33

Matrix	k Spike	Ana	lysis Date	02/07/	17 19:44	Analysis T	echnician	DC	ODY
QC Type	Analyte	MS Results	MSO Sample	MSO Results	Expected Value	MS % Rec	Limits	RPD	Limits
MS	Aroclor-1016	60.6	04	<3.33	38.6	157	60 - 140	N/A	25
MSD	Aroclor-1016	127	04	<3.33	38.6	330	60 - 140	71.1	25
MS	Aroclor-1260	24.8	04	<3.33	38.6	64.4	60 - 140	N/A	25
MSD	Aroclor-1260	27.0	04	<3.33	38.6	70.0	60 - 140	8.40	25

Project Marager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



Radiological Analysis EPA 901.1M

SDG# ARS1-17-00216 COC SOLID SAMPLES

### ### ##############################	Batch ID	Analysis Batch ID ARS1-B17-0016	69						
Type	Method ARS-007	ARS-007	Analysis GAM-A-020	GAM-A-0	20	Matrix SO	South Control of the		
Туре	scription	Description Gamma Spec (Solid)	ਰ)						
	Blind Iso1 Blind Iso2	Iso2 Blind Iso3	SDG	æ	Run	Prep Code	Client ID	Group Name	Lab Deadline
ARS1-B17-00169-01 LCS 119600							119600 - GAMMA GEOMETRY: 250 mL Jar	250 mL Jar	A AND AND AND AND AND AND AND AND AND AN
ARS1-B17-00169-02 LCSD 119600							119600 - GAMMA GEOMETRY: 250 mL Jar	250 mL Jar	
ARS1-B17-00169-03 MBL		STEED AND DESCRIPTION		***************************************	in our leasuring				
ARS1-B17-00169-04 TRG	ļ		ARS1-17-00216 001	16 001	-		BB-16L	Applied Sciences	02/11/17
ARS1-B17-00169-05 TRG			ARS1-17-00216 002	16 002	Н		BB-18	Applied Sciences	02/11/17
ARS1-817-00169-06 TRG	- Amount	300-00-00-00-00-00-00-00-00-00-00-00-00-	ARS1-17-00216 004	16 004	н		BB-19M	Applied Sciences	02/11/17



Ortec Gamma

ACT

2.2696E+00

1.0078E+00

8.9533E-01

8.2283E-01

1.3533E+00

3.7347E-01

7.8464E-02

1.0184E+00

2.2158E+01

Units pCi/g

pCi/g pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

pCi/g

	Batch Sample ID	ARS1-B17-00169-04 ORTEC GAMMA					
	Sample Setup Description						
	InternalID	ARS1-17-00216-	LC GAPIPIA				
医医骶骨膜炎	AnalysisBatch	ARS1-B17-0016	59	Geometry	250mL Jar 1748-94-41		
14685	SDG	ARS1-17-0021	6	Fraction	001		
	AnalysisCode	GAM-A-020		Run Detector ID			
推出医数型	Library	APPLIEDSCIENC	ES.Lib	Detector Name	GAMASPEC_ARS05		
TPU	MDA		ide Energy (keV)	Peak Energy (keV)	FWHM		
2.1209E-01	1.7900E-01	8.9500E-02					
1.0183E-01	4.8000E-02	2.4000E-02					
8.0369E-02	4.7100E-02	2.3550E-02					
1.2008E-01	1.4500E-01	7.2500E-02					
9.9351E-02	3.1800E-02	1.5900E-02					
4.4169E-02	2.6800E-02	1.3400E-02					
1.6210E-02	2.4400E-02	1.2200E-02					
2.2765E-02	2.2000E-02	1.1000E-02					
2.4312E-01	3.8400E-01	1.9200E-01					
1.5333E+00	3.0700E-01	1.5350E-01					

0.000 Et00

CS-134 2.1/10-22-5.5520E-02

Isotope

AC-228

PB-214

BI-214

BI-212

PB-212

TL-208

CS-137

TH-234

K-40

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1 Sample description Batch ID: 17-00169-04 SDG: ARS1-17-00216-001 Tech: WJS Spectrum Filename: C:\User\ARS05182.An1 Acquisition information Start time: 1/30/2017 14:40:25 Live time: 50400 Real time: 50438 Dead time: 0.08 % Detector ID: Detector system GAMASPEC ARS05 MCB 340 Calibration Filename: 250mL Jar 1748-94-41 calib.Clb 250mL Jar 1748-94-41 WJS 2-25-16 Energy Calibration Created: 2/25/2016 11:37:03 Zero offset: 0.153 keV Gain: 0.250 keV/channel Quadratic: -1.095E-09 keV/channel^2 Efficiency Calibration Created: 2/25/2016 11:38:38 Knee Energy: 153.00 keV Above the Knee: Ouadratic Uncertainty = 1.46 % -1.100347E+00 + (-2.623973E-01*Log(E)) +Log(Eff): (-3.626991E-02*Log(E)^2) Below the Knee: Quadratic Uncertainty = Log(Eff): -1.111043E+01 + (3.445208E+00*Log(E)) + $(-3.774204E-01*Log(E)^2)$ Library Files APPLIEDSCIENCES.Lib Main analysis library: Library Match Width: 0.500 Peak stripping: Library based Analysis parameters Env32 G53W4.24 Analysis engine: Start channel: 0 (0.15keV) 8000 (1999.16keV) Stop channel: Peak rejection level: 40.000% Peak search sensitivity: Sample Size: 2.9275E+02 Activity scaling factor: 1.0000E+06/(1.0000E+00*2.9275E+02) =3.4159E+03 Detection limit method: Reg. Guide 4.16 Method

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1

Random error: 1.0000000E+00 Systematic error: 1.0000000E+00

Fraction Limit: 60.000%

Background width: best method (based on spectrum).

Half lives decay limit: 12.000
Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections Status Comments

Decay correct to date: NO
Decay during acquisition: YES
Decay during collection: NO
True coincidence correction: NO

Peaked background correction: YES pbc APPLIEDSCIENCES.Pbc

1/30/2017 09:08:58

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 28 cutoff 20.00000 %

Energy Calibration

Normalized diff: 0.0845

	U M M A				N RAN	0 2	****	
Peak	Area	Uncert	FWHM	Corrctn	Nuclide	Brnch.	Act.	Nuc
Energy				Factor	Energy	Ratio	pCi/g	
20.83	2681.	4.34	1.17	1.610E-02				
46.47	1156.	6.31	0.78	3.186E-02				
48.55	215.	29.33	0.78	3.261E-02				
53.29	164.	38.96	0.68	3.409E-02				
63.31	1169.	9.80	0.75	3.639E-02	63.29	3.900	1.068E+00	TH234
74.78	3811.	2.71	0.82	3.794E-02				
77.09	5984.	1.87	0.82	3.815E-02				
79.40	237.	28.67	0.82	3.832E-02				
81.21	192.		0.82	3.844E-02				
84.08	600.	12.86	0.83	3.859E-02				
87.15	1891.		0.83	3.871E-02				
89.85	1208.	6.37	0.84	3.878E-02				
92.87	1907.	4.57	0.84	3.883E-02	92.38	2.570	3.034E+00	TH234
					92.80	3.000	2.663E+00	TH234
99.26	297.	29.40	1.69	3.883E-02				
105.25	409.	19.56	1.04	3.872E-02				
112.79	196.	28.30	0.86	3.847E-02				
115.29	272.	22.15	0.87	3.836E-02				
129.06	576.	16.81	0.67	3.758E-02				
143.83	251.	27.87	0.74	3.652E-02				
153.85	245.	26.09	1.00	3.538E-02				
169.01	140.	38.58	0.49	3.334E-02				
185.97	1540.	7.18	1.10	3.137E-02				
209.24	797.		0.96	2.907E-02				
238.63	8696.	1.25	1.02	2.667E-02	238.63	43.100	1.350E+00	PB212
240.82	785.		1.02	2.651E-02				
242.07	1097.		1.02	2.642E-02	241.98	7.500	1.007E+00	PB214
270.14	719.		1.19	2.456E-02				
277.34	350.		0.90	2.413E-02	277.36	6.500		
295.13	2485.		1.04	2.315E-02	295.21	18.500		
299.90	592.		1.36	2.290E-02	300.09	3.270	1.394E+00	PB212
327.88	445.		1.11	2.155E-02				
338.24	1694.		1.22	2.110E-02	338.40			
351.89	4188.		1.07		351.92	35.800	9.955E-01	
409.36	286.	18.87	1.27	1.849E-02				60 of 10

`							
462.73	468.	13.61	1.57	1.696E-02			
510.65	2381.	4.16	1.90	1.581E-02	510.72	22.500	5.123E-01 TL208
583.10	2682.	4.49	1.44	1.437E-02	583.14	86.000	3.708E-01 TL208
609.25	3276.	2.89	1.46	1.392E-02	609.31	44.791	9.039E-01 BI214
661.54	442.	9.08	1.53	1.311E-02	661.66	85.100	6.578E-02 CS137
727.10	673.	6.14	1.61	1.223E-02	727.17	11.800	8.223E-01 BI212
767.52	432.	15.82	1.25	1.175E-02			
768.18	251.	17.55	1.66	1.174E-02	768.36	4.799	8.152E-01 BI214
785.74	168.	24.01	0.72	1.155E-02	785.42	2.000	1.335E+00 BI212
795.00	296.	13.36	1.70	1.143E-02	795.86	85.460	5.552E-02 CS134
					795.86	85.460	5.552E-02 CS134
835.48	207.	19.58	0.69	1.103E-02			
860.19	380.	15.14	1.50	1.079E-02	860.47	12.000	5.126E-01 TL208
911.15	1888.	4.92	1.69	1.033E-02	911.07	29.000	2.210E+00 Ac228
964.70	348.	10.90	1.90	9.891E-03	964.60	5.452	2.357E+00 Ac228

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1

pk energy	area	uncert	fwhm	corr	nuclide	brnch.	act.	nuc
968.37	1401.	6.50	1.72	9.862E-03	968.90	17.460	2.875E+00	Ac228
1119.98	987.	9.35	1.76	8.821E-03	1120.29	14.797	1.325E+00	BI214
1238.54	372.	15.20	1.28	8.159E-03	1238.11	5.859	1.371E+00	BI214
1460.58	9522.	1.18	2.43	7.169E-03	1460.75	10.700	2.216E+01	K40
1620.87	177.	18.12	0.43	6.600E-03	1620.56	2.750	1.790E+00	BI212
1764.37	604.	5.75	2.49	6.165E-03	1764.49	15.357	1.168E+00	BI214

****** UNIDENTIFIED PEAK S U M M A R Y ******** Peak Centroid Background Net Area Intensity Uncert FWHM Suspected Channel Energy Counts Counts Cts/Sec 2 Sigma % keV Nuclide 82.74 20.83 3610. 2681. 0.053 8.67 1.173 RH-106 185.50 46.51 2367. 1057. 0.021 16.67 0.703 NP-237 193.80 48.58 1496. 0.003 69.37 0.488 EU-154 s 168. 212.64 53.29 1687. 164. 0.003 77.93 0.682 RU-103 s 3491. 0.069 6.76 0.769 TH-234 298.64 74.78 3683. 5896. 307.87 77.09 3152. 0.117 4.13 0.799 PB-212 317.15 79.38 2196. 0.005 57.34 0.822 BI-212 237. 0.004 69.31 0.825 AU-196 324.37 81.19 2111. 192. 335.84 84.08 3089. 851. 0.017 24.82 1.236 HG-203 s 2049. 0.041 10.42 1.048 TH-234 s 348.18 87.16 2953. 358.98 89.86 2394. 0.022 15.97 0.861 AC-228 1113. 396.60 99.26 0.006 58.80 1.688 PA-234M s 2314. 297. 420.58 105.25 1998. 0.008 39.13 1.043 EU-155 s 409. 450.41 112.70 1466. 164. 0.003 75.68 0.779 TH-234 460.42 115.20 1731. 202. 0.004 70.63 0.683 PB-212 515.86 129.06 576. 0.011 2515. 33.63 0.670 AC-228 251. 0.744 U-235 574.96 143.83 0.005 55.73 1643. 153.85 0.005 52.17 615.09 245. 1.001 XE-138 1440. 140. 0.003 675.72 169.01 77.15 1102. 0.495 NP-237 743.60 185.97 1540. 0.031 1.098 RA-226 s 2568. 14.37 0.016 19.80 836.75 209.24 1626. 797. 0.962 AC-228 s 963.03 240.79 728. 27.02 4477. 0.014 1.020 RU-103 D 719. 1.194 AC-228 s 1080.44 270.14 0.014 1331. 20.80 36.30 1.107 AC-228 s 327.88 0.009 1311.54 1351. 445. 286. 0.006 37.74 468. 0.009 27.22 432. 0.009 31.63 207. 0.004 39.15 1637.62 409.36 1.274 AC-228 286. 748. 1851.19 462.73 1.568 CS-138 s 863. 1.252 RB-89 3070.95 767.52 583. 1 0.693 AC-228 s 3342.91 835.48 410.

This section based on library: APPLIEDSCIENCES.Lib

s - Peak fails shape tests.

D - Peak area deconvoluted.

L - Peak written from unknown list.

C - Area < Critical level.

M - Peak is close to a library peak.

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1

*******		DENTI	FIED P	EAK	SUMMAR	Y *****	*****
Nuclide	Peak	Centroid	Background	Net Area	Intensity	Uncert	
	Channel	Energy	Counts	Counts	Cts/Sec	2 Sigma %	keV
TH-234	252.73	63.31	3935.	820.	0.016	19.60	0.752s
TH-234	369.08	92.38	4128.	550.	0.011	23.33	0.838D
TH-234	370.76	92.80	3719.	642.	0.013	23.76	0.839D
PB-212	954.35	238.63	1787.	8474.	0.168	2.50	1.018D
PB-214	967.76	241.98	1897.	1125.	0.022	12.38	1.022D
TL-208	1109.27	277.34	1238.	350.	0.007	39.04	0.902
PB-214	1180.48	295.13	1794.	2381.	0.047	7.65	1.042
PB-212	1199.55	299.90	1324.	569.	0.011	26.22	1.363s
Ac-228	1352.97	338.24	1284.	1654.	0.033	8.60	1.224
PB-214	1407.62	351.89	1660.	3995.	0.079	5.02	1.069
TL-208	2042.97	510.65	2621.	995.	0.020	8.31	1.904s
TL-208	2332.87	583.10	1462.	2502.	0.050	8.99	1.438
BI-214	2437.56	609.25	1144.	3077.	0.061	5.77	1.464
CS-137	2645.68	661.26	797.	478.	0.009	26.35	1.441s
BI-212	2909.45	727.17	573.	648.	0.013	12.48	1.614D
BI-214	3073.58	768.18	991.	251.	0.005	35.10	1.664s
BI-212	3143.85	785.74	419.	168.	0.003	48.02	0.719s
CS-134	3180.92	795.00	749.	296.	0.006	26.72	1.698s
TL-208	3441.58	860.14	654.	376.	0.007	27.51	1.518s
Ac-228	3645.73	911.15	954.	1814.	0.036	9.84	1.689
Ac-228	3859.64	964.60	557.	348.	0.007	21.81	1.903D
Ac-228	3876.85	968.90	510.	1066.	0.021	8.13	1.908D
BI-214	4481.46	1119.98	658.	944.	0.019	18.70	1.765s
BI-214	4955.93	1238.54	595.	358.	0.007	30.41	1.281s
K-40	5844.55	1460.58	730.	9278.	0.184	2.37	2.427
BI-212	6486.06	1620.87	103.	177.	0.004	36.25	0.427s
BI-214	7060.35	1764.37	193.	604.	0.012	11.50	2.493

- s Peak fails shape tests.D Peak area deconvoluted.A Derived peak area.

**** S U - Nuclide - Name · Code	-		Peak	Y PEAK C Code MDA Value pCi/g	•
Ac-228	2.2696E+00				
		911.07	2.210E+00	(P 1.788E-01	4.92E+00 G
		968.90	2.261E+00	(P 2.289E-01	4.06E+00 G
		338.40	2.384E+00	(P 2.445E-01	4.30E+00 G
		964.60	2.357E+00	(P 7.628E-01	1.09E+01 G

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1

Nuclide	Ave activity	Energy	Activity	Code Peak	MDA C	omment:	s
PB-214	1.0078E+00	295.21	9.955E-01 1.019E+00 1.040E+00	,	-02 3.8	2E+00	G
BI-214	8.9533E-01	1764.49 1120.29 1238.11	1.168E+00 1.325E+00 1.371E+00	(P 4.709E+P 1.305E+P 1.716E+P 4.458E-&(P 4.858E-	-01 5.7 -01 9.3 -01 1.5	5E+00 (5E+00 (2E+01 (G G G
BI-212	8.2283E-01	1620.56	1.790E+00	(P 1.450E+ 5.039E+ 7.778E-	-01 1.8	1E+01 (G
PB-212	1.3533E+00		1.350E+00 1.394E+00	•			
TL-208	3.7347E-01	510.72 860.47 277.36	5.123E-01 5.326E-01 4.093E-01	(P 2.681E+P 1.242E+P 1.725E-(1.946E-%1.060E-	-01 4.1 -01 1.3 -01 1.9	6E+00 (8E+01 (5E+01 (G G G
CS-134	5.5520E-02	604.72 569.33	0.000E+00 2.912E-02	&(P 2.441E % 5.831E % P 1.259E % P 2.275E	-02 1.0 -01 5.1	0E+03 .2E+01	
CS-137	7.8464E-02	661.66	7.846E-02	@(P 2.205E-	-02 1.3	2E+01 (G
TH-234	1.0184E+00	92.80	1.018E+00	(P 3.841E- } P 4.549E- } P 5.593E-	-01 1.1	9E+01 (G
	2.2158E+01 is peak used in			(P 3.071E- ty average.	-01 1.1	8E+00 (G

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.Anl

- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction
- } Peak is too close to another for the activity
 to be found directly.

Nuclide Codes:

- T Thermal Neutron Activation
- F Fast Neutron Activation
- I Fission Product
- N Naturally Occurring Isotope
- P Photon Reaction
- C Charged Particle Reaction
- M No MDA Calculation
- R Coincidence Corrected
- H Halflife limit exceeded

Peak Codes:

- G Gamma Ray
- X X-Ray
- P Positron Decay
- S Single-Escape
- D Double-Escape
- K Key Line
- A Not in Average
- C Coincidence Peak

**** Nuclide	S U M M A R Y Time of Count Activity pCi/g	OF NUCL Uncertainty Counting pCi/g	I D E S I N 2 Sigma Total pCi/g	SAMPLE MDA pCi/g	****
Ac-228	2.2696E+00	1.5391E-01	2.1209E-01	0.179E+00	
PB-214	1.0078E+00	5.2758E-02	1.0183E-01	0.480E-01	
BI-214	8.9533E-01	5.5039E-02	8.0369E-02	0.471E-01	
BI-212	8.2283E-01	1.0677E-01	1.2008E-01	0.145E+00	
PB-212	1.3533E+00	3.4735E-02	9.9351E-02	0.318E-01	
TL-208	3.7347E-01	3.5995E-02	4.4169E-02	0.268E-01	
CS-134	#F 5.5520E-02	1.5793E-02	1.6210E-02	0.244E-01	
CS-137	# 7.8464E-02	2.2459E-02	2.2765E-02	0.220E-01	
TH-234	1.0184E+00	2.3272E-01	2.4312E-01	0.384E+00	
K-40	2.2158E+01	5.3899E-01	1.5333E+00	0.307E+00	

- # All peaks for activity calculation had bad shape.
- * Activity omitted from total
- & Activity omitted from total and all peaks had bad shape.

ORTEC g v - i (3263) Env32 G53W4.24 1/31/2017 04:41:04 American Radiation Services Spectrum name: ARS05182.An1

< - MDA value printed.

• .

A - Activity printed, but activity < MDA.

B - Activity < MDA and failed test. C - Area < Critical level.

F - Failed fraction or key line test.

H - Halflife limit exceeded

----- S U M M A R Y -----

Total Activity (1120.1 to 1999.2 keV) 2.998E+01 pCi/g



Ortec Gamma

ACT

2.2789E+00

8.2252E-01

7.5162E-01

7.5570E-01

1.2562E+00

4.1161E-01

5.8822E-02

7.8232E-02

7.0827E-01

2.3017E+01

Units

pCi/g

	Batch Sample ID		ARS1-B1	17-00169-0)5		
	Sample Setup Description		ORTEC GAMMA				
	InternalID AnalysisBatch SDG AnalysisCode	ARS1-17-0 ARS1-B1 ARS1-17 GAM-	7-00169 7-00216	Geometry Fraction Run	250mL Jar 1891-50-2 002		
	Library	APPLIEDSCI	ENCES.Lib	Detector ID Detector Name	1 (ARS03)		
TPU	MDA	DL	Nuclide Energy (keV)	Peak Energy (keV)	FWHM		
1.9759E-01	1.1000E-01	5.5000E-02					
7.7313E-02	4.1300E-02	2.0650E-02					
5.9470E-02	3.5900E-02	1.7950E-02					
1.2261E-01	1.2600E-01	6.3000E-02					
9.0139E-02	3.3100E-02	1.6550E-02					
3.3333E-02	1.7200E-02	8.6000E-03					
1.4419E-02	2.1200E-02	1.0600E-02					
1.4381E-02	1.6200E-02	8.1000E-03					
2.6431E-01	3.3800E-01	1.6900E-01					
1.5683E+00	1.9500E-01	9.7500E-02					
			1 1 1 1 1 1 1		That was the		

3.886E-04

Isotope

AC-228

PB-214

BI-214

BI-212

PB-212

TL-208

∩ CS-134-2

CS-137

TH-234

K-40

```
ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 04:44:16 Page
ARS
                              Spectrum name: ARS03720.An1
Sample description
    Batch ID: 17-00169-05
    SDG: ARS1-17-00216-002 Tech: WJS
Spectrum Filename: C:\User\ARS03720.An1
Acquisition information
      Start time:
                                 30-Jan-2017 14:41:14
      Live time:
                             50400
      Real time:
                             50574
      Dead time:
                                0.34 %
      Detector ID:
                                    1
Detector system
     (ARS03) MCB 129
Calibration
      Filename:
                                 250mL Jar 1891-50-2 calib.Clb
    250mL Jar 1891-50-2 9-21-16 WJS
      Energy Calibration
           Created:
                                21-Sep-2016 10:50:41
           Zero offset:
                                0.212 keV
           Gain:
                                0.250 keV/channel
           Quadratic:
                                -1.731E-08 keV/channel^2
      Efficiency Calibration
           Created:
                                21-Sep-2016 10:53:41
           Knee Energy:
                              140.00 keV
           Above the Knee:
                                                Uncertainty = 1.08 %
                               Ouadratic
                               -9.869273E-01 + (-3.409520E-01*Log(E)) +
           Log(Eff):
                                (-2.950298E-02*Log(E)^2)
           Below the Knee:
                                           Uncertainty =
                                Quadratic
           Log(Eff):
                                -1.054118E+01 + (3.189017E+00*Log(E)) +
                                (-3.520465E-01*Log(E)^2)
Library Files
      Main analysis library:
                               APPLIEDSCIENCES.Lib
      Library Match Width:
                                0.500
      Peak stripping:
                                Library based
Analysis parameters
      Analysis engine:
                               Env32 G53W4.22
      Start channel:
                               10 ( 2.71keV)
                             8000 ( 1999.79keV )
      Stop channel:
      Peak rejection level:
                              40.000%
      Peak search sensitivity:
                                3
      Sample Size:
                                 3.8133E+02
      Activity scaling factor:
                                 1.0000E+06/(1.0000E+00*3.8133E+02) =
                                 2.6224E+03
      Detection limit method:
                                Reg. Guide 4.16 Method
```

ARS

Random error: 1.0000000E+00
Systematic error: 1.0000000E+00

Fraction Limit: 60.000%

Background width: best method (based on spectrum).

Half lives decay limit: 12.000
Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections Status Comments

Decay correct to date: NO
Decay during acquisition: YES
Decay during collection: NO
True coincidence correction: NO
Peaked background correction: YES

Peaked background correction: YES pbc APPLIEDSCIENCES.Pbc

30-Jan-2017 09:11:58

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 26 cutoff 20.00000 %

Energy Calibration

Normalized diff: 0.1037

**** S	AMMU	R Y O	F PE	AKS I	N RAN	GE	****	
Peak	Area	Uncert	FWHM	Corrctn	Nuclide	Brnch.	Act.	Nuc
Energy				Factor	Energy	Ratio	pCi/g	
20.83	806.	6.49	0.90	1.669E-02				
23.62	374.	17.09	0.90	1.890E-02				
32.06	202.	34.11	0.82	2.433E-02				
46.68	1267.	6.72	0.86	3.066E-02				
53.32	282.	31.90	0.94	3.249E-02				
63.45	1122.	. 10.93	0.94	3.440E-02	63.29	3.900	7.083E-01	TH234
72.88	346.	28.41	0.95	3.545E-02				
74.93	4151.	2.74	0.95	3.561E-02				
77.17	6273.	1.94	0.95	3.575E-02				
81.21	196.	37.21	0.95	3.596E-02				
84.24	885.	9.70	0.95	3.606E-02				
87.21	2193.	4.19	0.96	3.613E-02				
89.94	1330.	6.43	0.96	3.617E-02				
92.97	2016.	4.60	0.96	3.618E-02	92.38	2.570		
					92.80	3.000	2.207E+00	TH234
99.24	392.			3.612E-02				
105.31	330.		0.91	3.597E-02				
129.00	655.			3.481E-02				
185.88	1630.		1.24	2.805E-02				
209.24	845.			2.596E-02				
223.26	181.		0.60	2.488E-02				
238.58	9571.		1.08	2.381E-02	238.63			
241.52	1507.		1.08	2.361E-02	241.98	7.500	1.162E+00	PB214
270.06	651.		1.00	2.192E-02				
277.35	433.		1.19	2.153E-02	277.36	6.500		
295.15	2396.		1.11	2.064E-02	295.21	18.500		
299.95	646.		1.41	2.042E-02	300.09	3.270	1.361E+00	PB212
327.98	532.		1.12	1.921E-02				_
338.22	1986.		1.16	1.881E-02	338.40	12.010		
351.85	3937.		1.16	1.831E-02	351.92	35.800	8.090E-01	PB214
409.40	385.		0.66	1.649E-02				
462.96	703.		1.13	1.513E-02				
510.82	2479.			1.412E-02	510.72	22.500		
583.34	3378.		1.30	1.284E-02	583.14	86.000		
609.39	3141.			1.245E-02	609.31	44.791		
661.69	572.	8.70	1.21	1.173E-02	661.66	85.100	7.823E-02	CS 1697

727.40	712.	7.30	1.34	1.095E-02	727.17	11.800	7.557E-01 BI212
768.10	363.	13.94	1.39	1.052E-02	768.36	4.799	1.012E+00 BI214
786.00	96.	34.30	1.51	1.035E-02	785.42	2.000	PBC <mda bi212<="" td=""></mda>
794.90	378.	16.00	1.51	1.026E-02			
794.90	378.	16.00	1.51	1.026E-02	795.86	85.460	5.815E-02 CS134
860.65	490.	9.80	1.60	9.674E-03	860.47	12.000	5.466E-01 TL208
911.34	2262.	2.97	1.66	9.273E-03	911.07	29.000	2.309E+00 Ac228
933.20	179.	17.71	1.63	9.111E-03			
939.12	63.	37.78	0.36	9.068E-03			
964.51	403.	8.96	1.65	8.890E-03	964.60	5.452	2.322E+00 Ac228
969.11	1321.	3.60	1.65	8.858E-03	968.90	17.460	2.327E+00 Ac228

		I D E N T I I Background Ne Counts		PEAK Intensity Cts/Sec 2	S U M M Uncert Sigma %	ARY FWHM keV	******* Suspecte Nuclide	
83.31	21.05	1166.	779.	0.015	17.16	1.770	RH-106	s
94.46	23.83	2020.	210.	0.004	73.48	0.381	RH-106	s
127.37	32.06	1705.	202.	0.004	68.23	0.822	XE-138	
185.79	46.68	2108.	1267.	0.025	13.44	0.857	PB-210	
212.37	53.32	2604.	282.	0.006	63.81	0.944	RU-103	
290.57	72.85	4648.	346.	0.007	56.79	0.945	TL-208	D
298.77	74.90	4371.	4154.	0.082	5.47	0.947	TH-234	D
307.73	77.14	4300.	6279.	0.125	3.89	0.949	PB-212	D
323.88	81.21	2553.	196.	0.004	74.41	0.952	AU-196	lD
336.02	84.24	3942.	982.	0.019	24.77	1.176	HG-203	s
347.86	87.21	3224.	2100.	0.042	10.33	0.937	PB-212	
358.78	89.94	3148.	1170.	0.023	17.61	0.904	AC-228	M
395.98	99.24	3078.	392.	0.008	53.97	0.995	PA-234M	S
420.27	105.31	2718.	330.	0.007	58.79	0.909	AC-228	
515.00	129.00	2728.	655.	0.013	30.13	0.979	AC-228	s
742.47	185.88	2832.	1630.	0.032	13.97	1.238	U-235	s
835.89	209.24	2035.	845.	0.017	21.13	1.164	AC-228	S
891.96	223.26	1540.	181.	0.004	76.56	0.598	BA-133	s
1079.12	270.06	1773.	651.	0.013	27.03	1.005	AC-228	
1310.75	327.98	1460.	532.	0.011	30.57	1.122	AC-228	
1636.37	409.40	1192.	385.	0.008	40.75	0.658	AC-228	s
1850.61	462.96	1023.	703.	0.014	22.31	1.125	AC-228	s
3731.63	933.20	423.	304.	0.006	39.38	0.427	-	s
3755.34	939.12	184.	63.	0.001	75.55	0.360	_	s
5510.30	1377.73	208.	328.	0.007	27.43	1.538	BI-214	s
6807.07	1701.76	47.	41.	0.001	75.51	0.301	-	s

s - Peak fails shape tests.

This section based on library: APPLIEDSCIENCES.Lib

D - Peak area deconvoluted.

L - Peak written from unknown list.

C - Area < Critical level.

M - Peak is close to a library peak.

Spectrum	name:	ARS03720.An1	
DOCCLIUM	maille:	AVOOD / SO ' WITT	

*****	***** I	DENTI	FIED P	EAK	SUMMAI	R Y *****	*****
Nuclide	Peak	Centroid	Background	Net Area	Intensity	y Uncert	FWHM
	Channel	Energy	Counts	Counts	Cts/Sec	2 Sigma %	keV
TH-234	252.85	63.45	4631.	670.	0.013	21.87	0.944
TH-234	368.55	92.38	4941.	464.	0.009	41.92	0.962D
TH-234	370.23	92.80	4261.	542.	0.011	28.91	0.962D
PB-212	953.22	238.58	2633.	9106.	0.181	2.92	1.063
PB-214	964.98	241.52	1738.	1875.	0.037	10.39	1.831s
TL-208	1108.24	277.35	1443.	395.	0.008	34.55	1.192
PB-214	1179.44	295.15	1639.	2305.	0.046	7.29	1.105
PB-212	1198.65	299.95	1428.	646.	0.013	24.69	1.411s
Ac-228	1352.42	338.40	1078.	1930.	0.038	6.39	1.163D
PB-214	1406.19	351.85	1659.	3771.	0.075	5.01	1.158
TL-208	2042.02	510.82	2117.	1597.	0.032	8.02	1.601s
TL-208	2332.07	583.34	810.	3242.	0.064	4.86	1.298
BI-214	2436.30	609.39	899.	2980.	0.059	4.90	1.333
CS-137	2645.48	661.69	582.	555.	0.011	17.41	1.208
BI-212	2908.35	727.40	586.	694.	0.014	14.60	1.338
BI-214	3071.14	768.10	586.	363.	0.007	27.87	1.390
CS-134	3178.83	795.02	768.	366.	0.007	22.74	1.522
TL-208	3441.40	860.65	441.	451.	0.009	19.60	1.596
Ac-228	3644.18	911.34	487.	2212.	0.044	5.95	1.655
Ac-228	3856.41	964.38	526.	390.	0.008	32.51	1.291
Ac-228	3874.83	968.99	672.	1187.	0.024	12.45	1.441
BI-214	4480.49	1120.37	551.	712.	0.014	13.63	1.658
BI-214	4953.15	1238.50	795.	312.	0.006	40.03	1.397s
K-40	5843.29	1460.94	403.	11362.	0.225	2.02	1.831
BI-212	6483.03	1620.79	179.	70.	0.001	58.38	2.119s
BI-214	7058.93	1764.68	121.	601.	0.012	9.85	2.235

s - Peak fails shape tests.
D - Peak area deconvoluted.

ARS

- Nuclide -			Peak	PEAK (-
Ac-228	2.2789E+00				
		911.07	2.309E+00	(P 1.101E-01	2.97E+00 G
		968.90	2.154E+00	(P 2.242E-01	6.22E+00 G
		338.40	2.398E+00	(P 1.935E-01	3.20E+00 G
		964.60	2.259E+00	(P 6.349E-01	1.63E+01 G

A Derived peak area.

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ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 04:44:16 Page 5 Spectrum name: ARS03720.An1
ARS
```

Nuclide	Ave activity	Energy	Activity	Code	Peak I	MDA	Comment	s	
PB-214	8.2252E-01	295.21	8.090E-01 8.488E-01 1.491E+00	(P 7	.049E-	02 3	.64E+00	G	
BI-214	7.5162E-01	1764.49 1120.29 1238.11	7.516E-01 9.823E-01 8.517E-01 1.018E+00 1.012E+00	+ P 8 + P 1 + P 4	.821E-0 .341E-0 .370E-0	02 4 01 6 01 2	.93E+00 .82E+00 .00E+01	G G G	
BI-212	7.5570E-01	1620.56	7.557E-01 5.990E-01 6.515E-01	- P 5	.553E-	01 2	.92E+01	G	
PB-212	1.2562E+00		1.248E+00 1.361E+00						
TL-208	4.1161E-01	510.72 860.47 277.36	4.127E-01 7.072E-01 5.466E-01 3.968E-01 4.337E-01	+ P 9 + P 1 (P 1	.611E-0 .218E-0 .806E-0	02 4 01 9 01 1	.01E+00 .80E+00 .73E+01	G G G	
CS-134	5.8822E-02	604.72 569.33	5.882E-02 3.886E-04 -1.972E-02 5.455E-02	8 1 8 P 1	.879E-0	02 1. 01 7.	.44E+03 .08E+02	G	K K
CS-137	7.8232E-02	661.66	7.823E-02	(P 1	.622E-0	02 8	.70E+00	G	
TH-234	7.0827E-01	92.80	7.083E-01 7.083E-01 7.083E-01	} P 4	.010E-0	01 1.	.45E+01	G	
	2.3017E+01 is peak used in	1460.75 the nucl:	2.302E+01 ide activit	(P 1 ty ave	.950E-0	01 1.	.01E+00	G	

ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 04:44:16 Page ARS Spectrum name: ARS03720.An1

- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction
- } Peak is too close to another for the activity to be found directly.

Nuclide Codes:

T - Thermal Neutron Activation

F - Fast Neutron Activation

I - Fission Product

N - Naturally Occurring Isotope

P - Photon Reaction

C - Charged Particle Reaction

M - No MDA Calculation

R - Coincidence Corrected

H - Halflife limit exceeded

Peak Codes:

G - Gamma Ray

X - X-Ray

P - Positron Decay

S - Single-Escape

D - Double-Escape

K - Key Line

A - Not in Average

C - Coincidence Peak

***** Nuclide	S U M M A R Y Time of Count Activity pCi/g	OF NUCL Uncertainty Counting pCi/g	I D E S I N 2 Sigma Total pCi/g	SAMPLE MDA pCi/g	****
Ac-228	2.2789E+00	1.3855E-01	1.9759E-01	0.110E+00	
PB-214	8.2252E-01	3.7862E-02	7.7313E-02	0.413E-01	
BI-214	7.5162E-01	3.8784E-02	5.9470E-02	0.359E-01	
BI-212	7.5570E-01	1.1311E-01	1.2261E-01	0.126E+00	
PB-212	1.2562E+00	3.7826E-02	9.0139E-02	0.331E-01	
TL-208	4.1161E-01	2.0861E-02	3.3333E-02	0.172E-01	
CS-134 :	#F 5.8822E-02	1.3946E-02	1.4419E-02	0.212E-01	
CS-137	7.8232E-02	1.4030E-02	1.4381E-02	0.162E-01	
TH-234	7.0827E-01	2.5958E-01	2.6431E-01	0.338E+00	
K-40	2.3017E+01	4.7090E-01	1.5683E+00	0.195E+00	

- # All peaks for activity calculation had bad shape.
- * Activity omitted from total
- & Activity omitted from total and all peaks had bad shape.

ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 04:44:16 Page 7
ARS Spectrum name: ARS03720.An1

< - MDA value printed.

A - Activity printed, but activity < MDA.

B - Activity < MDA and failed test.

C - Area < Critical level.

F - Failed fraction or key line test.

H - Halflife limit exceeded

SUMMARY -----

Total Activity (351.8 to 1999.8 keV) 3.008E+01 pCi/g



Ortec Gamma

ACT

7.8164E+00

2.4404E+00

2.1363E+00

1.8187E+00

2.4924E+00

7.4910E-01

1.9758E-01

4.3263E-02

8.5053E-01

2.0681E+01

Units

pCi/g

	Batch Sample ID	ARS1-B17-00169-06						
	Sample Setup Description		ORT	TEC GAMMA	- Al-Armania harman rasar samma samma samma samma harman samma har			
	InternalID	ARS1-17-0						
	AnalysisBatch	ARS1-B1		Geometry	250mL Jar Solid 1595			
	SDG		7-00216	Fraction	004			
	AnalysisCode Library		A-020	Run Detector ID	1 1 (ARS06)			
Department			ENCES.Lib	Detector Name				
TPU	MDA	DL .	Nuclide Energy (keV)	Peak Energy (keV)	FWHM			
5.2619E-01	1.3500E-01	6.7500E-02						
2.1583E-01	4.9200E-02	2.4600E-02						
1.5697E-01	4.7500E-02	2.3750E-02			The state of the s			
2.3757E-01	1.9800E-01	9.9000E-02						
1.8227E-01	4.9400E-02	2.4700E-02						
6.6493E-02	3.0400E-02	1.5200E-02						
2.3701E-02	2.7400E-02	1.3700E-02		Par Taxe dise				
1.8463E-02	2.3900E-02	1.1950E-02						
2.9732E-01	4.3300E-01	2.1650E-01						
1.4161E+0	2.7900E-01	1.3950E-01						
The state of the s								

AC-228

PB-214

BI-214

BI-212

PB-212

TL-208

CS-137

TH-234

K-40

ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 05:00:03 Page American Radiation Services Spectrum name: ARS06033.An1 Sample description Batch ID: 17-00169-06 SDG: ARS1-17-00216-004 Tech: WJS Spectrum Filename: C:\User\ARS06033.An1 Acquisition information Start time: 30-Jan-2017 14:55:40 Live time: 50400 Real time: 50655 Dead time: 0.50 % Detector ID: 1 Detector system (ARS06) MCB 130 Calibration Filename: 250mL jar 1595-98-2 calib.Clb 250mL Jar Solid 1595-98-2 1.5g/cc BZF 11-6-13 Energy Calibration Created: 05-Nov-2013 09:40:26 Zero offset: 0.173 keV Gain: 0.250 keV/channel Quadratic: -2.851E-08 keV/channel^2 Efficiency Calibration Created: 06-Nov-2013 13:34:19 Knee Energy: 123.00 keV Above the Knee: Ouadratic Uncertainty = 1.13 % Log(Eff): -1.388598E+00 + (-1.695552E-01*Log(E)) +(-4.134891E-02*Log(E)^2) Below the Knee: Quadratic Uncertainty = 1.87 % -9.416087E+00 + (2.716832E+00*Log(E)) + Log(Eff): $(-2.945780E-01*Log(E)^2)$ Library Files Main analysis library: APPLIEDSCIENCES.Lib Library Match Width: 0.500 Peak stripping: Library based Analysis parameters Analysis engine: Env32 G53W4.22 Start channel: 10 (2.67keV) 8000 (1998.61keV) Stop channel: Peak rejection level: 40.000% Peak search sensitivity: Sample Size: 2.8453E+02 1.0000E+06/(1.0000E+00*2.8453E+02) =Activity scaling factor: 3.5146E+03 Detection limit method: Reg. Guide 4.16 Method

Random error: 1.000000E+00 Systematic error: 1.000000E+00

60.000%

Fraction Limit:
Background width: best method (based on spectrum).

Half lives decay limit: 12.000 2.000 Activity range factor: Min. step backg. energy 0.000 Multiplet shift channel 2.000

Corrections Status Comments

Decay correct to date: NO Decay during acquisition: YES Decay during collection: NO True coincidence correction: NO

Peaked background correction: YES pbc APPLIEDSCIENCES.Pbc

30-Jan-2017 09:10:45

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 28 cutoff 20.00000 ક્ષ

Energy Calibration

Normalized diff: 0.1199

***** Peak Energy	S U M M A Area	R Y O Uncert		A K S I Corrctn Factor	N RAN Nuclide Energy	U -		Nuc
13.4	1 9632.	1.46	0.90	1.293E-02				
16.3	2 2431.		0.90	1.614E-02				
40.0	7 538.	. 21.13	1.08	3.332E-02				
46.7	5 1453.	. 10.08	1.03	3.597E-02				
53.3	4 711.	. 18.07	1.41	3.798E-02				
57.9	9 276.	. 33.08	0.94	3.911E-02				
59.7			0.94	3.948E-02				
63.4	8 1092.	. 12.10	0.92	4.018E-02	63.29	3.900	9.381E-01	TH234
74.9	4 8030.		0.96	4.169E-02				
77.2	7 12788.	1.32	0.96	4.190E-02				
79.5	1 397.	. 29.36	0.96	4.208E-02				
81.2	1 303.	. 30.47	0.96	4.220E-02				
84.2	3 988.		0.97	4.237E-02				
87.3	3 4100.		0.97	4.252E-02				
90.1	0 3387.		0.97	4.262E-02				
92.4	3 491.	. 24.17	0.97	4.268E-02	92.38	2.570	8.505E-01	TH234
					92.80	3.000		
93.3	0 3936	3.01	0.97	4.270E-02	92.80	3.000	5.412E+00	TH234
99.8			1.04	4.277E-02				
105.5			1.47	4.274E-02				
115.4			0.72	4.253E-02				
129.1			1.08	4.117E-02				
154.1			1.14	3.718E-02				
186.0	6 3742	. 3.86	1.20	3.324E-02				
209.2	7 2636		1.12	3.095E-02				
238.5			1.11	2.855E-02	238.63	43.100	2.506E+00	PB212
241.6			1.11	2.832E-02	241.98	7.500	2.992E+00	PB214
270.0			1.31	2.641E-02				
277.4			1.42	2.597E-02	277.36	6.500	7.924E-01	TL208
295.0			1.24	2.497E-02	295.21	18.500		
299.9			1.44	2.470E-02	300.09	3.270	2.390E+00	
314.1			0.71	2.398E-02				
321.4			0.53	2.363E-02				
327.8			1.24	2.332E-02				
338.1				2.286E-02	338.40	12.010	7.934E+00	Ac228
351.7				2.228E-02	351.92	35.800	2.454E+00	

409.22 462.88	998. 1766.	8.23 5.34	1.42 1.29	2.016E-02 1.856E-02				
510.65	3495.	3.03	2.02	1.736E-02	510.72	22.500	1.239E+00	TL208
562.52	273.	20.57	1.41	1.622E-02	563.26	8.380	3.780E-01	CS134
583.18	5475.	2.93	1.53	1.584E-02	583.14	86.000	7.458E-01	TL208
609.31	7987.	1.88	1.51	1.536E-02	609.31	44.791	2.142E+00	BI214
661.61	305.	19.69	1.31	1.450E-02	661.66	85.100	4.326E-02	CS137
727.39	1541.	5.69	1.65	1.355E-02	727.17	11.800	1.816E+00	BI212
768.41	684.	7.17	1.60	1.303E-02	768.36	4.799	2.060E+00	BI214
772.29	373.	11.91	1.60	1.298E-02				
781.86	162.	25.11	1.61	1.287E-02				
785.73	340.	11.64	1.61	1.282E-02	785.42	2.000	2.502E+00	BI212
794.85	1328.	6.15	1.67	1.271E-02				
794.85	1328.	6.15	1.67	1.271E-02	795.86	85.460	2.305E-01	CS134
835.47	414.	14.03	1.57	1.226E-02				
860.49	816.	11.10	1.78	1.200E-02	860.47	12.000	1.068E+00	TL208
911.10	6960.	1.44	1.76	1.151E-02	911.07	29.000	7.802E+00	Ac228
934.20	506.	10.36	1.45	1.130E-02				

American Radiation Services Spectrum name: ARS06033.An1

pk energy	area	uncert	fwhm	corr	nuclide	brnch.	act.	nuc
964.62	1232.	4.13	1.79	1.104E-02	964.60	5.452	7.668E+00	Ac228
968.90	4005.	1.79	1.79	1.100E-02	968.90	17.460	7.808E+00	Ac228
1000.62	173.	26.22	0.74	1.074E-02				
1120.17	1892.	4.87	1.75	9.878E-03	1120.29	14.797	2.418E+00	BI214
1154.78	303.	16.19	0.69	9.654E-03				
1237.93	1022.	9.79	2.31	9.160E-03	1238.11	5.859	3.591E+00	BI214
1377.32	602.	8.84	1.50	8.444E-03				
1407.70	345.	13.07	0.94	8.304E-03				
1460.54	9757.	1.15	2.22	8.071E-03	1460.75	10.700	2.068E+01	K40
1588.38	768.	9.68	2.04	7.563E-03				
1619.99	199.	17.24	1.14	7.445E-03	1620.56	2.750	1.830E+00	BI212
1729.25	435.	10.49	1.44	7.076E-03				
1764.11	1401.	3.34	2.58	6.966E-03	1764.49	15.357	2.411E+00	BI214

****** UNIDENTIFIED PEAK S U M M A R Y ********* Peak Centroid Background Net Area Intensity Uncert FWHM Suspected Channel Energy Counts Counts Cts/Sec 2 Sigma % keV Nuclide 52.94 13.41 6291. 11598. 0.230 1.177 SE-75 3.21 64.60 16.32 5997. 2431. 0.048 9.88 0.904 KR-85 1D 0.011 42.27 1.082 EU-132 2 0.029 20.16 1.032 PB-210 s 0.014 36.14 1.410 CE-144 s 159.58 40.07 3722. 538. 186.30 46.75 5216. 1453. 212.64 53.34 4739. 711. 231.24 57.99 276. 0.005 66.16 4029. 0.005 66.16 0.010 40.68 238.30 59.75 0.943 W-187 4771. 493. 6916. 7448. 6610. 299.05 74.95 8228. 0.163 3.61 0.957 TH-234 2.54 308.35 77.27 13203. 0.262 0.959 PB-212 397. 0.008 58.72 0.961 BA-133 317.33 79.51 0.962 AU-196 324.13 81.22 4119. 303. 0.006 60.94 4119. 5645. 5532. 4968. 5373. 4780. 4352. 3725. 4884. 3788. 4714. 3741. 2265. 936. 0.029 20.11 1.332 HG-203 s 336.22 84.24 1448. 348.62 87.34 0.082 7.13 1.186 PB-212 s 4130. 0.061 359.90 90.10 3056. 7.46 0.971 AC-228 D 6.62 0.072 372.68 93.30 3620.

 3620.
 0.072
 6.62

 932.
 0.018
 29.77

 1447.
 0.029
 18.61

 398.
 0.008
 58.25

 1803.
 0.036
 16.20

 622.
 0.012
 37.91

 3742.
 0.074
 7.72

 2636.
 0.052
 9.37

 2033.
 0.040
 10.36

 134.
 0.003
 74.24

 220.
 0.004
 74.62

 1461.
 0.029
 13.51

 998.
 0.020
 16.47

 1766.
 0.035
 10.68

 380.
 0.008
 23.36

 170.
 0.003
 64.53

 162.
 0.003
 50.22

 190.
 0.004
 68.72

 414.
 0.008
 28.07

 506.
 0.010
 20.71

 173.
 0.003
 52.44

 0.973 AC-228 0.018 29.77 398.58 1.043 PA-234M s 99.83 421.43 1.475 EU-155 s 105.54 461.05 115.44 0.723 PU-239 515.98 129.18 1.076 AC-228 615.70 154.11 1.139 ND-147 743.51 186.06 1.202 RA-226 836.34 1.116 AC-228 209.27 1079.61 1.315 AC-228 s 270.08 1255.81 314.12 936. 0.709 PB-214 1706. 1285.19 321.47 0.526 LU-177 1310.90 327.89 2282. 1.241 AC-228 1379. 1636.28 409.22 1.416 AC-228 s 1476. 1850.96 462.88 1.287 CS-138 792. 3089.22 772.26 1.602 AC-228 D 781. 3126.24 781.56 0.505 -1 749. 3127.46 781.56 1.611 D 2028. 3179.42 794.85 1.667 AC-228 658. 464. 437. 1.571 AC-228 3342.00 835.47 1.449 BI-214 3737.22 934.20 4003.09 1000.62 0.739 PA-234M s

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM Suspecte	d
4620.23	1154.78	582.	303.	0.006	32.37	0.689 BI-214	s
5511.33	1377.32	326.	602.	0.012	17.68	1.496 BI-214	s
5632.97	1407.70	274.	345.	0.007	26.13	0.939 BI-214	s
6356.60	1588.38	468.	768.	0.015	19.36	2.044 AC-228	
6920.86	1729.25	168.	435.	0.009	20.99	1.444 BI-214	s

- s Peak fails shape tests.
- D Peak area deconvoluted.
- L Peak written from unknown list.
- C Area < Critical level.

This section based on library: APPLIEDSCIENCES.Lib

******	***** I	DENTI	FIED P	EAK	SUMMAR	Y *****	*****
Nuclide	Peak	Centroid	Background	Net Area	Intensity	Uncert	FWHM
	Channel	Energy	Counts	Counts	Cts/Sec 2	2 Sigma %	keV
TH-234	253.21	63.48	5771.	773.	0.015	24.19	0.916
TH-234	368.79	92.38	7775.	491.	0.010	48.34	0.973D
TH-234	370.47	92.80	6985.	573.	0.011	34.57	0.973D
PB-212	953.46	238.54	4711.	16320.	0.324	2.55	1.213
PB-214	965.69		3732.	3422.	0.068	9.21	1.652s
TL-208	1108.90	277.40	2448.	710.	0.014	28.34	1.420s
PB-214	1179.52	295.05	2690.	5913.	0.117	3.98	1.240
PB-212	1199.07	299.94	2296.	1024.	0.020	18.46	1.442s
Ac-228	1351.73	338.10	2144.	5782.	0.115	4.14	1.274
PB-214	1406.25	351.73	1943.	10384.	0.206	2.58	1.284
TL-208	2042.12	510.65	2856.	2568.	0.051	6.06	2.024s
CS-134	2249.66	562.52	1598.	273.	0.005	41.14	1.405
TL-208	2332.32	583.18	2162.	5390.	0.107	5.86	1.533
BI-214	2436.90	609.31	1340.	7820.	0.155	3.77	1.507
CS-137	2646.19	661.61	1089.	283.	0.006	39.39	1.313
BI-212	2909.44	727.39	1261.	1541.	0.031	11.38	1.653
BI-214	3073.40	768.36	801.	690.	0.014	13.88	1.598D
BI-212	3141.70	785.42	699.	340.	0.007	23.27	1.615D
CS-134	3179.68	794.91	1112.	1138.	0.023	10.19	1.624s
TL-208	3442.15	860.49	1007.	816.	0.016	22.20	1.778
Ac-228	3644.75		634.	6918.	0.137	2.88	1.757
Ac-228	3858.90	964.60	688.	1224.	0.024	8.27	1.786D
Ac-228	3876.11	968.90	591.	3983.	0.079	3.58	1.790D
BI-214	4481.67	1120.17	857.	1875.	0.037	9.73	1.750s
BI-214	4953.16	1237.93	800.	1022.	0.020	19.58	2.310s
K-40	5844.58	1460.54	720.	9476.	0.188	2.30	2.216
BI-212	6483.21	1619.99	195.	199.	0.004	34.47	1.139s
BI-214	7060.49	1764.11	154.	1368.	0.027	6.68	2.583

- s Peak fails shape tests.D Peak area deconvoluted.
- A Derived peak area.

**** S U	MMARY	OF L	I B R A R	Y PEAK	U S A G E *****
Name Code	Activity pCi/g	Energy	Activity	Code MDA Valu	e COMMENTS
Ac-228	7.8164E+00				
		911.07	7.802E+00	(P 1.354E-01	1.44E+00 G
				(P 2.273E-01	
		338.40	7.934E+00	(P 2.998E-01	2.07E+00 G
		964.60	7.661E+00	(P 7.815E-01	4.14E+00 G
PB-214	2.4404E+00				
		351.92	2.454E+00	(P 4.919E-02	1.29E+00 G
				(P 9.977E-02	
		241.98	3.039E+00	+ P 2.552E-01	4.61E+00 G
BI-214	2.1363E+00				
				(P 4.747E-02	
				+ P 1.067E-01	
				+ P 1.795E-01	
				+ 4.723E-01	
		768.36	2.080E+00	(4.057E-01	6.94E+00 G
BI-212	1.8187E+00				
				(P 1.982E~01	
				(P 6.242E-01	
		785.42	2.502E+00	+ P 9.249E-01	1.16E+01 G
PB-212	2.4924E+00				
		238.63	2.500E+00	(P 4.942E-02	1.27E+00 G
		300.09	2.390E+00	(P 5.274E-01	9.23E+00 G
TL-208	7.4910E-01				
		583.14	7.458E-01	(P 3.036E-02	2.93E+00 G
		510.72	1.239E+00	+ P 1.215E-01	3.03E+00 G
				+ 1.970E-01	
				(P 2.605E-01	
•		763.30	-2.311E-02	% P 1.360E+00	1.96E+02 G
CS-134	1.9758E-01				
		795.86	1.976E-01	?(P 2.745E-02	5.09E+00 K
				% 7.983E-02	
				% P 1.431E-01	
		563.26	3.780E-01	+ P 2.620E-01	2.06E+01 G

ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 05:00:03 Page American Radiation Services Spectrum name: ARS06033.An1

Nuclide Ave activity Energy Activity Code Peak MDA Comments

CS-137 4.3263E-02

661.66 4.326E-02 (P 2.391E-02 1.97E+01 G

TH-234 8.5053E-01

> 63.29 9.381E-01 (P 4.330E-01 1.21E+01 G 92.80 8.505E-01 } P 5.820E-01 1.73E+01 G 92.38 8.505E-01 } P 7.167E-01 2.42E+01 G

K-40 2.0681E+01

1460.75 2.068E+01 (P 2.789E-01 1.15E+00 G

- (This peak used in the nuclide activity average.
- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction
- } Peak is too close to another for the activity to be found directly.

Nuclide Codes:

- T Thermal Neutron Activation G - Gamma Ray
- F Fast Neutron Activation
- I Fission Product
- N Naturally Occurring Isotope
- P Photon Reaction
- C Charged Particle Reaction
- M No MDA Calculation
- R Coincidence Corrected
- H Halflife limit exceeded

Peak Codes:

- X X-Ray
- P Positron Decay
- S Single-Escape
- D Double-Escape
- K Key Line
- A Not in Average
- C Coincidence Peak

ORTEC g v - i (3263) Env32 G53W4.22 31-JAN-2017 05:00:03 Page 7 American Radiation Services Spectrum name: ARS06033.An1

***** Nuclide	S U M M A R Y Time of Count Activity pCi/g	OF NUCL Uncertainty Counting pCi/g	I D E S I N 2 Sigma Total pCi/g	SAMPLE MDA pCi/g	****
Ac-228	7.8164E+00	2.0301E-01	5.2619E-01	0.135E+00	
PB-214	2.4404E+00	5.8739E-02	2.1583E-01	0.492E-01	
BI-214	2.1363E+00	8.2224E-02	1.5697E-01	0.475E-01	
BI-212	1.8187E+00	2.0694E-01	2.3757E-01	0.198E+00	
PB-212	2.4924E+00	6.4417E-02	1.8227E-01	0.494E-01	
TL-208	7.4910E-01	4.4581E-02	6.6493E-02	0.304E-01	
CS-134	#F 1.9758E-01	2.0130E-02	2.3701E-02	0.274E-01	
CS-137	4.3263E-02	1.8367E-02	1.8463E-02	0.239E-01	
TH-234	8.5053E-01	2.9075E-01	2.9732E-01	0.433E+00	
K-40	2.0681E+01	4.8908E-01	1.4161E+00	0.279E+00	

^{# -} All peaks for activity calculation had bad shape.

----- S U M M A R Y -----

Total Activity (1000.6 to 1998.6 keV) 3.903E+01 pCi/g

^{* -} Activity omitted from total

[&]amp; - Activity omitted from total and all peaks had bad shape.

< - MDA value printed.

A - Activity printed, but activity < MDA.

B - Activity < MDA and failed test.

C - Area < Critical level.

F - Failed fraction or key line test.

H - Halflife limit exceeded

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SDG ARS1-17-00216

Fraction	Container	Client ID	Aliquot	Units	Geometry	Prep Type	Origin	Origin2	ICOC ID
001	1 :	BB-16L	211.0000	g		ORIG	SCI		255884
001	2	BB-16L	1195.0000	g		ORIG	SCI		255894
001	2	BB-16L	549.6800	g :		DRYF	PRP		256078
001	2	BB-16L	292.7500	g	250 mL Jar	DGAM	PRP		256081
001	2	BB-16L	37.2600	g		DRAD	ALI	Manual	256085
002	1	BB-18	218.0000	9		ORIG	SCI		255883
002	2	BB-18	237.0000	9		ORIG	SCI		255895
002	3	BB-18	234.0000	g		ORIG	SCI		255896
002	4	BB-18	1366.0000	g		ORIG	SCI		255899
002	4	BB-18	683.3300	9		DRYF	PRP		256079
002	4	BB-18	381.3300	9 :	250 mL Jar	DGAM	PRP		256082
002	4	BB-18	52.0400	g :		DRAD	ALI	Manual	256086
003	1	OS-2	226.0000	g		ORIG	SCI		255885
003	2	OS-2	206.0000	9		ORIG	SCI		255893
004	1	BB-19M	1266.0000	g		ORIG	SCI		255886
004	2	BB-19M	238.0000	g		ORIG	SCI		255892
004	3	BB-19M	21 1.0000	g		ORIG	SCI		255897
004	4	BB-19M	216.0000	g		ORIG	SCI		255898
004	4	BB-19M	742.2500	g		DRYF	PRP		256080
004	4	BB-19M	284.5300	g	250 mL Jar	DGAM	PRP		256083
004	4	BB-19M	34.3700	g		DRAD	ALI	Manual	256087
005	1	BB-16B	214.0000	g		ORIG	SCI		255887
006	1	BB-16A	228.0000	g		ORIG	SCI		255888
007	1	BB-17	206.0000	g		ORIG	SCI		255889
007	2	BB-17	215.0000	g		ORIG	SCI		255891
800	1	BB-17 Mud/Sludge	352.0000	- g		ORIG	SCI		255890
800	1	BB-17 Mud/Sludge	22.0400	g		DRAD	ALI	Manual	256084

		Prep B	atch ID	Prep Batch ID ARS1-P17-00121						
			Matrix SO	08						
ANTERNATIONAL		Prep	Group	Prep Group SOLID						
PBatch Sample ID	Gamma	Wet	Rad	Basis	SDG	Ħ	Storage	2000	Client ID	Lab Deadline
ARS1-P17-00121-01	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	001	D4	BB-16L	nadomni im mighti nightigugi ",	02/11/17
ARS1-P17-00121-02	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216 002	005	D4	BB-18		02/11/17
ARS1-P17-00121-03	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216 004	004	4			02/11/17

		3		Prep Batch	p Batch Report - Gamma Spec Aliquot	na Spec Aliquot			
Prep Batch ID	SDG	Æ	FR ICOC ID Parent ID	Parent ID	Type	Geometry	Tare g	Tare g Cont+Sample g Net Sample g	Net Sample g
ARS1-P17-00121- 01	ARS1-17-00216	001	256081	255894	DGAM, DINO, DPCB, DRAD, DSVO	250 mL Jar	43.43	336.18	292.75
ARS1-P17-00121- 02	ARS1-17-00216	005	y		DGAM, DINO, DPCB, DRAD, DSVO	250 mL Jar	43.77	425.10	381.33
ARS1-P17-00121- 03	ARS1-17-00216	004	256083	255898	DGAM, DINO, DPCB, DRAD, DSVO	250 mL Jar	43.20	327.73	284.53



Prep Batch Report - Percent Moisture

Prep Batch ID SDG FR ICOC ID Parent ID Tare g Cont.	SDG	ፎ	ICOC ID	FR ICOCID ParentID Tareg Cont+	Tare g		Sample Net Sample Oven Oven g ID Temp (Oven	ven Oven ID Temp C	Start Time	Stop Time	Cont+Sample Net Sample % Solid % Moisure 9	Net Sample g	Pilos %	Cont+Sample Net Sample % Solid % Moisure 9
ARS1-P17-00121- ARS1-17-00216 001 256078 01	ARS1-17-00216	001	1 256078	255894	6.61	556.29	549.68	m	120	1/27/2017 5:08 PM	/27/2017 5:08 PM 1/28/2017 9:31 AM	449.57	442.96		30.59% 19.41%
ARS1-P17-00121- ARS1-17-00216 002 256079 255899 6.59 688	ARS1-17-00216	002	256079	255899	6.59	689.92	683.33	m		1/27/2017 5:08 PM	1/28/2017 9:31 AM	596.82	590.23	86.38%	13.62%
ARSI-PI7-00121- ARSI-17-00216 004 256080 255898	ARS1-17-00216	004	004 256080	255898	6.60 74	748.85	742.25	ю	120	1/27/2017 5:08 PM	1/28/2017 9:31 AM	448.42	441.82	441.82 59.52% 40.48%	40.48%



Preanalytical Sample Preparation Review Checklist

Prep Batch/SDG: ARS1-17-00216 San	nple Matrix: SO	
SAMPLE PREPARATION	Check if sample(s) are	re-prepped
(All "No" Responses Require a Comment)	Prep. Tech. Review	
1) Sample IDs Correspond to LIMS SDG Information?	X₀és No N/A	
2) Drying Oven Temperature Check is within Tolerance?	K¢és No N/A	
3) Balance checks are current and balance is in tolerance?	Xes No N/A	
Cleanliness of preparation equipment has been verified? 4) (Including grinders, mortar & pestle, spatulas, etc)	Xes No N/A	
5) Samples Dried?	Kés No N/A	
6) 100% of Manual Transcriptions/Calculations Verified?	Xes No N/A	
7) Samples ground/pulverized? (if YES, a PrepB lank is required)	Yes No N√A	
a) If PrepBlank Required, Enter the PrepBlank SDG Here →	ARS1-	, , , , , , , , , , , , , , , , , , , ,
8) Samples ground with Mortar & Pestle? (PrepB lank is not required)	Y√es No N/A	
9) Samples crushed with hammer? (PrepBlank is not required)	Yes No N√A	
10) Visual Inspection Verifies Homogenization Method(s) Effective?	Xes No N/A	
11) Preparation area is clean and decontaminated?	Xés No N/A	
12) Sample Prep Anomaly?	CR # (If initiated):	
1-28-17 (Oc) Preanalitical Mep Technician Signature Date/Time Lot# of san	nd blank (if PrepBlank	required)
BATCH QC VALIDATION (Section below must be completed ONLY if a Pre	pBlank is required)	
(All "No" Responses Require a Comment)	Proj. Mgr. Review	QA Review
1) Preparation Blank criteria met.	Yes No N/A	Yes No N/A
2) Prep Batch Blank Anomaly? No Yes (See Tech Notes) N	CR # (If initiated):	
Project Manager Signature Date QA Signature	e	Date
COMMENTS		
ARS1-17-00216-001-004 are bias low		



Calibration Verification

STD#	1891-50-3		Ver. Date)	9/29/2016	9/29/2016 Insturment ID			:
	nCi	pCi	Meas Act.	0	Criteria	Dif	%dif	Pass/Fail	=
	∴0.2 <u>119</u>	211900		216230	%00;0I	0587		2:04%fth 55	
	0.02087	20870		21138	5.00%	268	~	1.28% PASS	
	0.2192	219200		215220	10.00%	3980		1.82% PASS	
	0.007577	7577		7598.4	10.00%	21.4		0.28% PASS	
E	0.01084	10840		10817	10.00%	.23		0.21% PASS	4 ×
	0.2502			255100	10.00%	4900		1.96% PASS	
	0.04008	. 40080		41479	10.00%	1399		3.49%'PASS	
	0.04834			47774	10.00%	995		1.17% PASS	
Cs137	0.03344	33440		34523	5:00%	1083		3.24% F - SS	in the second
	0.04132	41320		39929	10.00%	1391		3.37% PASS	
	. 0.07737	77370		80332	5.00%	. 2962		3.83% F 455	

Independent Standard

STD#	1595-98-4			•				
Nuclide	uCi	pCi	Meas Act.		Criteria	Dif %	%dif	Pass/Fail
Pb210	0.232	232 232000		0.22887	10.00%	0,22887 10,00% 231999.77111 100,00% #DIV/01	,100,000	10/AIG#
Am241	0.02273	22730		21640	2.00%	1090	4.80% PASS	PASS
Cd109	0.2223	222300			10.00%	222300=	.100.00%	100,00% NOT MEASURED
Co57	0.008038				10.00%		100.00%	100.00% NOT MEASURED
Te123m	0.01098	10980			10.00%	08601	100.00%	100.00% NOT MEASURED
Cr51	0.2766	276600			10.00%		100.00%	100.00% NOT MEASURED
Sn113	0.04358	43580	2		10.00%	43580		100.00% NOT MEASURED
Sr85	0.05122	51220		Manager Control of the Control of th	10.00%	51220	100.00%	100.00% NOT MEASURED
Cs137	0.03546	35460		36485	2.00%	1025	2.89%	2.89% P.4SC
Y88	0.04279	42790		40717	10.00%	2073	4.84% PASS	PASS
	0.07866	78660			5.00%;	78660	100,00%	1000000 NOT MEASURED

Calibration Data from file: 250mL Tuna Can 1891-50-3 polynomial calib.Clb

Energy Calibration Date: 09/29/2016 Time: 07:56:50 Efficiency Calibration Date: 09/29/2016 Time: 08:00:17

Calibration Description:

250mL Tuna Can 1891-50-3 polynomial 9-29-16 WJS

Energy Calibration Fit

Energy = 0.1960 +0.250053*Channel -1.75909e-008*Channel**2
FWHM (ch) = 3.5348 +0.000891*Channel -1.83848e-008*Channel**2

Energy/FWHM Table

Channel	Energy(keV)	Fit(keV)	Delta	FWHM(keV)	Fit(keV)	Delta
185.47	46.52	46.57	-0.11%	0.91	0.93	-1.52%
237.49	59.54	59.58	-0.07%	0.95	0.94	1.36%
351.36	88.03	88.05	-0.02%	0.94	0.96	-1.90%
487.31	122.07	122.05	0.02%	0.99	0.99	-0.20%
635.23	159.00	159.03	-0.02%	1.03	1.02	0.49%
1278.92	320.07	319.97	0.03%	1.19	1.16	2.46%
1565.47	391.69	391.60	0.02%	1.21	1.22	-1.11%
2054.99	514.00	513.98	0.00%	1.32	1.32	-0.28%
2645.91	661.66	661.69	-0.00%	1.45	1.44	0.89%
3591.65	898.07	898.07	-0.00%	1.64	1.62	0.79%
4692.91	1173.24	1173.28	-0.00%	1.80	1.83	-1.31%
5330.27	1332.50	1332.55	-0.00%	1.93	1.94	-0.40%
7345.60	1836.08	1836.04	0.00%	2.28	2.27	0.39%

Efficiency Calibration Fit

Polynomial Uncertainty = 1.2946 %

Coefficients:

 $-0.388262 \ -4.463417 \ 0.420417 \ -0.041583 \ 0.001635 \ -0.000025$

Efficiency Table

Efficiency	Fit	Delta
2.5818E-002	2.5782E-002	0.14%
3.4548E-002	3.4665E-002	-0.34%
4.5342E-002	4.5059E-002	0.62%
4.7017E-002	4.6464E-002	1.18%
4.1438E-002	4.2531E-002	-2.64%
2.6489E-002	2.6448E-002	0.15%
2.2950E-002	2.2663E-002	1.25%
1.8273E-002	1.8486E-002	-1.16%
1.5997E-002	1.5385E-002	3.83%
9.9036E-003	1.0155E-002	-2.54%
8.9039E-003	9.2051E-003	-3.38%
7.2014E-003	7.0172E-003	2.56%
	2.5818E-002 3.4548E-002 4.5342E-002 4.7017E-002 4.1438E-002 2.6489E-002 2.2950E-002 1.8273E-002 1.5997E-002 9.9036E-003 8.9039E-003	2.5818E-002 2.5782E-002 3.4548E-002 3.4665E-002 4.5342E-002 4.5059E-002 4.7017E-002 4.6464E-002 4.1438E-002 4.2531E-002 2.6489E-002 2.6448E-002 2.2950E-002 2.2663E-002 1.8273E-002 1.8486E-002 1.5997E-002 1.5385E-002 9.9036E-003 9.2051E-003

Calibration Certificate Table

Isotope	Energy	Pct	Halflife	Activity	GPS	Error		Date & Time
Pb-210	46.52	4.00	7.45E+003	0.21	313.61	4.00%	08/01/2016	14:00:00
Am-241	59.54	36.30	1.58E+005	0.02	280.30	3.00%	08/01/2016	14:00:00
Cd-109	88.03	3.61	4.36E+002	0.22	292.79	3.20%	08/01/2016	14:00:00
Co-57	122.07	85.60	2.72E+002	0.01	239.98	3.10%	08/01/2016	14:00:00
Te-123M	159.00	83.50	1.20E+002	0.01	334.90	3.10%	08/01/2016	14:00:00
Cr-51	320,07	9.83	2.77E+001	0.25	910.00	3.00%	08/01/2016	14:00:00
Sn-113	391.69	64.16	1.15E+002	0.04	951.47	3.00%	08/01/2016	14:00:00
Sr-85	513.99	99.28	6.47E+001	0.05	1775.70	3.00%	08/01/2016	14:00:00
Cs-137	661.66	85.21	1.10E+004	0.03	1054.29	3.10%	08/01/2016	14:00:00
Y-88	898.02	95.00	1.07E+002	0.08	2719.56		08/01/2016	
Co-60	1173.24	99.90	1.93E+003	0.04	1527.31	3.10%	08/01/2016	14:00:00
Co-60	1332.50	99.98	1.93E+003	0.04	1528.56	3.10%	08/01/2016	14:00:00
Y-88	1836.01	99.35	1.07E+002	0.08	2844.08	3.00%	08/01/2016	14:00:00

AKON	CALVE	1 - 750 Y - Y	mL lung	Can Po	AKSUS CALVER - 250 mL I una Can Polynomial	
STD#	1891-50-3			Cal Date	9/29/2016	
Nuclide	į	Ö	Meas	Criteria	Dif 9	%dif
Dh210	0.2440	244000	03440 344000 346330 40,000	40.00	000	c

		4% PASS	8% PASS	2% PASS	8% PASS	1% PASS	6% PASS	3.49% PASS	7% PASS	4% PASS	7% PASS	3% PASS	
	%dif	2.0	1.2	1.8	0.2	0.2	6.	3.4	1.1	3.2	3.3	3.8	
3/29/2016		4330	268	3980	21.4	23	4900	1399	566	1083	1391	2962	
9/2	<u>of</u>												
Cal Date	污	10.00%											
	Meas	216230	21138	215220	7598.4	10817	255100	41479	47774	34523	39929	80332	
	bCi	211900	20870	219200	7577	10840	250200	40080	48340	33440	41320	77370	
1891-50-3	į	0.2119	0.02087	0.2192	0.007577	0.01084	0.2502	0.04008	0.04834	0.03344	0.04132	0.07737	
STD#	Nuclide	Pb210	Am241	Cd109	Co57	Te123m	Cr51	Sn113	Sr85	Cs137	Co60	Y88	

ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:12:02 Page ARS Spectrum name: ARS03099.An1 Sample description Batch ID: CALVER SDG: 250mL Tuna Can 1891-50-3 polynomial Tech: WJS Spectrum Filename: C:\User\ARS03099.An1 Acquisition information Start time: 29-Sep-2016 08:01:36 Live time: 600 Real time: 618 Dead time: 2.86 % Detector ID: 1 Detector system (ARS03) MCB 129 Calibration Filename: 250mL Tuna Can 1891-50-3 polynomial cali b.Clb 250mL Tuna Can 1891-50-3 polynomial 9-29-16 WJS Energy Calibration Created: 29-Sep-2016 07:56:50 0.196 keV Zero offset: Gain: 0.250 keV/channel -1.759E-08 keV/channel^2 Quadratic: Efficiency Calibration 29-Sep-2016 08:00:17 Created: Type: Polynomial Uncertainty: 1.295 % Coefficients: -0.388262 -4.463417 0.420417 0.001635 -0.000025 -0.041583 Library Files Main analysis library: northamericancal.Lib 0.500 Library Match Width: Peak stripping: Library based Analysis parameters Analysis engine: Env32 G53W4.22 Start channel: 115 (28.95keV) 8000 (1999.49keV) Stop channel: Peak rejection level: 40.000% Peak search sensitivity: 3 1.0000E+00 Sample Size: 1.0000E+06/(1.0000E+00*1.0000E+00) =Activity scaling factor: 1.0000E+06 Detection limit method: Req. Guide 4.16 Method Random error.
Systematic error: 1.0000000E+00 1.0000000E+00 60.000% best method (based on spectrum). Background width: Half lives decay limit: 12.000

ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:12:02 Page
ARS Spectrum name: ARS03099.An1

Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections Status Comments

Decay correct to date: YES 01-Aug-2016 14:00:00
Decay during acquisition: NO
Decay during collection: NO

True coincidence correction: NO Peaked background correction: YES

Peaked background correction: YES pbc DOE.Pbc

13-Sep-2016 08:40:53 bsorption (Internal): NO

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 13 cutoff 20.00000 %

Energy Calibration

Normalized diff: 0.0369

0.0369

***** S Peak Energy	U M M A I Area	R Y O Uncert	F PE FWHM	A K S I Corrctn Factor	N RAN Nuclide Energy	G E Brnch. Ratio	**** Act. pCi/g	Nuc
32.09	416.	19.90	1.10	1.614E-02				
46.58	4994.	3.03	0.90	2.584E-02	46.52	4.050	2.162E+05	PB210
59.60	5806.	2.27	0.91	3.470E-02	59.54	35.700	2.114E+04	AM241
88.05	7117.	2.36	0.93	4.506E-02	88.03	3.610	2.152E+05	CD109
122.05	5769.	2.19	0.97	4.647E-02	122.07	85.500	7.598E+03	CO57
136.45	694.	14.28	0.96	4.523E-02				
159.01	6105.	2.18	1.01	4.253E-02	159.00	84.000	1.082E+04	TE123M
254.97	421.	16.59	1.18	3.142E-02				
319.96	3386.	3.09	1.18	2.646E-02	320.07	9.830	2.551E+05	CR51
391.63	9376.	1.38	1.21	2.267E-02	391.69	64.000	4.148E+04	SN113
514.00	10386.	1.31	1.31	1.849E-02	514.00	99.270	4.777E+04	SR85
567.16	75.	36.22	0.75	1.720E-02				
661.71	10010.	1.37	1.46	1.538E-02	661.66	85.210	3.452E+04	CS137
898.09	12936.	1.06	1.54	1.236E-02	898.07	92.700	7.452E+04	Y88
1173.32	8779.	1.43	1.87	1.015E-02	1173.24	99.900	3.981E+04	CO60
1332.60	8010.	1.35	1.85	9.204E-03	1332.50	99.982	4.004E+04	CO60
1418.44	54.	35.14	0.67	8.757E-03				
1836.06	8486.	1.12	2.29	7.017E-03	1836.08	99.350	8.033E+04	Y88

******** U N I D E N T I F I E D PEAK S U M M A R Y ******** Peak Centroid Background Net Area Intensity Uncert FWHM Suspected annual Energy Counts Counts Cts/Sec 1 Sigma % keV Nuclide Channel Energy Counts 1840. 127.55 32.09 416. 0.693 19.90 1.102 XE-138 s 544.92 136.45 2491. 694. 1.157 14.28 0.964 CO-57 1018.96 254.97 1406. 1.177 SN-113 421. 0.701 16.59 2267.74 0.752 -567.16 311. 75. 36.22 0.125 s 5674.04 1418.44 0.674 -95. 54. 0.089 35.14 s

s - Peak fails shape tests.

- D Peak area deconvoluted.
- L Peak written from unknown list.
- C Area < Critical level.

This section based on library: northamericancal.Lib

*****	***** I	DENTI	FIED P	EAK	SUMMAR	Y *****	*****
Nuclide	Peak	Centroid	Background	Net Area	Intensity	Uncert	FWHM
	Channel	Energy	Counts	Counts	Cts/Sec 1	L Sigma %	keV
PB-210	185.51	46.58	4137.	4987.	8.312	3.03	0.903
AM-241	237.55	59.60	3852.	5806.	9.677	2.27	0.909
CD-109	351.37	88.05	4543.	7117.	11.862	2.36	0.930
CO-57	487.34	122.05	3127.	5769.	9.615	2.19	0.973
TE-123M	635.15	159.01	3512.	6105.	10.175	2.18	1.010
CR-51	1278.90	319.96	2015.	3386.	5.643	3.09	1.183
SN-113	1565.57	391.63	1483.	9376.	15.626	1.38	1.209
SR-85	2055.07	514.00	1734.	10386.	17.310	1.31	1.311
CS-137	2645.99	661.71	1426.	10010.	16.683	1.37	1.465
Y-88	3591.71	898.09	1161.	12936.	21.561	1.06	1.541
CO-60	4693.05	1173.32	602.	8779.	14.632	1.43	1.872
CO-60	5330.50	1332.60	335.	8010.	13.350	1.35	1.854
Y-88	7345.69	1836.06	82.	8486.	14.143	1.12	2.291

- s Peak fails shape tests.D Peak area deconvoluted.A Derived peak area.

- Nuclide -			Peak	Y PEAK (Code MDA Value pCi/g	-
PB-210	2.1623E+05	46.52	2.162E+05	(P 1.311E+04	3.03E+00 G
AM-241	2.1138E+04	59.54	2.114E+04	(1.063E+03	2.27E+00 G
CD-109	2.1522E+05	88.03	2.152E+05	(9.580E+03	2.36E+00 G
CO-57	7.5984E+03	122.07	7.598E+03	(3.468E+02	2.19E+00 G

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ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:12:02 Page
 ARS
                                Spectrum name: ARS03099.An1
 Nuclide Ave activity
                        Energy Activity Code Peak MDA Comments
TE-123M
            1.0817E+04
                          159.00 1.082E+04 ( 4.941E+02 2.18E+00 G
CR-51
             2.5510E+05
                          320.07 2.551E+05 (P 1.597E+04 3.09E+00 G
SN-113
            4.1479E+04
                          391.69 4.148E+04 (P 8.060E+02 1.38E+00 G
SR-85
            4.7774E+04
                          514.00 4.777E+04 ( 9.051E+02 1.31E+00 G
CS-137
            3.4523E+04
                          661.66 3.452E+04 (P 6.163E+02 1.37E+00 G
CO-60
            3.9929E+04
                         1173.24 3.981E+04 ( 5.308E+02 1.43E+00 G
                         1332.50 4.004E+04 (P 4.398E+02 1.35E+00 G K
Y-88
             8.0332E+04
                         1836.08 8.033E+04 (P 4.262E+02 1.12E+00 G
                          898.07 7.452E+04 - P 9.301E+02 1.06E+00 G
```

(- This peak used in the nuclide activity average.

- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction

} - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I - Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape

C - Charged Particle Reaction K - Key Line
M - No MDA Calculation A - Not in Average
R - Coincidence Corrected C - Coincidence Peak

H - Halflife limit exceeded

****	SUMMARY	OF NUCLI		SAMPLE	****
Nuclide	Time of Count Activity pCi/g	Time Corrected Activity pCi/g	Uncertainty Counting pCi/g	1 Sigma Total pCi/g	MDA pCi/g
PB-210	2.1515E+05	2.1623E+05	6.5595E+03	1.2374E+04	1.311E+04
AM-241	2.1133E+04	2.1138E+04	4.7973E+02	9.7911E+02	1.063E+03
CD-109	1.9708E+05	2.1522E+05	5.0888E+03	9.8644E+03	9.580E+03
CO-57	6.5410E+03	7.5984E+03	1.6625E+02	3.0654E+02	3.468E+02
TE-123M	7.6974E+03	1.0817E+04	2.3569E+02	4.4155E+02	4.941E+02
CR-51	5.8658E+04	2.5510E+05	7.8821E+03	1.1482E+04	1.597E+04
SN-113	2.9118E+04	4.1479E+04	5.7329E+02	1.6004E+03	8.060E+02
SR-85	2.5494E+04	4.7774E+04	6.2408E+02	1.6310E+03	9.051E+02
CS-137	3.4395E+04	3.4523E+04	4.7294E+02	8.8900E+02	6.163E+02
CO-60	3.9093E+04	3.9929E+04	3.9289E+02	8.8939E+02	5.308E+02
Y-88	5.4827E+04	8.0332E+04	9.0256E+02	2.5088E+03	4.262E+02

< - MDA value printed.

A - Activity printed, but activity < MDA.

B - Activity < MDA and failed test.

C - Area < Critical level.

F - Failed fraction or key line test.

H - Halflife limit exceeded

SUMMARY ----------

Total Activity (29.0 to 1999.5 keV) 6.892E+05 pCi/g

Total Decayed Activity (29.0 to 1999.5 keV) 9.7014381E+05 pCi/g

ARS03	Calibrat	ion Veri	fication	ı - 250mL	. Tuna C	ARS03 Calibration Verification - 250mL Tuna Can Polynomial
#1.5	1595-98-4			Cal Date	9/29/2016	
V uclide	ij	pCi	Meas	Criteria	Dif	%dif
Pb210	0.232	232000	228870	10.00%	3130	1.35% PASS
4m241	0.02273	22730	21640	2.00%	1090	4.80% PASS
Cd109	0.2223	222300		10.00%	222300	100.00% NOT MEASURED
Co57	0.008038	8038		10.00%	8038	100.00% NOT MEASURED
Te123m	0.01098	10980		10.00%	10980	100.00% NOT MEASURED
Cr51	0.2766	276600		10.00%	276600	100.00% NOT MEASURED
Sn113	0.04358	43580		10.00%	43580	100.00% NOT MEASURED
Sr85	0.05122	51220		5.00%	51220	100.00% NOT MEASURED
Cs137	0.03546	35460	36485	10.00%	1025	2.89% PASS
2060	0.04279	42790	40717	5.00%	2073	4.84% PASS
788	0.07866	78660		10.00%	78660	100 00% NOT MEASURED

WB 4-29-16

ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:44:01 Page ARS Spectrum name: ARS03100.An1 Sample description Batch ID: Calibration Verification SDG: 250mL Tuna Can 1595-98-4 polynomial Tech: WJS Spectrum Filename: C:\User\ARS03100.An1 Acquisition information Start time: 29-Sep-2016 08:33:47 Live time: 600 Real time: 607 Dead time: 1.14 % Detector ID: 1 Detector system (ARS03) MCB 129 Calibration Filename: 250mL Tuna Can 1891-50-3 polynomial cali b.Clb 250mL Tuna Can 1891-50-3 polynomial 9-29-16 WJS Energy Calibration 29-Sep-2016 07:56:50 Created: Zero offset: 0.196 keV 0.250 keV/channel Gain: -1.759E-08 keV/channel^2 Quadratic: Efficiency Calibration Created: 29-Sep-2016 08:00:17 Polynomial Type: Uncertainty: 1.295 % -0.388262 -4.463417 0.420417 Coefficients: -0.041583 0.001635 -0.000025 Library Files Main analysis library: northamericancal.Lib Library Match Width: 0.500 Peak stripping: Library based Analysis parameters Analysis engine: Env32 G53W4.22 Start channel: 115 (28.95keV) 8000 (1999.49keV) Stop channel: Peak rejection level: 40.000% Peak search sensitivity: 3 Sample Size: 1.0000E+00 Activity scaling factor: 1.0000E+06/(1.0000E+00*1.0000E+00) =1.0000E+06 Detection limit method: Reg. Guide 4.16 Method Random error: 1.0000000E+00 Systematic error:
Fraction Limit: 1.0000000E+00 60.000% best method (based on spectrum). Background width: Half lives decay limit: 12.000

ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:44:01 Page ARS Spectrum name: ARS03100.An1

Activity range factor: 2.000 Min. step backg. energy 0.000 Multiplet shift channel 2.000

Corrections Status Comments Decay correct to date: YES 01-Jul-2012 14:00:00

Decay during acquisition: Decay during collection: NO True coincidence correction: NO
Peaked background correct

Peaked background correction: YES pbc DOE.Pbc

13-Sep-2016 08:40:53

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 7 cutoff 20.00000

Energy Calibration Normalized diff: 0.0368

**** SUMMARY OF PEAKS IN RANGE ***** Peak Area Uncert FWHM Corrctn Nuclide Brnch. Act. Nuc Energy Factor Energy Ratio pCi/g 288. 17.82 0.85 1.608E-02 214. 22.83 1.05 1.922E-02 4656. 2.08 0.89 2.585E-02 46.52 4.050 2.289E+05 PB210 5905. 2.05 0.95 3.469E-02 59.54 35.700 2.164E+04 AM241 763. 7.95 0.96 4.505E-02 88.03 3.610 2.157E+05 CD109 236. 21.32 0.91 4.647E-02 122.07 85.500 1.399E+04 CO57 32.00 36.68 46.59 59.59 88.01 122.01 89. 39.35 0.71 1.958E-02 475.53 661.66 85.210 3.648E+04 CS137 1.14 1.36 1.538E-02 661.69 9626. 63. 39.75 0.37 1.299E-02 837.90 1168.34 63. 25.74 1.82 1.019E-02 1173.30 5384. 1.37 1.83 1.015E-02 1173.24 99.900 4.179E+04 CO60 4689. 1.49 1.82 9.205E-03 1332.50 99.982 4.011E+04 CO60 1332.56

entroid 1	Background Ne	et Area	Intensity	Uncert	FWHM	Suspect	ed
32.00	640.	288.	0.480	17.82	0.851	XE-138	s
36.68	682.	214.	0.356	22.83	1.050	XE-138	s
475.53	325.	89.	0.148	39.35	0.706	CS-134	s
837.90	141.	63.	0.105	39.75	0.371	-	s
1168.30	54.	56.	0.094	29.82	0.293	CS-134	sM
	32.00 36.68 475.53 837.90	entroid Background No Energy Counts 32.00 640. 36.68 682. 475.53 325. 837.90 141.	entroid Background Net Area Energy Counts Counts 32.00 640. 288. 36.68 682. 214. 475.53 325. 89. 837.90 141. 63.	entroid Background Net Area Intensity Energy Counts Counts Cts/Sec 1 32.00 640. 288. 0.480 36.68 682. 214. 0.356 475.53 325. 89. 0.148 837.90 141. 63. 0.105	entroid Background Net Area Intensity Uncert Energy Counts Counts Cts/Sec 1 Sigma % 32.00 640. 288. 0.480 17.82 36.68 682. 214. 0.356 22.83 475.53 325. 89. 0.148 39.35 837.90 141. 63. 0.105 39.75	Entroid Background Net Area Intensity Uncert FWHM Energy Counts Counts Cts/Sec 1 Sigma % keV 32.00 640. 288. 0.480 17.82 0.851 36.68 682. 214. 0.356 22.83 1.050 475.53 325. 89. 0.148 39.35 0.706 837.90 141. 63. 0.105 39.75 0.371	entroid Background Net Area Intensity Uncert FWHM Suspect Energy Counts Counts Cts/Sec 1 Sigma % keV Nuclide 32.00 640. 288. 0.480 17.82 0.851 XE-138 36.68 682. 214. 0.356 22.83 1.050 XE-138 475.53 325. 89. 0.148 39.35 0.706 CS-134 837.90 141. 63. 0.105 39.75 0.371 -

- s Peak fails shape tests.
- D Peak area deconvoluted.
- L Peak written from unknown list.
- C Area < Critical level.
- M Peak is close to a library peak.

This section based on library: northamericancal.Lib

******* Nuclide	***** I Peak Channel	D E N T I Centroid Energy	FIED P Background Counts	E A K Net Area Counts	S U M M A R Intensity Cts/Sec	-	
PB-210	185.54	46.59	1512.	4650.	7.749	2.08	0.892
AM-241	237.52	59.59	1581.	5905.	9.842	2.05	0.953
CD-109	351.19	88.01	804.	763.	1.271	7,95	0.961
CO-57	487.17	122.01	601.	236.	0.394	21.32	0.911s
CS-137	2645.91	661.69	295.	9626.	16.043	1.14	1.364
CO-60	4692.82	1173.26	105.	5325.	8.875	1.46	1.714
CO-60	5330.33	1332.56	23.	4689.	7.814	1.49	1.820

- Nuclide -	Average Activity	OF LIBRARY PEAK USAGE *****
PB-210	2.2887E+05	46.52 2.289E+05 (P 9.054E+03 2.08E+00 G
AM-241	2.1640E+04	59.54 2.164E+04 (6.890E+02 2.05E+00 G
CD-109	2.1573E+05	88.03 2.157E+05 (3.815E+04 7.95E+00 G
CO-57	1.3990E+04	122.07 1.399E+04 @(6.921E+03 2.13E+01 G
TE-123M	0.0000E+00	159.00 0.000E+00 %(0.000E+00 7.58E+02 G
CR-51	0.0000E+00	320.07 0.000E+00 %(P 0.000E+00 1.39E+02 G
SN-113	0.0000E+00	391.69 0.000E+00 %(P 0.000E+00 8.17E+02 G
SR-85	0.0000E+00	514.00 0.000E+00 %(0.000E+00 3.69E+02 G
CS-137	3.6485E+04	661.66 3.648E+04 (P 3.137E+02 1.14E+00 G

s - Peak fails shape tests.D - Peak area deconvoluted.A Derived peak area.

> 1836.08 0.000E+00 %(P 0.000E+00 3.18E+03 G 898.07 0.000E+00 & P 0.000E+00 9.78E+01 G

- (This peak used in the nuclide activity average.
- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction

H - Halflife limit exceeded

} - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I ~ Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape
C - Charged Particle Reaction	K - Key Line
M - No MDA Calculation	A - Not in Average
R - Coincidence Corrected	C - Coincidence Peak

	U M M A R Y ime of Count	OF NUCLI	D E S I N Uncertainty	SAMPLE 1 Sigma	****
Nuclide	Activity pCi/g	Activity pCi/g	Counting pCi/g	Total pCi/g	MDA pCi/g
PB-210	2.0058E+05	2.2887E+05	4.7788E+03	1.2091E+04	9.054E+03
AM-241	2.1493E+04	2.1640E+04	4.4282E+02	9.7958E+02	6.890E+02
CD-109	2.1121E+04	2.1573E+05	1.7154E+04	1.9132E+04	3.815E+04
CO-57 #	2.6797E+02	1.3990E+04	2.9828E+03	3.0202E+03	6.921E+03
TE-123M#A	6.3171E+00	>12 Halflives	4.7874E+01	4.7875E+01	1.609E+02
CR-51 #A	-4.4327E+02	>12 Halflives	6.1912E+02	6.1929E+02	2.037E+03

ORTEC g v - i (3263) Env32 G53W4.22 29-SEP-2016 08:44:01 Page ARS Spectrum name: ARS03100.An1

SN-113 #A 1.2114E+01 >12 Halflives 1.0119E+02 1.0120E+02 3.413E+02 2.0260E+01 >12 Halflives 7.4748E+01 7.4751E+01 2.519E+02 SR-85 #A CS-137 3.3076E+04 3.6485E+04 4.1622E+02 8.9785E+02 3.137E+02 4.0717E+04 4.2451E+02 9.1774E+02 3.913E+02 CO-60 2.3297E+04 8.5830E+01 1.434E+02 Y-88 #A -1.9474E+00 >12 Halflives 8.5830E+01

- # All peaks for activity calculation had bad shape.
- * Activity omitted from total
- & Activity omitted from total and all peaks had bad shape.
- < MDA value printed.
- A Activity printed, but activity < MDA.
- B Activity < MDA and failed test.
- C Area < Critical level.
- F Failed fraction or key line test.
- H Halflife limit exceeded

------SUMMARY

Total Activity (29.0 to 1999.5 keV) 2.998E+05 pCi/g Total Decayed Activity (29.0 to 1999.5 keV) 5.5743175E+05 pCi/g

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		4.36% PASS I	1.81% PASS	1.13% PASS	0.65% PASS	6.94% PASS	3.24% PASS	1.87% PASS	0.99% PASS	6.93% PASS	1.29% PASS	1.18% PASS			J	
11/25/2014	Dif %dif	9290	382	2310	47.8				453		510	864	<u>\</u>	`	4	ξ.
Cal Date	Criteria			0 10.00%								5.49%	1-111-	<u> </u>	Thurs Ca	
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Ċ	ğ	213300	21130	7204	10660	251700	35740	45500	45580	31/10	39650	/33/0	11	>	120	3
1748-90-1	ָבֻ מַנְיּ	0.2133	0.0213	0.2039	0.01066	0.2517	0.03574	0.04568	0.04300	0.03171	0.03903	0.07337				
STD#	Ph210	Am241	Cd109	Co57	Te123m	Cr51	Sn113	Sr85	Ce137	(S) (S)	, X88	Š				

Calibration Data from file: 250mL Tuna Can ITSI.Clb Energy Calibration Date: 11/25/2014 Time: 08:56:23 Efficiency Calibration Date: 11/25/2014 Time: 10:50:52

Calibration Description:

250mL Tuna Can 1.5g/cc 1748-90-1 BZF 11-25-14

Energy Calibration Fit

Energy = 0.2556 +0.249791*Channel -1.33478e-009*Channel**2 FWHM (ch) = 2.9125 +0.001134*Channel -3.2178e-008*Channel**2

Energy/FWHM Table

Channel	Energy (keV)	Fit(keV)	Delta	FWHM(keV)	Fit(keV)	Delta
185.16 237.33	46.52	46.51	0.03%	0.78	0.78	-0.31%
351.46	59.54 88.03	59.54 88.05	0.00% -0.01%	0.79 0.83	0.79 0.83	-1.02% 0.85%
487.76 635.50	122.07 159.00	122.09 159.00	-0.02% 0.00%	0.85 0.93	0.86 0.90	-1.73% 2.41%
1280.35 1567.04	320.07 391.69	320.07 391.68	-0.00% 0.00%	1.11	1.08	2,57% -1.22%
2056.57	513.99	513.96	0.01%	1.26	1.28	-0.96%
2647.79 3594,27	661.66 898.02	661.64 898.05	0.00% -0.00%	1.41 1.62	1.42 1.64	-0.77% -1.41%
4696.02 5333.58	1173.24 1332.50	1173.25 1332.50	~0.00% 0.00%	1.89 2.04	1.88 2.01	0.48% 1.46%
7349.45	1836.01	1836.01	0.00%	2.36	2.38	-0.50%

Efficiency Calibration Fit

Polynomial

Uncertainty = 1.5201 %

Coefficients:

 $\hbox{-0.306766} \hskip 0.5in -4.512900 \hskip 0.5in 0.474502 \hskip 0.5in -0.050620 \hskip 0.5in 0.002132 \hskip 0.5in -0.000033 \hskip 0.5in$

Efficiency Table

Energ	y Efficiency	Fit	Delta
46.5	2 2.7277E-002	2.7230E-002	0.17%
59.5	4 3.4153E-002	3.4317E-002	-0.48%
88.03	3 4.5357E-002	4.4717E-002	1.41%
122.0	7 4.7290E-002	4.7970E-002	-1.44%
320.0	7 2.8227E-002	2.8415E-002	-0.66%
391.69	2.4573E-002	2.4295E-002	1.13%
513.99	9 1.9414E-002	1.9766E-002	-1.81%
661.66	1.7460E-002	1.6454E-002	5.76%
898.02	1.2982E-002	1.3302E-002	-2.46%
1173.24	1.0871E-002	1.1066E-002	-1.80%
1332.50	9.9745E-003	1.0121E-002	-1.46%
1836.01	8.1120E-003	7.9677E-003	1.78%

Calibration Certificate Table

Isotope	Energy	Pct	Halflife	Activity	GPS	Error	Date & Time
Pb-210	46.52		7.45E+003	0.21	315.68	4.10% 10/1/201	
Am-241	59.54	36.30	1.58E+005	0.02	283.80	3.10% 10/1/201	
Cd-109	88.03	3.61 4	4.36E+002	0.20	272.35	3.10% 10/1/201	4 14:00:00
Co-57	122.07	85.60 2	2.72E+002	0.01	234.18	3.10% 10/1/201	4 14:00:00
Te-123M	159.00	83.50 1	1.20E+002	0.01	329.34	3.10% 10/1/201	4 14:00:00
Cr-51	320.07	9.83 2	2.77E+001	0.25	915.46	3.00% 10/1/201	4 14:00:00
Sn-113	391.69	64.16 1	L,15E+002	0.04	848.44	3.00% 10/1/201	4 14:00:00
Sr-85	513.99	99.28 6	5.47E+001	0.05	1677.99	3.00% 10/1/201	4 14:00:00
Cs-137	661.66	85.21 1	L.10E+004	0.03	999.74	3.10% 10/1/201	4 14:00:00
Y-88	898.02	95.00 1	L,07E+002	0.07	2578.96	3.00% 10/1/201	4 14:00:00
Co-60	1173.24	99.90 1	L.93E+003	0.04	1465.58	3.00% 10/1/201	4 14:00:00
Co-60	1332.50	99.98 1	.93E+003	0.04	1466.79	3.00% 10/1/201	4 14:00:00
Y-88	1836.01	99.35 1	.07E+002	0.07	2697.04	3.00% 10/1/201	4 14:00:00

ORTEC g v - i (3263) Env32 G53W4.24 6/9/2015 11:19:37 American Radiation Services Spectrum name: ARS05302.An1 Sample description 250mL Tuna Can 1748-90-1 Spectrum Filename: C:\User\ARCHIVES\4-21-14 TO 1-2-15\ARS05302.An1 Acquisition information Start time: 11/25/2014 12:06:19 Live time: 600 Real time: 618 2.84 % Dead time: Detector ID: 37 Detector system (ARS05) MCB 338 Calibration Filename: 250mL Tuna Can ITSI.Clb 250mL Tuna Can 1.5g/cc 1748-90-1 BZF 11-25-14 Energy Calibration Created: 11/25/2014 08:56:23 Zero offset: 0.256 keV 0.250 keV/channel Gain: Quadratic: -1.335E-09 keV/channel^2 Efficiency Calibration Created: 11/25/2014 10:50:52 Type: Polynomial Uncertainty: 1.520 % Coefficients: -0.306766 -4.512900 0.474502 -0.050620 0.002132 -0.000033 Library Files Main analysis library: northamericancal.Lib Library Match Width: 0.500 ' Peak stripping: Library based Analysis parameters Analysis engine: Env32 G53W4.24 Start channel: Start channel: 0 (0.26keV)
Stop channel: 8000 (1998.49keV)
Peak rejection level: 40.000% Peak search sensitivity: 3 Sample Size: 1.0000E+00 1.0000E+06/(1.0000E+00* 1.0000E+00) = Activity scaling factor: 1.0000E+06 Detection limit method: Reg. Guide 4.16 Method Random error: 1.0000000E+00 Systematic error: 1.00000
Fraction Limit: 60.000%
Background width: best me
Half lives decay limit: 12.000 1.000000E+00 best method (based on spectrum).

ORTEC g v - i (3263) Env32 G53W4.24 6/9/2015 11:19:37 American Radiation Services Spectrum name: ARS05302.An1

Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections Status Comments
Decay correct to date: YES 10/1/2014 14:00:00
Decay during acquisition: NO

Decay during acquisition: NO
Decay during collection: NO
True coincidence correction: NO
Peaked background correction: YES

Peaked background correction: YES pbc northamericancal.Pbc 11/25/2014 07:43:45

Absorption (Internal): NO
Geometry correction: NO
Random summing: NO

total peaks alloc. 13 cutoff 20.00000 % Energy Calibration

Normalized diff: 0.0192

****	SUMMA	RY OF	F PE	AKS I	N RAN	GE	****	
Peak	Area	Uncert	FWHM	Corrctn	Nuclide	Brnch.	Act.	Nuc
Energy				Factor	Energy	Ratio	pCi/g	
20.57			0.75	1.354E-02				
22.16			0.75	1.438E~02				
24.89	936		0.76	1.583E-02				
27.55	401		0.76	1.723E-02				
31.82				1.951E-02				
46.49	5368		0.76	2.726E-02	46.52	4.000		PB210
59.52	5948		0.75	3.431E-02	59.54	36.300		
88.04	6773		0.81	4.472E-02	88.03	3.610		
122.10	5899		0.86	4.797E-02	122.07	85.600	7.442E+03	CO57
136.51	741.		0.97	4.725E-02				
158.99	6021.		0.92	4.500E-02	159.00	83.500	9.920E+03	TE123M
184.88	179.		0.52	4.180E-02				
255.21	486.		1.24	3.375E-02				
320.10	3810.		1.10	2.841E-02	320.07	9.830		_
391.70	9051.		1.12	2.429E-02	391.69	64.160		
513.98	11162.	1.22	1.23	1.977E-02	513.99	99.280	4.613E+04	SR85
519.30	152.	25.40	0.38	1.962E-02				
661.67	10518.	1.16	1.39	1.645E-02	661.66	85.210	3.391E+04	CS137
898.09	14005.	0.96	1.63	1.330E-02	898.02	95.000	7.133E+04	Y88
1173.26	9482.	1.16	1.92	1.107E-02	1173.24	99.900	3.941E+04	CO60
1332.54	8562.	1.29	2.01	1.012E-02	1332.50	99.982	3.887E+04	CO60
1836.03	9130.	1.07	2.56	7.968E-03	1836.01	99.350	7.423E+04	Y88
	**** U N I						A R Y *****	
	entroid B						FWHM Suspec	
Channel	Energy	Counts	Coun	ts Cts/S	ec 2 Sig	gma %)	keV Nuclid	.e
81,26	20.52	406					0.750 MO-99	D
87.61	22.10	1061					0.752 RH-106	
98.41	24.84	1743					1.344 AG-110	
109.05	27.50	1160					0.655 SB-124	
126.36	31.82	1494					0.628 XE-138	s
545.46	136.51	2004					0.970 CO-57	
739.12	184.88	1606		179.	0.298 78	.98 (0.521 TH-234	S

ORTEC g v - i (3263) Env32 G53W4.24 6/9/2015 11:19:37 American Radiation Services Spectrum name: ARS05302.Anl

Channel	Energy B	ackground	Net area	Cnts/sec	Uncert	FWHM Suspect	ed
1020.68	255.21	1532.	486.	0.809	31.51	1.243 SN-113	3 s
2077.94	519.30	424.	152.	0.254	50.80	0.383 -	s

- s Peak fails shape tests.
- D Peak area deconvoluted.
- L Peak written from unknown list.
- C Area < Critical level.

This section based on library: northamericancal.Lib

************ I D E N T I Nuclide Peak Centroid		DENTI	FIED P	EAK	SUMMAR	Y *****	*****
		Centroid	Background	Net Area	Intensity	FWHM	
	Channel	Energy	Counts	Counts	Cts/Sec 2	Sigma %	keV
PB-210	185.10	46.49	2778.	5355.	8.925	4,57	0.760s
AM-241	237.24	59.52	2972.	5948.	9.913	4.43	0.748
CD-109	351.44	88.04	2937.	6772.	11.287	3.91	0.811
CO-57	487.80	122.10	3320.	5899.	9.832	4.83	0.862
TE-123M	635.47	158.99	2640.	6021.	10.035	4.28	0.916
CR-51	1280.47	320.10	2132.	3821.	6.368	6.22	1.102
SN-113	1567.12	391.70	1287.	9051.	15.085	2.62	1.121
SR-85	2056.63	513.98	1588.	11162.	18.603	2.44	1.229
CS-137	2647.90	661.67	1061.	10518.	17.530	2.32	1.393
Y-88	3594.41	898.09	819.	14004.	23.341	1.92	1.631
CO-60	4696.06	1173.26	533.	9482.	15.803	2.33	1.918
CO-60	5333.77	1332.54	425.	8562.	14.269	2.57	2.011
Y-88	7349.55	1836.03	51.	9130.	15.216	2.14	2.560

- s Peak fails shape tests.
- D Peak area deconvoluted.
- A Derived peak area.

- Nuclide -	M M A R Y Average Activity pCi/g	OF LIBRARY PEAK USAGE *****	
PB-210	2.2259E+05	46.52 2.226E+05 @(P 1.032E+04 2.29E+00 G	
AM-241	2.1512E+04	59.54 2.151E+04 (P 9.287E+02 2.21E+00 G	
CD-109	2.0621E+05	88.03 2.062E+05 (P 7.772E+03 1.96E+00 G	

ORTEC g v - i (3263) Env32 G53W4.24 6/9/2015 11:19:37 American Radiation Services Spectrum name: ARS05302.An1

Nuclide	Ave activity	Energy	Activity	Code Peak MDA Comments
CO-57	7.4418E+03	122.07	7.442E+03	(P 3.421E+02 2.41E+00 G
TE-123M	9.9197E+03	159.00	9.920E+03	(P 3.990E+02 2.14E+00 G
CR-51	2.4354E+05	320.07	2.435E+05	(P 1.389E+04 3.11E+00 G
SN-113	3.6409E+04	391.69	3.641E+04	(6.835E+02 1.31E+00 G
SR-85	4.6133E+04	513.99	4.613E+04	(7.788E+02 1.22E+00 G
CS-137	3.3908E+04	661.66	3.391E+04	(P 4.981E+02 1.16E+00 G
CO-60	3.9140E+04		3.941E+04 3.887E+04	(P 4.585E+02 1.16E+00 G (4.487E+02 1.29E+00 G
Y-88	7.4234E+04			(P 2.937E+02 1.07E+00 G - P 6.930E+02 9.58E-01 G

- (This peak used in the nuclide activity average.
- * Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
- P Peakbackground subtraction
- } Peak is too close to another for the activity
 to be found directly.

Nuclide Codes: Peak Codes: T - Thermal Neutron Activation G - Gamma Ray F - Fast Neutron Activation X - X-Ray

ORTEC g v - i (3263) Env32 G53W4.24 6/9/2015 11:19:37 American Radiation Services Spectrum name: ARS05302.An1

I - Fission Product P - Positron Decay N - Naturally Occurring Isotope S - Single-Escape D - Double-Escape P - Photon Reaction C - Charged Particle Reaction K - Key Line M - No MDA Calculation A - Not in Average R - Coincidence Corrected C - Coincidence Peak H - Halflife limit exceeded

-	U M M A R Y	OF NUCLI	DES IN	SAMPLE	****
Nuclide	Activity pCi/g	Time Corrected Activity pCi/g	Uncertainty Counting pCi/g	2 Sigma Total pCi/g	MDA pCi/g
PB-210 #	2.2145E+05	2.2259E+05	1.0197E+04	2.4221E+04	1.032E+04
AM-241	2.1506E+04	2.1512E+04	9.5257E+02	2.0080E+03	9.287E+02
CD-109	1.8897E+05	2.0621E+05	8.0651E+03	1.7904E+04	7.772E+03
CO-57	6.4712E+03	7,4418E+03	3.5935E+02	6.4654E+02	3.421E+02
TE-123M	7.2174E+03	9.9197E+03	4.2431E+02	8.7406E+02	3.990E+02
CR-51	6.1619E+04	2.4354E+05	1.5151E+04	2.2584E+04	1.389E+04
SN-113	2.6155E+04	3.6409E+04	9.5328E+02	2.8215E+03	6.835E+02
SR-85	2.5621E+04	4.6133E+04	1.1245E+03	3.0677E+03	7.788E+02
CS-137	3.3791E+04	3.3908E+04	7.8689E+02	1.5809E+03	4.981E+02
CO-60	3.8373E+04	3.9140E+04	6.7889E+02	1.6118E+03	4.585E+02
Y-88	5.1951E+04	7.4234E+04	1.5898E+03	4.6469E+03	2.937E+02

- # All peaks for activity calculation had bad shape.
- * Activity omitted from total
- & Activity omitted from total and all peaks had bad shape.
- < MDA value printed.
- A Activity printed, but activity < MDA.
- B Activity < MDA and failed test.
- C Area < Critical level.
- F Failed fraction or key line test.
- H Halflife limit exceeded

SUMMARY -----

Total Activity (24.7 to 1998.5 keV) 6.831E+05 pCi/g Total Decayed Activity (24.7 to 1998.5 keV) 9.4103131E+05 pCi/g

								RED		RED		,		51-01	3
			0.91% PASS	4.42% PASS	3.43% PASS	3.76% PASS	1.74% PASS	0.00% NOT MEASU	3.55% PASS	00.00% NOT MEASURED	2.28% PASS)	3.13% PASS	3.40% PASS \	ar all	
	6/10/2015	Dif %dif	1950 (935 4	0669	278	185	251700 100	1270	45680 100	724	1242	2495	Tuna C	10-15
	Cal Date	Criteria	11.49%	5.49%	10.00%	10.00%	10.00%	10.00%	10.00%	5.49%	10.00%	5.49%	5.49%	74	5
	•	Meas	211350	20195	196910	7116	10475		34470		32434	38408	75865	250	WTS
ial ,		pCi P	213300	21130	203900	7394	10660	251700	35740	45680	31710	39650	73370		
ARS06 Polynomia	1748-90-1	uČ.	0.2133	0.02113	0.2039	0.007394	0.01066	0.2517	0.03574	0.04568	0.03171	0.03965	0.07337		
ARS06	STD#	Nuclide	Pb210	Am241	Cd109	Co57	Te123m	Cr51	Sn113	Sr85	Cs137	C060	Y88		

Calibration Data from file: 250mL Tuna Can 1748-90-1 calib poly.Clb

Energy Calibration Date: 06/10/15 Time: 12:26:28 Efficiency Calibration Date: 06/10/15 Time: 12:34:11

Calibration Description:

250mL Tuna Can 1748-90-1 Polynomial WJS 6-10-15

Energy Calibration Fit

Energy = 0.1924 +0.249984*Channel -2.86432e-008*Channel**2
FWHM (ch) = 3.5645 +0.000971*Channel -1.57333e-008*Channel**2

Energy/FWHM Table

Channel	Energy (keV)	Fit(keV)	Delta	FWHM(keV)	Fit(keV)	Delta
185.55	46.52	46.58	-0.12%	0.92	0.94	-2.16%
237.55	59.54	59.57	-0.06%	0.95	0.95	-0.06%
351.53	88.03	88.07	-0.04%	1.00	0.98	1.96%
487.63	122.07	122.08	-0.01%	1.00	1.01	-0.72%
635.30	159.00	159.00	0.00%	1.07	1.04	2.11%
1565.65	391.69	391.51	0.05%	1.27	1.26	0.91%
2055.47	513.99	513.91	0.02%	1.33	1.37	-2.94%
2646.92	661.66	661.68	-0.00%	1.50	1.51	-0.63%
3593.17	898.02	898.06	-0.00%	1.73	1.71	1.24%
4695.26	1173.24	1173.30	-0.01%	1.94	1.94	0.11%
5333.13	1332.50	1332.57	-0.01%	2.07	2.07	0.13%
7349.69	1836.01	1835.95	0.00%	2.45	2.46	-0.16%

Efficiency Calibration Fit

Polynomial Uncertainty = 1.5812 %

Coefficients:

-0.368747 -4.257329 0.454276 -0.047622 0.001987 -0.000031

Efficiency Table

Energy	Efficiency	Fit	Delta
46.52	3.2817E-002	3.2771E-002	0.14%
59.54	4.2932E-002	4.3099E-002	-0.39%
88.03	5.6756E-002	5.6130E-002	1.10%
122.07	5.8706E-002	5.9331E-002	-1.06%
391.69	2.9253E-002	2.9580E-002	-1.12%
513.99	2.4000E-002	2.4014E-002	-0.06%
661.66	2.0913E-002	1.9904E-002	4.82%
1173.24	1.2688E-002	1.3087E-002	-3.14%
1332.50	1.1566E-002	1.1870E~002	-2.63%
1836.01	9.3161E-003	9.0886E-003	2.44%

Calibration Certificate Table

Isotope	Energy		Halflife	Activity	GPS	Error	Date & Time
Pb-210	46.52	4.00	7.45E+003	0.21	315.68		10/01/14 14:00:00
Am-241	59.54	36.30	1.58E+005	0.02	283.80		10/01/14 14:00:00
Cd-109	88.03	3.61	4.36E+002	0.20	272.35		10/01/14 14:00:00
Co-57	122.07	85.60	2.72E+002	0.01	234.18		10/01/14 14:00:00
Te-123M	159.00	83.50	1.20E+002	0.01	329.34		10/01/14 14:00:00
Cr-51	320.07	9.83	2.77E+001	0.25	915.46		10/01/14 14:00:00
Sn-113	391.69	64.16	1.15E+002	0.04	848.44		10/01/14 14:00:00
Sr-85	513.99	99.28	6.47E+001	0.05	1677.99		10/01/14 14:00:00
Cs-137	661.66	85.21	1.10E+004	0.03	999.74	3.10%	10/01/14 14:00:00
Y-88	898.02	95.00	1.07E+002	0.07	2578.96		10/01/14 14:00:00
Co-60	1173.24	99.90	1.93E+003	0.04	1465.58		10/01/14 14:00:00
Co-60	1332.50	99.98	1.93E+003	0.04	1466.79		10/01/14 14:00:00
Y-88	1836.01	99.35	1.07E+002	0.07	2697.04	3.00%	10/01/14 14:00:00

ORTEC g v - i (3263) Env32 G53W4.22 10-JUN-2015 12:47:02 Page American Radiation Services Spectrum name: ARS06665.An1 Sample description Batch ID: 250 mL Tuna Can Polynomial CalVer SDG: 1748-90-1 Tech: WJS Spectrum Filename: C:\User\ARS06665.An1 Acquisition information Start time: 10-Jun-2015 12:36:35 Live time: 600 Real time: 618 Dead time: 2.94 % Detector ID: Detector system (ARS06) MCB 130 Calibration Filename: 250mL Tuna Can 1748-90-1 calib poly.Clb 250mL Tuna Can 1748-90-1 Polynomial WJS 6-10-15 Energy Calibration Created: 10-Jun-2015 12:26:28 Zero offset: 0.192 keV Gain: 0.250 keV/channel Quadratic: -2.864E-08 keV/channel^2 Efficiency Calibration Created: 10-Jun-2015 12:34:11 Type: Polynomial Uncertainty: 1.581 % Coefficients: -0.368747 -4.257329 0.454276 -0.047622 0.001987 -0.000031 Library Files Main analysis library: northamericancal.Lib Library Match Width: 0.500 Peak stripping: Library based Analysis parameters Analysis engine: Env32 G53W4.22 Start channel: 10 (2.69keV) Stop channel: 8000 (1998.23keV) Peak rejection level: 40.000% Peak search sensitivity: 1.0000E+00 Sample Size: Activity scaling factor: 1.0000E+06/(1.0000E+00* 1.0000E+00) = 1.0000E+06 Detection limit method: Reg. Guide 4.16 Method 1.000000E+00 Random error: Systematic error: Fraction Limit: Background width: 1.0000000E+00 60.000% best method (based on spectrum). Half lives decay limit: 12.000

American Radiation Services Spectrum name: ARS06665.An1

> Activity range factor: 2.000 Min. step backg. energy 0.000 Multiplet shift channel 2.000

Corrections Status Comments

Decay correct to date: YES 01-Oct-2014 14:00:00 Decay during acquisition: NO Decay during collection: NO

True coincidence correction: NO

Peaked background correction: YES pbc DOE.Pbc

11-Aug-2014 08:00:33

Absorption (Internal): NO Geometry correction: NO Random summing: NO

total peaks alloc. 12 cutoff 20.00000

Energy Calibration

Normalized diff: 0.0427

**** SUMMARY OF PEAKS IN RANGE Peak Area Uncert FWHM Corrctn Nuclide Brnch. Nuc Act. Energy Factor Energy Ratio pCi/g 13.32 219. 15.97 0.96 7.026E-03 665. 22.23 7.23 0.91 1.392E-02 25.03 666. 7.60 0.92 1.610E-02 32.12 427. 15.77 1.22 2.163E-02 36.53 268. 25.92 1.17 2.505E-02 46.58 6015. 2.03 0.92 3.284E-02 46.52 4.000 2.113E+05 PB210 59.59 7010. 2.16 2.020E+04 AM241 0.95 4.313E-02 59.54 36.300 5934. 88.05 2.14 1.969E+05 CD109 0.98 5.613E-02 8**8**.03 3,610 122.05 4226. 2.44 1.04 5.933E-02 122.07 85.600 7.116E+03 CO57 136.55 610. 11.08 1.08 5.819E-02 159.00 2491. 3.57 1.01 5.519E-02 159.00 83.500 1.048E+04 TE123M 31.51 1.34 2.960E-02 1.46 2.401 4.123E-02 254.62 184. 0.81 391.43 3185. 3.11 391.69 64.160 3.447E+04 SN113 514.01 1478. 5.26 513.99 99.280 4.146E+04 SR85 133. 30.35 527.26 0.75 2.356E-02 66. 35.65 2.185E-02 583.20 1.07 111. 37.66 622.46 0.53 2.082E-02 661.68 12020. 1.14 1.50 1.990E-02 661.66 85.210 3.243E+04 CS137 898.08 4708. 2.28 1.69 1.594E-02 898.02 95.000 7.200E+04 Y88 10239. 1.94 1.309E-02 1173.26 1,14 1173.24 99.900 3.863E+04 CO60 1332.59 9189. 1.13 2.03 1.187E-02 1332.50 99.982 3.819E+04 CO60 2927. 1835.93 2.00 2.53 9.089E-03 1836.01 99.350 7.507E+04 Y88

******* U N I D E N T I F I E D PEAK S U M M A R Y ******** Peak Centroid Background Net Area Intensity Uncert FWHM Suspected Channel Energy Counts Counts Cts/Sec 2 Sigma % keV Nuclide 52.52 13.32 356. 219. 0.366 31.94 0.957 SE-75 88.01 22.19 842. 17.56 641. 1.068 0.888 RH-106 99.24 25.00 947. 752. 1.254 16.28 1.048 RH-106 127.71 32.12 1120. 427. 31.54 1.220 J-131 0.712 s 1308. 145.36 36.53 0.447 268. 51.85 1.165 XE-138 545.50 136.55 1132. 610. 1.018 22.16 1.083 CO-57 902. 1017.90 254.62 184. 0.306 63.01 0.814 TH-227 2108.93 527.26 315. 133. 60.70 0.222 0.748 s 2332.79 583.20 195. 66. 0.110 71.29 1.070 TL-208 s

2

ORTEC g v - i (3263) Env32 G53W4.22 10-JUN-2015 12:47:02 Page 3 American Radiation Services Spectrum name: ARS06665.Anl

Channel Energy Background Net area Cnts/sec Uncert FWHM Suspected 2489.95 622.46 325. 111. 0.184 75.33 0.528 RH-106 s

- s Peak fails shape tests.
- D Peak area deconvoluted.
- L Peak written from unknown list.
- C Area < Critical level.

This section based on library: northamericancal.Lib

******* Nuclide	***** I Peak Channel	D E N T I Centroid Energy	FIED P Background Counts	E A K Net Area Counts	S U M M A R Intensity Cts/Sec		
PB-210	185.57	46.58	2857.	6008.	10.013	4.06	0.925
AM-241	237.61	59.59	2784.	7006.	11.677	4.33	0.946
CD~109	351.47	88.05	2438.	* 593 4 .	9.891	4.28	0.979
CO-57	487.47	122.05	1661.	4226.	7.043	4.87	1.040
TE-123M	635.31	159.00	1300.	2491.	4.152	7.14	1.007
SN-113	1565.34	391.43	1240.	3185.	5.308	6.22	1.339
SR-85	2055.87	514.01	912.	1478.	2.463	10.51	1.463
CS-137	2646.93	661.68	1027.	12020.	20.034	2.29	1.498
Y-88	3593.24	898.08	887.	4708.	7.846	4.56	1.692
CO-60	4695.10	1173.26	392,	10239.	17.065	2.29	1.939
CO-60	5333.18	1332.59	205.	9189.	15.315	2.26	2.034
Y-88	7349.53	1835.91	54.	2958.	4.930	4.00	2.537

- s Peak fails shape tests.
- D Peak area deconvoluted.
 A Derived peak area.

- Nuclide -	M M A R Y Average Activity pCi/g		Peak	PEAK	-
PB-210	2.1135E+05	46.52	2.113E+05	(P 8.858E+03	2.03E+00 G
AM-241	2.0195E+04	59.54	2.020E+04	(P 7.165E+02	2.16E+00 G
CD-109	1.9691E+05	88.03	1.969E+05	(7.724E+03	2.14E+00 G
CO-57	7.1160E+03	122.07	7.116E+03	(P 3.244E+02	2.44E+00 G

ORTEC g v - i (3263) Env32 G53W4.22 10-JUN-2015 12:47:02 Page American Radiation Services Spectrum name: ARS06665.An1

Nuclide	Ave activity	Energy	Activity	Cod	de Peak MD	A Commen	ts
TE-123M	1.0475E+04	159.00	1.048E+04	(7.177E+02	3.57E+00	G
CR-51	1.6155E+05	320.07	1.615E+05	% (P	1.234E+06	2.28E+02	G
SN-113	3.4470E+04	391.69	3.447E+04	(1.806E+03	3.11E+00	G
SR-85	4.1463E+04	513.99	4.146E+04	(4.024E+03	5.26E+00	G
CS-137	3.2434E+04	661.66	3.243E+04	(4.102E+02	1.14E+00	G
CO-60	3.8408E+04		3.863E+04 3.819E+04				
Y-88	7.5865E+04		7.586E+04 7.200E+04				

- (This peak used in the nuclide activity average. * - Peak is too wide, but only one peak in library.
- ! Peak is part of a multiplet and this area went negative during deconvolution.
- ? Peak is too narrow.
- @ Peak is too wide at FW25M, but ok at FWHM.
- % Peak fails sensitivity test.
- \$ Peak identified, but first peak of this nuclide failed one or more qualification tests.
- + Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
- = Peak outside analysis energy range.
- & Calculated peak centroid is not close enough to the library energy centroid for positive identification.
 P - Peakbackground subtraction
- } Peak is too close to another for the activity to be found directly.

Nuclide Codes:

- T Thermal Neutron Activation
- F Fast Neutron Activation
- I Fission Product
- N Naturally Occurring Isotope
- P Photon Reaction

Peak Codes:

- G Gamma Ray
- X X-Ray
- P Positron Decay
- S Single-Escape
- D Double-Escape

ORTEC g v - i (3263) Env32 G53W4.22 10-JUN-2015 12:47:02 Page 5 American Radiation Services Spectrum name: ARS06665.An1

C - Charged Particle Reaction

M - No MDA Calculation

K - Key LineA - Not in AverageC - Coincidence Peak

R - Coincidence Corrected H - Halflife limit exceeded

_	UMMARY Time of Count	OF NUCLI	DES IN Uncertainty	SAMPLE 2 Sigma	****
Nuclide	Activity pCi/g	Activity	Counting	Total	MDA
	pc1/g	pCi/g	pCi/g	pCi/g	pCi/g
PB-210	2.0645E+05	2.1135E+05	8.5945E+03	2.2564E+04	8.858E+03
AM-241	2.0173E+04	2.0195E+04	8.7421E+02	1.8778E+03	7.165E+02
CD-109	1.3192E+05	1.9691E+05	8.4182E+03	1.7703E+04	7.724E+03
CO-57	3.7481E+03	7.1160E+03	3.4662E+02	6.3628E+02	3.244E+02
TE-123M	2,4353E+03	1.0475E+04	7.4772E+02	1.1946E+03	7.177E+02
CR-51 #A	2.9533E+02	1.6155E+05	7.4048E+05	7.4059E+05	1.234E+06
SN-113	7.5589E+03	3.4470E+04	2.1428E+03	3.4517E+03	1.806E+03
SR-85	2.7925E+03	4.1463E+04	4.3598E+03	5.1155E+03	4.024E+03
CS-137	3.1925E+04	3.2434E+04	7.4124E+02	1.6159E+03	4.102E+02
CO-60	3.5078E+04	3.8408E+04	6.1754E+02	1.7161E+03	3.583E+02
Y-88	1.4756E+04	7.5865E+04	3.0338E+03	5.4257E+03	9.480E+02

- # All peaks for activity calculation had bad shape.
- * Activity omitted from total
- & Activity omitted from total and all peaks had bad shape.
- < MDA value printed.
- A Activity printed, but activity < MDA.
- B Activity < MDA and failed test.
- C Area < Critical level.
- F Failed fraction or key line test.
- H Halflife limit exceeded

----- S U M M A R Y ------

Total Activity (2.7 to 1998.2 keV) 4.568E+05 pCi/g Total Decayed Activity (2.7 to 1998.2 keV) 6.6868012E+05 pCi/g

Gamma Spectroscopy Log Book Detector Serial Number 38TN31063A

Date	Time	ARS Batch ID	ARS Batch Fraction	Weight (g) or Volume (L)	Spectrum File Number	Geometry	Tech. Initials
1-64-17	1431	17-60 131	13	Am	13/17	1101	5
1-17-17	inr	W	W	119191	63197	MIN	9
}	497	17-00146	V3	NM	03691	in	4
}	1441	17-01180	B	1214	13700	1111	4
1-11-17	6641	L	M	119171	13701	swit s	4
,	11/4	17-6018)	41	1	um	1 mg	5
j	1131)	U	414.41	BIB	J	5
1	1143	3	ll.	316.67	13709	}	4
1-17-17	0177	Col	M	11196	037115	SWHS	<i>b</i>
,	1114	17-00181	07	377.37	csil	W	5
j	1326	17-11769	ly	11t.n	4717	3	y
in the state of th	1353	5	U	411.23	13711)	5
}	1414	5	15	944.21	13711		5
1	1457	Long May	CAF	1712	Ush Sim	Puts NH1	5
1-50-17	1111	U	\$	114171	137141	MITI	b
J	933	17-10111	61	1	037/1	m	5
)	un	17-11114	13	441.75	03717	J	5
j	nu	17-10161	Ur	32703	03714	}	5
)	WVI	17-44176	11	3/16/	1371T	1	h
<i>J</i> .	1443	17-00119	Cf	38233	0711	}	5
Í	1107	17-11171	61	1	03717)	<i>l</i> ₂
1	1117)	04	114.13	63718	1	4
5	1312	17-11173	11	735.43	USTIA	S	47
1	1446	17-1111	UT	381.33	BNW)	5
1-31-17	1164	CL	Ut	111776	01721	14115	4

03

Reviewed By: Inmels

Date: 9-74-17

Gamma Spectroscopy Log Book Detector Serial Number 50-TN22856A

Date	Time	ARS Batch ID	ARS Batch Fraction	Weight (g) or Volume (L)	Spectrum File Number	Geometry	Tech. Initials
1-30-11	1418	120119	/ }	27189	UT175	m	7
		j	W	384.81	07771	3	5
	ins	Mobile	UT	432.57	a777)	<u> </u>
	m,	m + line	a	119.11	unij	5	<u> </u>
Š	(11)	17-10/69	61	j	15771)	5
\$	1947	J	LY	112.71	onk	3	1
Const.	1356	121117)	M	201.17	61181	ß	7
<i>j</i>	1431	17-60161	14	292.71	67792)	1
1-31-17	1511	4	M	nim	01/3	1117	17
L	1118	17-66181	11	/	61189	in	7
4	1147	17-11182	Vi]	UTH	<u>n</u>	4
)	1116	5	W	3467	asigi)	4
<i>!</i>	147	<i>y</i>	11	368.1	MN	5	4
· Comp	/323	j	14	141.1	CTIVS	1	b.
Ĺ	1417	<u> </u>	14	418.)	enre	<u> </u>	<i>L</i> ₂
24-17	15/6	4	14	Min	05/97	120	<i>b</i>
3	1821	17-00186	03	NM	05717	1111	9
<i></i>	((1)	17-00187	U)	m	Î.	19
<i>!</i>	0(1)	3	14	37.14	critis	//	1
· Calcada	0706	3	W	347.11	ctily		l-7
<u> </u>	Oyp	3	B	344.12	47195	<u> </u>	1
	1848	17-11183	47	7 U. 1	67716	1	7
	1/21	<i>j</i>	12	371.6	61117	1	L,
j	Ilti	17-00186	01	78.00	1718	vpa	1
j	1431	17-Will	14	litt	CJ 191	16-17	1

05

Page 111 of 200 CE-18 Reviewed By:

_ Date: <u>2-24-17</u>

Gamma Spectroscopy Log Book Detector Serial Number 35TN30943A

Date	Time	ARS Batch ID	ARS Batch Fraction	Weight (g) or Volume (L)	File	Geometry	Tech. Initials
1-15-17	1031	17-1111	C4	34.63	06616	1200	4
	1317	17-1180	U	/	02011	lub	15
6	1441	}	64	1.01	Ulill	5	L.
1-16-17	1142	4	M	4117	06017	m	V
	1146	12-1113	11	13.99	06119	16-P	4
1-17-17	ono	4	[H	69154	Olvis	m	6
,	1/11	17-11/186	W	11211	06011	5	W
	1146	17-10/19	n	/	(101)	}	4
)	1321]	IT	31245	01117))
3	1313	1	61	91297	6819	}	The state of the s
,	1411	3	14	395.31	06022	3	l
3	1456	lay bly	619	NIN	08021	But	4
1-31-17	olls	42	3	19117-	oberr	in	4
(1620	12-00164	63	NIA	ans.	J	y
-	0113	17-00169	77	4434	clory	ζ	7
3	m	170066	17	412.25	llut	,	ν
)	1100	17-01116	11	61.54	ulore	91-1	7
,	1919	17-10/11	li	1	(802)	m	K
	1447	3	a	1903	Worl	1	3
5	1/17	120171	12	/	660M)	<i>L</i> ,
Ĵ	1129	5	lt	141.71	11136	1	· Common
b		17-10173	U3	Nn	6631)	y
\$	1421	17-10166	13	3024	non	5	7
	1451	17-11164	4	13453	(1033	3	5
131-17	an	a	M	69117	06034	3	4

06 Page 61 of 200 CE-05

Revision: 1

Revision Date: 091814

Reviewed By:

Date: 2-24-17



Radiological Analysis EPA 905.0/SRW-01

SDG# ARS1-17-00216 COC SOLID SAMPLES

		\nalysis Batc	sh ID A	Analysis Batch ID ARS1-B17-0015	10157						
		A NOTE A PROPERTY AND A STATE OF	Method ARS-032	RS-032	Analysis GPC-A-012	GPC-	A-012	Matrix	SO	CONTRACTOR	
WTERNATIONAL		Description	otion S	Description Strontium-90 (Soil, SI	oil, Sludge, Biota, Sediment)	ta, Sedir	nent)	and the second and the control of the second and th			
ABatch Sample ID	Туре	Blind Iso1	Blind Is	Blind Iso2 Blind Iso3	3 SDG	4	FR Run	Prep Code	Clent ID	Group Name	Lab Deadline
ARS1-B17-00157-01	SOI	B-23127				Name of the second			en jednovnova razladovani sa kuji izli iz niprom kazidija o namini kalinga ini priodukazava i izlanja izli nika popusa.		
ARS1-B17-00157-02	CSD	B-23128			1				Grand and	South to the second control of the second co	
ARS1-B17-00157-03	MBL	Total Control of the	The second of th	jalida or rekonskrijalovskir i Porkkrija a savodskrijalovskir objekt or ustjer i nosa posovana sa a reposovan		Thermodelegen of the control of the	and the second s			a falso de la seta de la seta de la capación de la	
ARS1-B17-00157-04	TRG				Ā		001 1		BB-16L	STD	02/11/17
ARS1-B17-00157-05	TRG				ARS1-17-00216		002 1		BB-18	STD	02/11/17
ARS1-B17-00157-06	TRG		Anna sa		ARS1-17-00216	216 0(004		BB-19M	AND AND THE OWNER.	02/11/17
ARS1-B17-00157-07 TRG	TRG				ARS1-17-00216	216 0(008 1		BB-17 Mud/Sludge	STD	02/11/17

HIJIO SIAMIDE	ğ
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17.7	
020000000000000000000000000000000000000	

Commence of the second second

| Carrier Concentration Into Strike (ms) | 1 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 | 12.07 |

systematic error 7.43%

tare Planchet + Sr(NO3)2 Chemical Counts Count Count Finish Count Finish Count Finish Count Finish Count Finish Count Finish Count Count Fini	0% 120 моржүүү нням #VI/A #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0! #DIV/0!
Planchet + Sr(NO3)2 chemical Yield for Beta Gross duration Gount Count Finish Count Date and Time Det. ID Each and Time Det. ID Gross (Sr/N-90) Counting Date and Time Det. ID Gross (Sr/N-90) Counting Gross (Sr/N-90) MDA 7.5564 11.8 98% 240 774 900 21/12017 16:39 C2 0.3569 2.957 0.240 0.056 7.5567 12.0 98% 2.14 2.40 774 900 21/12017 16:39 C2 0.056	120 M/DDV7YY HHAMM #N/A #DIV/QI #DIV/Q
Planchet + Sr(NO3)2 Chemical Count Count <t< th=""><th>120 MODGYYYY HHAMM #N/A #DIV/0! #DIV/0!</th></t<>	120 MODGYYYY HHAMM #N/A #DIV/0!
Planchet + Sr(NO3)2 chemical of 500ms Chemical of Count Count Flanchet calculations (counts) Count (min) counts (min) cou	120 MIDDYTYT HHMM #NIA #DIVJQI
Planchet + Sr(NO3)2 Chemical Count Count Finish Count Fini	120 WIDDYYYY HHMM #NIA #DIV/0! #DIV/O! #DIV/O! #DIV/O!
Planchet + Sr(NO3)2 chemical Yield for Beta Gross duration	120 M/DD/YYYY HH.MM #N/A #N/A 120 M/DD/YYYY HH.MM #N/A
Planchet + Sr(NO3)2 Chemical Count Count Finish Count Fini	120 MIDDIYYYY HHMM 120 MIDDIYYYY HHMM
Planchet + Sr(NO3)2 Chemical Count Count Finish Count Fini	120 MIDDIYYYY HHMM 120 MIDDIYYYY HHMM
Planchet + Sr(NO3)2 Chemical Yield for Beta Gross Chemical Count C	120
Planchet + Sr(NO3)2	120
Planchet + Sr(NO3)2	120
of Planchet + Sr(NO3)2 chemical Tield for Beta Gross duration Grounts (mg) Chemical Tield for Beta Gross duration Beta Bkg petig) Counts (mg) Cou	
Planchet + Sr(NO3)2	
Planchet + Sr(NO3)2 chemical Yrield for Beta Gross pat (gg)	
Planchet + Sr(NO3)2	%
Planchet + Sr(NO3)2	%%
Planchet + Sr(NO3)2 chemical ppt (g) (mg) yield / 5266 113 98% 7 5256 118 98% 7 5256 118 98% 7 5757 112 98% 7 5757 112 0.0 0% 0.0 0.0	
net mass of of of planches + Sr(NO3)2 ppt (3) (mg) 7.5266 (118 7.5256 11.2 7.5256 11.2 7.5256 11.2 7.5067 11.2 7.5067 11.2 7.5067 11.2 7.5067 11.2 7.5067 11.2 7.5067 10.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.	
Planchet • ppt (19) 7.53(6) 7.	%0
et tare Planchet + ppt (g) 2366 43 7.5261 42 7.5264 42 7.5264 43 7.5265 44 7.5265 7.576	0.0
st tare Plai 336 Plai 442 7 7 442 7 7 29 7 7 7 29 7 7 7	
# \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\	_
Planchet (1) (225) 7 (225) 7 (525) 7 (5143) 7 (5	
	M/DD/YYYY HH:MM M/DD/YYYY HH:MM
Star of Y-3 ingrowth 1131/2017 12 1131/2017 12 1131/2017 12 1131/2017 12 1131/2017 12 1131/2017 12 1131/2017 11 MDD/YYYY HH MDD/YYYYY HH	MODAY
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2 2 2 4 2 8 7 8 9 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	B15-#### ## B15-#### ##

Pateulations
802 2-2-17
Data Eutur
802 2-3-17

Procedure Data										
ABatch Sample ID Client ID	Parent	ICOC ID	Aliquot Vol/Wt Al	Aliquot Units	Strontium Carrier (5mg/ml)	Y Ingrowth Date 1	Disk Wt (g)	Disk Wt 2 (g)	Y Ingrowth Date 2	User ID
ARS1-B17-00157-01			1.0000 g	R16	R16-00592	1/31/2017 7.5235 12:06:00 PM	.5235	7.5366		SCAUSEY
ARS1-B17-00157-02			1.0000 g	R16	R16-00592	1/31/2017 7.5143 12:06:00 PM	.5143	7.5261		SCAUSEY
ARS1-B17-00157-03			1.0000 g	R16	R16-00592	1/31/2017 7.5542 12:09:00 PM	.5542	7,5654		SCAUSEY
ARS1-B17-00157-04 BB-16L		256122	2 2.5078 g	R16	R16-00592	1/31/2017 7.6138 12:12:00 PM	.6138	7.6256		SCAUSEY
ARS1-B17-00157-05 BB-18		256123	3 2.5164 g	R16	R16-00592	1/31/2017 7.4947 12:00:00 PM	.4947	7.5067		SCAUSEY
ARS1-B17-00157-06 BB-19M		256245	5 2.5041 g	R16	R16-00592	1/31/2017 7.5677 12:32:00 PM	.5677	7.5795		SCAUSEY
ARS1-B17-00157-07 BB-17 Mud/Sludge		256124	4 2.5081 g	R16	R16-00592	1/31/2017 7.5629 11:58:00 AM	.5629	7.5751		SCAUSEY

Sr Yield Calculation Sheet B17-00157

SJC

	Empty	Filled	Yield(mg)	% Recovery	
1	7.5235		13.1000		
2	7.5143		11.8000		
3	7.5542		11.2000		
4	7.6138		11.8000		
5			12.0000		
6		7.5795		- I	
7		7.5751	12.2000	101	
8				-	
9					
10				_	
11					
12	<u>-</u> !			_	
13				_	l
14					
15	5				
16	5				
17	7				
18	3				
19	9				
20	0				
2:	1				
2	2				
2	3				•
2	4				

			Acceptance Limits <1% RSD	Pass	
			RSD%	0.225	
			STDEV	0.002	
	Batch: <u>B17-00157</u>		Acceptance Limits ±2% Mean	Pass	
	Batch:		MEAN	1.00	
c			Measurement Measurement 1 (gms) 2 (gms) 3 (gms)	666.0	
Verificatio			Measurement 2 (gms)	1.002	
Carrier Pipette Verification			Measurement 1 (gms)	0.997	
Carri			Nominal Weight (gms)	1.00	
	SJC	1/30/2017	Pipette ID	НН93596	
		1/3	Balance Calibration Date	1/8/17	
INTERNATIONAL	Chemist:	Date/Time:	Balance ID	12332539	

	L		rB,	34100-C			\\Ars-f.	52mv91\LB4100\L	_B4100\GRAY\D	\\ars-f52mv91\LB4100\LB4100\GRAY\DATA\GENER704.XLD	۵
D			Batc	Batch Sample ID			Wes Sam	Samples Transferred		Samples Ells	Samples Eligible To Save
INTERNATIONAL	TOWAL		ARS1-	-B17-00157	7			7			_
LIMS Batch Sample ID	Detector ID	Sample ID	Alpha	Beta	Count	LB4110 Voltage	LB4110 Count Date	Analysis Batch	LIMS	LIMS LIMS Run Fraction	LINS
ARS1-B17-00157-01	13	17-00157-01	15.00	5050.00	240.00	1410.00	02/01/17 16:38	ARS1-B17-00157			
ARS1-B17-00157-02	C2	17-00157-02	21.00	5103.00	240.00	1410.00	02/01/17 16:39	ARS1-817-00157			
ARS1-B17-00157-03	C3	17-00157-03	17.00	199.00	240.00	1410.00	02/01/17 16:39	ARS1-B17-00157	Alleman		
ARS1-B17-00157-04	C4	17-00157-04	15.00	230.00	240.00	1410.00	02/01/17 16:39	ARS1-B17-00157	ARS1-17-00216	1 001	GPC-A-012
ARS1-817-00157-05	10	17-00157-05	6.00	214.00	240.00	1410.00	02/01/17 16:39	ARS1-B17-00157	ARS1-17-00216	1 002	GPC-A-012
ARS1-B17-00157-06	D2	17-00157-06	12.00	203.00	240.00	1410.00	02/01/17 16:39	ARS1-B17-00157	ARS1-17-00216	1 004	GPC-A-012
ARS1-B17-00157-07	D3	17-00157-07	6.00	168.00	240.00	1410.00	02/01/17 16:39	ARS1-B17-00157	ARS1-17-00216	1 008	GPC-A-012

LCS Report Analytical Batch: ARS1-B17-00157

Mod Date	01/19/2017	01/19/2017
User ID	JBYRD	JBYRD
Known Value (pCI)	19.31895	19.30537
cted Value Empty Wt Gross Wt Net Wt Expected Value CT Mid Point Count Date Known Value PCI/9) (g) (g) (g) (pCI/g) (pCI/g)	02/01/2017	39654 02/01/2017
Expected Value CT (pCl/g)	19.39654	19.39654
Net Wt E	0.9960	0.9953
ross Wt (g)	18.2525	
mpty Wt G (g)	17.2565 18.2525	17.167 18.162
Expected Value E (pCi/g)	19,41333	19.41333
e ID Blind Group Std ID Isotope Exp Addition (g)	=	B-Sr90 S-0313 Sr-90
Isotope	Sr-90	Sr-90
Std 1D	S-0313	S-0313
lind Group	B-Sr90	B-Sr90
Blind ID ABatch Sample ID Blind Group Std ID Isotope Exp Addition Expect (pc	B-23127 ARS1-B17-00157-01 B-Sr90 S-0313 Sr-90	B-23128 ARS1-B17-00157-02 B-Sr90 S-0313 Sr-90

TOD	2/1/17 16:38	2/1/17 16:39	2/1/17 16:39	2/1/17 16:39	2/1/17 16:39	2/1/17 16:39	2/1/17 16:39
Voltage	1410	1410					
Count Time	240	240	240	240	240	240	240
Beta	5050	5103	199	230	214	203	168
Alpha	15	21	17	15	9	12	9
Sample ID	17-00157-01	17-00157-02	17-00157-03	17-00157-04	17-00157-05	17-00157-06	17-00157-07
Detector ID	Ն	C5					D3

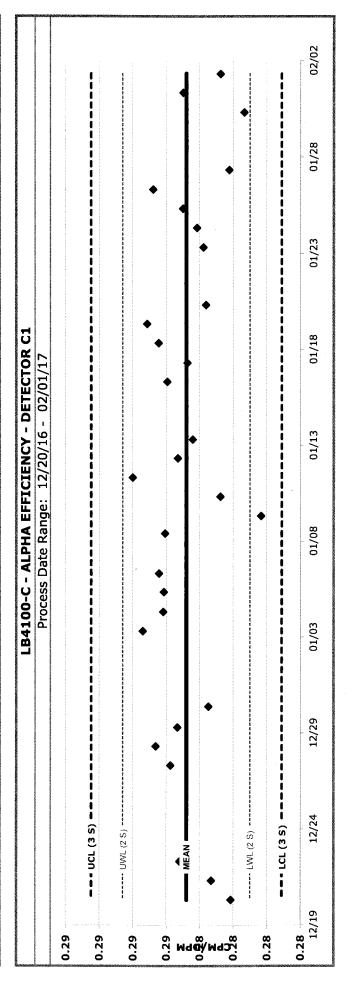
GEN 693 C 11160 LONG BKG WJS

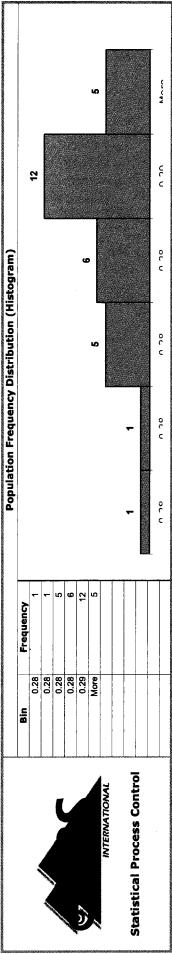
TOD	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:13	1/28/17 5:13	1/28/17 5:13	1/28/17 5:13
Voltage	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410
Count Time	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006
Beta	774	877	784	751	1060	749	703	771	714	678	672	707	620	644	3756	847
Alpha	28	48	20	37	26	33	42	47	25	56	16	20	53	28	21	25
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	D1-01	D2-01	D3-01	D4-01	B1-01	B2-01	B3-01	B4-01
Detector ID	A	A2	A3	A4	Ն	C5	ខ	Q 4	70	D2	D3	D4	B1	B2	B3	B4

American Radiation Services Baton Rouge Laboratory

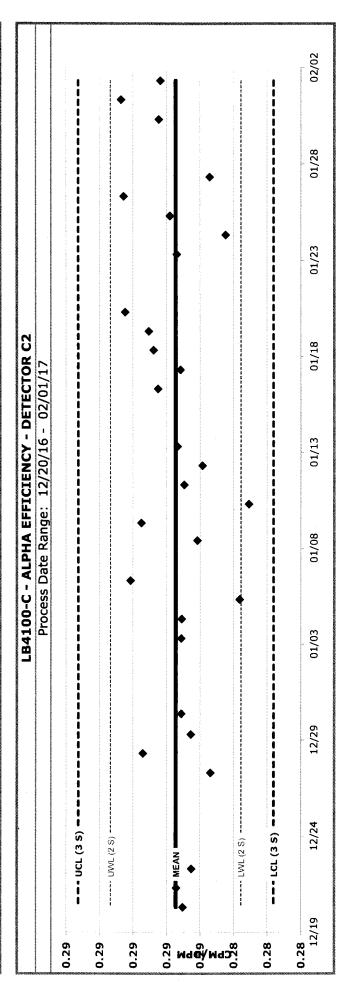
LB4100-C - ALPHA EFFICIENCY

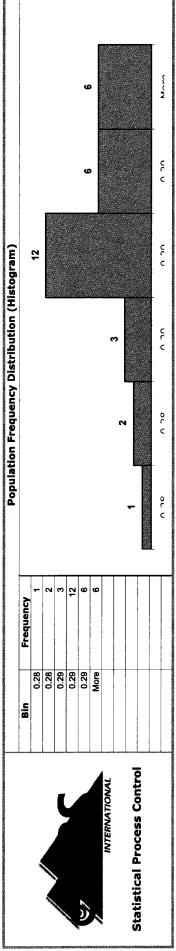
Population Statistics				Trending Analysis	
CT:3 coitchaga	00			Most recent point outside of the 3-sigma values.	ОК
))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2848	СРМ/DРМ	0.2828	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0019			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2905	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2791	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК





Population Statistics				Trending Analysis	
ori2 goiteliage	70			Most recent point outside of the 3-sigma values.	ОК
מיים ביים ביים ביים ביים ביים ביים ביים)	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.2875	CPM/DPM	0.2884	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0019			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.2933	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2816	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

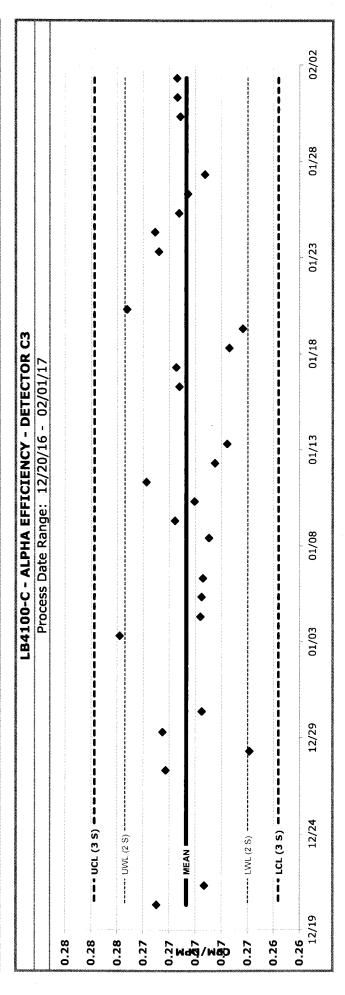


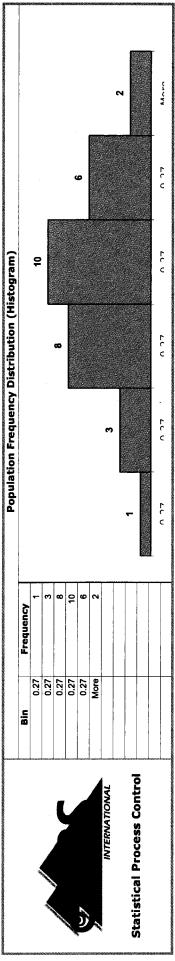


American Radiation Services Baton Rouge Laboratory

LB4100-C - ALPHA EFFICIENCY

Population Statistics				Trending Analysis	
ori A coite	CC			Most recent point outside of the 3-sigma values.	OK
טבוכ ווייסיים שליסי))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2707	CPM/DPM	0.2714	2 of 3 most recent points above 2 sigma.	ΟK
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2777	Date		7 trending most recent points in a row.) Yo
- 3-sigma value	0.2636	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

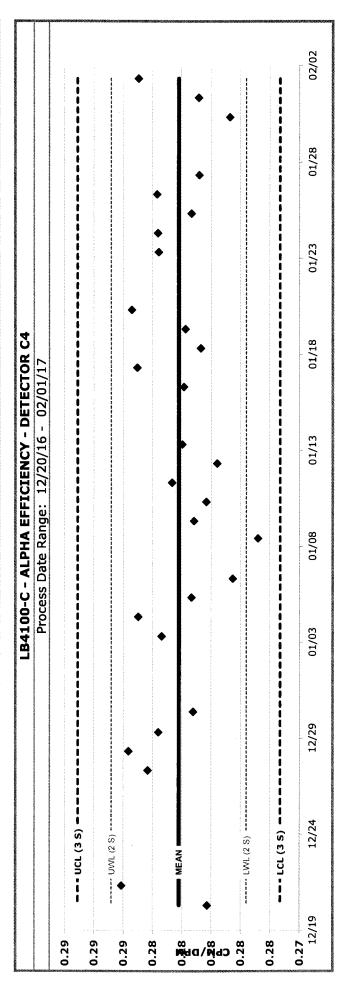


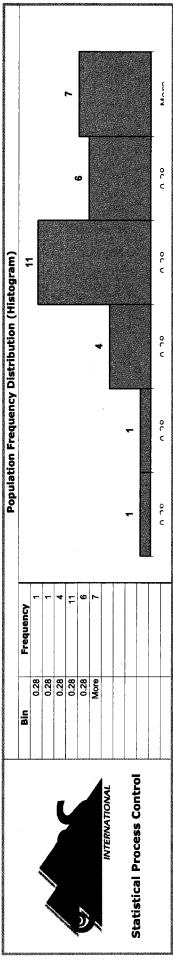


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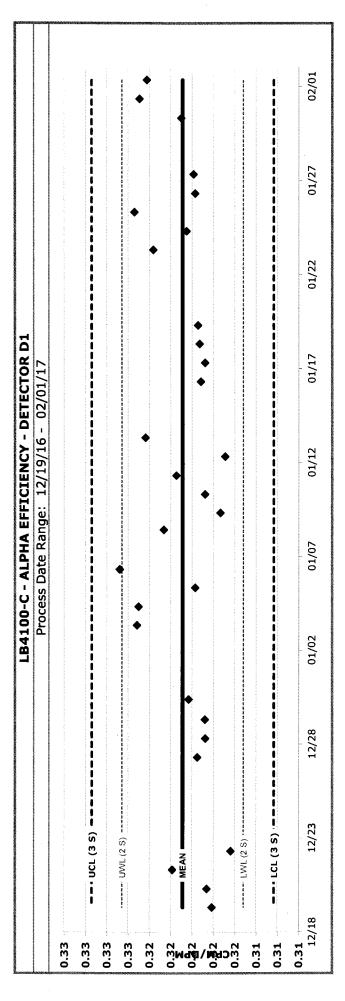
LB4100-C - ALPHA EFFICIENCY

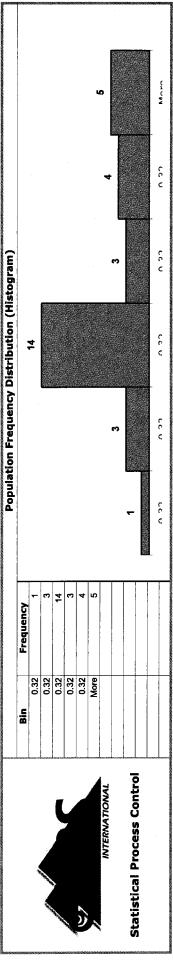
Population Statistics				Trending Analysis	
O TI CO CO	CC			Most recent point outside of the 3-sigma values.	Š
מבנט ביים))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	Š
Average	0.2822	CPM/DPM	0.2849	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0023		•	4 of 5 most recents points beyond the 1 -sigma.	ОK
+ 3-sigma value	0.2891	Date		7 trending most recent points in a row.	OK XO
- 3-sigma value	0.2753	CPM		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK





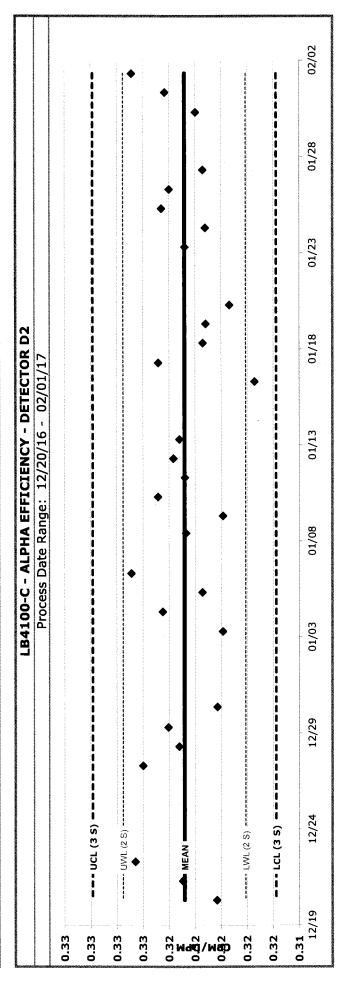
Population Statistics			ODDIO DE LA CONTRACTOR DE	Trending Analysis	
Crig Contained	VC			Most recent point outside of the 3-sigma values.	ОК
טבות ביים ביים ביים ביים ביים ביים ביים ביי))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.3209	CPM/DPM	0.3243	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0028			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.3294	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.3124	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	Ş

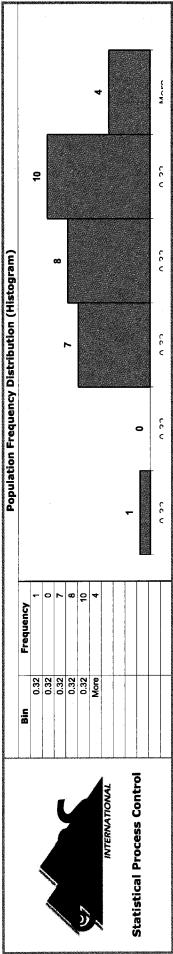




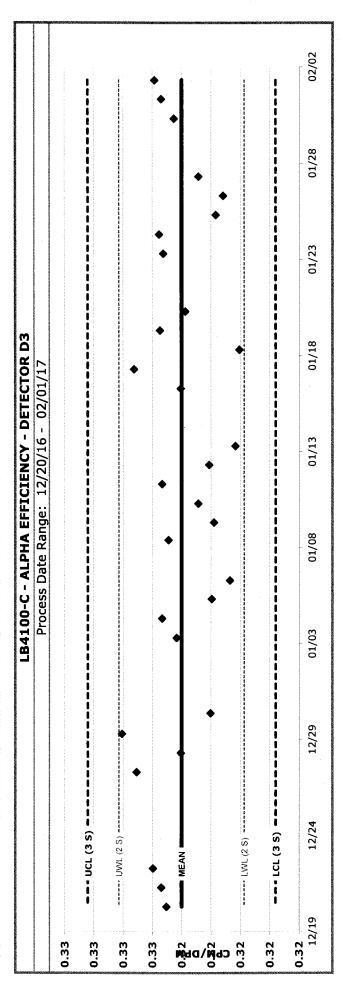
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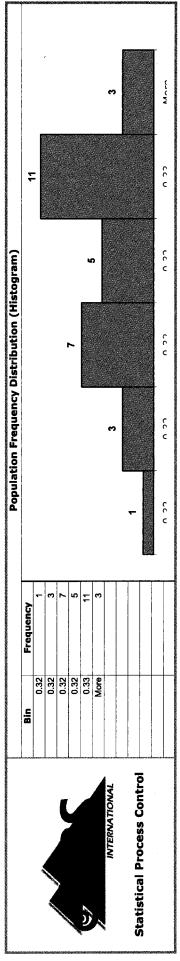
Population Statistics			NOTES DE LA CONTRACTION DEL CONTRACTION DE LA CO	Trending Analysis	
G. S. C. L. C.	CC			Most recent point outside of the 3-sigma values.	OK
Population Size))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.3228	CPM/DPM	0.3269	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0023			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.3299	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.3158	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК





Population Statistics				Trending Analysis	
oria soitelineed	UC.			Most recent point outside of the 3-sigma values.	ОК
אלוכ ויטוופוחלטר	ככ	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.3240	CPM/DPM	0.3258	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0021			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.3304	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.3176	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

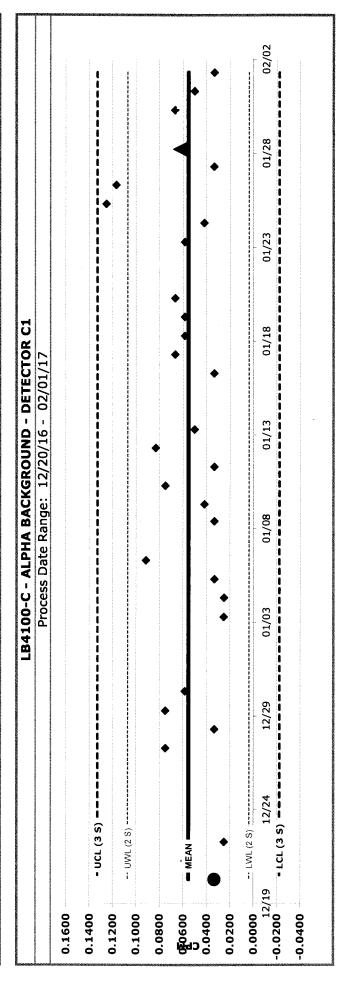


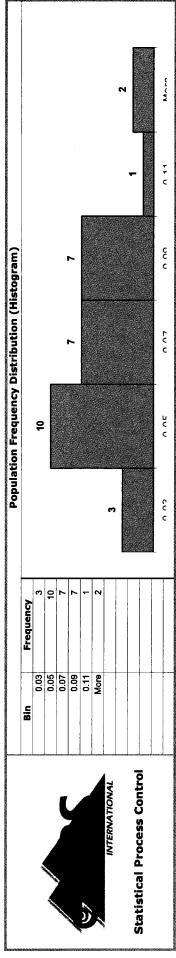


LB4100-C - Alpha Daily BKG Check

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Population Statistics		DER Analysis	OK	nonstructures and the control of the	
C oriS mitching		DER	1.5510	Most recent point outside of the 3-sigma values.	ОК
		Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average 0.0553	23	Long B CPM	0.0622	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.0258	28	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value 0.1328	28	Date	02/01/17	7 trending most recent points in a row.	OK
- 3-sigma value -0.0223	23	СРМ	0.0333	15 most recent points inside 1 sigma.	OK
	erooneeue	Count Mins	120.00	8 most recent points outside 1 sigma.	OK



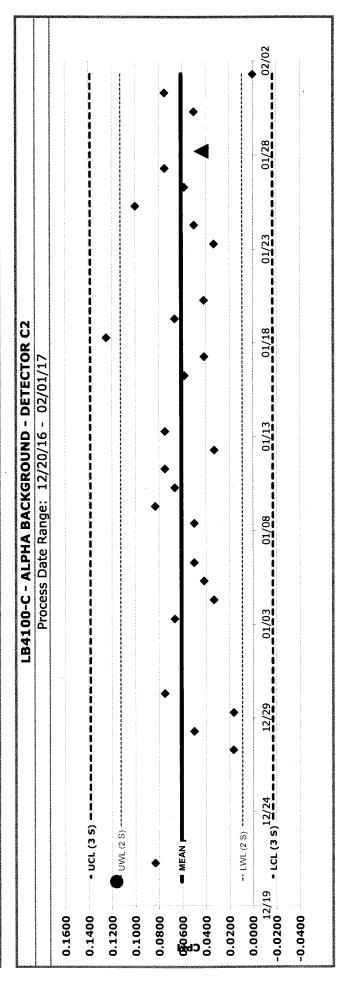


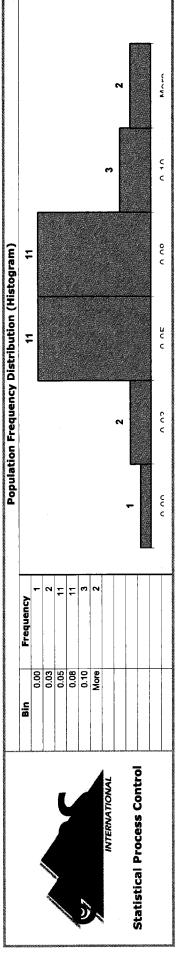
Printed: 2/23/2017 10:34 AM Page 1 of 1

LB4100-C - Alpha Daily BKG Check

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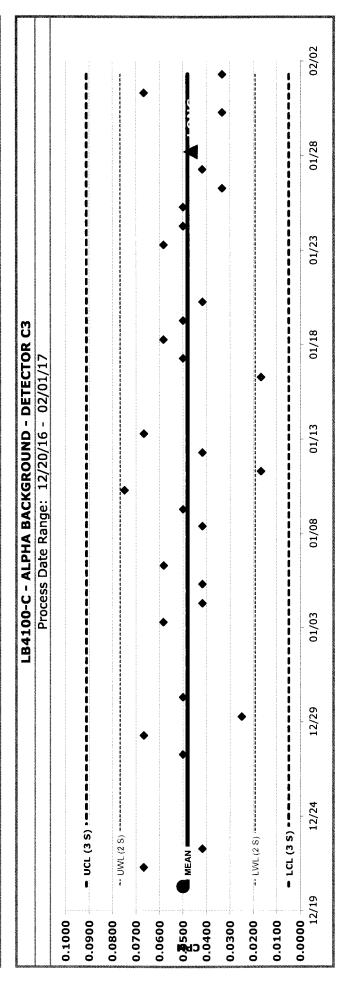
Population Statistics		DER Analysis	INVESTIGATE	Trending Analysis	
	C	DER	6.2450	Most recent point outside of the 3-sigma values.	ОК
Population Size	ת ע	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ΟK
Average 0.	0.0609	Long B CPM	0.0433	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.	0.0259	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value 0.	0.1386	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value -0	-0.0167	CPM	0.000.0	15 most recent points inside 1 sigma.	ОК
	***************************************	Count Mins	120.00	8 most recent points outside 1 sigma.	OK

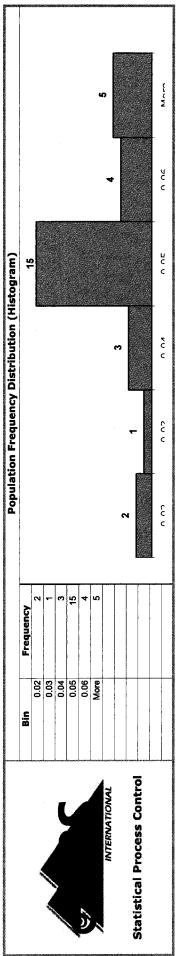




LB4100-C - Alpha Daily BKG Check

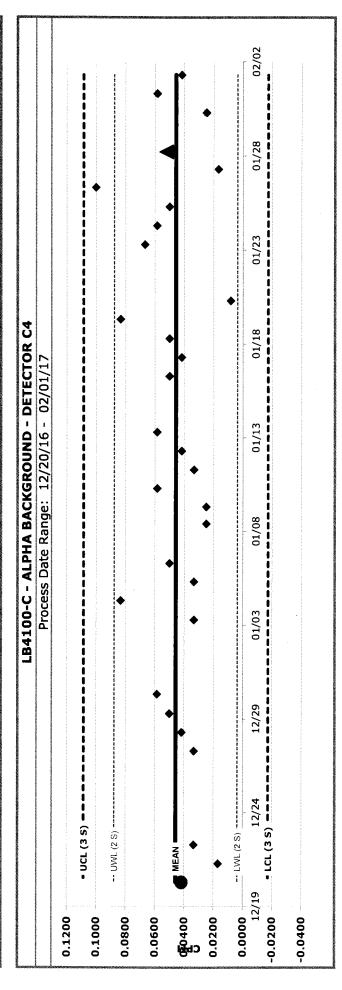
Population Statistics	9	DER Analysis) YO	Trending Analysis	
Crit Control	000	DER	0.7344	Most recent point outside of the 3-sigma values.	ОК
PODUIBLIOI DIZE	7	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0480	Long B CPM	0.0467	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0144	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0911	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0049	СРМ	0.0333	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

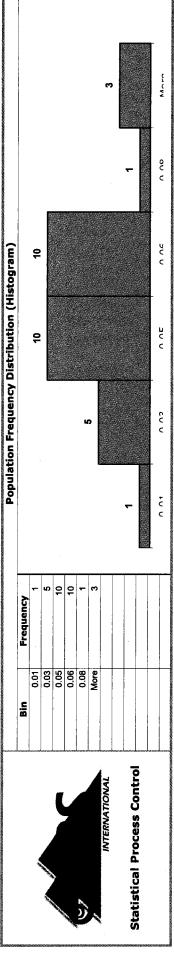




LB4100-C - Alpha Daily BKG Check

Population Statistics		DER Analysis	OK	Trending Analysis	
A COLOR	C	DER	0.5243	Most recent point outside of the 3-sigma values.	¥
סיים וייסים וייס	J J	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	¥
Average	0.0457	Long B CPM	0.0522	2 of 3 most recent points above 2 sigma.	¥
Standard Deviation (0.0210	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	7
+ 3-sigma value (0.1086	Date	02/01/17	7 trending most recent points in a row.	¥
- 3-sigma value	-0.0172	CPM	0.0417	15 most recent points inside 1 sigma.	¥
	*****	Count Mins	120.00	8 most recent points outside 1 sigma.	¥





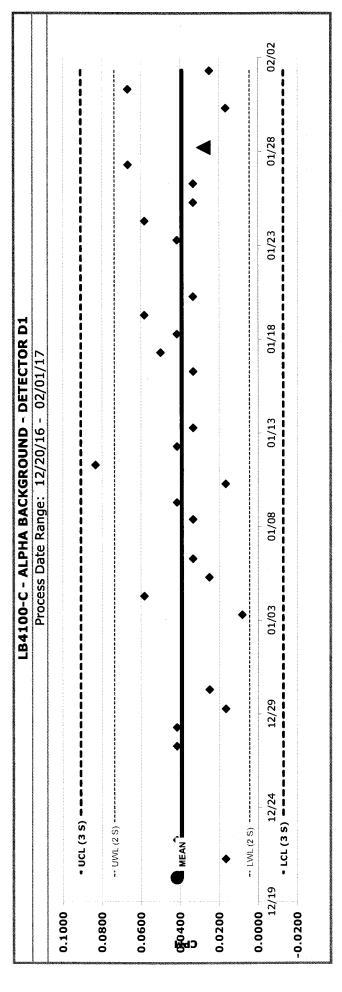
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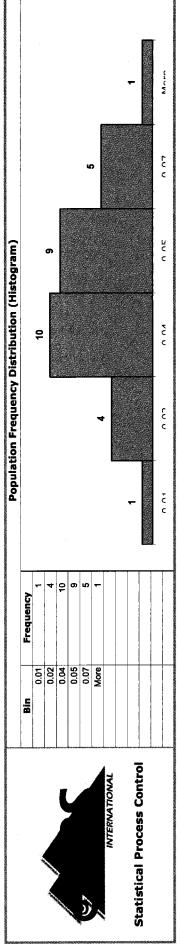
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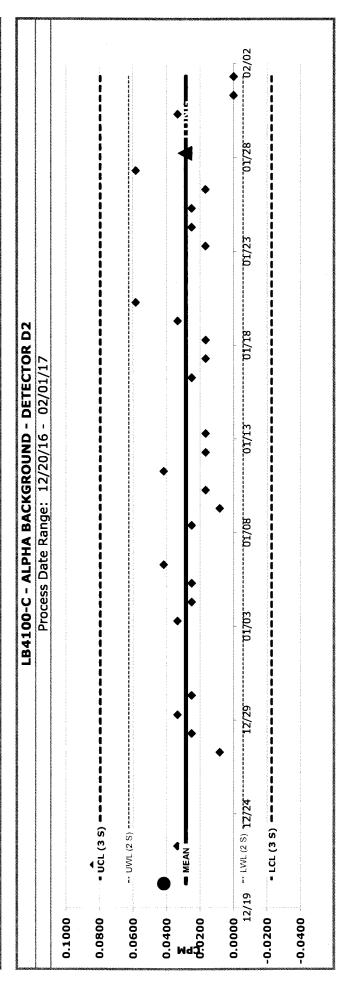
Population Statistics		DER Analysis	OK	Trending Analysis	
	C C	DER	0.1796	Most recent point outside of the 3-sigma values.	ОК
ropulation Size	א	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0391	Long B CPM	0.0278	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0173	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0909	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0127	CPM	0.0250	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

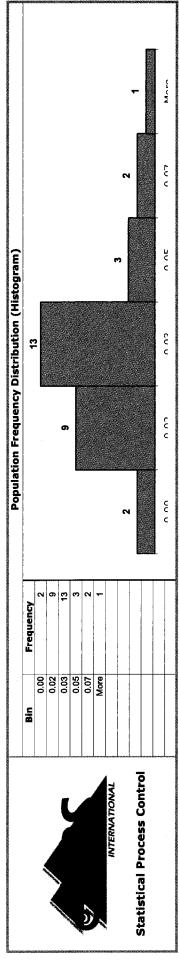




LB4100-C - Alpha Daily BKG Check

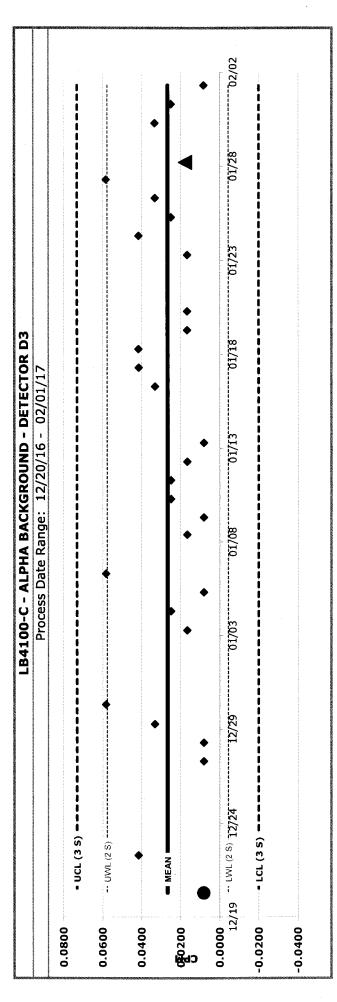
Population Statistics		DER Analysis	INVESTIGATE	Trending Analysis	GENERAL CONTROL OF THE CONTROL OF TH
ori2 miteliano	000	DER	5.0990	Most recent point outside of the 3-sigma values.	ОК
	מ	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	χo
Average	0.0284	Long B CPM	0.0289	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0170	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0796	Date	02/01/17	7 trending most recent points in a row.	οK
- 3-sigma value	-0.0227	СРМ	0.000	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

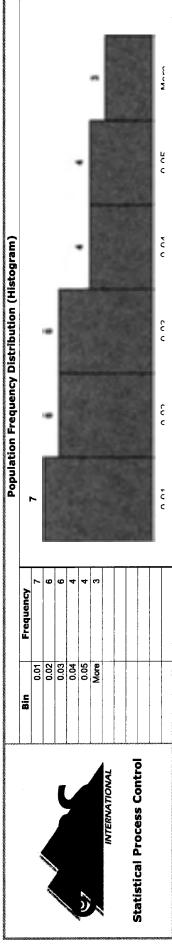




LB4100-C - Alpha Daily BKG Check

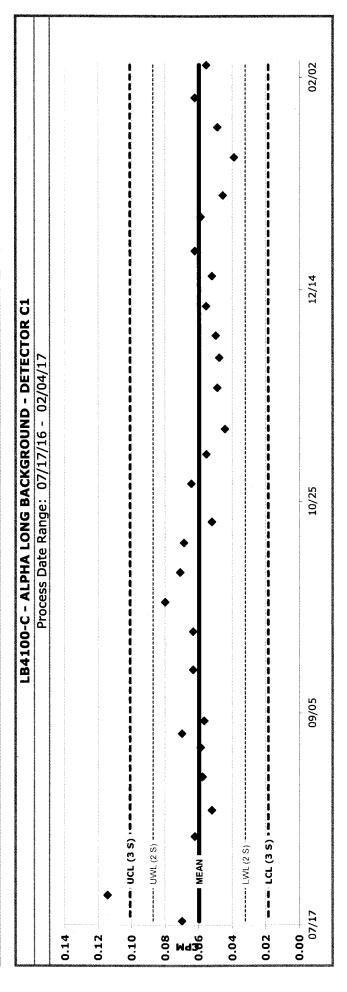
Population Statistics		DER Analysis	OK	menoreconseponente interescente de la company de la compan	
	CC	DER	1.0000	Most recent point outside of the 3-sigma values.	ОК
Population Size	7	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ΟK
Average	0.0267	Long B CPM	0.0178	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0155	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0732	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0197	СРМ	0.0083	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

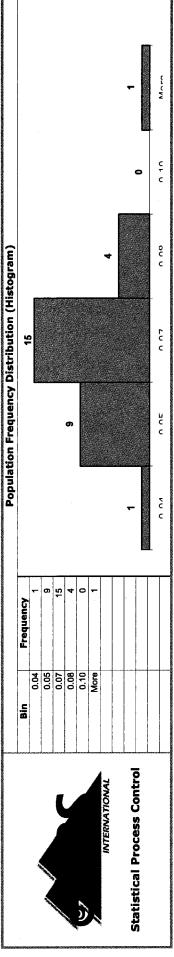




Instrument Background Analysis

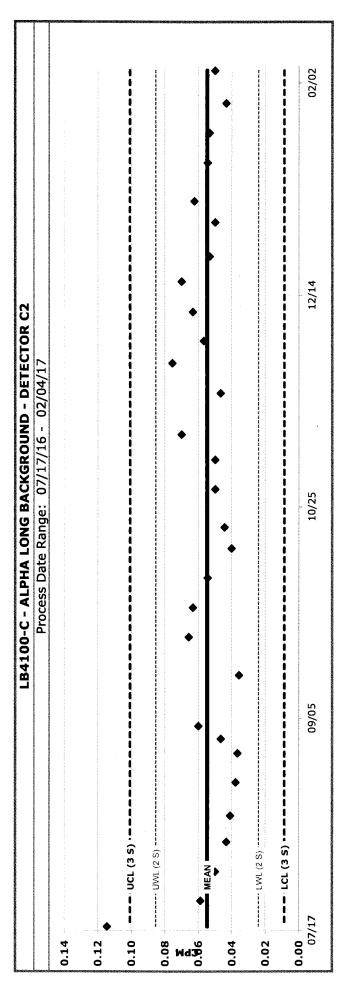
Population Statistics		Trending Analysis	
orio aciteliano	CC	Most recent point outside of the 3-sigma values.	ОК
ropulation Size	2	8 consecutive most recent points on one side of the mean.	OK
Average	0.0597	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0137	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.1010	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0185	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	OK

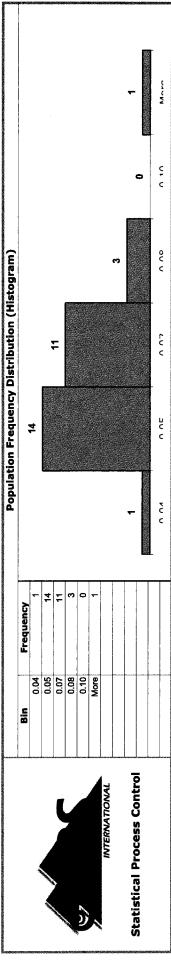




Instrument Background Analysis

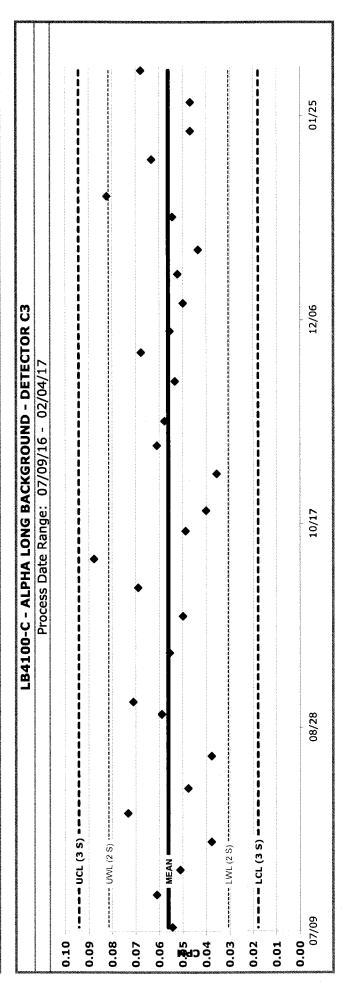
Population Statistics	5		Trending Analysis	
Orio coite	VC.	Σ	Most recent point outside of the 3-sigma values.	OK
אלוכ ווסייםים ליטי))	æ	8 consecutive most recent points on one side of the mean.	OK
Average	0.0547	2	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0153	4	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.1007	2	7 trending most recent points in a row.	OK
- 3-sigma value	0.0087	11	15 most recent points inside 1 sigma.	OK
	30.000	Ø	8 most recent points outside 1 sigma.	OK

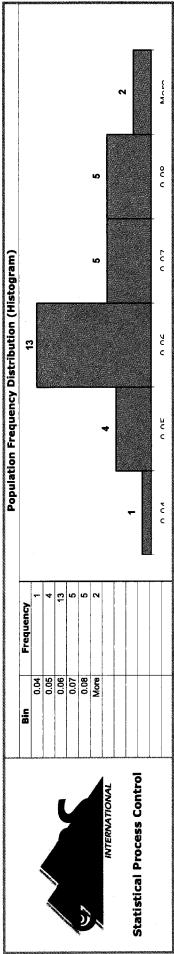




Instrument Background Analysis

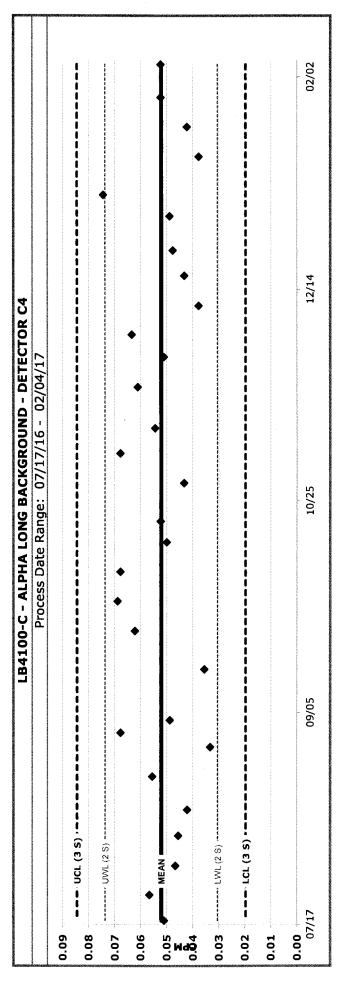
Population Statistics	9	Trending Analysis	SCHARLTREDBATTOSTISSTESSESSESSESSESSESSESSESSESSESSESSESSE
CHI CONTRACTOR		Most recent point outside of the 3-sigma values.	οĸ
Population 3128) ח	8 consecutive most recent points on one side of the mean.	OK
Average	0.0561	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0127	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0943	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0179	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ОК

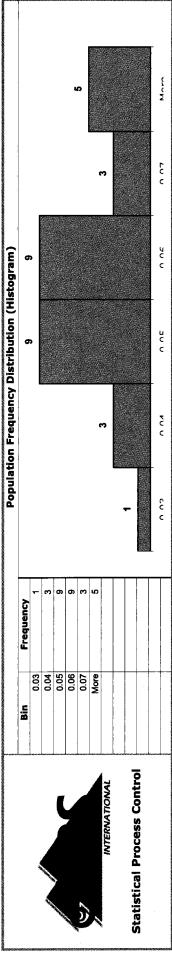




Instrument Background Analysis

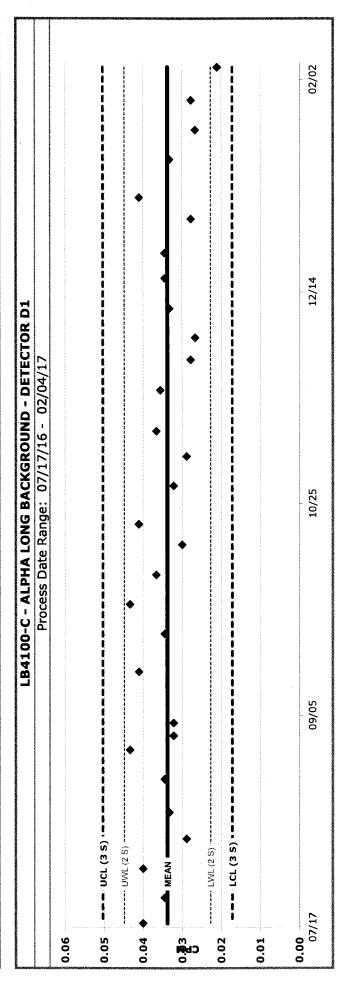
Population Statistics	9	Trending Analysis	kertingsdammender og den kande for den skriver og d
Cri2 moitelined		Most recent point outside of the 3-sigma values.	ОК
		8 consecutive most recent points on one side of the mean.	ОК
Average	0.0521	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0108	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0844	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0197	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ОК

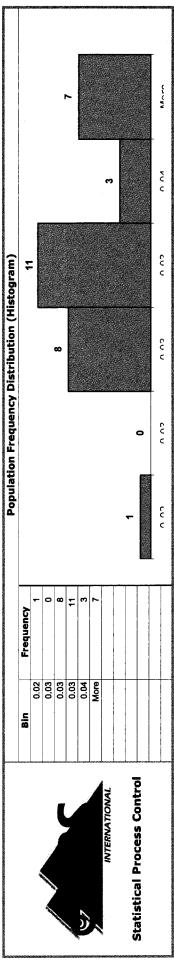




Instrument Background Analysis

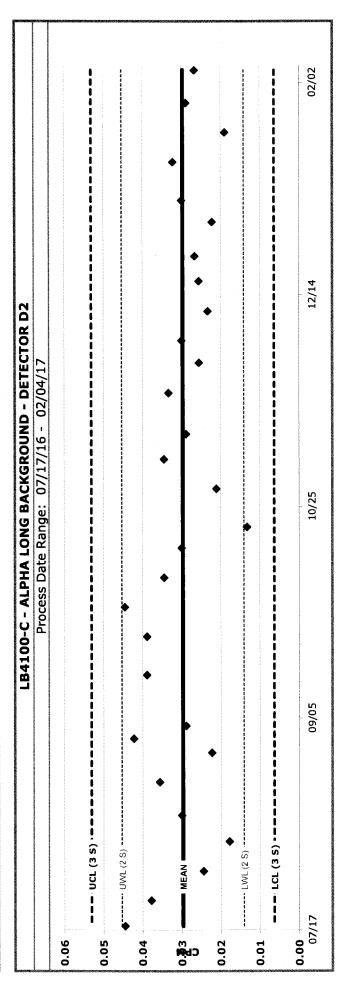
Population Statistics		Trending Analysis	
Cri2 moite Line C		Most recent point outside of the 3-sigma values.	ОК
בסלום פונים פולטב		8 consecutive most recent points on one side of the mean.	ОК
Average	0.0338	2 of 3 most recent points above 2 sigma.	λO
Standard Deviation	0.0055	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0503	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0172	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	ОК

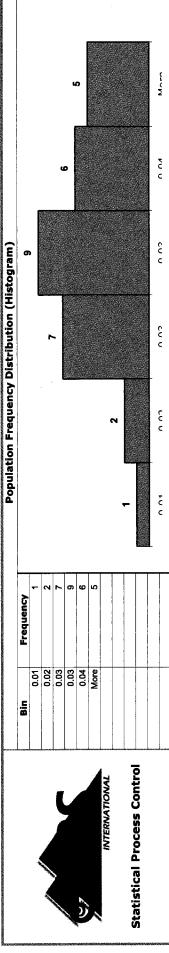




Instrument Background Analysis

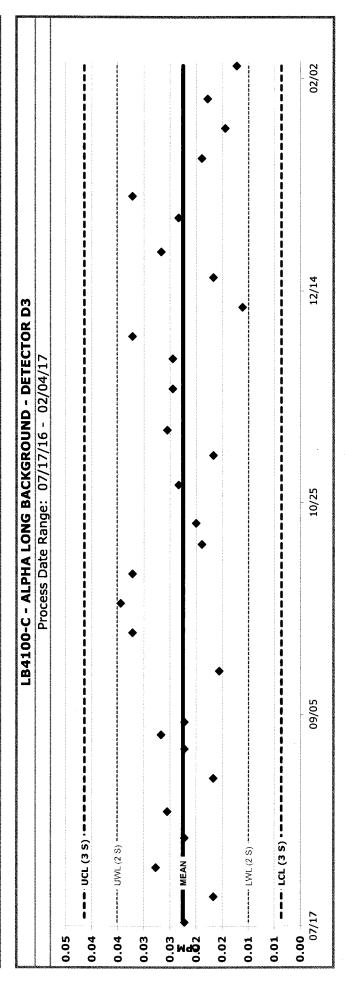
Population Statistics	9	Trending Analysis	
	6	Most recent point outside of the 3-sigma values.	Q
Population Size))	8 consecutive most recent points on one side of the mean.	ð
Average	0.0297	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0078	4 of 5 most recents points beyond the 1-sigma.	ΟK
+ 3-sigma value	0.0531	7 trending most recent points in a row.	ΟĶ
- 3-sigma value	0.0063	15 most recent points inside 1 sigma.	ΟĶ
	30.0000	8 most recent points outside 1 sigma.	OK

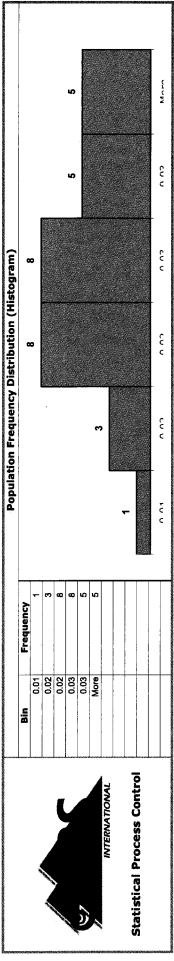




Instrument Background Analysis

Population Statistics	4	Trending Analysis	
Doctor City	C C	Most recent point outside of the 3-sigma values.	ОК
בטלים ביים אינים ביים ביים ביים ביים ביים ביים ביים)	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0225	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0063	4 of 5 most recents points beyond the 1-sigma,	ОК
+ 3-sigma value	0.0414	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0036	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	OK



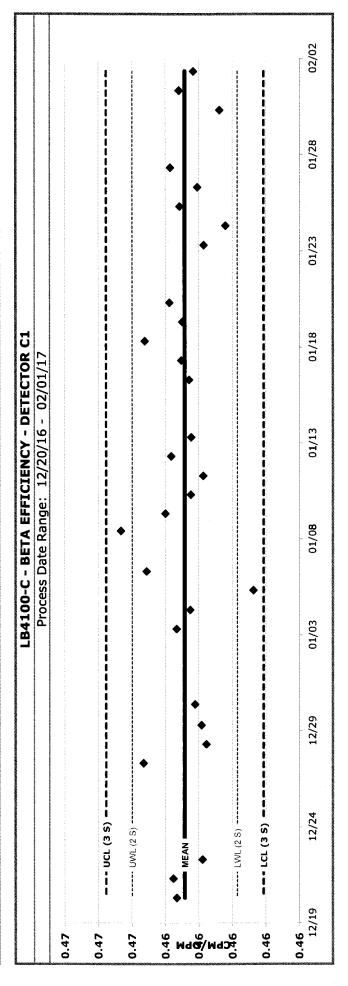


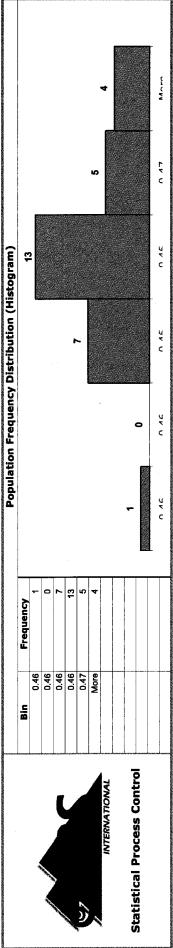
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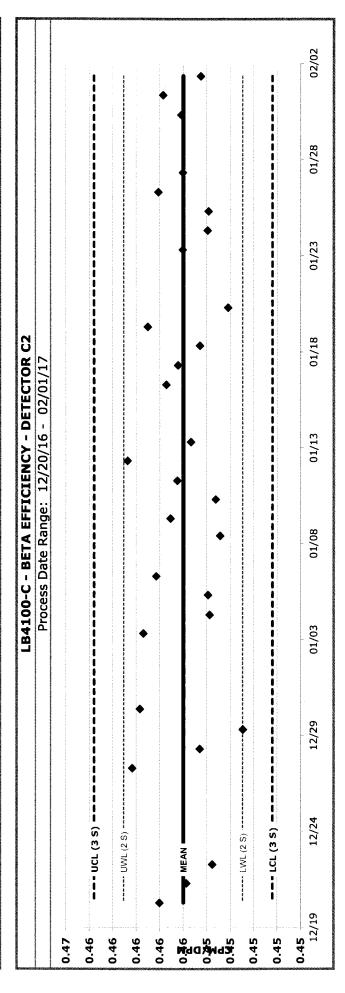
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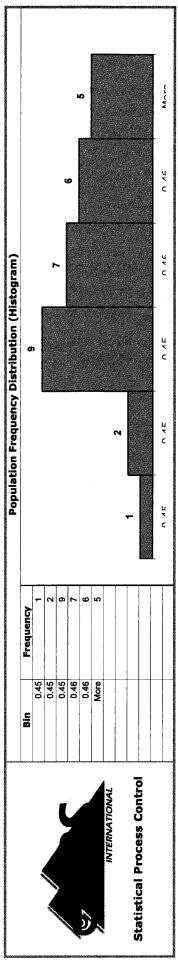
Population Statistics				Trending Analysis	
orio coite lucad) VG			Most recent point outside of the 3-sigma values.	ОК
Population Size)	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4628	СРМ/DРМ	0.4623	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0016			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4675	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4581	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК



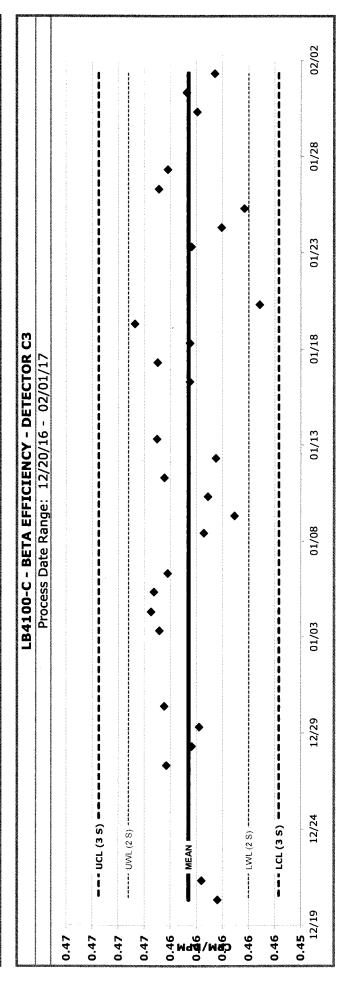


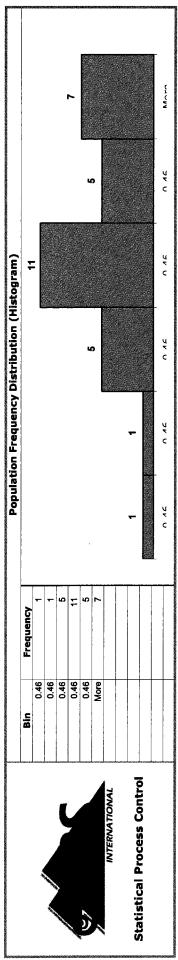
Population Statistics				Trending Analysis	
O doite and d	UC			Most recent point outside of the 3-sigma values.	ОК
ropulation Size))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	УО
Average	0.4560	CPM/DPM	0.4545	2 of 3 most recent points above 2 sigma.	ЖО
Standard Deviation	0.0025			4 of 5 most recents points beyond the 1-sigma.	ЖО
+ 3-sigma value	0.4636	Date		7 trending most recent points in a row.	ЭС
- 3-sigma value	0.4484	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК



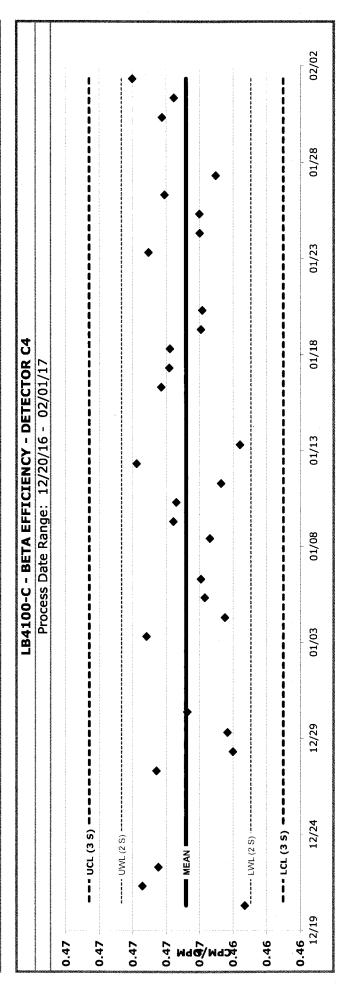


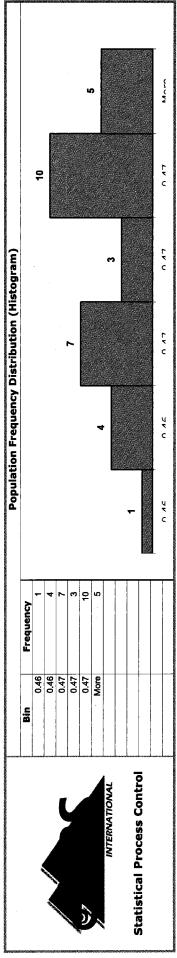
Population Statistics				Trending Analysis	
Oction City	OG.			Most recent point outside of the 3-sigma values.	ΟK
מבוט ויסיומויסי	כ ח	Date	02/01/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4626	CPM/DPM	0.4606	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0023			4 of 5 most recents points beyond the 1-sigma.	χO
+ 3-sigma value	0.4695	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4557	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК





Population Statistics				Trending Analysis	
oria coite	CC			Most recent point outside of the 3-sigma values.	ОК
ביבים ויסיום ביים אינים ויסיום ביים ביים ויסיום ביים ביים ויסיום ביים ביים ויסיום ביים ביים ויסיום ביים ביים ביים ביים ביים ביים ביים ב))	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4668	СРМ/ДРМ	0.4700	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0019			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.4726	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4610	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK



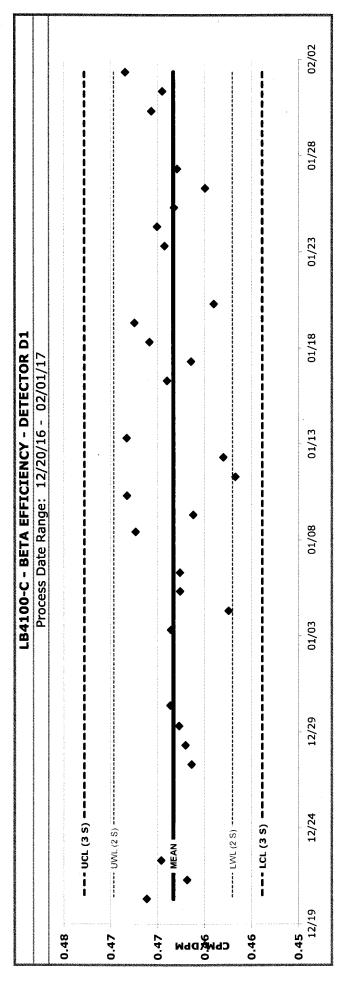


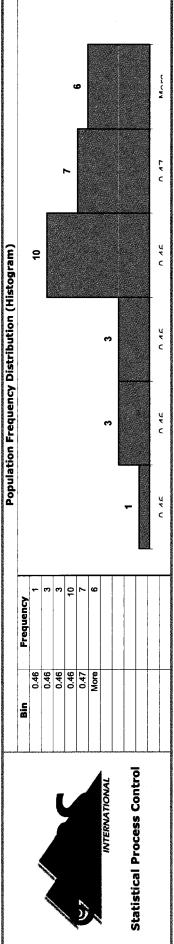
Printed: 2/23/2017 10:39 AM Page 1 of 1

LB4100-C - BETA EFFICIENCY

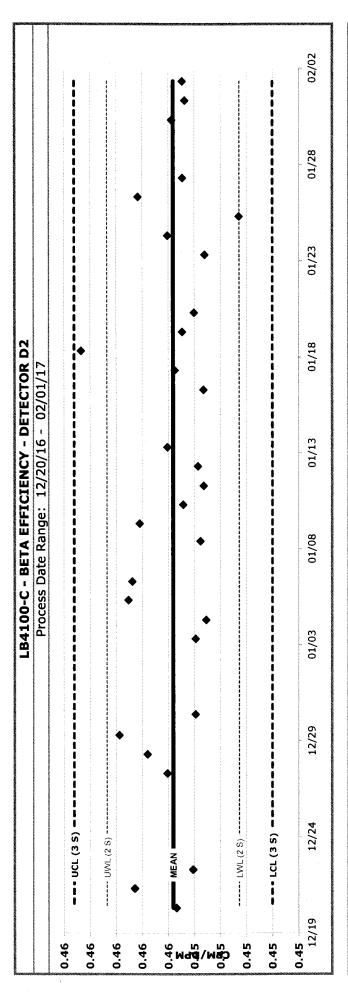
American Radiation Services Baton Rouge Laboratory

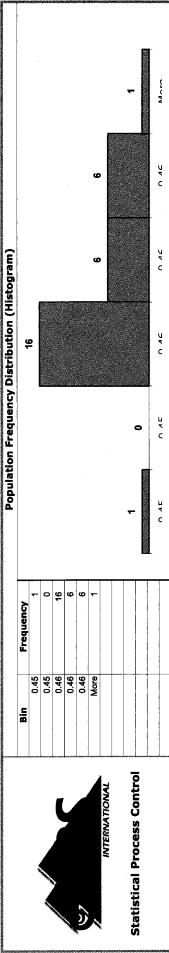
Population Statistics			ACTIVITY OF THE STATE OF THE ST	Trending Analysis	
orio acitalinaca	C 0			Most recent point outside of the 3-sigma values.	OK
Size	כ ק	Date	02/01/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4633	CPM/DPM	0.4684	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0032			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4728	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4539	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК





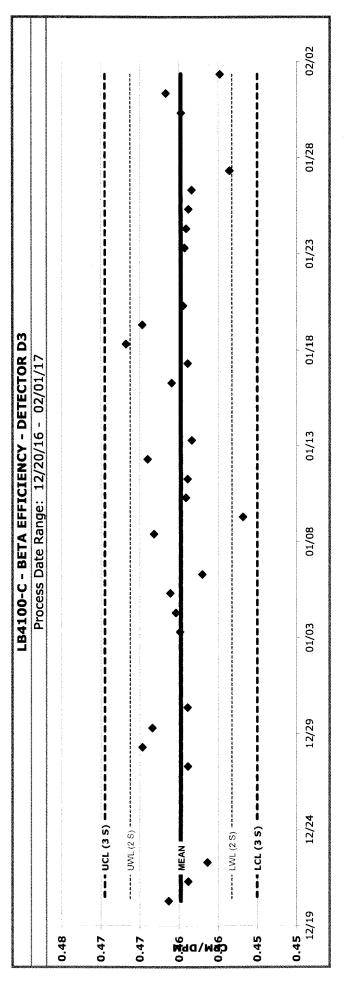
Population Statistics	S.		MACHINE CONTRACTOR AND	Trending Analysis	
CriO coitchean	C			Most recent point outside of the 3-sigma values.	OK
Population Size	3	Date	02/01/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4556	CPM/DPM	0.4549	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0025			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4632	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4480	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

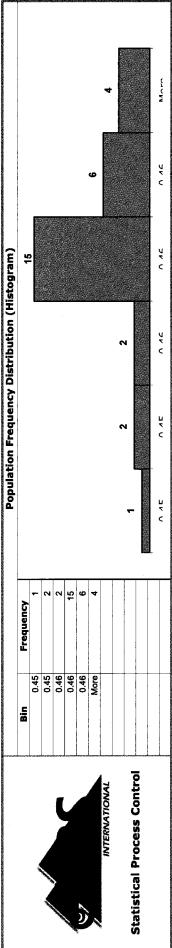




LB4100-C - BETA EFFICIENCY

Population Statistics				Trending Analysis	
ori3 doiteline	20			Most recent point outside of the 3-sigma values.	ОК
אסוביים אינים איני)	Date	02/01/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4597	CPM/DPM	0.4548	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0032			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4695	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4500	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

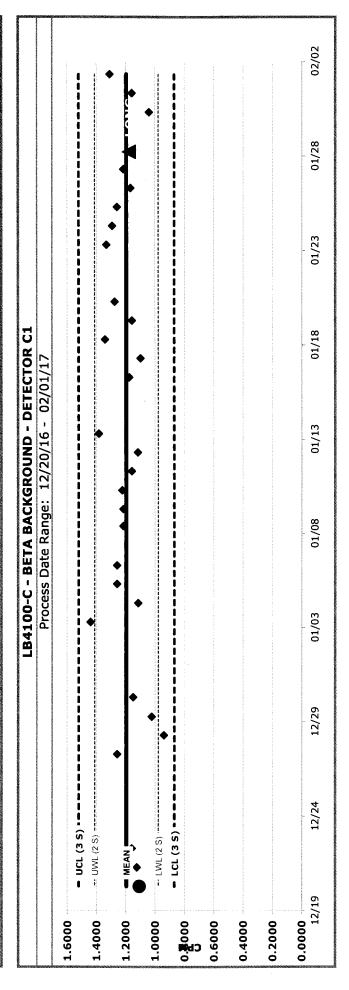


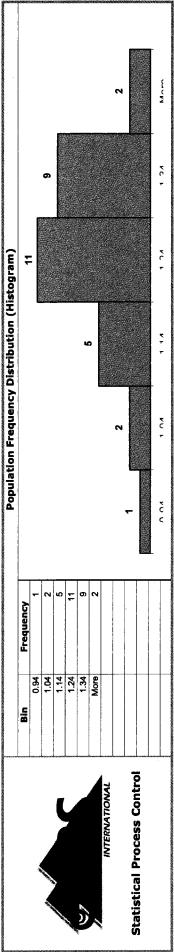


LB4100-C - Beta Daily BKG Check

American Radiation Services Baton Rouge Laboratory

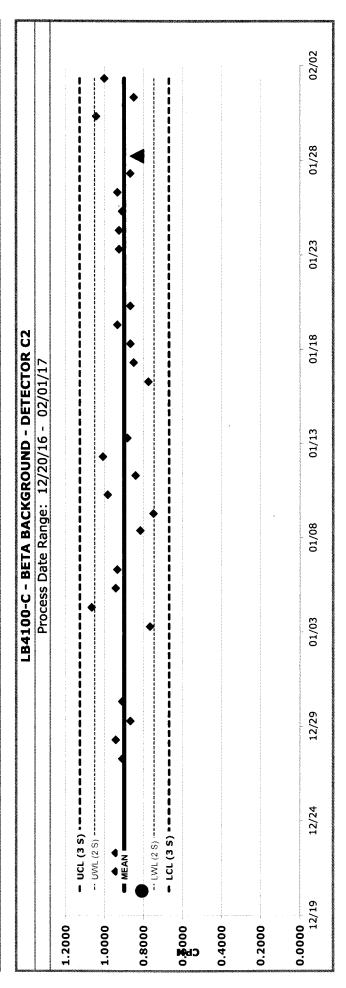
Population Statistics		DER Analysis	OK	Trending Analysis	
orio moite inno	C	DER	1.1814	Most recent point outside of the 3-sigma values.	7
Population 312e	Ŋ	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	¥
Average	1.1957	Long B CPM	1.1778	2 of 3 most recent points above 2 sigma.	X
Standard Deviation	0.1086	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	¥
+ 3-sigma value	1.5213	Date	02/01/17	7 trending most recent points in a row.	¥
- 3-sigma value	0.8700	CPM	1.3083	15 most recent points inside 1 sigma.	X
		Count Mins	120.00	8 most recent points outside 1 sigma.	¥

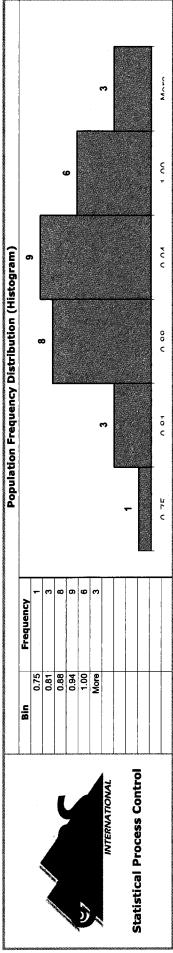




LB4100-C - Beta Daily BKG Check

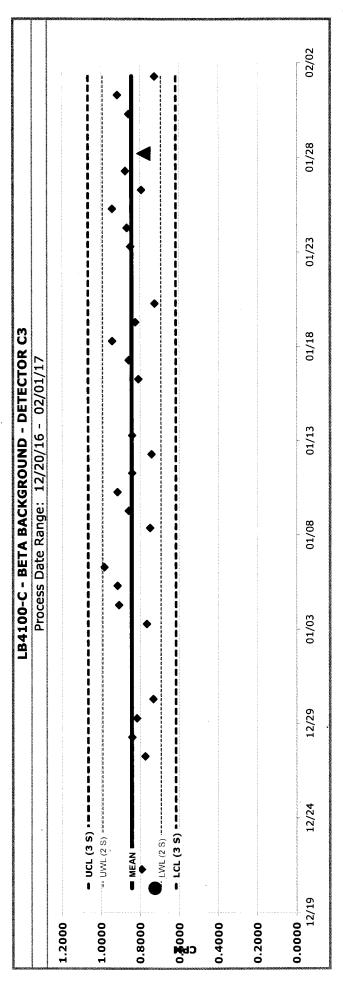
Population Statistics	DER Analysis	OK	Trending Analysis	
OC Sein mitelinand	DER	1.7437	Most recent point outside of the 3-sigma values.	ОК
	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	OK
Average 0.8983	Long B CPM	0.8322	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.0762	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value 1.1269	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value 0.6697	СРМ	1.0000	15 most recent points inside 1 sigma.	ОК
	Count Mins	120,00	8 most recent points outside 1 sigma.	χo

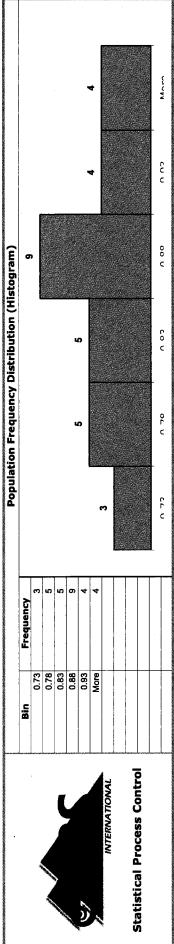




LB4100-C - Beta Daily BKG Check

Population Statistics		DER Analysis) YO	Trending Analysis	
CEI Groupe I and G	C	DER	0.6750	Most recent point outside of the 3-sigma values.	ОК
Population Size	ת ע	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.8428	Long B CPM	0.7811	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0747	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.0669	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6187	СРМ	0.7250	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK



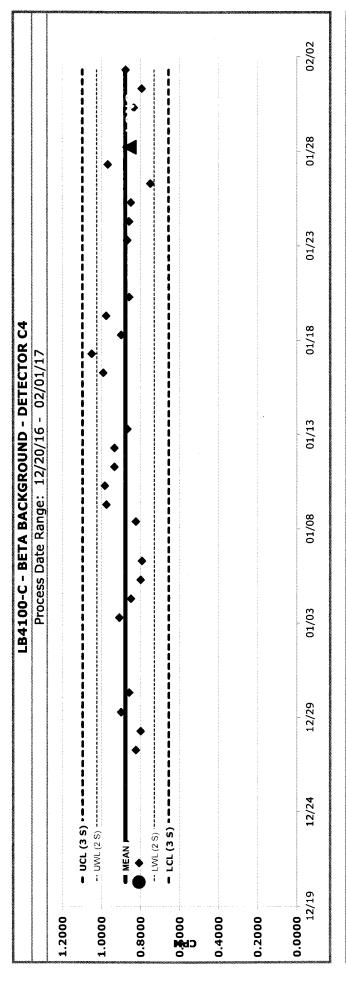


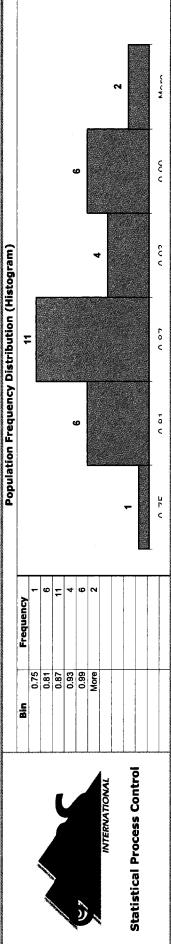
Printed: 2/23/2017 10:34 AM Page 1 of 1

LB4100-C - Beta Daily BKG Check

American Radiation Services Baton Rouge Laboratory

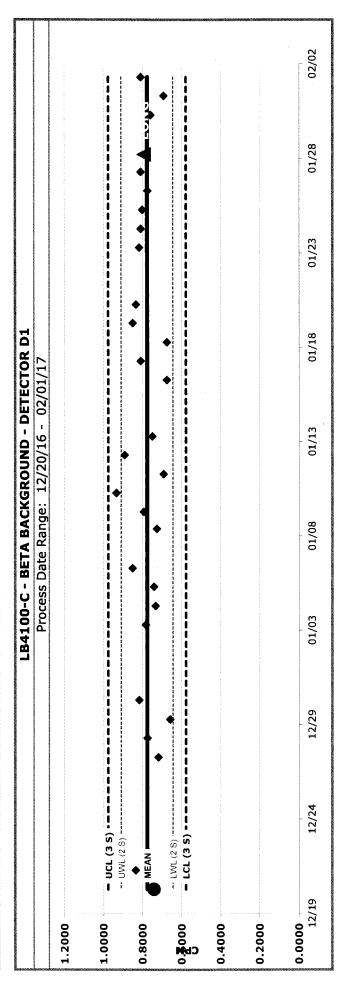
Population Statistics	5	DER Analysis	OK OK	Trending Analysis	
ori2 mitchand	0	DER	0.2019	Most recent point outside of the 3-sigma values.	ОК
סבול ביים מיים מיים מיים מיים מיים מיים מיים	א ע	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.8767	Long B CPM	0.8567	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0737	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.0979	Date	02/01/17	7 trending most recent points in a row.	OK
- 3-sigma value	0.6556	СРМ	0.8750	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

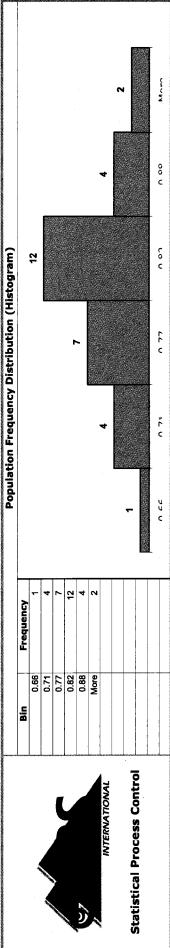




LB4100-C - Beta Daily BKG Check

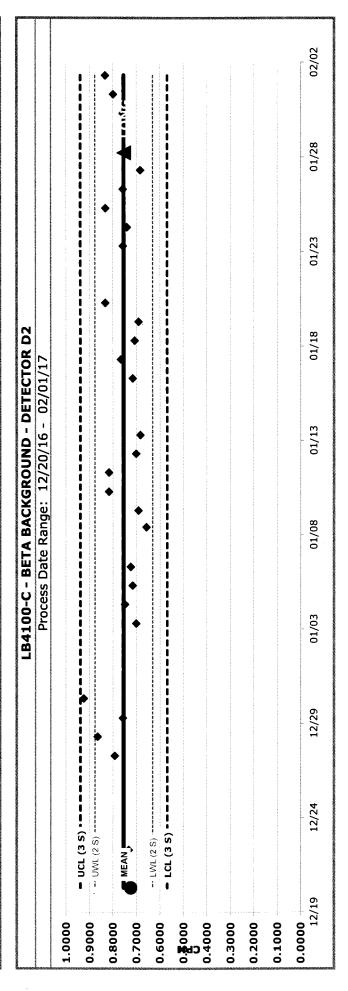
Population Statistics		DER Analysis	OK	Trending Analysis	
CLIO CITO	6	DER	0.1719	Most recent point outside of the 3-sigma values.	¥
	Ŋ	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	¥
Average	0.7761	Long B CPM	0.7933	2 of 3 most recent points above 2 sigma.	Y
Standard Deviation	0.0662	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	¥
+ 3-sigma value	0.9748	Date	02/01/17	7 trending most recent points in a row.	¥
- 3-sigma value	0.5775	СРМ	0.8083	15 most recent points inside 1 sigma.	Υ.
	an company	Count Mins	120.00	8 most recent points outside 1 sigma.	Y

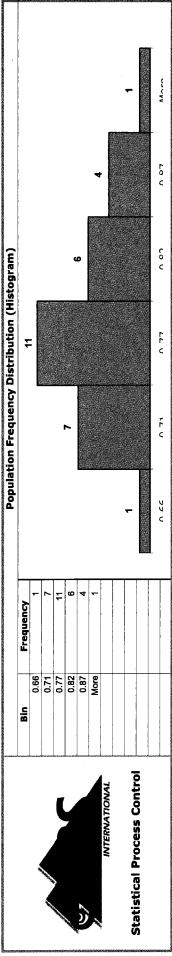




LB4100-C - Beta Daily BKG Check

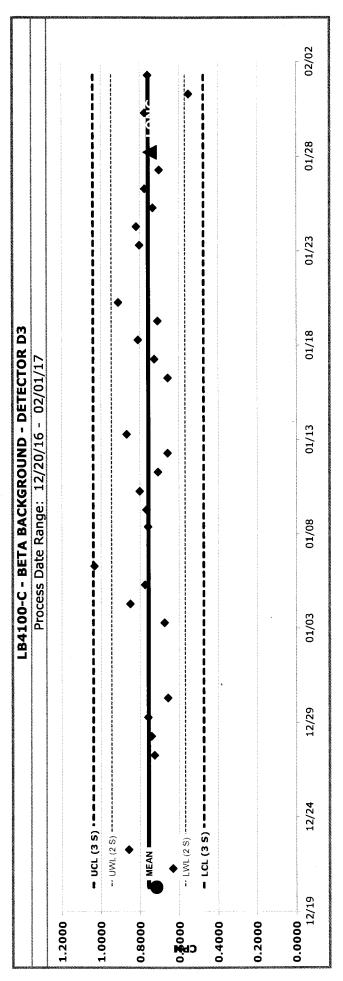
Population Statistics		DER Analysis	OK	Trending Analysis	
	90	DER	0.9069	Most recent point outside of the 3-sigma values.	ОК
Topulation 3126	ת ת	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.7543	Long B CPM	0.7533	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0616	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.9391	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.5696	СРМ	0.8333	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

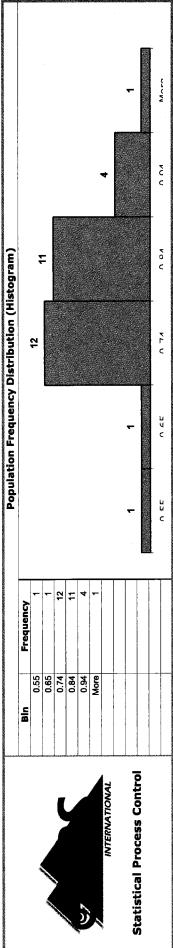




LB4100-C - Beta Daily BKG Check

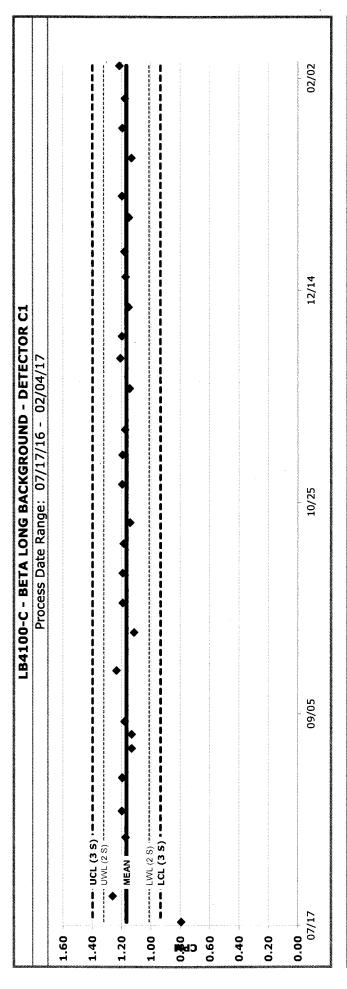
Population Statistics	DER Analysis	OK	Trending Analysis	-
	DER	0.1380	Most recent point outside of the 3-sigma values.	ОК
Loparation Size	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average 0.7566	Long B CPM	0.7467	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.0941	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value 1.0388	Date	02/01/17	7 trending most recent points in a row.	ОК
- 3-sigma value 0.4744	CPM	0.7583	15 most recent points inside 1 sigma.	ОК
	Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

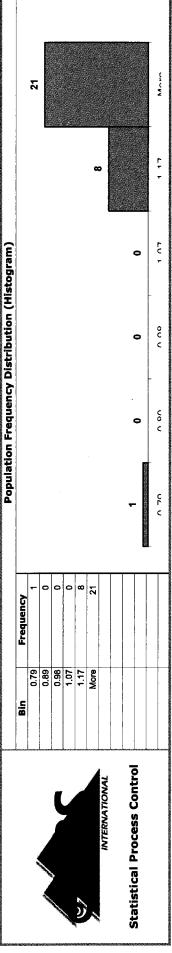




Instrument Background Analysis

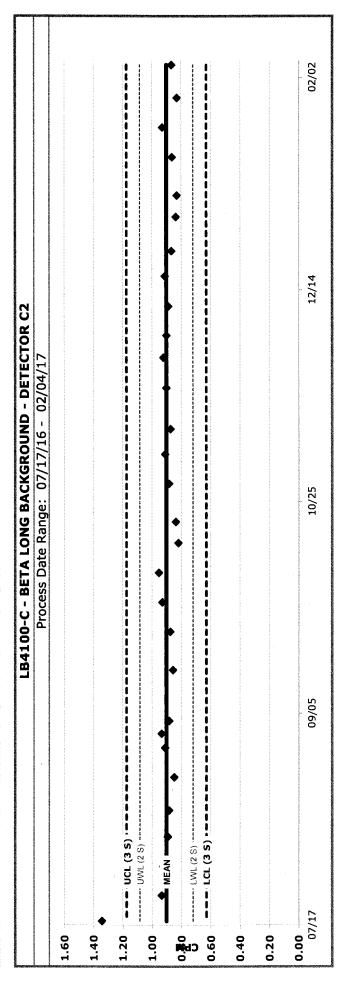
Population Statistics		Trending Analysis	
	C C	Most recent point outside of the 3-sigma values.	ОК
Population Size	כ ה	8 consecutive most recent points on one side of the mean.	OK
Average	1.1667	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0774	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.3988	7 trending most recent points in a row.	OK
- 3-sigma value	0.9346	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	OK

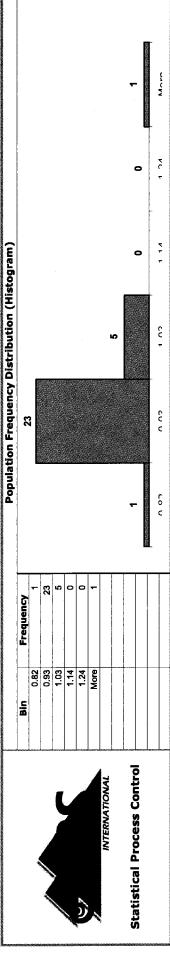




Instrument Background Analysis

Population Statistics		Trending Analysis	
	C	Most recent point outside of the 3-sigma values.	OK
Population Size		8 consecutive most recent points on one side of the mean.	OK
Average	0.9035	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	9060.0	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.1753	7 trending most recent points in a row.	OK
- 3-sigma value	0.6317	15 most recent points inside 1 sigma.	OK
	30.000	8 most recent points outside 1 sigma.	OK

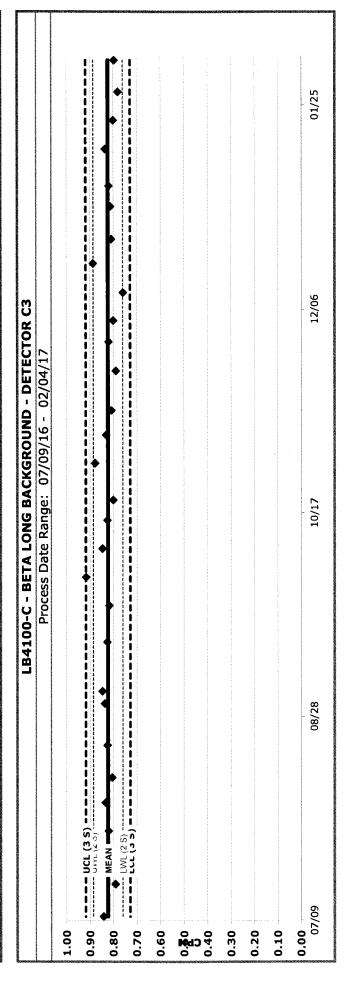


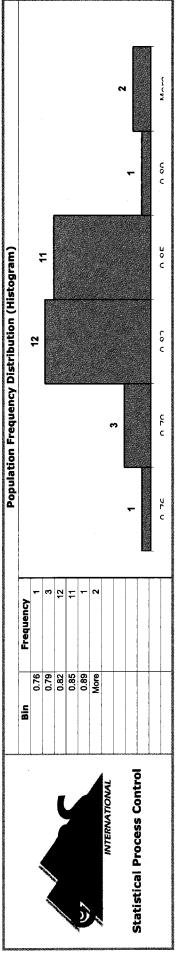


Instrument Background Analysis

American Radiation Services Baton Rouge Laboratory

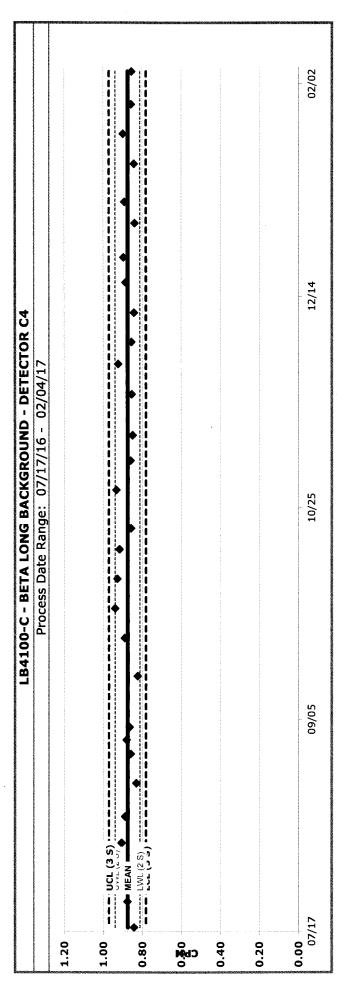
Population Statistics	9		Trending Analysis	
	90	Most	Most recent point outside of the 3-sigma values.	ОК
בסלום ווסוים מולסין	0	8 con	8 consecutive most recent points on one side of the mean.	ОК
Average	0.8233	2 of 3	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0316	4 of 5	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.9180	7 trei	7 trending most recent points in a row.	ОК
- 3-sigma value	0.7286	15 m	15 most recent points inside 1 sigma.	ОК
	30.000	8 mo	8 most recent points outside 1 sigma.	ОК

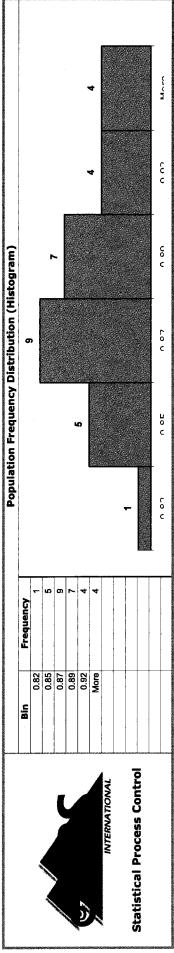




Instrument Background Analysis

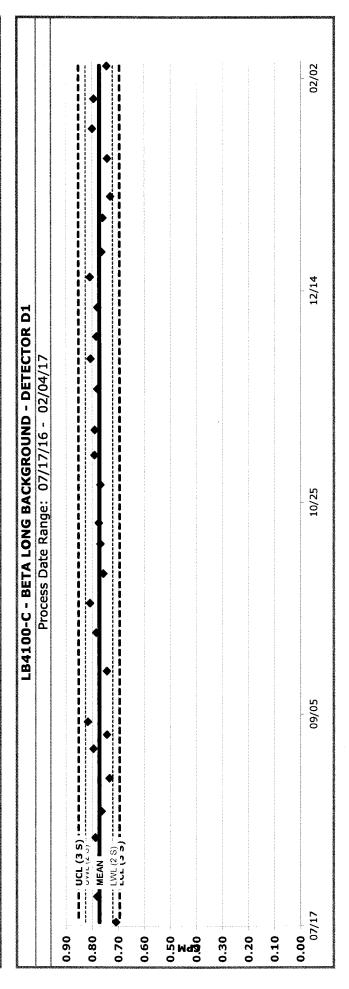
Population Statistics	ANGERONICA PROPERTIES ANGERS ANGES A	ACCOMMENSACION CONTRACTOR CONTRAC		Trending Analysis	
orio deitelinad	C C		Most recent point o	Most recent point outside of the 3-sigma values.	OK
שלוכ ווסטפוחלט.))		8 consecutive most	8 consecutive most recent points on one side of the mean.	OK
Average	0.8749		2 of 3 most recent p	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0316		4 of 5 most recents	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.9697		7 trending most rec	7 trending most recent points in a row.	ОК
- 3-sigma value	0.7800		15 most recent points inside 1 sigma.	nts inside 1 sigma.	ОК
	30.0000		8 most recent points outside 1 sigma.	s outside 1 sigma,	ОК

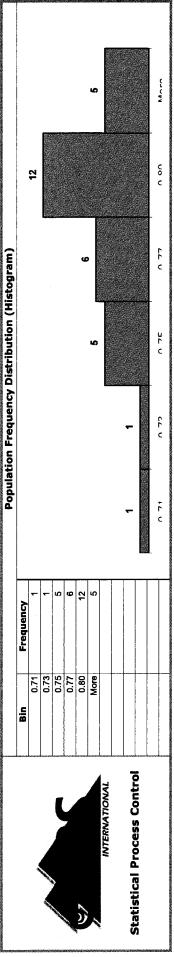




Instrument Background Analysis

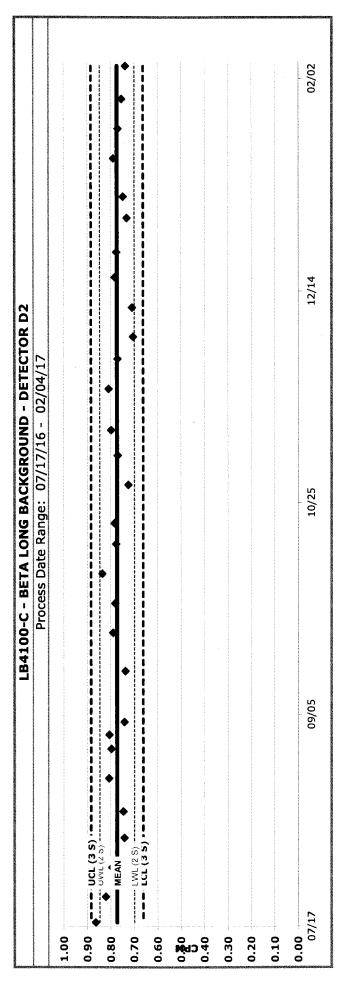
Population Statistics		Trending Analysis	
	C C	Most recent point outside of the 3-sigma values.	ОК
אלוכ ווספונים) 1	8 consecutive most recent points on one side of the mean.	ОК
Average	0.7727	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0264	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.8518	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6937	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	ОК

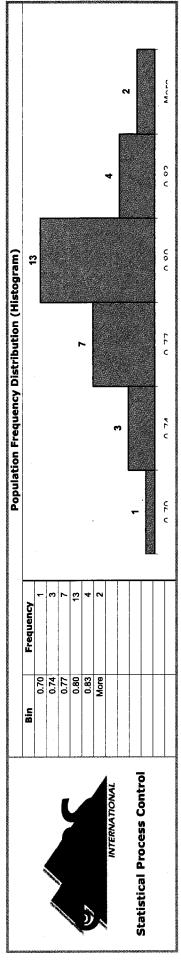




Instrument Background Analysis

Population Statistics			Trending Analysis	
	6	Most recent point o	Most recent point outside of the 3-sigma values.	ОК
אלוכ ווסיפוטקטן	כ ס	8 consecutive most	8 consecutive most recent points on one side of the mean.	ОК
Average	0.7729	2 of 3 most recent	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0370	4 of 5 most recents	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.8840	7 trending most rec	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6618	15 most recent points inside 1 sigma.	ıts inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	s outside 1 sigma.	OK

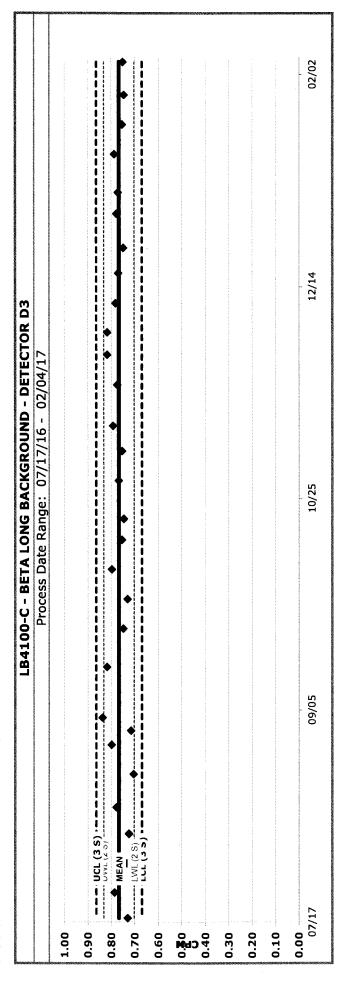


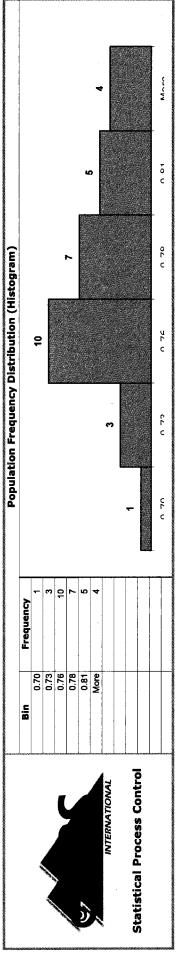


Instrument Background Analysis

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Population Statistics			Trending Analysis	
	C	Most recent point or	Most recent point outside of the 3-sigma values.	ОК
Population Size))	8 consecutive most	8 consecutive most recent points on one side of the mean.	OK
Average	0.7674	2 of 3 most recent p	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0324	4 of 5 most recents	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.8647	7 trending most recent points in a row.	ent points in a row.	ОК
- 3-sigma value	0.6701	15 most recent points inside 1 sigma.	ts inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	s outside 1 sigma.	OK





C 11160

Sr-90/Y90 Efficiency Calibrations 12/8/14

Tech:

B Steffens

Pipet #

FJ40469

Scale ID

H113112173560P

Standard #

S-0121

Sample ID	Std weight g. S	Sep. Date: 12/8/14			
Sr_Y_Cal_1B	1.0114	12:12			
Sr_Y_Cal_2B	1.0121	12:19			
Sr_Y_Cal_3B	1.0063		Planchett Weigts	Empty	Full
Sr_Y_Cal_4B	1.0122	12:12	Sr_Cal_1B	7.591	7.603
Sr_Y_Cal_5B	1.0127	12:16	Sr_Cal_2B	7.592	7.604
Porformed D	2.01.11		Sr_Cal_3B	7,594	7.606
Performed By: I	Stettens		Sr_Cal_4B	7,603	7.615
			Sr_Cal_5B	7 599	7.611

Approved JOT 12-10-14

Calibration

Updated: 12/10/2014

pCi dpm Bq

Y-90 Eff	0.40049	0.36412	0.3896	0.37163	0.40727	0.36326	0.38768	0.36834	0.39388	0.36578	0.3746	0.36872	0.39648	0.37102	0.381	0.37063
Sr-90 Eff	0.36363	0.34188	0.36654	0.3397	0.36065	0.33271	0.36741	0.33335	0.35984	0.33342	0.36303	0.3386	0.36109	0.34154	0.3671	0.33457
Detector	A1	A2	A3	A4	81	B2	B3	B4	5	C5	င္ပ	2	70	D2	D3	04

Sr-90

				Sr-90 half:	life days	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515,51	10515.51
					count midpoint	12/8/14 2:04 PM	12/8/14 2:04 PM	12/8/14 2:04 PM	12/8/14 2:04 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	1/0/00 12:00 AM	1/0/00 12:00 AM
					count date/time	12/8/14 14.02	12/8/14 14:02	12/8/14 14:02	12/8/14 14:02	12/8/14 14:09	12/8/14 14:00	12/8/14 14:09	12/8/14 14:09	12/8/14 14/18	12.8/14 14:18	12/8/14/14/18	12.8/14 14:18	12.8/14/14/25	12/8/14 14 25	12/8/14 14:25	12/8/14/14/25		
				separation	date/time	12:8:2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12.17	12:8:2014 12:19	12.8/2014 12:12	12.8.2014 12:16		
				Chemical	Yield	0.9937	0 9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	#DIV/0!	10/AIG#
				planchet	net (mg)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0	0.0
				planchet tare	(g)	7 5910	7 5920	7.6030	7.5990	7.5910	7 5920	7.6030	0665 2	1.5010	7.5020	0500 -	2990	2 5910	0768 6	7,6030	7 5090		
				planchet	gross (g)	7.6030	01/09	7.6150	7,6110	2,6030	7.6040	7,6150	7,6110	7.6030	7 6040	7,6150	2,6110	7,6030	7,6(140	7.6150	3 6110		
			'n		_	_	_									_			_				
		carrier	expecte	Sui)	SrN03	12.07	12.07	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	0.000	0.000
		carrie	expecte	g SrNO3/ (mg	g Sr	2.4153																0.000	0.000
		canie	•		g Sr	2.4153		2,4153	2.4153	2,4153	2,4153	2.4153	2.4153	2,4153	2.4153	2,4153	2.4153	2,4153	2.4153	2.4153	2.4153	0.000	0.000
Total	Activtiy Added		carrier	added g SrNO3/	(mg as Sr) g Sr	2.4153	5.0000 2.4153	5.0000 2.4153	5.0000 2.4153	5.0000 2.4153	5,0000 2,4153	5,0000 2,4153	5.0000 2.4153	5,0000 2,4153	5.0000 2.4153	5.0000 2.4153	5.0000 2.4153	5,0000 2,4153	5.0000 2.4153	5.0000 2.4153	5,0000 2,4153		
Total	Activity Added		carrier	reference added g SrNO3/	date (mg as Sr) g Sr	5.0000 2.4153	11418.41 5.0000 2.4153	11419.54 5.0000 2,4153	11425.18 5.0000 2.4153	114[0.5] 5.0000 2,4153	11418.41 5,0000 2,4153	11419.54 5.0000 2.4153	11425.18 5.0000 2.4153	11410.51 5.0000 2.4153	11418.41 5.0000 2.4153	11419.54 5.0000 2.4153	11425.18 5.0000 2.4153	11410.51 5.0000 2.4153	11418.41 5.0000 2.4153	11419.54 5.0000 2.4153	11425.18 5.0000 2.4153		
Total	Activity Added		carrier	Mass reference added g SrNO3/	added (g) date (mg as Sr) g Sr	11410.51 5.0000 2.4153	1.0121 11418.41 5.0000 2.4153	1,0122 11419,54 5,0000 2,4153	1.0127 11425.18 5.0000 2.4153	1.0114 11410.51 5.0000 2,4153	1,0121 11418,41 5,0000 2,4153	1,0122 11419.54 5,0000 2,4153	1 0127 11425.18 5.0000 2.4153	10114 11410.51 5.0000 2.4153	1.0121 11418.41 5.0000 2.4153	1.0132 11419.54 5.0000 2.4153	1.0127 11425.18 5.0000 2.4153	1.0114 11410.51 5.0000 2.4153	1 0121 11418,41 5,0000 2,4153	10122 11419.54 5.0000 2.4153	1.9127 11425.18 5,0000 2,4153		
Total	Activity Added	(Sr-90 in	DPM) on carrier	reference Mass reference added g SrNO3/	date added (g) date (mg as Sr) g Sr	1.0114 11410.51 5.0000 2.4153	3/31/2006 1.0121 11418.41 5.0000 2.4153	3/31/2006 1.0122 11419.54 5.0000 2.4153	3/31/2006 1.0127 11425.18 5.0000 2.4153	3/31/2006 1,0114 11410,51 5,0000 2,4153	3/31/2006 1,0121 [1418,41 5,0000 2,4153	3/31/2006 1,0122 11419.54 5,0000 2,4153	3/51/2006 1 0127 11425.18 5,0000 2,4153	3/31/2006 0114 11410.51 \$.0000 2,4153	3/31/2006 - 1,0121 11418,41 5,0000 2,4153	3/31/2006 1.0132 11419.54 5.0000 2.4153	3/31/2/06 1/0127 11425.18 5/0000 2,4153	3/31/2006 1.0114 11410.51 5,0000 2,4153	3/31/2006 1 0121 11418,41 5,0000 2,4153	3/31/2006 1 0122 11419.54 5.0000 2.4153	1.9127 11425.18 5,0000 2,4153		
Total	Activity Added	(Sr-90 in	DPM) on carrier	reference Mass reference added g SrNO3/	date added (g) date (mg as Sr) g Sr	3/31/2006 1.0114 11410.51 5.0000 2.4153	11281.89593 3/31/2006 1.0121 11418.41 5.0000 2.4153	11281.89593 3/31/2006 1.0122 11419.54 5.0000 2.4153	11281.89593 3/31/2006 1.0127 11425.18 5.0000 2.4153	11281.89593 3/31/2006 1,0114 11410,51 5,0000 2,4153	11281 89593 3/31/2006 1.0121 11418,41 5,0000 2,4153	11281,89593 3/31/2006 1,0122 11419,54 5,0000 2,4153	11281,89593 3/51/2006 1/0127 11425.18 5,0000 2,4153	11281 89593 351/2006 1 0114 11410.51 5,0000 2,4153	11281.89593 3/31/2006 1.0121 11418,41 5.0000 2.4153	11281,89593 3/31/2006 1,0122 11419,54 5,0000 2,4153	11281 89593 3/31/2006 1/0127 11425/18 5/0000 2,4153	11281 89593 3/31/2006 1,0114 11410,51 5,0000 2,4153	11281 89593 3/31/2036 1/0121 11418,41 5/0000 2,4153	11281-89593 3/31/2006 1/0122 11419,54 5/0000 2,4153	11281 89593 3/31/2006 1/9127 11425.18 5,0000 2,4153		

					Sr-90 Eff	0.36363	0.34188	0.36654	0.33970	0 36065	0.33271	177600	0.36/41	0.33335	0.35984	0 33342	0.35303	0.30203	0.55800	0.36109	0.34154	0.36710	23700	0.3345/	#DIV/0i	#DIV/0!
				,	Detector	ΑI	Ş	A3	A4	ä	. G	3 3	â	B4	ō	3	3 8	3 8	5 7	DI	D2	č	3 2	2		
					net CPM	3418.4822	3209.8122	3445,9689	3194.7422	3397 0622	3129 3611	2457 0754	0616.1646	3139.8078	3392.6744	3141 7756	3420 5189	3103 6523	00000000	3409,2189	3221.8056	3463.6811	3161 1322	3101.1333	#DIV/0!	#DIV/0i
					oxg time min	0.006	0.006	0.006	0.006	0.006	0.006	0000	0.00	0.00%	0.006	0.006	0.000	0000	0000	0.000	0.006	0.006	0000	0.000		
					oxg counts	850	688	748	952	664	755	3,443	7.12	/15	833	922	703	853	100	507	715	647	780	007		
				- mit elemen	sample mile	5.0	5.0	5.0	5.0	5.0	5.0	0.5		0.0	5.0	5.0	5.0	5.0	0 9	0.0	8.0	5.0	3.0	,		
			samule	Sample	17001	/60/	16054	17234	15979	16989	15651	17300	16707	50/51	16968	15714	17107	15973	17050	0001	16113	17322	15810			
			Y-90 Eff	(from helow)	040040	0.40049	0.36412	0.38960	0.37163	0.40727	0.36326	0.38768	0.26924	40000	0.39388	0.36578	0.37460	0.36872	0 39648	0.000	0.37102	0.38100	0.37063	00100	0.38100	0.37063
			Y-90	ingrowth	01000	0.020.0	0.01880	0.02010	0.01939	0.02134	0.02010	0.02134	0.0063	00000	0.02293	0.02169	0.02293	0.02222	0.02416	20000	0.02293	0.02416	0.02346	00000	0.0000	0.00000
Y-90	ingrowth	days to	count	midpoint	0.0781	10,00	0.0733	0.0/81	0.0753	0.0830	0.0781	0.0830	0.0802	2000	200.0	0.0844	0.0892	0.0865	0.0941	0000	0.0092	0.0941	0.0913	0000	0.000	0.000
		¥-90	half-life	days	7 667	7 667	2.007	2.007	7.007	7.007	2.667	2.667	2.667	2,667	2.007	7.007	2.667	2.667	2.667	7,667	2.007	7.007	2.667	2 667	2007	7.007
	Sr-90 activity	at count	midpoint	(DPM)	9197 4	0203 2	0.004.6	9204.0	7.6076	9197.4	9203.7	9204.6	9209.2	0107	1.7610	9203.7	9204.6	9209.2	9197.3	9203 7		9.204.0	9209.2	MDIVA	101711014	
			Sr decay correction	to count midpoint	0.81119	0.81110	01110	0.010	0.01119	0.01119	0.81119	0.81119	0.81119	0.61110	011100	0.61119	0.81119	0.81119	0.81118	0.81118	01110	0.01110	0.8118	00000	00000	00000
		Sr-90 decay	days to count	midpoint	3174.59	3174.59	3174 59	3174 50	3174 50	2174 50	31.74.39	31/4,59	3174.59	3174.60	717460	00.17.00	31/4.60	3174.60	3174.60	3174.60	3174.60	00.41.0	31/4.00	0.00	000	
			•	9	Ca C	Sr Cal 2B	Sr Cal 4B	Sr Cal SB	S. Cal 18	3	24 Cal 45	3	3	Sr Cal 1B	-	3	5 ?	<u>ب</u>	Sr Cal 1B	3	5	3	Gr. H. J. Fe			

Sr-90 half- life days	Sr-90	days	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51
count midpoint		Sr-90 half-life days	10515.51	10.515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51
count date/time		count date	12/8/14 15:13	12/8/14 15:13	12:8/14 15:13	12:8/14 15:19	12/8/14 15:19	12:8/14 15:19	12 8/14 15:29	12 8:14 15:29	12:8 14 15:20	12:8:14 15:29	12.8 14 (5.35	12:8:14 15:35	12.8 14.15.35	12:8 14 15:35
separation date/time		separation date	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12:8/2014 12:16	12:8/2014 12:12	12/8:2014 12:19	12:8:2014 12:12	12-8-2014 12 16
Chemical Yield		Yield	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937
planchet net (ng)		net (mg)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
planchet tare (g)		pidulciici tale (g)	7.5010	7.5020	7 6030	7.5910	7.5920	7.6030	7 5910	7 5920	7 6030	7.5990	7 5010	0205.7	7 6030	0665 4
planchet gross (g)	1 1	gross (g)	7,6030	7,6040	7.6150	7 6030	7.6040	7.6150	7 6030	7 60,40	7 6150	7.6110	7,6030	7 6040	76150	76110
carrier expected (mg SrNO3)	carrier	(mg)	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077
g SrNO3/ g Sr	2.8.HD3	g Sr	2,4153	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2415	2,415	2.415	2.415
carrier added (mg as Sr)	carrier	(mg)	5.0000	5.0000	5.0000	2 0000	\$ 0000	5.0000	2 0000	5 0000	5.0000	5 0000	5.0000	0000 5	(1000)	(10)00 \$
Total Activity Added (Sr-90 in DPM) on reference	Total Activity Added	DPM)	11410.51	11418.41	11419.54	11410.51	11418.41	11419.54	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18
Mass added (g)	X	added (g)	1.0114	1.0121	72.10.1	1.0114	1.0121	1.0122	10.1	1.0121	1.0122	1.0127	1,0114	1,0121	1.0122	1.0127
reference	nollardion	date	3/31/2006			,		3/31/2006						3.31/2006		331/2006
Standard Specific Activity (dpm/g)	Standard Specific	(dpm/g)	11281 89503	11281.89593	11281.89593	11281.89593	11281 89593	11281.89593	11281 89503	11281.89593	11281 89593	112X1 89593	11281 89593	11281 89503	11281.89593	11281 89593
Standard ID		Standard ID	S-0121	5-0121	S-0121	S-0131										
Sr-90	۸-90	Œ						Y Cal 48				Y Cal 513			Y (al 48	Y Cal 3B

net CPM				net CPM	4392.8822	4001.8122	4276.7689	4084,5422	4462.4622	3987,9611	4251.1756	404,0078	4307.8744	4008,3756	4100,3189	4040.8533	4331.6189	4061,4056	4165.8811	4057 3333
bkg counts bkg time min				bkg time min	0.006	0.006	0.006	0.000	0.000	0 006	0.006	0.006	0.000	0.000	0.000	0 006	0.006	0 006	0.006	0'00n
				bkg counts	826	889	7.48	952	999	755	3442	713	833	622	793	852	703	715	647	780
sample time				sample time	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
sample			sample	counts	51069	20014	21388	20428	22316	10044	21375	20224	215.44	20047	20506	20202	21662	20311	20833	16506
Y-90 Eff (from below)			Y-90	Activity	10968.760	10990.230	10977.437	10990.792	10956.887	10978.333	10965.554	10978.895	10937.127	10958.535	10945.778	10959,095	10925.288	10946.673	10933,930	10947.232
Y-90 ingrowth				Y-90 Decay	0.967420	0.968643	0.967420	0.968118	0.966372	0.967594	0.966372	0.96/0/0	0.964630	0.965849	0.964630	0.965326	0.963585	0.964804	0.963585	0.964281
Y-90 ingrowth days to count midpoint			Y-90 half-	life days	7.007	7.007	7.007	7.007	7.067	7.007	7.667	7.007	7.00.7	7,007	7,007	2.667	7.007	7,067	7.007	7.067
Y-90 half-life days		Y-90	decay	days	9/71.0	0.1220	0.12/4	0.1247	0.1.310	0.120	0.1310	0.1200	0.130	7001.0	0.1383	0.1338	1291.0	0.13/8	0.1427	0.1399
Sr-90 activtiy at count midpoint (DPM)		Sr-90 activtiy at count	separation	(DPM)	9191.4	0.505.0	0.000	2.603.6	0302.9	0.505.0	9209.7	0107.4	0202	0.027	0.4076	2.602.6	9.7616	9203.6	7,504	7.6026
Sr-90 decay days to count. Sr decay correction midpoint to count midpoint				12/8/14 3-15 PM	12/8/14 3-15 PM	12/8/14 3-15 DM	12/8/14 3:15 PM	12/8/14 3-21 DA	12/8/14 3-21 DM	12/8/14 3-21 DM	12/8/14 3-21 PM	12/8/14 3:31 PM	12/8/14 3-31 DM	12/8/14 3-31 DM	12/8/14 3 31 DM	12/8/14 3:37 DM	MG 75:5 41/8/C1	12/8/14 3:37 DM	12/8/14 3:37 DM	MI / C'C +1 0/7
Sr-90 decay days to count midpoint		Sr decay	correction to	0.81119	0.81119	0.81119	081110	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	
9	Y-90		9	Y Cal 1B	Y Cal 2B	Y Cal 4B		Y Cal 1B	Y Cal 2B	Y Cal 118	Y Cal 5B	Y Cal 1B	Y Cal 2B	Y Cal 4B	Y Caf 5B	Y Cal 1B	Y Cal 2B	Y Cal 48	Y Cal SB	

V-90 Eff 0.40049 0.36412 0.3860 0.37163 0.40727 0.38768 0.3878 0.3938 0.3766 0.36578 0.36578 0.36578 0.3766 0.3663

Detector
A1
A2
A3
A4
A4
A4
B1
B1
B2
C1
C1
C2
C3
C3
C4
D4
D4
D7
D7
D7
D7

Sr-90 Eff

GEN 686	C 11160	Š	BZF

TOD	12/8/14 14:02	1410 12/8/14 14:02	12/8/14 14:02	12/8/14 14:02
Voltage	1410	1410	1410	1410
Count Time	5	5	5	Ŋ
Beta	17097	16054	17234	15979
Alpha	7	က	4	9
Sample ID	SR_CAL_1B	A2 SR_CAL_2B 3 16054 5	SR_CAL_4B	SR CAL 5B
Detector ID	A1	A2	A3	A4

GEN 687	C 11160	Si	BZF

TOD	1410 12/8/14 14:09	12/8/14 14:09	12/8/14 14:09	12/8/14 14:09
Voltage	1410	1410	1410	1410
Count Time	5	2	5	Ŋ
Beta	16989	15651	17309	15703
Alpha	18	13	6	10
Detector ID Sample ID	SR CAL 1B	SR CAL 2B	SR CAL 4B	SR CAL 5B
Detector ID	B1	B2		

	TOD 12/8/14 14:18 12/8/14 14:18 12/8/14 14:18
	Voltage 1410 1410 1410 1410
	Beta Count Time Voltage 16968 5 1410 15714 5 1410 17107 5 1410 15973 5 1410
Sr Sr BZF	Beta 16968 15714 17107
	Alpha 4 8 5 3
	Sample ID SR_CAL_18 SR_CAL_28 SR_CAL_48 SR_CAL_48
	Detector ID C1 C2 C3 C3

GEN 688

	TOD 12/8/14 14:25 12/8/14 14:25 12/8/14 14:25 12/8/14 14:25
	Voltage 1410 1410 1410 1410
05 Q	Beta Count Time Voltage 17050 5 1410 16113 5 1410 17322 5 1410 15810 5 1410
GEN 689 C 11160 Sr BZF	Beta 17050 16113 17322
	Alpha 4 8 5 8
	Sample ID SR_CAL_1B SR_CAL_2B SR_CAL_4B SR_CAL_4B
	Detector ID D1 D2 D3 D4

	TOD 12/8/14 15:13 12/8/14 15:13 12/8/14 15:13
	Voltage 1410 1410 1410
090	Count Time Voltage 5 1410 5 1410 5 1410
GEN 690 C 11160 Y BZF	Beta 21969 20014 21388 20428
	Alpha 2 3 4 5
	Sample ID Y_CAL_1B Y_CAL_2B Y_CAL_4B Y_CAL_4B
	Detector ID A1 A2 A3 A4

	TOD	12/8/14 15:19	12/8/14 15:19	12/8/14 15:19	12/8/14 15:19
	Voltage	1410	1410	1410	1410
·	Count Time	5	2	5	2
	Beta	22316	19944	21275	20224
	Alpha	6	2	3	9
	Sample ID Alpha	Y_CAL_1B	Y_CAL_2B	Y_CAL_4B	Y_CAL_5B
	Detector ID	B1	82	B3	B4

GEN 691 C 11160 Y BZF

	TOD 12/8/14 15:29 12/8/14 15:29 12/8/14 15:29
392 60	Beta Count Time Voltage 21544 5 1410 20047 5 1410 20506 5 1410
GEN 692 C 11160 Y BZF	
	Alpha 4 1 2 4
	Sample ID Y_CAL_1B Y_CAL_2B Y_CAL_2B Y_CAL_4B
	Detector ID C1 C2 C3 C3

	TOD 12/8/14 15:35 12/8/14 15:35 12/8/14 15:35
	Voltage 1410 1410 1410
60	Count Time Voltage 5 1410 5 1410 5 1410 5 5 1410
GEN 693 C 11160 Y BZF	Beta 21662 20311 20833 20291
	Alpha 3 4 5 5
	Detector ID Sample ID D1 Y_CAL_18 D2 Y_CAL_28 D3 Y_CAL_48 D4 Y_CAL_58

GEN 683 C 11160 LONG BKG BZF

TOD	12/6/14 7·15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/0/14 / . 13	12/6/14 7:15	12/6/14 7:15	12/6/14 7:16	10/6/14 7/10	12/0/14 / . 10	12/6/14 7:16	12/6/11 7.16	01.7 41.00
Voltage	1410	1410	1410	1410	1410	1410	1410	1410	1410	1710	2 7	0141	1410	1410	77.0	2	1410	1410	<u>}</u>
Count Time	006	006	006	006	006	006	006	006	006	006	000	300	006	006	006		006	006)
Beta	826	889	748	952	833	922	793	852	703	715	6/7	÷ 6	/80	664	755	, (3442	713	
Alpha	135	116	09	126	93	123	126	182	55	29	23	3 8	63	22	63		85	61	
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	D1-01	D2-01	D3-01		D4-01	B1-01	B2-01	0	20-02	B4-01	
Jetector ID	A 1	A2	A3	A4	5	C5	C3	O 4	D1	D2	D3	2	<u>,</u>	B1	82	ä	2 (B4	

Sr-90/Y90 Efficiency Calibrations

Tech:

B Steffens

Pipet#

FJ40469

Scale ID H113112173560P

Standard # S-0121

Sample ID	Std weight	g. Sep. Date: #2	2-8-14			
Sr_Y_Cal_1B	1.0114	12:12	1			
Sr_Y_Cal_2B	1.0121	12:19				
Sr_Y_Cal_3B	1.0063	12:17	Sr Planchett	Weigts	Empty	Full
Sr_Y_Cal_4B	1,0122	21:12		Sr_Cal_1B	7.5918	7.403
Sr_Y_Cal_5B	1.0127	12:16		Sr_Cal_2B	7,5429	7.624
Performed By: I	3 Steffens			Sr_Cal_3B Sr_Cal_4B Sr_Cal_5B	7,5949 7,6039 7,5999	7.606

Sr-90 Verification

1/5/2016

Tech:

JPB 33 B Steffens 1-5-16

Pipet #

MU02055

Scale ID

12332539

Standard # S-0300

Sample ID Std weight g. S-0300-V1A 1.02347 S-0300-V2A 0.99389

S-0300-V3A 1.00089

S-0300-V4A 1 0046g

S-0300-V5A 1.0117 g

Performed By: B Steffens-

J. Byrd JA 1-5-16



Carrier Pipette Calibration Sheet

Vau Vu Chemist: 00:0

Date/Time: 12-8-14

Balance ID	Balance Calibration Date	Pipette ID	Nominal Weight	Weight #1	Weight#2	Weight#3	MEAN	Acceptance Limits ±2% Mean	STDEV	RSD%	Acceptance Limits <1% RSD
12332539	6/2/14	FJ40469	1.00	1.000	1.004	1.007	1.00	Pass	0.004	0.350	Pass

Printed: 1/6/2016 8:13 AM



QUALITY CONTROL PROGRAM

AMERICAN RADIATION SERVICES RADIOACTIVE REFERENCE SOLUTIONS

ANNUAL ACTIVITY VERIFICATION

VERIFICATION DATE STANDARD REFERENCE # 1/5/2016 16:31 date counted

S-0300

Principal Radionuclide

Sr-90

ENTER -->

Half Life, Years 2.880E+01

OR -->

Half Life, Days

1.0520E+04 1.0520E+04

Radionuclide

Sr-90

Dilution Reference Date

12/11/2014 12:05

Dilution Activity Verif. Date Decay Corrected 21.73 pCi per gram ===> dpm/g 21.18 pCi per gram ===> dpm/g 48.23 47.01

2.880E+01

		/		Minimum of	3 Required				
Trial ID	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Decay Corrected Activity Result (dpm/g)	Decay Corrected Activity Result (pCl/g)	
S-0300-V1A	2534.50	120	B1	0.4103	0.68	1.023	48.68	21.93	
S-0300-V2A	2411.50	120	B2	0.4015	0.78	0.994	48.41	21.81	
S-0300-V3A	2451.00	120	B4	0.4004	0.79	1.001	49.00	22.07	
S-0300-V4A	2469.50	120	C1	0.4068	0.87	1.005	48.23	21.72	
S-0300-V5A	2442.00	120	C2	0.4025	1.32	1.012	46.73	21.05	

10% Max

PASS

Average

Two Sigma Uncertainty Standard Deviation percent of known concentration

1.72 0.77 1.86% 1.86% 47.01 21.18 Target Activity

48.21

21.72

5% Max

PASS

% Diff

2.55% 2.55%

Verification Expiration Date: January 4, 2017

Prepared & Counted By Verified & Approved By

QC Approval

Date: 1/5/2016 16:31

Date: 1-6-16

S-0300		
Sr-90	Verified	
SI		1/5/16
Manufactuer	Expires Analytics	1/5/17
Sol Matrix	.1M HCL with 30 ug/g	
Ref No	75186-526	
Tech	BSteffens	ARC
Parent ID	S-0160	INTERNATIONAL
NADIOACTIVE STAND	OARDS BATON ROUGE	LABORATORY

Sr-90 Verification

1/5/2016

Tech:	J Byrd
Pipet #	MU02055
Scale ID	12332539
Standard #	S-0300

•	
Sample ID	Std weight g.
S-0300-V1A	1.0234
S-0300-V2A	0.9938
S-0300-V3A	1.0008

1.0046

1.0117

Performed By: J Byrd

S-0300-V4A

S-0300-V5A

Sr-90 Verification

1/5/2016

JPB 83 B Steffens 1-5-16

Tech: Pipet#

MU02055

Scale ID

12332539

Standard # S-0300

Sample ID Std weight g. S-0300-V1A 1.02347

S-0300-V2A 0.99384

S-0300-V3A 1.00089

S-0300-V4A 1 0046g

S-0300-V5A 1.0117 g

Performed By: B Steffens-

5. Byrd JA 1-5-16

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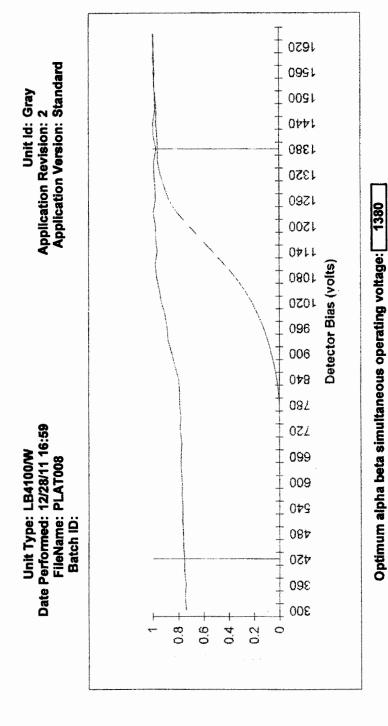
GEN 710 C 11160 Sr WJS

TOD	1/5/16 16:31	1/5/16 16:31	1/5/16 16:34	1/5/16 16:34	1/5/16 16:34
Voltage			1410		
Count Time	120	120	120	120	120
Beta	4939	4884	5069	4823	4902
Aipha	6	13	∞	12	O
Sample ID	S-0300-V4A	S-0300-V5A	S-0300-V1A	S-0300-V2A	S-0300-V3A
Detector ID	ပ	C5	B1	B2	B4
	2469.5	7442	25345	3411.5	ンイジー

GEN 704 C 11160 LONG BKG WJS

TOD 1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06
Voltage 1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410
_	900 رد. 900													
Beta 784	11911.32 788	902	069	747	689	725	773	804	707	743	610.	705	3102	713,
	85													
Sample ID C1-01	C2-01	C4-01	D1-01	D2-01	D3-01	D4-01	A1-01	A2-01	A3-01	A4-01	B1-01	B2-01	B3-01	B4-01
Detector ID C1	8 8	C4	70	D2	D3	D4	A 1	A2	A3	A4	B1	B2	B3	B4

Printed 12/30/2011 09:35

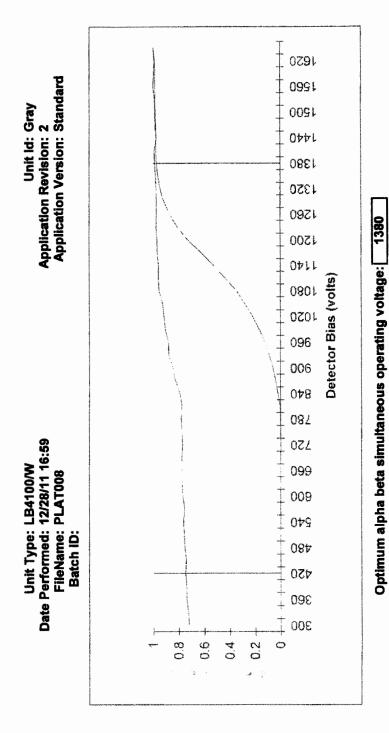


Optimum alpha only operating voltage:

A1
Beta slope at beta voltage 1.59%
Alpha slope at beta voltage 0.37%
Alpha slope at alpha voltage 1.35%

420

Printed 12/30/2011 09:35



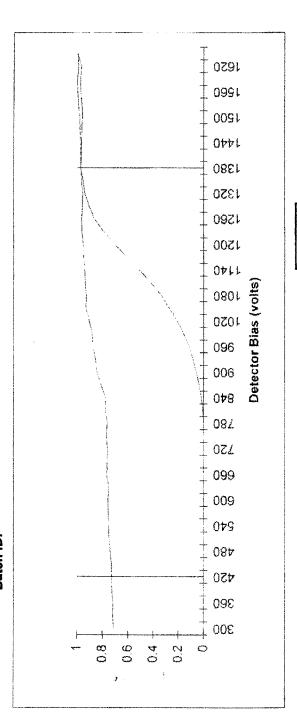
Optimum alpha only operating voltage: 420

Beta slope at beta voltage 2.37%
Alpha slope at blav voltage 1.90%

Printed 12/30/2011 09:35



Unit Id: Gray Application Revision: 2 Application Version: Standard



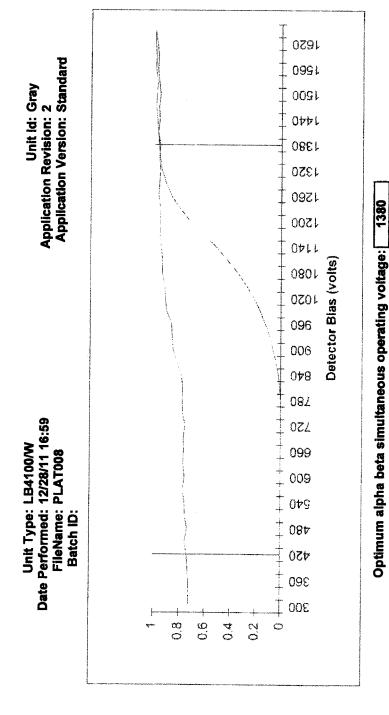
1380 Optimum alpha beta simultaneous operating voltage:

Optimum alpha only operating voltage:

A3 2.85% 1.23% 0.98%

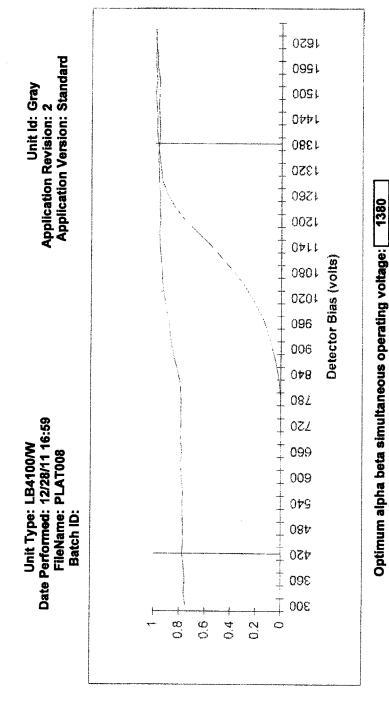
420

Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage



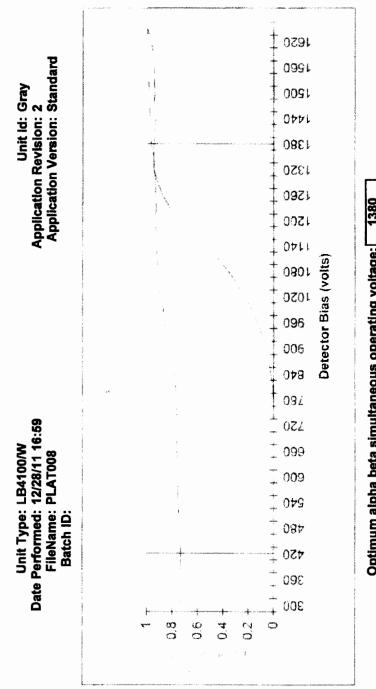
Optimum alpha only operating voltage: 420

Beta slope at beta voltage
Alpha slope at beta voltage
Alpha slope at alpha voltage
0.55%



Optimum alpha only operating voltage: BB Eta slope at beta voltage 1.59%
Alpha slope at beta voltage 0.37%
Alpha slope at alpha voltage 1.35%

420



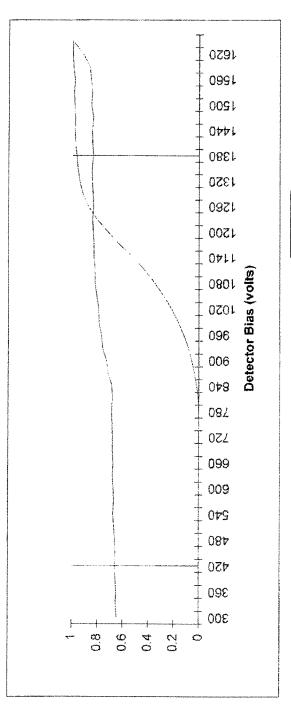
Opullium alpha beta simulamedus Operating Vollage.	Optimum alpha only operating voltage: 420	B2	2.37%	%0 6 .0-	1.90%
			Beta slope at beta voltage	Alpha slope at beta voltage	Alpha slope at aipha voitage

Printed 12/30/2011 09:35

Unit Type: LB4100/W Date Performed: 12/28/11 16:59 FileName: PLAT008

Batch ID:

Application Revision: 2
Application Version: Standard Unit ld: Gray



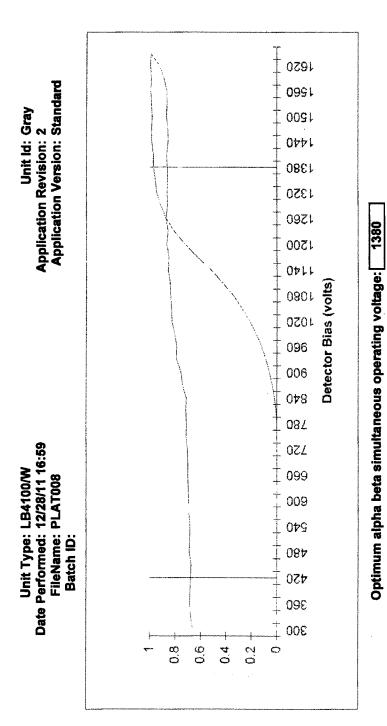
1380 Optimum alpha beta simultaneous operating voltage:

420 Optimum alpha only operating voltage:

Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage

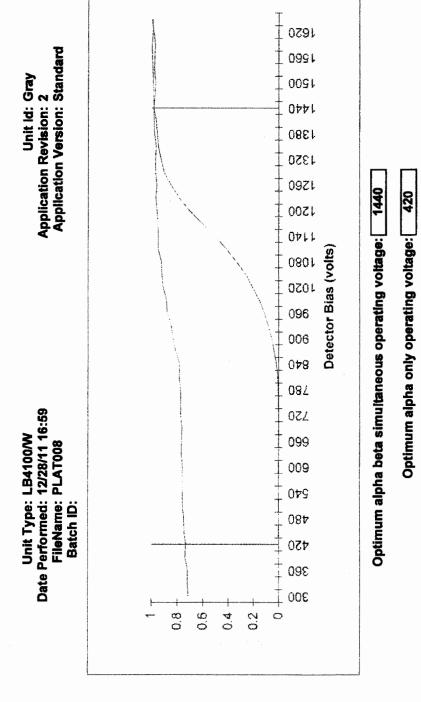
B3 2.85% 1.23% 0.98%

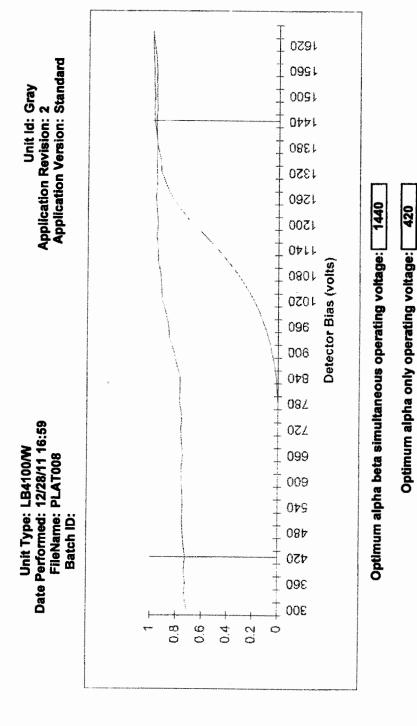
202 of 1081



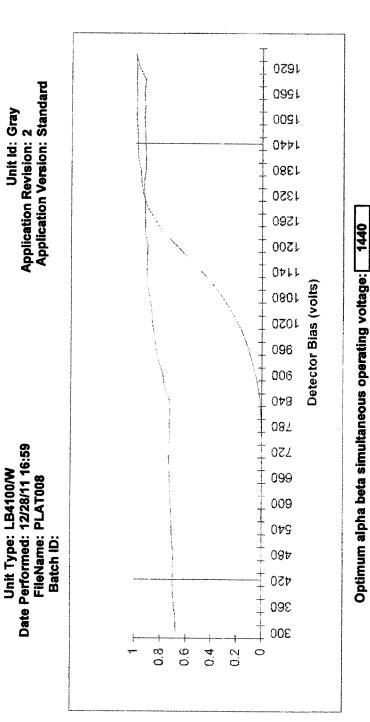
Optimum alpha only operating voltage: 420

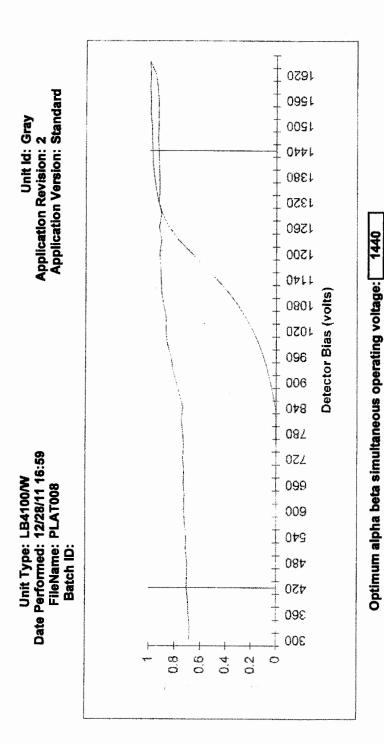
Beta slope at beta voltage
Alpha slope at beta voltage
Alpha slope at alpha voltage
0.55%





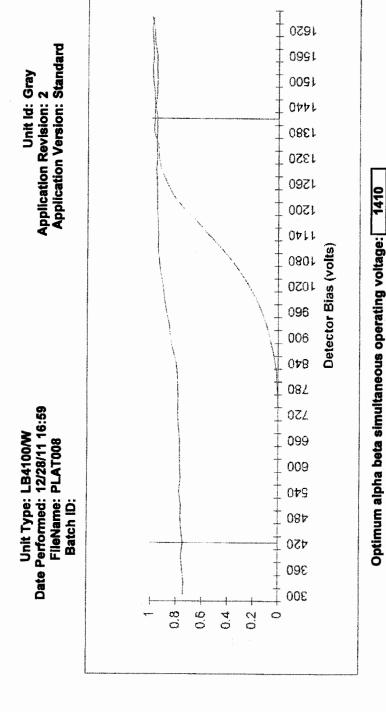
Printed 12/30/2011 09:35





Optimum alpha only operating voltage: 420

Beta slope at beta voltage
Alpha slope at alpha voltage
Alpha slope at alpha voltage
0.55%

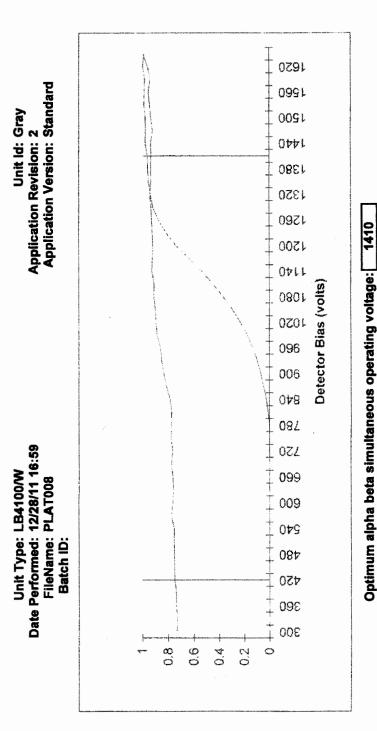


Optimum alpha only operating voltage: 420

D1

Beta slope at beta voltage 1.59%
Alpha slope at beta voltage 0.37%
Alpha slope at alpha voltage 1.35%

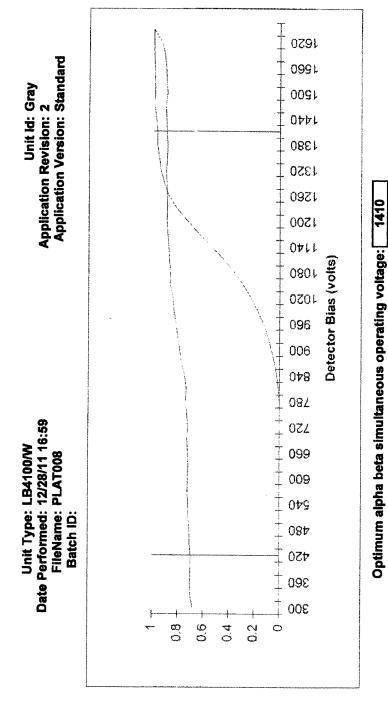
Printed 12/30/2011 09:35



420

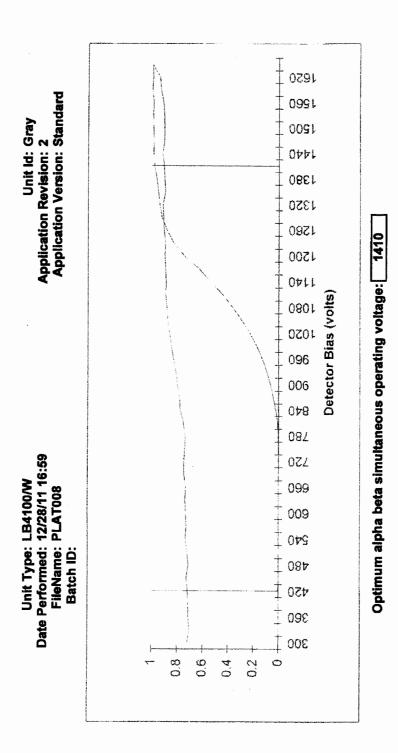
Optimum alpha only operating voltage:

Printed 12/30/2011 09:35



Optimum alpha only operating voltage: 420

Beta slope at beta voltage 1.23%
Alpha slope at alpha voltage 0.98%



420

Optimum alpha only operating voltage:

Instrument C Calibration	Updated: 12/10/2014	Detector Sr-90 Eff Y-90 Eff pCi 2.22 A1 0.36365 0.40049 dpm 1 A2 0.34188 0.36412 Bq 60 A3 0.36654 0.3896 Bq 60 A4 0.3397 0.37163 Bq 60 B2 0.33065 0.40727 Bq 60 B3 0.36741 0.38768 Bq 60 B4 0.33271 0.36578 Bq 60 C1 0.3584 0.36578 Bq 60 C2 0.33345 0.36678 Bq 60 C3 0.36300 0.3746 Bq 60 C4 0.3386 0.36872 Bq 60 D1 0.36109 0.39648 Bq 60 D2 0.34154 0.37102 Bq 0.33457 0.37063	
Instrument B Calibration	Updated: 8/20/2013	Detector S90 Eff Y-90 Eff pCi 2.22 A1 0.32591 0.42792 dpm 1 A3 0.32756 0.44781 Bq 60 A4 0.31832 0.36974 Bq 60 B1 0.33829 0.44404 B 60 B2 0.3468 0.44664 B 60 B3 0.33855 0.4404 B C C1 0.32367 0.42418 C C C2 0.32367 0.42418 C C C3 0.32367 0.4301 C C C3 0.32367 0.41571 D C D1 0.31614 0.4598 D C D2 0.32357 0.37431 D C C D3 0.31993 0.41729 C C C C C C C C C C C C C C <td< th=""><th></th></td<>	
₩.	Updated:	Defector Sr-90 Eff Y-90 Eff pCi 2.22 A1 0.34747 0.44088 dpm 1 A2 0.34268 0.46189 Bq 60 A3 0.33064 0.37872 Bq 60 B1 0.33067 0.30108 0.37610 B B2 0.3481 0.47164 B B4 0.3367 0.40727 C C1 0.34147 0.44304 0.40727 C 0.33671 0.46077 C C2 0.33677 0.42745 D 0.33668 0.43317 D D3 0.33766 0.33966 0.43397 D 0.33666 D 0.33466 D4 0.33677 0.41747 0.41747 0.41747 D 0.41747	

Tennelec LB41-PF4 Low Background α/β Counter (Instrument C)

Date	Time	ARS Batch Number	Batch Fraction	Type of Analysis	GEN Number	Detector	Analyst Initials
1-31-17	1407	17-00128	14	lo Us	1111	a	b)
2-1-17	ISM	pns	M	Bleg	701	AU	h
2-1-17	1733	Darry	W	617	712	MA	4
2-1-17	11:12	17-0117)	01	G	713	C1	b
•	ì	1	12		1	CL	v
			V			63	v
			14	MINISTER OF THE OWNER, WHEN TH		(4	v
			U	MACHINE TO PROPERTY OF		DI	N
			16			DL	り
We-Fin	<u> </u>	9	17	<u></u>	<u> </u>	D3	6
7-211	1231	17-00157	01	4	714	11	10
	ļ ^a .		11			62	70
			13			63	b
			14			th	フ
			11			197	9
			16			DI	り
U	9	<u> </u>	17	<u> </u>	5	03	1
2-2-17	1517	Denly	f/f	Bly	711	M	7
2-1-17	0721	my	P	BIF	727	11	
2-3-17	6571	Duly	M	Blen 6/12	717	bn	<i>h</i>
7-5-17	6737	May	Sh		707	A N	h
1-3-17	1131	17-1111	01	r	721	11	<i>b</i>
		1	02			17	5
			13			11	4
)	17	To the state of th	L.	11	5
	W 127	<u> </u>	U	<u>y</u>	7111	BI	5
2-417	0632	Lay Bly	W	Bly	7111	AN	h

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Revision: 1

Revision Date: 031115

Reviewed Inflats Date 2-74-17



2609 North River Road, Port Allen, Louisiana 70767 1 (800) 401-4277 FAX (225) 381-2996

Semivolatile Organics Analysis SW 846 8270D PAH's

SDG# ARS1-17-00216
COC SOLID Samples

4		Analytical Batch ID	ARS1-B17-001	-001/0												
		Analysis Code	GCMS-8270D-SO	-so			William Co.		ACMINISTRA		pull-assessable allowable to the control of the con				man man de la composition della composition dell	
D.		Procedure No	ARS-160	And the state of t		- Total spice and district on the control of the co	00000000000000000000000000000000000000					ANNERS OF THE PROPERTY OF THE			K DOOD CLUB DBACK DROOM BASING THE STORY OF THE	
	WIERNATIONAL	Watrix	SO	Accessed white property and the property of the control of the con	MACCO 00000000000000000000000000000000000	CONTRACTOR	ATTERMENTATION OF ILL DRIVE OUT OF THE	A service and service and the service of the servic	000000000000000000000000000000000000000	ODDOOD OF IN THE PROPERTY OF T			CONTRACTOR	000 000 000 000 000 000 000 000 000 00	od ocosoo se so soo slate ander likik na kwa	
ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	a	Final Volume (C)	Initial Weight (kg)	Sample Result (mg/kg)	% Solids	Dry Wt Corrected (mg/kg)	MDE (mg/kg)	PQL (mg/kg)	Spiked Amount (mg/L)	Expected Result (mg/kg)	% Rec	S S
01 - LCS	1-Methylnaphthalene	CONTROL OF THE PARTY AND A STATE OF THE STAT	02/08/17 17:52	16.760	1.0	Daw.our	0.030	0.559	100%	0.559	0.026	0.081	20.000	0.667	83.8%	
-	2-Methylnaphthalene	- dediction (A)	02/08/17 17:52	16.910	1.0	0.001	0:030	0.564	100%	0.564	0.025	0.079	20.000	0.667	84.6%	100 Aug 100 000 000 000 000 000 000 000 000 00
	Acenaphthene		02/08/17 17:52	17.920	1.0	0.001	0:030	0.597	100%	0.597	0.021	0.067	20.000	0.667	%9.68	-
	Acenaphthylene	Newworld Trade - Trade	02/08/17 17:52	18.170	1.0	0.001	0:030	909:0	100%	909.0	0.022	0.069	20.000	0.667	%6.06	04-4-100-10-40-0
	Anthracene	The state of the s	02/08/17 17:52	19.150	1.0	0.001	0:030	0.638	100%	0.638	0.033	0.105	20.000	0.667	95.8%	A CONTRACTOR CONTRACTO
- 10,42, 10.0	Benzo(a)anthracene		02/08/17 17:52	20.010	1.0	0.001	0:030	0.667	100%	0.667	0.036	0.115	20.000	0.667	100.1%	
	Benzo(a)pyrene	00000000000000000000000000000000000000	02/08/17 17:52	19.610	1.0	0.001	0.030	0.654	100%	0.654	0.057	0.183	20.000	0.667	98.1%	
	Benzo(b)fluoranthene	CONTROL TO THE STATE OF THE STA	02/08/17 17:52	19.970	1.0	0.001	0.030	0.666	100%	0.666	0.056	0.179	20.000	0.667	%6'66	00000000000000000000000000000000000000
	Benzo(g,h,i)perylene	database en	02/08/17 17:52	19.500	1.0	0.001	0.030	0.650	100%	0.650	0.053	0.169	20.000	0.667	97.5%	
	Benzo(k)fluoranthene	AND THE PROPERTY PROPERTY AND THE PROPERTY PROPERTY AND THE PROPERTY PROPERTY AND THE PROPERTY PROPERTY AND THE PROPERTY AND	02/08/17 17:52	19.950	1.0	0.001	0:030	0.665	100%	0.665	0.057	0.182	20.000	0.667	%8.66	0.000.000000000000000000000000000000000
	Chrysene	TO THE PROPERTY AND THE	02/08/17 17:52	19.950	1.0	0.001	0.030	0.665	100%	0.665	0.037	0.118	20.000	0.667	%8.66	
	Dibenz(a,h)anthracene		02/08/17 17:52	19.610	1.0	0.001	0.030	0.654	100%	0.654	0.053	0.170	20.000	0.667	98.1%	
	Ruoranthene		02/08/17 17:52	20.140	1.0	0.001	0:030	0.671	100%	0.671	0.035	0.111	20.000	0.667	100.7%	
	Fluorene	AND THE PROPERTY OF THE PROPER	02/08/17 17:52	18.640	1.0	0.001	0.030	0.621	100%	0.621	0.020	0.062	20.000	0.667	93.2%	
	Indeno(1,2,3-cd)pyrene		02/08/17 17:52	19.750	1.0	0.001	0.030	0.658	100%	0.658	0.054	0.173	20.000	0.667	98.8%	
	Naphthalene		02/08/17 17:52	17.110	1.0	0.001	0.030	0.570	100%	0.570	0.044	0.141	20.000	0.667	85.6%	
	Phenanthrene		02/08/17 17:52	19.330	1.0	0.001	0.030	0.644	100%	0.644	0.029	0.093	20.000	0.667	%2'96	
	Pyrene		02/08/17 17:52	19.980	1.0	0.001	0.030	0.666	100%	0.666	0.036	0.114	20.000	0.667	%6'66	
02 - LCSD	1-Methylnaphthalene		02/08/17 18:21	13.940	1.0	0.001	0:030	0.465	100%	0.465	0.026	0.081	20.000	0.667	%2'69	18.4%
	2-Methylnaphthalene		02/08/17 18:21	13.720	1.0	0.001	0.030	0.457	100%	0.457	0.025	0.079	20.000	0.667	%9.89	20.8%
	Acenaphthene		02/08/17 18:21	15.220	1.0	0.001	0:030	0.507	100%	0.507	0.021	0.067	20.000	0.667	76.1%	16.3%
	Acenaphthylene		02/08/17 18:21	15.540	1.0	0.001	0:030	0.518	100%	0.518	0.022	0.069	20.000	0.667	77.7%	15.6%
	Anthracene		02/08/17 18:21	18.410	1.0	0.001	0:030	0.614	100%	0.614	0.033	0.105	20.000	0.667	92.1%	3.9%
	Benzo(a)anthracene		02/08/17 18:21	19.630	1.0	0.001	0:030	0.654	100%	0.654	0.036	0.115	20.000	0.667	98.2%	1.9%
	Benzo(a)pyrene		02/08/17 18:21	19.040	1.0	0.001	0:030	0.635	100%	0.635	0.057	0.183	20.000	0.667	95.2%	2.9%
	Benzo(b)fluoranthene		02/08/17 18:21	19.420	1.0	0.001	0:030	0.647	100%	0.647	0.056	0.179	20.000	0.667	97.1%	2.8%
	Benzo(g,h,i)perylene		02/08/17 18:21	19.470	1.0	0.001	0:030	0.649	100%	0.649	0.053	0.169	20.000	0.667	97.4%	0.2%
	Benzo(k)fluoranthene	CONCORD TO SERVICE STATE OF THE PROPERTY OF T	02/08/17 18:21	19.780	1.0	0.001	0:030	0.659	100%	0.659	0.057	0.182	20.000	0.667	%6'86	%6.0
	Chrysene		02/08/17 18:21	19.690	1.0	0.001	0.030	0.656	100%	0.656	0.037	0.118	20.000	0.667	98.5%	1.3%
	Dibenz(a,h)anthracene		02/08/17 18:21	19.790	1.0	0.001	0.030	0.660	100%	0.660	0.053	0.170	20.000	0.667	%0.66	0.9%
	Fluoranthene		02/08/17 18:21	19.260	1.0	0.001	0.030	0.642	100%	0.642	0.035	0.111	20.000	0.667	%E'96	4.5%
	Fluorene		02/08/17 18:21	17.280	1.0	0.001	0.030	0.576	100%	0.576	0.020	0.062	20.000	0.667	86.4%	7.6%
	Indeno(1,2,3-cd)pyrene		02/08/17 18:21	19.670	1.0	0.001	0:030	0.656	100%	0.656	0.054	0.173	20.000	0.667	98.4%	0.4%
	Naphthalene		02/08/17 18:21	13.330	1.0	0.001	0.030	0.444	100%	0.444	0.044	0.141	20.000	0.667	%2'99	24.8%
	Phenanthrene	- Andrews	02/08/17 18:21	18.690	1.0	0 00	0.030	0 673	100%	0.623	0000	0000	20.000	0.667	02 50%	3 4%

Abatch Sample ID	02 - LCSD	03 - MBL																	Control of the Contro	04 - TRG																			
Analyce	Pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	1-Methylnaphthalene	2-Methylnaphthalene	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenz(a,h)anthracene	Fluoranthene	Fluorene	Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene	Pyrene	2,4,6-Tribromophenol (Surr)	2-Fluorobiphenyl (Surr)
	THE	AAAAA TAATI TA	AND THE PROPERTY OF THE PROPER	No. 1700 000000000000000000000000000000000	AN ORDER OF THE PROPERTY OF TH	AND THE PROPERTY OF THE PROPER	136130000 00000000 + 19000 1 51114 1 151111111111111111111111111111111111	WWW. WILLIAM SERVING CONTROL OF THE SERVING C	TO THE PROPERTY OF THE PROPERT	was the following the control of the										ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001	ARS1-17-00216-001
Analysis Date/Time	02/08/17 18:21	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 17:22	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51	02/08/17 18:51
Response (mg/L)	19.680	0.000	0.000	0.000	0000	00000	0.000	0.000	0.000	0.000	0.000	0.000	0000	0.000	0.000	0000	0.000	0000	0.000	0.000	0.000	0.000		0000	0.000	0.000	0.000	0.000	0.000	0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	29.740	18.790
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Volume (L)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Weight (kg)	0:030	0:030	0.030	0.030	0:030	0:030	0:030	0:030	0:030	0:030	0:030	0:030	0.030	0:030	0.030	0.030	0:030	0:030	0:030	0.030	0.030	0:030	0:030	0.030	0:030	0:030	0.030	0:030	0:030	0:030	0:030	0.030	0:030	0.030	0:030	0:030	0:030	0:030	0.030
Result (mg/kg)	0.656	0.000	0.000	0.000	000.0	0.000	0.000	0.000	0.000	0.000	0.000	00000	00000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.991	0.626
Solids	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%					%9.08	80.6%	80.6%	80.6%	80.6%	80.6%	80.6%	%9'08		80.6%	80.6%	80.6%	80.6%		80.6%	80.6%
Corrected (mg/kg)	0.656	0.000	0.000	00000	0.000	0.000	0.000	0.000	0.000	0.000	000.0	0.000	0.000	000'0	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.230	7777
Y		ח	כ	5	-		٦	ס	ם	ם	ח	כ	כ	ם	ר	¬	ם	ם	D		D	D		D	ם	ס	ב כ	ם	_	D	>	כ	D	D	-	ס	2		
(mg/kg)	0.036	0.026	0.025	0.021	0.022	0.033	0.036	0.057	0.056	0.053	0.057	0.037	0.053	0.035	0.020	0.054	0.044	0.029	0.036	0.026	0.025	0.021	0.022	0.033	0.036	0.057	0.056	0.053	0.057	0.037	0.053	0.035	0.020	0.054	0.044	0.029	0.036	N/A	N/A
(mg//gm)	0.114	0.081	0.079	0.067	0.069	0,105	0.115	0.183	0.179	0.169	0.182	0.118	0.170	0.111	0.062	0.173	0.141	0.093	0.114	0.081	0.079	0.067	0.069	0.105	0.115	0.183	0.179	0.169	0.182	0.118	0.170	0.111	0.062	0.173	0.141	0.093	0.114	N/A	N/A
Amount (mg/L)	20.000					A STATE OF THE STA	54-0-0-4-18-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-									And the second decrease of the second decreas	-		(AV) (V) (V) (AVI magazina production and acceptance of the control of the contro	Security Decoration of the Control o		TV M(V) (V)(W)(V)(V) (V) (V) (V)	2000 C - 10 00 00 00 00 00 00 00 00 00 00 00 00	CONTRACTOR OF A PART OF THE PA	200000-1-K1183A5000000000000000000000000000000000000	() ()()() or () in a constant	Ogija iji ilga i aasi ji i daaddabaada saawaani gaarii	1000			000000000000000000000000000000000000000	THE REPORT OF THE PROPERTY OF	AAT CAN CANDER OF THE	200000000000000000000000000000000000000	-	0000 0000 0000 0000 0000 0000 0000 0000 0000		40.000	40.000
Result (mg/kg)	0.667	Annahari da Manahari da da manahari da					STORY STATE OF WAR ALTER BLOCK					1000				The control of control of the contro					Presentation of the second sec				990999 m A 13 0702 VACCES	Commission of the commission o			100.00			Constant and the second			Principle Control of the Control of	- Annual Control of the State o	The second secon	1.655	1.655
	98.4%						000000000000000000000000000000000000000						- Con large, see Co		1000				Control Control Control	\$351000000000000000000000000000000000000				0.0000000000000000000000000000000000000			10000000000000000000000000000000000000							HAIM, vand		WWW.		74.4%	47.0%
	1.5%					2000	accessorial managements					WWW.WW.		000000000000000000000000000000000000000		0.000		V9900000000000000000000000000000000000	000000000000000000000000000000000000000	100000000000000000000000000000000000000			Anericano Associação Antono	ON THE STREET OF	100000000000000000000000000000000000000	- West -	2000	200		- Annahalis de la company	***************************************	0.000	Manager Control Control	000000000000000000000000000000000000000	000000000000000000000000000000000000000	Methodologia	rere o cordo word	100000000000000000000000000000000000000	

ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	4	Volume (C)	Initial Weight (kg)	Sample Result (mg/kg)	% Solids	Dry Wt Corrected (mg/kg)	* € •	MDL (mg/kg)	PQL (mg/kg)	Spiked Amount (mg/L)	Expected Result (ma/kg)	% Rec	&
04 - TRG	Nitrobenzene-d5 (Surr)	ARS1-17-00216-001	02/08/17 18:51	9.770	1.0	2000-00-00	0.030	0.326	80.6%	0.404		N/A	N/A	40.000	1.655	24.4%	
	Phenol-d5 (Surr)	ARS1-17-00216-001	02/08/17 18:51	13.180	1.0	0.001	0.030	0.439	80.6%	0.545		N/A	N/A	40.000	1.655	33.0%	
	Terphenyl-114 (Surr)	ARS1-17-00216-001	02/08/17 18:51	29.920	1.0	0.001	0:030	0.997	80.6%	1.238	CO	N/A	N/A	40.000	1.655	74.8%	000000000000000000000000000000000000000
05 - TRG	1-Methylnaphthalene	ARS1-17-00216-002	02/08/17 20:19	0,000	1.0	0.001	0.030	0.000	86.4%	0.000	0 0	0.026	0.081	One of the state o	occided amonement websterous begone		contractor space croperco
	2-Methylnaphthalene	ARS1-17-00216-002	02/08/17 20:19	000'0	1.0	0.001	0.030	000'0	86.4%	0.000	0	0.025	0.079		***************************************	W. M.	\$1000000000000000000000000000000000000
	Acenaphthene	ARS1-17-00216-002	02/08/17 20:19	000'0	1.0	0.001	0.030	0.000	86.4%	0.000	0 0	0.021	0.067	The state of the s			
	Acenaphthylene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0 0	0.022	0.069	TO THE PERSON CONTRACTOR OF THE PERSON CONTRAC	Market Control	III III III III III III III III III II	
	Anthracene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0:030	0.000	86.4%	0.000	0 0	0.033	0.105				Annual control of the
	Benzo(a)anthracene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	o o	0.036	0.115		The state of the s	Name of the Party	and the state of t
	Benzo(a)pyrene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	o O	0.057	0.183		Control of the control of the control of	A 19711L A September of Persons and September of Septembe	And a second sec
	Benzo(b)fluoranthene	ARS1-17-00216-002	02/08/17 20:19	00000	1.0	0.001	0:030	0.000	86.4%	0.000	U 0.	0.056	0.179		And the second s	The second consequency of the second consequ	TOTAL STREET
	Benzo(g,h,i)perylene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	.0 0	0.053	0,169	OC THE REST OF THE PERSON AND THE PE	Principal de de la companya del companya del companya de la compan		Construction and American
	Benzo(k)fluoranthene	ARS1-17-00216-002	02/08/17 20:19	00000	1.0	0.001	0.030	00000	86.4%	0.000	0	0.057	0.182				
	Chrysene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0	0.037	0.118		Months (Florid	Harriston Communication of the	of het content to the content of the
	Dibenz(a,h)anthracene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	U 0.	0.053	0.170	Cardio construire (proprieta de participa de	Market School Co.		Charles Stade and the physical stades
	Fluoranthene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	U 0.	0.035	0.111	TO THE RESIDENCE OF MANAGEMENT AND ADDRESS OF THE PARTY O	-	and the second s	Service Advisor (A. A. A
	Fuorene e	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0	0.020	0.062		Parameter Control of the Control of	W. Western and W. Walder and M. Walder and W. Walder and W	Available of the research
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0	0.054	0.173	Months of the first of the firs	Monda de Montal i estant marien i veri Cer	HANDLAND BENDERFORM STANKEN	W100113880000000000000000000000000000000
	Naphthalene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0	0.044	0.141	OLI DALI DALI DALIMANI DI COCCOCCIO	OCCUPATION OF THE PROPERTY OF	000000000000000000000000000000000000000	Anythropida to degrada anatom
	Phenanthrene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	U 0.	0.029	0.093	A CONTRACTOR OF THE PROPERTY O	A CONTRACTOR OF THE CONTRACTOR	Established and the second and the s	Windhist Contraction
	Pyrene	ARS1-17-00216-002	02/08/17 20:19	0.000	1.0	0.001	0.030	0.000	86.4%	0.000	0	0.036	0.114	The second secon	7.0		THEFT HE CHARGE CONTROL
	2,4,6-Tribromophenol (Surr)	ARS1-17-00216-002	02/08/17 20:19	33.970	1.0	0.001	0.030	1.132	86.4%	1.311	_	N/A	N/A	40.000	1.544	84.9%	
	2-Fluorobiphenyl (Surr)	ARS1-17-00216-002	02/08/17 20:19	30.140	1.0	0.001	0.030	1.005	86.4%	1.163	-	N/A	N/A	40.000	1.544	75.4%	Married of Guardian Constitution
	2-Fluorophenol (Surr)	ARS1-17-00216-002	02/08/17 20:19	21.900	1.0	0.001	0.030	0.730	86.4%	0.845	-	N/A	N/A	40.000	1.544	54.8%	mandagement of the State of the
	Nitrobenzene-d5 (Surr)	ARS1-17-00216-002	02/08/17 20:19	30.010	1.0	0.001	0.030	1.000	86.4%	1.158	CONTRACTOR OF THE CONTRACTOR O	N/A	N/A	40,000	1.544	75.0%	Neil Control Control
	Phenol-d5 (Surr)	ARS1-17-00216-002	02/08/17 20:19	25.170	1.0	0.001	0.030	0.839	86.4%	0.971	Z	N/A	N/A	40.000	1.544	62.9%	
	Terphenyl-d14 (Surr)	ARS1-17-00216-002	02/08/17 20:19	32.110	1.0	0.001	0:030	1.070	86.4%	1.239	Z	N/A	N/A	40.000	1.544	80.3%	-
06 - TRG	1-Methylnaphthalene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0000	77.7%	0.000	0	0.026	0.081				70 TO THE TOTAL
	2-Methylnaphthalene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	0000	77.7%	0.000	, 0	0.025	0.079				
	Acenaphthene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0.000	77.7%	0000	٥.	0.021	0.067			CATALOG MANAGEMENT AND	The state of the s
	Acenaphthylene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	0.000	77.7%	0.000	0	0.022	0.069	o de la companya del companya de la companya de la companya del companya de la companya del companya de la companya de la companya de la companya de la companya del companya de la companya della companya de la companya della compan			- Anna anna anna anna anna anna anna ann
	Anthracene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	00000	77.7%	0.000	0.	0.033	0.105	-	***************************************	BEAUTIFICATION OF THE PROPERTY	A COLUMN TO A COLU
	Benzo(a)anthracene	ARS1-17-00216-003	02/09/17 12:56	0000	1.0	0.001	0.030	0.000	77.7%	000.0	<u>0</u>	0.036	0.115		Menisphinister H. Little and Co. Or Co.		
	Benzo(a)pyrene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	0.000	77.7%	0.000	٥ 0	0.057	0.183			Commonwell Commonwell	AND FORM BROWNING AND TOWN
	Benzo(b)fluoranthene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0,001	0:030	0.000	77.7%	0.000	.0 0.0	0.056	0.179		- Commence of the commence of	The second secon	Contraction of the Contraction o
	Benzo(g,h,i)perylene	ARS1-17-00216-003	02/09/17 12:56	0,000	1.0	0.001	0:030	0.000	77.7%	0.000	.0 U	0.053	0.169		of the second se		***************************************
	Benzo(k)fluoranthene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0,001	0.030	0.000	77.7%	0.000	U 0.0	0.057	0,182		**************************************		
	Chrysene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0.000	77.7%	0.000	0.	0.037	0.118	Control sing			
	Dibenz(a,h)anthracene	ARS1-17-00216-003	02/09/17 12:56	0000	1.0	0.001	0:030	0.000	77.7%	0.000	U 0.0	0.053	0.170	Control of the contro		***************************************	70000000000000000000000000000000000000
	Fluoranthene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0.000	0.000 77.7%	0.000	U 0.0	0.035	0.111	**************************************	ar ANT ACRE		

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ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	L	Volume (L)	Initial Weight (kg)	Sample Result (mg/kg)	Solids	Corrected (mg/kg)	3	(mg/kg)	PQL (mg/kg)	Amount (mg/L)	Result (mg/kg)	9 8 8	•
06 - TRG	Fluorene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0.000	77.7%	0.000	>	0.020	0.062				
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	0.000	77.7%	0.000	>	0.054	0.173		AND COLORS OF THE COLORS OF TH		
	Naphthalene	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0.030	0.000	77.7%	0.000	>	0.044	0.141				
	Phenanthrene	ARS1-17-00216-003	02/09/17 12:56	000'0	1.0	0.001	0:030	0.000	77.7%	000.0	>	0.029	0.093				
	Ругеле	ARS1-17-00216-003	02/09/17 12:56	0.000	1.0	0.001	0:030	0.000	77.7%	00000	Э	0.036	0.114				
	2,4,6-Tribromophenol (Surr)	ARS1-17-00216-003	02/09/17 12:56	31.420	1.0	0.001	0.030	1.047	77.7%	1.348		N/A	N/A	40.000	1.716	78.6%	
	2-Fluorobiphenyl (Surr)	ARS1-17-00216-003	02/09/17 12:56	18.600	1.0	0.001	0:030	0.620	77.7%	0.798	(0000000000000000000000000000000000000	N/A	N/A	40.000	1.716	46.5%	00000000000000000000000000000000000000
	2-Fluorophenol (Surr)	ARS1-17-00216-003	02/09/17 12:56	20.290	1.0	0.001	0:030	0.676	77.7%	0.870		N/A	N/A	40.000	1.716	20.7%	00000000000000000000000000000000000000
	Nitrobenzene-d5 (Surr)	ARS1-17-00216-003	02/09/17 12:56	23.370	1.0	0.001	0.030	0.779	77.7%	1.003		N/A	N/A	40.000	1.716	58.4%	
	Phenol-d5 (Surr)	ARS1-17-00216-003	02/09/17 12:56	20.900	1.0	0.001	0.030	0.697	77.7%	0.897		N/A	N/A	40.000	1.716	52.3%	00000000000000000000000000000000000000
	Terphenyl-d14 (Surr)	ARS1-17-00216-003	02/09/17 12:56	24.680	1.0	0.001	0:030	0.823	77.7%	1.059	Č	N/A	N/A	40.000	1.716	61.7%	
07 - TRG	1-Methylnaphthalene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	89.5%	0.000	_	0.026	0.081	90000000000000000000000000000000000000	40700 BCT5000000000000000000000000000000000000	The same of the sa	***************************************
	2-Methylnaphthalene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0:030	0.000	%5.65	0.000		0.025	0.079		AA	Section of Company of the Section (Section)	
	Acenaphthene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0:030	0.000	89.5%	0.000	-	0.021	0.067		COCCOUNTY, Lagar Lagarenter in pulse statement of the sta		***************************************
	Acenaphthylene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000)	0.022	0.069		CONTROL OF THE STANDARD PROPERTY OF THE STANDA	200	
	Anthracene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0:030	0.000	89.5%	0.000)	0.033	0.105	ACTIVATE STATE OF THE STATE OF	gen e majoranti di producti di	4 4 4 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9	Common market (COCCO) (COCCO) (COCCO)
	Benzo(a)anthracene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	89.5%	0.000	Ъ	0.036	0.115	Approximation of the section of the		The state of the s	
	Benzo(a)pyrene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0:030	0.000	29.5%	0.000		0.057	0.183	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	A		000000000000000000000000000000000000000
	Benzo(b)fluoranthene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	59.5%	0.000		0.056	0.179	AND THE RESERVE OF THE PERSON	919-97	200 mar 100 ma	
	Benzo(g,h,i)perylene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000)	0.053	0.169		And and the second seco	The second secon	CONTRACTOR AND CONTRA
	Benzo(k)fluoranthene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	59.5%	0.000	Э	0.057	0.182		100 miles		
	Chrysene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0:030	0.000	29.5%	0.000	-	0.037	0.118	***************************************		or trafacow	
	Dibenz(a,h)anthracene	ARS1-17-00216-004	02/08/17 21:18	00000	1.0	0.001	0.030	0.000	29.5%	0.000	-	0.053	0.170	VVVVVVA		San MAJALESS	
	Fluoranthene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000	>	0.035	0.111	1000		0.000	
	Fluorence of the state of the s	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000	ם	0.020	0.062		Average designation of the control o	STATE OF THE STATE	
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	89.5%	0.000	>	0.054	0.173				
	Naphthalene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000	-	0.044	0.141	and the second		m.m.,,,,,	
	Phenanthrene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000	>	0.029	0.093				
	Pyrene	ARS1-17-00216-004	02/08/17 21:18	0.000	1.0	0.001	0.030	0.000	29.5%	0.000	-	0.036	0.114			220000000	
	2,4,6-Tribromophenol (Surr)	ARS1-17-00216-004	02/08/17 21:18	31.990	1.0	0.001	0.030	1.066	89.5%	1,791		N/A	N/A	40.000	2.240	80.0%	
	2-Fluorobiphenyl (Surr)	ARS1-17-00216-004	02/08/17 21:18	21.270	1.0	0.001	0.030	0.709	%5'65	1.191		N/A	N/A	40.000	2.240	53.2%	
	2-Fluorophenol (Surr)	ARS1-17-00216-004	02/08/17 21:18	23.100	1.0	0.001	0.030	0.770	59.5%	1.294		N/A	N/A	40.000	2.240	57.8%	
	Nitrobenzene-d5 (Surr)	ARS1-17-00216-004	02/08/17 21:18	22.050	1.0	0.001	0:030	0.735	29.5%	1.235		N/A	N/A	40.000	2.240	55.1%	
	Phenol-d5 (Surr)	ARS1-17-00216-004	02/08/17 21:18	25.320	1.0	0.001	0:030	0.844	89.5%	1.418		N/A	N/A	40.000	2.240	63.3%	The second second second
	Terphenyl-d14 (Surr)	ARS1-17-00216-004	02/08/17 21:18	23.980	1.0	0.001	0.030	0.799	29.5%	1.343		N/A	N/A	40.000	2.240	%0.09	
08 - TRG	1-Methylnaphthalene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	ם	0.026	0.081	TTTT 0.000-0.00			
	2-Methylnaphthalene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	%6'88	0.000	ב כ	0.025	0.079			Braig windsofts	
	Acenaphthene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	%6.88	00000	ס	0.021	0.067	14		Angelgrey Well	
	Acenaphthylene	ARS1-17-00216-005	02/08/17 21:48	000'0	1.0	0.001	0:030	0.000	88.9%	0.000	ס	0.022	0.069				
errerase-	Anthracene	ARS1-17-00216-005 02/08/17 21:48	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	00000		0.033	0.105	SERVAN)-Wester	

ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	5	Final Volume (L)	Initial Weight (kg)	Sample Result (mg/kg)	% Solids	Dry Wt Corrected (mg/kg)	o co	MDL (mg/kg)	PQL (mg/kg)	Spiked Amount (mg/L)	Expected Result (mg/kg)	% Rec	
08 - TRG	Benzo(a)anthracene	ARS1-17-00216-005	02/08/17 21:48	0000	1.0	0.001	0.030	0.000	88.9%	0.000	>	0.036	0.115				<u>.</u>
	Benzo(a)pyrene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	_	0.057	0.183		11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		1
	Benzo(b)fluoranthene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0:030	0.000	88.9%	0.000	_	0.056	0.179		DPORTON CONTROL OF THE PROPERTY OF THE PROPERT	Microsoft and the second and the sec	ļ
	Benzo(g,h,i)perylene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0:030	0.000	88.9%	0.000	5	0.053	0.169		S CO		
	Benzo(k)fluoranthene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	-	0.057	0.182			7	
	Chrysene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	n	0.037	0.118	To common and Carlottic Science (Colors of Carlottic Science of Carlotti	THE	Control of the Contro	
	Dibenz(a,h)anthracene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	n	0.053	0.170	ON ON THE PARTY OF THE PARTY OF THE PARTY.	And the state of t		
	Fluoranthene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	ם	0.035	0.111	00000000000000000000000000000000000000			
	Fluorene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	<u> </u>	0.020	0.062				
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	<u>,, </u>	0.054	0.173		The state of the s		
	Naphthalene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0.000	Э	0.044	0.141	00000000000000000000000000000000000000			
	Phenanthrene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0.030	0.000	88.9%	0000)	0.029	0.093		And the second state of the second se	Process and the second of the	
	Pyrene	ARS1-17-00216-005	02/08/17 21:48	0.000	1.0	0.001	0:030	00000	88.9%	0.000	5	0.036	0.114	CONTRACTOR	notice de la constitue de la c		
	2,4,6-Tribromophenol (Surr)	ARS1-17-00216-005	02/08/17 21:48	32.240	1.0	0.001	0.030	1.075	88.9%	1.209	À	N/A	N/A	40.000	1.500	80.6%	000000
	2-Fluorobipheny (Surr)	ARS1-17-00216-005	02/08/17 21:48	28.910	1.0	0.001	0:030	0.964	88.9%	1.084		N/A	N/A	40.000	1.500	72.3%	
	2-Fluorophenol (Surr)	ARS1-17-00216-005	02/08/17 21:48	18.260	1.0	0.001	0.030	609.0	88.9%	0.685		N/A	N/A	40.000	1.500	45.7%	V10000000
	Nitrobenzene-d5 (Surr)	ARS1-17-00216-005	02/08/17 21:48	23.010	1.0	0.001	0.030	0.767	88.9%	0.863		A/A	N/A	40.000	1.500	57.5%	· parameters of the
	Phenol-d5 (Surt)	ARS1-17-00216-005	02/08/17 21:48	22.710	1.0	0.001	0.030	0.757	88.9%	0.852		N/A	N/A	40.000	1.500	%8.95	-
	Terphenyl-d14 (Surr)	ARS1-17-00216-005	02/08/17 21:48	34.910	1.0	0.001	0.030	1.164	88.9%	1.309		N/A	N/A	40.000	1.500	87.3%	
09 - TRG	1-Methylnaphthalene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	>	0.026	0.081			d op name	
	2-Methylnaphthalene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	>	0.025	0.079		100 mm of the control		4
	Acenaphthene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	>	0.021	0.067		,)*************************************	
	Acenaphthylene	ARS1-17-00216-006	02/08/17 22:17	0000	1.0	0.001	0:030	0.000	86.7%	0.000	ے ح	0.022	690'0				a constant and a cons
	Anthracene	ARS1-17-00216-006	71:22 71/80/20	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	>	0.033	0.105	000000000000000000000000000000000000000	Andrew Programmy for the thing of the things and the things are th	THE	00400
	Benzo(a)anthracene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	000.0	86.7%	0.000	-	0.036	0.115		Control to the second state of the second se		***************************************
	Benzo(a)pyrene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	ے ا	0.057	0.183	100 Carlo Ca		And the second	
	Benzo(b)fluoranthene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	000.0	86.7%	0.000		0.056	0.179				all management of
	Benzo(g,h,i)perylene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	<u> </u>	0.053	0.169	00000000000000000000000000000000000000			
	Benzo(k)fluoranthene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000)	0.057	0.182	0.0000000000000000000000000000000000000	R (8 8) S (5 phyllin unida, addin unida (8 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Quantities have reliable to market	
	Chrysene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	5	0.037	0.118	And the control of th	THE THE PROPERTY OF THE PROPER	A CONTRACTOR OF THE PARTY OF TH	Automator
	Dibenz(a,h)anthracene	ARS1-17-00216-006	71:22 71/80/20	0.000	1.0	0.001	0.030	0.000	86.7%	0.000		0.053	0.170	ana			Per-denie a
	Fluoranthene	ARS1-17-00216-006	02/08/17 22:17	000'0	1.0	0.001	0.030	00000	86.7%	0.000	ח	0.035	0.111		20 TO THE RESIDENCE OF		1000
	Fluorene	ARS1-17-00216-006	02/08/17 22:17	000'0	1.0	0.001	0.030	0.000	86.7%	0.000	<u></u>	0.020	0.062	The second secon	A CONTRACTOR OF THE CONTRACTOR		
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	ח	0.054	0.173				
	Naphthalene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	00000	86.7%	0.000)	0.044	0.141	Manage 2000000000000000000000000000000000000	Predictions		
	Phenanthrene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	ם ס	0.029	0.093		and the composition of the compo		
	Pyrene	ARS1-17-00216-006	02/08/17 22:17	0.000	1.0	0.001	0.030	0.000	86.7%	0.000	n	0.036	0.114		A CONTRACTOR OF THE CONTRACTOR		000000000000000000000000000000000000000
	2,4,6-Tribramophenol (Surr)	ARS1-17-00216-006	02/08/17 22:17	37.750	1.0	0.001	0.030	1.258	86.7%	1.452		N/A	N/A	40.000	1.538	94.4%	
	2-Fluorobiphenyl (Surr)	ARS1-17-00216-006	02/08/17 22:17	30.350	1.0	0.001	0:030	1.012	86.7%	1.167		N/A	N/A	40.000	1.538	75.9%	
	2-Elizabeth (City)	ARS1-17-00216-006	02/08/17 22:17	32.440	1.0	0.001	0.030	1.081	86.7%	1.248		N/A	N/A	40.000	1.538	81.1%	

ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	ک	Final Volume (L)	Initial Weight (kg)	Sample Result (mg/kg)	%ids	Dry Wt Corrected (mg/kg)	. 5	MDL (mg/kg)	PQL (mg/kg)	Spiked Amount (mg/L)	Expected Result (mg/kg)	8	8
09 - TRG	Nitrobenzene-d5 (Surr)	ARS1-17-00216-006	02/08/17 22:17	32.580	1.0	0.001	0:030	1.086	86.7%	1.253	- minusippe (N/A	N/A	40.000	1.538	81.5%	00000000000000000000000000000000000000
	Phenol-d5 (Surr)	ARS1-17-00216-006	02/08/17 22:17	32.800	1.0	0.001	0.030	1.093	86.7%	1,261		N/A	N/A	40.000	1.538	82.0%	***
	Terphenyl-d14 (Surr)	ARS1-17-00216-006	02/08/17 22:17	32.950	1.0	0.001	0.030	1.098	86.7%	1.267	1	N/A	N/A	40.000	1.538	82.4%	
10 - MS	1-Methyinaphthalene	ARS1-17-00216-001	02/08/17 19:20	7.860	1.0	0.001	0.030	0.262	80.6%	0.325		0.026	0.081	20.000	0.827	39.3%	
	2-Methyinaphthalene	ARS1-17-00216-001	02/08/17 19:20	6.490	1.0	0.001	0.030	0.216	80.6%	0.268		0.025	0.079	20.000	0.827	32.5%	
	Acenaphthene	ARS1-17-00216-001	02/08/17 19:20	10.470	1.0	0.001	0.030	0.349	%9.08	0.433		0.021	0.067	20.000	0.827	52.4%	AND
	Acenaphthylene	ARS1-17-00216-001	02/08/17 19:20	11.200	1.0	0.001	0:030	0.373	%9.08	0.463		0.022	690.0	20.000	0.827	26.0%	200420000000000000000000000000000000000
- AMELIA	Anthracene	ARS1-17-00216-001	02/08/17 19:20	14.320	1.0	0.001	0:030	0.477	80.6%	0.592		0.033	0.105	20.000	0.827	71.6%	0.0000000000000000000000000000000000000
	Benzo(a)anthracene	ARS1-17-00216-001	02/08/17 19:20	15.110	1.0	0.001	0.030	0.504	80.6%	0.625		0.036	0.115	20.000	0.827	75.6%	announcement and announcement
	Benzo(a) pyrene	ARS1-17-00216-001	02/08/17 19:20	14.090	1.0	0.001	0.030	0.470	80.6%	0.583		0.057	0.183	20.000	0.827	70.5%	
- Addition	Benzo(b)fluoranthene	ARS1-17-00216-001	02/08/17 19:20	13.940	1.0	0.001	0.030	0.465	80.6%	0.577		0.056	0.179	20.000	0.827	69.7%	
	Benzo(g,h,i)perylene	ARS1-17-00216-001	02/08/17 19:20	13,540	1.0	0.001	0.030	0.451	80.6%	0.560		0.053	0.169	20.000	0.827	67.7%	
	Benzo(k)fluoranthene	ARS1-17-00216-001	02/08/17 19:20	14.020	1.0	0.001	0:030	0.467	80.6%	0.580		0.057	0.182	20.000	0.827	70.1%	
	ризороги выправления выдосноения выправления выправления вы предоставления выправления вы	ARS1-17-00216-001	02/08/17 19:20	15.250	1.0	0.001	0:030	0.508	80.6%	0.631		0.037	0.118	20.000	0.827	76.3%	00000000000000000000000000000000000000
Agree (- Allenie) - 10000	Dibenz(a,h)anthracene	ARS1-17-00216-001	02/08/17 19:20	14.260	1.0	0.001	0:030	0.475	%9.08	0.590		0.053	0.170	20.000	0.827	71.3%	0.0000
	Fluoranthene	ARS1-17-00216-001	02/08/17 19:20	15.660	1.0	0.001	0.030	0.522	80.6%	0.648		0.035	0.111	20.000	0.827	78.3%	
	Fluorene	ARS1-17-00216-001	02/08/17 19:20	12.130	1.0	0.001	0.030	0.404	80.6%	0.502		0.020	0.062	20.000	0.827	60.7%	
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-001	02/08/17 19:20	14.000	1.0	0.001	0.030	0.467	80.6%	0.579		0.054	0.173	20.000	0.827	70.0%	
a (CE) Mineratoria est	Naphthalene	ARS1-17-00216-001	02/08/17 19:20	5.070	1.0	0.001	0.030	0.169	80.6%	0.210		0.044	0.141	20.000	0.827	25.4%	
	Phenanthrene	ARS1-17-00216-001	02/08/17 19:20	14.160	1.0	0.001	0.030	0.472	80.6%	0.586		0.029	0.093	20.000	0.827	70.8%	
	Pyrene	ARS1-17-00216-001	02/08/17 19:20	15.750	1.0	0.001	0:030	0.525	80.6%	0.651		0.036	0.114	20.000	0.827	78.8%	
11 - MSD	1-Methyinaphthalene	ARS1-17-00216-001	02/08/17 19:50	6.870	1.0	0.001	0:030	0.229	80.6%	0.284		0.026	0.081	20.000	0.827	34.4%	13.4%
. millionen	2-Methylnaphthalene	ARS1-17-00216-001	02/08/17 19:50	5.720	1.0	0.001	0.030	0.191	80.6%	0.237		0.025	0.079	20.000	0.827	28.6%	12.6%
	Acenaphthene	ARS1-17-00216-001	02/08/17 19:50	9.280	1.0	0.001	0:030	0.309	80.6%	0.384	0	0.021	0.067	20.000	0.827	46.4%	12.1%
	Acenaphthylene	ARS1-17-00216-001	02/08/17 19:50	9.660	1.0	0.001	0.030	0.322	80.6%	0.400		0.022	690.0	20.000	0.827	48.3%	14.8%
	Anthracene	ARS1-17-00216-001	02/08/17 19:50	12.150	1.0	0.001	0:030	0.405	80.6%	0.503		0.033	0.105	20.000	0.827	80.8%	16.4%
	Benzo(a)anthracene	ARS1-17-00216-001	02/08/17 19:50	12.470	1.0	0.001	0:030	0.416	80.6%	0.516		0.036	0.115	20.000	0.827	62.4%	19.1%
	Вепzo(а)ругепе	ARS1-17-00216-001	02/08/17 19:50	11.330	1.0	0.001	0:030	0.378	80.6%	0.469		0.057	0.183	20.000	0.827	26.7%	21.7%
-emfeculité	Benzo(b)fluoranthene	ARS1-17-00216-001	02/08/17 19:50	11.360	1.0	0.001	0.030	0.379	80.6%	0.470		0.056	0.179	20.000	0.827	26.8%	20.4%
- NACE BEING	Benzo(g,h,i)perylene	ARS1-17-00216-001	02/08/17 19:50	11.150	1.0	0.001	0.030	0.372	80.6%	0.461		0.053	0.169	20.000	0.827	55.8%	19.4%
, y g + 1	Benzo(k)fluoranthene	ARS1-17-00216-001	02/08/17 19:50	11.390	1.0	0.001	0:030	0.380	80.6%	0.471		0.057	0.182	20.000	0.827	27.0%	20.7%
	Chrysene	ARS1-17-00216-001	02/08/17 19:50	12.450	1.0	0.001	0:030	0.415	80.6%	0.515		0.037	0.118	20.000	0.827	62.3%	20.2%
	Dibenz(a,h)anthracene	ARS1-17-00216-001	02/08/17 19:50	11.630	1.0	0.001	0.030	0.388	80.6%	0.481		0.053	0.170	20.000	0.827	58.2%	20.3%
. ev-serseeni	Fluoranthene	ARS1-17-00216-001	02/08/17 19:50	12.930	1.0	0.001	0.030	0.431	80.6%	0.535		0.035	0.111	20.000	0.827	64.7%	19.1%
- magazi	Fluorene	ARS1-17-00216-001	02/08/17 19:50	10.640	1.0	0.001	0.030	0.355	80.6%	0.440	Ü	0.020	0.062	20.000	0.827	53.2%	13.1%
	Indeno(1,2,3-cd)pyrene	ARS1-17-00216-001	02/08/17 19:50	11.410	1.0	0.001	0.030	0.380	80.6%	0.472		0.054	0.173	20.000	0.827	57.1%	20.4%
	Naphthalene	ARS1-17-00216-001	02/08/17 19:50	4.320	1.0	0.001	0.030	0.144	80.6%	0.179		0.044	0,141	20.000	0.827	21.6%	16.0%
	Phenanthrene	ARS1-17-00216-001	02/08/17 19:50	12.420	1.0	0.001	0:030	0.414	80.6%	0.514		0.029	0.093	20.000	0.827	62.1%	13.1%
	Pyrene	ARS1-17-00216-001	02/08/17 19:50	12.980	1.0	0.001	0.030	0.433	%9.08	0.537		0.036	0.114	20.000	0.827	64.9%	19.3%

	endowa wadana	Analysis Batc	λh ID AR	Analysis Batch ID ARS1-B17-00170	170						
3	TOTAL DESIGNATION OF THE PERSON OF THE PERSO	SOMEONIN MENTER PROPERTY AND TRACES OF ASSESSMENT OF ASSES	Method page ARS	ARS-160	Analysis	GCMS-8270D- SO	8270D-	Matrix	SO THE PROPERTY OF THE PROPERT	Amministration of the contract	THE PROPERTY OF THE PROPERTY O
	The Table of the T	Description	1	Os base, neutr	SVOs base, neutral, & acid in SO		The state of the s	information and the following of the common feet and the first flat.		And a second	
ABatch Sample ID	Type	Blind Iso1	Blind Iso2	Blind Iso3	SDG	æ	Run	Prep Code	Glient ID	Group Name	Lab Deadline
ARS1-B17-00170-01	S	m29h- 01182017-1	m29h- 01252017-	m29h- m29h- m29h- 01182017-1 01252017-2	englaterilari ikatirezi isosokozorandana kuntututu kanarta ikanarta ikanarta ikanarta ikanarta ikanarta ikanar	The second secon		ALCHEN THE RESERVE			
ARS1-B17-00170-02	CSD	m29h- 01182017-1	m29h- 01252017-	m29h- m29h- m29h- 01182017-1 01252017-2		4 - M-N-4-40- 11.8	1: 0000 TOLET & LATE OCCUPANT	THE PROPERTY OF THE PROPERTY O			The second secon
ARS1-B17-00170-03	MBL	V. C.	m29h- 01252017-	m29h- 01252017-1 01252017-2	MINISTER AND THE PROPERTY OF T		Commence of the control of the contr	Analism de decembración de la companya de la compan		CONTRACTOR OF THE PROPERTY OF	TO CONTROLLED TO CONTROL
ARS1-B17-00170-04	TRG			WITHTEENERGE	ARS1-17-00216 001	16 001	-	3550C	BB-16L	Semi Volatiles	02/11/17
ARS1-B17-00170-10	MS	m29h- 01182017-1			Parent: ARS1-17-00216-001	17-00216	2-001	CONTRACTOR			Винамический поставлений применента поставления поставления поставления поставления поставления поставления по
ARS1-B17-00170-11	MSD	m29h- 01182017-1	And the second s	Marie Control of the	Parent: ARS1-17-00216-001	17-00216	5-001	AND THE PROPERTY OF THE PROPER	A Volcinian and consider the committee of the constitution of the consideration of the consideration of the consideration of the constitution of t	And between configuration and the first process of the following the first intermediate of the following the first process of the first	ESSONOVENCENCENCENCENCENCENCENCENCENCENCENCENCE
ARS1-B17-00170-05	TRG				ARS1-17-00216	. 16 002	Н	3550C	BB-18	Semi Volatiles	02/11/17
ARS1-B17-00170-06	TRG		75000		ARS1-17-00216	16 003	ч	3550C	OS-2	Semi Volatiles	02/11/17
ARS1-B17-00170-07	TRG	MACC TOWN	postscoon stillar	and the second	ARS1-17-00216	. 16 004	7	3550C	BB-19M	Semi Volatiles	02/11/17
ARS1-B17-00170-08	TRG				ARS1-17-00216	16 005	H	3550C	BB-16B	Semi Volatiles	02/11/17
ARS1-B17-00170-09	TRG	0001-1-1-1-1-1	- Annie Carlo		ARS1-17-00216	16 006	H	3550C	BB-16A	Semi Volatiles	02/11/17

										T	<u> </u>	l	Ι		<u> </u>	Ī	Γ	1		<u> </u>	Ι	<u> </u>	ſ	
		Notes	7()	4.550	MBC		MS	ms n	À.					-										
		15				٠.						\												
rksheet		volume, mL	/m/	78	IM	アル	-wi	المد	100	(m.		1 63 1	- w 1											
ation Wor	Spike	Conc	IMC	IMC			1 m	m												-				
atiles/PCB Sample Preparation Worksheet	Surrogate	Conc	im-	181)W1	1 m	-w!	100	- W	1,111	1 000	18	June 1											
PCB Sam	Hd	Adjusted to:			,	1	Ĺ		. (ļ	į	į	,											
/olatiles		sample pH	(l	-	(ı	1	1	٤	L	Ĺ											
Semi-Vol		(g, mL)	300	70°Y	2000	20%	304	204	209	Se ods	304	γ. οξ	7006											
	Sample	s, 0)	S	\$	\$	>>	· ·	>	S	S	S	×.	€/											
		Sample or QC ID	1817-00170 -01	1-817-00170-02	1-181700110-03	A17-00170-04	1-Bn-0017610.	1.81202/18-11	1. A 17.00 17. 02	1.817-00170-06	1-817-60170-57	1: 611 -611 10 -08	10-0110-01											

Na2SO4 Lot# $\frac{6.9 \, \text{H} \, 2.0 \, \text{f}}{10.0 \, \text{N}}$ 10 N NaOH Lot# $\frac{1}{10.0 \, \text{M}} = \frac{1}{10.0 \, \text{M$

Analyst Initials

21.

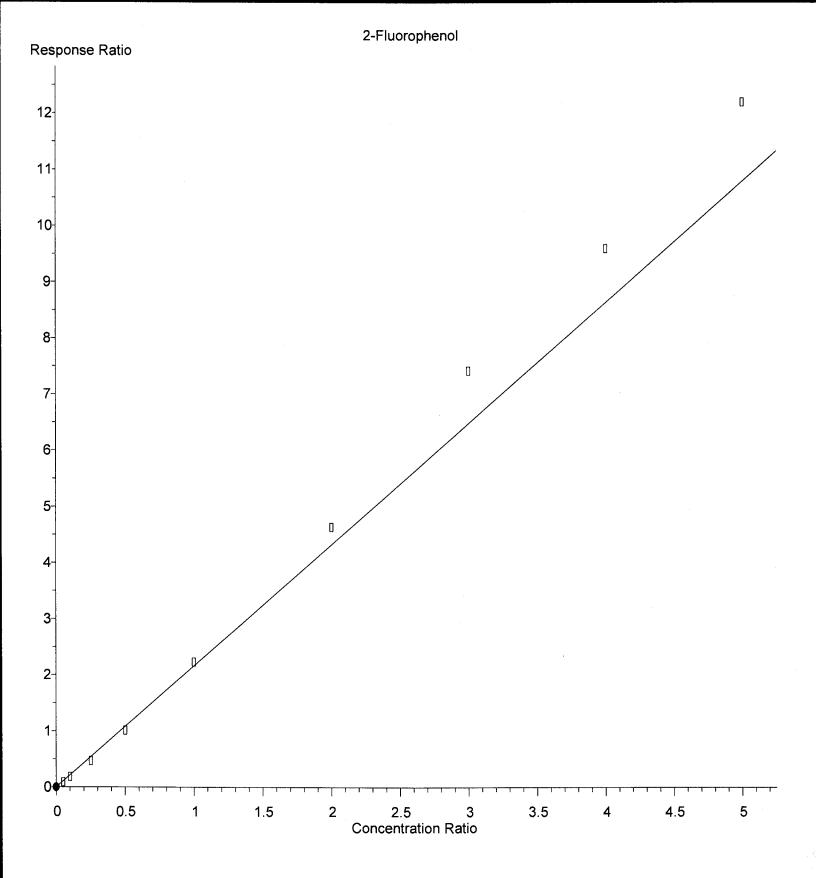
DCM Lot# 10.17 coesy. Hexane Lot# 1:1 H2SO4 Lot#

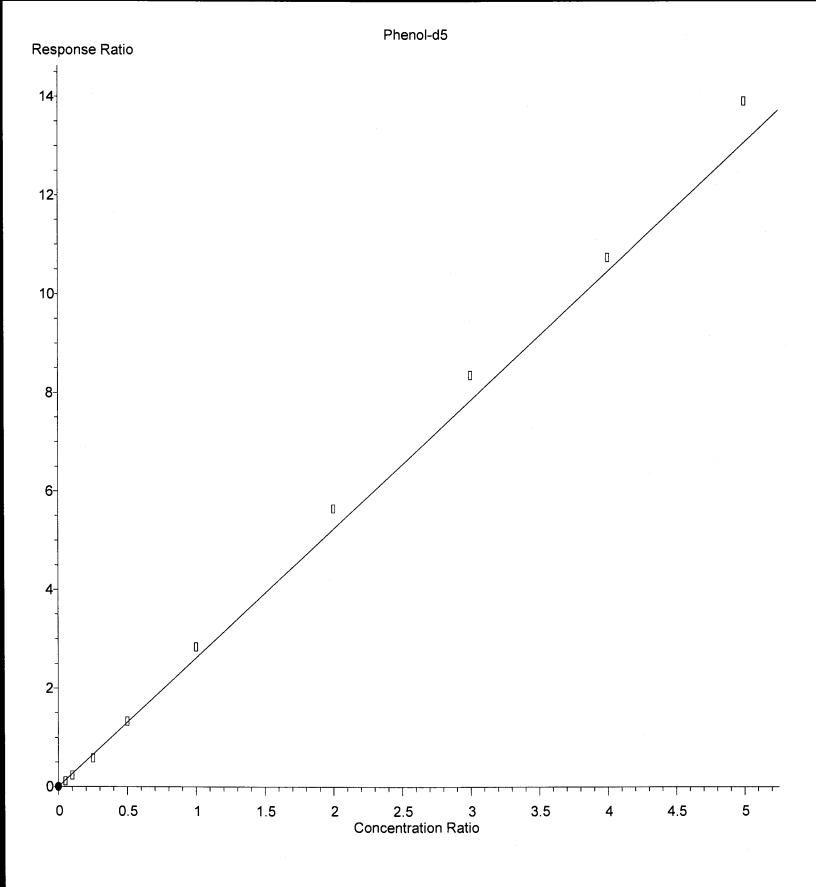
Note only what is used:

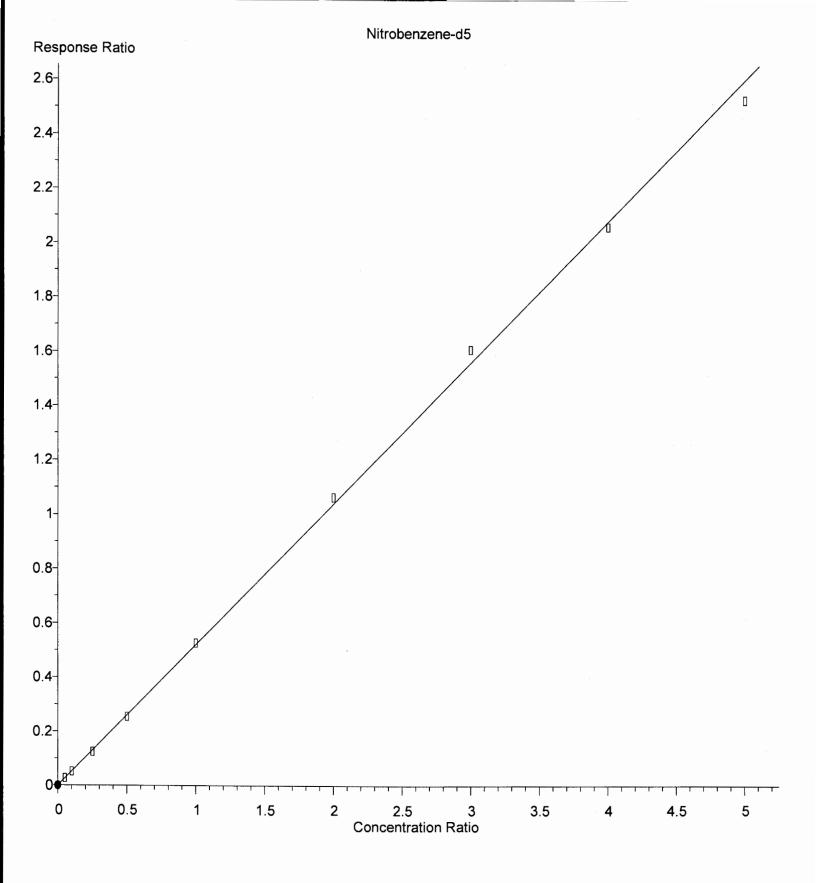
Procedure Data		MAL PROCUSTING							
ABatch Sample ID	Client ID	Parent	Wi/Vi (g/ml)	Wi/Vi (g/ml) Extraction Type	Extraction Date/Time	Conc. Extract Vol (ml)	Cleanup Type	Cleanup Factor	User ID
ARS1-B17-00170-01	A CONTRACTOR CONTRACTO		30.000	30.0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-02			30,000	30,0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-03	Company of Deboor of the property of the second state of the secon		30.000	30.0000 Sonification	1/30/2017 11:30:00 AM	1,0000			RCHANIYAVA
ARS1-B17-00170-04 BB-16L	3B-16L		30.0000	30.0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-05 BB-18	38-18	A	30.000	30.0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-06 OS-2	05-2		30.0000	30.000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-07 BB-19M	3B-19M		30.0000	30.0000 Sonification	1/30/2017 11:30:00 AM	1,0000			RCHANIYAVA
ARS1-B17-00170-08 BB-16B	3B-16B		30.0000	30.0000 Sonification	1/30/2017 11:30:00 AM	1,0000			RCHANIYAVA
ARS1-B17-00170-09 BB-16A	3B-16A		30.0000	30.0000 Sonification	1/30/2017 11:30:00 AM	1,0000			RCHANIYAVA
ARS1-B17-00170-10		ARS1-17-00216-001	30.0000	30.0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA
ARS1-B17-00170-11		ARS1-17-00216-001	30,000	30,0000 Sonification	1/30/2017 11:30:00 AM	1.0000			RCHANIYAVA

No reagents were used for this procedure.

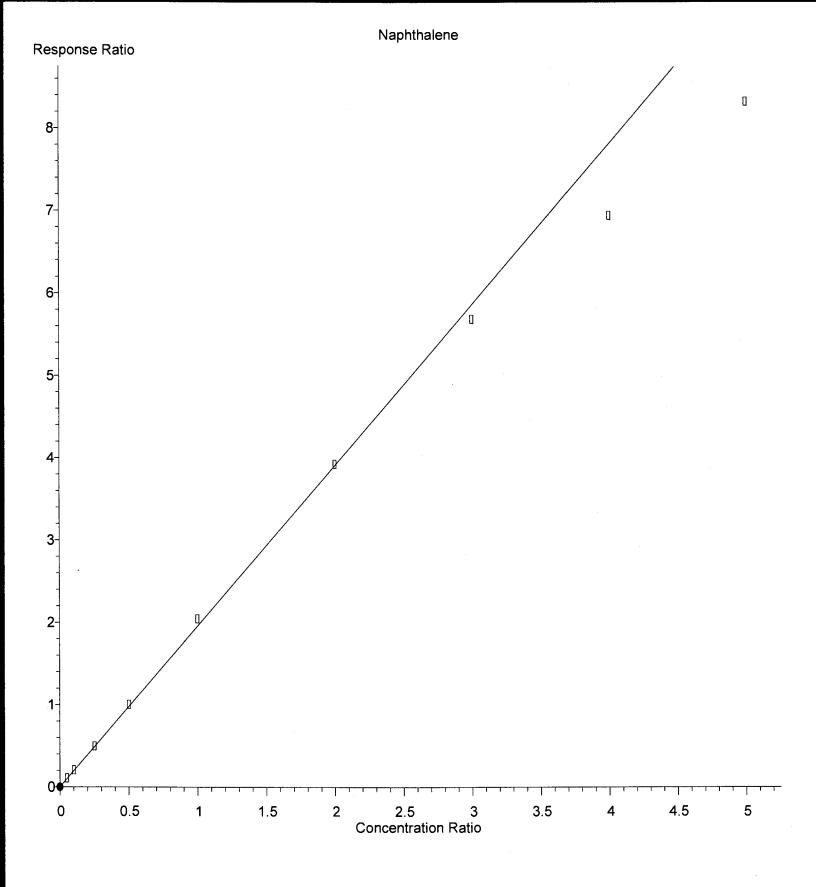
No reagents were scanned.



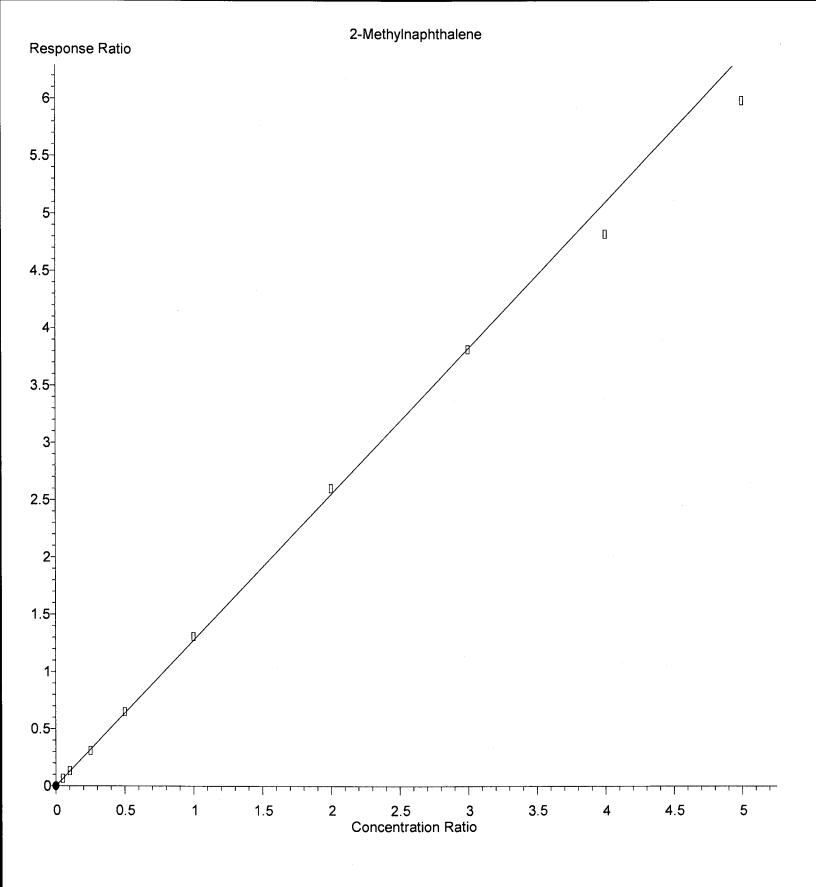




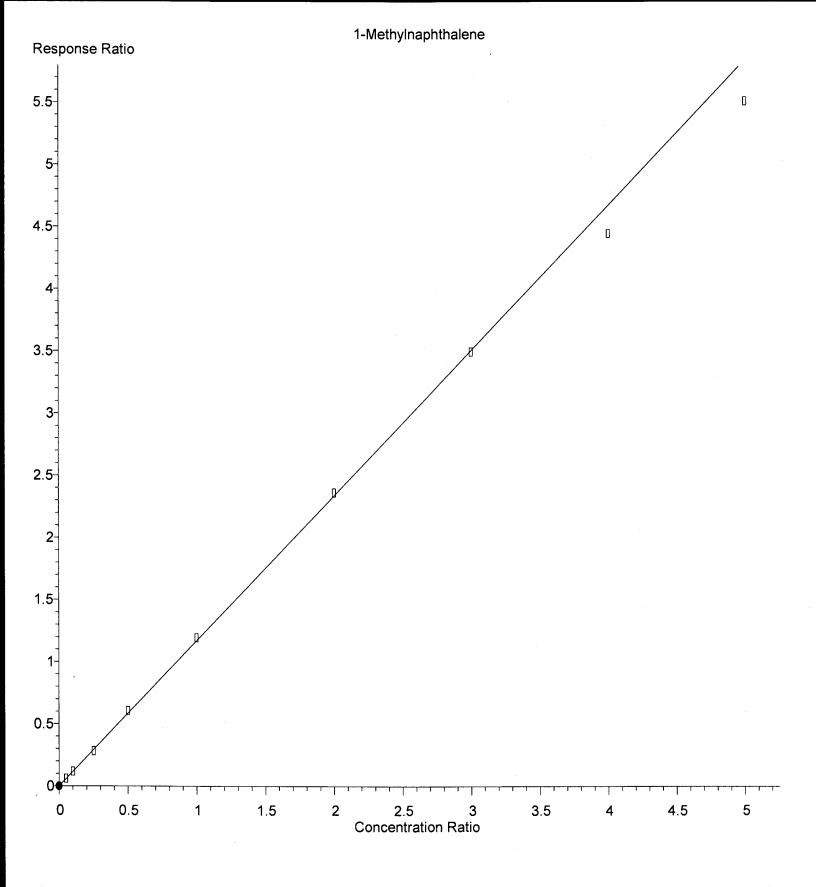
Response = 5.200e-001 * Amt
RF Rel Std Dev = 2.836% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

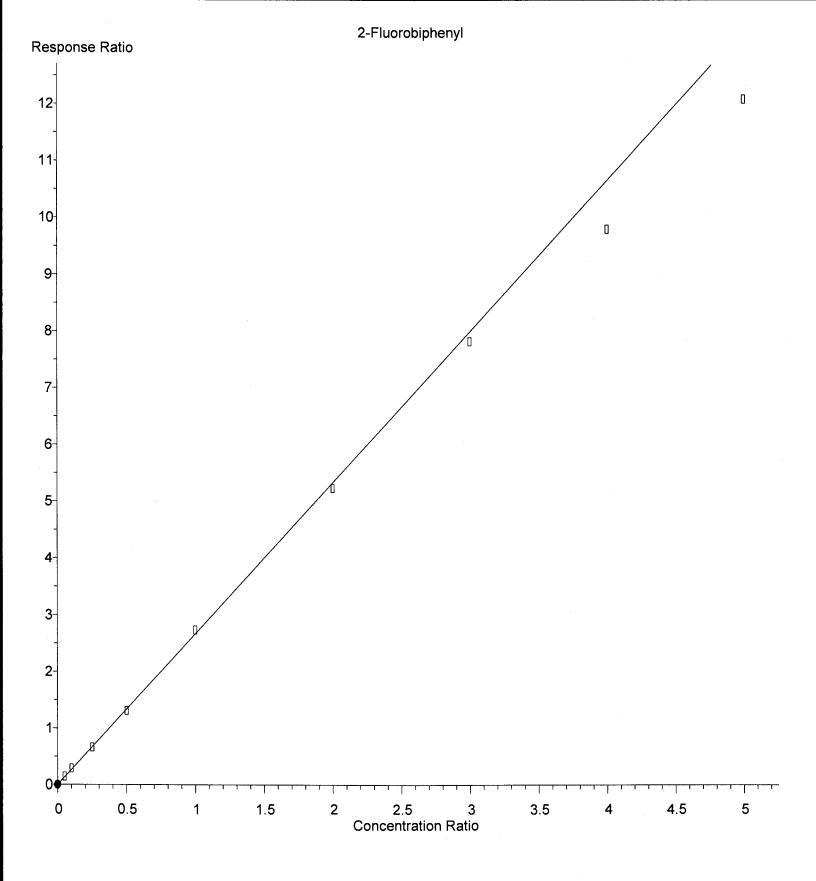


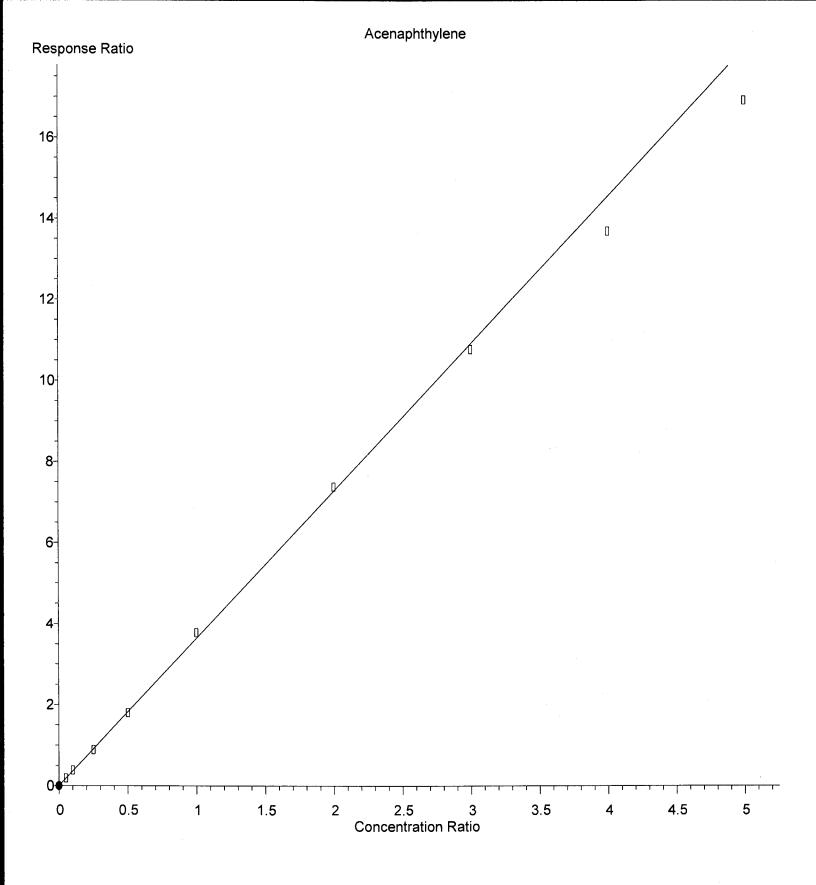
Response = 1.954e+000 * Amt
RF Rel Std Dev = 8.477% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

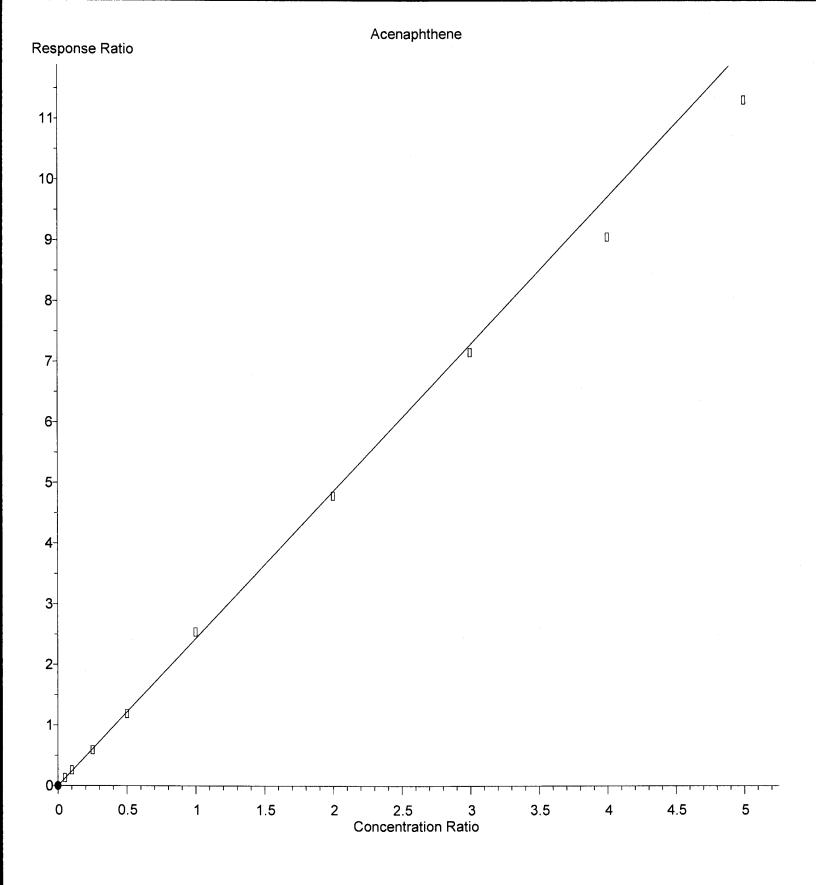


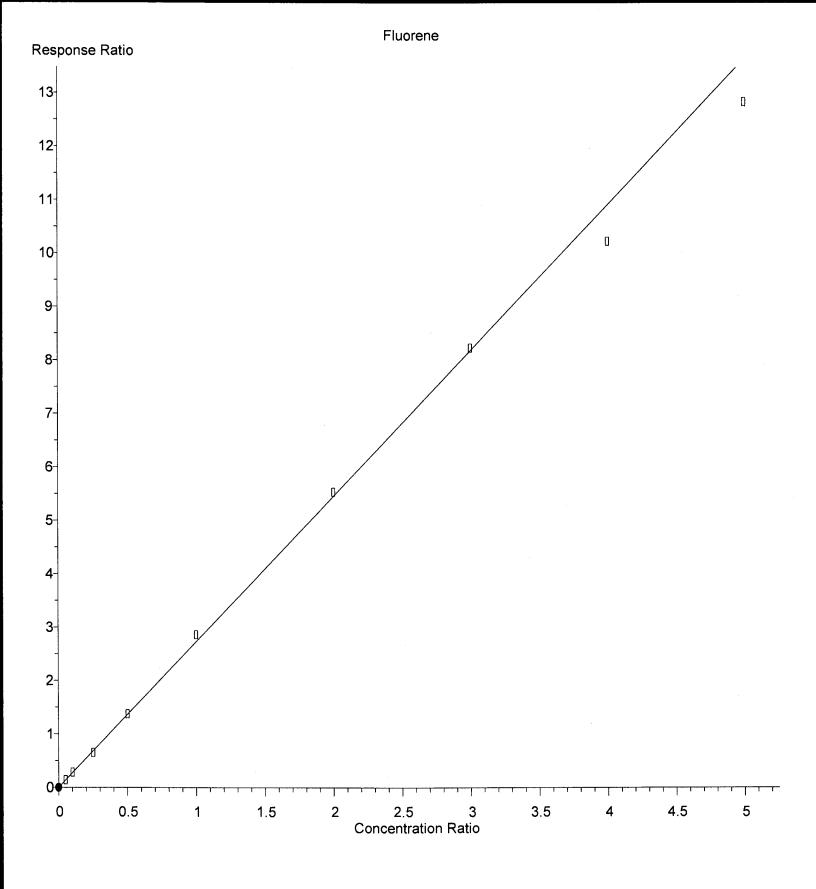
Response = 1.275e+000 * Amt
RF Rel Std Dev = 3.894% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

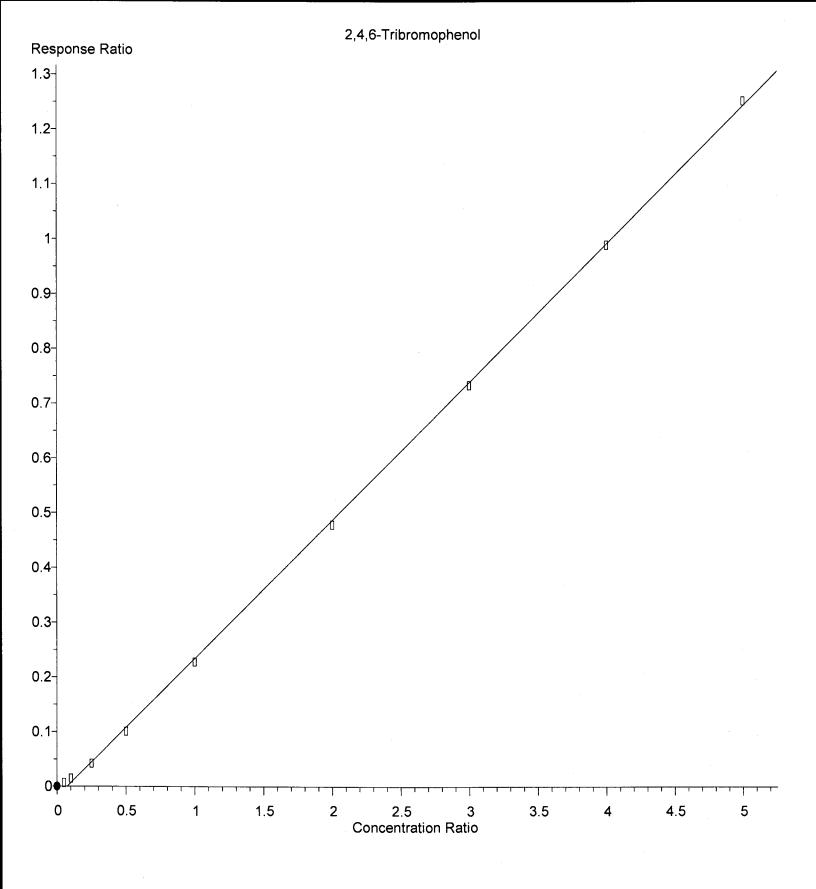


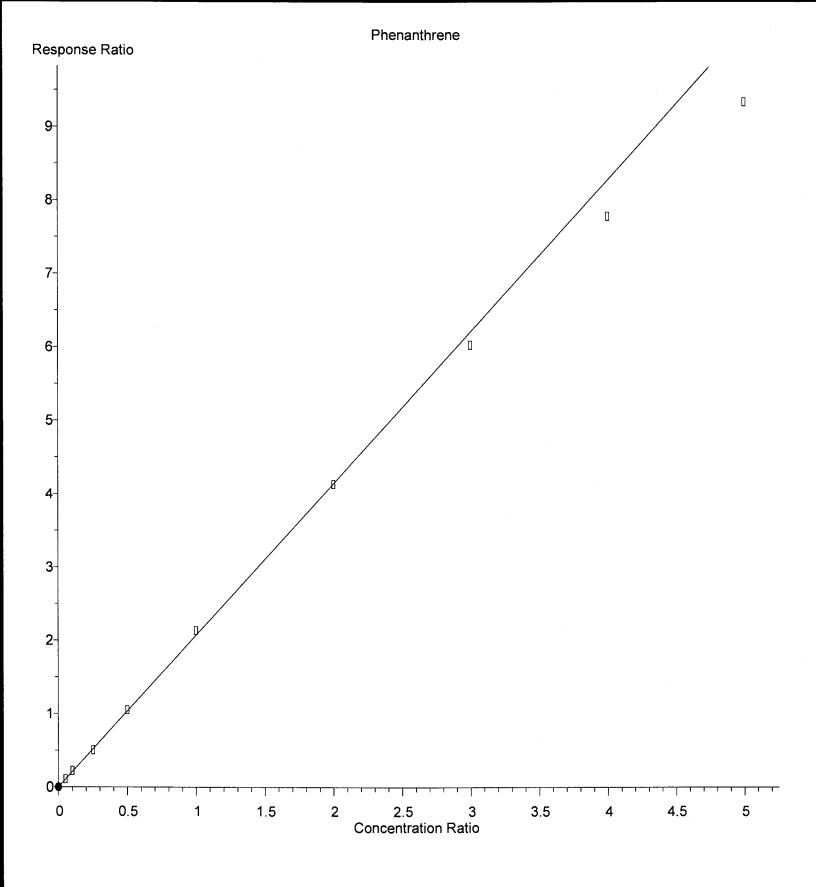




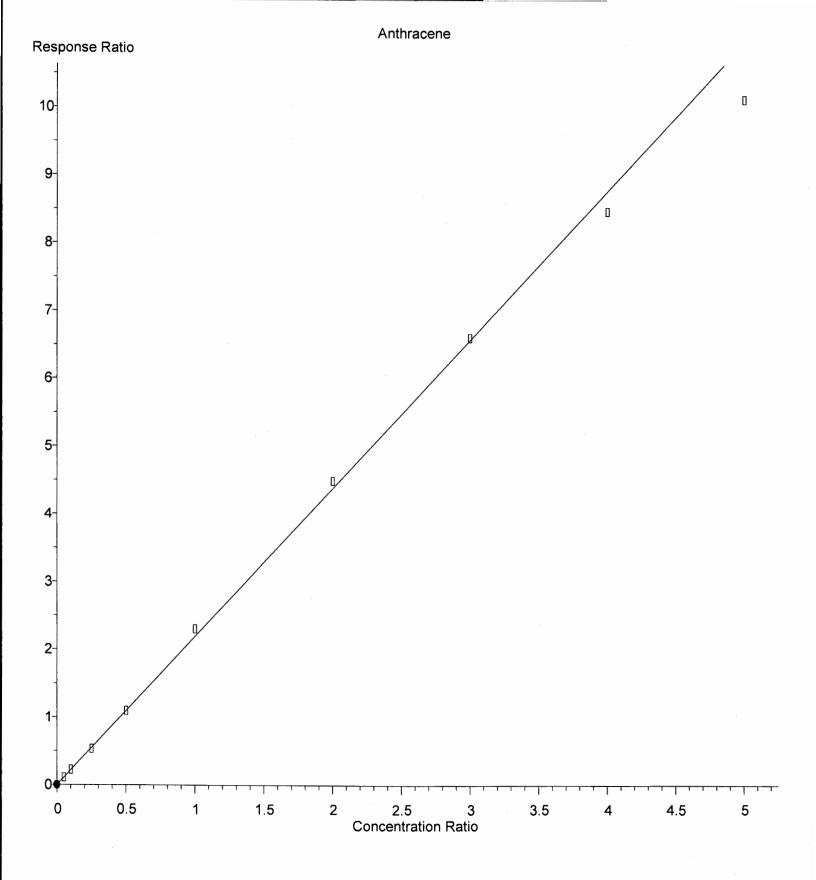




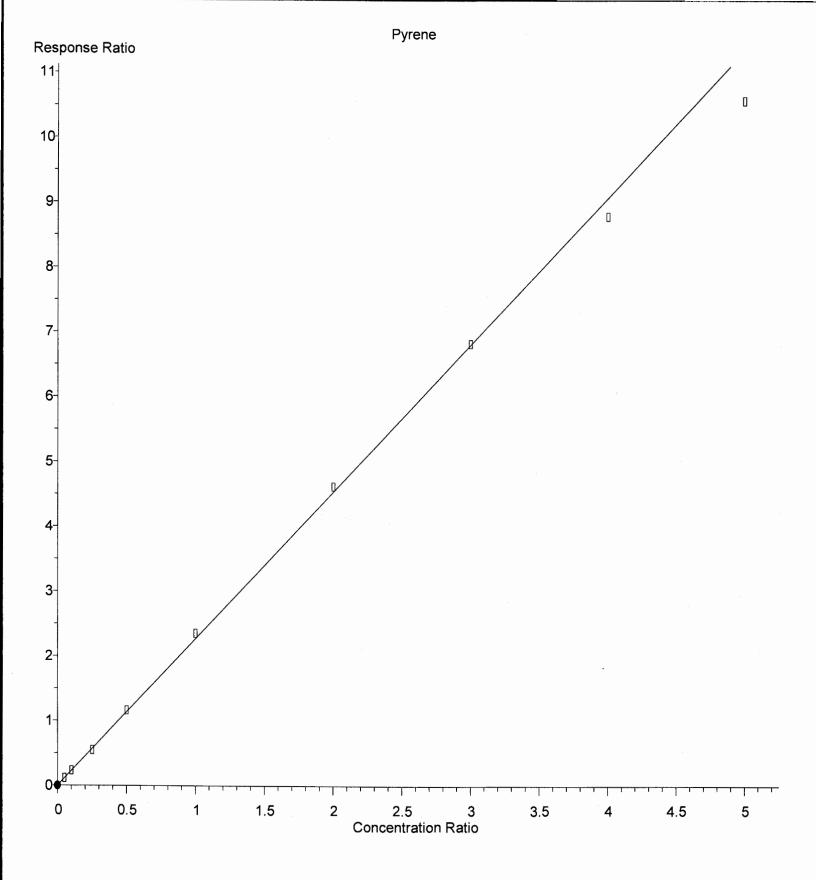




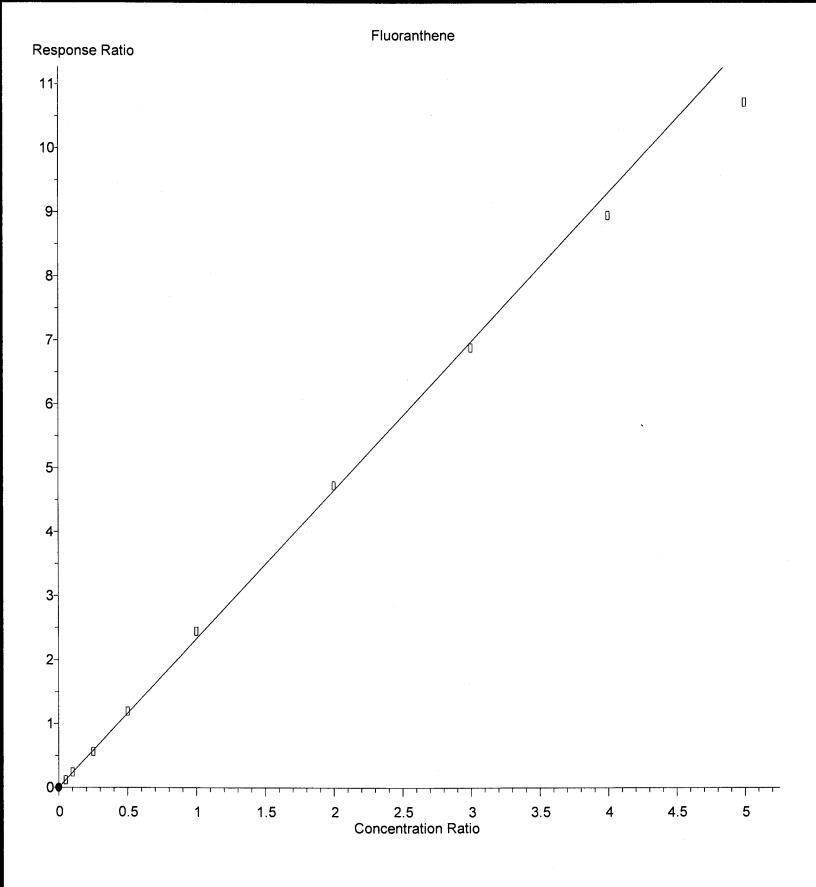
Response = 2.070e+000 * Amt
RF Rel Std Dev = 5.887% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

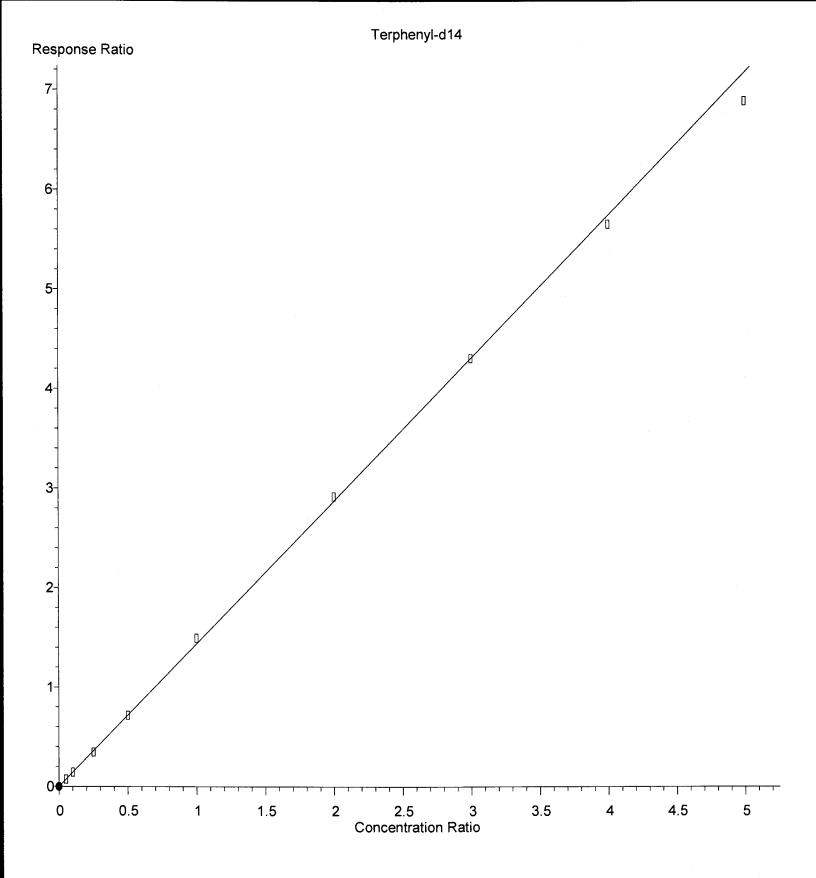


Response = 2.192e+000 * Amt
RF Rel Std Dev = 3.944% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

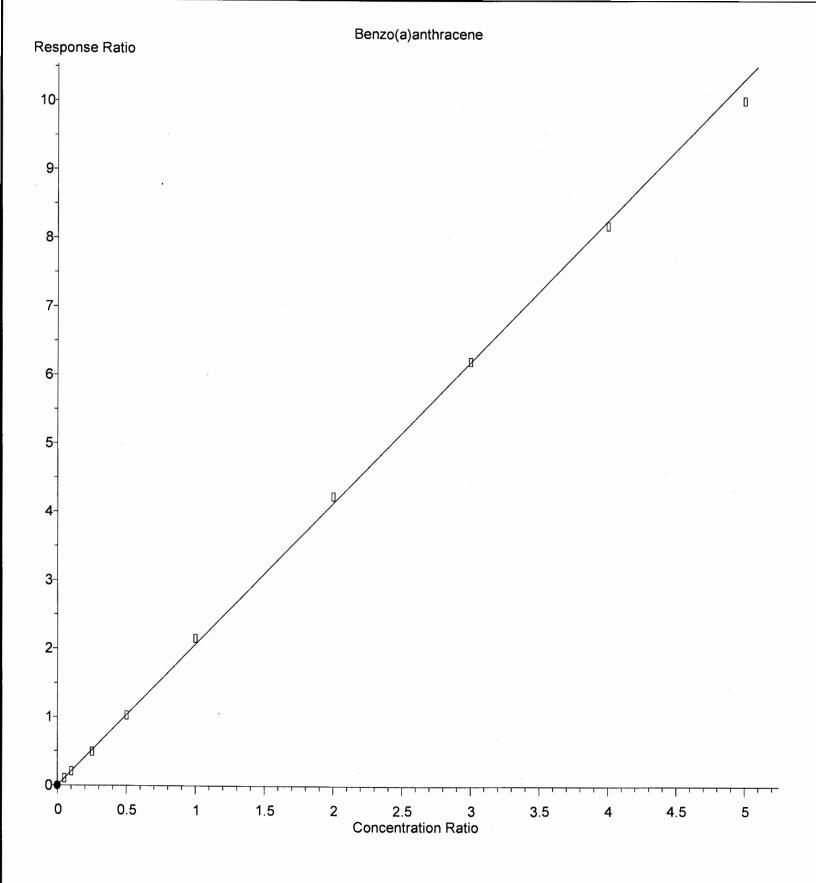


Response = 2.272e+000 * Amt
RF Rel Std Dev = 3.557% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

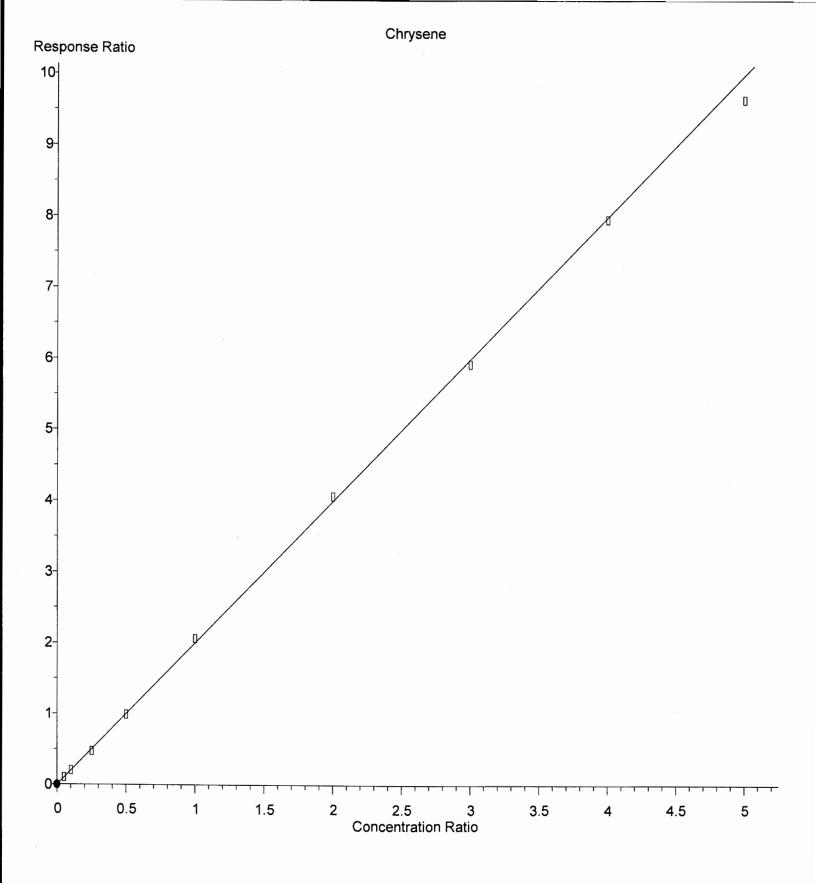


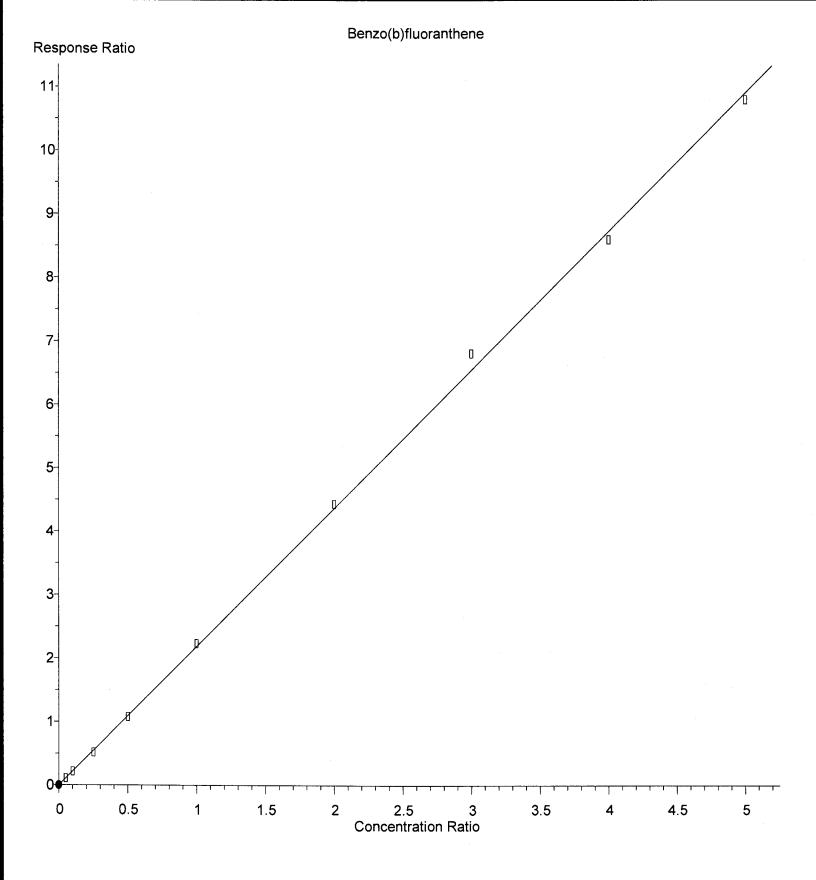


Response = 1.436e+000 * Amt
RF Rel Std Dev = 2.908% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

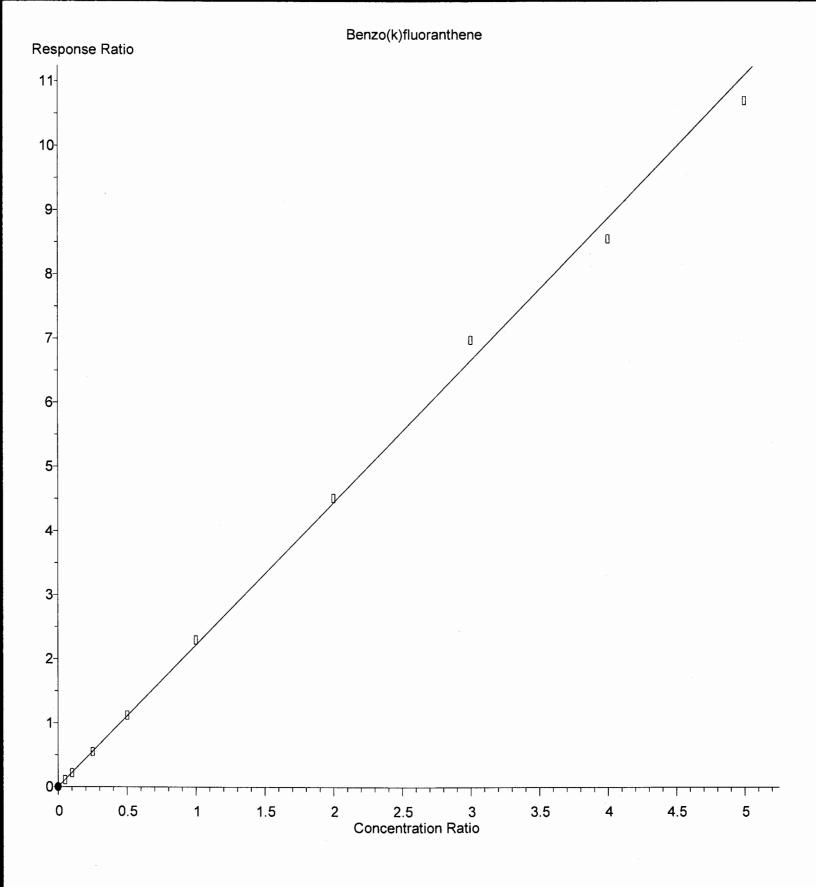


Response = 2.069e+000 * Amt
RF Rel Std Dev = 2.884% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

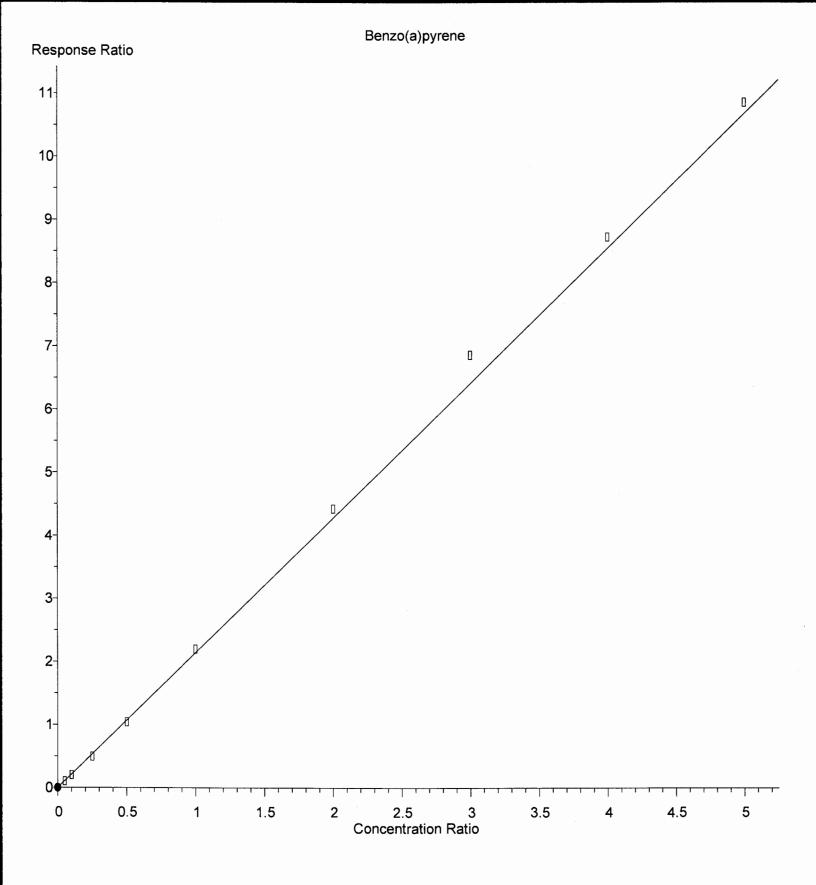




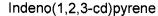
Response = 2.187e+000 * Amt
RF Rel Std Dev = 2.630% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

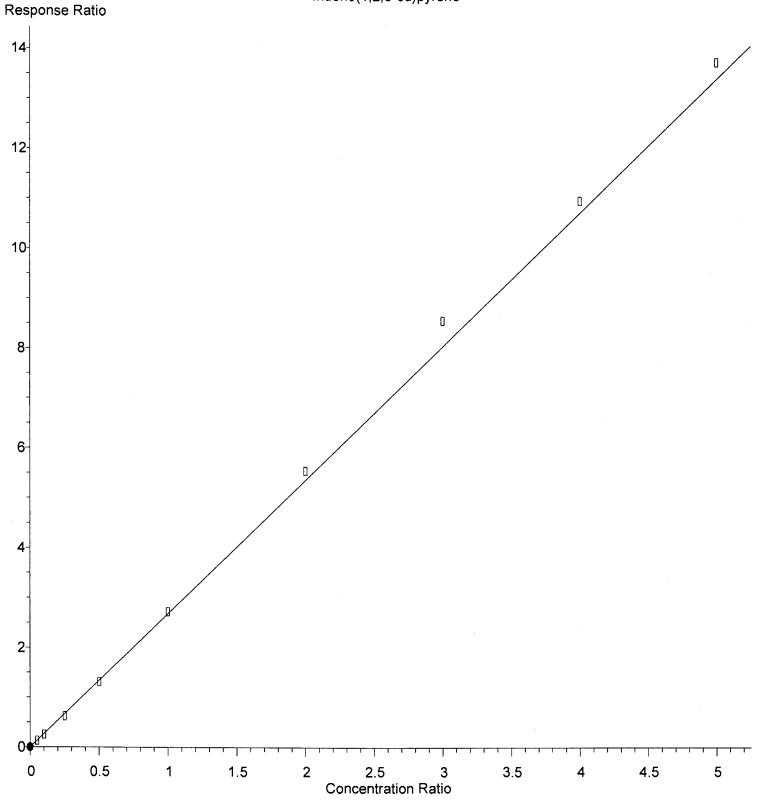


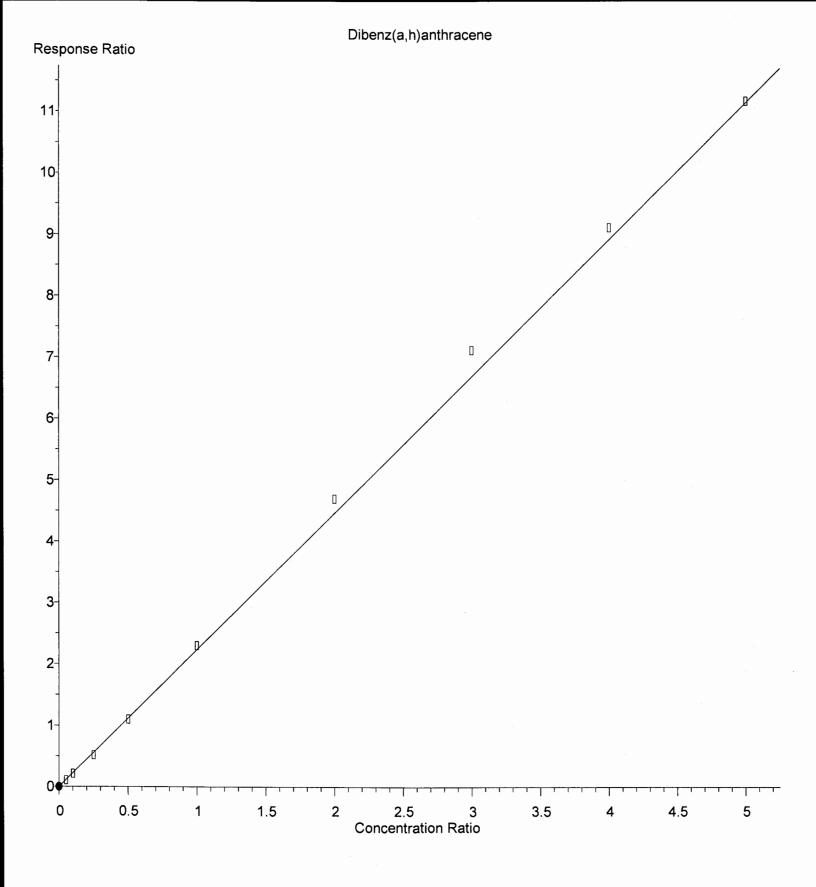
Response = 2.223e+000 * Amt
RF Rel Std Dev = 2.989% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017

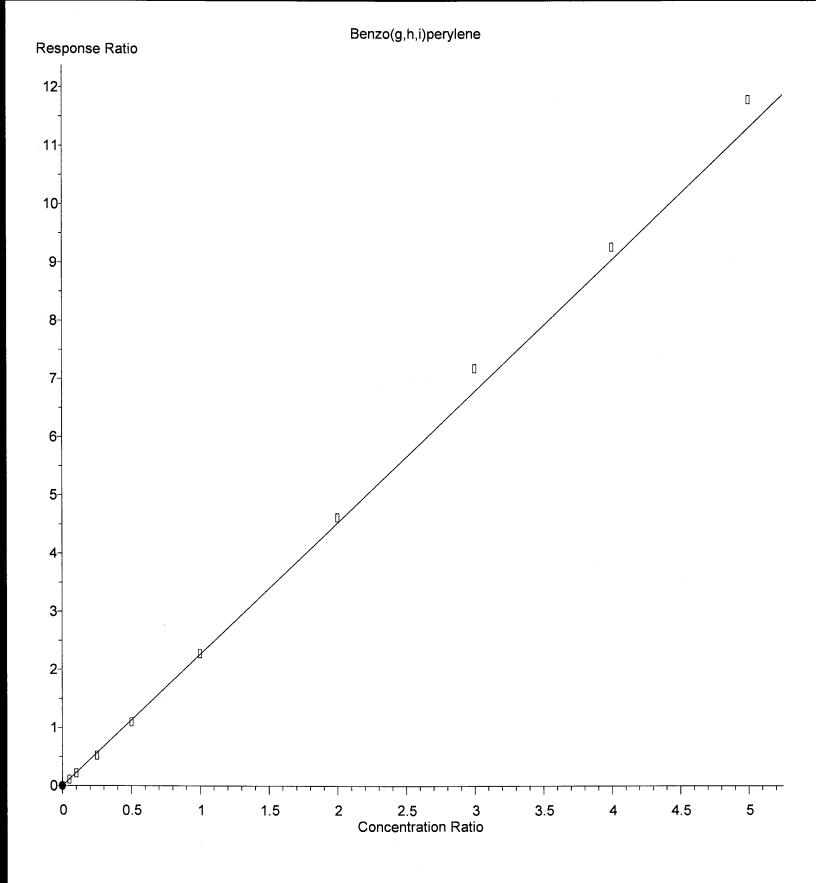


Response = 2.139e+000 * Amt
RF Rel Std Dev = 4.562% Curve Fit: Avg RF
Method Name: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M
Calibration Table Last Updated: Wed Feb 08 10:30:56 2017









Method Path : D:\MassHunter\GCMS\1\methods\Method File : cole_8270_PAH.M Title : 8270D Last Update : Wed Feb 08 10:30:56 2017 Response Via : Initial Calibration

7.D 40 = C020 1706 40ppm 02-01-17.D D 2 = C020 1702 2ppm 02-01-17.D							
7 60ppm 02-01-17 5ppm 02-01-17.D	%RSD	12.39 8.84	2.84 8.48 3.89 3.88	7.04 4.69 5.92 4.49	22.01 5.89 3.94 3.56 4.16	2.91 2.88 3.20	2.63 2.99 4.56 4.70 4.15
80 =IC02011708 80ppm 02-01-17.D 60 =IC02011703 10 =IC02011704 10ppm 02-01-17.D 5 =IC02011703	100 80 60 40 20 10 5 2 1 Avg	1	0.505 0.515 0.536 0.532 0.526 0.509 0.498 0.517 0.541 0.520 1.667 1.737 1.897 1.964 2.045 2.010 1.993 2.073 2.198 1.954 1.198 1.206 1.273 1.302 1.309 1.300 1.237 1.318 1.332 1.275 1.104 1.113 1.166 1.182 1.194 1.212 1.130 1.190 1.235 1.170	2.420 2.452 2.609 2.617 2.736 2.612 2.649 2.929 2.970 2.666 3.387 3.425 3.594 3.693 3.781 3.599 3.568 3.865 3.841 3.639 2.264 2.266 2.388 2.394 2.542 2.376 2.374 2.594 2.680 2.431 2.569 2.558 2.745 2.769 2.860 2.750 2.605 2.849 2.855 2.729	0.251 0.248 0.245 0.239 0.228 0.202 0.168 0.148 0.135 0.207 1.870 1.948 2.013 2.070 2.136 2.112 2.020 2.221 2.241 2.070 2.025 2.119 2.203 2.249 2.305 2.196 2.132 2.248 2.253 2.192 2.117 2.200 2.276 2.313 2.353 2.326 2.202 2.338 2.322 2.272 2.147 2.239 2.297 2.366 2.445 2.392 2.262 2.405 2.390 2.327	1.379 1.414 1.436 1.459 1.494 1.432 1.382 1.433 1.494 1.436 2.007 2.067 2.057 2.034 2.062 1.982 1.897 2.039 2.101 2.002	2.164 2.153 2.271 2.219 2.232 2.156 2.079 2.175 2.230 2.187 2.143 2.141 2.329 2.258 2.301 2.244 2.189 2.175 2.220 2.223 2.145 2.141 2.329 2.258 2.301 2.244 2.189 2.178 2.220 2.223 2.176 2.185 2.291 2.213 2.198 2.086 1.987 2.033 2.078 2.139 2.777 2.740 2.852 2.773 2.720 2.621 2.496 2.545 2.615 2.679 2.238 2.282 2.376 2.351 2.298 2.201 2.072 2.135 2.130 2.231 2.360 2.319 2.398 2.311 2.276 2.200 2.099 2.196 2.214 2.264
Calibration Files 100 =IC02011709 100ppm 02-01-17.D 20 =IC02011705 20ppm 02-01-17.D 1 =IC02011701 1ppm 02-01-17.D	Compound	1) I 1,4-Dichlorobenzen 2) S 2-Fluorophenol 2.4 3) S Phenol-d5 2.7	4) I Naphthalene-d8 5) S Nitrobenzene-d5 6) CPM Naphthalene 7) CPM 2-Methylnaphth	9) I Acenaphthene-d10 10) S 2-Fluorobiphenyl 11) CPM Acenaphthylene 12) CPM Acenaphthene	14) I Phenanthrene-d10 15) S 2,4,6-Tribromo 16) CPM Phenanthrene 17) CPM Anthracene 18) CPM Pyrene	20) I Chrysene-d12 21) S Terphenyl-d14 22) CPM Benzo(a)anthra 23) CPM Chrysene	24) I Perylene-d12 25) CPM Benzo(b)fluora 26) CPM Benzo(k)fluora 27] CPM Benzo(a)pyrene 283 CPM Indeno(1,2,3-c 29) CPM Dibenz(a,h)ant 30) CPM Benzo(g,h,i)pe

Data Path : D:\Agilent Onsite\02-08-17\

Data File: DFTPP2 02-08-17.D Acq On : 08 Feb 2017 04:23 pm

Operator :

Sample : DFTPP2

Misc

ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e

Method : D:\MassHunter\GCMS\1\methods\Agilent_onsite_DFTPP.M

Last Update : Tue Dec 06 15:44:44 2016

AutoFind: Scans 2501, 2502, 2503; Background Corrected with Scan 2489

	Target Mass	1	Rel. to Mass		Lower Limit%		Upper Limit%		Rel. Abn%	ļ ļ	Raw Abn		Result Pass/Fail	
ļ	51		198		10		80		19.8	i	77846		PASS	
!	68	İ	69	ļ	0.00	!	2	!	0.3		247	ı	PASS	!
ł	69		198		0.00	ļ	100	İ	21.0		82433	}	PASS	ļ
1	70		69	-	0.00		2	-	0.0		15	1	PASS	
1	127		198		10	1	80	1	36.6		143999	-	PASS	1
j	197		198		0.00	1	2		0.0		0		PASS	
	198		198		50		100		100.0		393088		PASS	
	199		198		5		9		6.5	\$	25488		PASS	
	275		198	-	10		60		23.9	1	94091		PASS	1
	365	1	198		1		100		1.9		7633	1	PASS	1
-	441	-	442	1	0.01	-	24	-	16.0		71299	1	PASS	1
	442	- 1	198	1	50	1	200	1	113.2		445056		PASS	
1	443	İ	442	ĺ	17	1	23		19.7	ĺ	87883	1	PASS	

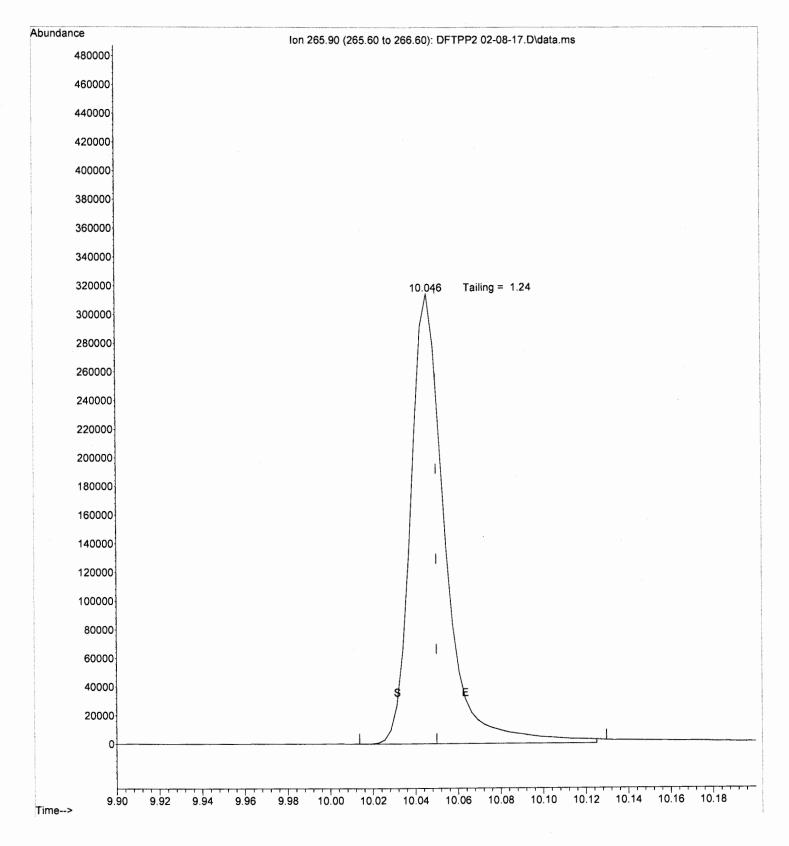
Agilent onsite DFTPP.M Fri Feb 10 09:51:35 2017 ARS-HP

File :D:\Agilent_Onsite\02-08-17\DFTPP2 02-08-17.D

Operator

Acquired : 08 Feb 2017 04:23 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1
Sample Name: DFTPP2

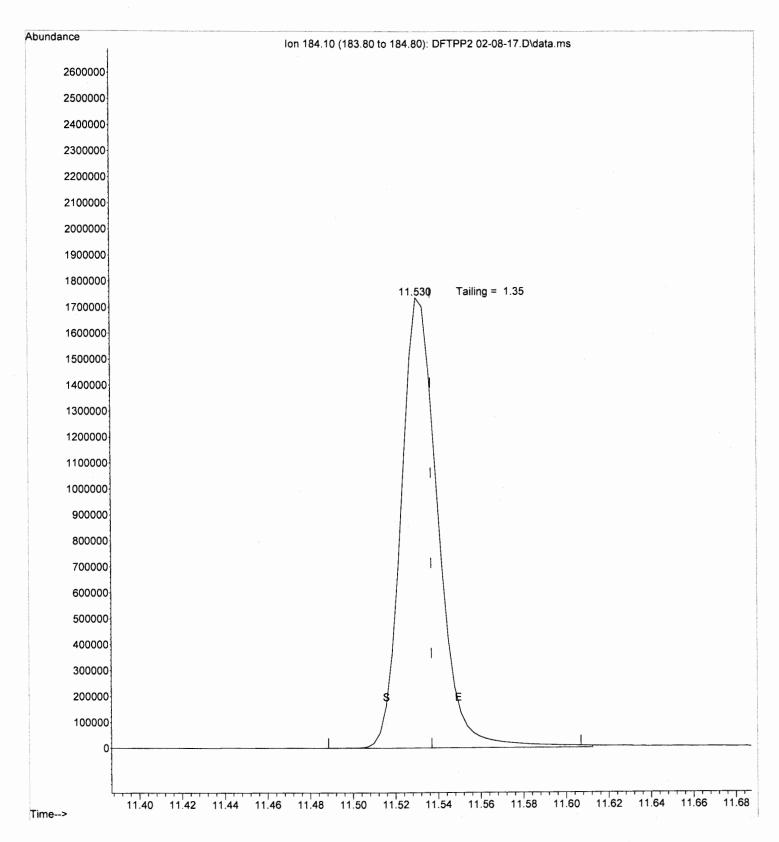


File :D:\Agilent_Onsite\02-08-17\DFTPP2 02-08-17.D

Operator

Acquired : 08 Feb 2017 04:23 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1
Sample Name: DFTPP2



File

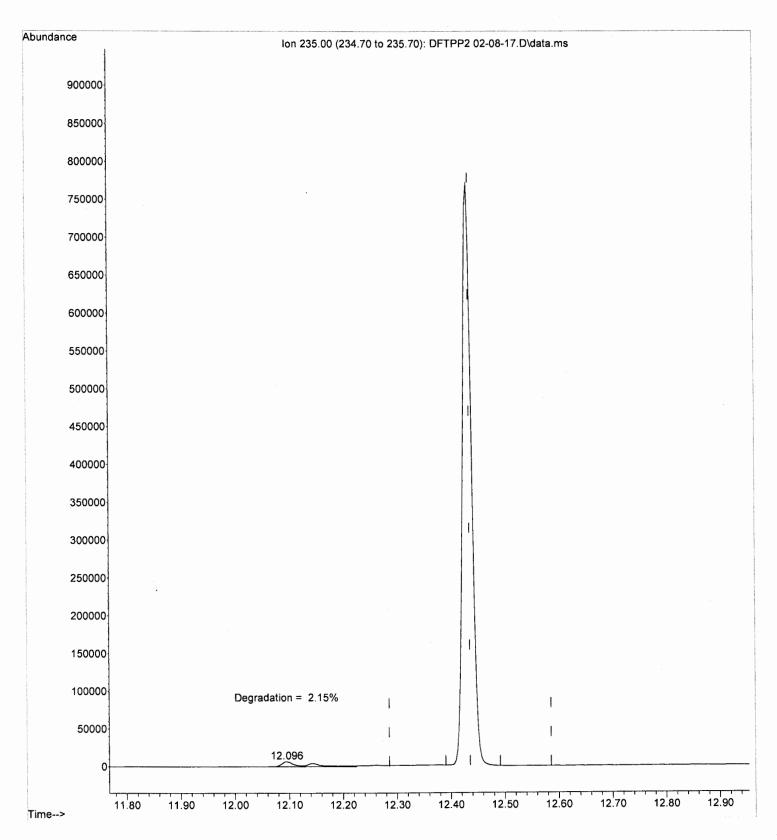
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Operator

Acquired

: 08 Feb 2017 04:23 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1 Sample Name: DFTPP2



Evaluate Continuing Calibration Report

Data Path : D:\Agilent_Onsite\02-01-17\

Data File : ICV 40ppm 02-01-17.D

: 01 Feb 2017 04:20 pm

Operator :

Sample : ICV 40ppm

Misc

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 13:44:29 2017

 $\label{lem:quant_method} {\tt Quant\ Method: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M} \\$

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	20.000	20.000	0.0	91	0.00
2 S	2-Fluorophenol	40.000	40.630	-1.6	86	0.00
3 S	Phenol-d5	40.000	40.714	-1.8	86	0.00
4 I	Naphthalene-d8	20.000	20.000	0.0	94	0.00
5 S	Nitrobenzene-d5	40.000	41.642	-4.1	. 95	0.00
6 CPM	Naphthalene	40.000	40.171	-0.4		0.00
7 CPM	<pre>2-Methylnaphthalene</pre>	40.000	40.017	-0.0	92	0.00
8 CPM	1-Methylnaphthalene	40.000	39.903	0.2	92	0.00
9 I	Acenaphthene-d10	20.000	20.000	0.0		0.00
10 S	2-Fluorobiphenyl	40.000	40.317	-0.8	95	0.00
11 CPM	Acenaphthylene	40.000	40.675	-1.7		0.00
12 CPM	Acenaphthene	40.000	39.468	1.3	93	0.00
13 CPM	Fluorene	40.000	40.335	-0.8	92	0.00
14 I	Phenanthrene-d10	20.000	20.000	0.0	92	0.00
15 S	2,4,6-Tribromophenol	40.000	36.483	8.8	85	0.00
16 CPM	Phenanthrene	40.000	40.069	-0.2	92	0.00
17 CPM	Anthracene	40.000	40.496	-1.2	91	0.00
18 CPM	Pyrene	40.000	40.736	-1.8	92	0.00
19 CPM	Fluoranthene	40.000	40.660	-1.6	92	0.00
20 I	Chrysene-d12	20.000	20.000	0.0	92	0.00
21 S	Terphenyl-d14	40.000	41.945	-4.9	95	0.00
22 CPM	Benzo(a)anthracene	40.000	41.025	-2.6	92	0.00
23 CPM	Chrysene	40.000	40.828	-2.1	. 92	0.00
24 I	Perylene-d12	20.000	20.000	0.0	91	0.00
25 CPM	Benzo(b)fluoranthene	40.000	40.718	-1.8	91	0.00
26 CPM	Benzo(k)fluoranthene	40.000	41.966	-4.9	94	-0.01
27 CPM	Benzo(a)pyrene	40.000	41.676	-4.2	92	-0.01
28 CPM	Indeno(1,2,3-cd)pyrene	40.000	42.110	-5.3	92	-0.03
29 CPM	Dibenz(a,h)anthracene	40.000	42.362	-5.9	91	-0.04
30 CPM	Benzo(g,h,i)perylene	40.000	40.859	-2.1	. 91	-0.03

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : D:\Agilent_Onsite\02-01-17\

Data File : ICV 40ppm 02-01-17.D Acq On : 01 Feb 2017 04:20 pm

Operator :

Sample : ICV 40ppm

Misc :

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 16 13:44:29 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Un	its Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.462	152	171995	20.00	ng	0.00
4) Naphthalene-d8	7.494	136	658119	20.00	_	0.00
9) Acenaphthene-d10	8.930	164	298209	20.00	_	0.00
14) Phenanthrene-d10	10.248		568473	20.00	_	0.00
20) Chrysene-d12	13.097		595908	20.00	_	0.00
24) Perylene-d12	15.572	264	581484	20.00	_	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	5.409	112	755473	40.63	ng	0.00
Spiked Amount 40.000	Range 19	- 119	Recove		101.58%	
3) Phenol-d5	6.090	99	916238	40.71		0.00
Spiked Amount 40.000	Range 33	- 122	Recove		101.77%	
5) Nitrobenzene-d5	6.892	82	712511	41.64	ng	0.00
Spiked Amount 40.000	Range 44	- 120	Recove	ery =	104.10%	
10) 2-Fluorobiphenyl	8.333	172	1602656	40.32	ng	0.00
Spiked Amount 40.000	Range 44	- 119	Recove	ry =	100.80%	
<pre>15) 2,4,6-Tribromophenol</pre>	9.599	330	251455	36.48	ng	0.00
Spiked Amount 40.000	Range 43	- 140	Recove	ry =	91.20%	
21) Terphenyl-d14	11.797	244	1794511	41.95	ng	0.00
Spiked Amount 40.000	Range 50	- 134	Recove	ery =	104.88%	
Target Compounds					٥v	alue
6) Naphthalene	7.511	128	2582886	40.17	_	98
7) 2-Methylnaphthalene	8.061	142	1678819	40.02	_	98
8) 1-Methylnaphthalene	8.149	142	1535707	39.90	ng	98
11) Acenaphthylene	8.820	152	2207155	40.68	ng	96
12) Acenaphthene	8.960	154	1430491	39.47	ng	100
13) Fluorene	9.392	166	1641235	40.34	ng	100
16) Phenanthrene	10.272	178	2357885	40.07	ng	99
17) Anthracene	10.321	178	2523216	40.50	ng	99
18) Pyrene	11.460	202	2630812	40.74	ng	96
19) Fluoranthene	11.718	202	2689464	40.66	ng	95
<pre>22) Benzo(a)anthracene</pre>	13.079	228	2529478	41.02	ng	96
23) Chrysene	13.132	228	2435031	40.83	ng	96
<pre>25) Benzo(b)fluoranthene</pre>	14.791		2588597	40.72	_	100
<pre>26) Benzo(k)fluoranthene</pre>	14.838		2711813	41.97	ng	96
27) Benzo(a)pyrene	15.463	252	2591263	41.68	ng	93
28) Indeno(1,2,3-cd)pyrene	18.331		3279744	42.11	_	94
29) Dibenz(a,h)anthracene	18.342		2748371	42.36	_	100
30) Benzo(g,h,i)perylene	19.190	276	2688982	40.86	ng	100
				 -		

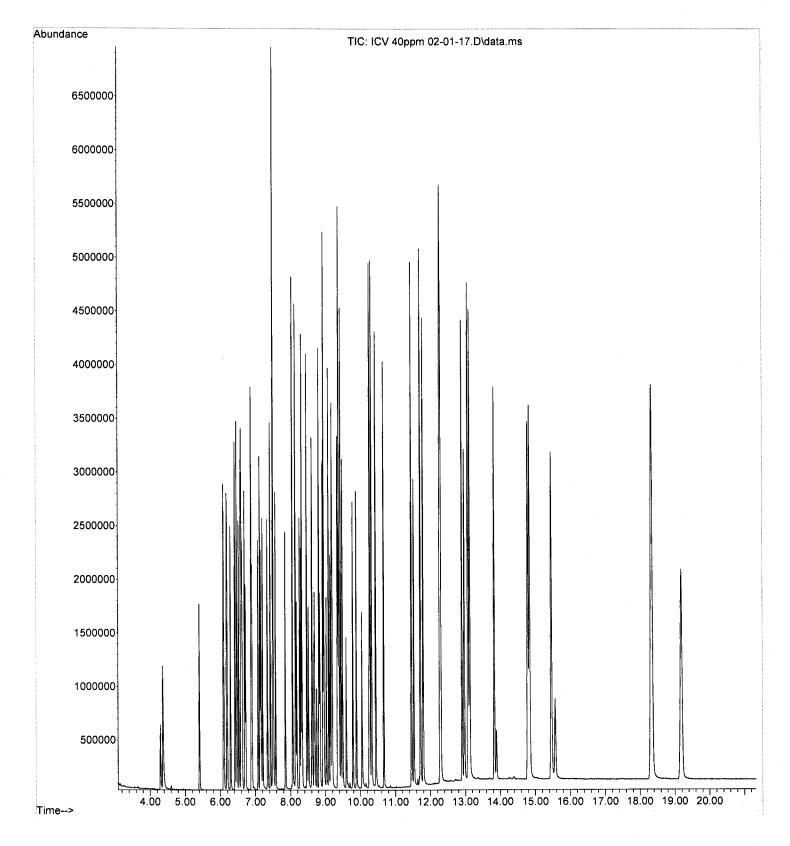
^{(#) =} qualifier out of range (m) = manual integration (+) = signals summed

File :D:\Agilent_Onsite\02-01-17\ICV 40ppm 02-01-17.D

Operator

Acquired : 01 Feb 2017 04:20 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1
Sample Name: ICV 40ppm



Evaluate Continuing Calibration Report

Data Path : D:\Agilent_Onsite\02-08-17\

Data File : CCV1 40ppm 02-08-17.D Acq On : 08 Feb 2017 04:53 pm

Operator :

Sample : CCV1 40ppm

Misc :

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 08 17:15:12 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev Are	а%	Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0 1	03	0.00
2 S	2-Fluorophenol	2.162	2.457	-13.6 1	09	0.00
3 S	Phenol-d5	2.617	2.933	-12.1 1	07	0.00
4 I	Naphthalene-d8	1.000	1.000	0.0 1	05	0.00
5 S	Nitrobenzene-d5	0.520	0.535		06	0.00
6 CPM	Naphthalene	1.954	1.943		04	0.00
7 CPM	<pre>2-Methylnaphthalene</pre>	1.275	1.265		02	0.00
8 CPM	1-Methylnaphthalene	1.170	1.141	2.5 1	02	0.00
9 I	Acenaphthene-d10	1.000	1.000		96	0.00
10 S	2-Fluorobiphenyl	2.666	2.718		.00	0.00
11 CPM	Acenaphthylene	3.639	3.753	-3.1	98	0.00
12 CPM	Acenaphthene	2.431	2.421	0.4	97	0.00
13 CPM	Fluorene	2.729	2.778	-1.8	97	0.00
14 I	Phenanthrene-d10	1.000	1.000	0.0	99	0.00
15 S	2,4,6-Tribromophenol	0.207	0.242	-16.9 1	.00	0.00
16 CPM	Phenanthrene	2.070	2.057	0.6	98	0.00
17 CPM	Anthracene	2.192	2.229	-1.7	98	0.00
18 CPM	Pyrene	2.272	2.339	-2.9 1	.00	0.00
19 CPM	Fluoranthene	2.327	2.364	-1.6	99	0.00
20 I	Chrysene-d12	1.000	1.000	0.0	99	0.00
21 S	Terphenyl-d14	1.436	1.447	-0.8	98	0.00
22 CPM	Benzo(a)anthracene	2.069	2.115	-2.2	99	0.00
23 CPM	Chrysene	2.002	2.048	-2.3 1	.00	0.00
24 I	Perylene-d12	1.000	1.000	0.0 1	.00	
25 CPM	Benzo(b)fluoranthene	2.187	2.173	0.6	98	-0.01
26 CPM	Benzo(k)fluoranthene	2.223	2.250	-1.2 1	.00	
27 CPM	Benzo(a)pyrene	2.139	2.223	-3.9 1	.01	-0.01
28 CPM	Indeno(1,2,3-cd)pyrene	2.679	2.744	-2.4	99	-0.03
29 CPM	Dibenz(a,h)anthracene	2.231	2.284	-2.4	98	-0.03
30 CPM	Benzo(g,h,i)perylene	2.264	2.309	-2,0 1	100	-0.03

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : D:\Agilent_Onsite\02-08-17\

Data File : CCV1 40ppm 02-08-17.D : 08 Feb 2017 04:53 pm

Operator :

Sample : CCV1 40ppm

Misc

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 08 17:15:12 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.459	152	194134	20.00	ng	0.00
4) Naphthalene-d8	7.491	136	741384	20.00	_	0.00
9) Acenaphthene-d10	8.929	164	309466	20.00	_	0.00
14) Phenanthrene-d10	10.248	188	608885	20.00	_	0.00
20) Chrysene-d12	13.093		643091	20.00	_	0.00
24) Perylene-d12	15.571	264	641932	20.00		0.00
System Monitoring Compounds						
2) 2-Fluorophenol	5.406	112	953892	45.45	ng	0.00
Spiked Amount 40.000	Range 19	- 119	Recove		113.63%	
Phenol-d5	6.090	99	1138695	44.83	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove		112.07%	
5) Nitrobenzene-d5	6.892	82	793199	41.15	ng	0.00
Spiked Amount 40.000	Range 44	- 120	Recove	ry =	102.88%	
10) 2-Fluorobiphenyl	8.331	172	1682101	40.78		0.00
Spiked Amount 40.000	Range 44	- 119			101.95%	
15) 2,4,6-Tribromophenol	9.598	330	294479	39.75	ng	0.00
Spiked Amount 40.000	Range 43	- 140	Recove		99.38%	
21) Terphenyl-d14	11.795	244	1861704	40.32		0.00
Spiked Amount 40.000		- 134	Recove		100.80%	
Target Compounds					Ov.	alue
6) Naphthalene	7.509	128	2881168	39.78	_	96
 7) 2-Methylnaphthalene 	8.062	142	1875129	39.68		99
8) 1-Methylnaphthalene	8.147		1692008	39.03	_	98
11) Acenaphthylene	8.821		2322695	41.25		96
12) Acenaphthene	8.958	154	1498160	39.83	_	98
13) Fluorene	9.390	166	1719173	40.71	_	99
16) Phenanthrene	10.271		2504668	39.74	_	99
17) Anthracene	10.321		2714769	40.68		99
18) Pyrene	11.461		2848794	41.18	_	96
19) Fluoranthene	11.716	202	2878778	40.63	ng	96
22) Benzo(a)anthracene	13,078		2720416	40.88	_	96
23) Chrysene	13.131		2633684	40.92	_	96
25) Benzo(b)fluoranthene	14.789		2790192	39.76		100
26) Benzo(k)fluoranthene	14.839		2888955	40.50	_	96
					_	94
· · · · · · · · · · · · · · · · · · ·	15.462	252	2853829	41.58	ng .	24
27) Benzo(a)pyrene	15.462 18.331		2853829 3522549	41.58 40.97	_	95
· · · · · · · · · · · · · · · · · · ·	15.462 18.331 18.346	276	2853829 3522549 2932018	41.58 40.97 40.94	ng	

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

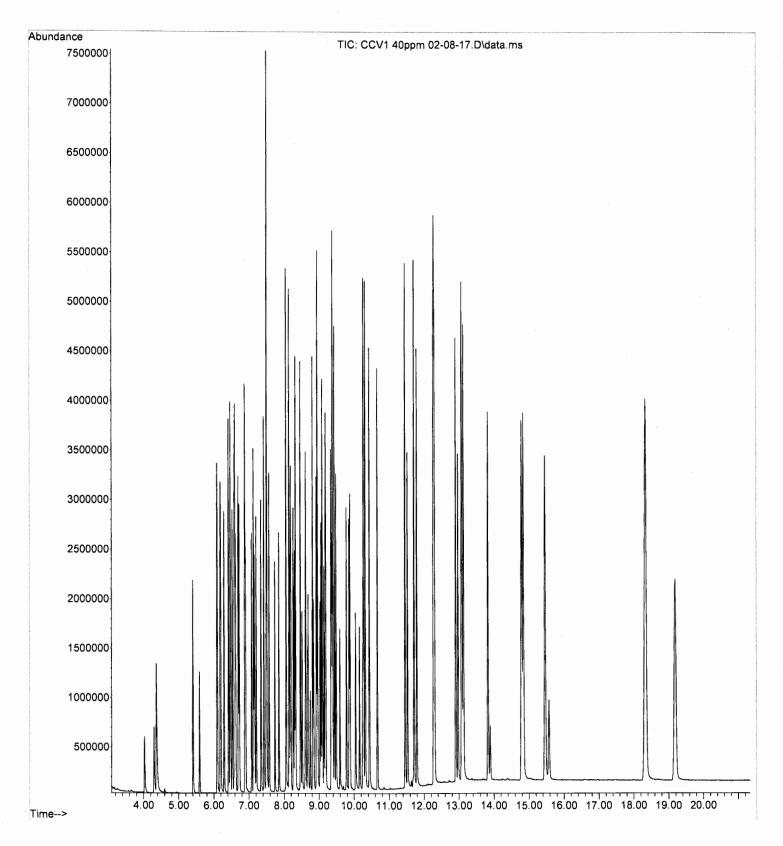
File

:D:\Agilent_Onsite\02-08-17\CCV1 40ppm 02-08-17.D

Operator

Acquired : 08 Feb 2017 04:53 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1 Sample Name: CCV1 40ppm



Evaluate Continuing Calibration Report

Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ClosingCCV1 40ppm 02-08-17.D

Acq On : 09 Feb 2017 12:15 am

Operator :

Sample : ClosingCCV1 40ppm

Misc :

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 08:28:42 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev Area	a% Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0 10	0.00
2 S	2-Fluorophenol	2.162	2.437	-12.7 10	0.00
3 S	Phenol-d5	2.617	2.707	-3.4	99 0.00
4 I	Naphthalene-d8	1.000	1.000	0.0	97 0.00
5 S	Nitrobenzene-d5	0.520	0.557		0.00
6 CPM		1.954	1.984		98 0.00
7 CPM		1.275	1.313		97 0.00
8 CPM	1-Methylnaphthalene	1.170	1.200	-2.6	98 0.00
9 I	Acenaphthene-d10	1.000	1.000		0.00
10 S	2-Fluorobiphenyl	2.666	2.603		99 0.00
11 CPM		3.639	3.752	-3.1 1	0.00
12 CPM	•	2.431	2.431	0.0 1	0.00
13 CPM	Fluorene	2.729	2.890	-5.9 1	0.00
14 I	Phenanthrene-d10	1.000	1.000		0.00
15 S	2,4,6-Tribromophenol	0.207	0.247	-19.3 1	0.00
16 CPM		2.070	2.062	0.4 1	0.00
17 CPM		2.192	2.232	-1.8 1	0.00
18 CPM	,	2.272	2.367	-4.2 1	0.00
19 CPM	Fluoranthene	2.327	2.402	-3.2 1	0.00
20 I	Chrysene-d12	1.000	1.000	0.0 1	0.00
21 S	Terphenyl-d14	1.436	1.468		0.00
22 CPM	` '	2.069	2.150	-3.9 1	0.00
23 CPM	Chrysene	2.002	2.079	-3.8 1	05 0.00
24 I	Perylene-d12	1.000	1.000	0.0 1	0.00
25 CPM	• •	2.187	2.233	-2.1 1	0.00
26 CPM	. ,	2.223	2.232	-0.4 1	06 0.00
27 CPM	` '''	2.139	2.232	-4.3 1	08 -0.01
28 CPM	` ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	2.679	2.845	-6.2 1	10 -0.02
29 CPM	() ()	2.231	2.383	-6.8 1	09 -0.03
30 CPM	Benzo(g,h,i)perylene	2.264	2.429	-7.3 1	13 -0.03

^{(#) =} Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ClosingCCV1 40ppm 02-08-17.D

Acq On : 09 Feb 2017 12:15 am

Operator :

Sample : ClosingCCV1 40ppm

Misc

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 08:28:42 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.459	152	194882	20.00	ng	0.00
Naphthalene-d8	7.493	136	679791	20.00	_	0.00
9) Acenaphthene-d10	8.929	164	320320	20.00		0.00
14) Phenanthrene-d10	10.249	188	638309	20.00	ng	0.00
20) Chrysene-d12	13.096	240	667167	20.00	ng	0.00
24) Perylene-d12	15.574	264	687203	20.00	ng	0.00
System Monitoring Compounds						
<pre>2) 2-Fluorophenol</pre>	5.410	112	949806	45.08	ng	0.00
Spiked Amount 40.000	Range 19	- 119	Recove		112.70%	
Phenol-d5	6.096	99	1055114	41.38	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove		103.45%	
Nitrobenzene-d5	6.893	82	756995	42.83	ng	0.00
Spiked Amount 40.000	Range 44	- 120	Recove	ry =	107.07%	
10) 2-Fluorobiphenyl	8.330	172	1667633	39.06	ng	0.00
Spiked Amount 40.000	Range 44	- 119	Recove	ry =	97.65%	
15) 2,4,6-Tribromophenol	9.598	330	315491	40.59	ng	0.00
Spiked Amount 40.000	Range 43	- 140	Recove	ery =	101.48%	
21) Terphenyl-d14	11.797	244	1958729	40.89	ng	0.00
Spiked Amount 40.000	Range 50	- 134	Recove	ry =	102.23%	
Target Compounds					Qva	alue
Naphthalene	7.510	128	2697408	40.61		99
7) 2-Methylnaphthalene	8.061	142	1784991	41.19	ng	98
8) 1-Methylnaphthalene	8.149	142	1630945	41.03	ng	99
11) Acenaphthylene	8.820	152	2403628	41.24	ng	97
12) Acenaphthene	8.958	154	1557384	40 00	ng	100
				40.00		
13) Fluorene	9.394		1851293	42.36	_	99
13) Fluorene16) Phenanthrene	9.394 10.272	166			ng	
•		166 178	1851293	42.36	ng ng	99
16) Phenanthrene	10.272	166 178 178	1851293 2632793	42.36 39.85	ng ng ng	99 99
16) Phenanthrene17) Anthracene	10.272 10.322	166 178 178 202	1851293 2632793 2849049	42.36 39.85 40.72	ng ng ng ng	99 99 99
16) Phenanthrene17) Anthracene18) Pyrene19) Fluoranthene22) Benzo(a)anthracene	10.272 10.322 11.462	166 178 178 202 202	1851293 2632793 2849049 3021281	42.36 39.85 40.72 41.66	ng ng ng ng ng	99 99 99 96
16) Phenanthrene17) Anthracene18) Pyrene19) Fluoranthene	10.272 10.322 11.462 11.718 13.079	166 178 178 202 202 228	1851293 2632793 2849049 3021281 3066606	42.36 39.85 40.72 41.66 41.29	ng ng ng ng ng ng	99 99 99 96 96
16) Phenanthrene17) Anthracene18) Pyrene19) Fluoranthene22) Benzo(a)anthracene	10.272 10.322 11.462 11.718	166 178 178 202 202 228 228	1851293 2632793 2849049 3021281 3066606 2868618	42.36 39.85 40.72 41.66 41.29 41.56	ng ng ng ng ng ng	99 99 99 96 96 96
16) Phenanthrene 17) Anthracene 18) Pyrene 19) Fluoranthene 22) Benzo(a)anthracene 23) Chrysene	10.272 10.322 11.462 11.718 13.079	166 178 178 202 202 228 228 252	1851293 2632793 2849049 3021281 3066606 2868618 2773578	42.36 39.85 40.72 41.66 41.29 41.56 41.54	ng ng ng ng ng ng ng ng	99 99 99 96 96 96
16) Phenanthrene 17) Anthracene 18) Pyrene 19) Fluoranthene 22) Benzo(a)anthracene 23) Chrysene 25) Benzo(b)fluoranthene	10.272 10.322 11.462 11.718 13.079 13.132 14.792	166 178 178 202 202 228 228 252 252	1851293 2632793 2849049 3021281 3066606 2868618 2773578 3069613	42.36 39.85 40.72 41.66 41.29 41.56 41.54 40.86	ng ng ng ng ng ng ng ng ng ng ng	99 99 96 96 96 96
16) Phenanthrene 17) Anthracene 18) Pyrene 19) Fluoranthene 22) Benzo(a)anthracene 23) Chrysene 25) Benzo(b)fluoranthene 26) Benzo(k)fluoranthene 27) Benzo(a)pyrene	10.272 10.322 11.462 11.718 13.079 13.132 14.792 14.842	166 178 178 202 202 228 228 252 252 252	1851293 2632793 2849049 3021281 3066606 2868618 2773578 3069613 3068357	42.36 39.85 40.72 41.66 41.29 41.56 41.54 40.86	ng ng ng ng ng ng ng ng ng ng ng ng ng	99 99 96 96 96 96 100
 16) Phenanthrene 17) Anthracene 18) Pyrene 19) Fluoranthene 22) Benzo(a)anthracene 23) Chrysene 25) Benzo(b)fluoranthene 26) Benzo(k)fluoranthene 	10.272 10.322 11.462 11.718 13.079 13.132 14.792 14.842	166 178 178 202 202 228 228 252 252 252 276	1851293 2632793 2849049 3021281 3066606 2868618 2773578 3069613 3068357 3067386	42.36 39.85 40.72 41.66 41.29 41.56 41.54 40.86 40.18 41.74	ng ng ng ng ng ng ng ng ng ng ng ng ng n	99 99 96 96 96 100 96

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

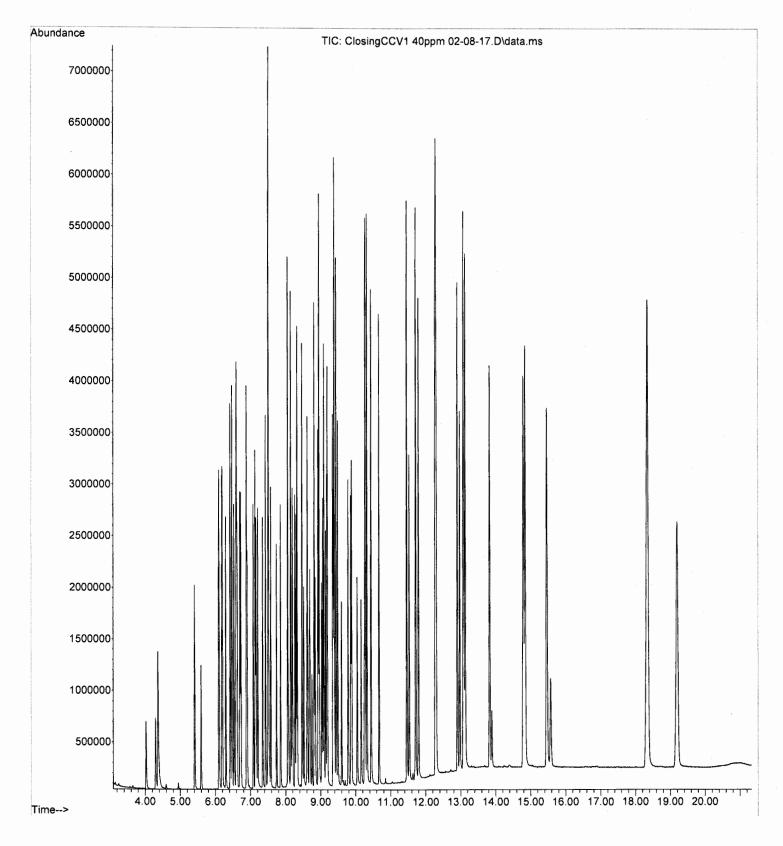
File :D:\Agilent_Onsite\02-08-17\ClosingCCV1 40ppm 02-08-17.D

Operator

: 09 Feb 2017 12:15 am using AcqMethod agilent_onsite_8270.M

Acquired : 09 Feb 20: Instrument : GCMS #1

Sample Name: ClosingCCV1 40ppm



Tune File : D:\Agilent_Onsite\02-08-17\DFTPP2 02-08-17.D Tune Time : 08 Feb 2017 04:23 pm

Daily Calibration File: D:\Agilent_Onsite\02-01-17\IC02011706 40ppm 02-01-17.D

		C6H5FC	C6HD5C	C6D5NC	12Н9			C12D1 321370
						188327		
		C6H3B0	C18D1					C20D1 639389
File	Sample	Surro	gate	Recov	ery %	Internal	Standard	Responses
ARS1-B17-	-00170-01 ARS1-B17-	LCS 02-0 -0 85 91)8-17. 89 101	D 86			783191	320838 649967
	-00170-02 ARS1-B17-	LCSD 02-	-08-17 65	7.D	73	179306 604689	718752 640333	311471 627105
ARS1-B17	-00170-03 ARS1-B17-		56		58	196385 600512		322986 607076
ARS1-B17	-00170-04 ARS1-B17-		33*	24*	47	202974 641545	719864 690272	328305 689262
ARS1-B17	-00170-05 ARS1-B17-	-0 55 85	63 80		75	207978 676407		342676 746076
ARS1-B17	-00170-07 ARS1-B17			55	53	172709 599727	636454 611934	305625 637850
ARS1-B17	-00170-08 ARS1-B17	-0 46 81	57 87	58	72			327955 666285
ARS1-B17	-00170-09 ARS1-B17	-0 81	7.D	81	76	200420 670381	703087 706981	341395 744379
ARS1-B17	-00170-10 ARS1-B17		33*	20*	38*	199266 659976	718972 708493	332207 731587
		-0 11* 71	29* 68	.D 18*	34*	207959 693928	756265 732148	358453 753037
CCV1 40p	pm 02-08- CCV1 40p	17.D pm 114	112	103	102	194134 608885	741384	309466
ClosingC	CV1 40ppm ClosingC	02-08-1 CV 113	7.D 103	107	98	194882 638309	679791	320320

Created: Fri Feb 10 09:58:37 2017 GCMS #1

Data Path : D:\Agilent_Onsite\02-08-17\ Data File : ARS1-B17-00170-01 LCS 02-08-17.D

Acq On : 08 Feb 2017 05:52 pm

Acq Un .
Operator :
Sample : ARS1-B17-00170-01
Misc : Soil
Sample Multip ALS Vial : 4 Sample Multiplier: 1

Quant Time: Feb 09 08:27:51 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Un	its Dev	(Min)
Internal Standards						
<pre>Internal Standards 1) 1,4-Dichlorobenzene-d4</pre>	6.458	152	206105	20.00	na	0.00
4) Naphthalene-d8	7.489	136	783191	20.00	_	0.00
9) Acenaphthene-d10	8.927	164	320838	20.00	_	0.00
14) Phenanthrene-d10	10.249	188	623555	20.00	_	0.00
•				20.00		-0.01
20) Chrysene-d12 24) Perylene-d12	13.092 15.568	240 264	665435 649967	20.00	_	-0.01
24) Perylene-diz	15.508	204	649967	20.00	ug	-0.01
System Monitoring Compounds						
2) 2-Fluorophenol	5.410	112	756969	33.97	ng	0.00
Spiked Amount 40.000	Range 35	- 115	Recove	ry =	84.92%	6
3) Phenol-d5	6.089	99	956261	35.46	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove	ry =	88.65%	`
5) Nitrobenzene-d5	6.889	82	699666	34.36	ng	0.00
Spiked Amount 40.000	Range 37	- 122	Recove	ry =	85.90%	6
<pre>10) 2-Fluorobiphenyl</pre>	8.328	172	1535046	35.89	ng	0.00
Spiked Amount 40.000	Range 44	- 115	Recove	ry =	89.72%	6
15) 2,4,6-Tribromophenol	9.599	330	275587	36.45	ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove	ry =	91.13%	6
21) Terphenyl-d14	11.795		1930034	40.40	ng	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ery =	101.00%	6
					_	_
Target Compounds					•	/alue
Naphthalene	7.509		1309507	17.11		86
7) 2-Methylnaphthalene	8.060		844284	16.91	_	98
8) 1-Methylnaphthalene	8.147		767403	16.76	_	98
11) Acenaphthylene	8.819		1060594	18.17	_	96
12) Acenaphthene	8.956		698649	17.92	-	99
13) Fluorene	9.391		816140	18.64		98
16) Phenanthrene	10.269		1247838	19.33	_	98
17) Anthracene	10.319	178	1308855	19.15	_	99
18) Pyrene	11.461		1415084	19.98	_	96
19) Fluoranthene	11.713		1461561	20.14		95
22) Benzo(a)anthracene	13.077		1377983	20.01		95
23) Chrysene	13.130		1328724	19.95	_	96
25) Benzo(b)fluoranthene	14.786		1418792	19.97	_	100
26) Benzo(k)fluoranthene	14.836		1440868	19.95	_	96
27) Benzo(a)pyrene	15.459	252	1362674	19.61	_	93
28) Indeno(1,2,3-cd)pyrene	18.321	276	1719671	19.75	_	95
<pre>29) Dibenz(a,h)anthracene</pre>	18.339		1421835	19.61		100
30) Benzo(g,h,i)perylene	19.182	276	1434527	19.50	ng	100
	-					

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

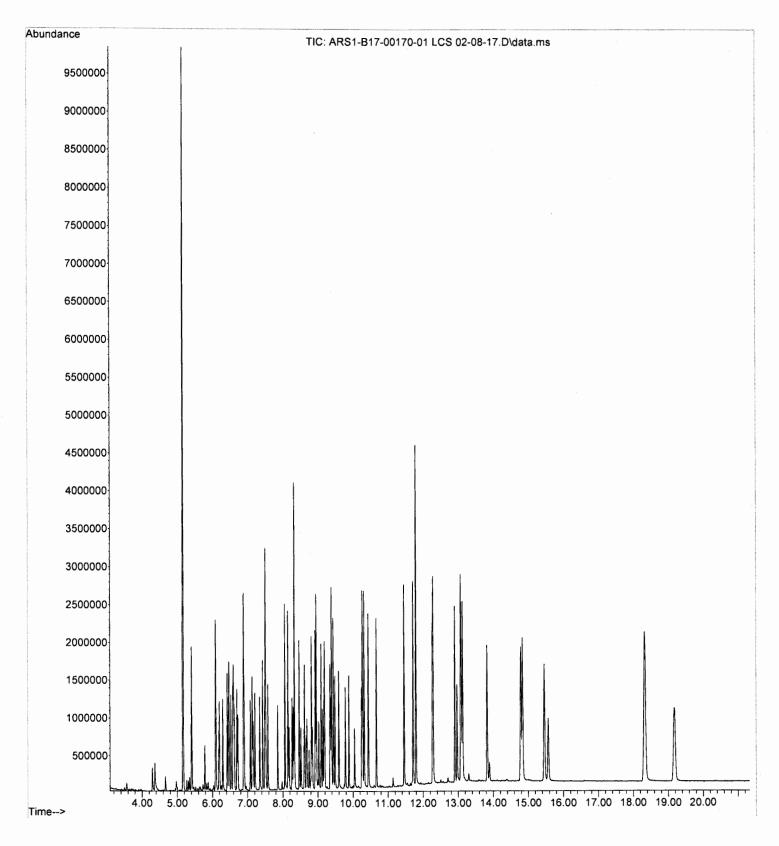
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-01 LCS 02-08-17.D

Operator

Acquired : 08 Feb 2017 05:52 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-01



Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ARS1-B17-00170-02 LCSD 02-08-17.D

Acq On : 08 Feb 2017 06:21 pm

Operator :

Sample : ARS1-B17-00170-02

Misc : Soil

ALS Vial : 5 Sample Multiplier: 1

Quant Time: Feb 09 08:28:06 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Un	its [Dev(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.458	152	179306	20.00	ng	0.00
4) Naphthalene-d8	7.490	136	718752	20.00	_	0.00
9) Acenaphthene-d10	8.928	164	311471	20.00	_	0.00
14) Phenanthrene-d10	10.247		604689	20.00	_	0.00
20) Chrysene-d12	13.093	240	640333	20.00	ng	0.00
24) Perylene-d12	15.569	264	627105	20.00	ng	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	5.406	112	450180	23.22	ng	0.00
Spiked Amount 40.000		- 115	Recove		58.6	25 %
3) Phenol-d5	6.089	99	610875	26.04	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove	ery =	65.3	10%
Nitrobenzene-d5	6.888	82	492429	26.35	ng	0.00
Spiked Amount 40.000	Range 37	- 122	Recove	ery =	65.8	88%
10) 2-Fluorobiphenyl	8.330	172	1212692	29.21	ng	0.00
Spiked Amount 40.000	Range 44	- 115	Recove	ery =	73.0	03 %
<pre>15) 2,4,6-Tribromophenol</pre>	9.597	330	239858	32.87	ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove		82.	17%
21) Terphenyl-d14	11.797	244	1895359	41.23	_	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ery =	103.	07%
Target Compounds						Qvalue
6) Naphthalene	7.508	128	935868	13.33	ng	81
7) 2-Methylnaphthalene	8.058	142	628447	13.72	ng	99
8) 1-Methylnaphthalene	8.146	142	585927	13.94	ng	99
11) Acenaphthylene	8.817	152	880606	15.54	ng	96
12) Acenaphthene	8.957	154	576284	15.22	ng	100
13) Fluorene	9.390	166	734208	17.28	ng	98
16) Phenanthrene	10.270	178	1169684	18.69	_	98
17) Anthracene	10.320		1220025	18.41		98
18) Pyrene	11.460		1351657	19.68	_	96
19) Fluoranthene	11.715		1355459	19.26	_	95
22) Benzo(a)anthracene	13.076		1300532	19.63	_	95
23) Chrysene	13.129		1261982	19.69	_	96
25) Benzo(b)fluoranthene	14.787		1331311	19.42	_	100
26) Benzo(k)fluoranthene	14.837		1378439	19.78	_	96
<pre>27) Benzo(a)pyrene</pre>	15.457		1276645	19.04		93
28) Indeno(1,2,3-cd)pyrene			1651780	19.67		94
<pre>29) Dibenz(a,h)anthracene</pre>	18.340		1384628	19.79		100
30) Benzo(g,h,i)perylene	19.174	276	1381523	19.47	ng 	100

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

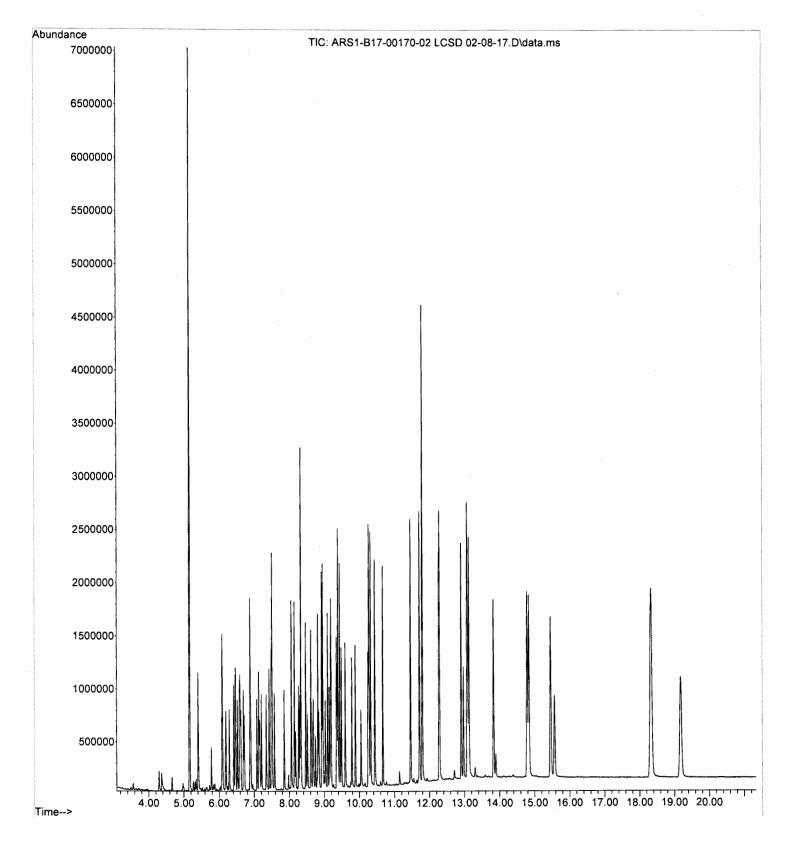
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-02 LCSD 02-08-17.D

Operator

Acquired : 08 Feb 2017 06:21 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-02



Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ARS1-B17-00170-03 MBLK 02-08-17.D

Acq On : 08 Feb 2017 05:22 pm

Operator :

Sample : ARS1-B17-00170-03

Misc : Soil

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 09 08:28:27 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T. QIon	Response Conc Units Dev(Min)
Internal Standards		
1) 1,4-Dichlorobenzene-d4	6.460 152	196385 20.00 ng 0.00
4) Naphthalene-d8	7.489 136	
9) Acenaphthene-d10	8.928 164	5
14) Phenanthrene-d10	10.248 188	•
20) Chrysene-d12	13.091 240	
24) Perylene-d12	15.570 264	
24) Telylene ulz	13.370 204	007070 20:00 mg 0:00
System Monitoring Compounds		
<pre>2) 2-Fluorophenol</pre>	5.406 112	452471 21.31 ng 0.00
Spiked Amount 40.000	Range 35 - 11	5 Recovery = 53.27%
Phenol-d5	6.088 99	580042 22.57 ng 0.00
Spiked Amount 40.000	Range 33 - 12	2 Recovery = 56.43%
5) Nitrobenzene-d5	6.890 82	447060 22.11 ng 0.00
Spiked Amount 40.000	Range 37 - 12	
10) 2-Fluorobiphenyl	8.329 172	1002342 23.28 ng 0.00
Spiked Amount 40.000	Range 44 - 11	5 Recovery = 58.20%
15) 2,4,6-Tribromophenol	9.598 330	153873 21.75 ng 0.00
Spiked Amount 40.000	Range 39 - 13	2 Recovery = 54.37%
21) Terphenyl-d14	11.797 244	1896695 41.95 ng 0.00
Spiked Amount 40.000	Range 54 - 12	7 Recovery = 104.88%
Taxaab Camaaaada		Ouplus
Target Compounds	0.000	Qvalue
6) Naphthalene	0.000	0 N.D. d
7) 2-Methylnaphthalene	0.000	0 N.D.
8) 1-Methylnaphthalene	0.000	0 N.D.
11) Acenaphthylene	0.000	0 N.D.
12) Acenaphthene	0.000	0 N.D. d
13) Fluorene	0.000	0 N.D. d 0 N.D.
16) Phenanthrene	0.000	
17) Anthracene	0.000	0 N.D. 0 N.D.
18) Pyrene	0.000	0 N.D. d
19) Fluoranthene	0.000	9 N.D. d
22) Benzo(a)anthracene23) Chrysene	0.000 0.000	0 N.D. d
		0 N.D.
<pre>25) Benzo(b)fluoranthene 26) Benzo(k)fluoranthene</pre>	0.000 0.000	9 N.D.
27) Benzo(k)+Tuoranthene 27) Benzo(a)pyrene	0.000	9 N.D. d
28) Indeno(1,2,3-cd)pyrene	0.000	9 N.D. d
29) Dibenz(a,h)anthracene	0.000	9 N.D. U
30) Benzo(g,h,i)perylene	0.000	9 N.D.

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

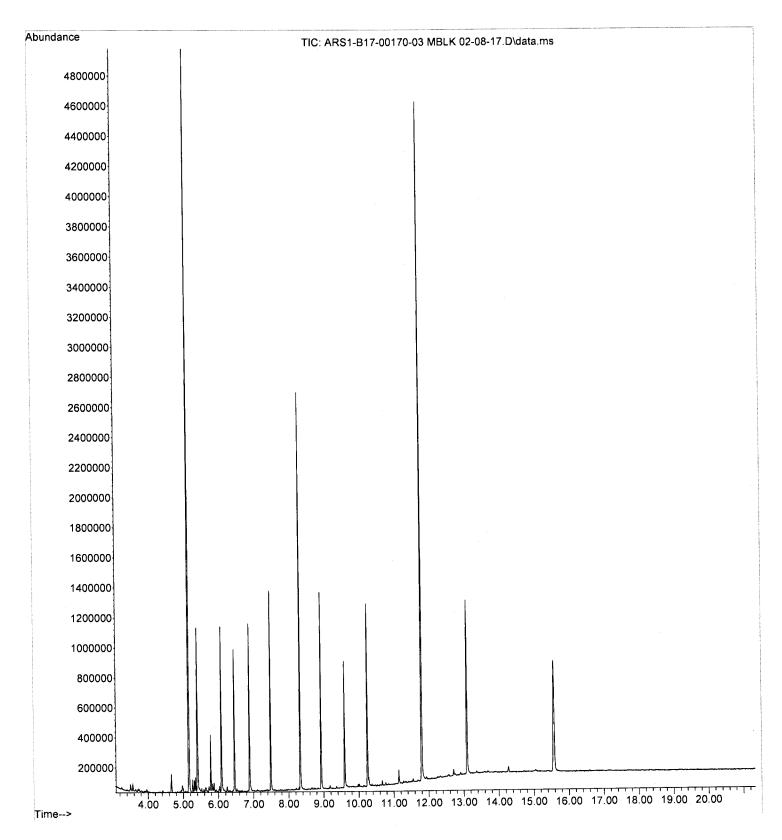
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-03 MBLK 02-08-17.D

Operator

Acquired : 08 Feb 2017 05:22 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-03



Data Path : D:\Agilent_Onsite\02-08-17\ Data File : ARS1-B17-00170-04 02-08-17.D

Acq On : 08 Feb 2017 06:51 pm

Operator :

Sample : ARS1-B17-00170-04 Misc : Soil

ALS Vial : 6 Sample Multiplier: 1

Quant Time: Feb 09 08:29:54 2017

 $\label{lem:quant_method} {\tt Quant\ Method: D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M} \\$

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Un	its Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.459	152	202974	20.00	nα	0.00
4) Naphthalene-d8	7.490	136	719864	20.00	_	0.00
9) Acenaphthene-d10	8.928	164	328305	20.00		0.00
14) Phenanthrene-d10	10.246		641545	20.00	-	0.00
20) Chrysene-d12	13.092		690272	20.00	_	-0.01
24) Perylene-d12	15.571		689262	20.00		0.00
System Monitoring Compounds						
2) 2-Fluorophenol	5.408	112	159018	7.25	nø	0.00
Spiked Amount 40.000		- 115	Recove		18.13%	
3) Phenol-d5	6.090	99	350109	13.18		0.00
Spiked Amount 40.000		- 122	Recove		32.95%	
5) Nitrobenzene-d5	6.890		182927	9.77		0.00
Spiked Amount 40.000		- 122			24.43%	#
10) 2-Fluorobiphenyl	8.329		822196	18.79	ng	0.00
Spiked Amount 40.000	Range 44	- 115	Recove		46.98%	
15) 2,4,6-Tribromophenol	9.598	330	229084	29.74	ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove	ry =	74.35%	
21) Terphenyl-d14	11.796	244	1482575	29.92	ng	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ry =	74.80%	
Target Compounds					Ov	alue
6) Naphthalene	0.000		0	N.D.	_	
7) 2-Methylnaphthalene	0.000		ø	N.D.		
8) 1-Methylnaphthalene	0.000		0	N.D.	•	
Acenaphthylene	0.000		0	N.D.	. d	
12) Acenaphthene	0.000		0	N.D.	. d	
13) Fluorene	0.000		0	N.D.	. d	
16) Phenanthrene	0.000		0	N.D.	. d	
17) Anthracene	0.000		0	N.D.	. d	
18) Pyrene	0.000		0	N.D.		
19) Fluoranthene	0.000		0	N.D.		
<pre>22) Benzo(a)anthracene</pre>	0.000		0	N.D.		
23) Chrysene	0.000		0	N.D.		
25) Benzo(b)fluoranthene	0.000		0	N.D.		
26) Benzo(k)fluoranthene	0.000		0	N.D.		
27) Benzo(a)pyrene	0.000		0	N.D.		
28) Indeno(1,2,3-cd)pyrene	0.000		0	N.D.		
29) Dibenz(a,h)anthracene	0.000		0	N.D.		
30) Benzo(g,h,i)perylene	0.000		0	N.D.	. a 	

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

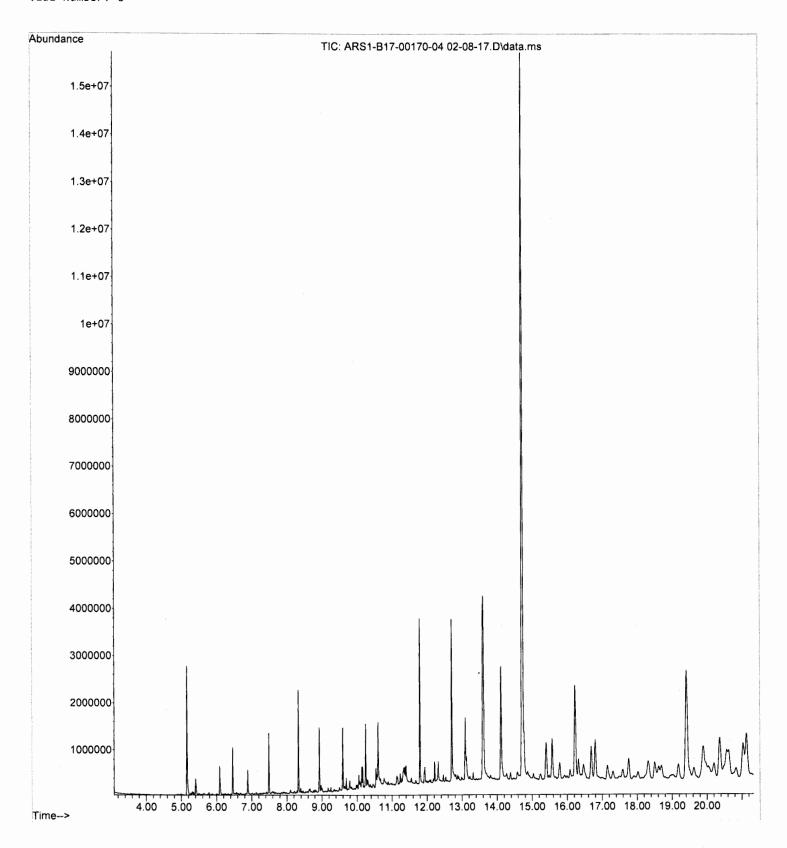
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-04 02-08-17.D

Operator

Acquired : 08 Feb 2017 06:51 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-04



Data Path : D:\Agilent Onsite\02-08-17\ Data File : ARS1-B17-00170-05 02-08-17.D

Acq On : 08 Feb 2017 08:19 pm

Operator :

Sample : ARS1-B17-00170-05 Misc : Soil

ALS Vial : 9 Sample Multiplier: 1

Quant Time: Feb 09 08:30:13 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.459	152	207978	20.00	ng	0.00
4) Naphthalene-d8	7.489		716159	20.00	_	0.00
9) Acenaphthene-d10	8.928		342676	20.00	-	0.00
14) Phenanthrene-d10	10.247		676407	20.00	_	0.00
20) Chrysene-d12	13.092		711393	20.00	-	0.00
24) Perylene-d12	15.575	264	746076	20.00	•	0.00
System Monitoring Compounds						
2) 2-Fluorophenol	5.410	112	492349	21.90	ng	0.00
Spiked Amount 40.000	Range 35	- 115	Recove	ry =	54.75%	
3) Phenol-d5	6.095	99	684869	25.17	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove		62.93%	
5) Nitrobenzene-d5	6.891	82	558842	30.01	ng	0.00
Spiked Amount 40.000	Range 37	- 122		ery =	75.03%	
10) 2-Fluorobiphenyl	8.329		1376897	30.14	ng	0.00
Spiked Amount 40.000	Range 44	- 115	Recove	ry =	75.35%	
15) 2,4,6-Tribromophenol	9.596	330	277749	33.97	ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove	ry =	84.92%	
21) Terphenyl-d14	11.798	244	1639766	32.11	ng	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ery =	80.27%	
Target Compounds					. Qv	alue
Naphthalene	0.000		0	N.D.	. d	
7) 2-Methylnaphthalene	0.000		0	N.D.	. d	
8) 1-Methylnaphthalene	0.000		0	N.D.	. d	
11) Acenaphthylene	0.000		0	N.D.	. d	
12) Acenaphthene	0.000		0	N.D.	. d	
13) Fluorene	0.000		0	N.D.	. d	
16) Phenanthrene	0.000		0	N.D.	. d	
17) Anthracene	0.000		0	N.D.	. d	
18) Pyrene	0.000		0	N.D.	. d	
19) Fluoranthene	0.000		0	N.D.	. d	
22) Benzo(a)anthracene	0.000		0	N.D	. d	
23) Chrysene	0.000		0	N.D.	. d	
<pre>25) Benzo(b)fluoranthene</pre>	0.000		0	N.D	. d	
<pre>26) Benzo(k)fluoranthene</pre>	0.000		0	N.D	. d	
27) Benzo(a)pyrene	0.000)	0	N.D	. d	
28) Indeno(1,2,3-cd)pyrene	0.000	1	0	N.D	. d	
<pre>29) Dibenz(a,h)anthracene</pre>	0.000)	0	N.D		
30) Benzo(g,h,i)perylene	0.000)	0	N.D	. d	

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

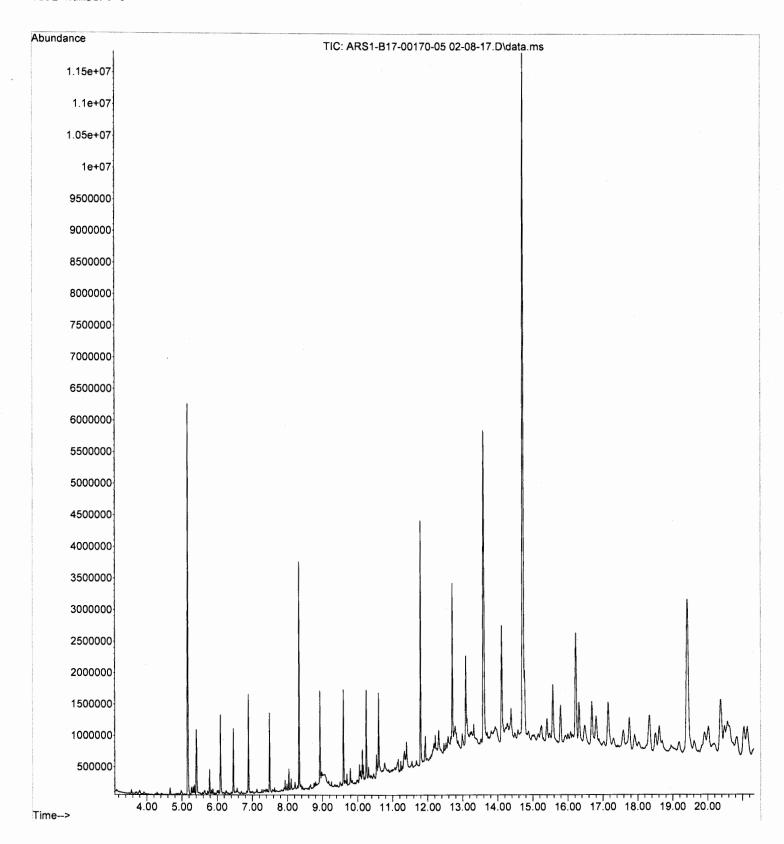
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-05 02-08-17.D

Operator

Acquired : 08 Feb 2017 08:19 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-05



Data Path : D:\Agilent_Onsite\02-08-17\ Data File : ARS1-B17-00170-07 02-08-17.D

Acq On : 08 Feb 2017 09:18 pm

Operator :

Sample : ARS1-B17-00170-07 Misc : Soil

ALS Vial : 11 Sample Multiplier: 1

Quant Time: Feb 09 08:30:39 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units D	ev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.460	152	172709	20.00 ng	0.00
4) Naphthalene-d8	7.492	136	636454	20.00 ng	0.00
9) Acenaphthene-d10	8.929		305625	20.00 ng	0.00
14) Phenanthrene-d10	10.249		599727	20.00 ng	0.00
20) Chrysene-d12	13.093		611934	20.00 ng	0.00
24) Perylene-d12	15.574		637850	20.00 ng	0.00
System Monitoring Compounds					
2) 2-Fluorophenol	5.409	112	431287	23.10 ng	0.00
Spiked Amount 40.000		- 115	Recove		
3) Phenol-d5	6.093	99	572104	25.32 ng	0.00
Spiked Amount 40.000		- 122	Recove		
5) Nitrobenzene-d5	6.892	82	364832	22,05 ng	0.00
Spiked Amount 40.000		- 122	Recove		
<pre>10) 2-Fluorobiphenyl</pre>	8.330		866412	21.27 ng	0.00
Spiked Amount 40.000	Range 44	- 115			7%
15) 2,4,6-Tribromophenol	9.598	330		31.99 ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove		7%
21) Terphenyl-d14	11.798	244	1053479	23.98 ng	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ry = 59.9	5%
Target Compounds					Qvalue
Naphthalene	0.000		0	N.D. d	
7) 2-Methylnaphthalene	0.000		0	N.D. d	
8) 1-Methylnaphthalene	0.000		0	N.D. d	
Acenaphthylene	0.000		0	N.D. d	
12) Acenaphthene	0.000		0	N.D. d	
13) Fluorene	0.000		0	N.D. d	
16) Phenanthrene	0.000		0	N.D. d	
17) Anthracene	0.000		0	N.D. d	
18) Pyrene	0.000		0	N.D. d	
19) Fluoranthene	0.000		0	N.D. d	
22) Benzo(a)anthracene	0.000		0	N.D. d	
23) Chrysene	0.000		0	N.D. d	
<pre>25) Benzo(b)fluoranthene</pre>	0.000		0	N.D. d	
26) Benzo(k)fluoranthene	0.000		0	N.D. d	
27) Benzo(a)pyrene	0.000		0	N.D. d	
28) Indeno(1,2,3-cd)pyrene	0.000		0	N.D. d	
29) Dibenz(a,h)anthracene	0.000		0	N.D. d	
30) Benzo(g,h,i)perylene	0.000		0 	N.D. d	

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

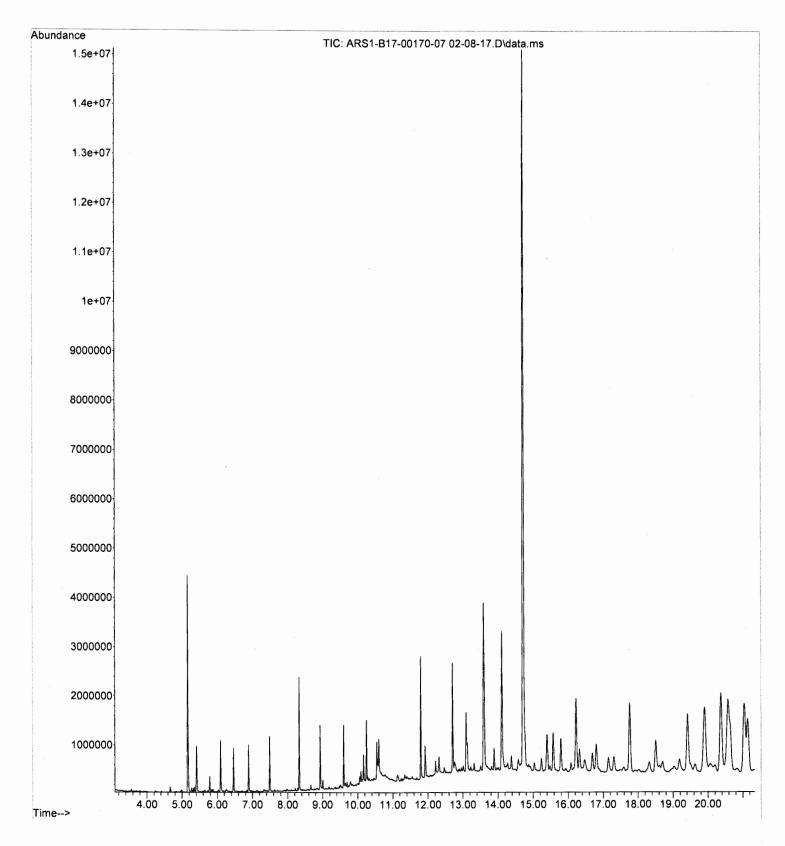
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-07 02-08-17.D

Operator

Acquired : 08 Feb 2017 09:18 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-07



Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ARS1-B17-00170-08 02-08-17.D

Acq On : 08 Feb 2017 09:48 pm

Operator :

Sample : ARS1-B17-00170-08

Misc : Soil

ALS Vial : 12 Sample Multiplier: 1

Quant Time: Feb 09 08:31:01 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units De	v(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.460	152	184236	20.00 ng	0.00
4) Naphthalene-d8	7.489	136	669657	20.00 ng	0.00
9) Acenaphthene-d10	8.929		327955	20.00 ng	0.00
14) Phenanthrene-d10	10.246		628325	20.00 ng	0.00
20) Chrysene-d12	13.094		650461	20.00 ng	0.00
24) Perylene-d12	15.571	264	666285	20.00 ng	0.00
System Monitoring Compounds					
2) 2-Fluorophenol	5.412	112	363742	18.26 ng	0.00
Spiked Amount 40.000		- 115	Recove	_	
3) Phenol-d5	6.093	99	547413	22.71 ng	0.00
Spiked Amount 40.000		- 122	Recove		%
5) Nitrobenzene-d5	6.892		400535	23.01 ng	0.00
Spiked Amount 40.000	Range 37	- 122			3%
10) 2-Fluorobiphenyl	8.331	172	1263746	28.91 ng	0.00
Spiked Amount 40.000	Range 44	- 115	Recove	ry = 72.28	3%
<pre>15) 2,4,6-Tribromophenol</pre>	9.599	330	244236	32.24 ng	0.00
Spiked Amount 40.000	Range 39	- 132	Recove	ery = 80.68)%
21) Terphenyl-d14	11.796	244	1630478	34.91 ng	0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ery = 87.27	' %
Target Compounds				(value
Naphthalene	0.000		0	N.D. d	
7) 2-Methylnaphthalene	0.000		0	N.D.	
8) 1-Methylnaphthalene	0.000		0	N.D.	
<pre>11) Acenaphthylene</pre>	0.000		0	N.D.	
12) Acenaphthene	0.000		0	N.D. d	
13) Fluorene	0.000		0	N.D. d	
16) Phenanthrene	0.000		0	N.D. d	
17) Anthracene	0.000		0	N.D. d	
18) Pyrene	0.000		0	N.D. d	
<pre>19) Fluoranthene</pre>	0.000		0	N.D. d	
22) Benzo(a)anthracene	0.000		0	N.D. d	
23) Chrysene	0.000		0	N.D. d	
25) Benzo(b)fluoranthene	0.000		0	N.D. d	
26) Benzo(k)fluoranthene	0.000		0	N.D. d	
27) Benzo(a)pyrene	0.000		0	N.D. d	
28) Indeno(1,2,3-cd)pyrene	0.000		0	N.D. d	
29) Dibenz(a,h)anthracene	0.000		0 0	N.D.	
30) Benzo(g,h,i)perylene	0.000			N.D. d	

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

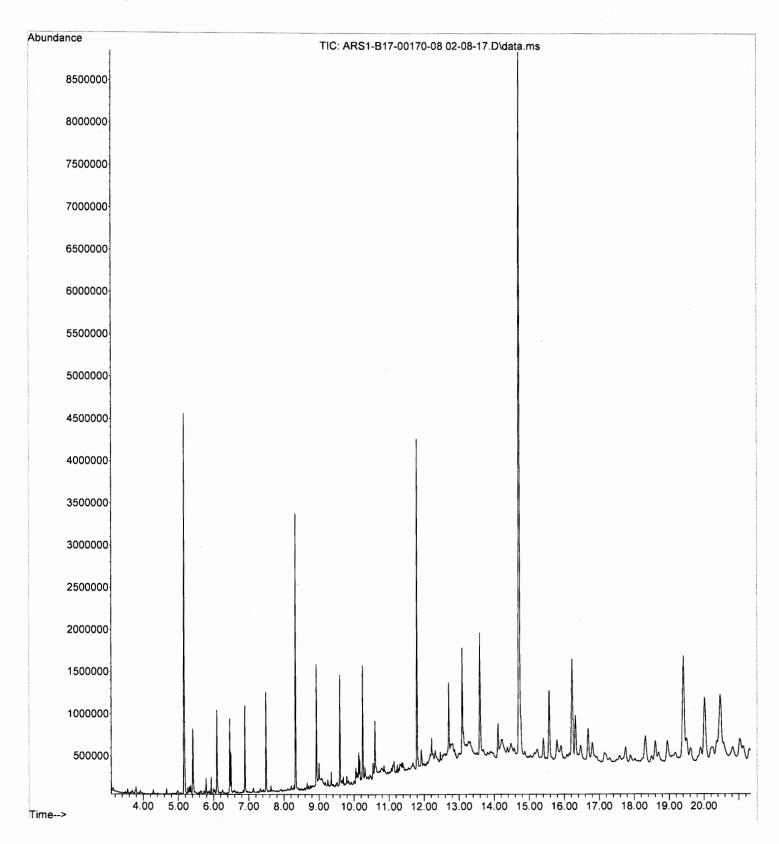
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-08 02-08-17.D

Operator

Acquired : 08 Feb 2017 09:48 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-08



Data Path : D:\Agilent_Onsite\02-08-17\ Data File : ARS1-B17-00170-09 02-08-17.D

Acq On : 08 Feb 2017 10:17 pm

Operator :

Sample : ARS1-B17-00170-09 Misc : Soil

ALS Vial : 13 Sample Multiplier: 1

Quant Time: Feb 09 08:31:13 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Units De	v(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.461	152	200420	20.00 ng	0.00
4) Naphthalene-d8	7.490	136	703087	20.00 ng	0.00
9) Acenaphthene-d10	8.927	164	341395	20.00 ng	0.00
14) Phenanthrene-d10	10.247	188	670381	20.00 ng	0.00
20) Chrysene-d12	13.093		706981	20.00 ng	0.00
24) Perylene-d12	15.576	264	744379	20.00 ng	0.00
System Monitoring Compounds					
2) 2-Fluorophenol	5.412	112	702957	32.44 ng	0.00
Spiked Amount 40.000		- 115	Recove	T	
3) Phenol-d5	6.094	99	860047	32.80 ng	0.00
Spiked Amount 40.000		- 122	Recove		
5) Nitrobenzene-d5	6.889	82	595610	32.58 ng	0.00
Spiked Amount 40.000		- 122			
10) 2-Fluorobiphenyl	8.330	172	1381239	30.35 ng	0.00
Spiked Amount 40.000		- 115			
15) 2,4,6-Tribromophenol	9,597	330	307283	37.75 ng	0.00
Spiked Amount 40.000		- 132	Recove		%
21) Terphenyl-d14	11.796			32.95 ng	0.00
Spiked Amount 40.000		- 127	Recove		
Tanant Compounds				0	value
Target Compounds 6) Naphthalene	0.000		0	N.D. d	value
7) 2-Methylnaphthalene	0.000		0	N.D. u	
8) 1-Methylnaphthalene	0.000		0	N.D.	
11) Acenaphthylene	0.000		0	N.D.	
12) Acenaphthene	0.000		0	N.D. d	
13) Fluorene	0.000		0	N.D. d	
16) Phenanthrene	0.000		ø	N.D. d	
17) Anthracene	0.000		ø	N.D. d	
18) Pyrene	0.000		ø	N.D. d	
19) Fluoranthene	0.000		0	N.D. d	
22) Benzo(a)anthracene	0.000		0	N.D. d	
23) Chrysene	0.000		0	N.D. d	
25) Benzo(b)fluoranthene	0.000		0	N.D. d	
26) Benzo(k)fluoranthene	0.000		0	N.D. d	
27) Benzo(a)pyrene	0.000		0	N.D. d	
28) Indeno(1,2,3-cd)pyrene	0.000		0	N.D. d	
<pre>29) Dibenz(a,h)anthracene</pre>	0.000		0	N.D. d	
30) Benzo(g,h,i)perylene	0.000		0	N.D. d	

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

File

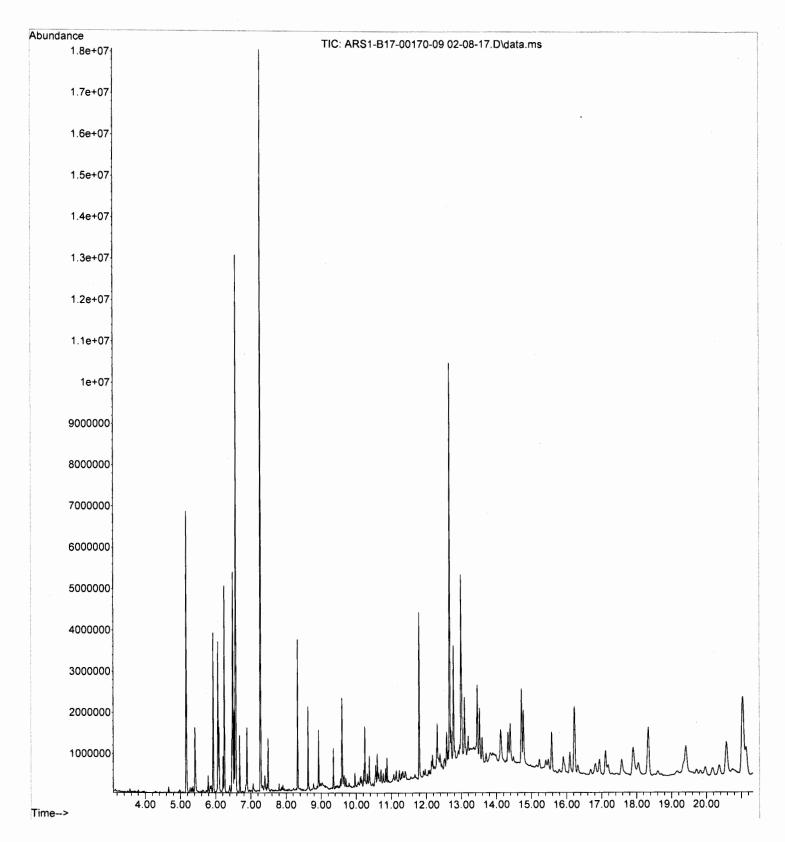
:D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-09 02-08-17.D

Operator

: 08 Feb 2017 10:17 pm using AcqMethod agilent_onsite_8270.M Acquired

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-09



Data Path : D:\Agilent_Onsite\02-08-17\ Data File : ARS1-B17-00170-10 MS 02-08-17.D

Acq On : 08 Feb 2017 07:20 pm

Operator :

Sample : ARS1-B17-00170-10

: Soil Misc

ALS Vial : 7 Sample Multiplier: 1

Quant Time: Feb 09 08:31:23 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	nits Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.461	152	199266	20.00	ng 0.00
4) Naphthalene-d8	7.490	136	718972	20.00	
Acenaphthene-d10	8.928		332207	20.00	
14) Phenanthrene-d10	10.249		659976	20.00	
20) Chrysene-d12	13.093		708493	20.00	
24) Perylene-d12	15.571		731587	20.00	
System Monitoring Compounds					
2) 2-Fluorophenol	5.410	112	128668	5.97	ng 0.00
Spiked Amount 40.000	Range 35	- 115	Recove		14.92%#
3) Phenol-d5	6.091	99	343670	13.18	ng 0.00
Spiked Amount 40.000	Range 33	- 122	Recove		32.95%#
Nitrobenzene-d5	6.889	82	152441	8.16	ng 0.00
Spiked Amount 40.000	Range 37	- 122	Recove	ry =	20.40%#
10) 2-Fluorobiphenyl	8.329	172	667339	15.07	ng 0.00
Spiked Amount 40.000	Range 44	- 115			37.68%#
15) 2,4,6-Tribromophenol	9.599	330	252610	31.77	ng 0.00
Spiked Amount 40.000	Range 39	- 132	Recove		79,42%
21) Terphenyl-d14	11.798	244	1584493	31.15	ng 0.00
Spiked Amount 40.000	Range 54	- 127	Recove		77.88%
Target Compounds					Qvalue
Naphthalene	7.507	128	356204	5.07	-
 7) 2-Methylnaphthalene 	8.060	142	297650	6.49	•
8) 1-Methylnaphthalene	8.147	142	330309	7.86	
11) Acenaphthylene	8.819	152	676972	11.20	
12) Acenaphthene	8.957	154	422718	10.47	***
13) Fluorene	9.390		549632	12.13	**
16) Phenanthrene	10.270	178	967202	14.16	
17) Anthracene	10.320	178	1035579	14.32	
18) Pyrene	11.460	202	1181175	15.75	
19) Fluoranthene	11.715	202	1202215	15.66	•
22) Benzo(a)anthracene	13.078		1108004	15.11	ng 95
23) Chrysene	13.129		1081512	15,25	
<pre>25) Benzo(b)fluoranthene</pre>	14.788		1114830	13.94	
<pre>26) Benzo(k)fluoranthene</pre>	14.838	252	1139847	14.02	
27) Benzo(a)pyrene	15.461		1102007	14.09	4.0
28) Indeno(1,2,3-cd)pyrene	18.335		1372184	14.00	
29) Dibenz(a,h)anthracene	18.347		1163850	14.26	
30) Benzo(g,h,i)perylene					
20) penzo(B'n't)benAtene	19.187	276	1121131	13.54	ng 100

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

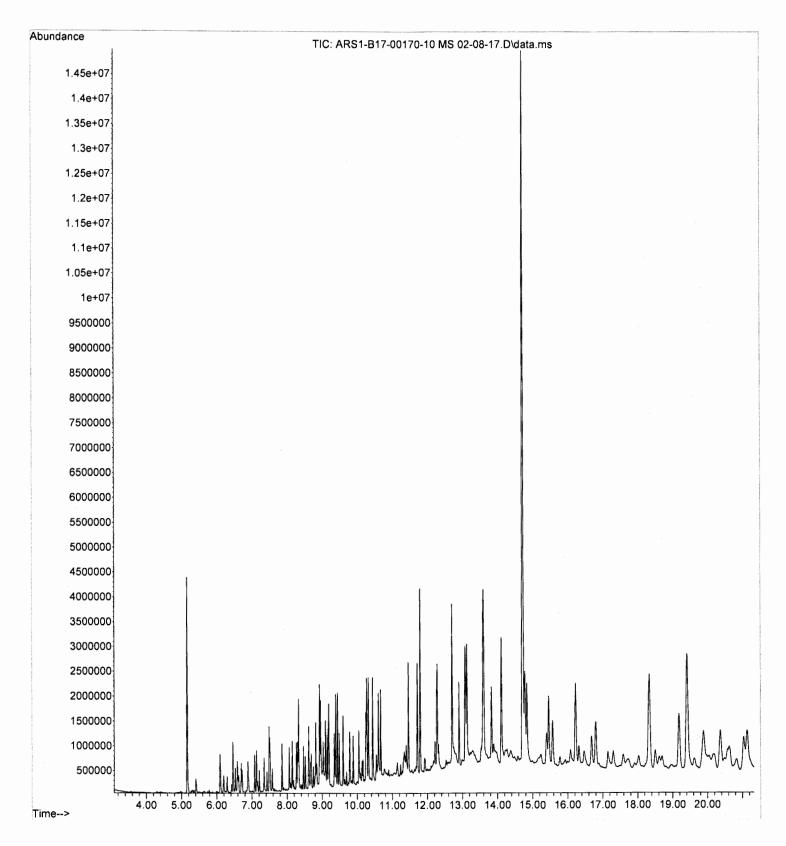
File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-10 MS 02-08-17.D

Operator

Acquired : 08 Feb 2017 07:20 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-10



Data Path : D:\Agilent_Onsite\02-08-17\
Data File : ARS1-B17-00170-11 MSD 02-08-17.D

Acq On : 08 Feb 2017 07:50 pm

Operator :

Sample : ARS1-B17-00170-11

Misc : Soil

ALS Vial : 8 Sample Multiplier: 1

Quant Time: Feb 09 08:31:38 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	nits Dev(Min)
Internal Standards					
1) 1,4-Dichlorobenzene-d4	6.461	152	207959	20.00	ng 0.00
4) Naphthalene-d8	7.490		756265	20.00	
Acenaphthene-d10	8.930		358453	20.00	
14) Phenanthrene-d10	10.247		693928	20.00	_
20) Chrysene-d12	13.093		732148	20.00	
24) Perylene-d12	15.572		753037	20.00	
System Monitoring Compounds					
<pre>2) 2-Fluorophenol</pre>	5.410	112	102910	4.58	ng 0.00
Spiked Amount 40.000	Range 35	- 115			11.45%#
3) Phenol-d5	6.094	99	311246	11.44	
Spiked Amount 40.000	Range 33	- 122	Recove		28.60%#
5) Nitrobenzene-d5	6.889	82	140585	7.15	ng 0.00
Spiked Amount 40.000	Range 37	- 122	Recove		17.88%#
10) 2-Fluorobiphenyl	8.328	172	656036	13.73	ng 0.00
Spiked Amount 40.000	Range 44	- 115	Recove	ery =	34.33%#
15) 2,4,6-Tribromophenol	9.598	330	234345	28.20	ng 0.00
Spiked Amount 40.000	Range 39	- 132	Recove	ery =	70.50%
21) Terphenyl-d14	11.795			27.11	ng 0.00
Spiked Amount 40.000	Range 54	- 127	Recove	ery =	67.77%
Target Compounds					Qvalue
Naphthalene	7.508	128	319309	4.32	ng 99
7) 2-Methylnaphthalene	8.061	142	275540	5.72	ng 98
8) 1-Methylnaphthalene	8.146	142	304039	6.87	ng 99
11) Acenaphthylene	8.818	152	630218	9.66	ng 96
12) Acenaphthene	8.956	154	404250	9.28	ng 99
13) Fluorene	9.390	166	520262	10.64	ng 99
16) Phenanthrene	10.271	178	892120	12.42	ng 99
17) Anthracene	10.321	178	924232	12.15	ng 98
18) Pyrene	11.460	202	1023612	12.98	ng 95
19) Fluoranthene	11.715	202	1043919	12.93	ng 95
22) Benzo(a)anthracene	13.078	228	944620	12.47	ng 95
23) Chrysene	13.128	228	912123	12.45	ng 95
<pre>25) Benzo(b)fluoranthene</pre>	14.789	252	935098	11.36	
<pre>26) Benzo(k)fluoranthene</pre>	14.839	252	953219	11.39	
<pre>27) Benzo(a)pyrene</pre>	15.460	252	912249	11.33	ng 92
<pre>28) Indeno(1,2,3-cd)pyrene</pre>	18.334	276	1150623	11.41	
29) Dibenz(a,h)anthracene	18.343		977447	11.63	
30) Benzo(g,h,i)perylene	19.184		950540	11.15	_

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

File :D:\Agilent_Onsite\02-08-17\ARS1-B17-00170-11 MSD 02-08-17.D

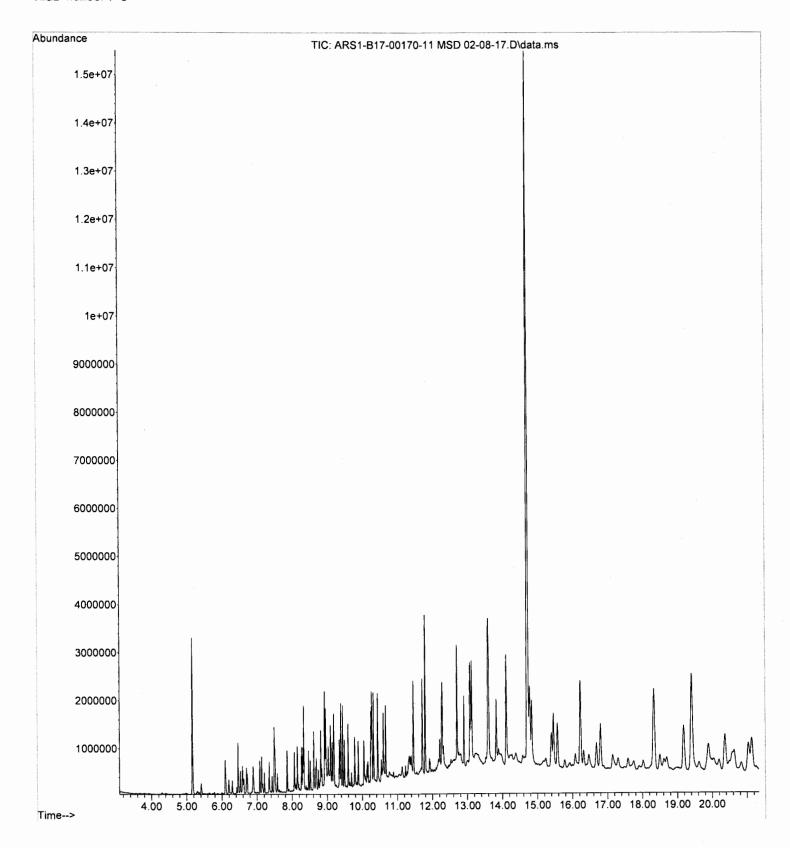
Operator

Acquired : 08 Feb 2017 07:50 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ARS1-B17-00170-11

Misc Info : Soil Vial Number: 8



Data Path : D:\Agilent Onsite\02-09-17\

Data File: DFTPP3 02-09-17.D Acg On: 09 Feb 2017 11:57 am

Operator :

Sample : DFTPP3

Misc

ALS Vial : 1 Sample Multiplier: 1

Integration File: autoint1.e

Method : D:\MassHunter\GCMS\1\methods\Agilent_onsite_DFTPP.M

Title :

Last Update : Tue Dec 06 15:44:44 2016

AutoFind: Scans 2505, 2506, 2507; Background Corrected with Scan 2493

	Target Mass	1	Rel. to Mass		Lower Limit%	1	Upper Limit%		Rel. Abn%	ļ	Raw Abn		Result Pass/Fail	
1	51		198		10		80		20.4		79247		PASS	
	68		69	-	0.00	-	2		0.0		0	-	PASS	
-	69		198	i	0.00	1	100		21.6	-	83803	l	PASS	
	70		69	- 1	0.00		2	1	0.5	1	436	4	PASS	
	127		198	- [10		80	1	37.8	1	146632	-	PASS	
	197		198		0.00	-	2		0.0	-	0		PASS	1
	198		198		50	-	100		100.0		387755	-	PASS	
	199		198	- [5		9		6.8	1	26179	-	PASS	
-	275		198		10		60	1	24.8	į	96115	1	PASS	
1	365		198	1	1		100	1	1.9	- 1	7273	1	PASS	
	441		442		0.01		24	-	16.4		73965		PASS	1
	442	İ	198		50	-	200	-	116.6		452096		PASS	1
	443		442		17	+	23	-	19.0	1	85949	I	PASS	

Agilent_onsite_DFTPP.M Thu Feb 09 14:05:09 2017 ARS-HP

File

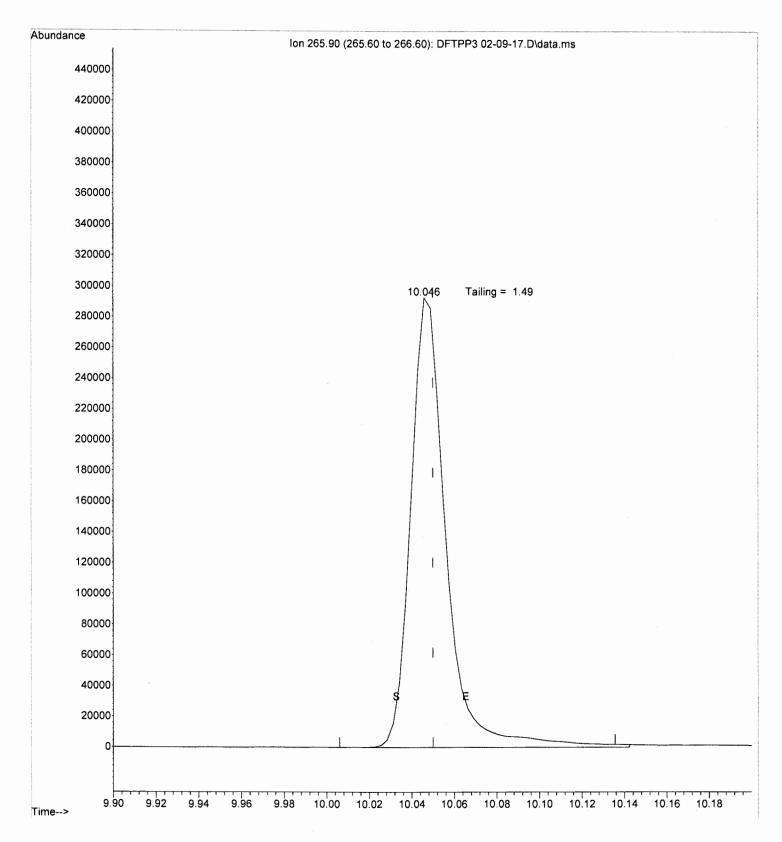
:D:\Agilent_Onsite\02-09-17\DFTPP3 02-09-17.D

Operator

Acquired : 09 Feb 2017 11:57 am using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1
Sample Name: DFTPP3

Misc Info : Vial Number: 1



File

:D:\Agilent_Onsite\02-09-17\DFTPP3 02-09-17.D

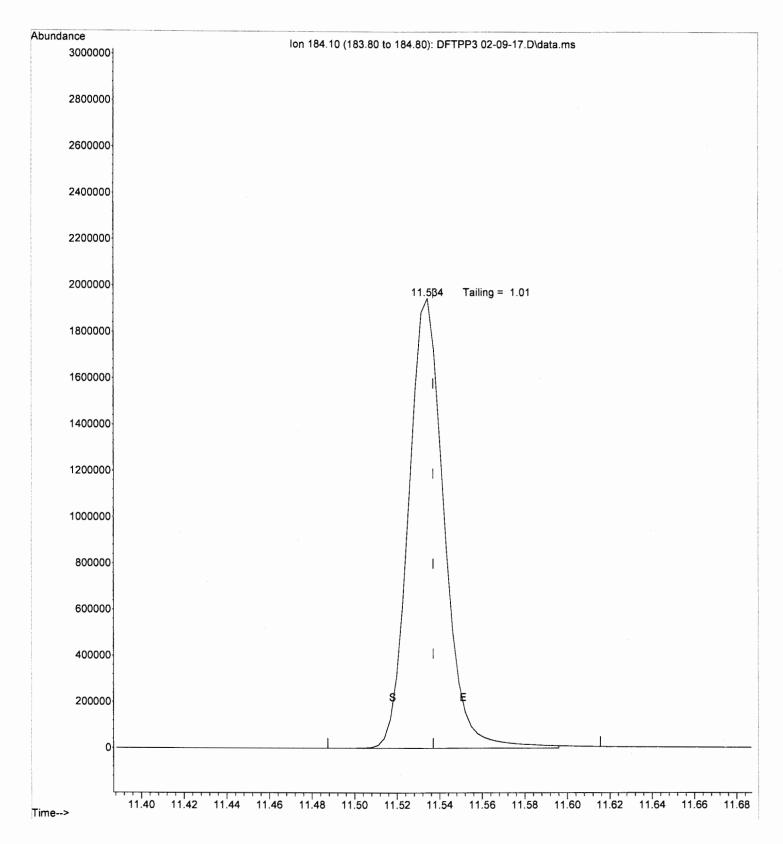
Operator :

Acquired

: 09 Feb 2017 11:57 am using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1 Sample Name: DFTPP3

Misc Info Vial Number: 1



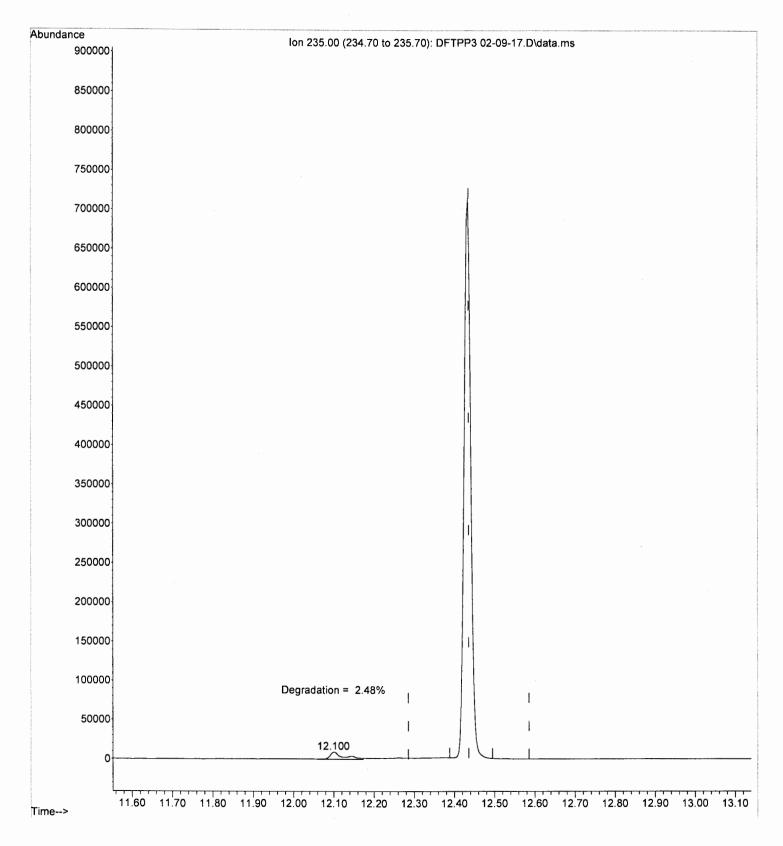
File :D:\Agilent_Onsite\02-09-17\DFTPP3 02-09-17.D

Operator

Acquired : 09 Feb 2017 11:57 am using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1
Sample Name: DFTPP3

Misc Info : Vial Number: 1



Evaluate Continuing Calibration Report

Data Path : D:\Agilent_Onsite\02-09-17\

Data File : CCV 40ppm 02-09-17.D Acq On : 09 Feb 2017 12:26 pm

Operator :

Sample : CCV 40ppm

Misc :

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 13:08:23 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev Area	% Dev(min)
1 I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0 10	8 0.00
2 S	2-Fluorophenol	2.162	2.521	-16.6 11	.8 0.00
3 S	Phenol-d5	2.617	2.789	-6.6 10	
4 I	Naphthalene-d8	1.000	1.000	0.0 10	0.00
5 S	Nitrobenzene-d5	0.520	0.556	-6.9 10	0.00
6 CPM	Naphthalene	1.954	1.985	-1.6 10	0.00
7 CPM	<pre>2-Methylnaphthalene</pre>	1.275	1.280	-0.4	0.00
8 CPM	1-Methylnaphthalene	1.170	1.171	-0.1 9	9 0.00
9 I	Acenaphthene-d10	1.000	1.000	0.0	0.00
10 S	2-Fluorobiphenyl	2.666	2.650	0.6	0.00
11 CPM	, ,	3.639	3.761	-3.4	0.00
12 CPM	Acenaphthene	2.431	2.438	-0.3	0.00
13 CPM	Fluorene	2.729	2.847	-4.3	9 0.00
14 I	Phenanthrene-d10	1.000	1.000	0.0	0.00
15 S	2,4,6-Tribromophenol	0.207	0.246	-18.8	0.00
16 CPM	Phenanthrene	2.070	2.140	-3.4	0.00
17 CPM	Anthracene	2.192	2.259	-3.1	0.00
18 CPM	Pyrene	2.272	2.361	-3.9	0.00
19 CPM	Fluoranthene	2.327	2.453	-5.4	9 0.00
20 I	Chrysene-d12	1.000	1.000	0.0	95 0.00
21 S	Terphenyl-d14	1.436	1,498	-4.3	0.00
22 CPM	Benzo(a)anthracene	2.069	2.150	-3.9	97 0.00
23 CPM	Chrysene	2.002	2.076	-3.7	0.00
24 I	Perylene-d12	1.000	1.000	0.0	95 0.00
25 CPM	Benzo(b)fluoranthene	2.187	2.310	-5.6	99 0.00
26 CPM	Benzo(k)fluoranthene	2.223	2.306	-3.7	97 0.00
27 CPM	(-)(-)	2.139	2.261	-5.7	97 0.00
28 CPM	, , , , , , , , , , , , , , , , , , , ,	2.679	2.813	-5.0	97 -0.03
29 CPM	Dibenz(a,h)anthracene	2.231	2.355	-5.6	95 -0.03
30 CPM	Benzo(g,h,i)perylene	2.264	2.357	-4.1	97 -0.03

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : D:\Agilent_Onsite\02-09-17\

Data File : CCV 40ppm 02-09-17.D Acq On : 09 Feb 2017 12:26 pm

Operator : Sample : CCV 40ppm

Misc

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 13:08:23 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Un	its Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.463	152	204119	20.00	nσ	0.00
4) Naphthalene-d8	7.493	136	703089	20.00	_	0.00
9) Acenaphthene-d10	8.930	164	307982	20.00		0.00
14) Phenanthrene-d10	10.249		587158	20.00	_	0.00
20) Chrysene-d12	13.095	240	619696	20.00	_	0.00
24) Perylene-d12	15.574		608741	20.00	_	0.00
System Monitoring Compounds	F 400	112	1020150	46 64		0 00
2) 2-Fluorophenol	5.409		1029159	46.64	_	0.00
Spiked Amount 40.000	U	- 119	Recove	•	116.60%	0.00
3) Phenol-d5	6.094	99	1138687	42.64	_	0.00
Spiked Amount 40.000	_	- 122	Recove		106.60%	0 00
5) Nitrobenzene-d5	6.893	82	781933	42.78		0.00
Spiked Amount 40.000	_	- 120		•	106.95%	0.00
10) 2-Fluorobiphenyl	8.332		1632555	39.77		0.00
Spiked Amount 40.000	-	- 119		•	99.43%	0.00
15) 2,4,6-Tribromophenol	9.600		289359	40.48	-	0.00
Spiked Amount 40.000	U	- 140	Recove	-	101.20%	0 00
21) Terphenyl-d14	11.797		1856773	41.73		0.00
Spiked Amount 40.000	Range 50	- 134	Recove	ery =	104.33%	
Target Compounds					Qv	alue
Naphthalene	7.510	128	2791095	40.63	-	94
7) 2-Methylnaphthalene	8.061	142	1799820	40.16	_	98
8) 1-Methylnaphthalene	8.148	142	1647118	40.06	ng	99
11) Acenaphthylene	8.822		2316891	41.34	ng	97
12) Acenaphthene	8.960	154	1501614	40.12	ng	99
13) Fluorene	9.392	166	1753576	41.73	ng	97
16) Phenanthrene	10.273	178	2512455	41.34		98
17) Anthracene	10.322	178	2653114	41.23	ng	99
18) Pyrene	11.463	202	2772820	41.57	ng	97
19) Fluoranthene	11.718	202	2880157	42.16	ng	96
22) Benzo(a)anthracene	13.081	228	2664496	41.56	ng	96
23) Chrysene	13.131	228	2572985	41.49	ng	96
<pre>25) Benzo(b)fluoranthene</pre>	14.792		2811795	42.25	ng	100
26) Benzo(k)fluoranthene	14.842		2807619	41.50	ng	96
27) Benzo(a)pyrene	15.465	252	2752144	42.28	_	93
28) Indeno(1,2,3-cd)pyrene	18.337		3424463	42.00		94
<pre>29) Dibenz(a,h)anthracene</pre>	18.349		2867274	42.22		100
30) Benzo(g,h,i)perylene	19.193		2869159	41.65		100
, , , , , , , , , , , , , , , , , , , ,					_	

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

File

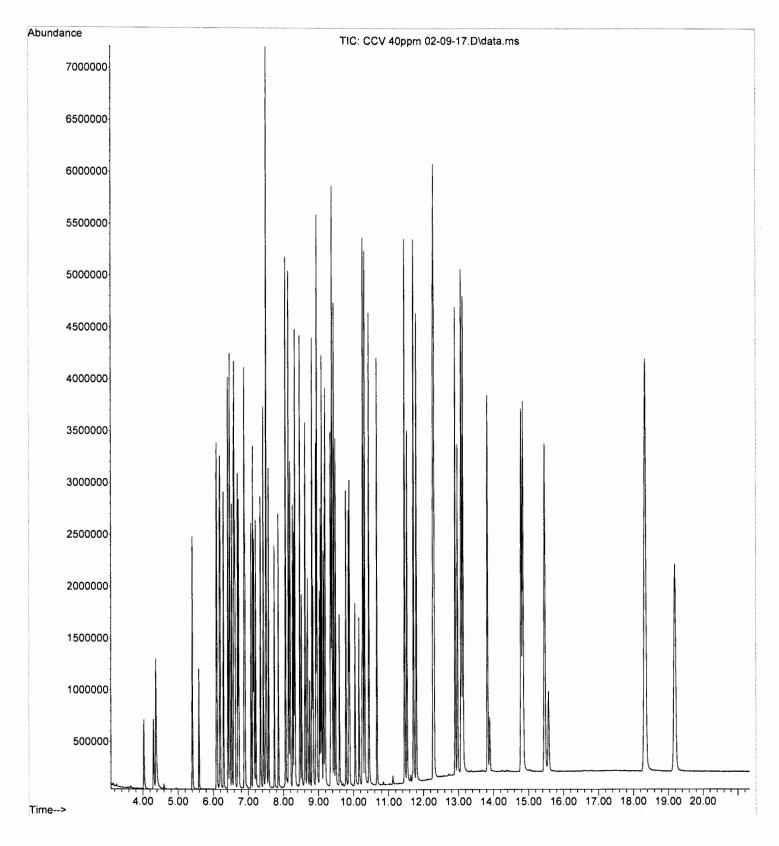
:D:\Agilent_Onsite\02-09-17\CCV 40ppm 02-09-17.D

Operator

Acquired : 09 Feb 2017 12:26 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1 Sample Name: CCV 40ppm

Misc Info Vial Number: 2



Evaluate Continuing Calibration Report

Data Path : D:\Agilent_Onsite\02-09-17\ Data File : ClosingCCV 40ppm 02-09-17.D

Acq On : 09 Feb 2017 01:25 pm

Operator : Sample : ClosingCCV 40ppm

Misc

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 13:52:29 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min

Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev A	rea%	Dev(min)
1		1,4-Dichlorobenzene-d4	1.000	1.000	0.0	115	0.00
2		2-Fluorophenol	2.162	2.493	-15.3	124	0.00
3	S	Phenol-d5	2.617	2.722	-4.0	111	0.00
4		Naphthalene-d8	1.000	1.000	0.0	101	0.00
5	-	Nitrobenzene-d5	0.520	0.557	-7.1	106	0.00
	CPM	Naphthalene	1.954	1.983	-1.5	102	0.00
	CPM	<pre>2-Methylnaphthalene</pre>	1.275	1.280	-0.4	99	0.00
8	СРМ	1-Methylnaphthalene	1.170	1.168	0.2	100	0.00
9		Acenaphthene-d10	1.000	1.000	0,0	96	0.00
10		2-Fluorobiphenyl	2.666	2.642	0.9	97	0.00
	CPM	Acenaphthylene	3.639	3.741	-2.8	98	0.00
	CPM	Acenaphthene	2.431	2.431	0.0	98	0.00
13	CPM	Fluorene	2.729	2.771	-1.5	96	0.00
14		Phenanthrene-d10	1.000	1.000	0.0	95	0.00
15	-	2,4,6-Tribromophenol	0.207	0.247	-19.3	98	0.00
	CPM	Phenanthrene	2.070	2.131	-2.9	98	0.00
	CPM	Anthracene	2.192	2.287	-4.3	96	0.00
	CPM	Pyrene	2.272	2.392	-5.3	98	0.00
19	CPM	Fluoranthene	2.327	2.431	-4.5	97	0.00
20		Chrysene-d12	1.000	1.000	0.0	95	0.00
21		Terphenyl-d14	1.436	1.463	-1.9	95	0.00
	CPM	Benzo(a)anthracene	2.069	2.159	-4.3	96	0.00
23	CPM	Chrysene	2.002	2.059	-2.8	96	0.00
24		Perylene-d12	1.000	1.000	0.0	94	
	CPM	Benzo(b)fluoranthene	2.187	2.296	-5.0	97	
	CPM	Benzo(k)fluoranthene	2.223	2.311	-4.0	96	
	CPM	Benzo(a)pyrene	2.139	2.288	-7.0	97	
	CPM	Indeno(1,2,3-cd)pyrene	2.679	2.817	-5.2	95	
	CPM	Dibenz(a,h)anthracene	2.231	2.350	-5.3	94	
30	CPM	Benzo(g,h,i)perylene	2.264	2.365	-4.5	96	-0.03

(#) = Out of Range

SPCC's out = 0 CCC's out = 0

Data Path : D:\Agilent_Onsite\02-09-17\
Data File : ClosingCCV 40ppm 02-09-17.D

Acq On : 09 Feb 2017 01:25 pm

Operator :

Sample : ClosingCCV 40ppm

Misc

ALS Vial : 2 Sample Multiplier: 1

Quant Time: Feb 09 13:52:29 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	nits Dev	(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6,462	152	217098	20.00	ng	0.00
4) Naphthalene-d8	7,491	136	709932	20.00	-	0.00
Acenaphthene-d10	8.929	164	309598	20.00	_	0.00
14) Phenanthrene-d10	10.248	188	585299	20.00	_	0.00
20) Chrysene-d12	13.096	240	615865	20.00		0.00
24) Perylene-d12	15.571	264	599669	20.00		0.00
System Monitoring Compounds						
<pre>2) 2-Fluorophenol</pre>	5.411	112	1082575	46.13	ng	0.00
Spiked Amount 40.000	Range 19	- 119	Recove	ry =	115.33%	
3) Phenol-d5	6.092	99	1182043	41.61	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove	ry =	104.02%	
Nitrobenzene-d5	6.892	82	790604	42.83	ng	0.00
Spiked Amount 40.000	Range 44	- 120	Recove	ry =	107.07%	
<pre>10) 2-Fluorobiphenyl</pre>	8.331	172	1635748	39.64	ng	0.00
Spiked Amount 40.000	Range 44	- 119	Recove	ry =	99.10%	
15) 2,4,6-Tribromophenol	9.601	330	288978	40.55	ng	0.00
Spiked Amount 40.000	Range 43	- 140	Recove	ry =	101.38%	
21) Terphenyl-d14	11.797	244	1802443	40.77	ng	0.00
Spiked Amount 40.000	Range 50	- 134	Recove	ery =	101.93%	
Target Compounds					Qv	alue
6) Naphthalene	7.512	128	2815979	40.60	ng	97
7) 2-Methylnaphthalene	8.062	142	1817370	40.16	ng	97
8) 1-Methylnaphthalene	8.147	142	1657714	39.93	ng	99
11) Acenaphthylene	8.821	152	2316693	41.12	ng	97
12) Acenaphthene	8.958	154	1505224	40.00	ng	97
13) Fluorene	9.394	166	1715944	40.62	ng	99
16) Phenanthrene	10.275	178	2494722	41.18	ng	99
17) Anthracene	10.321	178	2676801	41.73	ng	99
18) Pyrene	11.463	202	2799821	42.11	ng	96
19) Fluoranthene	11.718	202	2845346	41.78		95
22) Benzo(a)anthracene	13.082	228	2658792	41.72	ng	96
23) Chrysene	13.134	228	2536338	41.15	ng	96
<pre>25) Benzo(b)fluoranthene</pre>	14.791	252	2753478	42.00	ng	100
<pre>26) Benzo(k)fluoranthene</pre>	14.842	252	2771603	41.59	ng	96
<pre>27) Benzo(a)pyrene</pre>	15.465	252	2744534	42.80	ng	93
28) Indeno(1,2,3-cd)pyrene	18.339		3378940	42.07		93
29) Dibenz(a,h)anthracene	18.348	278	2818955	42.13		100
30) Benzo(g,h,i)perylene	19.195	276	2836113	41.79	ng	100
კს) Benzo(g,h,i)perylene	19.195	276 	2836113 	41,79 	ng 	100

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

File :D:\Agilent_Onsite\02-09-17\ClosingCCV 40ppm 02-09-17.D

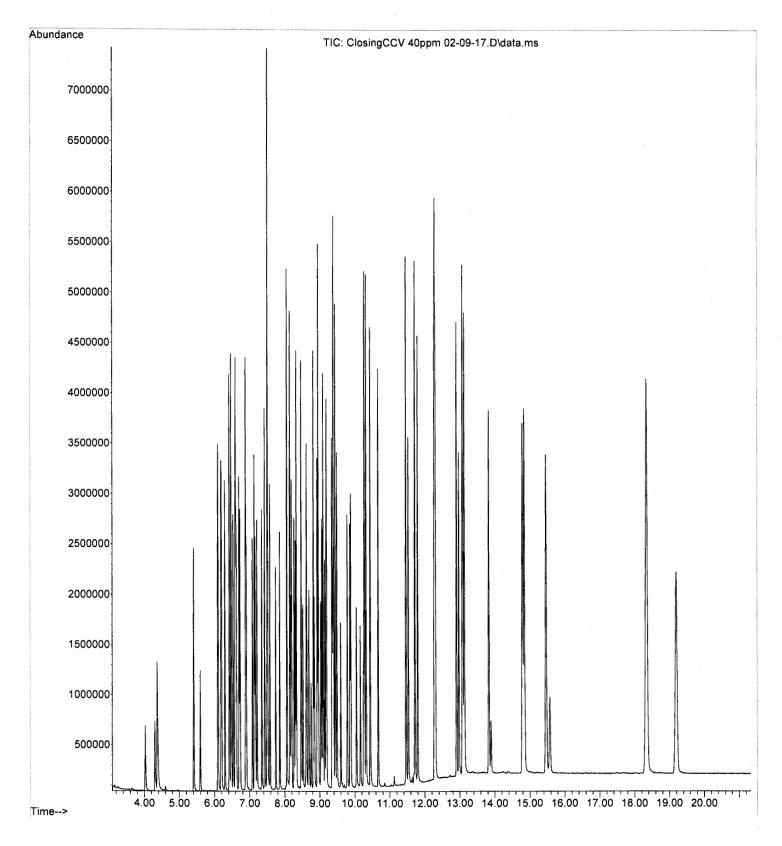
Operator

Acquired : 09 Feb 2017 01:25 pm using AcqMethod agilent_onsite_8270.M

Instrument : GCMS #1

Sample Name: ClosingCCV 40ppm

Misc Info : Vial Number: 2



GC/MS QA-QC Check Report

Tune File : D:\Agilent_Onsite\02-09-17\DFTPP3 02-09-17.D Tune Time : 09 Feb 2017 11:57 am

Daily Calibration File : D:\Agilent_Onsite\02-01-17\IC02011706 40ppm 02-01-17.D

		С6Н5Г0	C6HD5	C6D5NC	C12H9	C6C12 188327	C10D8 703390	C12D1 321370
		С6НЗВС	C18D1			C14D1 617076	C18D1 650290	C20D1 639389
File	Sample	Surro	ogate	Recov	very %	Internal	Standard	Responses
ARS1-B17	-00170-06 02 ARS1-B17-0		. –	58	47	194901 553109	693297 583946	284936 560790
CCV 40pp	om 02-09-17.E CCV 40ppm	117	107	107	99	204119 587158	703089 619696	307982 608741
ClosingC	CCV 40ppm 02- ClosingCCV		.D 104 102	107	99	217098 585299	709932 615865	309598 599669

(fails) - fails 12hr time check * - fails criteria

Created: Thu Feb 09 14:15:11 2017 GCMS #1

Data Path : D:\Agilent_Onsite\02-09-17\
Data File : ARS1-B17-00170-06 02-06-17.D

Acq On : 09 Feb 2017 12:56 pm

Operator :

Sample : ARS1-B17-00170-06

Misc

ALS Vial : 3 Sample Multiplier: 1

Quant Time: Feb 09 13:19:16 2017

Quant Method : D:\MassHunter\GCMS\1\methods\cole_8270_PAH.M

Quant Title : 8270D

QLast Update : Wed Feb 08 10:30:56 2017 Response via : Initial Calibration

Compound	R.T.	QIon	Response	Conc Ur	its Dev	/(Min)
Internal Standards						
1) 1,4-Dichlorobenzene-d4	6.462	152	194901	20.00	ng	0.00
4) Naphthalene-d8	7.491		693297	20.00	_	0.00
9) Acenaphthene-d10	8.931		284936	20.00	_	0.00
14) Phenanthrene-d10	10.249		553109	20.00	_	0.00
20) Chrysene-d12	13.092		583946	20.00	_	-0.01
24) Perylene-d12	15.568		560790	20.00		-0.01
System Monitoring Compounds						
2) 2-Fluorophenol	5.411	112	427445	20.29	ng	0.00
Spiked Amount 40.000	Range 19	- 119	Recove	ry =	50.72%	6
3) Phenol-d5	6.093	99	532937	20.90	ng	0.00
Spiked Amount 40.000	Range 33	- 122	Recove		52.25%	6
5) Nitrobenzene-d5	6.892	82	421213	23.37	ng	0.00
Spiked Amount 40.000	Range 44	- 120	Recove	ry =	58.439	6
10) 2-Fluorobiphenyl	8.331	172	706497	18.60	ng	0.00
Spiked Amount 40.000	Range 44	- 119	Recove	ry =	46.50	6
<pre>15) 2,4,6-Tribromophenol</pre>	9.601	330	209313	31.42	ng	0.00
Spiked Amount 40.000	Range 43	- 140	Recove	ry =	78.55	6
21) Terphenyl-d14	11.797	244	1034735	24.68	ng	0.00
Spiked Amount 40.000	Range 50	- 134	Recove	ery =	61.70	%
Target Compounds					Q ₁	value
6) Naphthalene	0.000		0	N.D.	_	
 7) 2-Methylnaphthalene 	0.000		0	N.D.		
8) 1-Methylnaphthalene	0.000		0	N.D.		
<pre>11) Acenaphthylene</pre>	0.000		0	N.D.		
12) Acenaphthene	0.000		0	N.D.		
13) Fluorene	0.000		0	N.D.	. d	
16) Phenanthrene	0.000		0	N.D	. d	
17) Anthracene	0.000		0	N.D.	. d	
18) Pyrene	0.000		0	N.D		
19) Fluoranthene	0.000		0	N.D	. d	
<pre>22) Benzo(a)anthracene</pre>	0.000		0	N.D	. d	
23) Chrysene	0.000		0	N.D	. d	
<pre>25) Benzo(b)fluoranthene</pre>	0.000		0	N.D	. d	
26) Benzo(k)fluoranthene	0.000		0	N.D	. d	
27) Benzo(a)pyrene	0.000		0	N.D	. d	
28) Indeno(1,2,3-cd)pyrene	0.000		0	N.D		
<pre>29) Dibenz(a,h)anthracene</pre>	0.000		0	N.D		
30) Benzo(g,h,i)perylene	0.000		0	N.D	. d	
						

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

File

:D:\Agilent_Onsite\02-09-17\ARS1-B17-00170-06 02-06-17.D

Operator

Acquired

: 09 Feb 2017 12:56 pm using AcqMethod agilent_onsite_8270.M

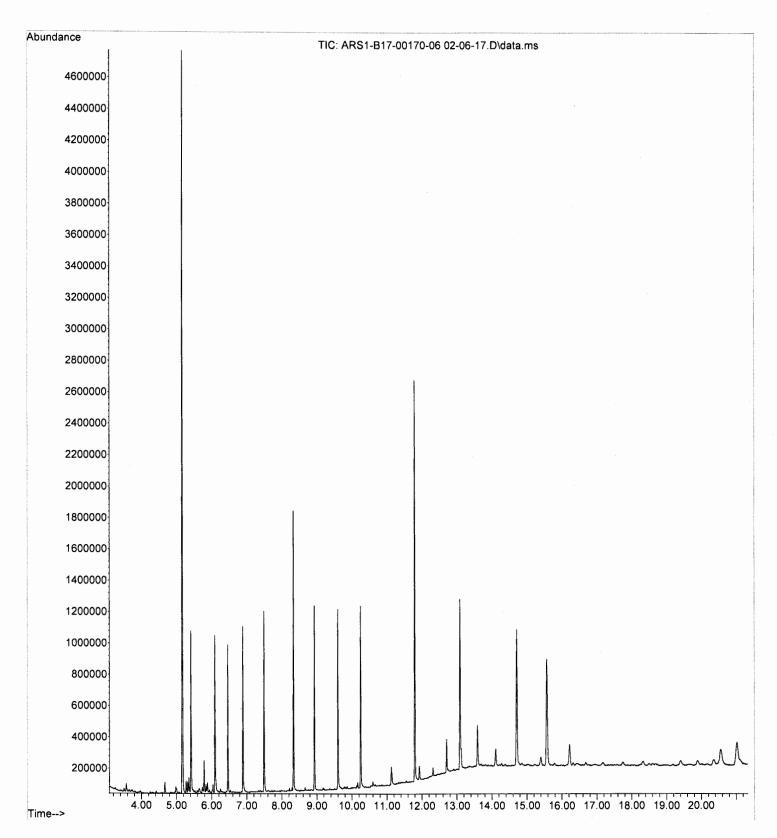
Instrument :

GCMS #1

Sample Name: ARS1-B17-00170-06

Misc Info

Vial Number: 3



Starting sequence Wed Feb 08 16:48:03 2017

Instrument Name: GCMS #1
 Sequence File: D:\MassHunter\GCMS\1\sequence\02-08-17.sequence.xml

Comment:

Operator:
Data Path: D:\Agilent_Onsite\02-08-17\

Line Type	Vials	DataFile	Sample Name
Acquisition Method	Path: D	D:\MassHunter\GCMS\1\me	ethods\
	File: a	agilent_onsite_8270.M	
3) CC	2	CCV1 40ppm 02-08-17	CCV1 40ppm
4) Method Blank Comment: Soil	3	ARS1-B17-001708	3-17 ARS1-B17-00170-03
5) Sample	4	ARS1-B17-001708	3-17 ARS1-B17-00170-01
Comment: Soil		AK31-B17 00170-1110	7 17 AKSI BI7 00170 01
6) Sample	5	ARS1-B17-001708	3-17 ARS1-B17-00170-02
Comment: Soil		ARS1 B17 00170 1110	7 17 ARSI 017 00170 02
7) Sample	6	ARS1-B17-001708	3-17 ARS1-B17-00170-04
Comment: Soil		/MSI BI/ 001/0	A TI AMOL BLY GOLIG G.
8) Sample	7	ARS1-B17-001708	3-17 ARS1-B17-00170-10
Comment: Soil		ARS1 B17 00170 1110	717 71101 017 00170 10
9) Sample	8	ARS1-B17-001708	8-17 ARS1-B17-00170-11
Comment: Soil		ANSI DI? 001/0	7 17 71131 317 331,3
10) Sample	9	ARS1-B17-001708	3-17 ARS1-B17-00170-05
Comment: Soil		ANSI DI7 00170 :110	7 17 71101 017 0017 00
11) Sample	10	ARS1-B17-001708	3-17 ARS1-B17-00170-06
Comment: Soil		ANSI BIT OUTTO	711 71101 817 00170 00
12) Sample	11	ARS1-B17-001708	3-17 ARS1-B17-00170-07
Comment: Soil		ANSI BIT OUTTO	711 71101 517 5517 5
13) Sample	12	ARS1-B17-001708	3-17 ARS1-B17-00170-08
Comment: Soil		AK31-B17-00170C) 17 ARSI B17 00170 00
14) Sample	13	ARS1-B17-001708	3-17 ARS1-B17-00170-09
Comment: Soil		AKSI BIT OOTTO :::C) 17 AKSI BI7 00170 03
15) Sample	142	ISBLK1 02-08-17	ISBLK1
16) Sample	142	ISBLK1 02-08-17 ISBLK2 02-08-17	ISBLK2
17) Sample			ISBLK2 ISBLK3
17) Sample	142	ISBLK3 02-08-17	
18) CC	2	CTOSTINGCEVE 40p	3-17 ClosingCCV1 40ppm

Sequence completed Thu Feb 09 00:37:02 2017

D:\Agilent_Onsite\02-08-17\2017 Feb 08 1648 Quality Log.LOG D:\Agilent_Onsite\02-08-17\2017 Feb 08 1648 Sequence Log .LOG



2609 North River Road, Port Allen, Louisiana 70767 1 (800) 401-4277 FAX (225) 381-2996

PCB Analysis SW 846 8082

SDG# ARS1-17-00215
COC Solid Samples

	Marcharles (************************************	inalysis Batc	in ID A	Analysis Batch ID ARS1-B17-00184							
D .		oranicoliiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii	Method	ARS-157	Analysis	GCSV	GCSV-8082A- SO	Matrix	S S C C C C C C C C C C C C C C C C C C	MINISPACITUATION CONTRACTOR CONTR	NATURAL PROPERTY OF THE PROPER
		Description	1	PCB's (Soil, Sludge)	Programme Williams Versilla Colonomic States Colonomic C	Seried of open-series and designation of the series and series are series and series and series and series and series and series are series and series and series and series are series and series and series and series are series and series and series are series and series and series are series and series and series are series and series and series are series and series and series are series and series are series and series and series are series and series and series are series and series are series and series are	DODGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGGG	LIPPETED PRINCIPAL PRINCIP	SINKER FOR THE STREET OF THE S	POT CAMERO CONTRACTOR OF THE STATE OF THE ST	HARTON CONTRACTOR CONT
ABatch Sample ID	Туре	Blind Iso1	Blind Iso2	2 Blind Iso3	SDG	H	Run	Prep Code	Client ID	Group Name	Lab Deadline
ARS1-B17-00184-01	SOT	m29h12202 m29h12192 016-1 016-4	m29h121 016-4	.92		NOW-PERSON		TOTAL STREET, TO			
ARS1-B17-00184-02	CSD	LCSD m29h12202 m29h12192 016-1 016-4	m29h121 016-4	.92	Mark Anni Kita w Tradition	enegaciaere contract Management	ment of the order at the source.	And the second s		And the second s	MATTER THE STATE OF THE STATE O
ARS1-B17-00184-03	MBL	HALLI HALLI HALLI SANTA THE RESCRIPTION OF THE SANTA	m29h12192 016-4	.92		A STATE OF THE STA				And a consequence of the consequ	THE WINN HE HADOPPOSITEMENT COUNTY THE NATURE AND ALL GOODS AND AND ALL GOODS AND ALL
ARS1-B17-00184-04	TRG	And a summer of the state of th			ARS1-17-00216 002	16 002	Н	3550C	BB-18	AND THE PROPERTY OF THE PROPER	02/11/17
ARS1-B17-00184-08	MS	m29h12202 m29h12192 016-1 016-4	m29h121 016-4	92	Parent: ARS1-17-00216-002	17-00216	5-002	ACCOMMENDATION OF THE PROPERTY		PRODUCCION INNÉE L'ANNEE L	AP-lain, i de parc reconnection ou manifest (AP-lain, Millian es serven en la lain, i de parc reconnection de la lain, i de parc reconnection de la lain, i de lain, i de lain, i de la lain, i de lain, i de la lain, i de la lain, i de lain, i de lain, i d
ARS1-B17-00184-09	MSD	m29h12202 m29h12192 016-1 016-4	m29h121 016-4	.92	Parent: ARS1-17-00216-002	17-00216	5-002	data-activities in minimum secondiffering profits in 1997 Princip		NORMAN PROPERTY OF THE PROPERT	and the commencement of th
ARS1-B17-00184-05	TRG			e auconomico.	ARS1-17-00216 003	16 003	—	3550C	0S-2	AND THE CONTRACT OF THE PROPERTY OF THE CONTRACT OF THE CONTRA	02/11/17
ARS1-B17-00184-06	TRG				ARS1-17-00216	16 004	-	3550C	BB-19M	HAD AND AND AND AND AND AND AND AND AND A	02/11/17
ARS1-B17-00184-07	TRG			n ŵwer e stad	ARS1-17-00216	16 007	T	3550C	BB-17		02/11/17

		Analytical Batch ID	달 교	AKO	ARS1-B17-001		t												
	4	Analysis Code		GCSV.	GCSV-8082A-SO	0								## - 1 / 20 / 20 / 20 / 20 / 20 / 20 / 20 /					
		Procedure No	AND DESCRIPTION OF THE PERSON	ARS-157	57							A CONTROL OF THE PROPERTY OF T							
Į	WIERNATIONAL		Matrix	SO															
ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	graphic blocks according	Instr Response (mg/L)	Ą	Volume (L)	Initial Weight (9)	Geanup Factor	Sample Result (mg/g)	% Solids	Dry Wt Corrected (mg/g)	_5 o	MDL (mg/g)	PQL (mg/g)	Spiked Amount (mg/L)	Expected Result (mg/g)	% Rec	S S
01 - LCS	Arodor-1016		02/13/17 16:31	16:31	0.788	1.0	0.001	30.000	1	2.626E-5	100%	James	ķ	3.330E-6	3.330E-6	1.000	3,333E-5	78.8%	James
	Arodor-1260		02/13/17 16:31	16:31	0.927	1.0	0.001	30.000	1	3.090E-5	5 100%	6 3.090E-5	. Constant	3.330E-6	3.330E-6	1.000	3.333E-5	92.7%	al personal de la composition de la composition de la composition de la composition de la composition de la co
02 - LCSD	Aroclor-1016	And the second description of the second des	02/13/17 16:59	16:59	0.792	1.0	0.001	30.000	П	2.640E-5	100%	6 2.640E-5		3.330E-6	3.330E-6	1.000	3.33E-5	79.2%	0.5%
	Aroclor-1260		02/13/17 16:59	16:59	0.914	1.0	0.001	30.000	1	3.047E-5	5 100%	6 3.047E-5	ri m	3.330E-6	3.330E-6	1.000	3.333E-5	91.4%	1.4%
03 - MBL	Aroclor-1016	recentivity (200 consequences consequences consequences (200 consequences)	02/07/17 15:00	15:00	0.000	1.0	0.001	30.000	1	0.000	100%	0000		3.330E-6	3.330E-6				
	Arodor-1221	Andrew Andrew Material States of Andrews Materials (Andrews Materials of Andrews Materials (Andrews Material	02/07/17 15:00	15:00	0.000	1.0	0.001	30.000	1	0.000	100%	00000	 	3.330E-6	3.330E-6	SERVICE CONTRACTOR CON		in the second se	
Activities and the	Arodor-1232		02/07/17 15:00	15:00	000'0	1.0	0.001	30.000	1	0.000	100%	00000	3.	3.330E-6	3.330E-6	ANC MICROLISMAN SCHOOLSMAN	Section of the sectio		distriction of the second
127007-028520	Arodor-1242	and in Angular Mandalan Mandalan San - 1991, Library and Lede Control Mandalan Manda	02/07/17 15:00	15:00	000'0	1.0	0.001	30,000	1	0.000	100%	0.000	U 3.	3.330E-6	3.330E-6	MAN THE SAME PROPERTY OF THE PARTY concentent annual transmission (s.		E CONTRACTOR	
eron, killeder i	Aroclor-1248		02/07/17 15:00	15:00	0.000	1.0	0.001	30.000	1	0.000	100%	0.000	 J	3.330E-6	3.330E-6	AN MENNEY TO A STANDARD TO A STANDARD OF THE S	en was a comment was a comment		
d nacardos na	Aroclor-1254		02/07/17 15:00	15:00	0.000	1.0	0.001	30.000	1	0.000	100%	0.000	U 3.	3.330E-6	3.330E-6				
	Araclor-1260		02/07/17 15:00	15:00	0.000	1.0	0.001	30.000	1	0.000	100%	00000	U 3.	3.330E-6	3.330E-6	range state of the			- Service Control
04 - TRG	Aroclor-1016	ARS1-17-00216-002	02/07/17 17:51	17:51	0.000	1.0	0.001	30.000	1	0.000	86.4%	0.000	 	3.330E-6	3.330E-6	Secretarion of the contract of	THE THE PARTY OF T		
- Paris According	Arodor-1221	ARS1-17-00216-002	02/07/17 17:51	17:51	000'0	1.0	0.001	30.000	1	00000	86.4%	0.000	U 3.	3.330E-6	3.330E-6				Commence of the control of the contr
a-nement	Arodor-1232	ARS1-17-00216-002	02/07/17 17:51	17:51	0.000	1.0	0.001	30,000	П	0.000	86.4%	0000	 J.	3,330E-6	3,330E-6				
	Aroclor-1242	ARS1-17-00216-002	02/07/17 17:51	17:51	0.000	1.0	0.001	30.000	1	0.000	86.4%	000'0	 	3.330E-6	3.330E-6	parameter 0.00 crafter cross			
100 Taranta (100	Aroclor-1248	ARS1-17-00216-002	02/07/17 17:51	17:51	0.000	1.0	0.001	30.000	1	0.000	86.4%	0.000	 J.:	3.330E-6	3.330E-6	**************************************		Section Commence and Commence a	
*******	Aroclor-1254	ARS1-17-00216-002	02/07/17 17:51	17:51	00000	1.0	0.001	30.000	П	0.000	86.4%	0.000	 U	3.330E-6	3.330E-6				
a conse	Aroclor-1260	ARS1-17-00216-002	02/07/17 17:51	17:51	0.000	1.0	0.001	30.000	T	0.000	86.4%	0.000	 J.	3.330E-6	3.330E-6				
allowed of trades of the	DCBP (Surr)	ARS1-17-00216-002	02/07/17 17:51	17:51	0.019	1.0	0.001	30.000	-	6.191E-7	86.4%	b 7.168E-7		N/A	N/A	0.020	7.718E-7	92.9%	
2-8-2 d 1-1-8	TCMX (Surr)	ARS1-17-00216-002	02/07/17 17:51	17:51	0.019	1.0	0.001	30.000	1	6.345E-7	86.4%	6 7.345E-7		N/A	N/A	0.020	7.718E-7	95.2%	
05 - TRG	Aroclor-1016	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	1	0000	77.7%	0.000		3.330E-6	3.330E-6	epin to contract the second contract to the s			
distance had no	Aroclor-1221	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	П	0.000	77.7%	0.000	 D	3.330E-6	3.330E-6	Periodicities de la constitue	S-commence and section of the sectio	A Company of the Comp	
	Aroclor-1232	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	П	0.000	77.7%	0.000	 	3.330E-6	3.330E-6				
******	Arodor-1242	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	1	0.000	77.7%	0000	 ⊃	3.330E-6	3.330E-6	SCHART COURT CARREST COURT FOR A STATE OF THE SCHART FOR A STATE OF TH			
~2~2~2~42	Aroclor-1248	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	П	0.000	77.7%	00000	U.S.	3.330E-6	3.330E-6	AC NOTIFICATION CONTRACTOR CONTRACTOR OF			gae-ne-i
~~~~~	Aroclor-1254	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30,000	П	0.000	77.7%	00000	 J.:	3.330E-6	3.330E-6	do contrario esta de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario de contrario	and the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of the comment of th		Į
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aporton pro-	DCBP (Surr)	ARS1-17-00216-003	02/07/17 18:19	18:19	0.017	1.0	0.001	30.000	1	5.682E-7	77.7%	, 7.313E-7		N/A	N/A	0.020	8.580E-7	85.2%	C.Marie
	TCMX (Surr)	ARS1-17-00216-003	02/07/17 18:19	18:19	0.018	1.0	0.001	30.000	1	6.047E-7	, 77.7%	. 7.783E-7		N/A	N/A	0.020	8.580E-7	90.7%	
06 - TRG	Aroclor-1016	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	1	0.000	59.5%	00000	.e. *>	3.330E-6	3.330E-6	ended transferentialization representation	Secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary and the secretary an		
	Aroclor-1221	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	П	0.000	. 59.5%	000'0	U.	3.330E-6	3.330E-6	December of the second			g Granes
	Arodor-1232	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0,001	30.000	П	0.000	. 59.5%	0000	 J.	3,330E-6	3.330E-6	CONCUMENTAL APPRICACIONAL TRANSPORMA	And the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	* Annual Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of t	graner.
	Arodor-1242	ARS1-17-00216-004	02/07/17 18:48	18.48	0.000	1.0	0.001	30.000	П	0.000	59.5%	00000	 	3,330E-6	3.330E-6				
hajhagi oy sank	Aroclor-1248	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	1	0000	59.5%	0.000	ر ع	3.330E-6	3.330E-6				Secretary Secretary
en-ten	Amelor-1254	ABS1-17-00216-004	02/07/17 18:48	10.18	000	•		to a				2	3		S. C. C. C. C. C. C. C. C. C. C. C. C. C.	ACCOUNT OF THE PROPERTY OF THE PARTY OF THE			Check District William

Calculation Report

ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (mg/L)	<b>5</b>	Final Volume (L)	Initial Weight (9)	Cleanup Factor	Sample Result (mg/g)	% Solids	Dry Wt Corrected (mg/g)	<b>O</b>	MDL (mg/g)	(mg/g)	Spiked Amount (mg/L)	¥# E	Expected Result (mg/g)	ected % Rec sult 19/9)
06 - TRG	Aroclar-1260	ARS1-17-00216-004	02/07/17 18:48	0.000	1.0	0.001	30.000	1	0.000	. 59.5%	0.000	<u>ם</u>	3.330E-6	3.330E-6		a remova		. w 1970 - 8,044
	DCBP (Surr)	ARS1-17-00216-004	02/07/17 18:48	0.064 1.0	1.0	0.001	30.000	1	2.125E-6	. 59.5%	'n.	es e e e e	N/A	A/A	0.020	1.12	.120E-6	:0E-6 318.7%
- wareness a	TCMX (Surr)	ARS1-17-00216-004	02/07/17 18:48	0.166 1.0	1.0	0.001	30.000	П	5.534E-6	. 59.5%	, 9.297E-6		A/A	N/A	0.020	1,120E-6	6-6	E-6 830.1%
07 - TRG	Aroclor-1016	ARS1-17-00216-007	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	1	0.000	82.5%	0,000	<b>5</b>	3.330E-6	3.330E-6		goment.	5	
	Arodor-1221	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30.000	1	0.000	82.5%	0.000	_	3.330E-6	3.330E-6	A CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTO	100 mm	ž.	
a hart or the face	Aroclor-1232	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30,000	1	0.000	82.5%	00000	<b>-</b>	3,330E-6	3,330E-6	A REPORT OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF TH			opportunities control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control to the control
	Arodor-1242	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30,000	1	0.000	82.5%	00000	٦	3.330E-6	3.330E-6		Providence of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Con		
	Arodor-1248	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30.000	1	00000	82.5%	0.000	<b>-</b>	3.330E-6	3.330E-6	ere of contract contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of contract of co			And the second second
***********	Arodor-1254	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30.000	T	0.000	82.5%	0.000	<b>-</b>	3.330E-6	3.330E-6			general on	AGACTA Y CONCRETE REPORT OF CONCRETE ACTAC
and the second	Aroclor-1260	ARS1-17-00216-007	02/07/17 19:16	0.000	1.0	0.001	30.000	1	0.000	82.5%	0.000	_	3.330E-6	3.330E-6	Section of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the contro		Section 1997	Me. vride, Montrol Maharitan be
	DCBP (Surr)	ARS1-17-00216-007	02/07/17 19:16	0.004	1.0	0.001	30.000	1	1.372E-7	82.5%	1.662E-7		A/A	N/A	0.020	8.079E-7	gameraa.	20.6%
	TCMX (Surr)	ARS1-17-00216-007	02/07/17 19:16	0.008	1.0	0.001	30,000	Т	2,658E-7	82.5%	3,221E-7		A/N	N/A	0.020	8.079E-7	generalista.	39.9%
08 - MS	Aroclor-1016	ARS1-17-00216-002	02/07/17 19:44	1.570	1.0	0.001	30,000	1	5,233E-5	86.4%	6,058E-5		3,330E-6	3,330E-6	1.000	3.859E-5	Graniere,	157.0%
to the court of the	Aroclor-1260	ARS1-17-00216-002	02/07/17 19:44	0.644	1.0	0.001	30.000	1	2.145E-5	86.4%	2.	e Parametra	3.330E-6	3.330E-6	1.000	3.859E-5	Germanie	64.4%
09 - MSD	Aroclor-1016	ARS1-17-00216-002	02/07/17 20:13	3.301	1.0	0.001	30.000	1	1.100E-4	86.4%	1	grant in in	3.330E-6	3.330E-6	1.000	3.859E-5	Amountains'	330.1%
n na maine	Arodor-1260	ARS1-17-00216-002 02/07/17 20:13	02/07/17 20:13	0.700	1.0	0.001	30,000	-	2.333E-5	86.4%	2.702E-5		3.330E-6	3.330E-6	1.000	3.859E-5	gamersus	70.0%

Procedure Data									
ABatch Sample ID	dient ID	Parent	Wi/Vi (g/ml)	Extraction Type	Extraction Date/Time	Conc. Extract Vol (ml)	Cleanup Type	Cleanup Factor	User ID
ARS1-B17-00184-01		ACCOUNTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF TH	30,000	30.0000 Sonification	1/31/2017 1:00:00 PM			***************************************	RCHANIYAVA
ARS1-B17-00184-02	(1) = 1 to 1000001111111111111111111111111111	ACCOUNTS OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PA	30.000	30.000 Sonification	1/31/2017 1:00:00 PM	1.0000			RCHANIYAVA
ARS1-B17-00184-03		- 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1.0000			RCHANIYAVA
ARS1-B17-00184-04 BB-18	BB-18	COLUMN CONTRACTOR AND THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF THE ACT OF	30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1,0000	TO THE REPORT OF THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSON NAMED IN THE PERSO	**************************************	RCHANIYAVA
ARS1-B17-00184-05 OS-2	0S-2	SCHOOL STORY OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF TH	30.000	30.000 Sonification	1/31/2017 1:00:00 PM	1,0000	-		RCHANIYAVA
ARS1-B17-00184-06 BB-19M	BB-19M		30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1.0000			RCHANIYAVA
ARS1-B17-00184-07 BB-17	88-17	And the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second s	30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1.0000		SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTION SECTIO	RCHANIYAVA
ARS1-B17-00184-08	Harris Harris Marris Ma	ARS1-17-00216-002	30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1.0000			RCHANIYAVA
ARS1-B17-00184-09		ARS1-17-00216-002	30.000	30.0000 Sonification	1/31/2017 1:00:00 PM	1.0000			RCHANIYAVA

No reagents were used for this procedure.

No reagents were scanned.

Analyst Initials  $\mathcal{K}$ 

Note only what is used:

DCM Lot# & 17 - 05 055

Hexane Lot#

1:1 H2SO4 Lot#

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\076F0301.D

Sample Name: ARS1-B17-00184-03 MB

Acq. Operator : Seq. Line : 3
Acq. Instrument : Instrument 1 Location : Vial 76
Injection Date : 2/7/2017 3:00:40 PM Inj : 1

Inj Volume : 1 μl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

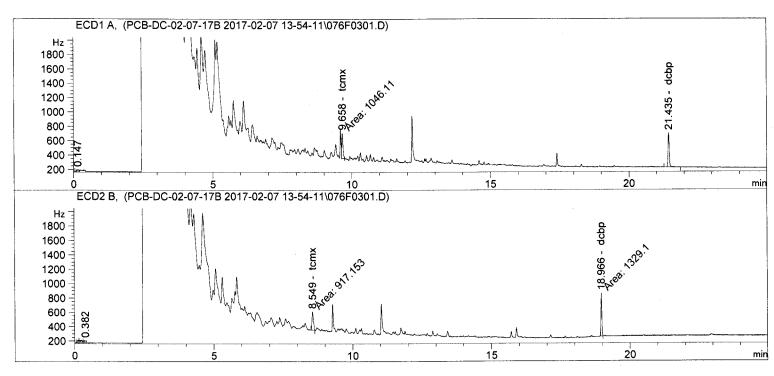
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/21/2017 4:03:03 PM

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



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# External Standard Report

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Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.658	MM	1046.11377	2.55155e-5	2.66921e-2		tcmx
10.815		-	-	-		1016#1
12.193		-	-	-		1016#2
12.890		-	-	-		1016#3
13.443		- `	-	-		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\076F0301.D

Sample Name: ARS1-B17-00184-03 MB

_____

Acq. Operator : Seq. Line : 3
Acq. Instrument : Instrument 1 Location : Vial 76
Injection Date : 2/7/2017 3:00:40 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/21/2017 4:03:03 PM

Sample-related custom fields:

Name | Value

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
13.798		-	-	-		1016#5	
16.154		-	-	-		1260#1	
16.530		-	-	-		1260#2	
17.188		-	-	-		1260#3	
17.335		-	-	-		1260#4	
17.873		-	-	-		1260#5	
21.435	BB	1572.45435	8.28276e-5	1.30243e-1		dcbp	

Totals: 1.56935e-1

Signal 2: ECD2 B,

RetTime	Туре	Area	Amt/Area	Amount	Grp	Name
[min]		[Hz*s]		[ng/ul]		
8.549	MM	917.15283	2.89195e-5	2.65236e-2		tcmx
10.181		-	-	-		1016#1
11.519		_	_	_		1016#2
11.750		-	-	-		1016#3
11.797		-	-	=		1016#4
12.890		-	-	=		1016#5
14.425		-	-	-		1260#1
15.447		-	-	-		1260#2
15.608		-	-	-		1260#3
16.043		-	-	-		1260#4
16.587		-	-	-		1260#5
18.966	MM	1329.09790	9.17682e-5	1.21969e-1		dcbp

Totals: 1.48493e-1

# 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Warning: Calibrated compound(s) not found

Comment Device Device

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\076F0301.D Sample Name: ARS1-B17-00184-03 MB Acq. Operator : Seq. Line: 3 Acq. Instrument : Instrument 1 Location : Vial 76 Injection Date : 2/7/2017 3:00:40 PM Inj: 1 Inj Volume : 1 μl Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M : 2/21/2017 4:03:03 PM Last changed Sample-related custom fields: Value _____ Additional Info : Peak(s) manually integrated -----

Signal 1: ECD1 A, Signal 2: ECD2 B,

______

Final Summed Peaks Report

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\076F1501.D

Sample Name: ARS1-B17-00184-01 LCS

-----

Acq. Operator : Seq. Line : 15
Acq. Instrument : Instrument 1 Location : Vial 76
Injection Date : 2/13/2017 4:31:30 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

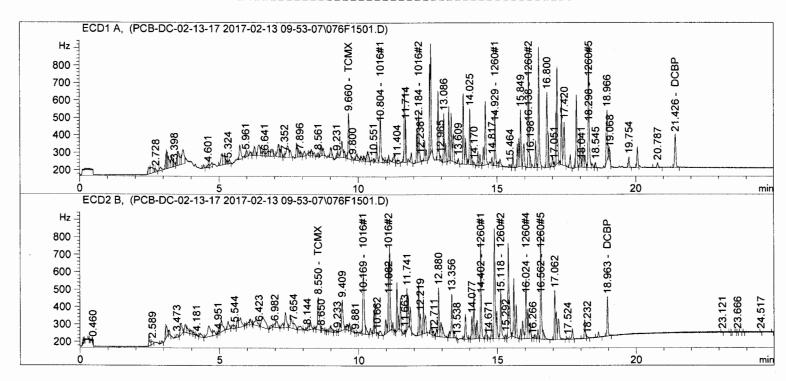
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name | Value | -----|



#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/15/2017 1:50:53 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
9.660	VV	819.97058	1.43031e-5	1.17281e-2		TCMX	
10.804	VV	767.02747	8.93492e-4	6.85333e-1		1016#1	
12.184	VV	719.93164	1.14470e-3	8.24109e-1		1016#2	
12.883	BV	1055.28955	7.46094e-4	7.87345e-1		1016#3	
13.354	BV	614.07379	1.26929e-3	7.79436e-1		1016#4	
13.789	BV	891.99750	9.15770e-4	8.16865e-1		1016#5	

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\076F1501.D

Sample Name: ARS1-B17-00184-01 LCS

______

Acq. Operator : Seq. Line : 15
Acq. Instrument : Instrument 1 Location : Vial 76
Injection Date : 2/13/2017 4:31:30 PM Inj : 1

Inj Volume : 1 μl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
	1				1 1		
14.929	BV	719.22620	1.33125e-3	9.57470e-1		1260#1	
16.138	BV	1472.05237	6.12381e-4	9.01456e-1		1260#2	
16.508	BV	1639.83496	5.83173e-4	9.56307e-1		1260#3	
17.321	BV	881.09241	9.60380e-4	8.46183e-1		1260#4	
18.298	BV	1778.15344	5.42751e-4	9.65095e-1		1260#5	
21.426	BV	604.99713	7.44528e-5	4.50437e-2		DCBP	

Totals: 8.57637

Signal 2: ECD2 B,

RetTime	Туре	Area	Amt/Area	Amount	Grp	Name
[min]		[Hz*s]		[ng/ul]		
	<b>-</b>				-	
8.550	BV	670.56342	1.68633e-5	1.13079e-2	Γ	CMX
10.169	VV	1253.21680	5.24749e-4	6.57624e-1	1	.016#1
11.082	VV	845.92596	1.01474e-3	8.58396e-1	1	.016#2
11.124	VB	1231.68774	6.26688e-4	7.71884e-1	1	.016#3
11.382	BV	650.61157	1.33291e-3	8.67207e-1	1	016#4
12.168	BV	705.45691	1.23885e-3	8.73952e-1	1	L016#5
14.402	BB	1282.52905	7.38857e-4	9.47606e-1	1	L260#1
15.118	VB	784.32312	1.31880e-3	1.03437	1	L260#2
15.587	VV	742.61456	1.16219e-3	8.63057e-1	1	L260#3
16.024	VV	810.98187	1.28720e-3	1.04390	3	L260#4
16.562	BV	1478.29382	5.55008e-4	8.20464e-1	1	L260#5
18.963	BB	525.59442	8.64602e-5	4.54430e-2	Ι	CBP

Totals: 8.79520

1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Summed Peaks Report

Signal 1: ECD1 A,

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\076F1501.D Sample Name: ARS1-B17-00184-01 LCS Acq. Operator : Seq. Line: 15 Acq. Instrument : Instrument 1 Location : Vial 76 Injection Date : 2/13/2017 4:31:30 PM Inj: 1 Inj Volume : 1 μl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M Last changed : 2/15/2017 1:54:25 PM Sample-related custom fields: Name Value -----Signal 2: ECD2 B, -----Final Summed Peaks Report ______ Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\077F1601.D

Sample Name: ARS1-B17-00184-02 LCSD

-----

Acq. Operator : Seq. Line : 16
Acq. Instrument : Instrument 1 Location : Vial 77

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

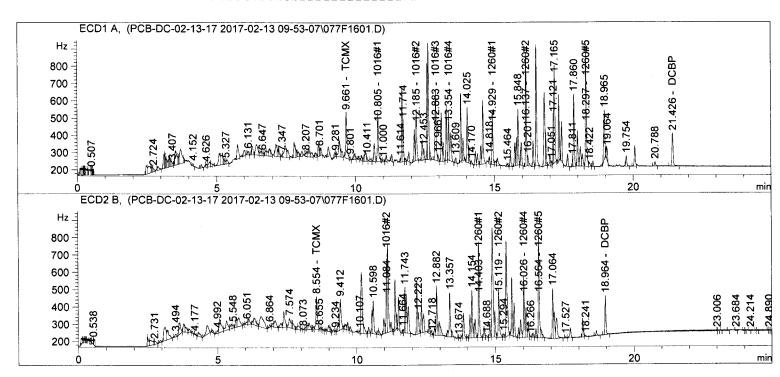
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name | Value



#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/15/2017 1:50:53 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
							·
9.661	VV	828.43945	1.43054e-5	1.18512e-2		TCMX	
10.805	VV	775.82410	8.93810e-4	6.93440e-1		1016#1	
12.185	VB	745.20532	1.14552e-3	8.53644e-1		1016#2	
12.883	BV	1129.64221	7.46061e-4	8.42782e-1		1016#3	
13.354	BV	631.06799	1.26978e-3	8.01317e-1		1016#4	
13.790	BB	840.02850	9.14814e-4	7.68470e-1		1016#5	

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\077F1601.D

Sample Name: ARS1-B17-00184-02 LCSD

______

Acq. Operator : Seq. Line: 16 Acq. Instrument : Instrument 1 Location : Vial 77 Injection Date : 2/13/2017 4:59:58 PM Inj : 1 Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
14.929	BV	733.32043	1.33339e-3	9.77805e-1		1260#1	
16.137	BV	1477.54248	6.12459e-4	9.04934e-1		1260#2	
16.508	BV	1647.07227	5.83249e-4	9.60654e-1		1260#3	
17.321	BB	796.32416	9.57203e-4	7.62244e-1		1260#4	
18.297	BV	1776.44250	5.42739e-4	9.64145e-1		1260#5	
21.426	BB	613.02557	7.45099e-5	4.56765e-2		DCBP	

Totals : 8.58696

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
8.554	BV	670.41205	1.68635e-5	1.13055e-2	TCMX	
10.173	VV	1268.93494	5.24921e-4	6.66091e-1	1016#1	
11.084	VV	930.05267	1.01557e-3	9.44534e-1	1016#2	
11.125	VV	1344.57568	6.26043e-4	8.41762e-1	1016#3	
11.383	BV	673.14514	1.33287e-3	8.97213e-1	1016#4	
12.169	BV	715.24866	1.23876e-3	8.86025e-1	1016#5	
14.403	BB	1297.79248	7.39028e-4	9.59105e-1	1260#1	
15.119	VB	786.86603	1.31886e-3	1.03776	1260#2	
15.589	VV	745.76898	1.16229e-3	8.66801e-1	1260#3	
16.026	VV	806.22168	1.28713e-3	1.03771	1260#4	
16.564	BV	1472.85510	5.55002e-4	8.17438e-1	1260#5	
18.964	BB	525.21222	8.64610e-5	4.54103e-2	DCBP	

Totals : 9.01116

1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Summed Peaks Report

Signal 1: ECD1 A,

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\077F1601.D Sample Name: ARS1-B17-00184-02 LCSD Acq. Operator : Seq. Line : 16 Acq. Instrument : Instrument 1 Location : Vial 77 Injection Date : 2/13/2017 4:59:58 PM Inj: 1 Inj Volume : 1 μl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M Last changed : 2/15/2017 1:54:25 PM Sample-related custom fields: |Value _____ _______ Signal 2: ECD2 B, ______ Final Summed Peaks Report ______ Signal 1: ECD1 A, Signal 2: ECD2 B,

*** End of Report ***

Compound-related custom fields:

		Analytical Batch ID	(a * mi hataw	ARS1-B17-001	-P1/-		40												
	4	Analysis Code	Jan page 1911 - A	3CSV-8	GCSV-8082A-SO	0	USCANO VERBERINA	DECORPORAÇÃO DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE CONTRA DE 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02 - LCSD	Arodor-1016	Annual description of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the seco	02/13/17 16:59	6:59	0.792	1.0	0.001	30.000	1	2.640E-5	5 100%	6 2.640E-5	<b></b>	0.036	0.100	1.000	3.333E-5	79.2%	0.5%
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03 - MBL	Aroclor-1016	Collect Attackets the description is represented to the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the se	02/07/17 15:00	5:00	0.000	1.0	0.001	30.000	1	0.000	100%	00000	<b>)</b>	0.036	0.100			, charage	e e e e e e e e e e e e e e e e e e e
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t a thermodynamics	Arodor-1221	ARS1-17-00216-002	02/07/17 17:51	7:51	0.000	1.0	0.001	30.000	1	0.000	86.4%	0.000	<b>-</b>	0.036	0.100	100 - 120E			
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	Aroclor-1248	ARS1-17-00216-002	02/07/17 17:51	.7:51	0.000	1.0	0.001	30.000	1	0.000	86.4%	00000	<b>-</b>	0.036	0.100			27000	
· contraction	Aroclor-1254	ARS1-17-00216-002	02/07/17 17:51	(7:51	0.000	1.0	0.001	30.000	П	0.000	86.4%	0.000	<b>ס</b>	0.036	0.100			y Donaton	- an test
	Arodor-1260	ARS1-17-00216-002	02/07/17 17:51	(7:51	0.000	1.0	0.001	30.000	7	0.000	86.4%	0.000	ב	0.036	0.100	ar stoke far	CHARLOS: Se	LANGE AND PARTY	2000
qui i sumuni i	DCBP (Surr)	ARS1-17-00216-002	02/07/17 17:51	(7:51	0.019	1.0	0.001	30.000	1	6.191E-7	86.4%	4 7.168E-7		A/A	N/A	0.020	7.718E-7	92.9%	
a A. Vario de A.	TCMX (Surr)	ARS1-17-00216-002	02/07/17 17:51	(7:51	0.019	1.0	0.001	30.000	1	6.345E-7	7 86.4%	6 7.345E-7		N/A	N/A	0.020	7.718E-7	95.2%	Season Company
05 - TRG	Arodor-1016	ARS1-17-00216-003	02/07/17 18:19	(8:19	0.000	1.0	0.001	30.000	1	0.000	77.7%	0000	<u>*</u>	0.036	0.100			Da, Dangbagan (C)	- TORION
a rea tradition of the	Aroclor-1221	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	1	0.000	77.7%	0000	כ	0.036	0.100	and the same	Anneces, and	and the second	
	Aroclor-1232	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	0.1	0.001	30.000	1	0.000	77.7%	0000	כ	0.036	0.100	a Next Court	and the second of the second	MERCU MA	
	Aroclor-1242	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	-	0.000	77.7%	00000	>	0.036	0.100		coace	~~~	
02 02 12 12 12 12 14 15 15 15 15 15 15 15 15 15 15 15 15 15	Aroclor-1248	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	1	0.000	77.7%	00000	<b>ס</b>	0.036	0.100	50,00 p. 50	-200		
indivinue (n to	Aroclor-1254	ARS1-17-00216-003	02/07/17 18:19	18:19	000'0	1.0	0.001	30.000	П	000'0	77.7%	0.000	>	0.036	0.100			000400.300	
pursurant and	Arodor-1260	ARS1-17-00216-003	02/07/17 18:19	18:19	0.000	1.0	0.001	30.000	1	0000	77.7%	0000	<b>&gt;</b>	0.036	0.100	gurgassassas d			.vrucnes
Marier Police	DCBP (Surr)	ARS1-17-00216-003	02/07/17 18:19	18:19	0.017	1.0	0.001	30.000	П	5.682E-7	77.7%	6 7.313E-7	in the root	N/A	N/A	0.020	8.580E-7	85.2%	
	TCMX (Surr)	ARS1-17-00216-003	02/07/17 18:19	18:19	0.018	1.0	0.001	30.000	-	6.047E-7	77.7%	% 7.783E-7	ne com	N/A	N/A	0.020	8.580E-7	90.7%	No. Lite tree
06 - TRG	Arodor-1016	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	1	0.000	59.5%	0000	<u>*</u>	0.036	0.100		aguar r	DAY SERVE	
212000000000000000000000000000000000000	Aroclor-1221	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	П	0.000	59.5%	0000	<b>&gt;</b>	0.036	0.100	ert 2 ft.		pp 10.740.4	
waya, walaya	Aroclor-1232	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	П	0000	59.5%	00000	<b>&gt;</b>	0.036	0.100	****			nok luton
16-16-2-1	Aroclor-1242	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	-	000'0	0 59.5%	00000	>	0.036	0.100		24.1-24	فيمتديم	
	Arodor-1248	ARS1-17-00216-004	02/07/17 18:48	18:48	0.000	1.0	0.001	30.000	1	0.000	59.5%	0000	כ	0.036	0.100		at the same	p p 2 1 44	
to the list	Amelor-1254	ARS1-17-00216-004	02/07/17 18:48	8:48	0.00	1.0	1000	000		0000	, LO LO	7	-	0.036	0 100	tur	no.		utin

ABatch Sample ID	Analyte	SDG/Fraction	Analysis Date/Time	Instr Response (ug/L)	<b>**</b>	Final Volume (L)	Initial Weight (9)	Cleanup Factor	Sample Result (ug/g)	%solids	Dry Wt Corrected (ug/g)	o'	MDL (ng/g)	PQL (49/9)	Spiked Amount (ug/L)	Expected Result (ug/g)	% Rec	2
06 - TRG	Aroclor-1260	ARS1-17-00216-004	02/07/17 18:48	0.000	1.0	0.001	30.000	1	0.000	29.5%	0.000	<b>-</b>	0.036	0.100	ECCL ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAMMENT AND ADMITTAL PROGRAM		VIVI M	
No. of pro-	DCBP (Surr)	ARS1-17-00216-004	02/07/17 18:48	0.064	1.0	0.001	30.000	1	2.125E-6	59.5%	3.569E-6	en en en en en en en en en en en en en e	N/A	N/A	0.020	1.120E-6	318.7%	
agh talls had	TCMX (Surr)	ARS1-17-00216-004	02/07/17 18:48	0.166 1.0	1.0	0.001	30.000	1	5.534E-6	89.5%	9.297E-6	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	N/A	N/A	0.020	1.120E-6	830.1%	
07 - TRG	Aroclor-1016	ARS1-17-00216-007	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	1	0.000	82.5%	0000	<b>.</b>	0.036	0.100		and the second	ANNELSES	
plant angles greater a	Arodor-1221	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	1	0.000	82.5%	0.000		0.036	0.100	Conditional control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control o	A CONTRACTOR OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY O		
determination	Aroclor-1232	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	7	000'0	82.5%	0.000	_	0.036	0.100	i decen	peuso	177 18800	
	Aroclor-1242	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	-	0.000	82.5%	0.000	_	0.036	0.100		hvadan a	- ALLEY TO	
Marke States of all	Arodor-1248	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000	1.0	0.001	30.000	T	0.000	82.5%	0.000		0.036	0.100	A CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF 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at shortests to	Arodor-1254	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000	1.0	0.001	30.000	1	0.000	82.5%	0.000		0.036	0.100	Political and a second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second	MANAGER TO SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURITY AND SECURIT	en.u. 110	
noneman non	Arodor-1260	ARS1-17-00216-007 02/07/17 19:16	02/07/17 19:16	0.000 1.0	1.0	0.001	30.000	1	0.000	82.5%	0.000	<b>-</b>	0.036	0.100			ar vana	and the second
arthe the the there	DCBP (Surr)	ARS1-17-00216-007	02/07/17 19:16	0.004	1.0	0.001	30.000	1	1.372E-7	82.5%	1.662E-7	Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence of the Consequence o	N/A	N/A	0.020	8.079E-7	20.6%	
t and a temperature	TCMX (Surr)	ARS1-17-00216-007	02/07/17 19:16	0.008	1.0	0.001	30.000	1	2,658E-7	82.5%	3.2216-7	Constant and	N/A	N/A	0.020	8.079E-7	39,9%	
08 - MS	Arodor-1016	ARS1-17-00216-002 02/07/17 19:44	02/07/17 19:44	1.570	1.0	0.001	30,000	1	5.233E-5	86.4%	6.058E-5	<b>-</b>	0.036	0.100	1.000	3,859E-5	157.0%	
	Aroclor-1260	ARS1-17-00216-002 02/07/17 19:44	02/07/17 19:44	0.644	1.0	0.001	30.000	1	2.145E-5	86.4%	2.484E-5	<b>)</b>	0.036	0.100	1.000	3.859E-5	64.4%	
09 - MSD	Arodor-1016	ARS1-17-00216-002 02/07/17 20:13	02/07/17 20:13	3.301	1.0	0.001	30.000	1	1.100E-4	86.4%	1.274E-4	<b>_</b>	0.036	0.100	1.000	3,859E-5	330.1%	71.1%
	Aroclor-1260	ARS1-17-00216-002 02/07/17 20:13	02/07/17 20:13	0.700 1.0	1.0	0.001	30.000	1	2.333E-5	86.4%	2.702E-5	<b>_</b>	0.036	0.100	1.000	3.859E-5	70.0%	8.4%

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\079F0901.D

Sample Name: ARS1-B17-00184-04

Acq. Operator : Seq. Line : 9
Acq. Instrument : Instrument 1 Location : Vial 79
Injection Date : 2/7/2017 5:51:09 PM Inj : 1

Inj Volume: 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

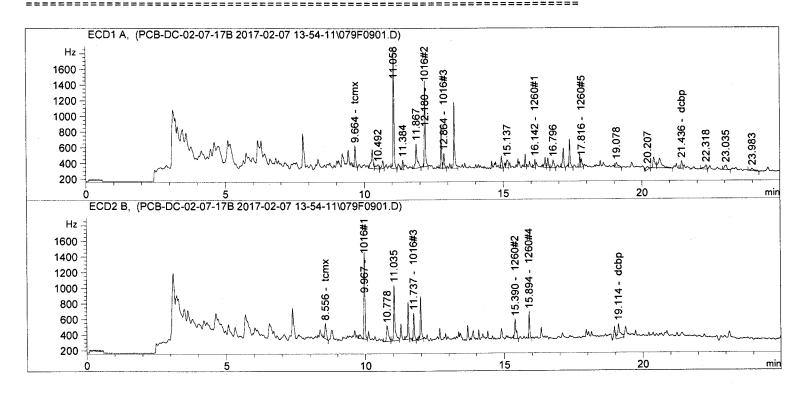
Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 10:07:09 AM

(modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime	Туре	Area	Amt/Area	Amount	Grp	Name
[min]		[Hz*s]		[ng/ul]		
9.664	BV	792.16748	2.40277e-5	1.90340e-2		tcmx
10.663	BV	413.56122	1.36425e-3	5.64202e-1		1016#1
12.180	BB	2748.43115	1.79088e-3	4.92212		1016#2
12.864	VB	550.95032	1.17859e-3	6.49344e-1		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\079F0901.D

Sample Name: ARS1-B17-00184-04

Acq. Operator : Seq. Line : 9
Acq. Instrument : Instrument 1 Location : Vial 79
Injection Date : 2/7/2017 5:51:09 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 10:07:09 AM (modified after loading)

Sample-related custom fields:

Name | Value

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
13.233	BV	2228.52661	2.43789e-3	5.43291	1016#4
13.798		-	-	-	1016#5
16.142	BV	281.55954	6.12167e-4	1.72361e-1	1260#1
16.511	BV	351.97629	6.08521e-4	2.14185e-1	1260#2
17.165	VB	749.68048	5.08290e-4	3.81055e-1	1260#3
17.390	VV	910.40338	9.86730e-4	8.98322e-1	1260#4
17.816	VV	339.58466	9.30998e-4	3.16153e-1	1260#5
21.436	BV	352.97122	5.26189e-5	1.85730e-2	dcbp

Totals: 13.58825

Signal 2: ECD2 B,

RetTime	Туре	Area	Amt/Area	Amount	Grp Name
[min]		[Hz*s]		[ng/ul]	
8.556	BB	699.33008	2.79747e-5	1.95635e-2	tcmx
9.967	BV	3041.85620	7.93160e-4	2.41268	1016#1
11.537	BB	1162.88147	3.08149e-3	3.58341	1016#2
11.737	BB	951.84528	3.22860e-3	3.07313	1016#3
11.987	BB	1534.72058	3.89905e-3	5.98395	1016#4
12.890		-	-	-	1016#5
14.425		-	-	-	1260#1
15.390	BB	880.63037	6.50803e-4	5.73117e-1	1260#2
15.608		-	-	-	1260#3
15.894	BB	735.76501	1.33085e-3	9.79192e-1	1260#4
16.587		-	-	-	1260#5
19.114	VV	1202.78149	9.09689e-5	1.09416e-1	dcbp

16.73445

#### 2 Warnings or Errors :

Totals :

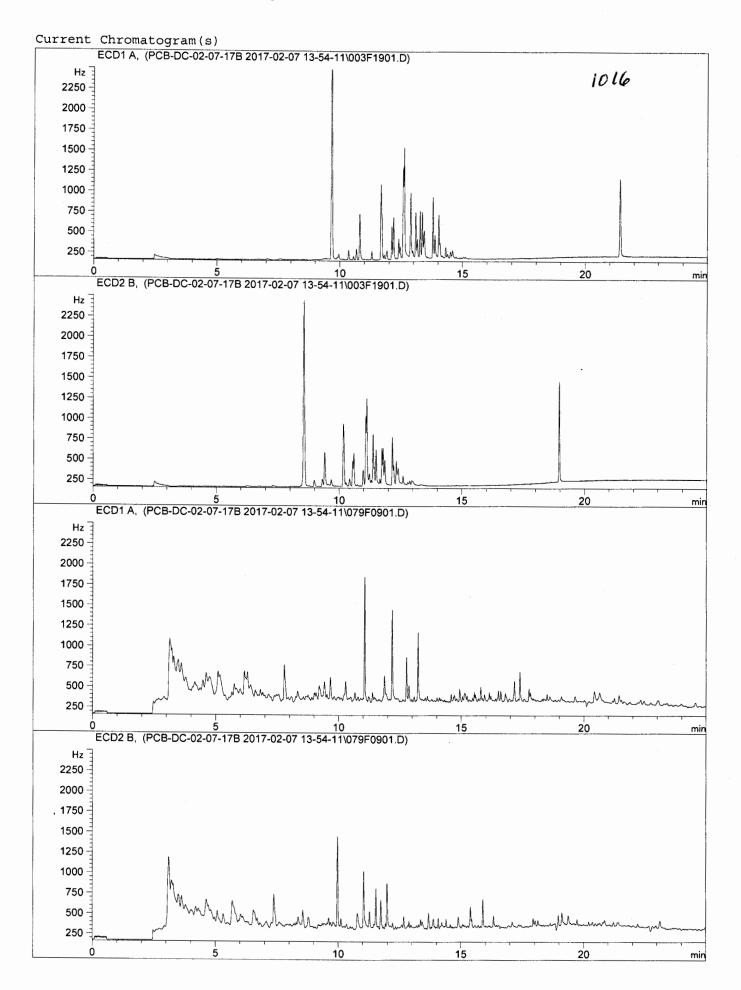
Warning : Calibration warnings (see calibration table listing)

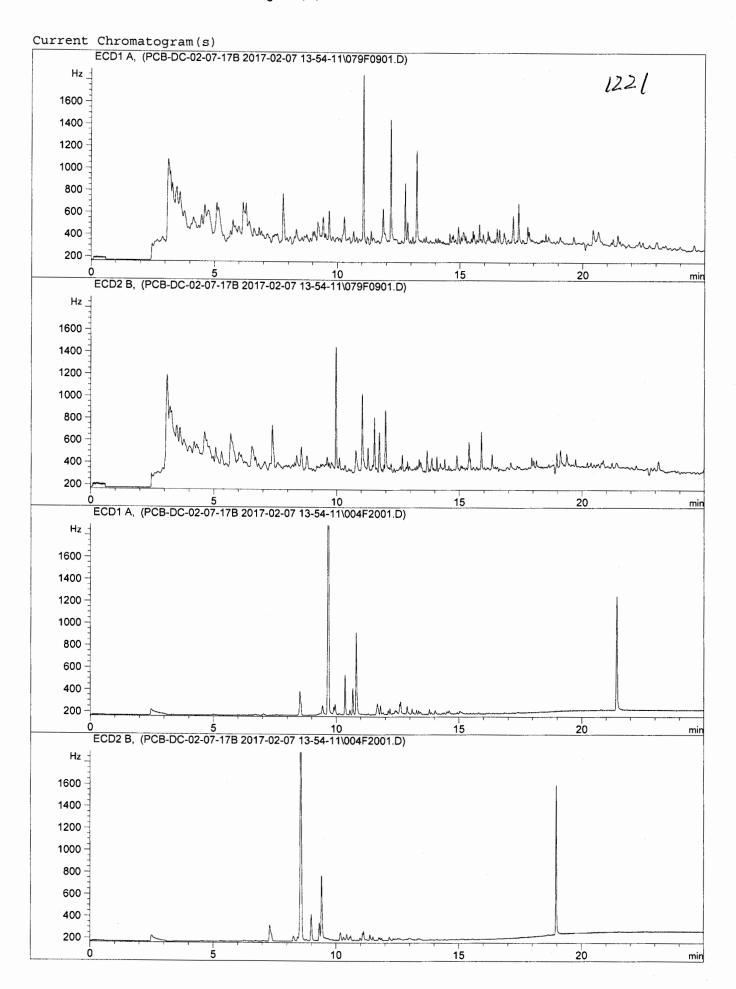
Warning: Calibrated compound(s) not found

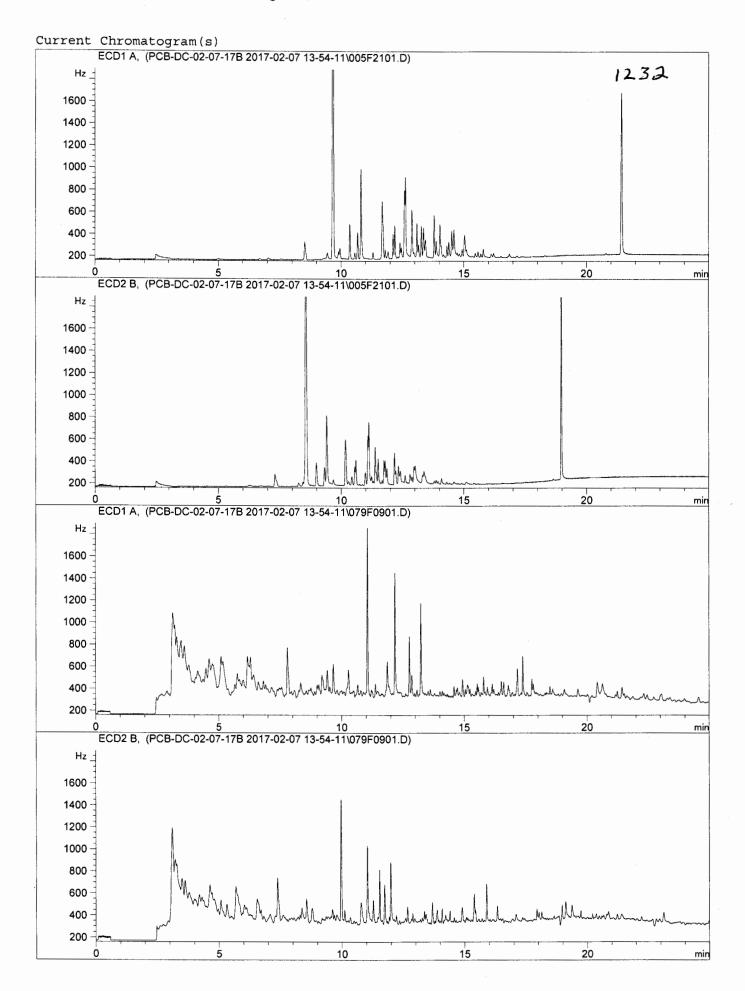
Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\079F0901.D Sample Name: ARS1-B17-00184-04 Acq. Operator : Seq. Line: 9 Acq. Instrument : Instrument 1 Location: Vial 79 Injection Date : 2/7/2017 5:51:09 PM Inj: 1 Inj Volume : 1 μl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 10:07:09 AM (modified after loading) Sample-related custom fields: Name Value ______ Additional Info : Peak(s) manually integrated ______ Summed Peaks Report ______ Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B,

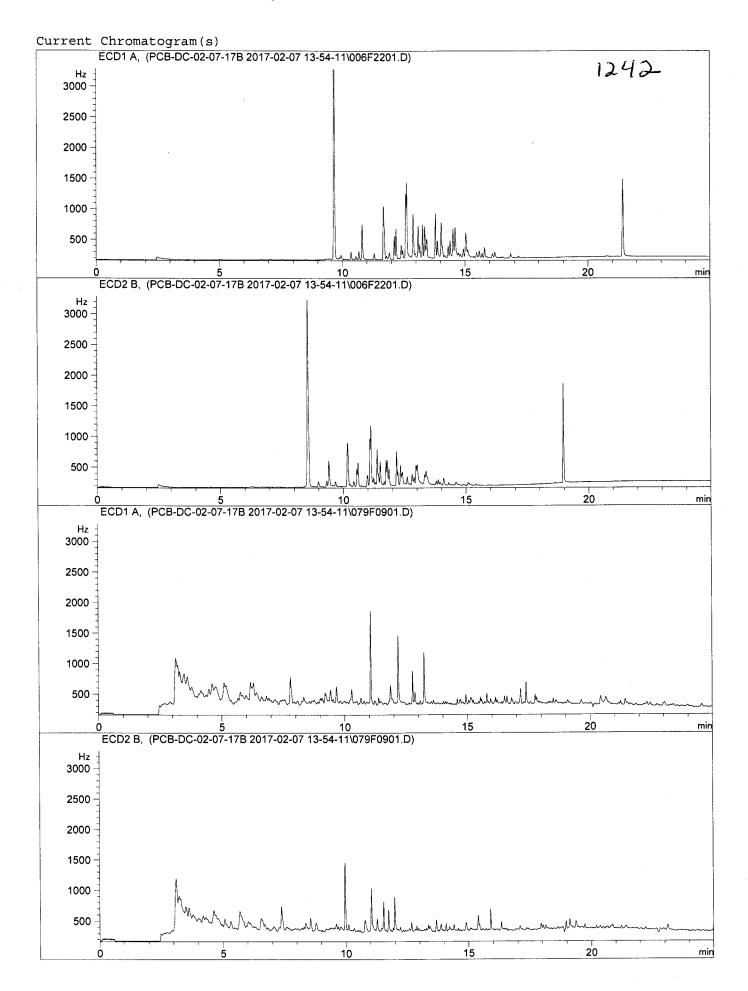
*** End of Report ***

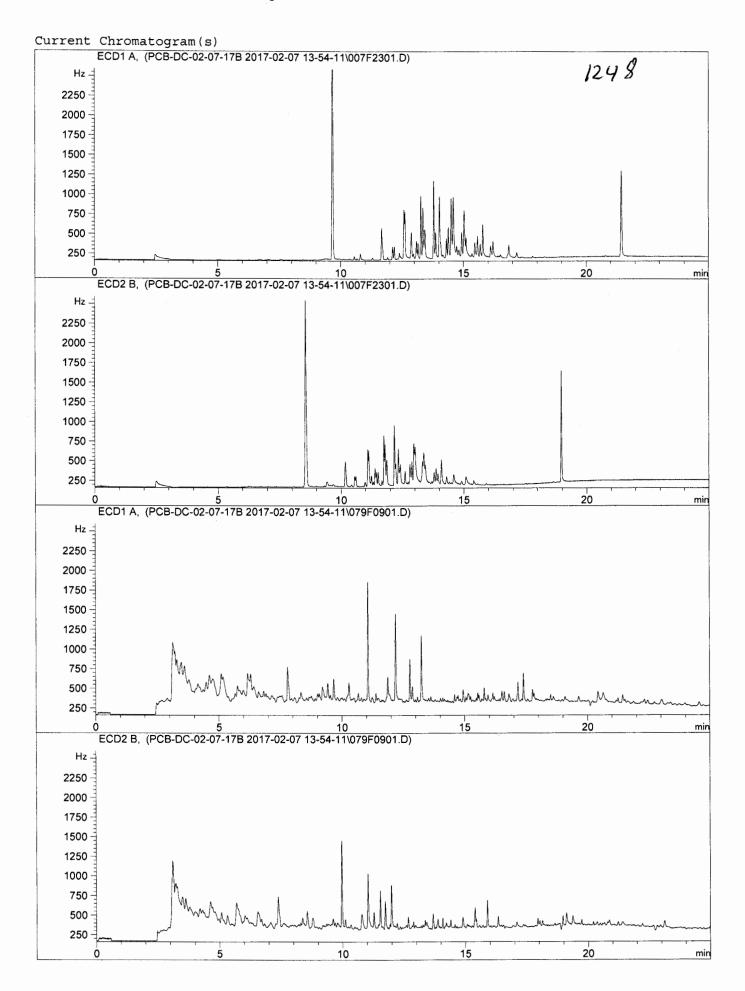
Compound-related custom fields:

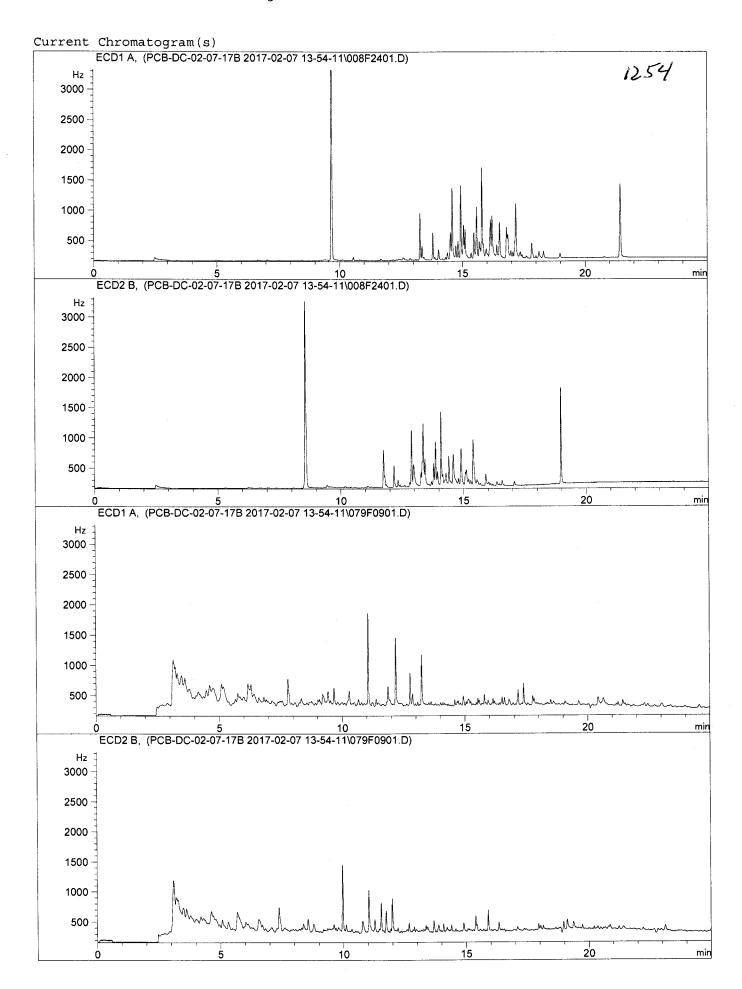


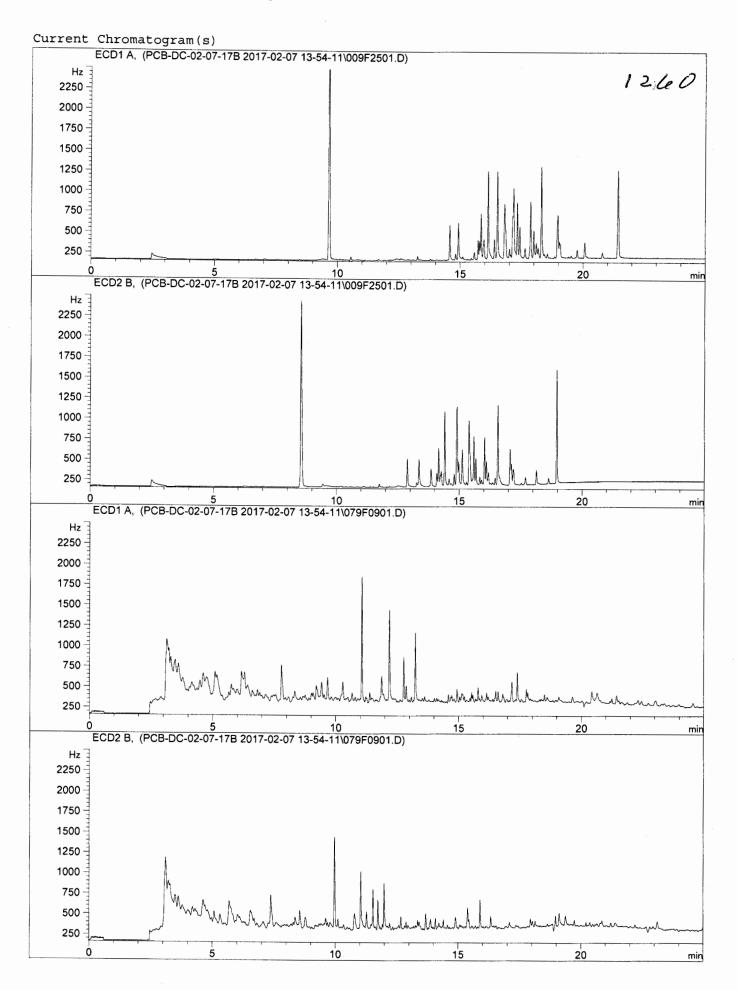












Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\080F1001.D

Sample Name: ARS1-B17-00184-05

Acq. Operator : Seq. Line : 10
Acq. Instrument : Instrument 1 Location : Vial 80
Injection Date : 2/7/2017 6:19:33 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

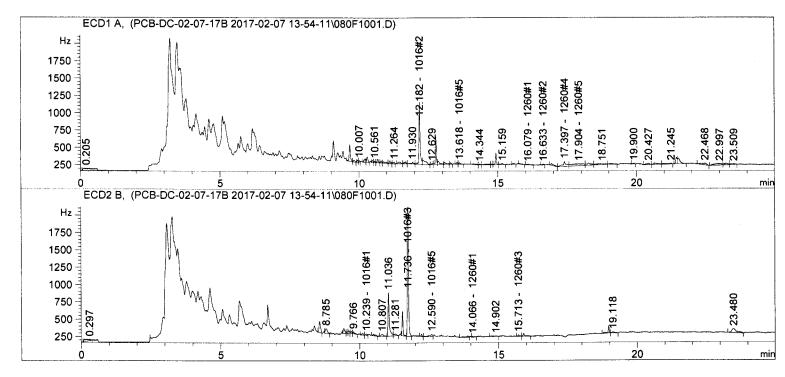
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 10:12:17 AM (modified after loading)

Sample-related custom fields:

Name | Value | Additional Info : Peak(s) manually integrated



# External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.667	BV	762.55957	2.37898e-5	1.81411e-2		tcmx
10.792	VB	79.87797	1.18502e-3	9.46569e-2		1016#1
12.182	VV	2498.16113	1.79037e-3	4.47264		1016#2
12.854	VB	219.01204	1.26986e-3	2.78115e-1		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\080F1001.D

Sample Name: ARS1-B17-00184-05

______

Acq. Operator : Seq. Line : 10
Acq. Instrument : Instrument 1 Location : Vial 80
Injection Date : 2/7/2017 6:19:33 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 10:12:17 AM (modified after loading)

Sample-related custom fields:

Name | Value

Additional Info : Peak(s) manually integrated

-----

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
							 · <b>-</b>
13.532	BV	76.84234	1.95653e-3	1.50345e-1	•	1016#4	
13.618	VB	78.04550	1.30239e-3	1.01646e-1		1016#5	
16.079	BB	79.47666	4.23440e-4	3.36536e-2	:	1260#1	
16.633	BB	46.29071	2.20836e-4	1.02227e-2		1260#2	
16.934	BB	195.15271	4.69035e-4	9.15334e-2	;	1260#3	
17.397	BV	615.88147	9.74842e-4	6.00387e-1		1260#4	
17.904	VV	846.47760	9.54810e-4	8.08225e-1		1260#5	
21.442	BV	336.29321	5.06871e-5	1.70457e-2	(	dcbp	

Totals: 6.67661

Signal 2: ECD2 B,

RetTime	Type	Area	Amt/Area	Amount	Grp Name
[min]		[Hz*s]		[ng/ul]	
8.554	BB	547.90070	2.68752e-5	1.47249e-2	tcmx
10.239	BV	75.45995	6.26937e-4	4.73086e-2	1016#1
11.538	VB	846.04987	3.08418e-3	2.60937	1016#2
11.736	BB	6835.22070	3.24311e-3	22.16738	1016#3
11.797		-	-	-	1016#4
12.590	BV	221.74686	1.34788e-3	2.98889e-1	1016#5
14.066	VV	82.93234	7.83721e-4	6.49958e-2	1260#1
15.447		-	-	-	1260#2
15.713	BV	87.17980	1.23975e-3	1.08081e-1	1260#3
15.900	VB	186.58827	1.38476e-3	2.58379e-1	1260#4
16.587		-	-	-	1260#5
18.968	BB	321.52667	6.79159e-5	2.18368e-2	dcbp

Totals: 25.59096

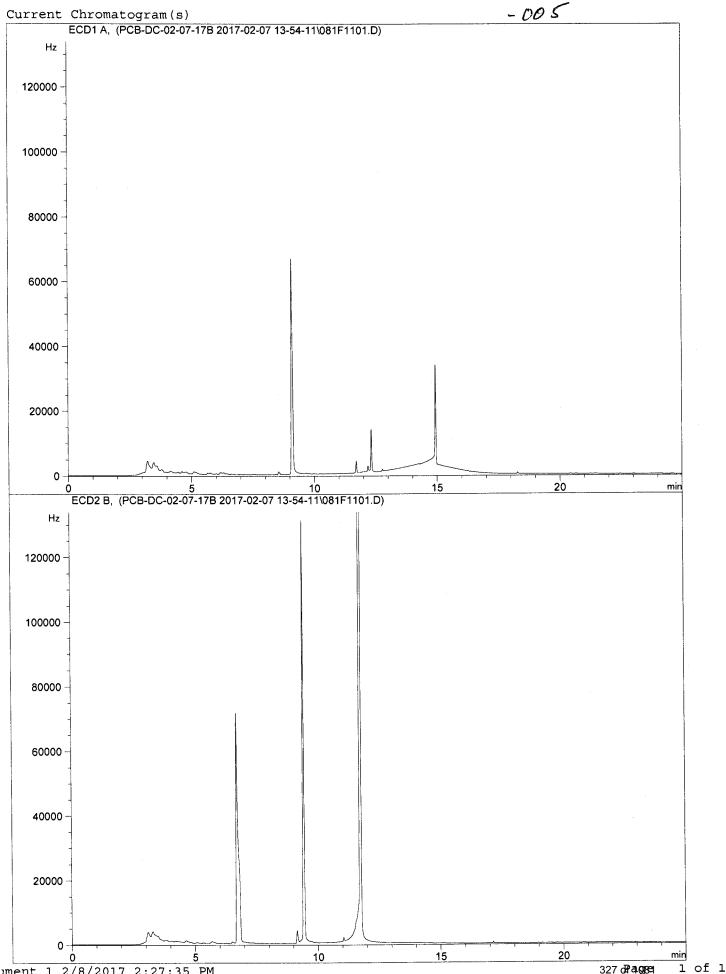
### 3 Warnings or Errors :

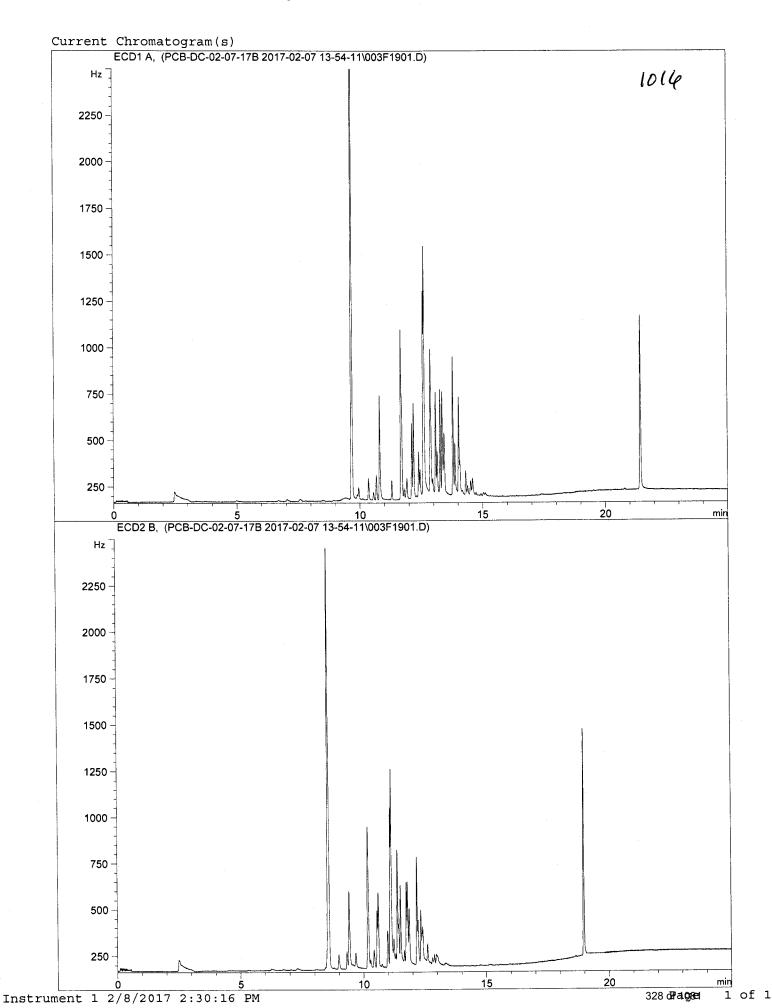
Warning: Calibration warnings (see calibration table listing)

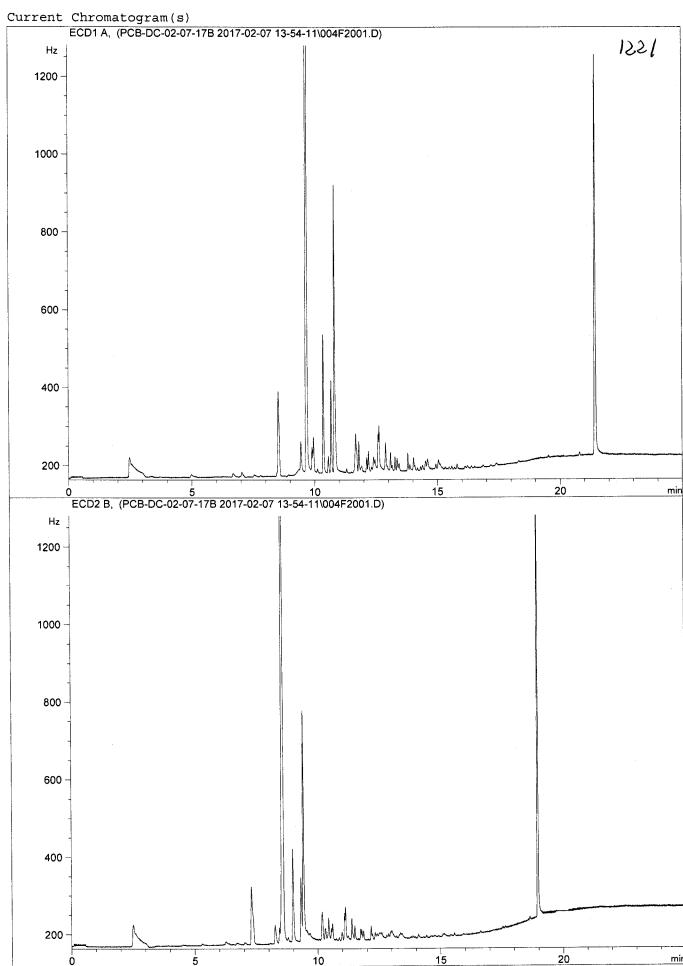
Warning : Calibrated compound(s) not found

Warning: Elution order of calibrated compounds may have changed

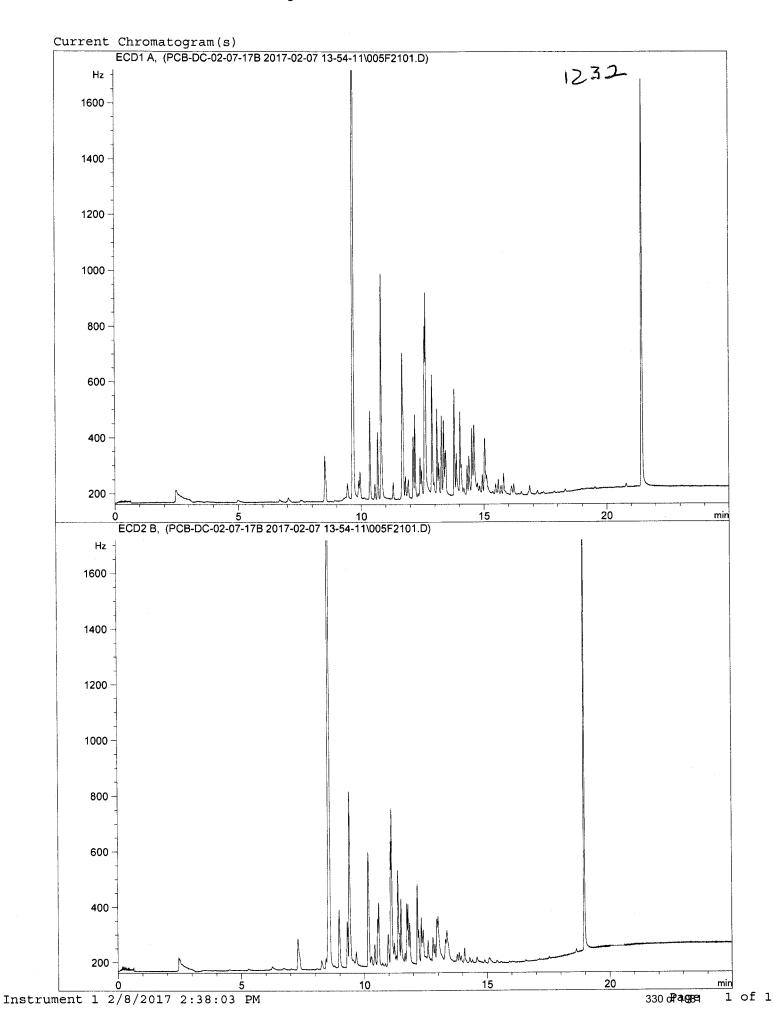
Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\080F1001.D Sample Name: ARS1-B17-00184-05 Acq. Operator : Seq. Line: 10 Location : Vial 80 Acq. Instrument : Instrument 1 Injection Date : 2/7/2017 6:19:33 PM Inj: 1 Inj Volume : 1  $\mu$ l Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 10:12:17 AM (modified after loading) Sample-related custom fields: Value Name Additional Info : Peak(s) manually integrated _______ ______ Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields: *** End of Report ***

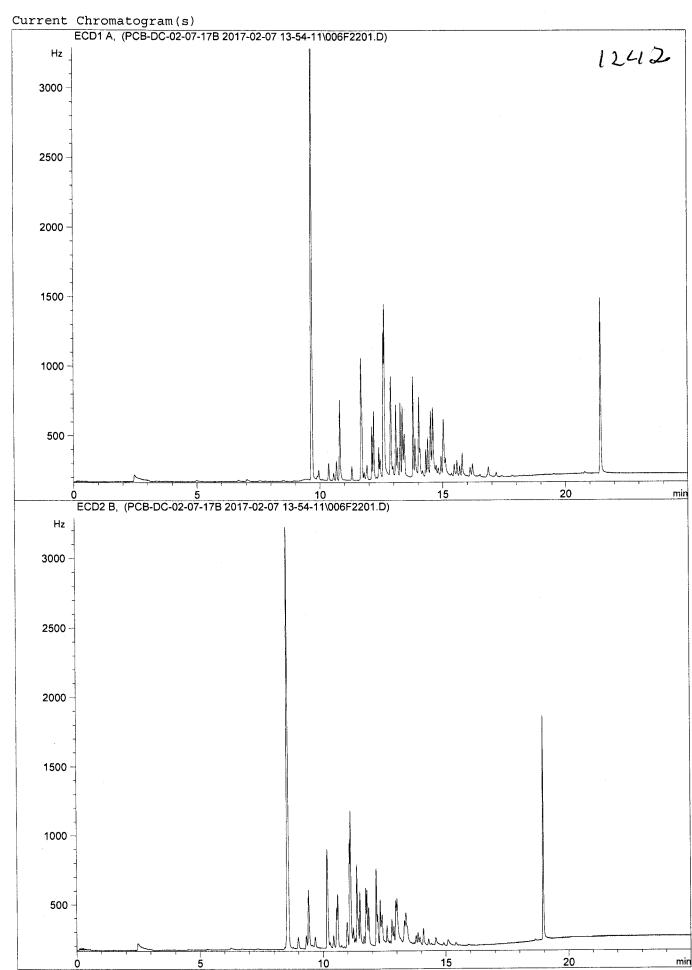


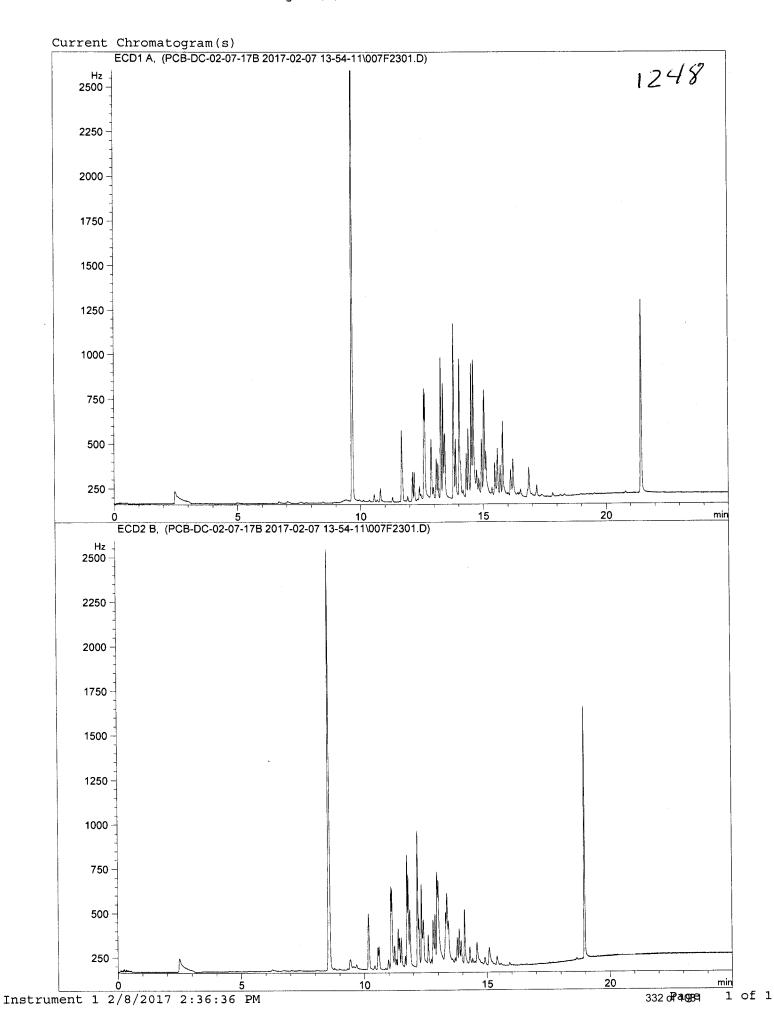


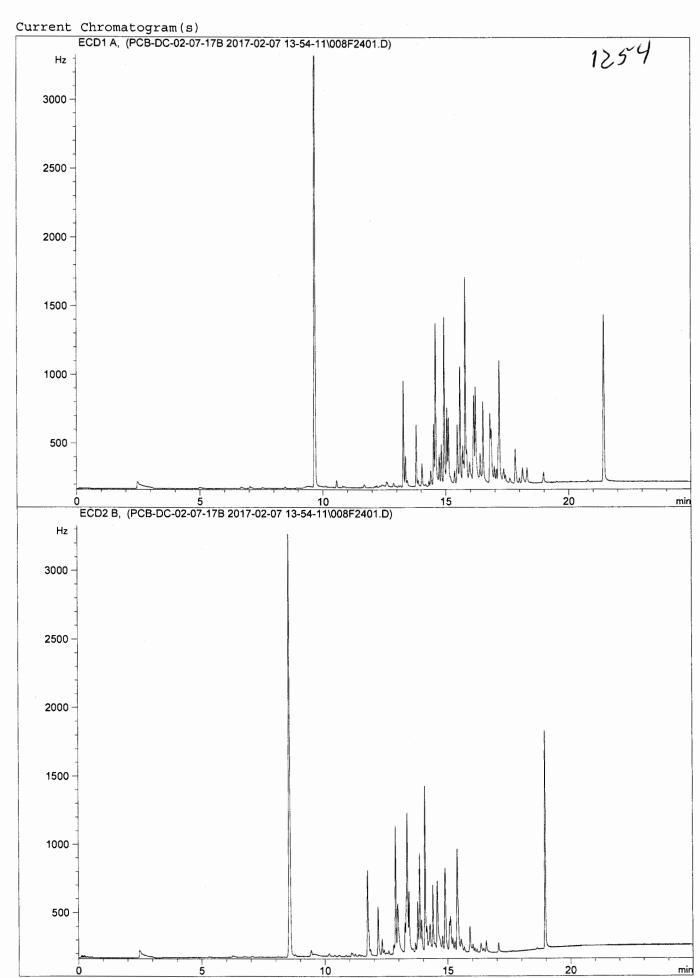


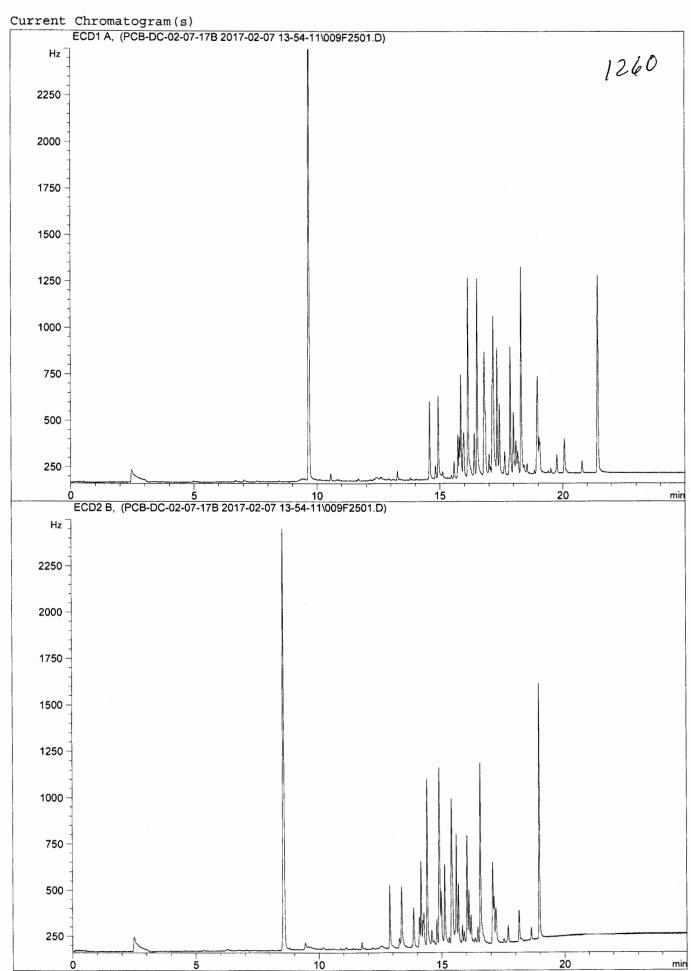
Instrument 1 2/8/2017 2:30:29 PM 329 dPage 1 of 1











Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\081F1101.D

Sample Name: ARS1-B17-00184-06

Acq. Operator : Seq. Line : 11
Acq. Instrument : Instrument 1 Location : Vial 81
Injection Date : 2/7/2017 6:48:03 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

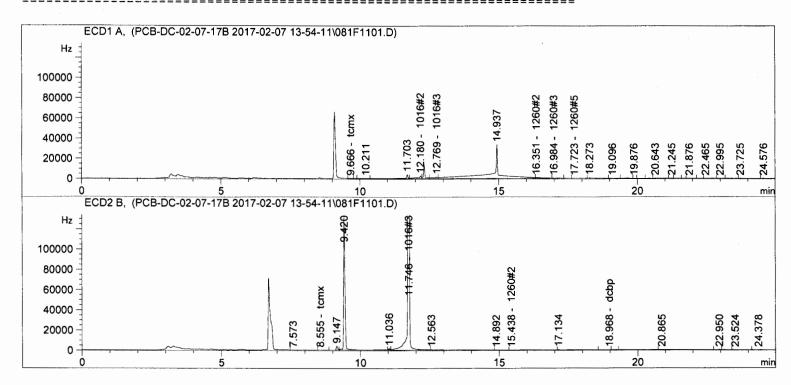
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:41:22 PM (modified after loading)

Sample-related custom fields:

Name | Value | Additional Info : Peak(s) manually integrated



### 

# External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Ту	рe	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name
	l						
9.666	•		'	2.92996e-5		i 1	tcmx
10.815			-	-	-		1016#1
12.180	$\nabla \nabla$	S	2.93706e4	1.79550e-3	52.73478		1016#2
12.769	$\nabla \nabla$	S	2.02842e4	1.12001e-3	22.71842		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\081F1101.D

Sample Name: ARS1-B17-00184-06

-----

Acq. Operator : Seq. Line : 11
Acq. Instrument : Instrument 1 Location : Vial 81
Injection Date : 2/7/2017 6:48:03 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:41:22 PM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |

______

RetTime [min]	Ту	⁄ре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.443	1		_	_	_	1 1	016#4	
			-	_	_			
13.798			-	-	-	1	016#5	
16.154			=	=	-	1	260#1	
16.351	VV	S	1.82821e4	6.66099e-4	12.17768	1	260#2	
16.984	VV	s	4656.68848	5.19881e-4	2.42092	1	260#3	
17.394	VV	S	1268.61145	9.93749e-4	1.26068	1	260#4	
17.723	VB	S	717.24908	9.51936e-4	6.82775e-1	1	260#5	
21.437	VV		846.21997	7.53236e-5	6.37404e-2	đ	lcbp	

Totals: 92.22503

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
8.555	VB	661.68890	2.77484e-5	1.83608e-2	tcmx
10.181		•••	-	-	1016#1
11.519		=	<u>-</u>	=	1016#2
11.746	VV S	3.68487e6	3.24545e-3	1.19591e4	1016#3
11.797		-	-	-	1016#4
12.890		-	-	-	1016#5
14.425		-	-	-	1260#1
15.438	BB	708.78790	6.53531e-4	4.63215e-1	1260#2
15.608		· <u>-</u>	-	-	1260#3
16.043		_	-	-	1260#4
16.587		-	-	-	1260#5
18.968	BV	483.38864	7.84515e-5	3.79226e-2	dcbp

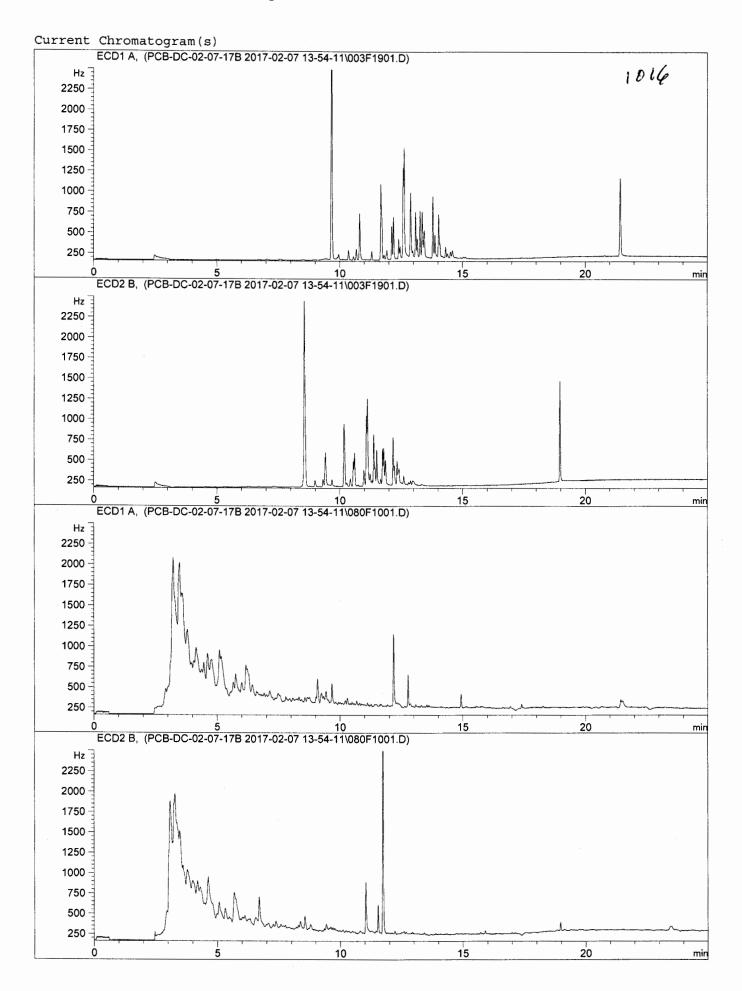
Totals : 1.19596e4

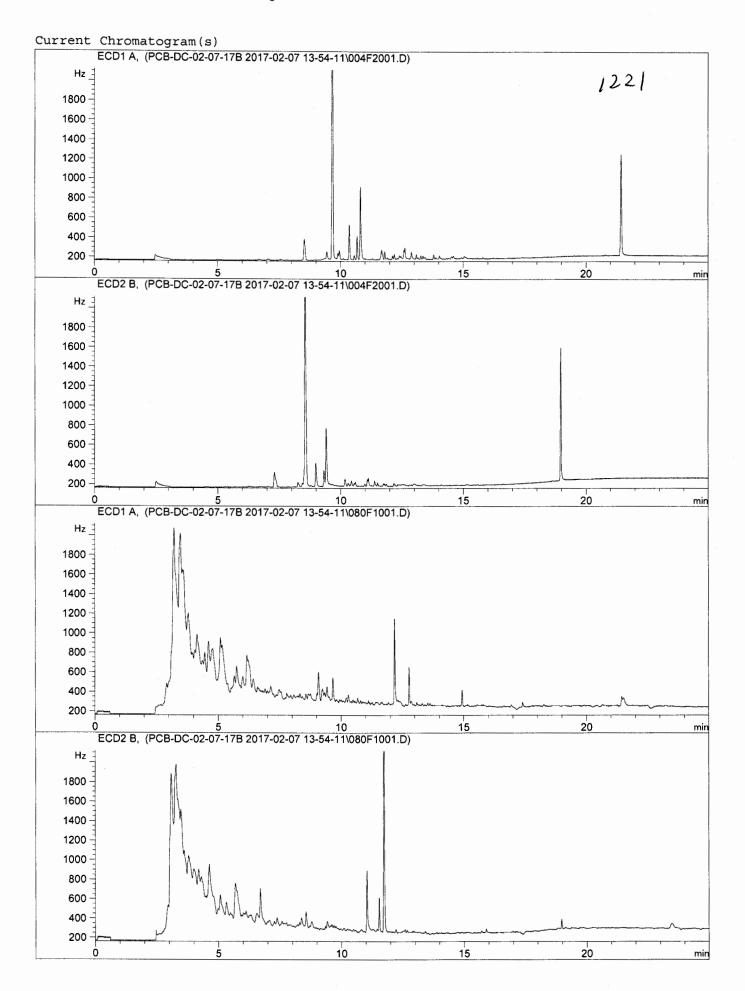
### 2 Warnings or Errors :

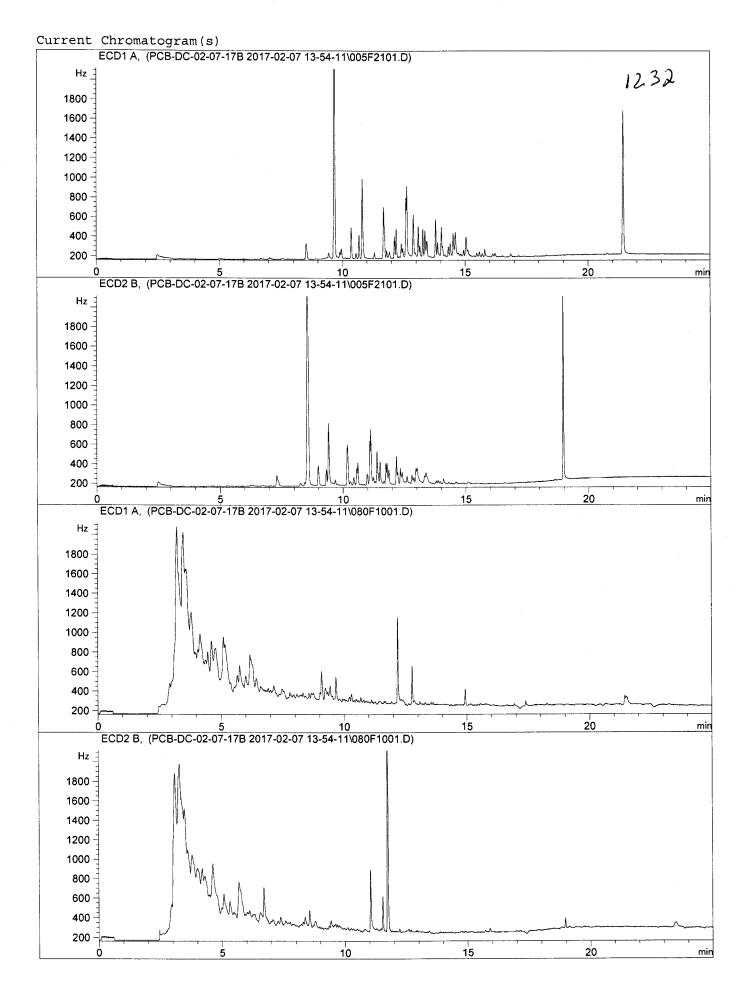
Warning: Calibration warnings (see calibration table listing)

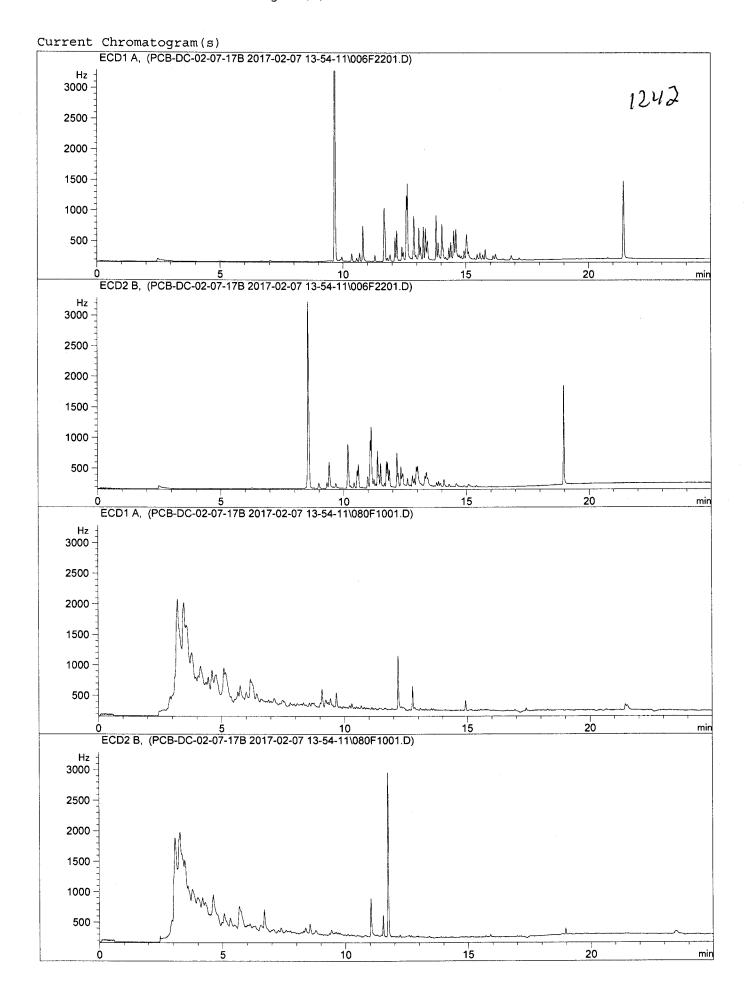
Warning: Calibrated compound(s) not found

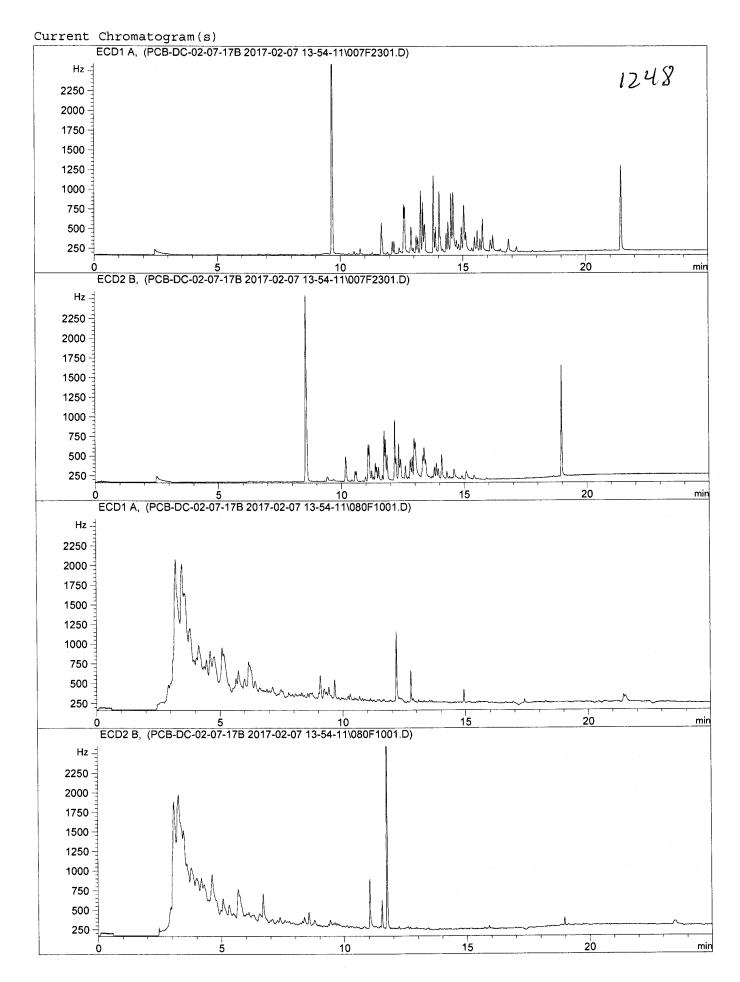
Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\081F1101.D Sample Name: ARS1-B17-00184-06 Acq. Operator : Seq. Line: 11 Acq. Instrument : Instrument 1 Location : Vial 81 Injection Date : 2/7/2017 6:48:03 PM Inj : 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 12:41:22 PM (modified after loading) Sample-related custom fields: Name |Value _____ Additional Info : Peak(s) manually integrated ______ Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields: *** End of Report ***

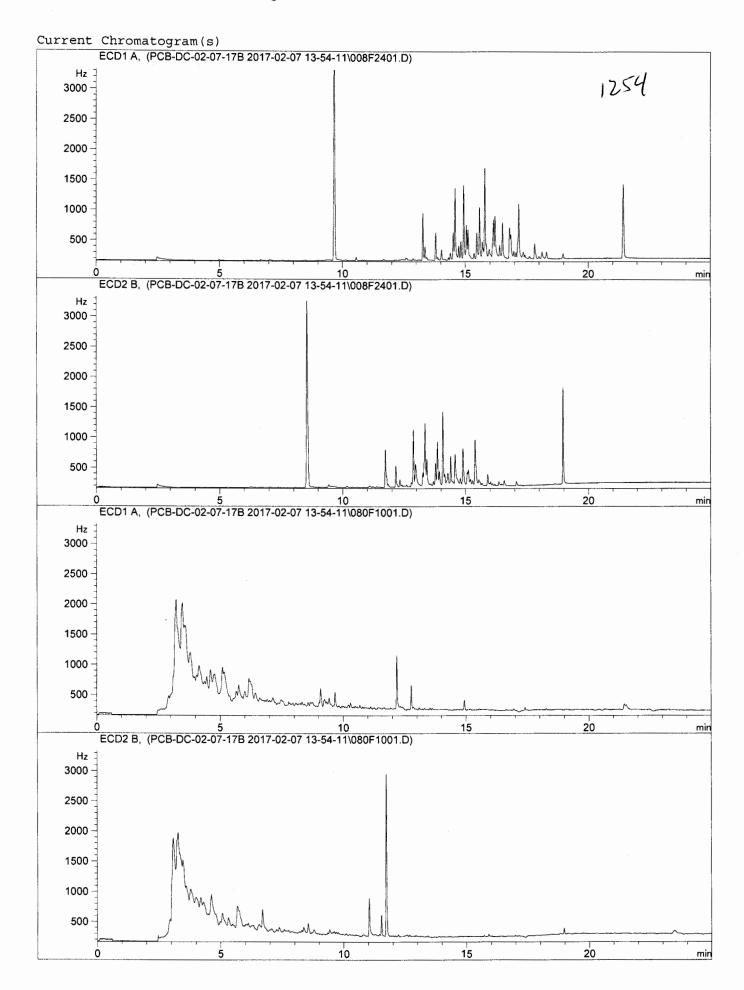


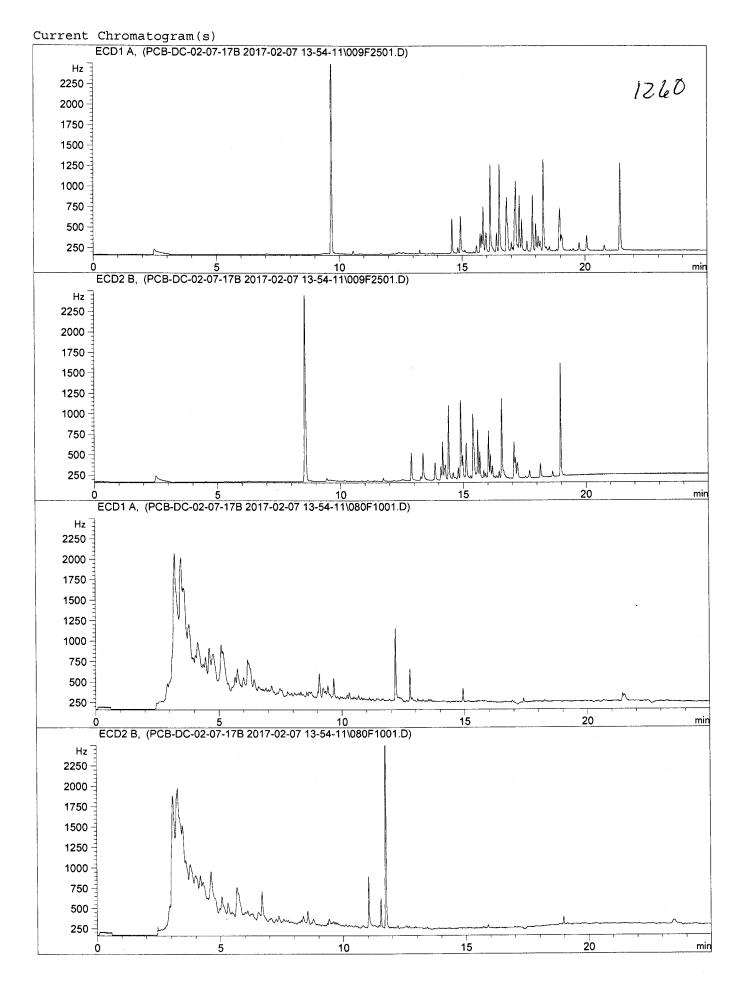












Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\082F1201.D

Sample Name: ARS1-B17-00184-07

Acq. Operator : Seq. Line : 12
Acq. Instrument : Instrument 1 Location : Vial 82
Injection Date : 2/7/2017 7:16:22 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

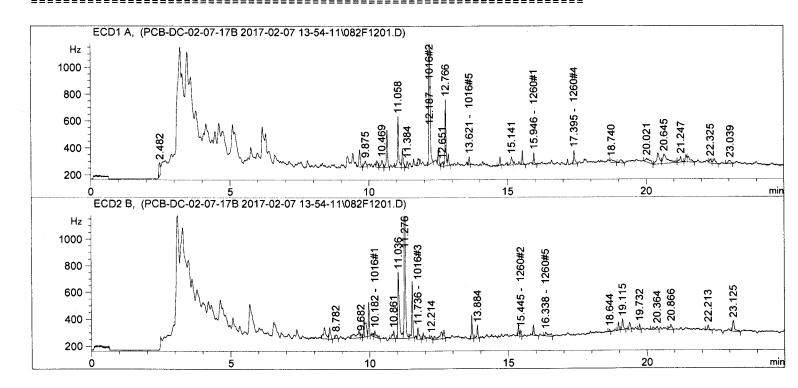
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:47:36 PM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



#### ______

### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.664	BB	425.39560	1.87437e-5	7.97347e-3		tcmx
10.655	BV	841.65851	1.38608e-3	1.16660		1016#1
12.187	BB	6920.74023	1.79395e-3	12.41547		1016#2
12.864	VB	247.04019	1.25267e-3	3.09460e-1		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\082F1201.D

Sample Name: ARS1-B17-00184-07

______

Acq. Operator : Seq. Line : 12 Acq. Instrument : Instrument 1 Location : Vial 82 Injection Date : 2/7/2017 7:16:22 PM Inj: 1Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:47:36 PM (modified after loading)

Sample-related custom fields:

Name |Value -----

Additional Info : Peak(s) manually integrated

______

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
12 442					7.01.611.4
13.443		_	-	-	1016#4
13.621	BB	143.57745	1.33697e-3	1.91959e-1	1016#5
15.946	VB	210.08064	5.86913e-4	1.23299e-1	1260#1
16.530		-	-	-	1260#2
17.188		-	-	-	1260#3
17.395	VV	329.42917	9.42890e-4	3.10616e-1	1260#4
17.873		_	-	-	1260#5
21.439	BV	195.08702	2.10947e-5	4.11531e-3	dcbp

Totals : 14.52949

Signal 2: ECD2 B,

RetTime	Type	Area	Amt/Area	Amount	Grp	Name	
[min]	1	[Hz*s]	,	[ng/ul]			
8.555	VB	330.98666	2.35476e-5	7.79393e-3	to	mx	
10.182	BB	231.74347	7.41886e-4	1.71927e-1	10	16#1	
11.536	VB	1005.12482	3.08262e-3	3.09841	10	16#2	
11.736	BB	327.39401	3.19644e-3	1.04649	10	16#3	
11.923	BB	159.67238	3.81987e-3	6.09927e-1	10	16#4	
12.670	VB	184.61641	1.27967e-3	2.36248e-1	10	16#5	
14.425		-	-	-	12	260#1	
15.358	BV	184.67665	1.19650e-3	2.20965e-1	12	260#3	
15.445	VB	107.93499	7.31357e-4	7.89390e-2	12	260#2	
15.898	BB	209.24226	1.37694e-3	2.88113e-1	12	260#4	
16.338	BB	258.25043	5.34246e-4	1.37969e-1	12	260#5	
18.968	BB	141.83875	2.80559e-5	3.97942e-3	do	cbp	

Totals : 5,90077

### 3 Warnings or Errors :

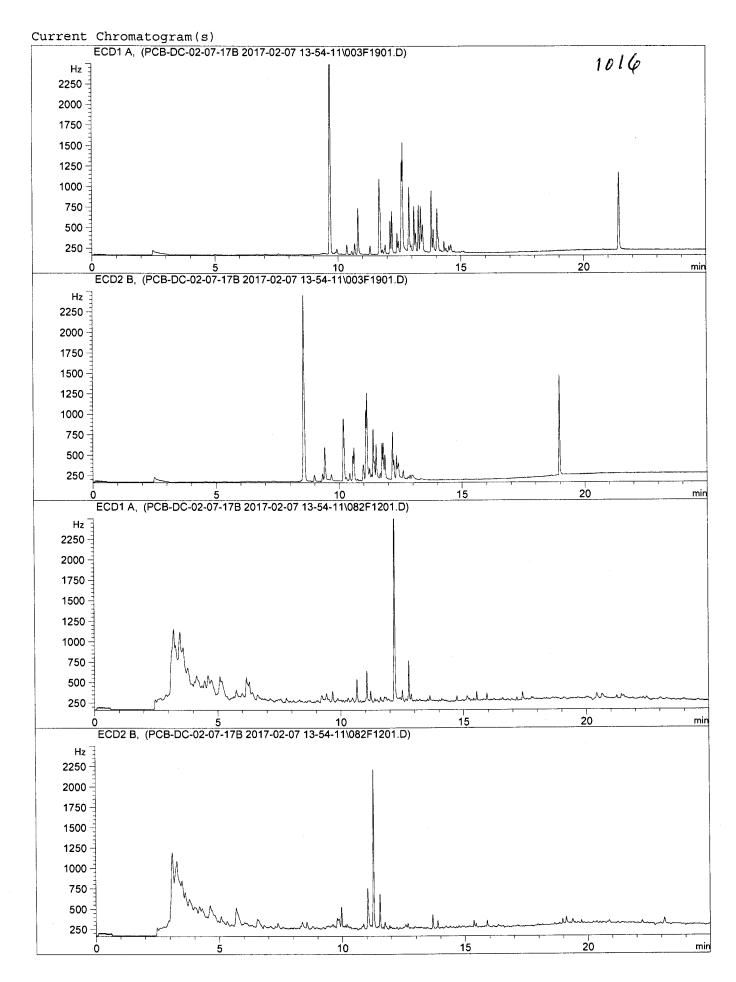
Warning: Calibration warnings (see calibration table listing)

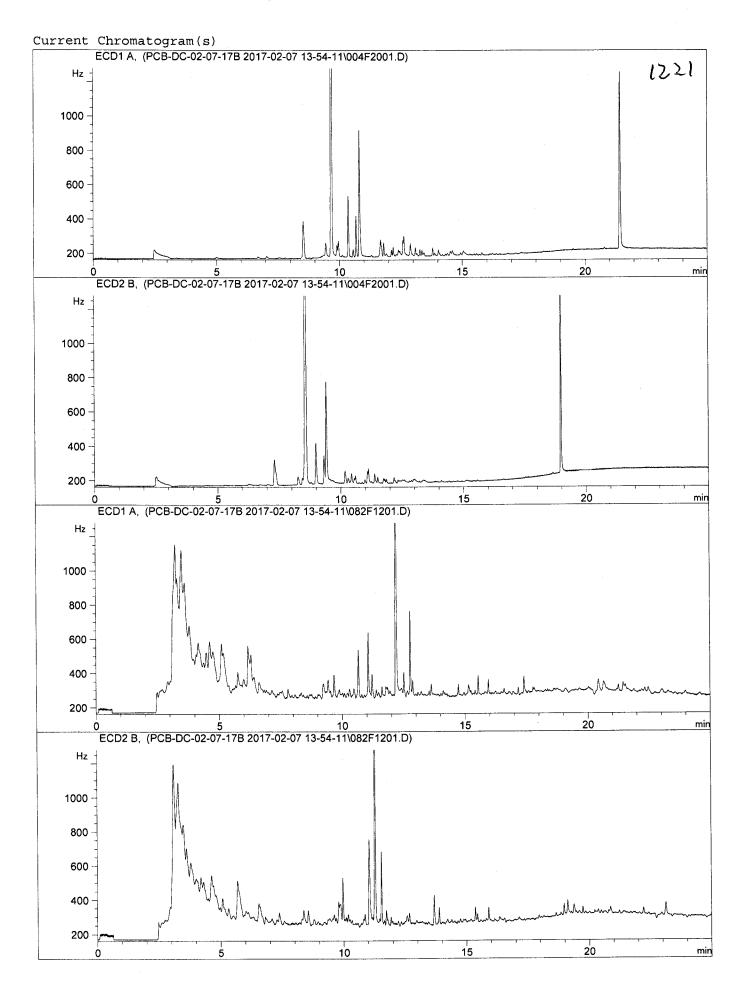
Warning: Calibrated compound(s) not found

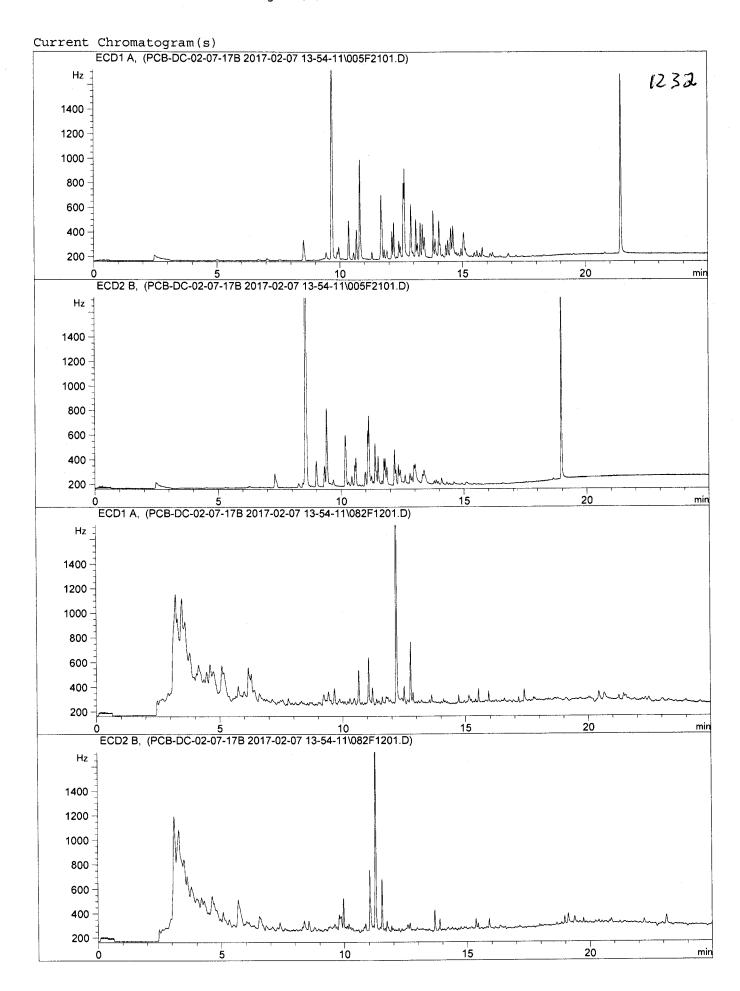
Warning: Elution order of calibrated compounds may have changed

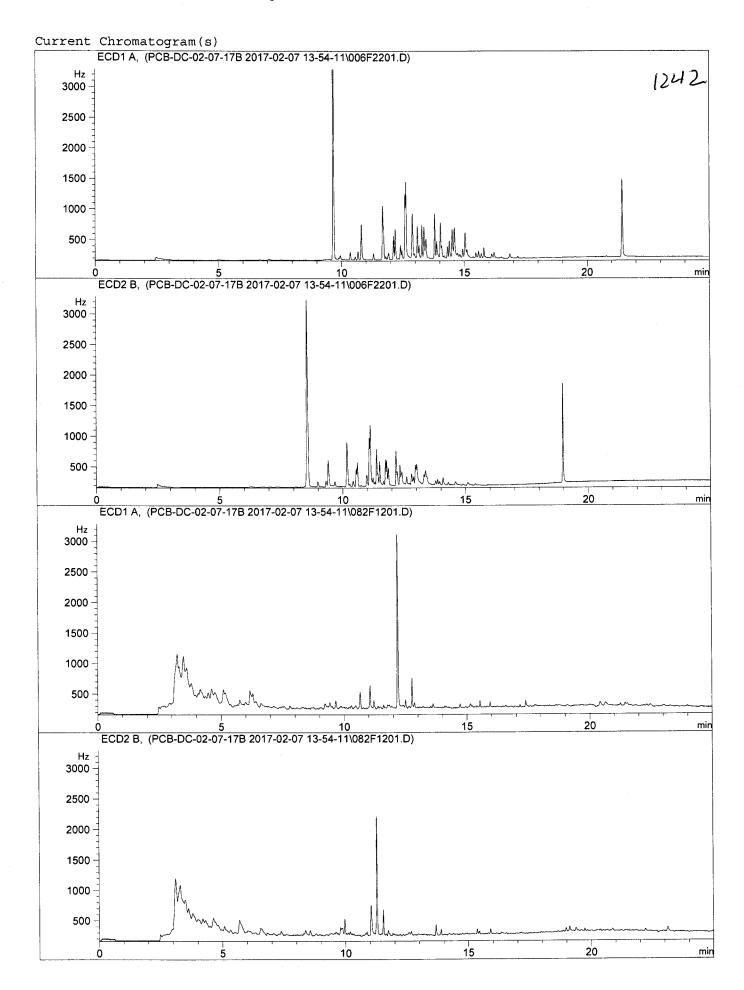
Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\082F1201.D Sample Name: ARS1-B17-00184-07 ______ Acq. Operator : Seq. Line: 12 Acq. Instrument : Instrument 1 Location : Vial 82 Injection Date : 2/7/2017 7:16:22 PM Inj: 1Inj Volume : 1 μl : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Acq. Method Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 12:47:36 PM (modified after loading) Sample-related custom fields: Name Value _____ Additional Info : Peak(s) manually integrated Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields:

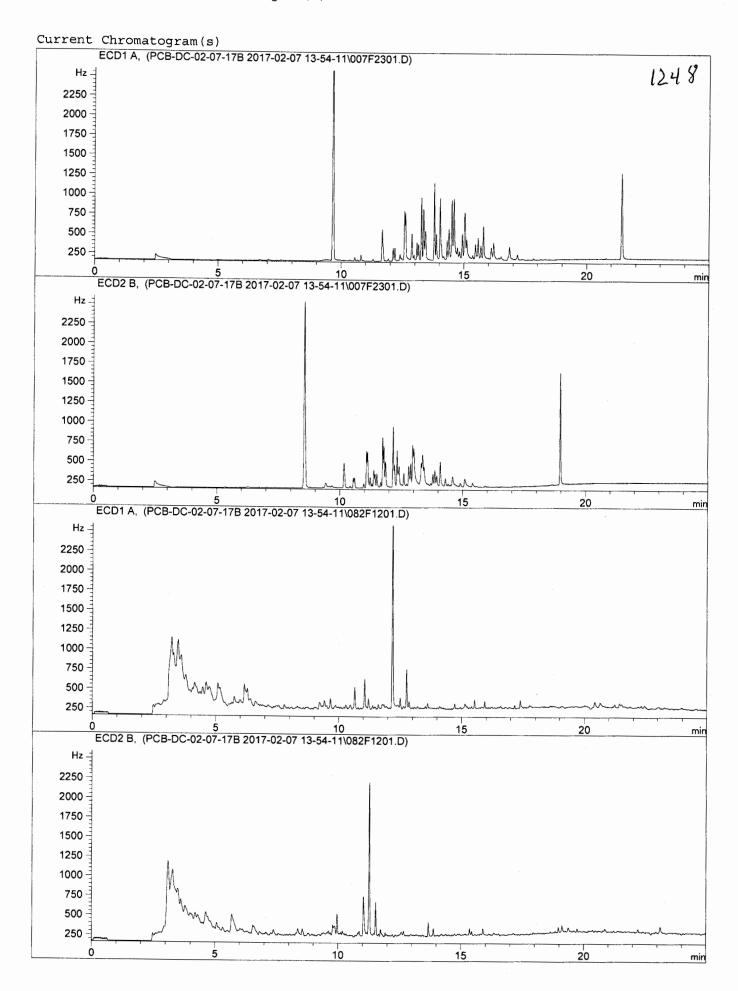
*** End of Report ***

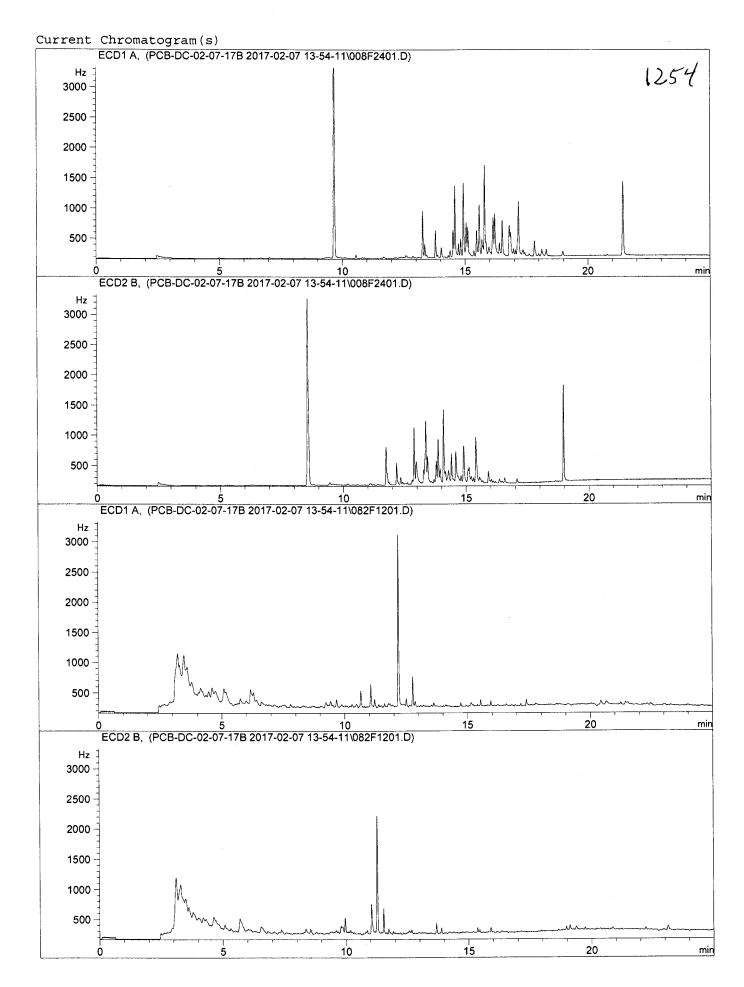


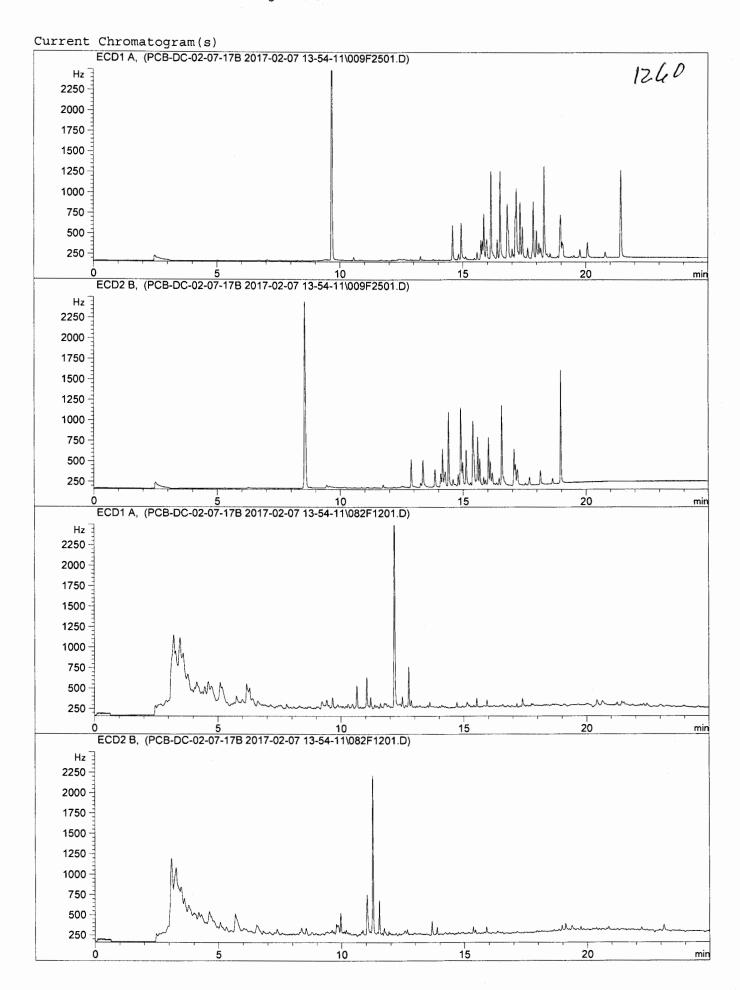












Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17F 2017-02-07 13-54-11\083F1301.D

Sample Name: ARS1-B17-00184-08 MS

Acq. Operator : Seq. Line : 13
Acq. Instrument : Instrument 1 Location : Vial 83
Injection Date : 2/7/2017 7:44:46 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

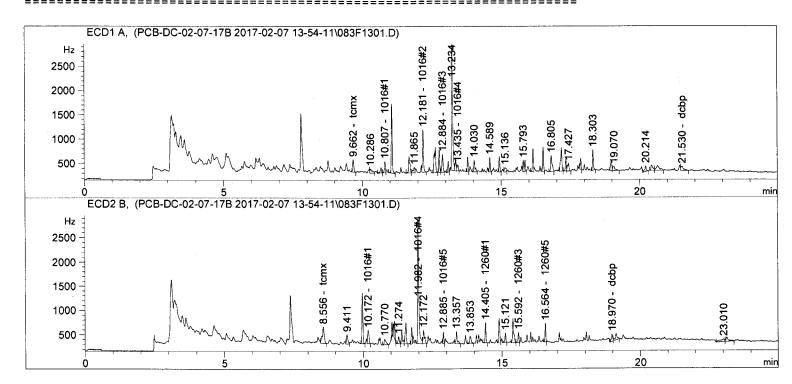
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:32:23 PM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]		Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.662	BB	738.11871	2.35790e-5	1.74041e-2		tcmx
10.807	BV	577.02466	1.37641e-3	7.94221e-1		1016#1
12.181	VB	2263.09058	1.78979e-3	4.05046		1016#2
12.884	VV	1096.01672	1.14864e-3	1.25893		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\083F1301.D

Sample Name: ARS1-B17-00184-08 MS

______

Acq. Operator : Seq. Line: 13 Acq. Instrument : Instrument 1 Location : Vial 83 Injection Date : 2/7/2017 7:44:46 PM Inj : 1 Inj Volume : 1 µl

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:32:23 PM (modified after loading)

Sample-related custom fields:

Name Value 

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
13.435	VB	370.59100	2.35171e-3	8.71522e-1	1016#4	
13.795	BV	638.29865	1.36890e-3	8.73766e-1	1016#5	
16.144	BV	1053.74121	6.66558e-4	7.02380e-1	1260#1	
16.513	BV	1142.74048	6.49147e-4	7.41806e-1	1260#2	
17.170	VB	1534.49048	5.15356e-4	7.90808e-1	1260#3	
17.328	BV	553.77179	9.70721e-4	5.37558e-1	1260#4	
17.867	VB	472.78302	9.42201e-4	4.45456e-1	1260#5	
21.530	VB	590.30090	6.82797e-5	4.03055e-2	dcbp	

Totals : 11.12462

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
						<del></del>
8.556	VB	1658.64575	3.02755e-5	5.02163e-2	tcmx	
10.172	VB	914.33472	7.83321e-4	7.16217e-1	1016#1	
11.534	VB	1310.63171	3.08068e-3	4.03764	1016#2	
11.741	BV	817.09381	3.22582e-3	2.63579	1016#3	
11.982	BV	6704.89209	3.90614e-3	26.19023	1016#4	
12.885	VV	494.19199	1.53486e-3	7.58513e-1	1016#5	
14.405	BB	900.47583	8.92584e-4	8.03750e-1	1260#1	
15.393	BB	1546.15015	6.45959e-4	9.98750e-1	1260#2	
15.592	BV	494.40305	1.17227e-3	5.79575e-1	1260#3	
16.043		-	-	-	1260#4	
16.564	BB	783.09082	5.33795e-4	4.18010e-1	1260#5	
18.970	BV	483.03415	7.84361e-5	3.78873e-2	dcbp	

Totals : 37.22658

#### 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Warning: Calibrated compound(s) not found

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\083F1301.D Sample Name: ARS1-B17-00184-08 MS ______ Acq. Operator : Seq. Line: 13 Acq. Instrument : Instrument 1 Location : Vial 83 Injection Date : 2/7/2017 7:44:46 PM Inj: 1 Inj Volume : 1 μl Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 12:32:23 PM (modified after loading) Sample-related custom fields: Name Value Additional Info : Peak(s) manually integrated _______ Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, _______ Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\084F1401.D

Sample Name: ARS1-B17-00184-09 MSI

Acq. Operator : Seq. Line : 14
Acq. Instrument : Instrument 1 Location : Vial 84
Injection Date : 2/7/2017 8:13:14 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

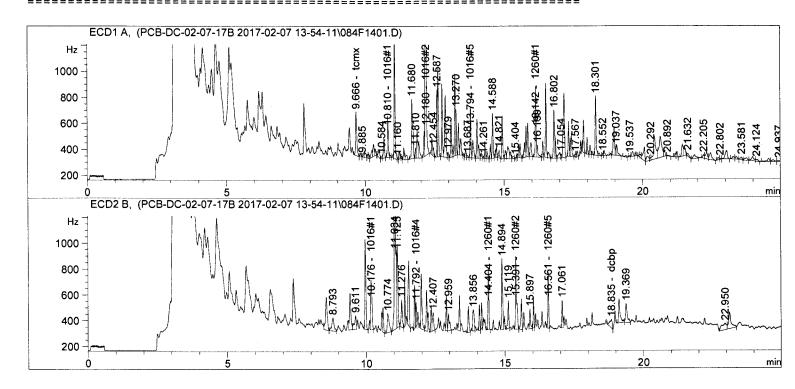
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:36:13 PM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



#### ______

## External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.666	BB	1015.54535	2.53758e-5	2.57703e-2		tcmx
10.810	VV	801.97668	1.38503e-3	1.11076		1016#1
12.180	VB	6541.01416	1.79383e-3	11.73349		1016#2
12.885	VV	1464.75330	1.14102e-3	1.67131		1016#3

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\084F1401.D

Sample Name: ARS1-B17-00184-09 MSD

______

Acq. Operator : Seq. Line : 14 Acq. Instrument : Instrument 1 Location : Vial 84 Injection Date : 2/7/2017 8:13:14 PM Inj: 1 Inj Volume : 1 µl

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 12:36:13 PM (modified after loading)

Sample-related custom fields:

Name Value _____

Additional Info : Peak(s) manually integrated

______

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.436	VB	374.75784	2.35286e-3	8.81752e-1	;	1016#4	
13.794	BV	808.34454	1.37085e-3	1.10812	:	1016#5	
16.142	BV	1197.81226	6.68944e-4	8.01269e-1		1260#1	
16.511	BV	1267.80652	6.50931e-4	8.25254e-1	:	1260#2	
17.167	BB	1615.71973	5.15695e-4	8.33219e-1		1260#3	
17.325	BV	570.11615	9.71893e-4	5.54092e-1		1260#4	
17.864	VB	514.94464	9.44539e-4	4.86385e-1		1260#5	
21.440	BV	384.07816	5.57737e-5	2.14215e-2		dcbp	

Totals: 20.05285

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
8.558	VB	1016.53772	2.92160e-5	2.96992e-2	tcmx	
10.176	VB	1273.69812	7.87290e-4	1.00277	1016#1	
11.534	BB	1440.90552	3.08011e-3	4.43814	1016#2	
11.743	BV	751.50989	3.22410e-3	2.42294	1016#3	
11.792	VB	348.03812	3.86770e-3	1.34611	1016#4	
12.884	VV	580.96112	1.55758e-3	9.04896e-1	1016#5	
14.404	BB	1010.94031	8.93791e-4	9.03569e-1	1260#1	
15.391	BB	1702.58203	6.45371e-4	1.09880	1260#2	
15.590	BV	569.88007	1.17036e-3	6.66964e-1	1260#3	
16.026	VB	470.30640	1.34119e-3	6.30769e-1	1260#4	
16.561	VV	890.54865	5.33768e-4	4.75346e-1	1260#5	
18.835	BB	394.88522	7.37610e-5	2.91271e-2	dcbp	

Totals : 13.94913

#### 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing) Warning: Elution order of calibrated compounds may have changed Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\084F1401.D Sample Name: ARS1-B17-00184-09 MSD Acq. Operator : Seq. Line: 14 Acq. Instrument : Instrument 1 Location: Vial 84 Injection Date : 2/7/2017 8:13:14 PM Inj: 1 Inj Volume : 1 µl : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Acq. Method Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 12:36:13 PM (modified after loading) Sample-related custom fields: Name Value _____ Additional Info : Peak(s) manually integrated Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields: *** End of Report ***

# 

Calibration Table

Calib. Data Modified : 2/4/2017 12:01:07 PM

Rel. Reference Window: 5.000 %
Abs. Reference Window: 0.000 min
Rel. Non-ref. Window: 5.000 %
Abs. Non-ref. Window: 0.000 min
Uncalibrated Peaks: not reported
Partial Calibration: Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

: Linear : Ignored Curve Type Origin

Weight Linear (Amnt)

Recalibration Settings:

Average Response : Average all calibrations Average Retention Time: Average all calibrations

Calibration Report Options :

Printout of recalibrations within a sequence: Calibration Table after Recalibration Normal Report after Recalibration If the sequence is done with bracketing: Results of first cycle (ending previous bracket)

Signal 1: ECD1 A, Signal 2: ECD2 B,

[min] Si	ig		Amount [ng/ul]		·		-	
				•	,	•		
8.563	2	1	4.00000e-3	207.49014	1.92780e-5			tcmx
		2	1.00000e-2	350.29849	2.85471e-5			
		3	2.00000e-2	825.22705	2.42358e-5			
		4	4.00000e-2	1481.63000	2.69973e-5			
		5	8.00000e-2	2034.65710	3.93187e-5			
		6	1.00000e-1	3333.47534	2.99987e-5			
		7	1.20000e-1	4314.39014	2.78139e-5			
		9	2.00000e-1	6113.37256	3.27152e-5			
9.669	1	1	4.00000e-3	283.57108	1.41058e-5			tcmx
		2	1.00000e-2	477.48077	2.09433e-5			
			2.00000e-2					
		4	4.00000e-2	1627.79553	2.45731e-5			
		5	8.00000e-2	2206.96460	3.62489e-5			
		6	1.00000e-1	3611.21997	2.76915e-5			
			1.20000e-1					
			2.00000e-1					
10.181	2		5.00000e-2					1016#1
	_		1.00000e-1					
			2.00000e-1					
			4.00000e-1					
		_	5.00000e-1					
		ь	8.00000e-1	1040.15930	/.69113e-4			

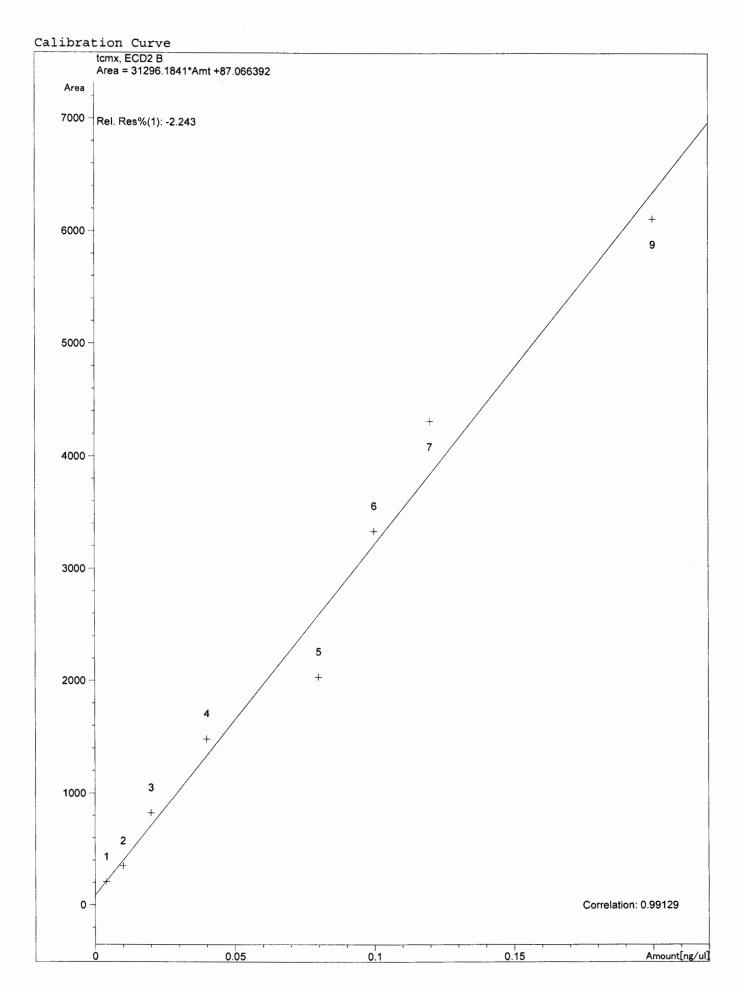
[min] S:	ig		[ng/ul]			Ref Grp Name
	-	-				
		7	1.00000	1323.39771	7.55631e-4	
		9	1.60000	1851.14429	8.64330e-4	
10.815	1	1	5.00000e-2	45.60406	1.09639e-3	1016#1
		2	1.00000e-1	69.69375	1.43485e-3	
				175.22739		
				302.45578		
				398.85934		
				607.48187		
		7		779.70172		
				1026.38831		
11.519	2	Τ	5.00000e-2	15.23971	3.28090e-3	1016#2
		2	1.00000e-1	24.20983	4.13055e-3	
				65.93283		
		4	4.00000e-1	113.14131	3.53540e-3	
		5	5.00000e-1	166.41948	3.00446e-3	
				268.91815		
				361.76962		
				475.18155		
11.750				17.40227		1016#3
				38.53780		1010#3
				70.28287		
				119.26826		
				167.39635		
				263.64011		
				346.14587		
				449.65909		
11.797	2	1	5.00000e-2	13.60523	3.67506e-3	1016#4
		2	1.00000e-1	31.55272	3.16930e-3	
				58.49398		
				102.41528		
				138.32378		
				212.33279		
				288.07773		
		9	1.60000		4.27949e-3	
12.193			1.00000e-1		1.93004e-3	1016#2
			2.00000e-1		1.52653e-3	1010#2
			4.00000e-1		1.75769e-3	
			5.00000e-1		1.63487e-3	
			8.00000e-1		1.65592e-3	
		7	1.00000		1.63829e-3	
		9	1.60000		1.98496e-3	
12.890			1.00000e-1	46.45183	2.15277e-3	1016#3
		3	2.00000e-1		1.41482e-3	
		4	4.00000e-1	268.75323	1.48835e-3	
		5	5.00000e-1	384.24619	1.30125e-3	
		6	8.00000e-1	780.29901	1.02525e-3	
		7	1.00000	1007.81201	9.92249e-4	
12.890	2	2	1.00000e-1	108.40559	9.22462e-4	1016#5
		3	2.00000e-1	163.28340	1.22486e-3	
			4.00000e-1		1.57904e-3	
			5.00000e-1		1.45365e-3	
			8.00000e-1		1.56669e-3	
		7	1.00000		1.50119e-3	
13.443	1		5.00000e-2		1.28476e-3	1016#4
10,440	-		1.00000e-1		2.27618e-3	TO TO#4
			2.00000e-1		1.96018e-3	
		4	4.00000e-1	1/0.99023	2.33931e-3	

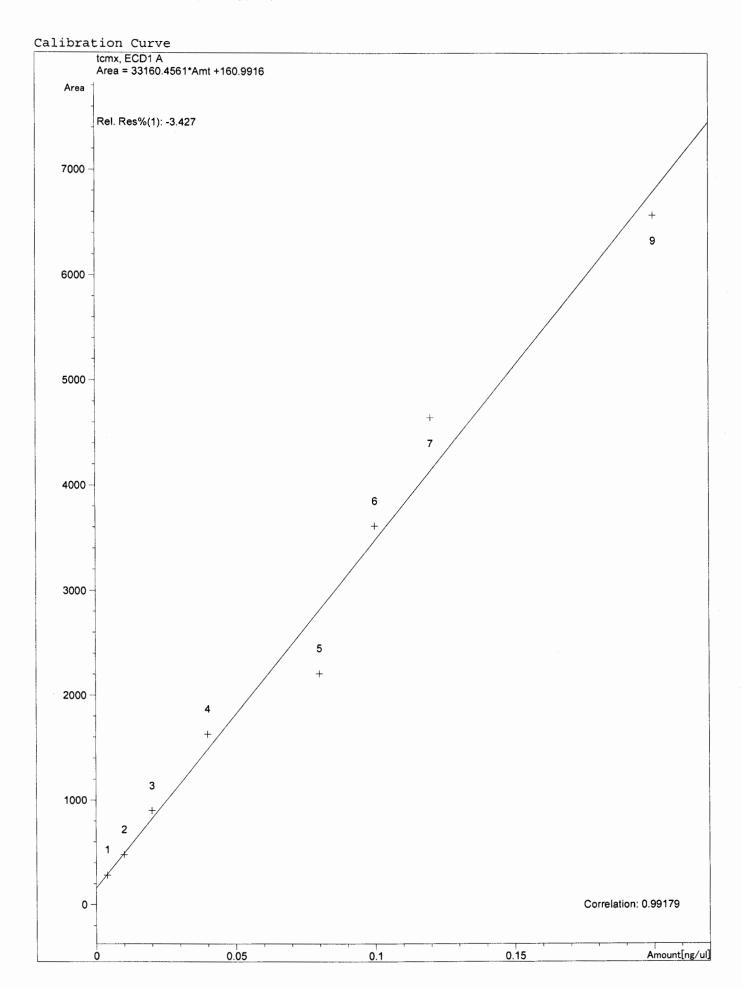
1	5 6 7 9 1 2 3 4 5	5.00000e-1 8.00000e-1 1.00000 1.60000 5.00000e-2 1.00000e-1 2.00000e-1	232.31718 366.31177 471.21255 593.14984 41.39292 61.05280	2.15223e-3 2.18393e-3 2.12218e-3 2.69746e-3	
	6 7 9 1 2 3 4 5	8.00000e-1 1.00000 1.60000 5.00000e-2 1.00000e-1 2.00000e-1	366.31177 471.21255 593.14984 41.39292 61.05280	2.18393e-3 2.12218e-3 2.69746e-3	
	7 9 1 2 3 4 5	1.00000 1.60000 5.00000e-2 1.00000e-1 2.00000e-1	471.21255 593.14984 41.39292 61.05280	2.12218e-3 2.69746e-3	
	9 1 2 3 4 5	1.60000 5.00000e-2 1.00000e-1 2.00000e-1	593.14984 41.39292 61.05280	2.69746e-3	
	1 2 3 4 5	5.00000e-2 1.00000e-1 2.00000e-1	41.39292 61.05280		
	2 3 4 5	1.00000e-1 2.00000e-1	61.05280	1.20794e-3	1016#5
	2 3 4 5	1.00000e-1 2.00000e-1	61.05280		1016#5
2	3 4 5	2.00000e-1		1.63793e-3	
2	4 5		165.27083		
2	5		283.59225		
2			390.31989		
2			620.75989		
2	7		806.93866		
2	9		1039.05664		
			60.56375		
			100.35081		1200#1
			275.51465		
			453.46390		
			605.28107		
			935.53326		
2					
2					
	9	1.60000	2190.16748	7.30538e-4	
2	1	5.00000e-2	26.62747	1.87776e-3	1260#3
	2	1.00000e-1	79.29781	1.26107e-3	
	3	2.00000e-1	203.16814	9.84406e-4	
	4	4.00000e-1	332.33963	1.20359e-3	
	5	5.00000e-1	457.88135	1.09199e-3	
	6	8.00000e-1	685.35419	1.16728e-3	
	7				
	9				
2					1260#4
,					1050"1
Т					
	7	1.00000	1637.17297	6.10809e-4	
	9	1.60000	2064.93140	7.74844e-4	
1			98.29510	5.08672e-4	1260#2
	2	1.00000e-1	153.39114	6.51928e-4	
	3	2.00000e-1	381.98624	5.23579e-4	
	4	4.00000e-1			
		<b>5</b> 00000	854.13269		
	2	<ul> <li>2</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li>6</li> <li>7</li> <li>9</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li>6</li> <li>7</li> <li>9</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> <li>5</li> <li>6</li> <li>7</li> <li>9</li> <li>1</li> <li>2</li> <li>3</li> <li>4</li> </ul>	9 1.60000 2 1 5.00000e-1 3 2.00000e-1 4 4.00000e-1 5 5.00000e-1 7 1.00000 9 1.60000 2 1 5.00000e-1 3 2.00000e-1 4 4.00000e-1 5 5.00000e-1 6 8.00000e-1 7 1.00000 9 1.60000 2 1 5.00000e-1 6 8.00000e-1 7 1.00000 9 1.60000 1 5.00000e-1 4 4.00000e-1 5 5.00000e-1 6 8.00000e-1 7 1.00000 9 1.60000 1 5.00000e-1 7 1.00000 1 5.00000e-1 6 8.00000e-1 7 1.00000 9 1.60000 1 5.00000e-1 6 8.00000e-1 7 1.00000 9 1.60000	9 1.60000 1572.59192 2 1 5.00000e-2 52.48089 2 1.00000e-1 123.34299 3 2.00000e-1 347.85193 4 4.00000e-1 588.10986 5 5.00000e-1 827.11469 6 8.00000e-1 1275.41736 7 1.00000 1742.29517 9 1.60000 2190.16748 2 1 5.00000e-1 203.16814 4 4.00000e-1 332.33963 5 5.00000e-1 457.88135 6 8.00000e-1 457.88135 6 8.00000e-1 685.35419 7 1.00000 905.62823 9 1.60000 1276.50427 2 1 5.00000e-2 25.20990 2 1.00000e-1 57.63525 3 2.00000e-1 173.48642 4 4.00000e-1 375.32373 6 8.00000e-1 150.75621 3 2.00000e-1 371.65009 4 4.00000e-1 150.75621 3 2.00000e-1 371.65009 4 4.00000e-1 1263.44910 7 1.00000 1637.17297 9 1.60000 2064.93140 1 1 5.00000e-2 98.29510 2 1.00000e-1 153.39114 3 2.00000e-1 153.39114 3 2.00000e-1 381.98624 4 4.00000e-1 621.85382	9

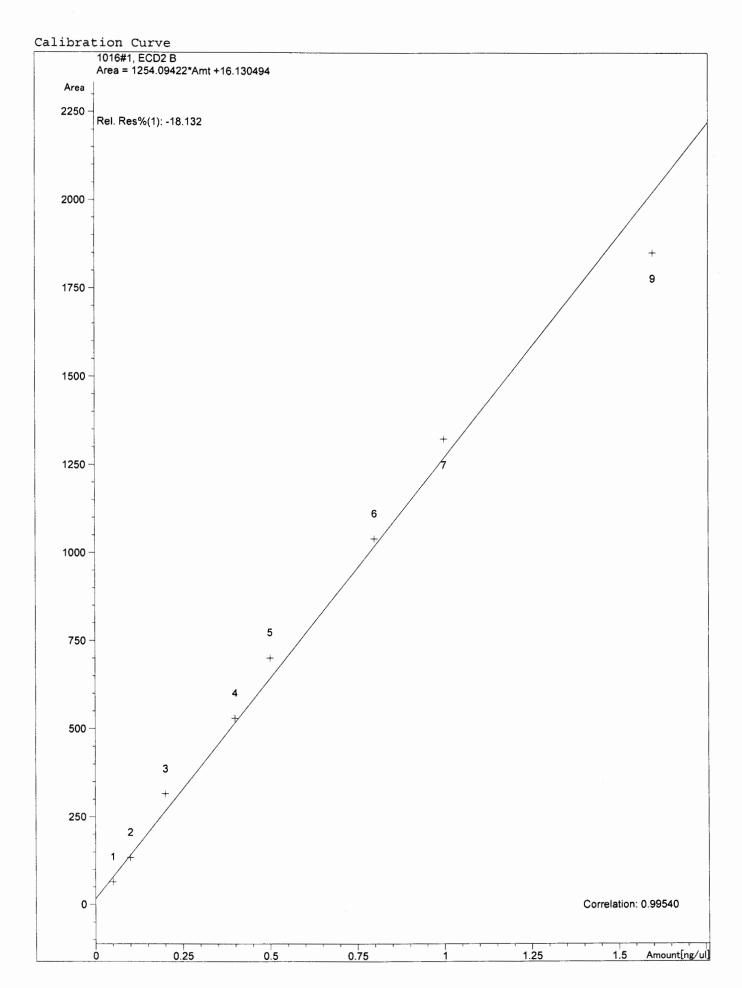
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RetTime Lvl Amount
                         Area
                                 Amt/Area Ref Grp Name
 [min] Sig [ng/ul]
6 8.00000e-1 1288.69629 6.20782e-4
               1.00000 1685.67078 5.93236e-4
               1.60000 2132.84692 7.50171e-4
16.587 2 1 5.00000e-2 84.27430 5.93301e-4
                                                 1260#5
           2 1.00000e-1 157.91661 6.33246e-4
           3 2.00000e-1 444.02090 4.50429e-4
           4 4.00000e-1 729.09674 5.48624e-4
           5 5.00000e-1 1017.59302 4.91356e-4
           6 8.00000e-1 1525.74072 5.24335e-4
               1.00000 2022.94092 4.94330e-4
               1.60000 2730.64697 5.85942e-4
17.188 1 1 5.00000e-2 107.50050 4.65114e-4
                                                   1260#3
           2 1.00000e-1 182.17996 5.48908e-4
           3 2.00000e-1 459.73468 4.35034e-4
           4 4.00000e-1 764.41290 5.23277e-4
           5 5.00000e-1 1061.27917 4.71130e-4
           6 8.00000e-1 1606.29626 4.98040e-4
               1.00000 2130.68970 4.69332e-4
               1.60000 2752.85474 5.81215e-4
17.335 1 1 5.00000e-2 64.05074 7.80631e-4
                                                   1260#4
           2 1.00000e-1 104.29836 9.58788e-4
           3 2.00000e-1 260.11435 7.68893e-4
           4 4.00000e-1 419.93045 9.52539e-4
           5 5.00000e-1 570.16553 8.76938e-4
           6 8.00000e-1 847.60712 9.43834e-4
           7
               1.00000 1103.11243 9.06526e-4
               1.60000 1406.42761 1.13763e-3
17.873 1 1 5.00000e-2 63.07708 7.92681e-4
                                                   1260#5
           2 1.00000e-1 98.07703 1.01961e-3
           3 2.00000e-1 248.83839 8.03734e-4
           4 4.00000e-1 414.62775 9.64721e-4
           5 5.00000e-1 574.65411 8.70089e-4
           6 8.00000e-1 864.52429 9.25364e-4
               1.00000 1143.72302 8.74338e-4
               1.60000 1493.80957 1.07109e-3
18.972 2 1 8.00000e-3 155.74324 5.13666e-5
                                                   dcbp
           2 2.00000e-2 322.71283 6.19746e-5
           3 4.00000e-2 583.05145 6.86046e-5
           4 8.00000e-2 1007.98535 7.93662e-5
           5 1.60000e-1 1514.28870 1.05660e-4
           6 2.00000e-1 2010.97791 9.94541e-5
           7 2.40000e-1 2836.70703 8.46051e-5
           9 4.00000e-1 3934.55151 1.01663e-4
21.437 1 1 8.00000e-3 231.19279 3.46032e-5
                                                   dcbp
           2 2.00000e-2 317.05734 6.30801e-5
           3 4.00000e-2 686.49658 5.82669e-5
           4 8.00000e-2 1165.19067 6.86583e-5
           5 1.60000e-1 1713.97717 9.33501e-5
           6 2.00000e-1 2270,34277 8.80924e-5
           7 2.40000e-1 3019.47998 7.94839e-5
           9 4.00000e-1 4334.11621 9.22910e-5
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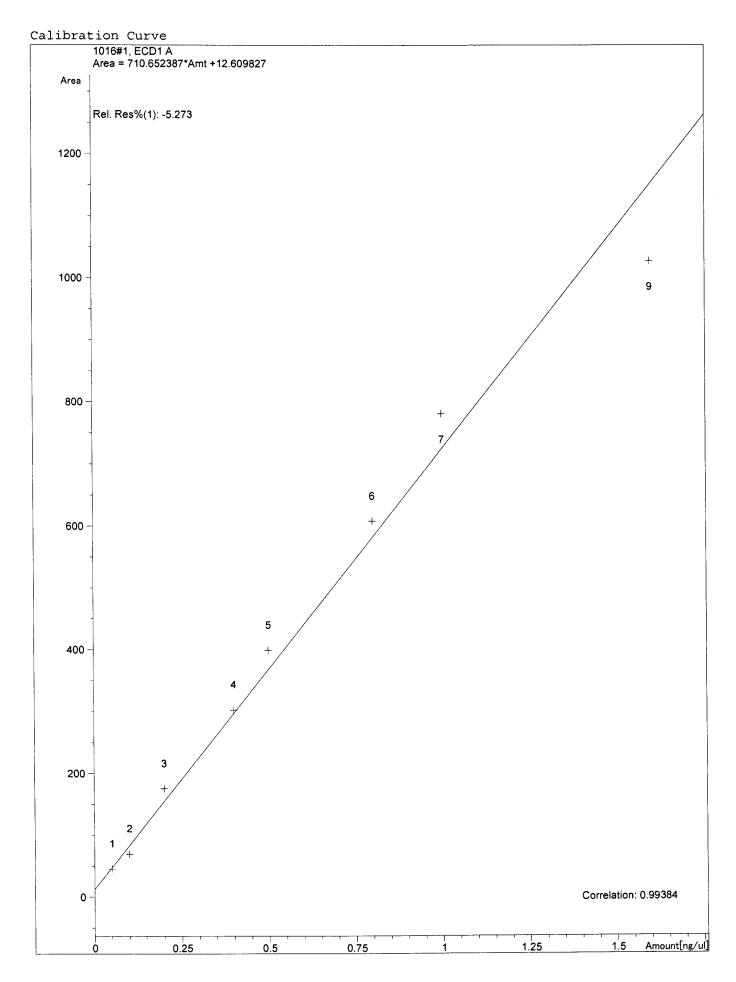
11 Warnings or Errors (10 first messages follow) :

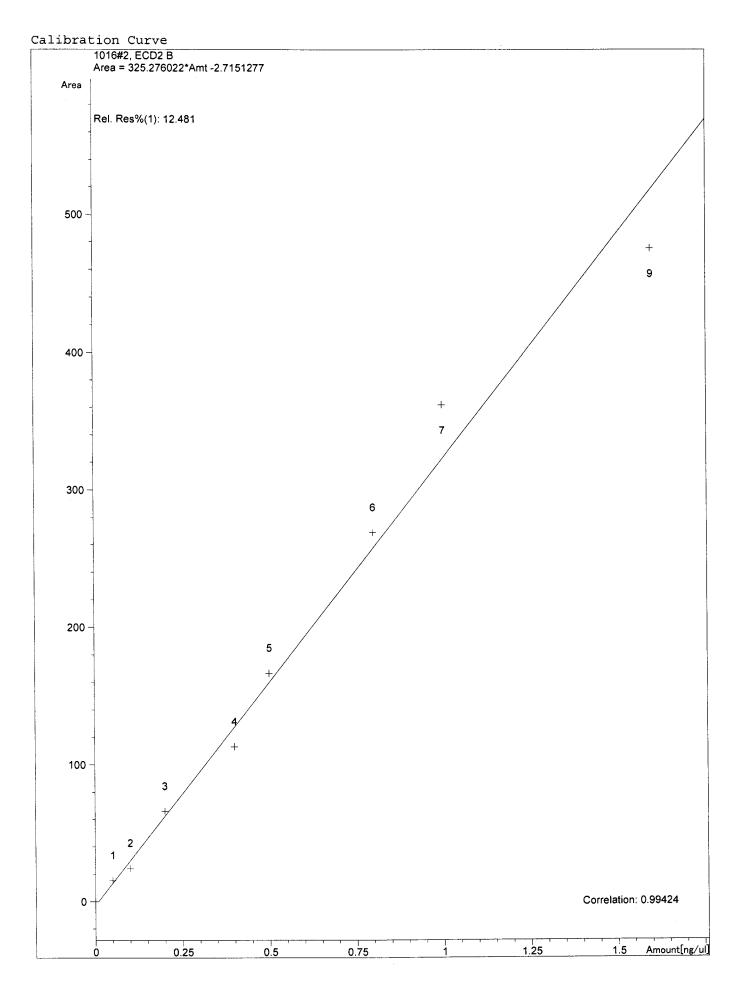
Warning: Overlapping peak time windows at 12.89 min, signal 1 Warning: Overlapping peak time windows at 13.443 min, signal 1 Warning: Overlapping peak time windows at 16.154 min, signal 1

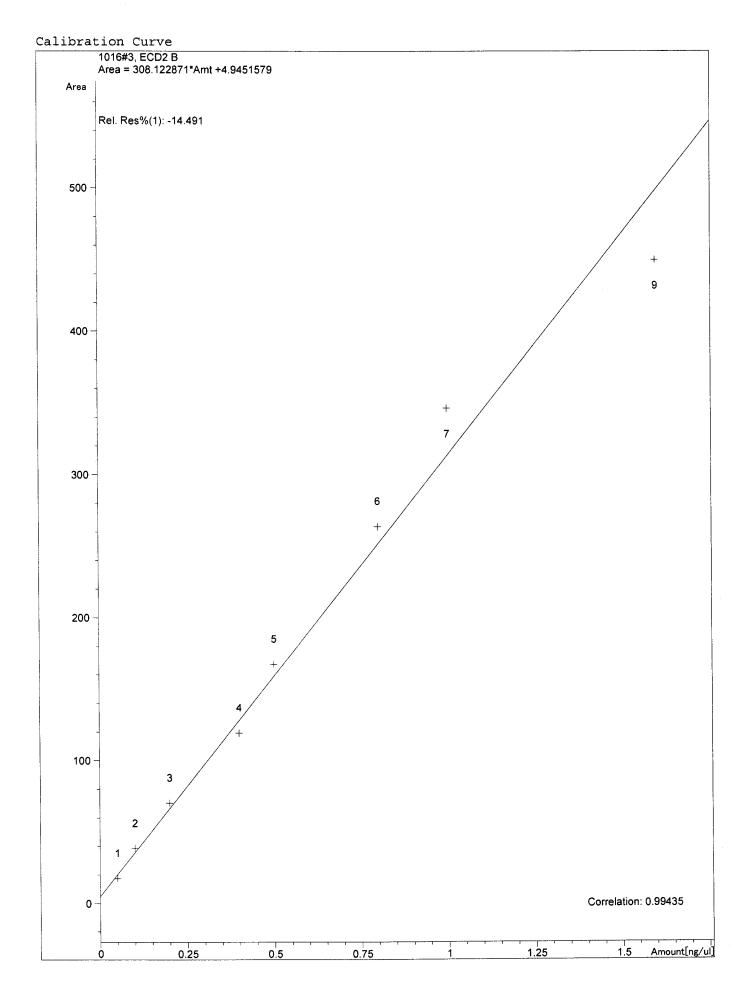


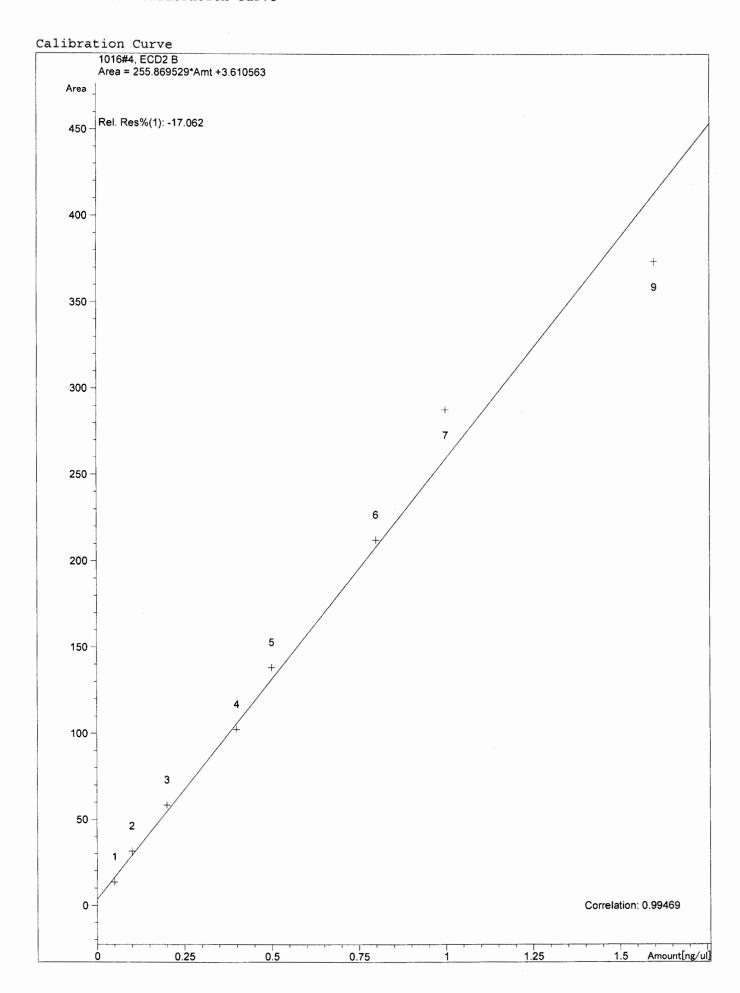


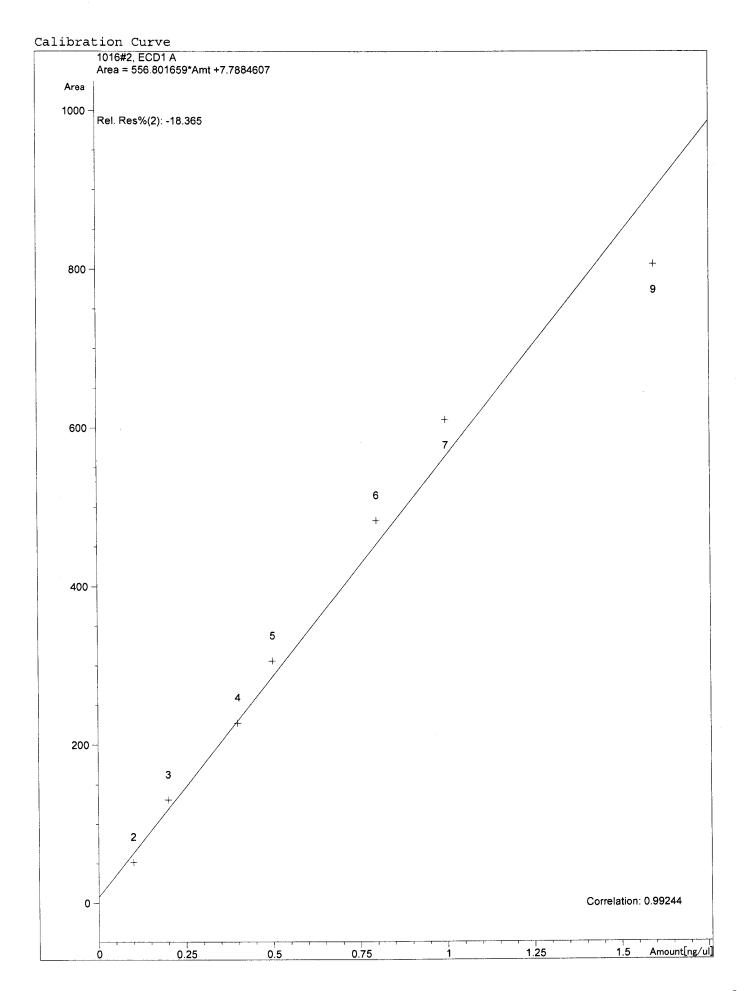


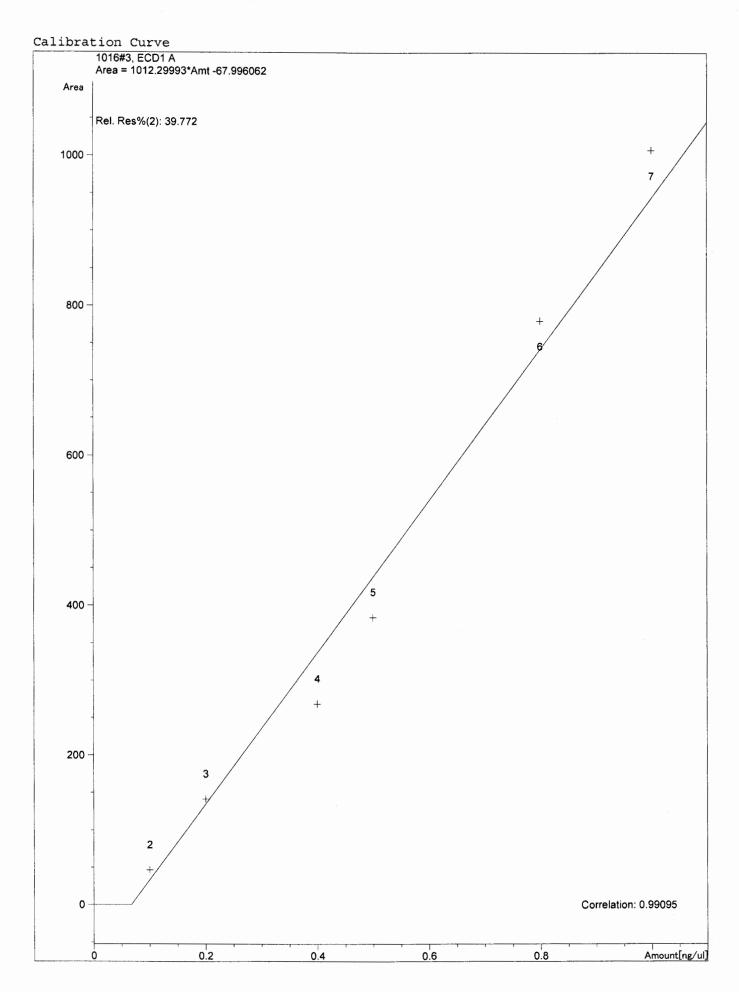


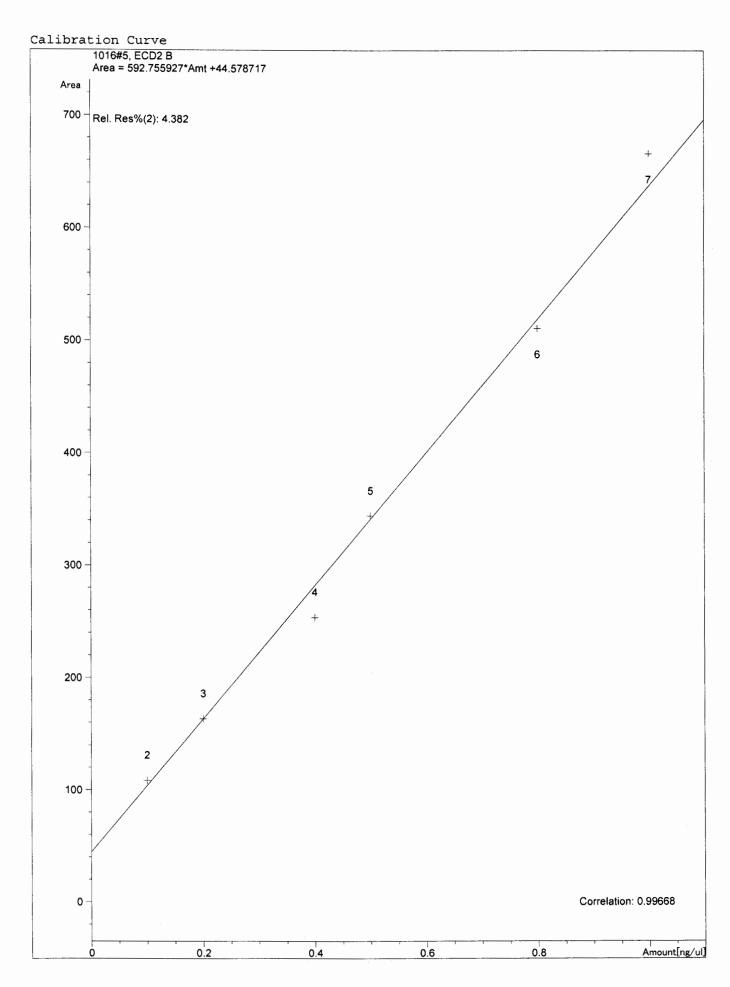


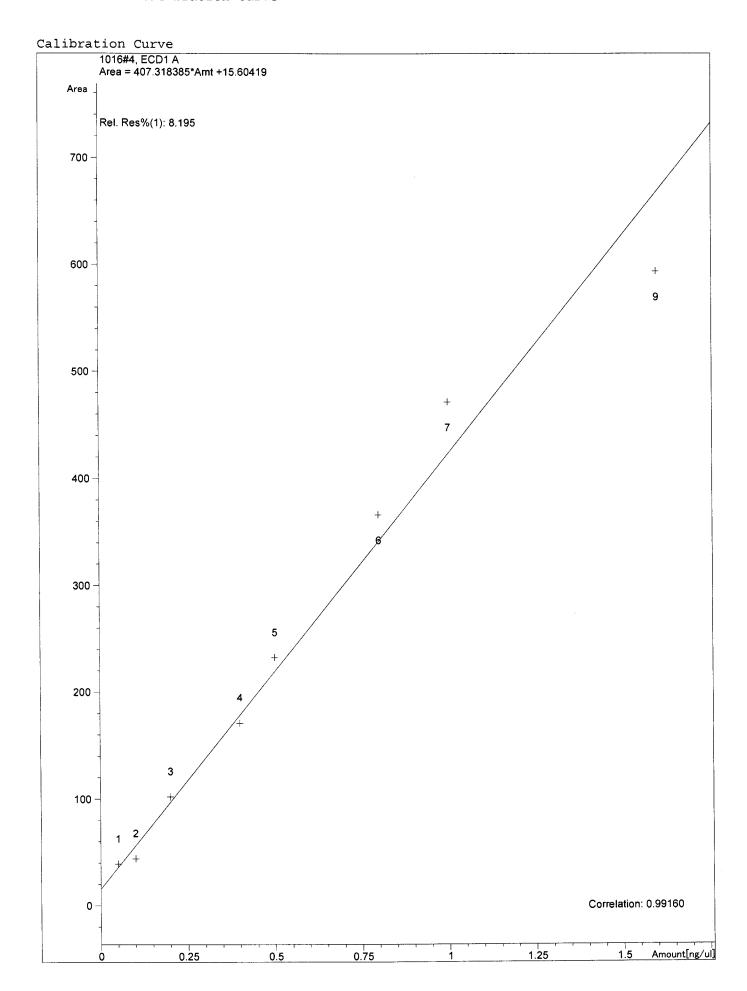


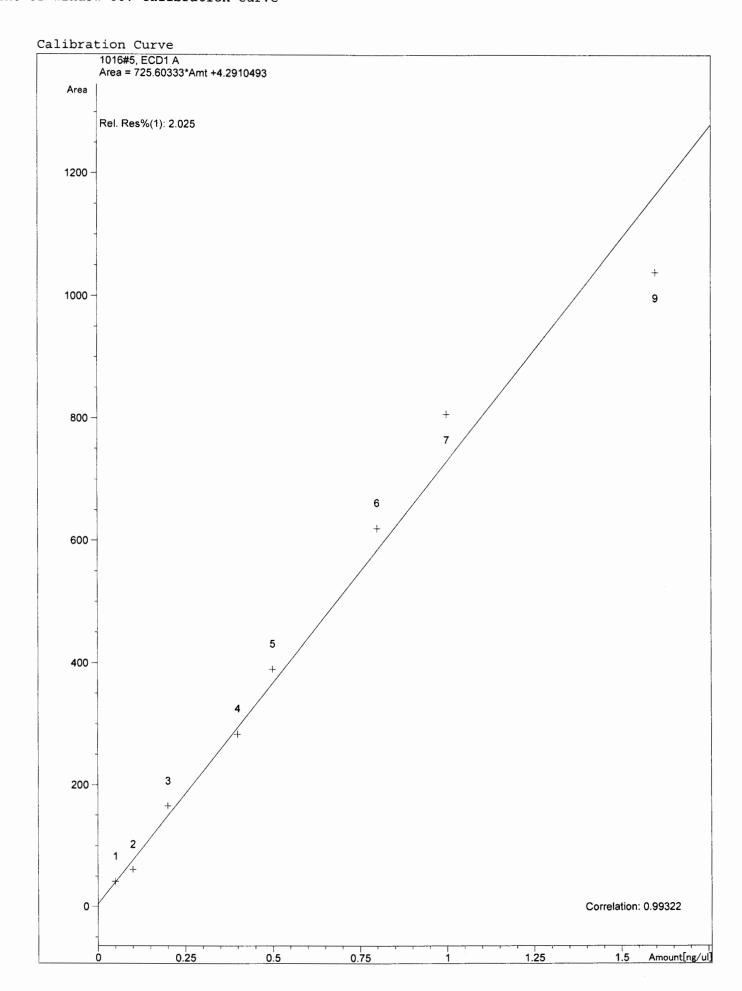


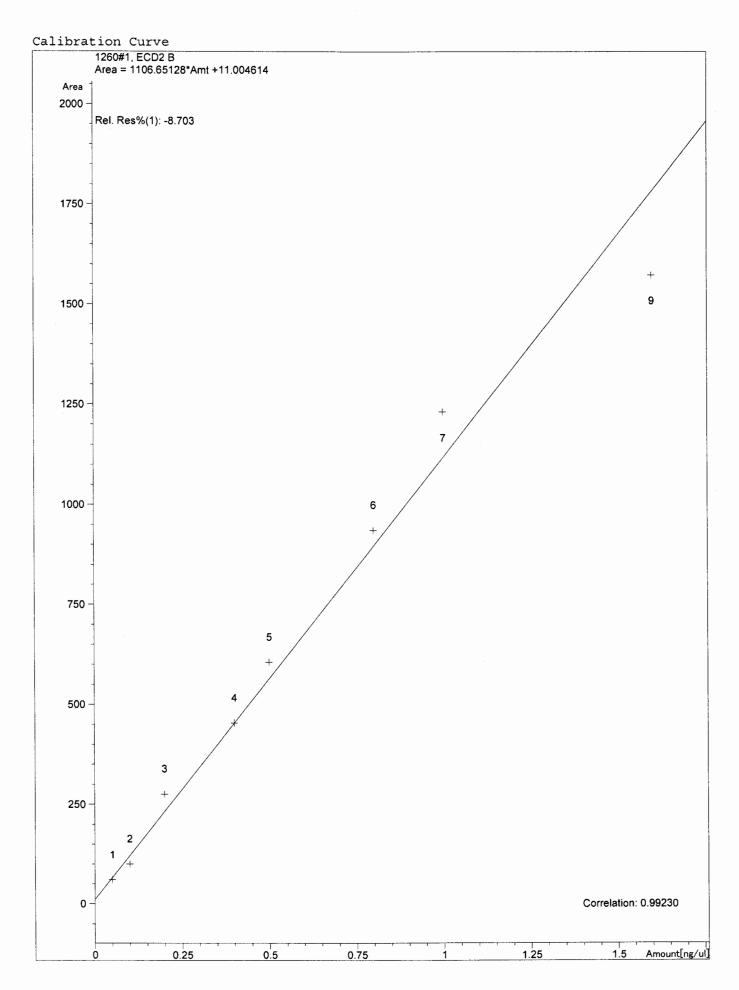


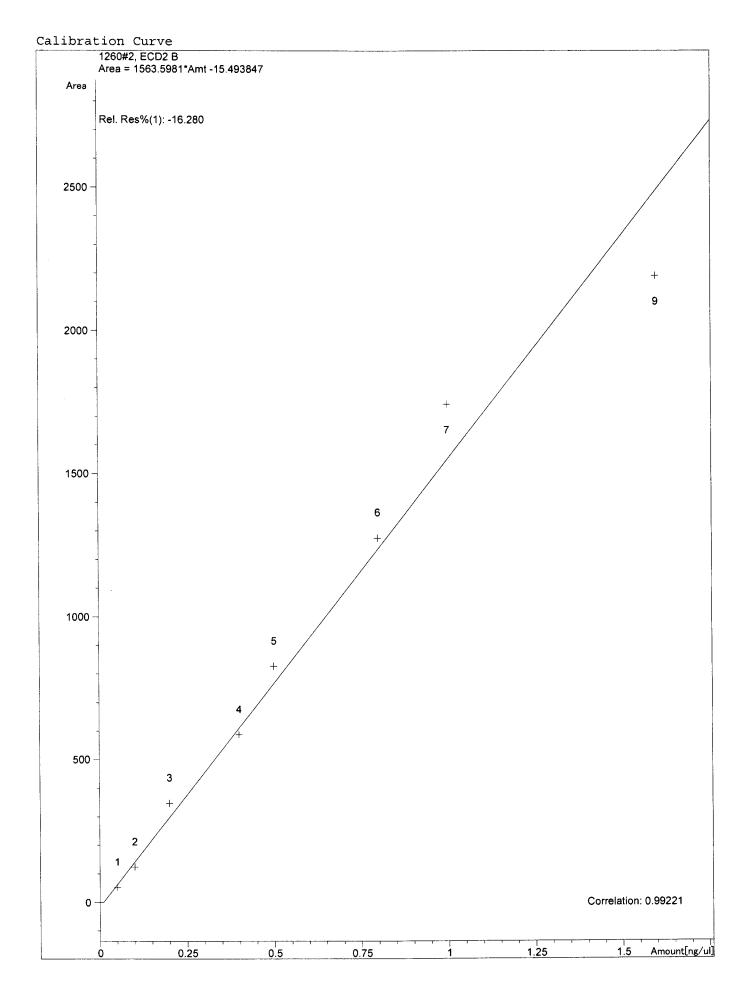


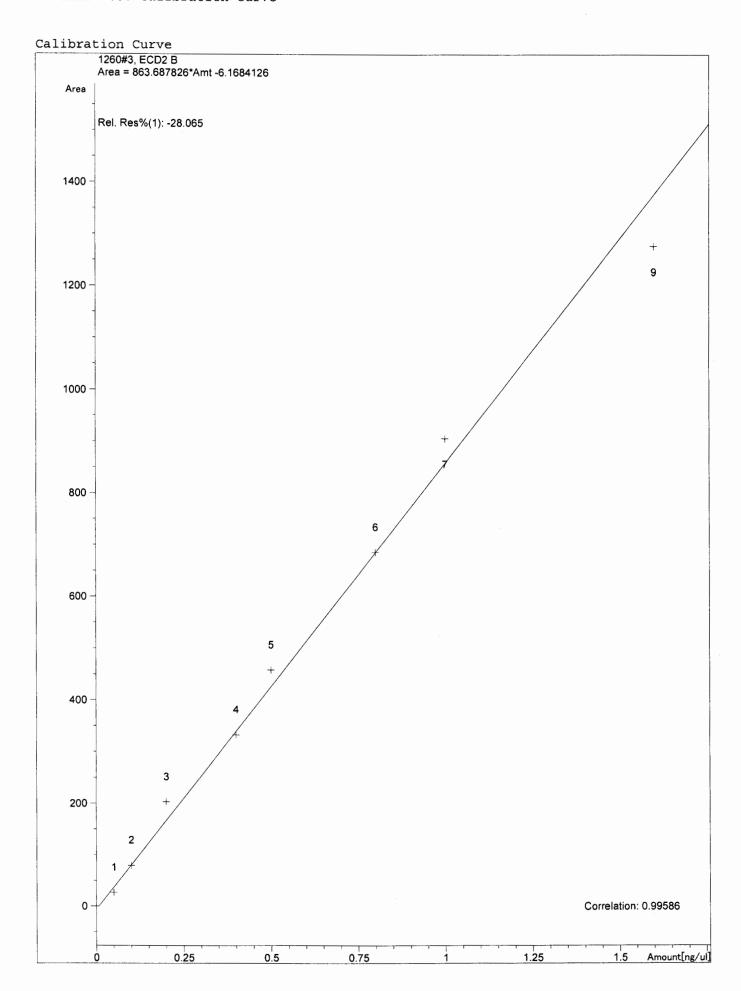


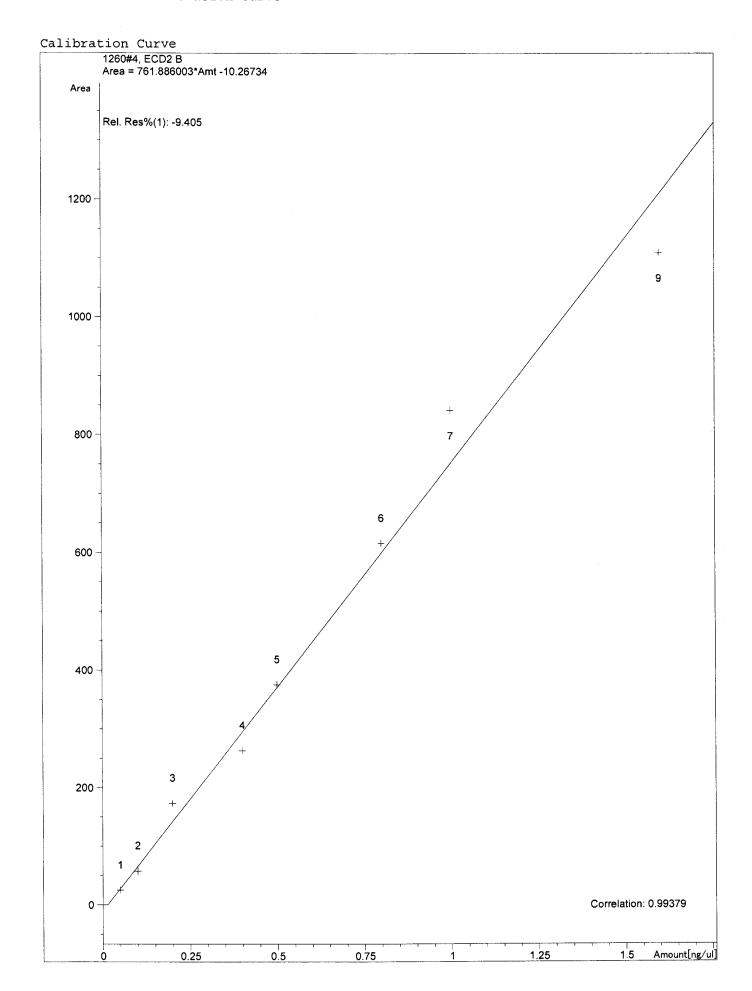


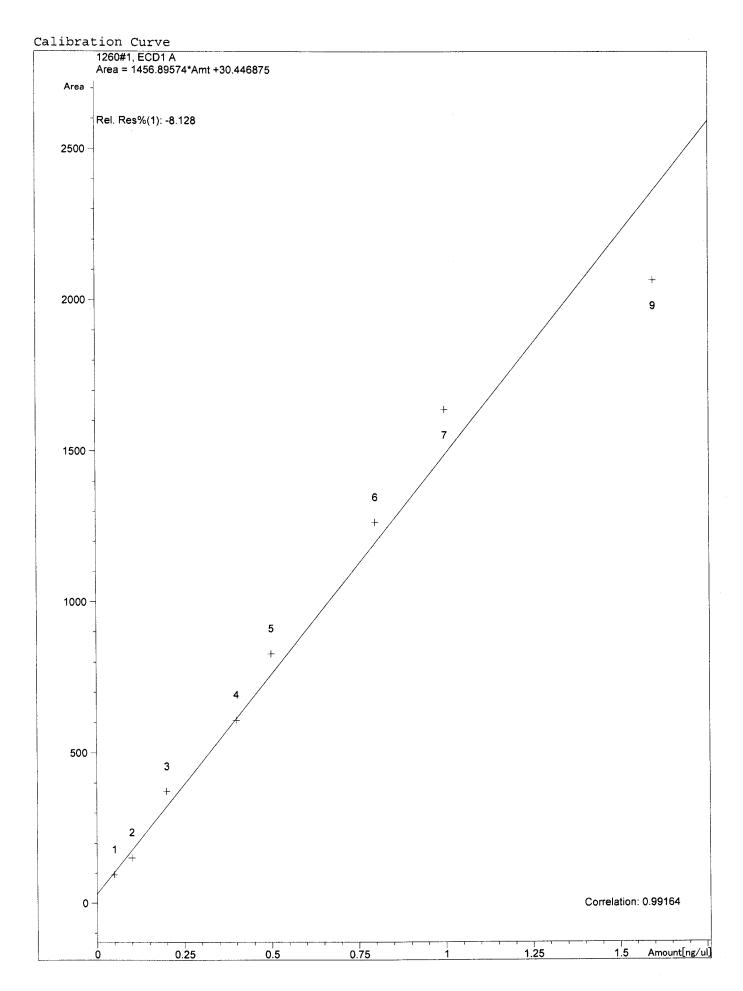


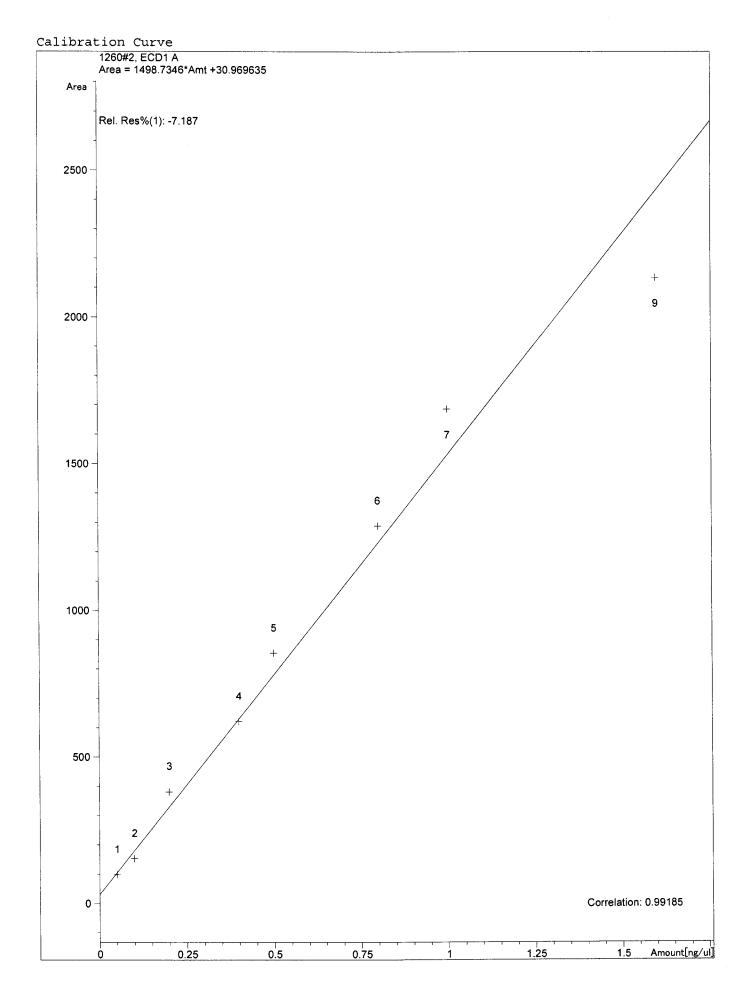


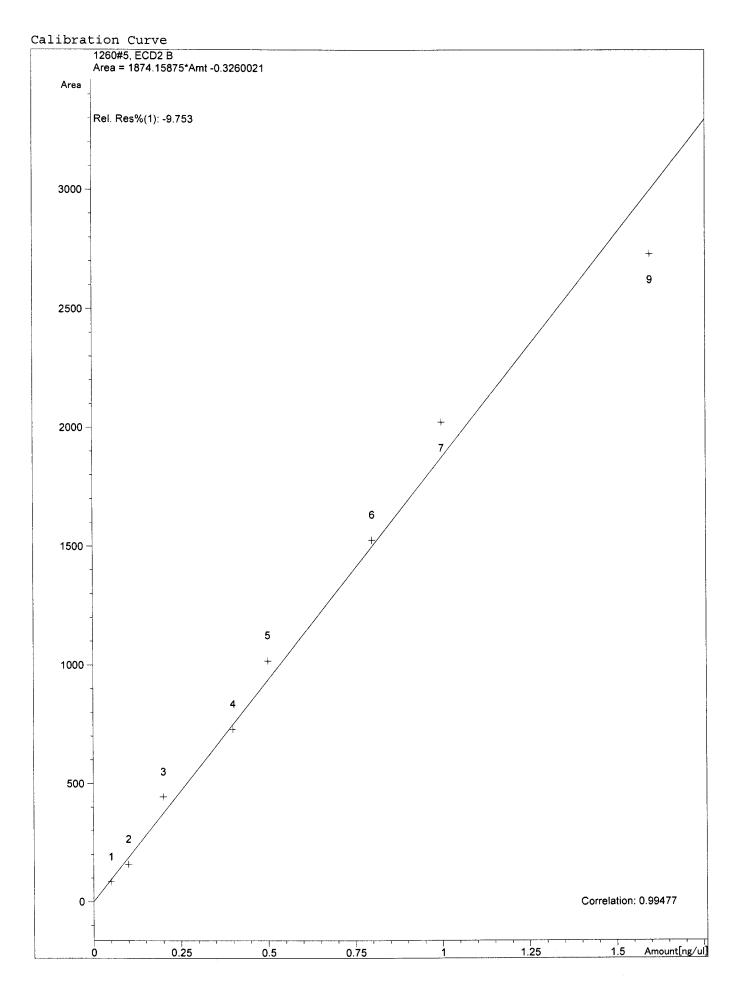


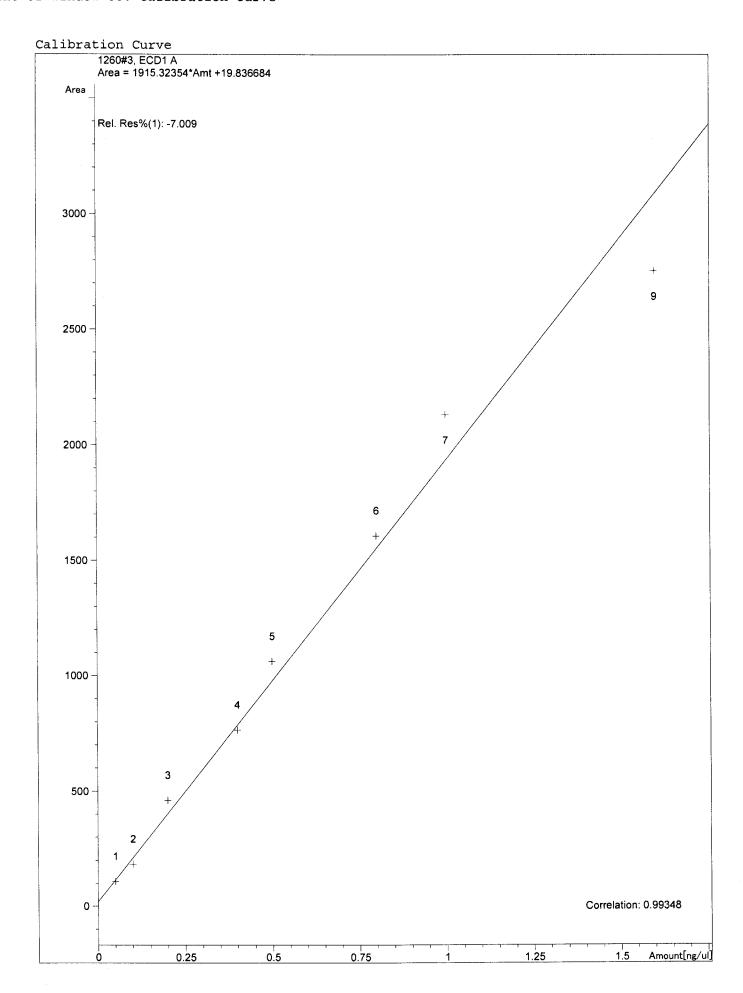


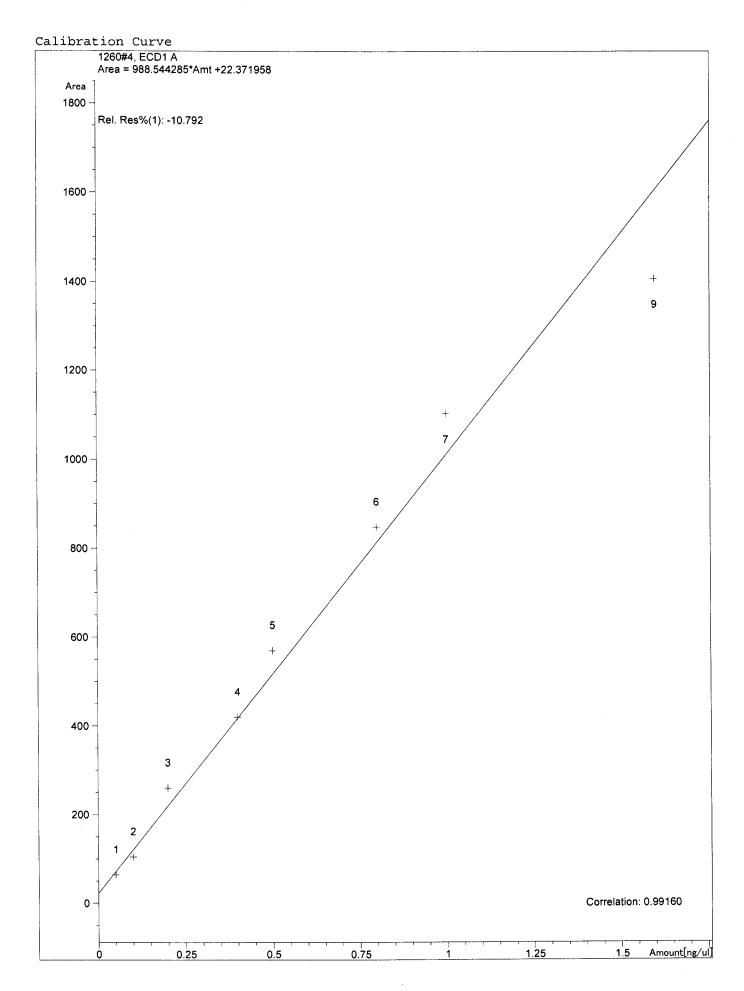


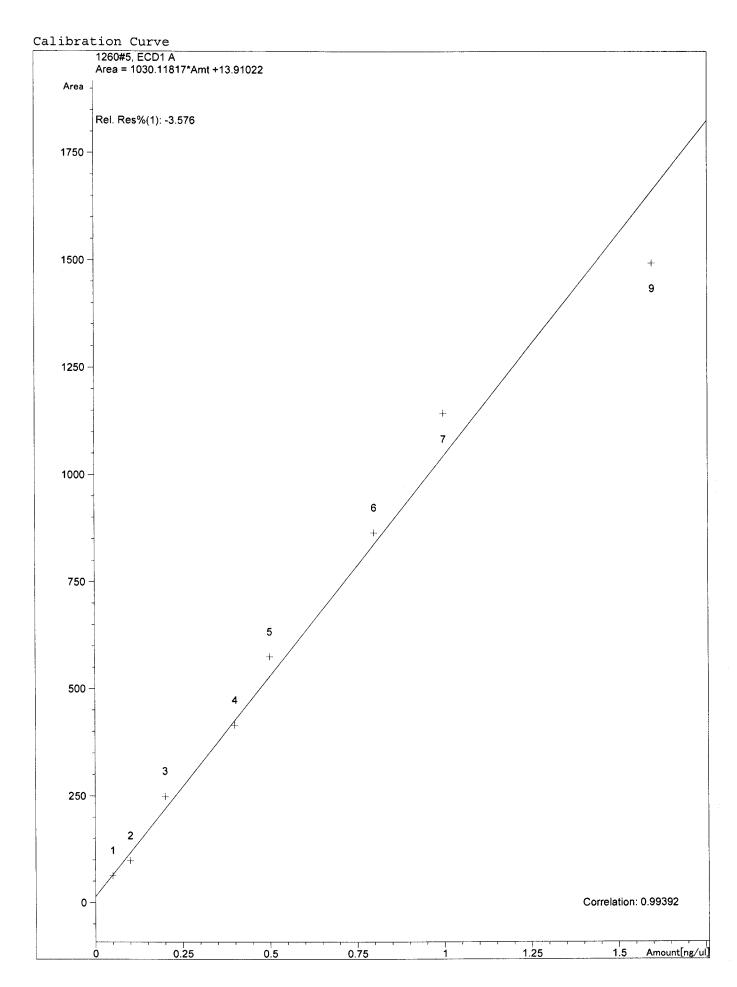


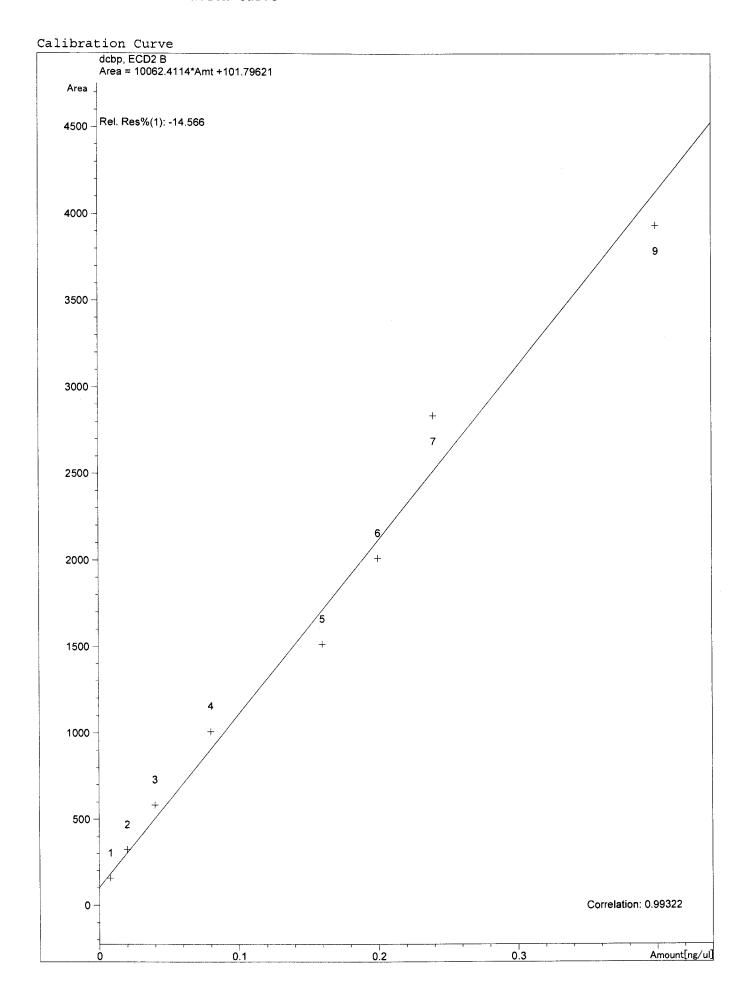


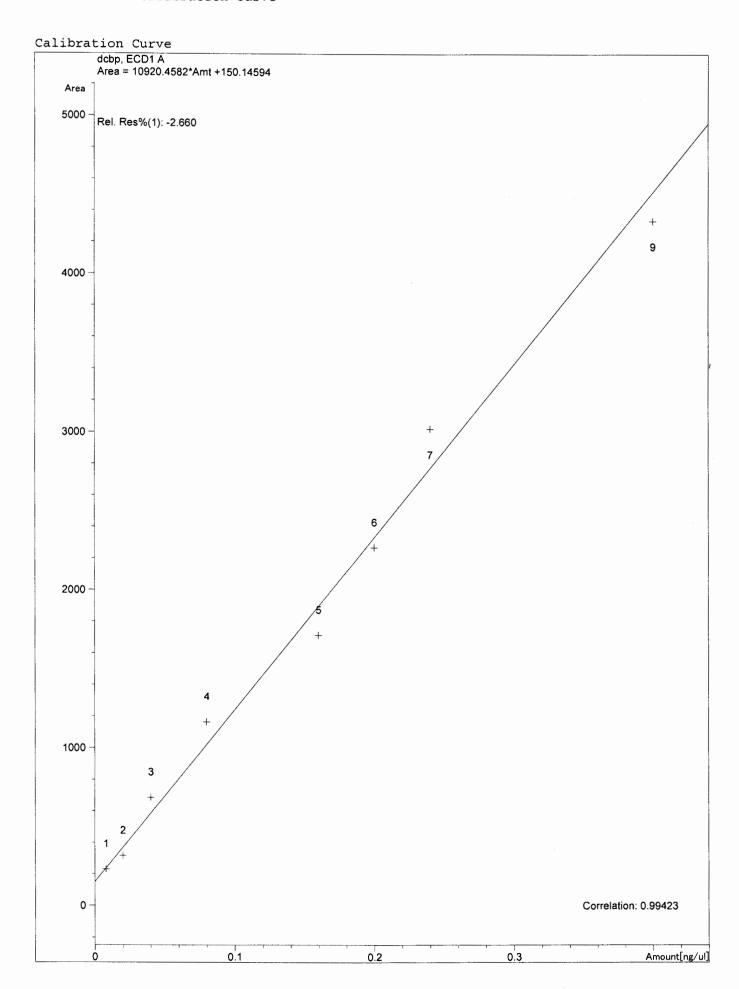












Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\002F0301.D

Sample Name: ARO1660 L-1 0.05 ug/ml

Acq. Method

______

Acq. Operator : Seq. Line : 3
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/2/2017 10:44:44 AM Inj : 1

Inj Volume : 1 µl : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

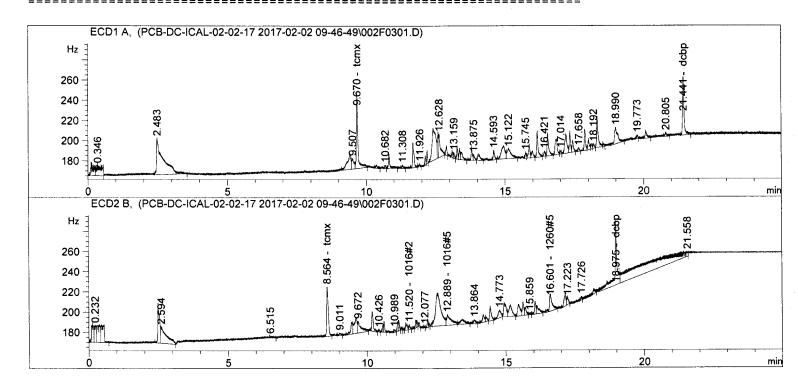
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

	Time	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
9	.670	VB	295.67444	1.37366e-5	4.06155e-3		tcmx	
10	.816	BB	54.75792	1.08311e-3	5.93090e-2		1016#1	
12	.193	VB	27.13686	1.28052e-3	3.47492e-2		1016#2	
12	.890	BB	25.92000	3.57928e-3	9.27749e-2		1016#3	

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\002F0301.D

Sample Name: ARO1660 L-1 0.05 ug/ml

Acq. Operator : Seq. Line: 3 Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/2/2017 10:44:44 AM Inj: 1 Inj Volume : 1 ul

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name Value _____

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.438	VB	39.02277	1.47336e-3	5.74945e-2		1016#4	
13.798	BV	42.93440	1.24042e-3	5.32569e-2		1016#5	
16.161	BB	92.45186	4.60344e-4	4.25597e-2		1260#1	
16.539	VB	96.28390	4.52616e-4	4.35796e-2		1260#2	
17.196	BV	107.72646	4.25965e-4	4.58877e-2		1260#3	
17.340	VV	63.64373	6.55996e-4	4.17501e-2		1260#4	
17.878	BV	66.45370	7.67561e-4	5.10072e-2		1260#5	
21.441	BB	225.69649	3.06529e-5	6.91826e-3		dcbp	

Totals : 5.33349e-1

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
					-		
8.564	BB	207.49014	1.85448e-5	3.84787e-3	t	tcmx	
10.181	BB	79.58969	6.35781e-4	5.06016e-2	-	1016#1	
11.520	VB	15.23971	3.62204e-3	5.51988e-2	:	1016#2	
11.750	BV	17.40227	2.32320e-3	4.04290e-2	:	1016#3	
11.796	VB	13.60523	2.87107e-3	3.90616e-2	:	1016#4	
12.889	VV	121.99135	1.07055e-3	1.30598e-1	-	1016#5	
14.436	BB	60.56375	7.39435e-4	4.47830e-2	:	1260#1	
15.462	BV	75.75006	7.70364e-4	5.83551e-2		1260#2	
15.614	VV	48.00315	1.30661e-3	6.27212e-2	;	1260#3	
16.052	BV	44.34199	1.61645e-3	7.16765e-2	:	1260#4	
16.601	BB	122.25195	5.34996e-4	6.54042e-2	:	1260#5	
18.975	BV	396.43707	7.38612e-5	2.92813e-2	(	dcbp	

Totals : 6.51958e-1

### 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing) Warning : Elution order of calibrated compounds may have changed Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\002F0301.D Sample Name: ARO1660 L-1 0.05 ug/ml ______ Acq. Operator : Seq. Line: 3 Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/2/2017 10:44:44 AM Inj : 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name |Value Additional Info : Peak(s) manually integrated ------Summed Peaks Report ______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report Signal 1: ECD1 A,

Signal 2: ECD2 B,

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\003F0401.D

Sample Name: ARO1660 L-2 0.10 ug/ml

-----

Acq. Operator : Seq. Line : 4
Acq. Instrument : Instrument 1 Location : Vial 3
Injection Date : 2/2/2017 11:13:12 AM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

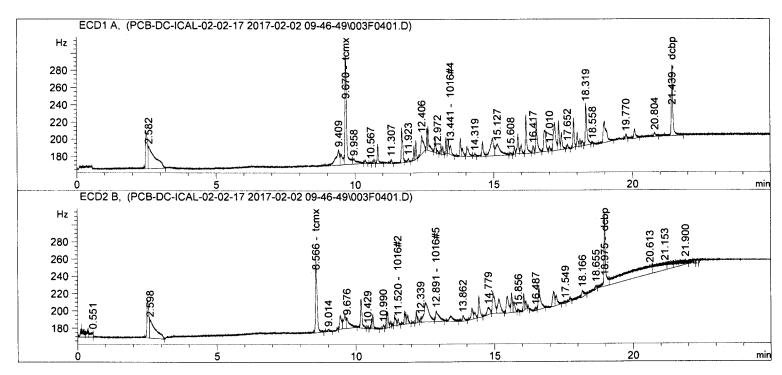
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name | Value



______

## External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name
9.670	VV	481.31610	2.00696e-5	9.65983e-3		tcmx
10.815	BB	70.44854	1.15529e-3	8.13882e-2		1016#1
12.192	VB	50.88568	1.52108e-3	7.74014e-2		1016#2
12.889	BV	46.49495	2.43252e-3	1.13100e-1		1016#3
13.441	VB	43.80336	1.58050e-3	6.92313e-2		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\003F0401.D Sample Name: ARO1660 L-2 0.10 ug/ml

______

Acq. Operator : Seq. Line: 4 Acq. Instrument : Instrument 1 Location : Vial 3 Injection Date : 2/2/2017 11:13:12 AM Inj: 1 Inj Volume : 1 µl

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
					-		
13.797	BV	66.66651	1.28946e-3	8.59636e-2	3	1016#5	
16.157	BB	149.31934	5.46433e-4	8.15930e-2	1	1260#1	
16.535	VB	153.46872	5.32584e-4	8.17350e-2	-	1260#2	
17.191	BV	184.26958	4.65900e-4	8.58512e-2	-	1260#3	
17.337	VV	104.76514	7.95570e-4	8.33480e-2	-	1260#4	
17.875	BB	96.80144	8.31265e-4	8.04677e-2		1260#5	
21.439	BB	341.86588	5.13536e-5	1.75560e-2	C	dcbp	

Totals : 8.67295e-1

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
8.566	BB	350.29849	2.40109e-5	8.41100e-3	tcmx
10.181	BV	133.66855	7.01163e-4	9.37235e-2	1016#1
11.520	VB	24.20983	3.41910e-3	8.27757e-2	1016#2
11.750	BV	38.53780	2.82900e-3	1.09024e-1	1016#3
11.797	VV	31.55272	3.46102e-3	1.09205e-1	1016#4
12.891	VB	108.40559	9.93290e-4	1.07678e-1	1016#5
14.432	BB	100.35081	8.04534e-4	8.07356e-2	1260#1
15.458	BV	123.34299	7.19888e-4	8.87932e-2	1260#2
15.613	VV	79.29781	1.24789e-3	9.89550e-2	1260#3
16.048	BV	57.63525	1.54635e-3	8.91243e-2	1260#4
16.595	VB	157.91661	5.34674e-4	8.44339e-2	1260#5
18.975	BV	322.71283	6.80315e-5	2.19546e-2	dcbp

Totals : 9.74813e-1

#### 1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

______

Summed Peaks Report

______

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\003F0401.D Sample Name: ARO1660 L-2 0.10 ug/ml Acq. Operator : Seq. Line: 4 Acq. Instrument : Instrument 1 Location : Vial 3 Injection Date : 2/2/2017 11:13:12 AM Inj: 1 Inj Volume : 1 µl Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Value Name Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report ______ Signal 1: ECD1 A,

*** End of Report ***

3195a.gne10813 of 3

Signal 2: ECD2 B,

Compound-related custom fields:

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\004F0501.D

Sample Name: ARO1660 L-3 0.20 ug/ml

Acq. Operator : Seq. Line : 5
Acq. Instrument : Instrument 1 Location : Vial 4
Injection Date : 2/2/2017 11:41:32 AM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

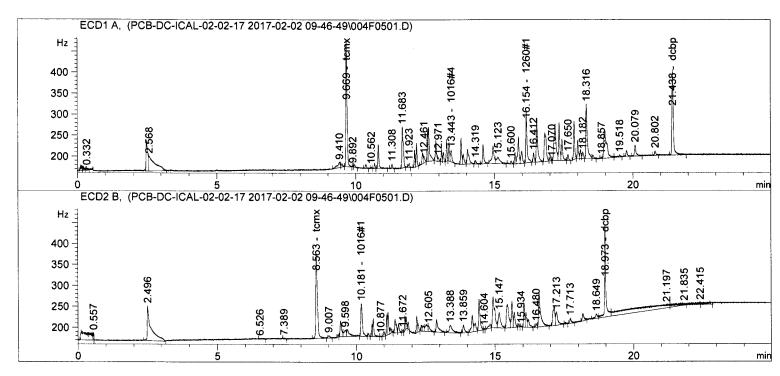
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name | Value



## External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.669	BB	897.34052	2.47460e-5	2.22056e-2		tcmx
10.815	BB	175.22739	1.30589e-3	2.28829e-1		1016#1
12.193	VB	131.01570	1.68921e-3	2.21313e-1		1016#2
12.890	BV	141.36113	1.46301e-3	2.06813e-1		1016#3
13.443	VB	102.03152	2.07961e-3	2.12186e-1		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\004F0501.D

Sample Name: ARO1660 L-3 0.20 ug/ml

______

Acq. Operator : Seq. Line : 5 Acq. Instrument : Instrument 1 Location : Vial 4 Injection Date : 2/2/2017 11:41:32 AM Inj : 1 Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value
=======================================	

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
12 700		165 0500					
13.798	BV	165.27083	1.34238e-3	2.21856e-1		1016#5	
16.154	BB	371.65009	6.30159e-4	2.34199e-1		1260#1	
16.530	VB	381.98624	6.13134e-4	2.34209e-1		1260#2	
17.188	BV	459.73468	4.99577e-4	2.29673e-1		1260#3	
17.335	VV	260.11435	9.24584e-4	2.40497e-1		1260#4	
17.873	BB	248.83839	9.16496e-4	2.28059e-1		1260#5	
21.438	BB	758.64673	7.34481e-5	5.57212e-2		dcbp	

Totals : 2.33556

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	name
	11					
8.563			2.85816e-5	•	1 1	tcmx
10.181	BV	316.00793	7.56686e-4	2.39119e-1		1016#1
11.519	VB	65.93283	3.20091e-3	2.11045e-1		1016#2
11.750	BV	70.28287	3.01711e-3	2.12051e-1		1016#3
11.797	VB	58.49398	3.66700e-3	2.14498e-1		1016#4
12.890	BB	163.28340	1.22645e-3	2.00259e-1		1016#5
14.425	VV	275.51465	8.67534e-4	2.39018e-1		1260#1
15.447	BV	347.85193	6.68037e-4	2.32378e-1		1260#2
15.608	VV	203.16814	1.19298e-3	2.42375e-1		1260#3
16.043	BV	173.48642	1.39021e-3	2.41183e-1		1260#4
16.587	VB	444.02090	5.33964e-4	2.37091e-1		1260#5
18.973	VV	771.14417	8.62610e-5	6.65196e-2		dcbp

Totals : 2.35912

### 1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

_______

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\004F0501.D Sample Name: ARO1660 L-3 0.20 ug/ml Acq. Operator : Seq. Line : 5 Acq. Instrument : Instrument 1 Location : Vial 4 Injection Date : 2/2/2017 11:41:32 AM Inj: 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value ______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

______

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\005F0601.D

Sample Name: ARO1660 L-4 0.40 ug/ml

______

Acq. Operator : Seq. Line : 6
Acq. Instrument : Instrument 1 Location : Vial 5
Injection Date : 2/2/2017 12:09:51 PM Inj : 1
Inj Volume : 1 µl

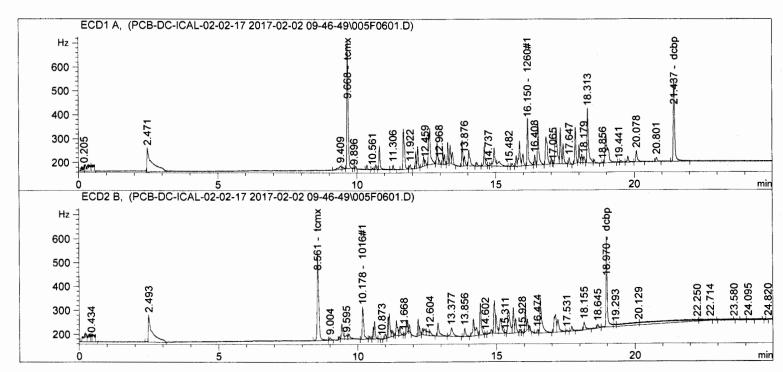
Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:



#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.668	BB	1627.79553	2.71739e-5	4.42335e-2		tcmx
10.813	VV	302.45578	1.34849e-3	4.07859e-1		1016#1
12.191	VB	227.57130	1.73451e-3	3.94724e-1		1016#2
12.888	BV	268.75323	1.23778e-3	3.32658e-1		1016#3
13.441	VB	170.99023	2.23104e-3	3.81485e-1		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\005F0601.D

Sample Name: ARO1660 L-4 0.40 ug/ml

Acq. Operator : Seq. Line : 6
Acq. Instrument : Instrument 1 Location : Vial 5
Injection Date : 2/2/2017 12:09:51 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	o Name
	]		1 25521 2	2 04002 - 1		1016#5
13.796	BV	283.59225	1.35731e-3	3.84923e-1		1016#5
16.150	BB	607.95355	6.52016e-4	3.96395e-1		1260#1
16.525	VB	621.85382	6.34000e-4	3.94255e-1		1260#2
17.181	BV	764.41290	5.08556e-4	3.88747e-1		1260#3
17.332	VV	419.93045	9.57696e-4	4.02166e-1		1260#4
17.870	BB	414.62775	9.38195e-4	3.89002e-1		1260#5
21.437	BB	1272.42151	8.07658e-5	1.02768e-1		dcbp

Totals: 4.01922

Signal 2: ECD2 B,

RetTime	Type	Area	Amt/Area	Amount	Grp Name	
[min]		[Hz*s]		[ng/ul]		
8.561	BB	1481.63000	3.00751e-5	4.45602e-2	tcmx	
10.178	BV	529.70923	7.73107e-4	4.09522e-1	1016#1	
11.516	VB	113.14131	3.14809e-3	3.56179e-1	1016#2	
11.747	BV	119.26826	3.11089e-3	3.71031e-1	1016#3	
11.794	VB	102.41528	3.77046e-3	3.86153e-1	1016#4	
12.889	BB	253.31912	1.39015e-3	3.52152e-1	1016#5	
14.419	VV	453.46390	8.81698e-4	3.99818e-1	1260#1	
15.422	BV	588.10986	6.56400e-4	3.86035e-1	1260#2	
15.602	VV	332.33963	1.17932e-3	3.91933e-1	1260#3	
16.038	BV	262.94757	1.36378e-3	3.58603e-1	1260#4	
16.582	VB	729.09674	5.33811e-4	3.89200e-1	1260#5	
18.970	BV	1137.59155	9.04869e-5	1.02937e-1	dcbp	

Totals: 3.94812

1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\005F0601.D Sample Name: ARO1660 L-4 0.40 ug/ml Acq. Operator : Seq. Line : 6 Acq. Instrument : Instrument 1 Location : Vial 5 Injection Date : 2/2/2017 12:09:51 PM Inj: 1Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value -----_______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B,

*** End of Report ***

Compound-related custom fields:

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\006F0701.D

Sample Name: ARO1660 L-5 0.50 ug/ml

Acq. Operator : Seq. Line : 7
Acq. Instrument : Instrument 1 Location : Vial 6
Injection Date : 2/2/2017 12:38:17 PM Inj : 1
Inj Volume : 1 µl

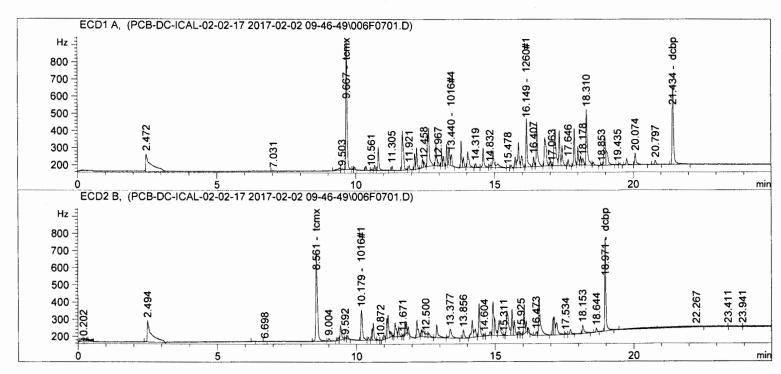
Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:



## External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM
Multiplier: : 1.0000
Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.667	BB	2206.96460	2.79566e-5	6.16992e-2		tcmx
10.813	VB	398.85934	1.36267e-3	5.43514e-1		1016#1
12.191	VB	305.83530	1.75024e-3	5.35284e-1		1016#2
12.888	BV	384.24619	1.16266e-3	4.46747e-1		1016#3
13.440	VB	232.31718	2.29018e-3	5.32048e-1		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\006F0701.D

Sample Name: ARO1660 L-5 0.50 ug/ml

Acq. Operator : Seq. Line : 7
Acq. Instrument : Instrument 1 Location : Vial 6
Injection Date : 2/2/2017 12:38:17 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value
=======================================	

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.797	BV	390 31989	1.36301e-3	5 32011e-1		1016#5	
16.149	_		6.61131e-4			1260#1	
16.522	VB	854.13269	6.43037e-4	5.49239e-1		1260#2	
17.180	BV	1061.27917	5.12346e-4	5.43742e-1		1260#3	
17.331	VV	570.16553	9.71896e-4	5.54142e-1		1260#4	
17.869	BB	574.65411	9.47264e-4	5.44349e-1		1260#5	
21.434	BB	1713.97717	8.35495e-5	1.43202e-1		dcbp	

Totals: 5.53295

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.561	BV	2034.65710	3.05855e-5	6.22309e-2	to	cmx
10.179	BV	701.95435	7.79065e-4	5.46868e-1	10	016#1
11.517	VB	166.41948	3.12447e-3	5.19973e-1	10	16#2
11.749	BV	167.39635	3.14958e-3	5.27229e-1	10	16#3
11.796	VB	138.32378	3.80623e-3	5.26492e-1	10	016#4
12.891	BB	343.96219	1.46839e-3	5.05070e-1	10	016#5
14.419	BB	605.28107	8.87198e-4	5.37004e-1	12	260#1
15.419	BV	827.11469	6.51531e-4	5.38891e-1	12	260#2
15.603	VV	457.88135	1.17342e-3	5.37289e-1	12	260#3
16.038	BV	375.32373	1.34844e-3	5.06101e-1	12	260#4
16.582	VB	1017.59302	5.33744e-4	5.43134e-1	12	260#5
18.971	BB	1481.07349	9.25492e-5	1.37072e-1	do	cbp

Totals: 5.48735

1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\006F0701.D Sample Name: ARO1660 L-5 0.50 ug/ml Seq. Line: 7 Acq. Operator : Location : Vial 6 Acq. Instrument : Instrument 1 Injection Date : 2/2/2017 12:38:17 PM Inj: 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Value Name _____ Signal 1: ECD1 A, Signal 2: ECD2 B,

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

______

Final Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\007F0801.D

Sample Name: ARO1660 L-6 0.80 ug/ml

___________

Acq. Operator Seq. Line : Acq. Instrument : Instrument 1 Location: Vial 7 Injection Date : 2/2/2017 1:06:34 PM Inj : 1

Inj Volume : 1 µl

: C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Acq. Method

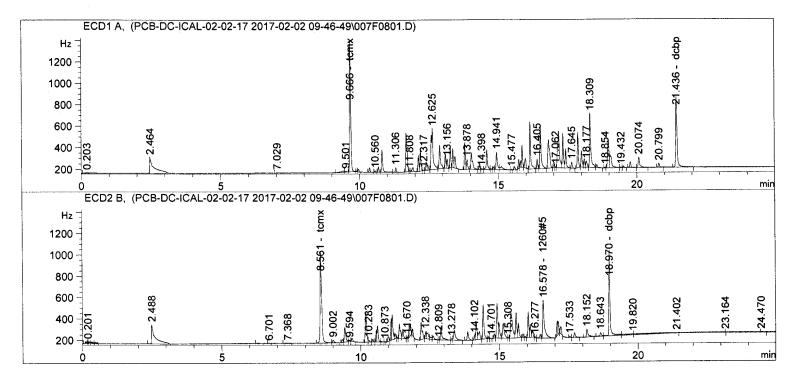
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name Value



## External Standard Report

Sorted By Signal

Calib. Data Modified 2/4/2017 12:01:07 PM

Multiplier: 1.0000 Dilution: 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	o Name
9.666	BB	3611.21997	2.88120e-5	1.04046e-1		tcmx
10.812	BV	607.48187	1.37795e-3	8.37079e-1		1016#1
12.191	VB	483.11618	1.76702e-3	8.53675e-1		1016#2
12.889	VB	780.29901	1.07393e-3	8.37988e-1		1016#3
13.440	VB	366.31177	2.35050e-3	8.61016e-1		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\007F0801.D

Sample Name: ARO1660 L-6 0.80 ug/ml

______

Acq. Operator : Seq. Line : 8
Acq. Instrument : Instrument 1 Location : Vial 7
Injection Date : 2/2/2017 1:06:34 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value
=======================================	

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.797	די די די די	620 75000	1.36864e-3	0 405050 1	1 1	1016#5	
13./9/	ЬV	620.75969	1.366646-3	0.490906-1		1010#2	
16.148	BB	1263.44910	6.69850e-4	8.46322e-1		1260#1	
16.521	VB	1288.69629	6.51195e-4	8.39192e-1		1260#2	
17.179	BV	1606.29626	5.15657e-4	8.28298e-1		1260#3	
17.330	VV	847.60712	9.84888e-4	8.34798e-1		1260#4	
17.869	BB	864.52429	9.55143e-4	8.25744e-1		1260#5	
21.436	BB	2392.86035	8.58254e-5	2.05368e-1		dcbp	

Totals: 8.72312

Signal 2: ECD2 B,

RetTime	Туре	Area	Amt/Area	Amount	${\tt Grp}$	Name	
[min]		[Hz*s]		[ng/ul]			
					-		
8.561	BV	3333.47534	3.11182e-5	1.03732e-1	t	cmx	
10.178	BV	1040.15930	7.85023e-4	8.16549e-1	1	016#1	
11.515	VB	268.91815	3.10535e-3	8.35085e-1	1	016#2	
11.748	BV	263.64011	3.18458e-3	8.39584e-1	1	016#3	
11.795	VB	212.33279	3.84179e-3	8.15737e-1	1	016#4	
12.889	VB	510.63098	1.53975e-3	7.86246e-1	1	016#5	
14.415	BB	935.53326	8.92998e-4	8.35429e-1	1	260#1	
15.413	BV	1275.41736	6.47320e-4	8.25603e-1	1	260#2	
15.600	VV	685.35419	1.16825e-3	8.00663e-1	1	260#3	
16.036	BV	615.64844	1.33442e-3	8.21535e-1	1	260#4	
16.578	VB	1525.74072	5.33687e-4	8.14268e-1	1	260#5	
18.970	VV	2318.94556	9.50172e-5	2.20340e-1	d	lcbp	

Totals: 8.51477

1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

Summed Peaks Report

______

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\007F0801.D Sample Name: ARO1660 L-6 0.80 ug/ml Acq. Operator : Seq. Line: 8 Acq. Instrument : Instrument 1 Location : Vial 7 Inj : 1 Injection Date : 2/2/2017 1:06:34 PM Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value _____ _______ Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

_______

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\008F0901.D

Sample Name: ARO1660 L-7 1.0 ug/ml

Acq. Operator : Seq. Line : 9
Acq. Instrument : Instrument 1 Location : Vial 8
Injection Date : 2/2/2017 1:34:54 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

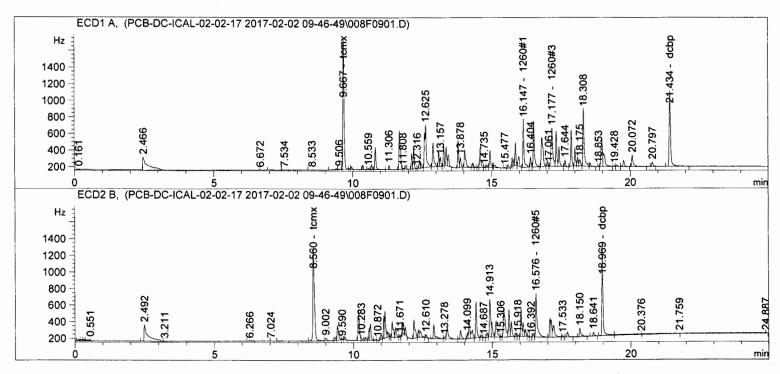
Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name | Value



## External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Type	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name
9.667	BB	4645.08447	2.91112e-5	1.35224e-1		tcmx
10.812	VV	779.70172	1.38440e-3	1.07942		1016#1
12.192	VB	610.39368	1.77306e-3	1.08226		1016#2
12.889	VB	1007.81201	1.05450e-3	1.06274		1016#3
13.441	VB	471.21255	2.37378e-3	1.11856		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\008F0901.D

Sample Name: ARO1660 L-7 1.0 ug/ml

______

Acq. Operator : Seq. Line: 9 Acq. Instrument : Instrument 1 Location : Vial 8 Injection Date : 2/2/2017 1:34:54 PM Inj: 1 Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value
=======================================	

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.797	BV	806 93866	1.37083e-3	1.10618		1016#5	
16.147			6.73626e-4	1.10284		1260#1	
16.520	VB	1685.67078	6.54971e-4	1.10407		1260#2	
17.177	BV	2130.68970	5.17244e-4	1.10209		1260#3	
17.329	VV	1103.11243	9.91073e-4	1.09326		1260#4	
17.869	BB	1143.72302	9.58956e-4	1.09678		1260#5	
21.434	BB	3242.62109	8.73311e-5	2.83182e-1		dcbp	

Totals : 11.36660

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.560	BV	4314.39014	3.13080e-5	1.35075e-1		tcmx
10.178	BV	1323.39771	7.87669e-4	1.04240		1016#1
11.516	VB	361.76962	3.09739e-3	1.12054		1016#2
11.749	BV	346.14587	3.19909e-3	1.10735		1016#3
11.795	VB	288.07773	3.85926e-3	1.11177		1016#4
12.890	BB	666.13879	1.57414e-3	1.04859		1016#5
14.414	BB	1230.66602	8.95547e-4	1.10212		1260#1
15.411	BV	1742.29517	6.45238e-4	1.12419		1260#2
15.599	VV	905.62823	1.16571e-3	1.05570		1260#3
16.035	BV	841.23340	1.32855e-3	1.11762		1260#4
16.576	VB	2022.94092	5.33659e-4	1.07956		1260#5
18.969	BV	3040.84839	9.60529e-5	2.92082e-1		dcbp

Totals : 11.33701

#### 1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

____________

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\008F0901.D Sample Name: ARO1660 L-7 1.0 ug/ml ______ Acq. Operator : Seq. Line: 9 Acq. Instrument : Instrument 1 Location : Vial 8 Injection Date : 2/2/2017 1:34:54 PM Inj : 1 Inj Volume : 1 μl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value ______ Signal 1: ECD1 A,

Final Summed Peaks Report

Signal 2: ECD2 B,

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\010F1101.D

Sample Name: ARO1660 L-9 1.6 ug/ml

_______

Acq. Operator : Seq. Line : 11
Acq. Instrument : Instrument 1 Location : Vial 10
Injection Date : 2/2/2017 2:31:40 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

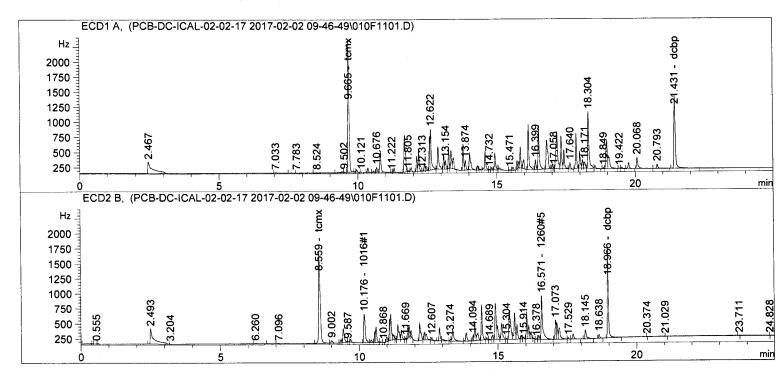
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name | Value



#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	name
9.665	BB	6572.57764	2.94177e-5	1.93350e-1		tcmx
10.810	BV	1038.98389	1.39008e-3	1.44427		1016#1
12.189	VB	806.11359	1.77862e-3	1.43377		1016#2
12.886	BB	1266.08301	1.04090e-3	1.31787		1016#3
13.437	VB	593.09564	2.39049e-3	1.41779		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\010F1101.D

Sample Name: ARO1660 L-9 1.6 ug/ml

Acq. Operator : Seq. Line : 11 Location : Vial 10 Acq. Instrument : Instrument 1 Injection Date : 2/2/2017 2:31:40 PM Inj: 1 Inj Volume : 1 µl

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
13.793	BV	1038.96777	1.37247e-3	1.42595	1016#5
16.143			6.76268e-4	1.39619	1260#1
16.515	VB	2132.71899	6.57541e-4	1.40235	1260#2
17.172	BV	2752.11230	5.18342e-4	1.42653	1260#3
17.326	VV	1407.14417	9.95505e-4	1.40082	1260#4
17.864	BB	1493.32056	9.61720e-4	1.43616	1260#5
21.431	BB	4334.11621	8.83990e-5	3.83131e-1	dcbp

Totals: 14.67818

Signal 2: ECD2 B,

RetTime	Type	Area	Amt/Area	Amount	Grp	Name
[min]		[Hz*s]		[ng/ul]		
8.559	BV	6113.37256	3.14977e-5	1.92557e-1	to	:mx
10.176	BV	1851.14429	7.90440e-4	1.46322	10	16#1
11.513	VB	475.18155	3.09188e-3	1.46920	10	16#2
11.747	BV	449.65909	3.20977e-3	1.44330	10	16#3
11.793	VB	373.87631	3.87050e-3	1.44709	10	16#4
12.886	BV	642.66827	1.57001e-3	1.00900	10	16#5
14.409	BB	1572.59192	8.97304e-4	1.41109	12	260#1
15.404	BV	2190.16748	6.44075e-4	1.41063	12	260#2
15.594	VV	1276.50427	1.16342e-3	1.48511	12	260#3
16.031	BV	1109.14648	1.32468e-3	1.46927	12	260#4
16.571	VB	2730.64697	5.33636e-4	1.45717	12	260#5
18.966	BB	3934.55151	9.68086e-5	3.80898e-1	do	cbp

14.63854 Totals :

## 1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

______

Summed Peaks Report

______

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\010F1101.D Sample Name: ARO1660 L-9 1.6 ug/ml _______ Acq. Operator : Seq. Line: 11 Acq. Instrument : Instrument 1 Location : Vial 10 Injection Date : 2/2/2017 2:31:40 PM Inj : 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value _____ ______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report ______

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\011F1301.D

Sample Name: aro1660 2nd source 1.0 ug/ml

______

Acq. Operator : Seq. Line : 13
Acq. Instrument : Instrument 1 Location : Vial 11
Injection Date : 2/2/2017 3:28:27 PM Inj : 1

Inj Volume : 1 µl : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

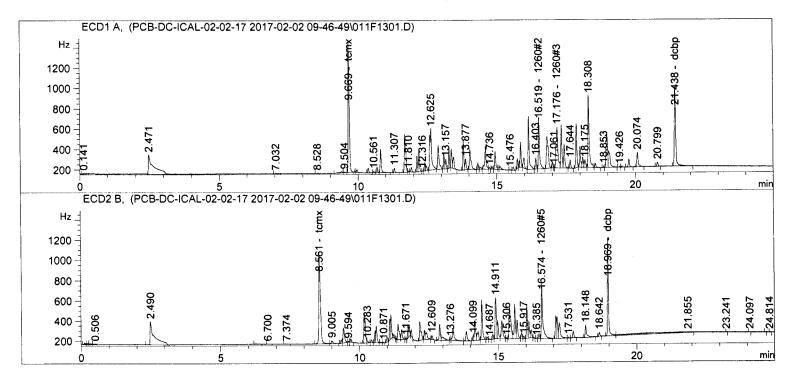
Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Acq. Method

Name	Value
=======================================	



# External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 12:01:07 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name
9.669	BB	3911.39722	2.89152e-5	1.13099e-1		tcmx
10.814	BB	658.34851	1.38021e-3	9.08656e-1		1016#1
12.192	VB	508.63663	1.76847e-3	8.99509e-1		1016#2
12.889	VB	833.19055	1.06847e-3	8.90237e-1		1016#3
13.440	VB	385.41025	2.35568e-3	9.07904e-1		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\011F1301.D

Sample Name: aro1660 2nd source 1.0 ug/ml

-----

Acq. Operator : Seq. Line : 13 Acq. Instrument : Instrument 1 Location : Vial 11 Injection Date : 2/2/2017 3:28:27 PM Inj : 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 12:01:27 PM (modified after loading)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grg	o Name	
12 707	D77	601 00001	'	•		101645	
13.797	вν	681.89221	1.36949e-3	9.33845e-1		1016#5	
16.146	BB	1469.14258	6.72166e-4	9.87508e-1		1260#1	
16.519	VB	1530.17944	6.53725e-4	1.00032		1260#2	
17.176	BV	1877.39685	5.16588e-4	9.69841e-1		1260#3	
17.330	VV	1101.95691	9.91051e-4	1.09210		1260#4	
17.868	BB	1114.52246	9.58646e-4	1.06843		1260#5	
21.438	BB	2763.13965	8.65954e-5	2.39275e-1		dcbp	

Totals : 10.01072

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
8.561	BV	3638.59888	3.11882e-5	1.13481e-1	tcmx	
10.179	BV	1090.96118	7.85598e-4	8.57057e-1	1016#1	
11.516	VB	301.25955	3.10202e-3	9.34513e-1	1016#2	
11.749	BV	294.46246	3.19095e-3	9.39616e-1	1016#3	
11.796	VB	238.40269	3.84905e-3	9.17624e-1	1016#4	
12.888	BV	476.12430	1.52908e-3	7.28033e-1	1016#5	
14.412	BB	1113.35889	8.94695e-4	9.96117e-1	1260#1	
15.408	BV	1484.64771	6.46225e-4	9.59416e-1	1260#2	
15.597	VV	998.01868	1.16498e-3	1.16267	1260#3	
16.033	BV	847.64221	1.32843e-3	1.12603	1260#4	
16.574	VB	2005.80200	5.33659e-4	1.07042	1260#5	
18.969	BV	2575.28711	9.54515e-5	2.45815e-1	dcbp	

Totals : 10.05080

## 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing) Warning: Elution order of calibrated compounds may have changed

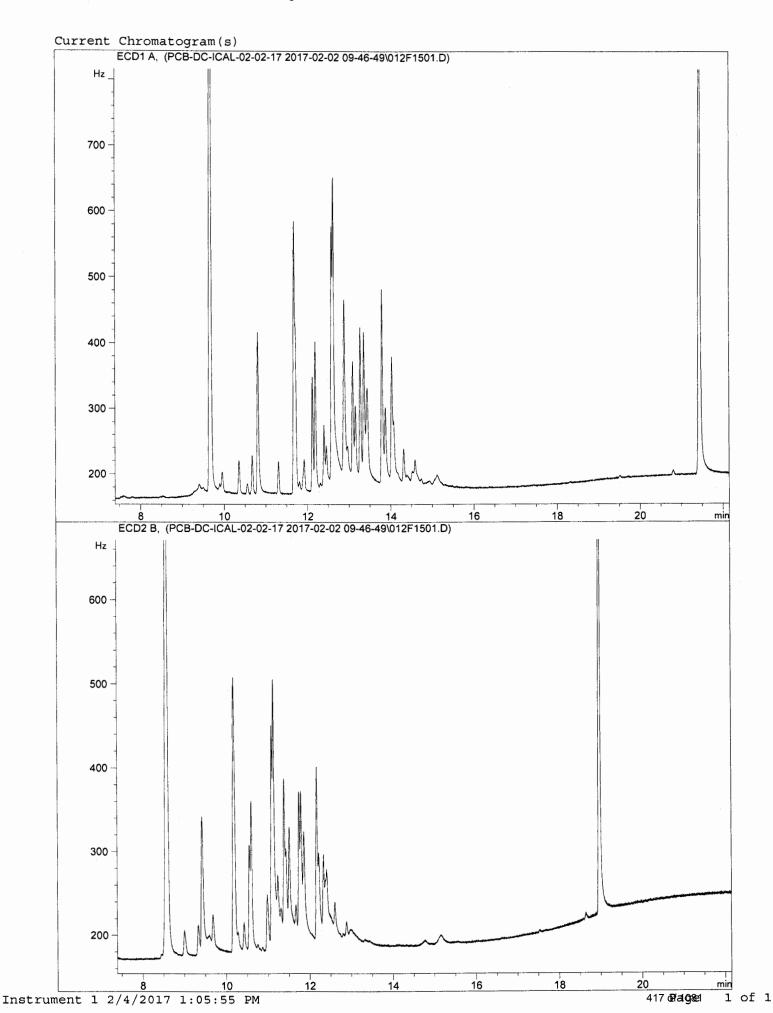
Summed Peaks Report

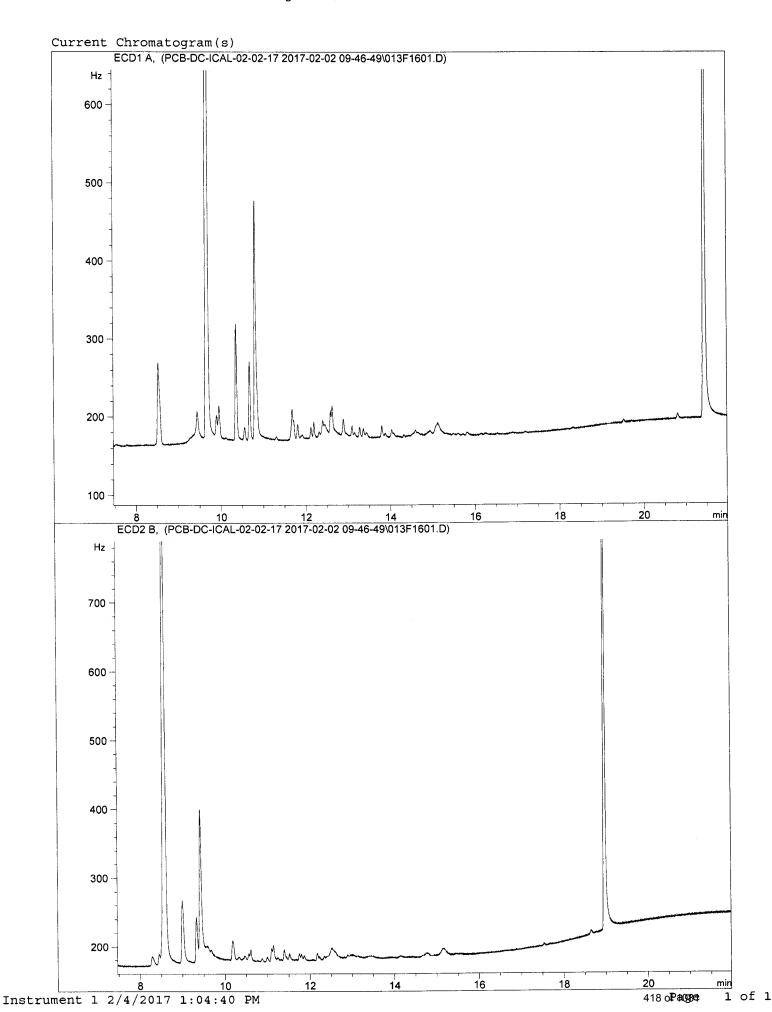
Data File C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\011F1301.D Sample Name: aro1660 2nd source 1.0 ug/ml ______ Acq. Operator : Seq. Line: 13 Acq. Instrument : Instrument 1 Location : Vial 11 Injection Date : 2/2/2017 3:28:27 PM Inj : 1 Inj Volume : 1 µl : C:\CHEM32\1\DATA\PCB-DC-ICAL-02-02-17 2017-02-02 09-46-49\DC-8082-MASTER.M Acq. Method Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 12:01:27 PM (modified after loading) Sample-related custom fields: Name Value _____ Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report ______

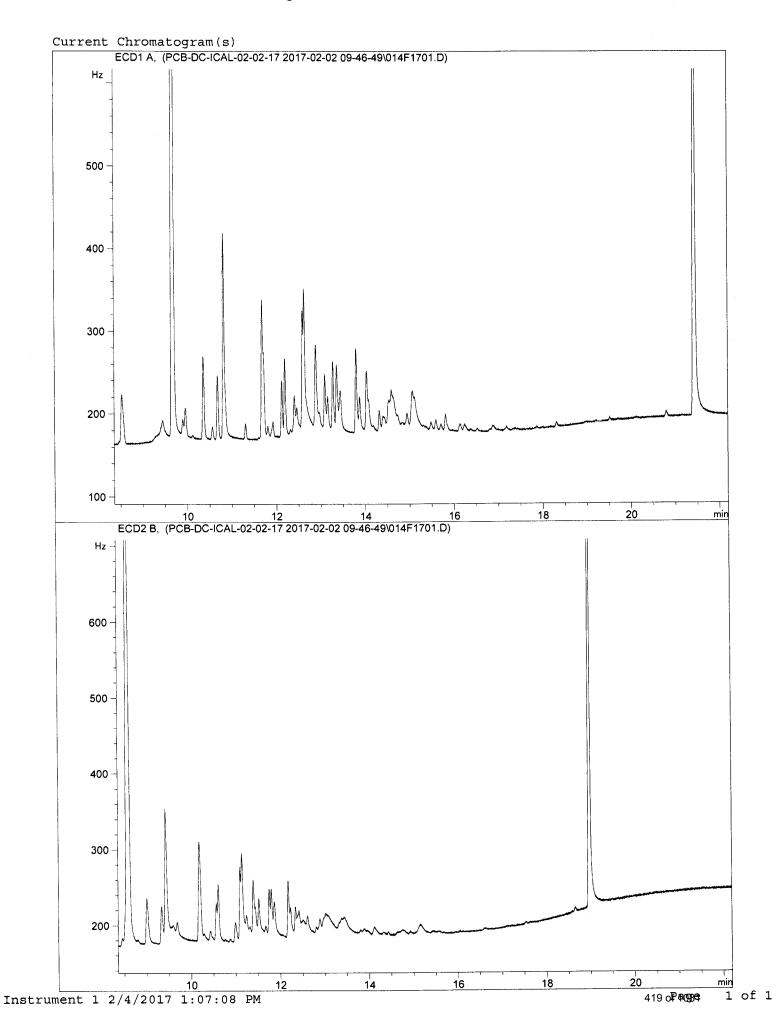
Signal 1: ECD1 A, Signal 2: ECD2 B,

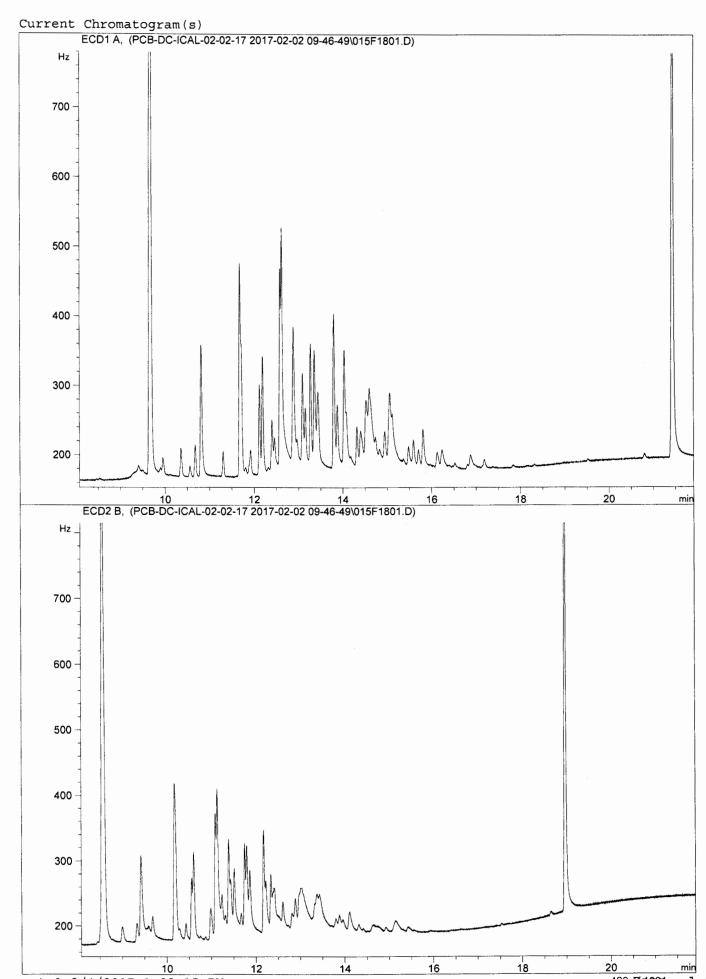
Compound-related custom fields:

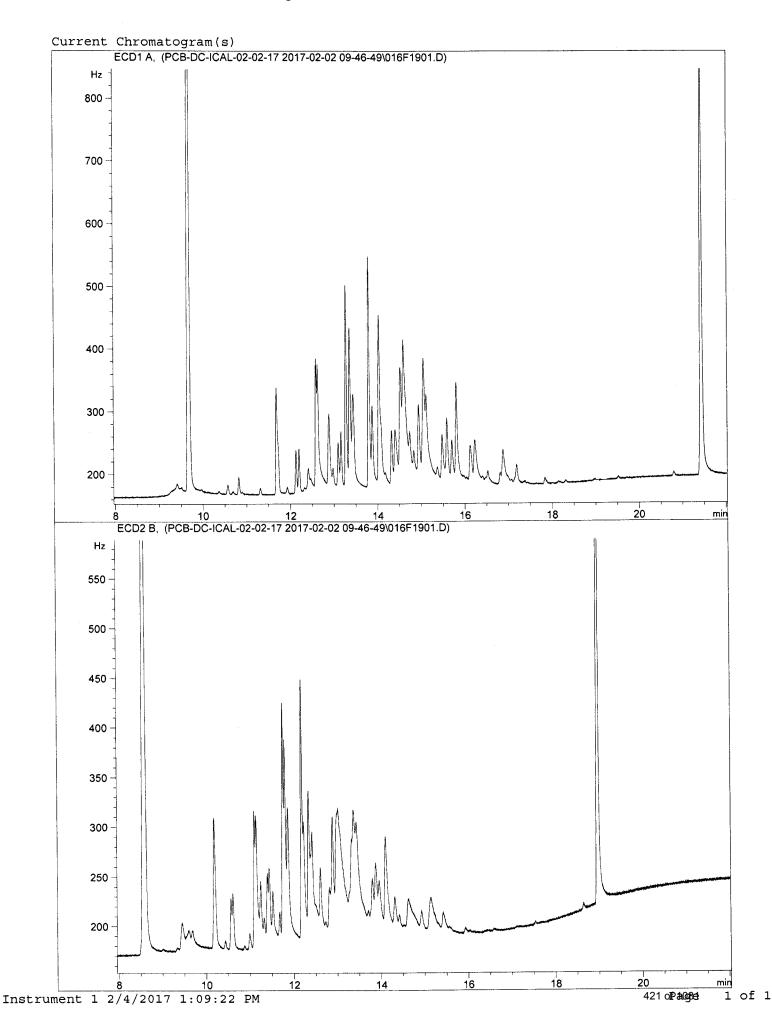
*** End of Report ***

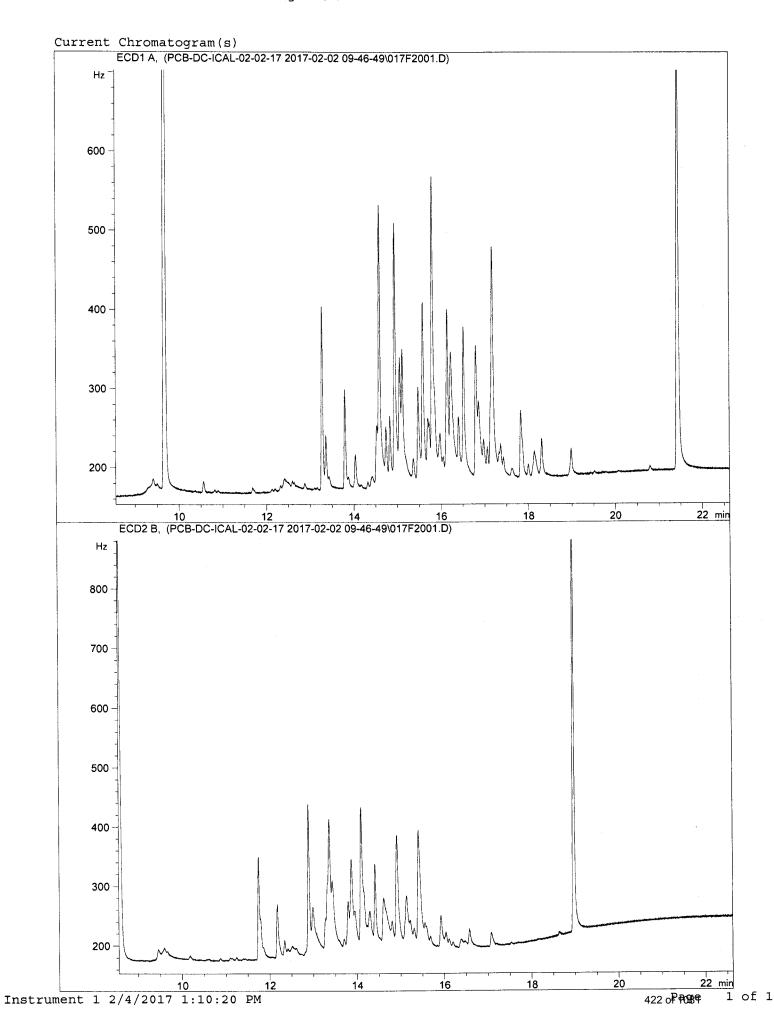


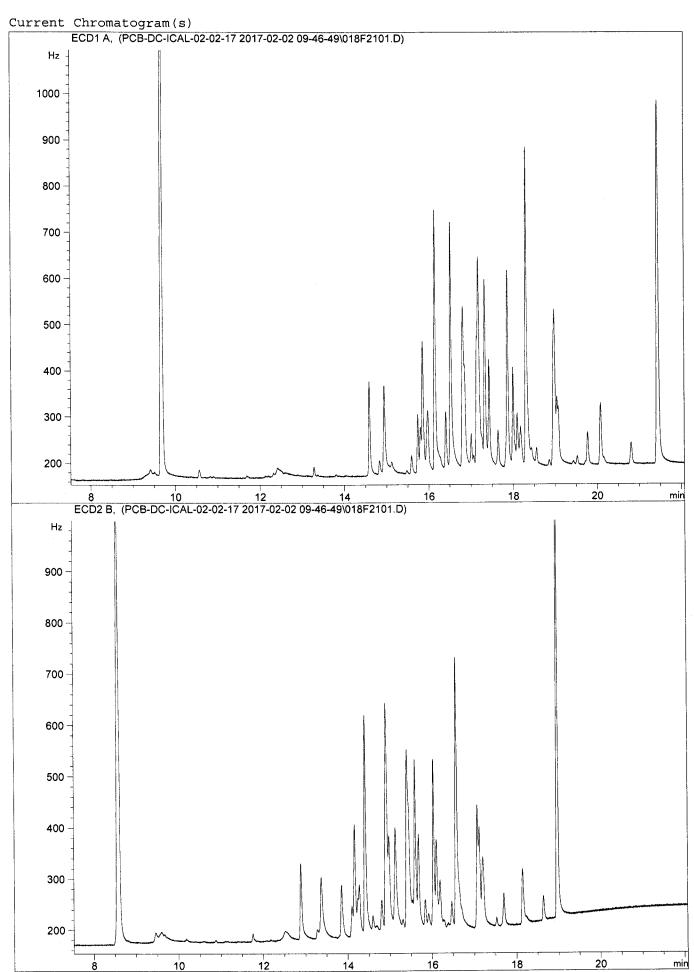












Instrument 1 2/4/2017 1:10:58 PM 423 oPage 1 of 1

## 

#### Calibration Table

2/15/2017 1:50:53 PM Calib. Data Modified :

Rel. Reference Window: 5.000 % Abs. Reference Window: 0.000 min Rel. Non-ref. Window : 5.000 % Abs. Non-ref. Window : 0.000 min Uncalibrated Peaks : not reported

Partial Calibration : Yes, identified peaks are recalibrated Correct All Ret. Times: No, only for identified peaks

Curve Type Linear Origin Ignored Weight Linear (Amnt)

Recalibration Settings:

Average all calibrations Average Response Average Retention Time: Average all calibrations

#### Calibration Report Options :

Printout of recalibrations within a sequence: Calibration Table after Recalibration Normal Report after Recalibration If the sequence is done with bracketing: Results of first cycle (ending previous bracket)

Signal 1: ECD1 A, Signal 2: ECD2 B,

			Amount [ng/ul]	Area	Amt/Area	Ref Grp	Name
	-						
8.546	2	1	5.00000e-3	300.18878	1.66562e-5		TCMX
		2	1.00000e-2	651.31531	1.53535e-5		
		3	2.00000e-2	967.38239	2.06743e-5		
		4	4.00000e-2	2226.20654	1.79678e-5		
		6	8.00000e-2	5367.72070	1.49039e-5		
		7	1.00000e-1	7083.89990	1.41165e-5		
		8	1.20000e-1	7090.01611	1.69252e-5		
		9	1.60000e-1	9663.43164	1.65573e-5		
9.659	1	1	5.00000e-3	378.00626	1.32273e-5		TCMX
		2	1.00000e-2	758.30237	1.31874e-5		
		3	2.00000e-2	1158.98267	1.72565e-5		
		4	4.00000e-2	2528.88843	1.58172e-5		
		6	8.00000e-2	5937.22510	1.34743e-5		
		7	1.00000e-1	7794.66650	1.28293e-5		
		8	1.20000e-1	7826.12842	1.53333e-5		
		9	1.60000e-1	1.05401e4	1.51801e-5		
10.166	2	1	5.00000e-2	114.71913	4.35847e-4		1016#1
		2	1.00000e-1	248.40646	4.02566e-4		
		3	2.00000e-1	364.65576	5.48462e-4		
		4	4.00000e-1	747.52820	5.35097e-4		
		6	8.00000e-1	1657.94458	4.82525e-4		
		7	1.00000	2089.17480	4.78658e-4		

[min] S	ig		[ng/ul]			Ref Grp Name
			1 00000	0143 00606		
			1.20000			
10 004	-		1.60000			
10.804	1					1016#1
			1.00000e-1			
			2.00000e-1			
			4.00000e-1			
			8.00000e-1			
				1229.06018		
	_		1.60000			
11.079	2					1016#2
					8.25561e-4	
					1.16132e-3	
			4.00000e-1			
			8.00000e-1			
			1.00000			
			1.60000			
1.120	2	1	5.00000e-2	72.58194	6.88877e-4	1016#3
			1.00000e-1			
		3	2.00000e-1	251.22812	7.96089e-4	
		4	4.00000e-1	551.82941	7.24862e-4	
		6	8.00000e-1	1356.26050	5.89857e-4	
		7	1.00000	1762.29907	5.67441e-4	
		8	1.20000	1836.37122	6.53463e-4	
		9	1.60000	2526.03271	6.33404e-4	
376	2	1	5.00000e-2	39.81900	1.25568e-3	1016#4
			1.00000e-1			
			2.00000e-1			
			4.00000e-1			
			8.00000e-1			
				835.59857		
		8		873.43463		
		9		1158.27649		
2.161	2		5.00000e-2		1.23137e-3	1016#5
			1.00000e-1		1.18308e-3	-, v = 0 11 0
			2.00000e-1		1.55487e-3	
			4.00000e-1		1.35732e-3	
		6			1.14835e-3	
		7	1.00000		1.12262e-3	
		8	1.20000		1.31110e-3	
		9		1261.07056		
2 184	1		5.00000e-2		9.05056e-4	1016#2
12.184	_		1.00000e-1		9.19930e-4	1010#2
			2.00000e-1			
					1.19275e-3	
			4.00000e-1		1.15395e-3	
		6			1.04567e-3	
		7	1.00000		1.04147e-3	
		8	1.20000		1.20981e-3	
0 000	4	9		1300.52954		
12.880	1		5.00000e-2		7.49919e-4	1016#3
			1.00000e-1		6.77186e-4	
			2.00000e-1		8.62610e-4	
		4	4.00000e-1			
		6	8.00000e-1			
		6 7		1193.56824 1508.83105		

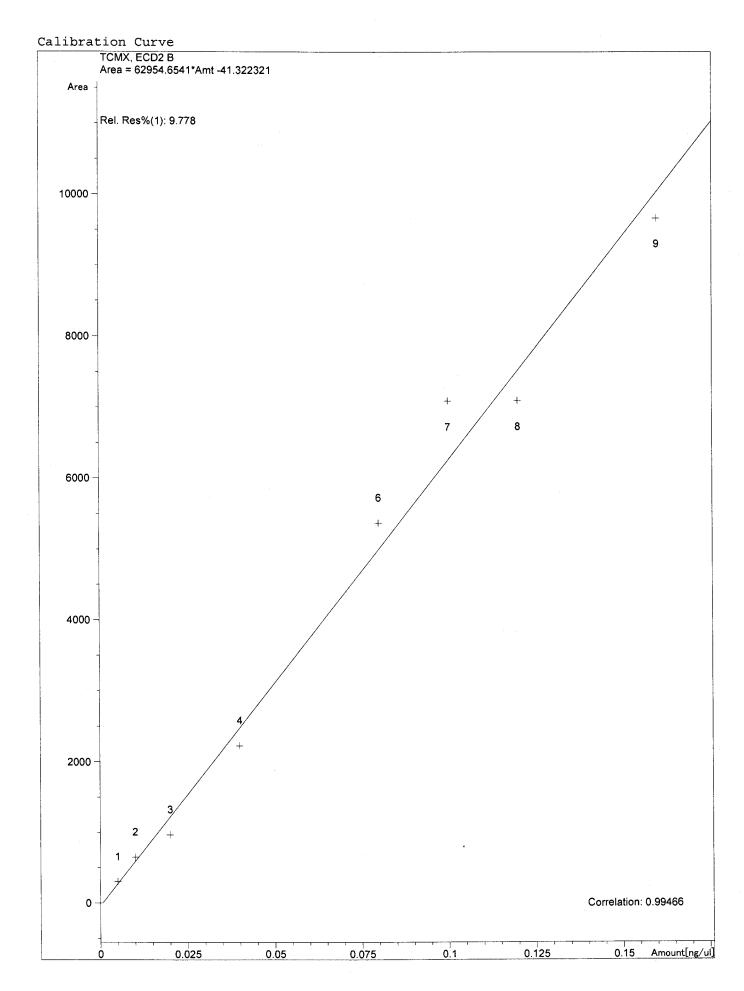
[min] Sig		[ng/ul]			Ref Grp Name
		1.60000	2030.51184	7.87979e-4	1 1
13.352 1	1				1016#4
	2	1.00000e-1	97.48624	1.02579e-3	
	3	2.00000e-1	146.19235	1.36806e-3	
		4.00000e-1			
		8.00000e-1			
		1.00000			
		1.20000			
		1.60000			
13.789 1		5.00000e-2			
		1.00000e-1			
	3	2.00000e-1	203.77571	9.81471e-4	
	4	4.00000e-1	416.59262	9.60171e-4	
	6	8.00000e-1	946.14325	8.45538e-4	
	7	1.00000	1201.25500	8.32463e-4	
	8	1.20000	1238.02075	9.69289e-4	
		1.60000	1654.30457	9.67174e-4	
14.413 2		5.00000e-2			
		1.00000e-1			
		2.00000e-1			
		4.00000e-1			
		8.00000e-1			
		1.00000			
		1.20000			
		1.60000			
14.942 1		5.00000e-2			1260#1
		1.00000e-1			
		2.00000e-1			
		4.00000e-1			
		8.00000e-1			
		1.00000			
		1.20000 1.60000			
15 132 2		5.00000e-2	1109.06628		1260#2
13.132 2		1.00000e-1			1260#2
		2.00000e-1			
		4.00000e-1		1.27724e-3	
		8.00000e-1			
	7		832.26465		
	8	1.20000		1.40826e-3	
	9		1146.42969		
15.595 2		5.00000e-2			1260#3
		1.00000e-1			
		2.00000e-1		1.23374e-3	
	4	4.00000e-1	336.59540	1.18837e-3	
	6	8.00000e-1	724.83252	1.10370e-3	
	7		953.57147		
	8	1.20000	966.42651	1.24169e-3	
	9	1.60000	1317.32751	1.21458e-3	
16.032 2		5.00000e-2			1260#4
		1.00000e-1			
		2.00000e-1			
		4.00000e-1			
		8.00000e-1			
	7		872.81256		
	8		877.06683		
	9	1.60000	1218.72827	1.31284e-3	

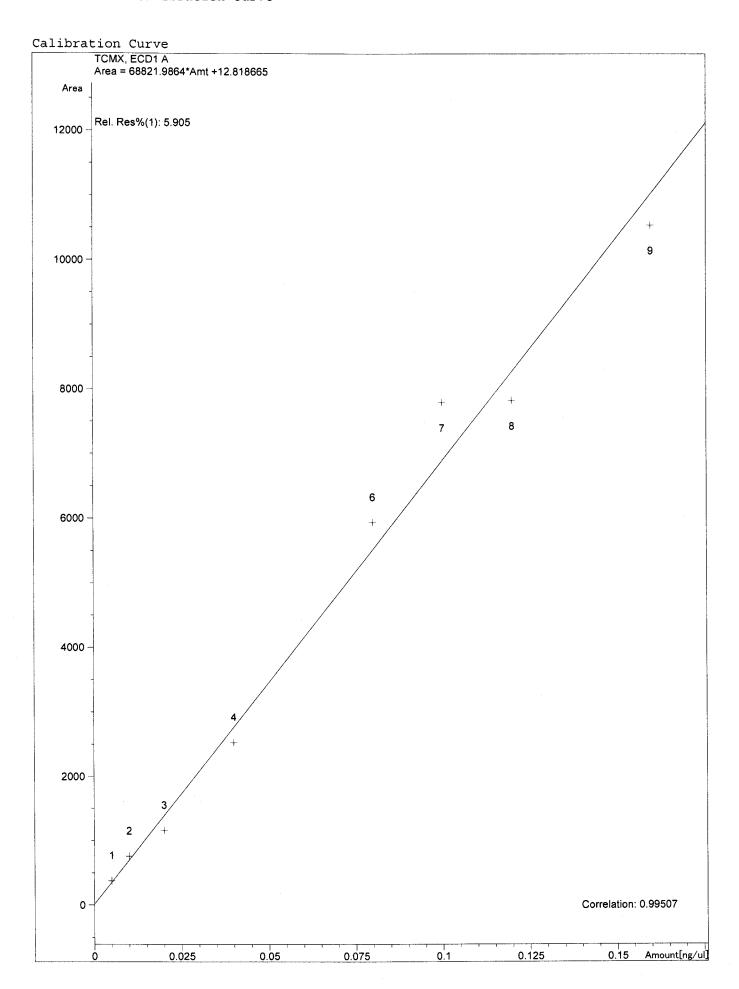
[min] S:	ig		[ng/ul]			Ref Grp Name
	-	-				1260#2
16.146						
		2	1.00000e-1	241.64920	4.13823e-4	
		3	2.00000e-1	345.16608	5.79431e-4	
		4	4.00000e-1	627.71405	6.37233e-4	
				1408.35657		
		7		1803.34827		
		8		1847.44373		
				2448.84204		
16 520					4.23105e-4	1060#2
10.320						
					4.01107e-4	
				353.97952		
				685.25769		
				1441.67871		
		7		1870.40527		
		8	1.20000	1968.98511	6.09451e-4	
		9	1.60000	2600.43359	6.15282e-4	
16.580					5.17251e-4	1260#5
				213.81819		
				286.38934		
				666.58661		
				1500.12317		
				2050.66675		
		8		1998.79541		
				2831.97070		
17.327					6.92248e-4	1260#4
				144.09505		
		3	2.00000e-1	208.24243	9.60419e-4	
		4	4.00000e-1	416.45065	9.60498e-4	
		6	8.00000e-1	875.54248	9.13719e-4	
		7	1.00000	1144.49072	8.73751e-4	,
		8		1176.59229		
		9		1577.61670		
18.308				124.68354		1260#5
		2	1.00000e-1	258.10562	3 874386-4	2200113
		<del>-</del>	2 0000000 1	335.02197	5.074366-4	
				706.41956		
				1554.50366		
		7		2094.50562		
		8		2041.40076		
		9		2838.75171		
18.963				105.94125		DCBP
		2	2.00000e-2	293.63858	6.81109e-5	
		3	4.00000e-2	354.32748	1.12890e-4	
		4	8.00000e-2	842.33331	9.49743e-5	
		6	1.60000e-1	1880.05383	8.51039e-5	
		7	2.00000e-1	2780.13770	7.19389e-5	
				2492.84009		
				3724.18823		
21.429				147.62543		DCBP
				349.45694		2021
				454.35388		
				987.82172		
				2152.60181		
				3040.79321		
				2716.35522		
		9	3.20000e-1	3995.09839	8.00982e-5	

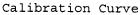
# 10 Warnings or Errors :

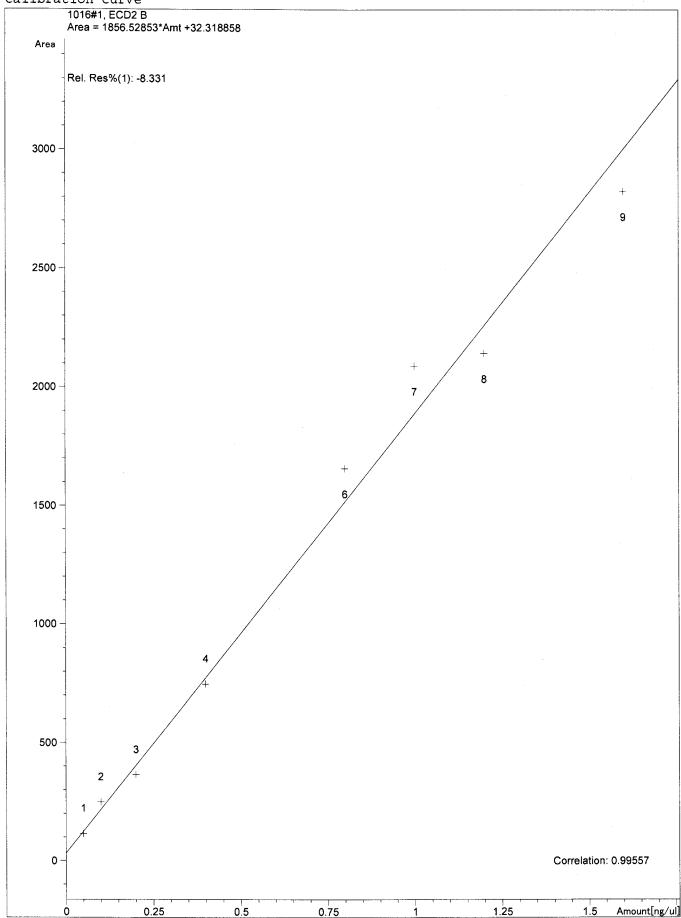
Warning: Overlapping peak time windows at 12.88 min, signal 1 Warning : Overlapping peak time windows at 13.352 min, signal 1 Warning: Overlapping peak time windows at 16.146 min, signal 1 Warning: Overlapping peak time windows at 16.52 min, signal 1 Warning: Overlapping peak time windows at 11.079 min, signal 2 Warning: Overlapping peak time windows at 11.12 min, signal 2 Warning: Overlapping peak time windows at 14.413 min, signal 2 Warning: Overlapping peak time windows at 15.132 min, signal 2 Warning: Overlapping peak time windows at 15.595 min, signal 2 Warning: Overlapping peak time windows at 16.032 min, signal 2 ______ Peak Sum Table

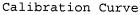
***No Entries in table***

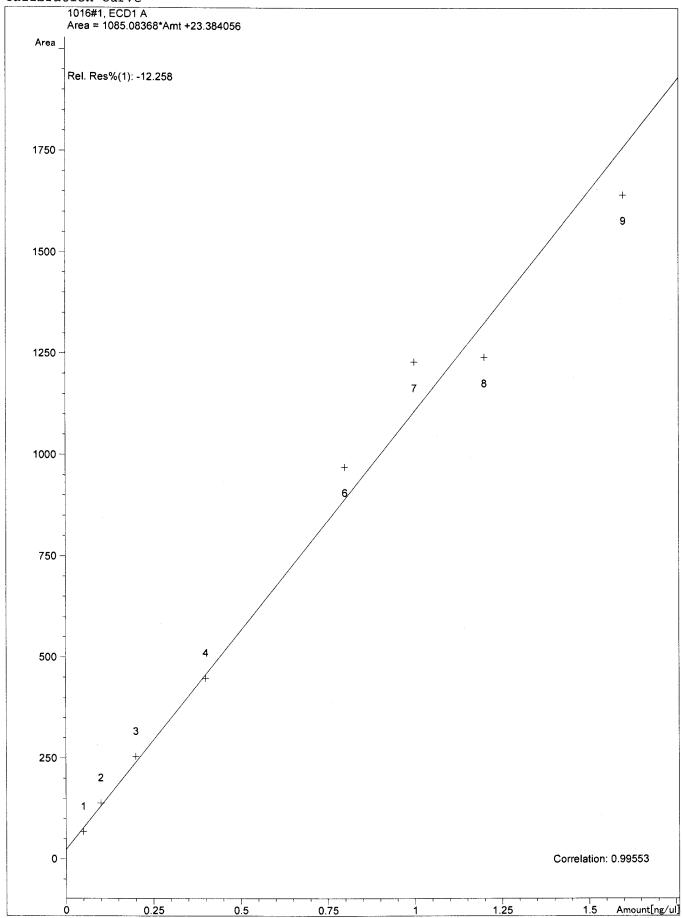


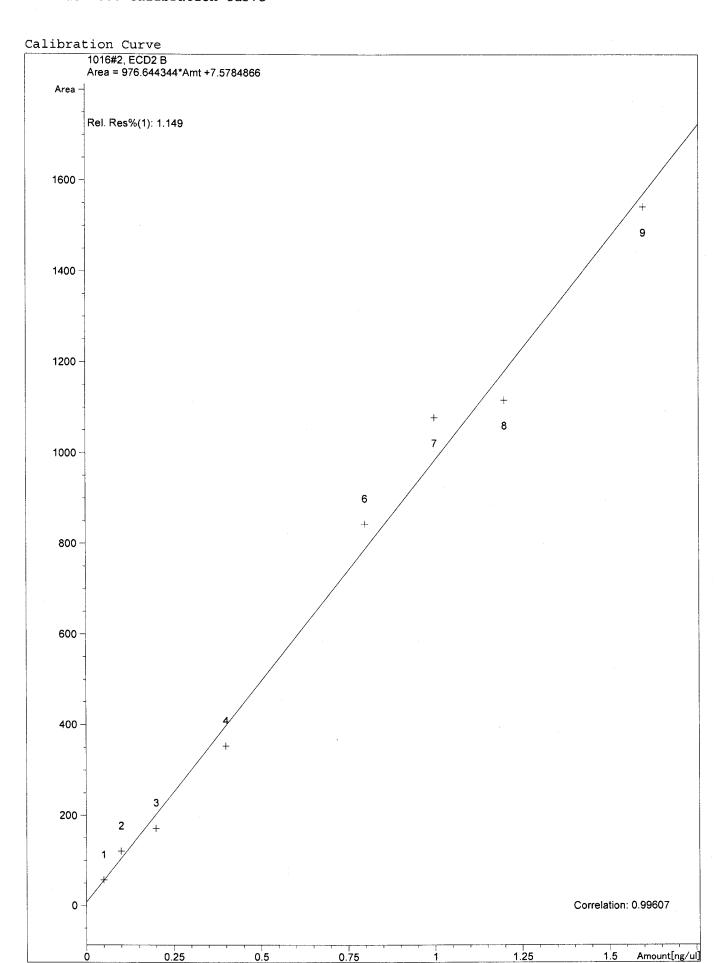


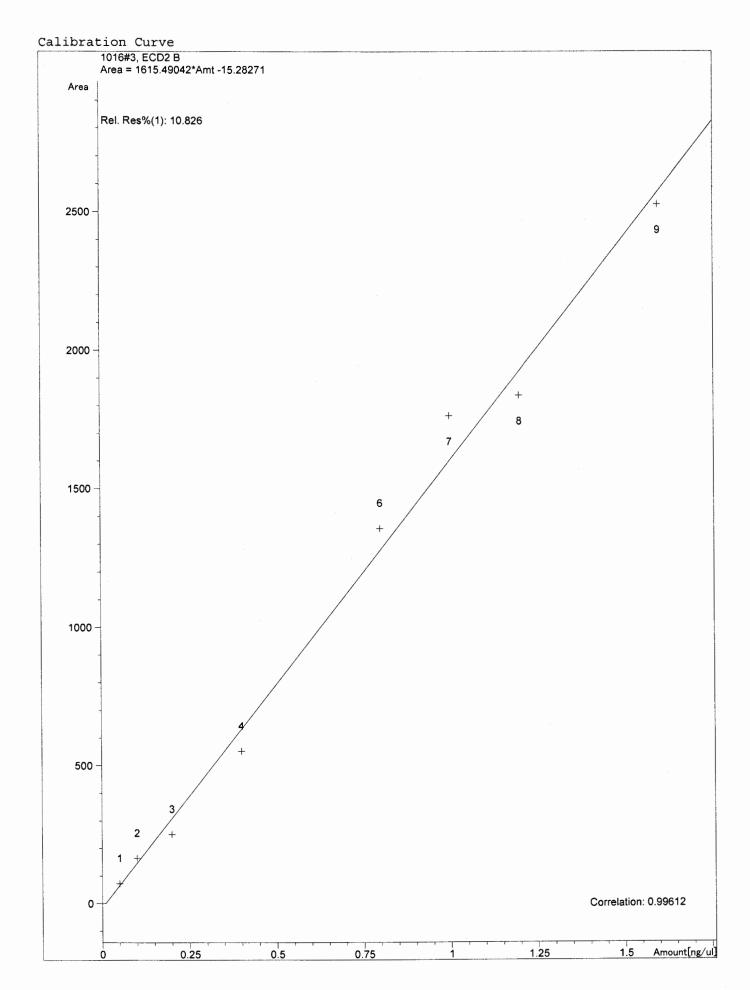


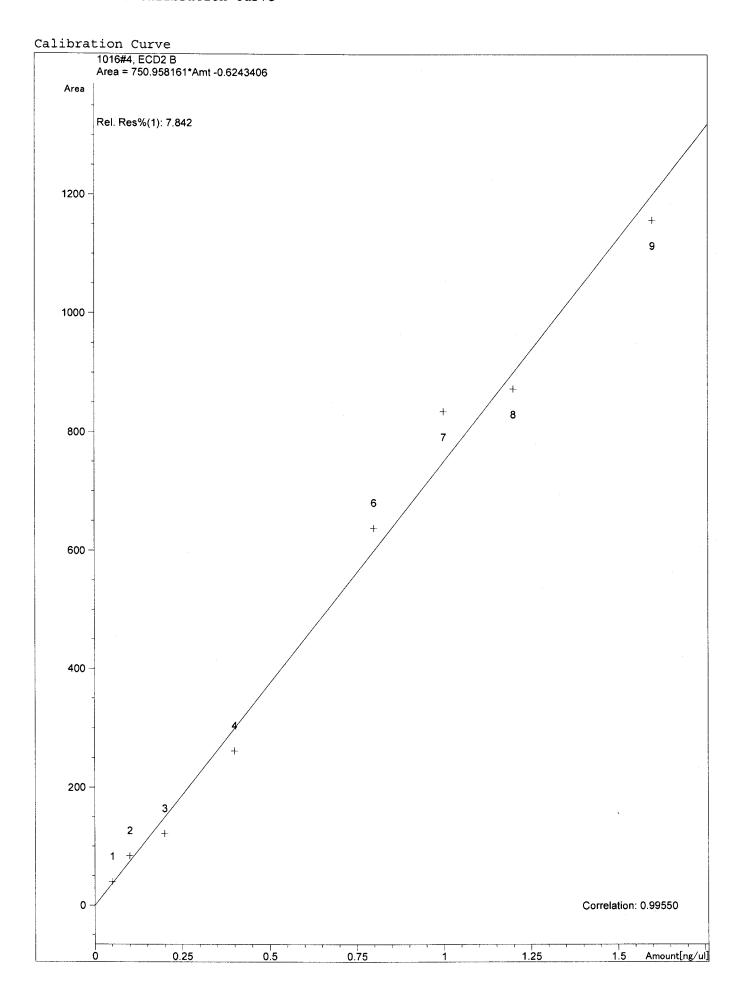


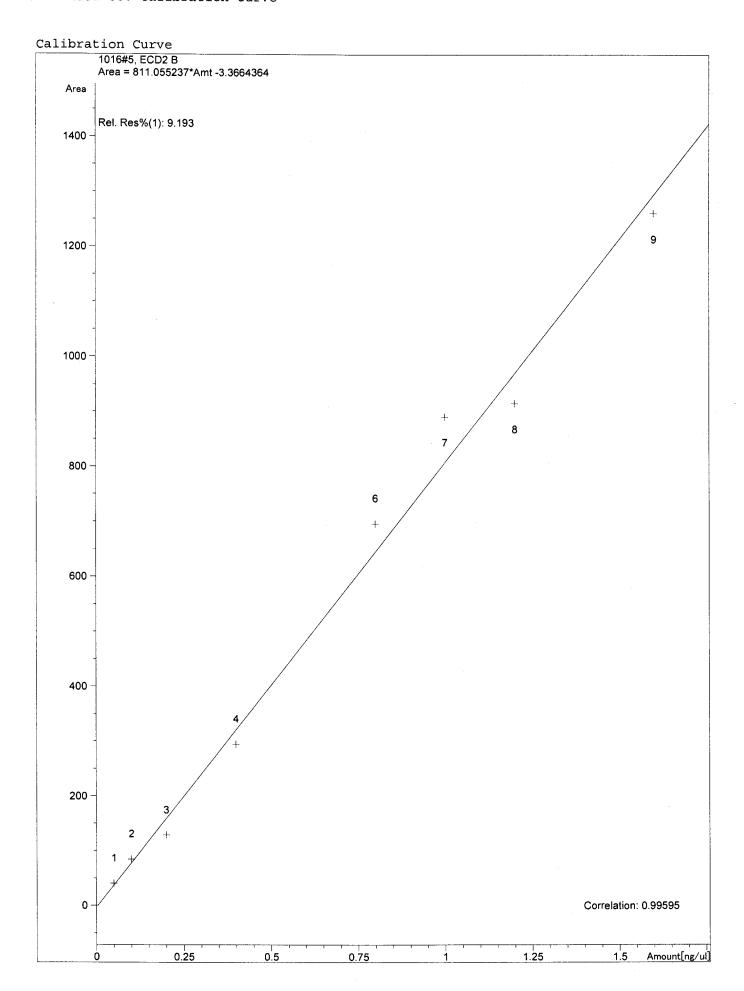


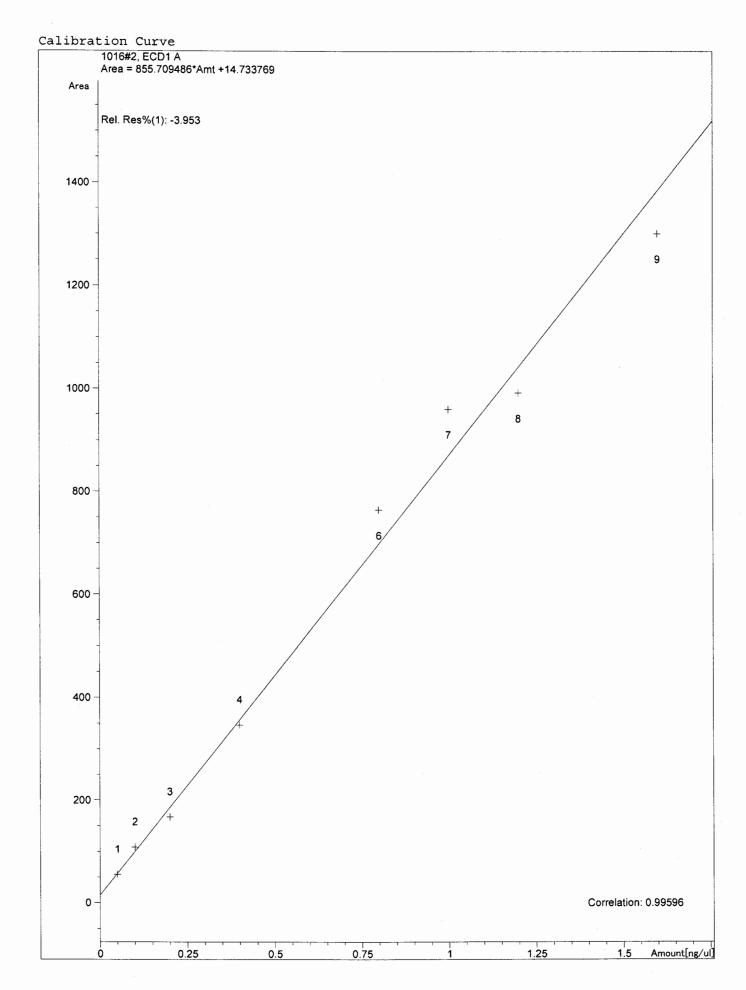


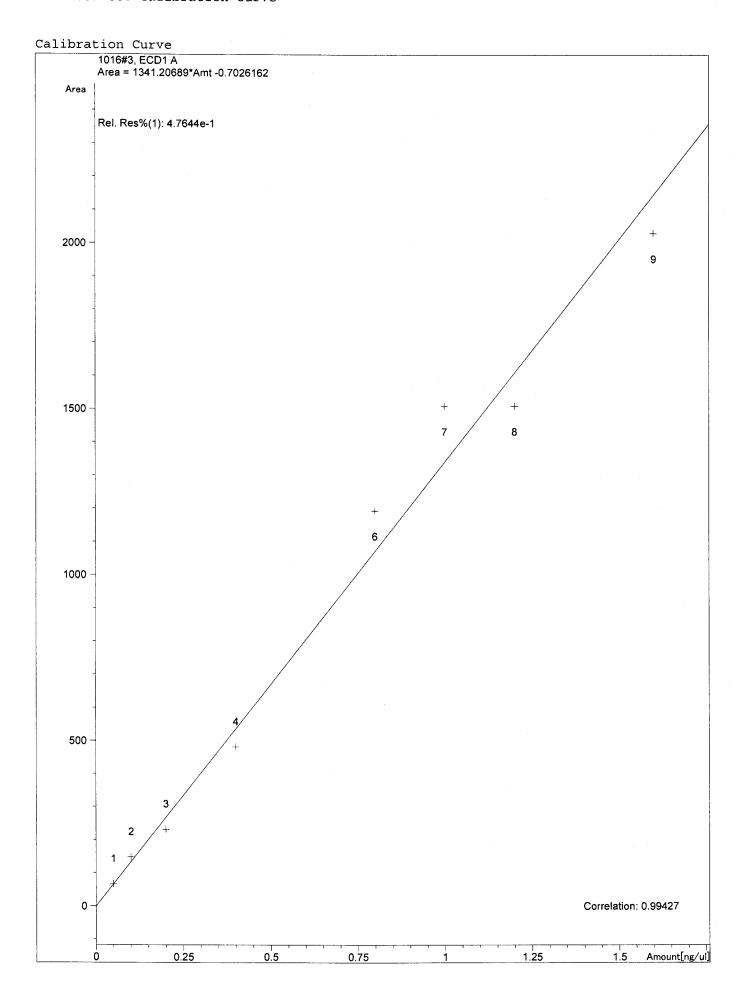


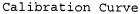


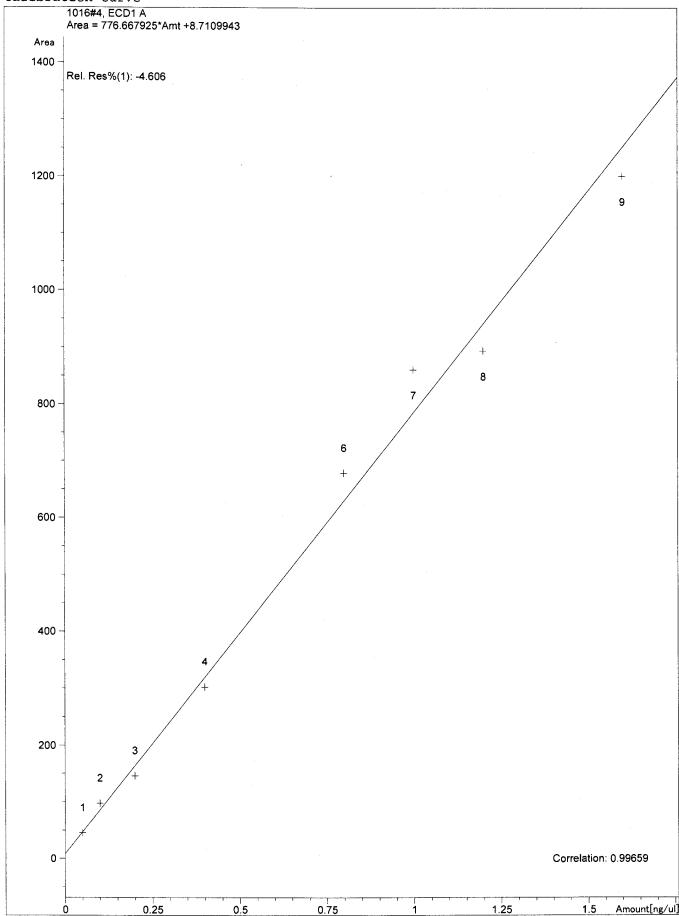


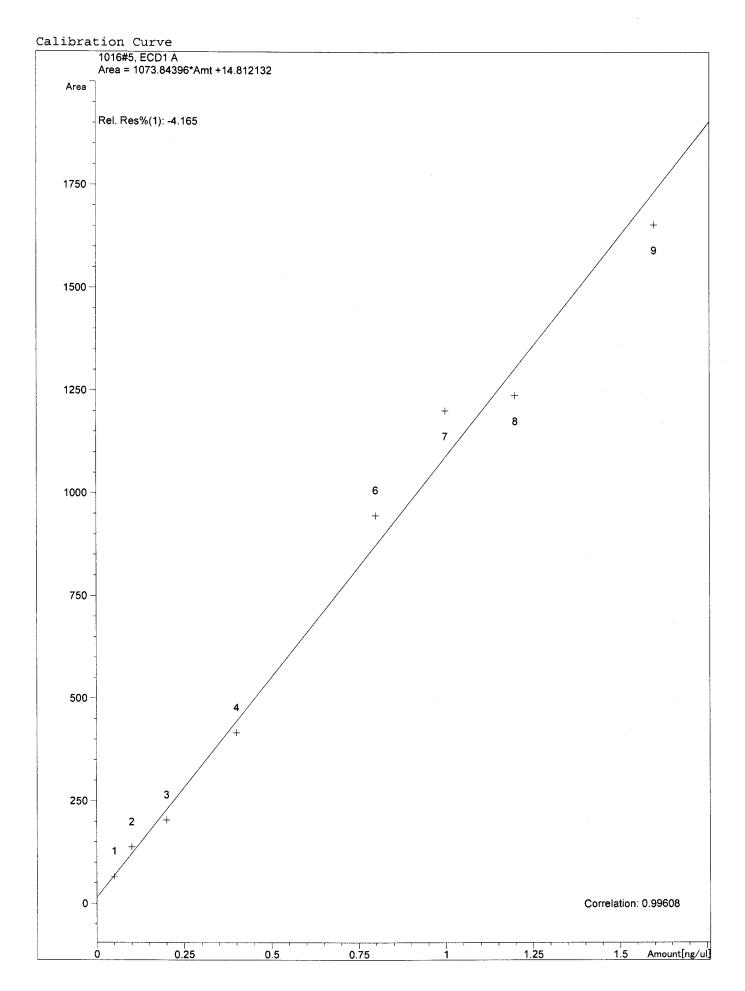


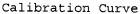


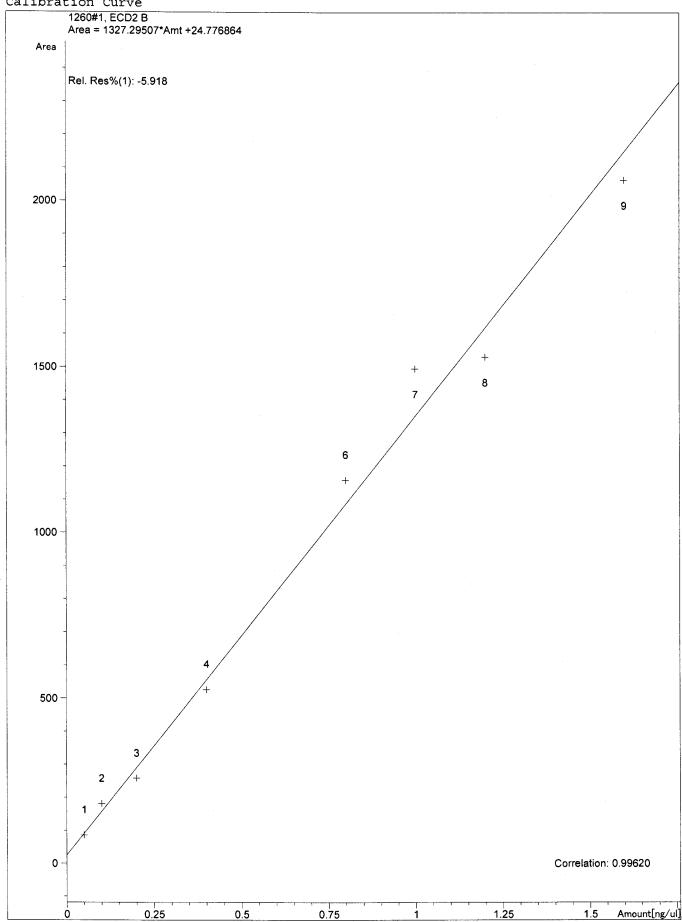


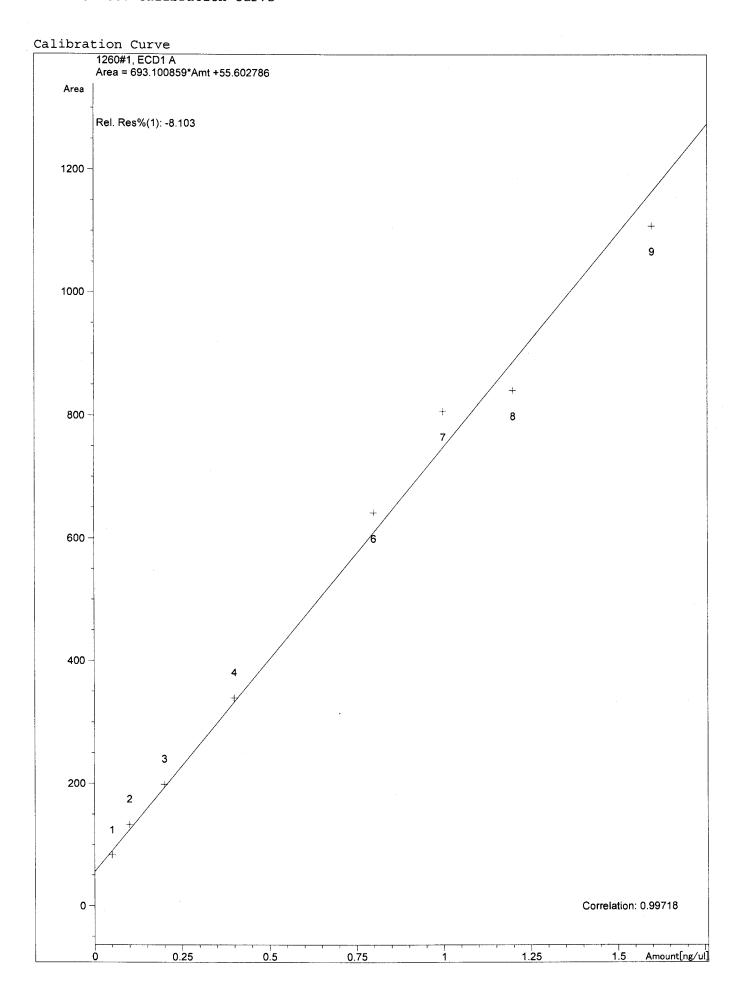


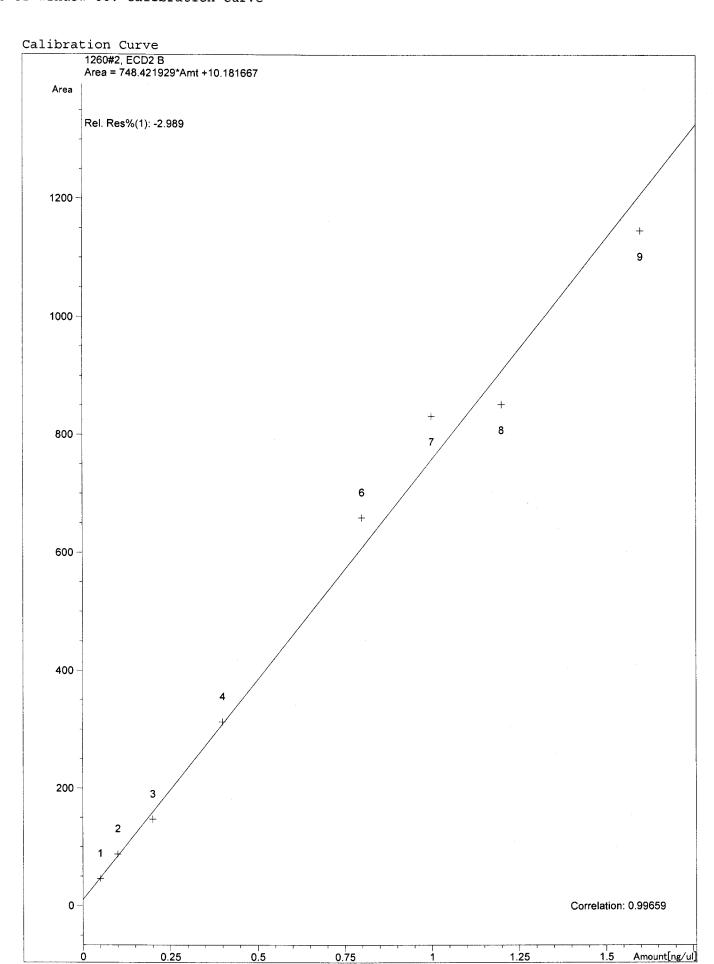


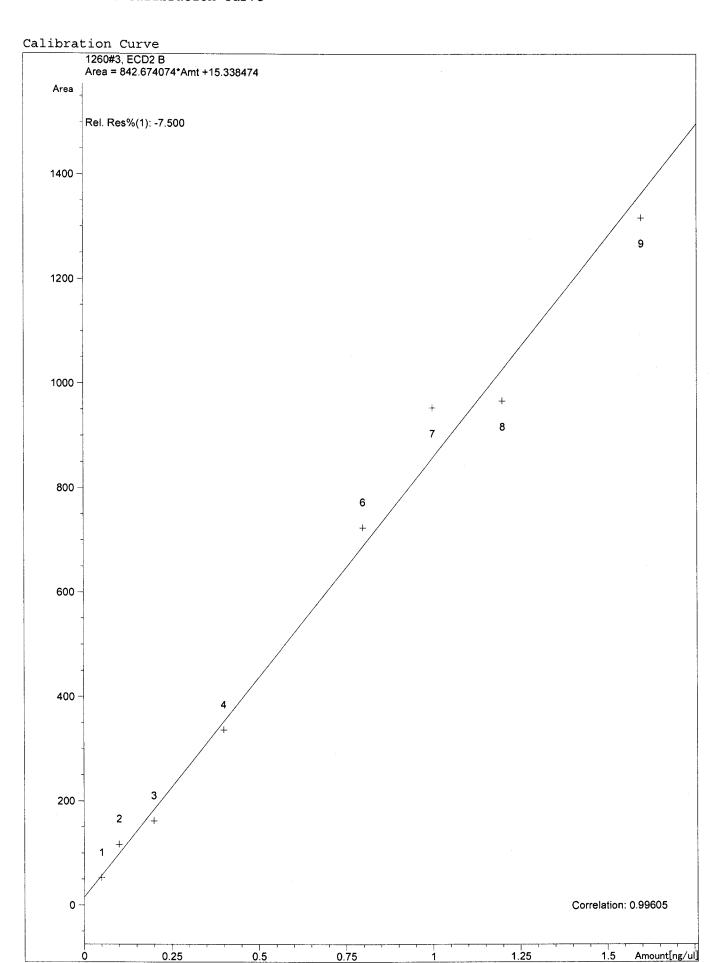


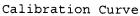


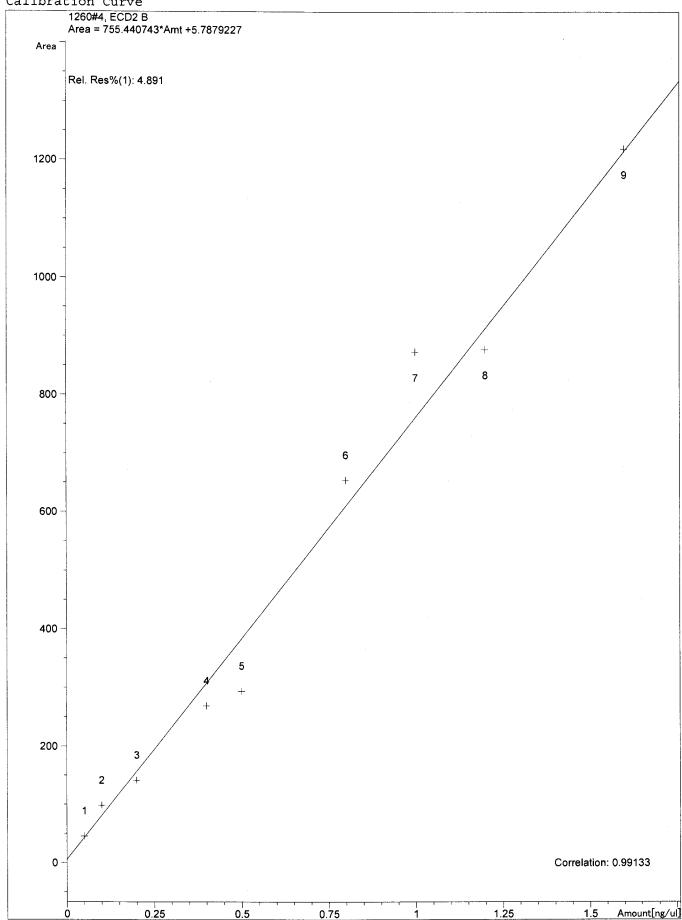


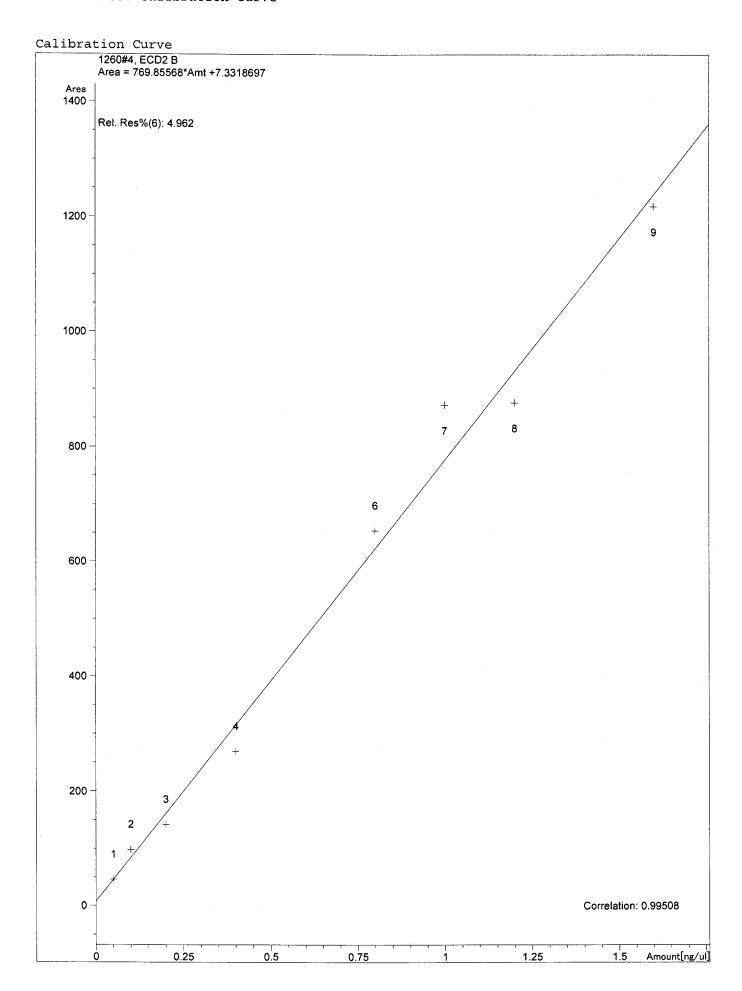


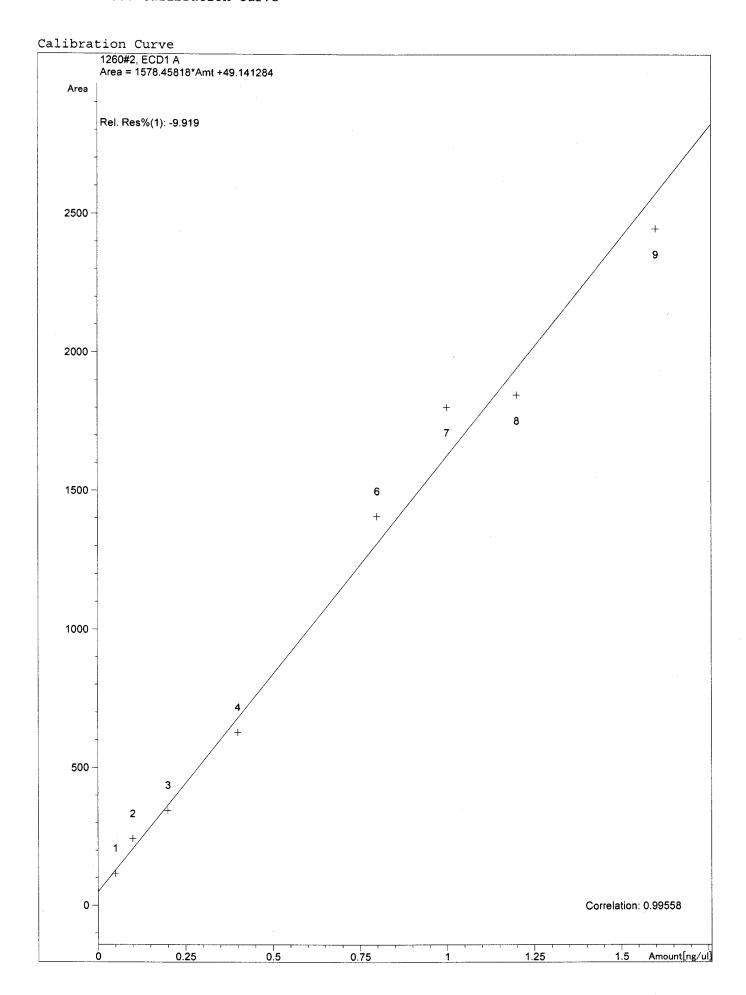


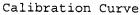


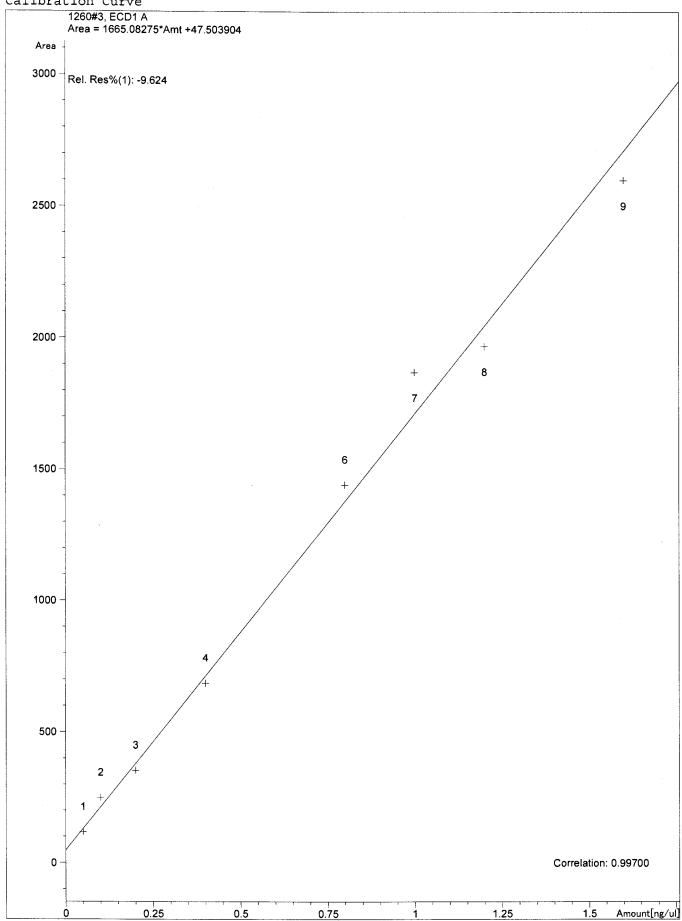


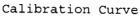


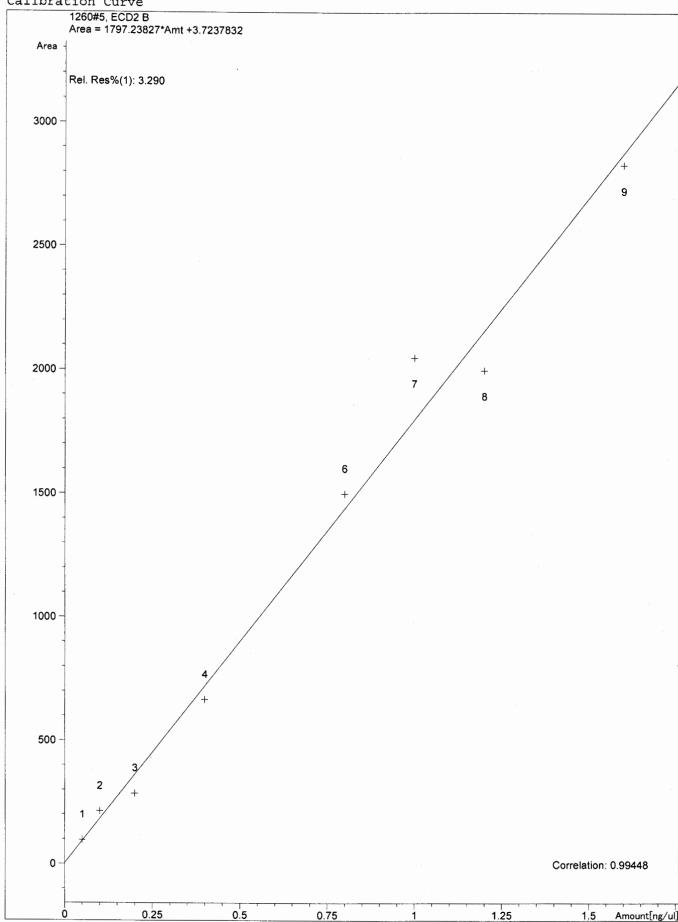


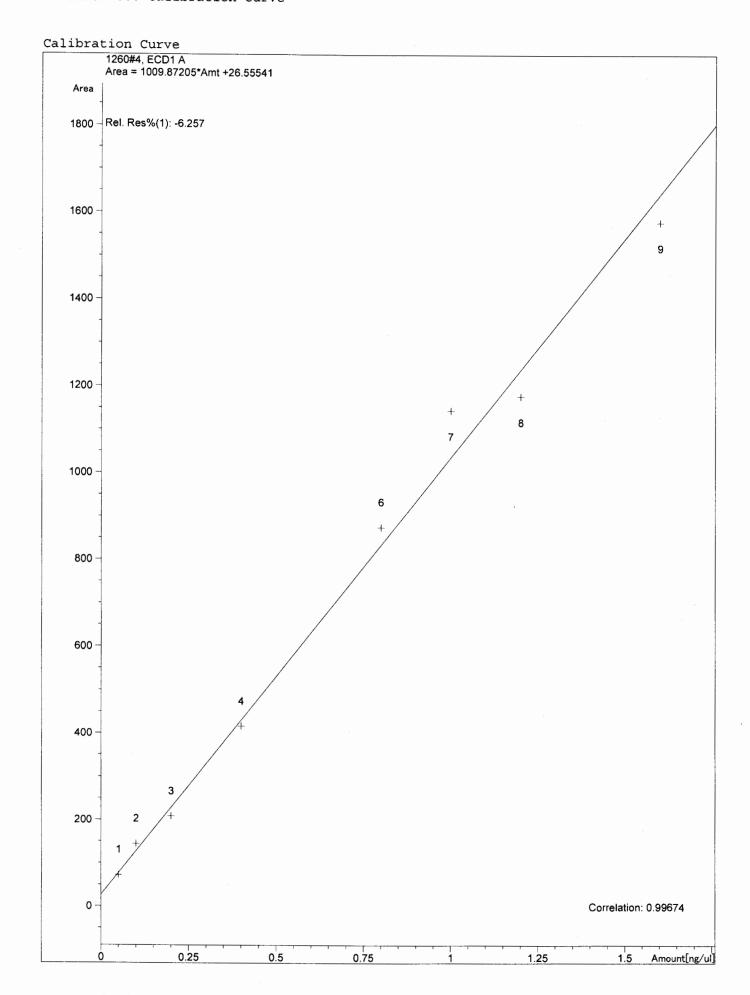


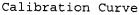


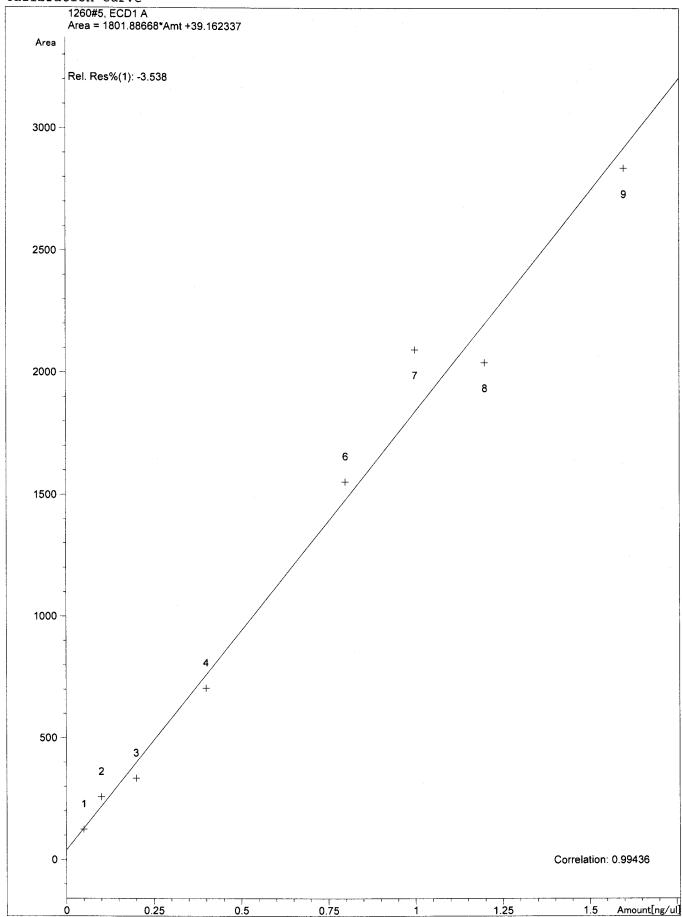


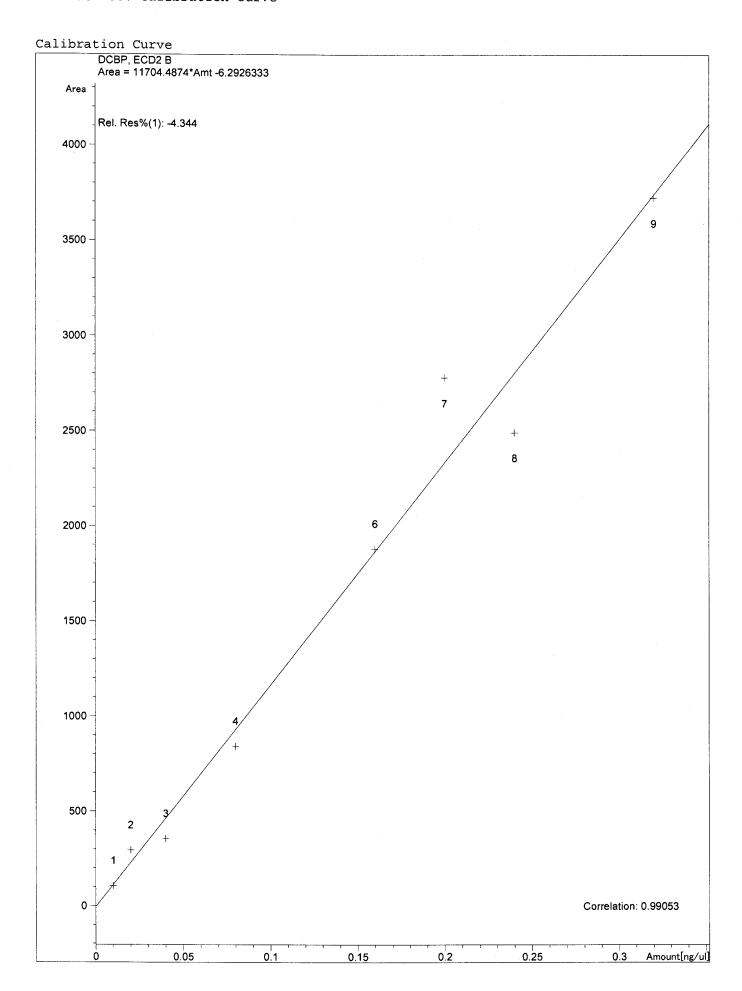


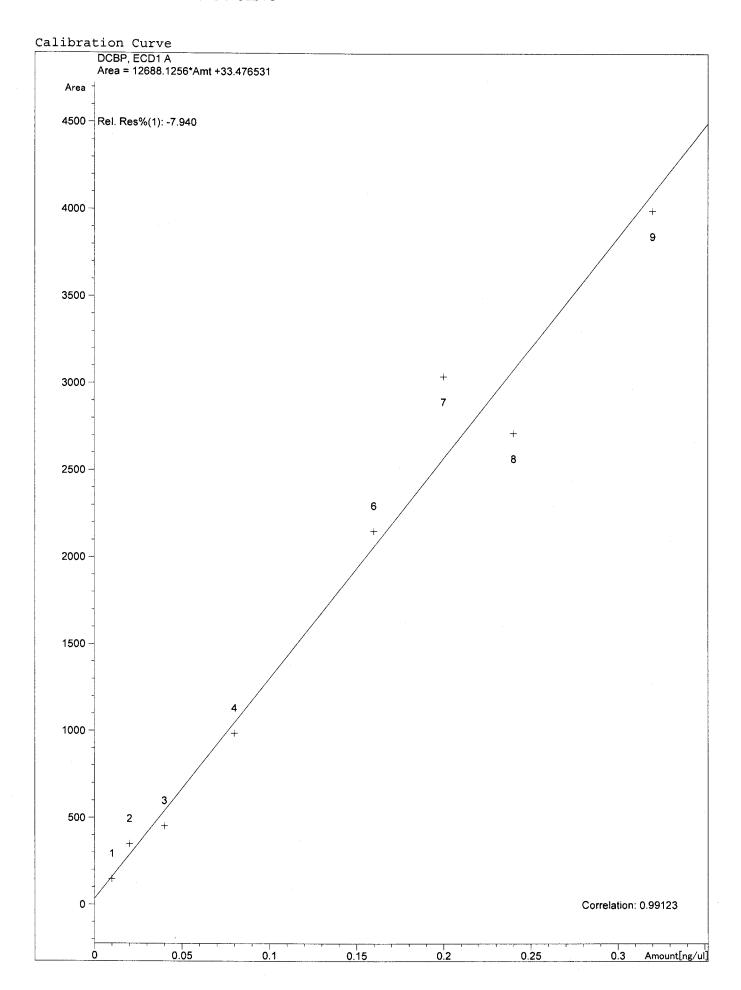












Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0101.D

Sample Name: aro 1660 ccv 1.0 ppm

------

Acq. Operator : Seq. Line : 1
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 1:55:29 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

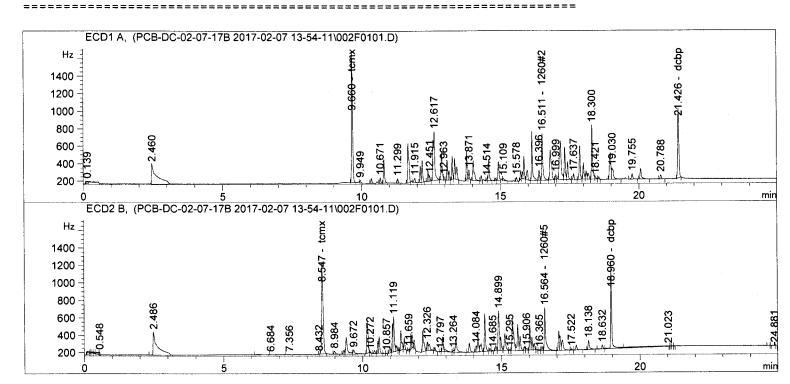
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 9:04:51 AM (modified after loading)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

 Multiplier:
 : 1.0000

 Dilution:
 : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp		
<del>-</del>							-
9.660	BBA	4320.65576	2.90327e-5	1.25440e-1		tcmx	
10.805	BBA	712.96954	1.38227e-3	9.85517e-1		1016#1	
12.184	VB	602.37396	1.77275e-3	1.06786		1016#2	
12.882	BV	935.58862	1.15383e-3	1.07951		1016#3	

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0101.D

Sample Name: aro 1660 ccv 1.0 ppm

Acq. Operator : Seq. Line : 1
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 1:55:29 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 9:04:51 AM (modified after loading)

Sample-related custom fields:

Name | Value |

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
				<b>-</b>	-	<del></del>	
13.433	VBA	457.32785	2.37131e-3	1.08447	1	016#4	
13.789	BBA	725.77637	1.37002e-3	9.94325e-1	1	016#5	
16.140	BB	1528.76526	6.72721e-4	1.02843	1	260#1	
16.511	VB	1546.82397	6.53871e-4	1.01142	1	260#2	
17.168	BV	1932.12756	5.16745e-4	9.98417e-1	1	260#3	
17.323	VV	953.59296	9.87856e-4	9.42012e-1	1	260#4	
17.862	BB	999.27094	9.57249e-4	9.56551e-1	1	260#5	
21.426	BBA	2537.15503	8.61522e-5	2.18581e-1	d	.cbp	

Totals: 10.49254

Signal 2: ECD2 B,

RetTime	Type	Area	Amt/Area	Amount	Grp Name
[min]		[Hz*s]		[ng/ul]	
8.547	BBA	3846.33325	3.12295e-5	1.20119e-1	tcmx
10.166	BBA	1218.12830	7.86829e-4	9.58459e-1	1016#1
11.500	BBA	312.86493	3,10099e-3	9.70192e-1	1016#2
11.737	BV	376.13965	3.20279e-3	1.20470	1016#3
11.783	VBA	306.85605	3.86226e-3	1.18516	1016#4
12.877	BV	449.69937	1.51980e-3	6.83453e-1	1016#5
14.402	BB	1153.55396	8.95007e-4	1.03244	1260#1
15.395	BV	1548.02209	6.45952e-4	9.99947e-1	1260#2
15.588	VV	869.04297	1.16604e-3	1.01334	1260#3
16.024	BV	732.51770	1.33093e-3	9.74929e-1	1260#4
16.564	VB	1732.42883	5.33673e-4	9.24551e-1	1260#5
18.960	VV R	3034.88354	9.60464e-5	2.91490e-1	dcbp

Totals: 10.35877

# 2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Elution order of calibrated compounds may have changed

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0101.D Sample Name: aro 1660 ccv 1.0 ppm Acq. Operator : Seq. Line: 1 Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/7/2017 1:55:29 PM Inj : 1 Inj Volume : 1 μl Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 9:04:51 AM (modified after loading) Sample-related custom fields: Name Value ------Additional Info : Peak(s) manually integrated _______ Summed Peaks Report ______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0601.D

Sample Name: aro 1660 ccv 1.0 ppm

______

Acq. Operator : Seq. Line : 6
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 4:25:51 PM Inj : 1
Inj Volume : 1 ul

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

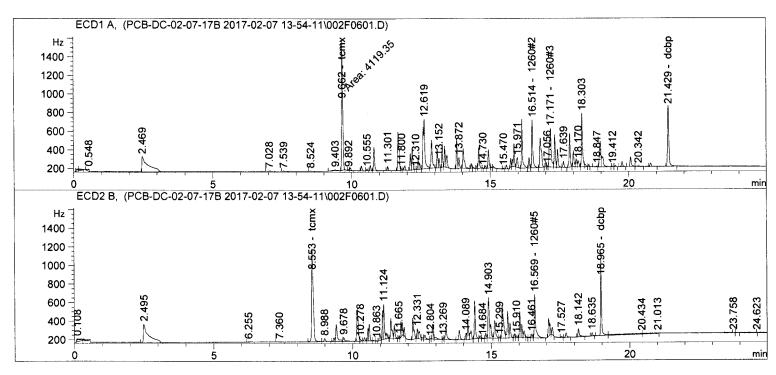
Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 11:24:16 AM

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |

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______

#### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

 Multiplier:
 : 1.0000

 Dilution:
 : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
9.662	MM	4119.35400	2.89778e-5	1.19370e-1		tcmx
10.807	VB	714.48108	1.38232e-3	9.87644e-1		1016#1
12.187	VB	556.55109	1.77084e-3	9.85562e-1		1016#2
12.883	VB	1007.28284	1.15131e-3	1.15969		1016#3
13.435	VB	445.70493	2.36913e-3	1.05593		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0601.D

Sample Name: aro 1660 ccv 1.0 ppm

______

Acq. Operator : Seq. Line : 6 Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/7/2017 4:25:51 PM Inj : 1 Inj Volume : 1 μl

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/4/2017 11:24:16 AM

Sample-related custom fields:

|Value -----

Additional Info : Peak(s) manually integrated

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
13.792	DV	754 60013	1.37033e-3	1.03406		1016#5	
13.752	ъv	754.60913	1.3/0336-3	1.03406		1010#2	
16.142	BB	1441.23071	6.71890e-4	9.68349e-1		1260#1	
16.514	VB	1475.64282	6.53226e-4	9,63929e-1		1260#2	
17.171	BV	1817.68152	5.16407e-4	9.38664e-1		1260#3	
17.325	VV	893.84308	9.86269e-4	8.81570e-1		1260#4	
17.864	BB	934.05682	9.56306e-4	8.93244e-1		1260#5	
21.429	BB	2214.85718	8.53636e-5	1.89068e-1		dcbp	

Totals : 10.17709

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
8.553	BV	3848.64111	3.12299e-5	1.20193e-1	tcmx	
10.172	BV	1211.14258	7.86768e-4	9.52889e-1	1016#1	
11.505	VB	406.80905	3.09483e-3	1.25901	1016#2	
11.742	BV	357.42456	3.20056e-3	1.14396	1016#3	
11.789	VB	298.94312	3.86104e-3	1.15423	1016#4	
12.882	BV	411.16302	1.50412e-3	6.18441e-1	1016#5	
14.407	BB	1095,12915	8.94547e-4	9.79644e-1	1260#1	
15.400	BV	1487.19641	6.46213e-4	9.61046e-1	1260#2	
15.592	VV	824.27826	1.16649e-3	9.61513e-1	1260#3	
16.028	BV	696.12994	1.33189e-3	9.27169e-1	1260#4	
16.569	VB	1610.42395	5.33681e-4	8.59452e-1	1260#5	
18.965	BV	2104.70264	9.45731e-5	1.99048e-1	dcbp	

Totals : 10.13659

# 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing) Warning: Elution order of calibrated compounds may have changed

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0601.D Sample Name: aro 1660 ccv 1.0 ppm Acq. Operator : Seq. Line: 6 Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/7/2017 4:25:51 PM Inj: 1 Inj Volume : 1 μl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/4/2017 11:24:16 AM Sample-related custom fields: Value _____ Additional Info : Peak(s) manually integrated ------Signal 1: ECD1 A, Signal 2: ECD2 B, ______ Final Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0701.D

Sample Name: aro 1660 ccv 1.0 ppm

Acq. Operator : Seq. Line : 7
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 4:54:15 PM Inj : 1
Inj Volume : 1 µl

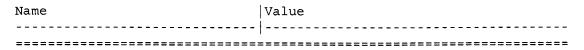
Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

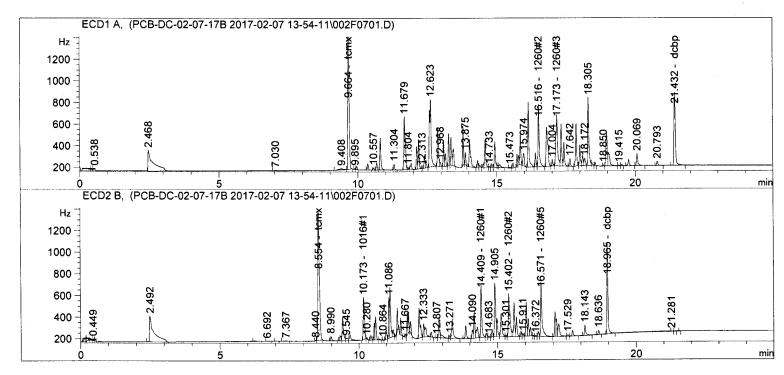
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 8:53:42 AM (modified after loading)

Sample-related custom fields:





# External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	
9.664	BBA	4750.84424	2.91345e-5	1.38413e-1		tcmx
10.810	BBA	777.26465	1.38433e-3	1.07599		1016#1
12.190	VB ·	654.45471	1.77460e-3	1.16139		1016#2
12.887	BV	1033.51807	1.15047e-3	1.18903		1016#3
13.438	VBA	502.90582	2.37891e-3	1.19637		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0701.D

Sample Name: aro 1660 ccv 1.0 ppm

Acq. Operator : Seq. Line : 7
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 4:54:15 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 8:53:42 AM (modified after loading)

Sample-related custom fields:

Name | Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	o Name	
13.794	DD7	704 05100	1.37063e-3	1.07588		1016#5	
13./94	DDA	784.95123	1.3/0636-3	1.07588		1010#2	
16.145	BB	1642,53064	6.73668e-4	1.10652		1260#1	
16.516	VB	1650.70496	6.54711e-4	1.08074		1260#2	
17.173	BV	2038.60437	5.17025e-4	1.05401		1260#3	
17.328	VV	997.14526	9.88892e-4	9.86069e-1		1260#4	
17.866	BB	1035.39172	9.57720e-4	9.91616e-1		1260#5	
21.432	BB	2354.08716	8.57307e-5	2.01818e-1		dcbp	

Totals: 11.25784

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name
[11111]	ı			<b>-</b>	
		1			
8.554	BBA	4224.41846	3.12942e-5	1.32200e-1	tcmx
10.173	BBA	1333.78625	7.87745e-4	1.05068	1016#1
11.508	BBA	365.00998	3.09718e-3	1.13050	1016#2
11.745	BV	426.62643	3.20784e-3	1.36855	1016#3
11.791	VBA	350.81308	3.86802e-3	1.35695	1016#4
12.885	BV	478.92389	1.53000e-3	7.32756e-1	1016#5
14.409	BB	1244.92322	8.95639e-4	1.11500	1260#1
15.402	BV	1653.52283	6.45543e-4	1.06742	1260#2
15.594	VV	915.60999	1.16563e-3	1.06726	1260#3
16.030	BV	767.22424	1.33010e-3	1.02048	1260#4
16.571	VB	1756.83301	5.33672e-4	9.37572e-1	1260#5
18.965	BB	2146.69580	9.46672e-5	2.03222e-1	dcbp

Totals: 11.18260

# 2 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)
Warning: Elution order of calibrated compounds may have changed

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F0701.D Sample Name: aro 1660 ccv 1.0 ppm ------Seq. Line: 7 Acq. Operator : Acq. Instrument : Instrument 1 Location : Vial 2 Injection Date : 2/7/2017 4:54:15 PM Inj: 1Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 8:53:42 AM (modified after loading) Sample-related custom fields: Name Value Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report Signal 1: ECD1 A, Signal 2: ECD2 B, Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F1701.D

Sample Name: aro 1660 ccv 1.0 ppm ending

Acq. Operator : Seq. Line : 17
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 9:38:22 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

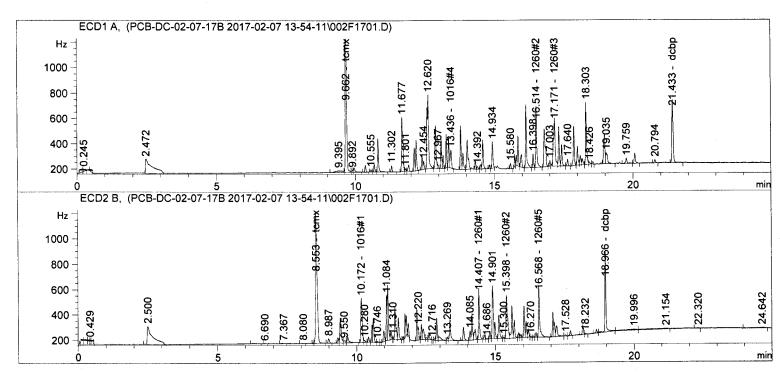
Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 9:38:38 AM

(modified after loading) (Current integration events modified)

Sample-related custom fields:

Name | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value | Value |



### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/4/2017 11:22:32 AM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Type	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name
9.662	VV	4281.12305	2.90224e-5	1.24248e-1		tcmx
10.808	BB	724.39874	1.38266e-3	1.00160		1016#1
12.187	VB	567.64374	1.77133e-3	1.00548		1016#2
12.885	BV	945.71405	1.15345e-3	1.09084		1016#3
13.436	VB	452.08127	2.37034e-3	1.07159		1016#4

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F1701.D

Sample Name: aro 1660 ccv 1.0 ppm ending

______

Acq. Operator : Seq. Line : 17
Acq. Instrument : Instrument 1 Location : Vial 2
Injection Date : 2/7/2017 9:38:22 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M

Last changed : 2/8/2017 9:38:38 AM

(modified after loading) (Current integration events modified)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Gr _r	) Name
13.792	BV	785.24408	1.37063e-3	1.07628		1016#5
16.143	BB	1297.03833	6.70278e-4	8.69377e-1		1260#1
16.514	VB	1289.86829	6.51209e-4	8.39974e-1		1260#2
17.171	BV	1573.05713	5.15521e-4	8.10944e-1		1260#3
17.326	VV	747.68457	9.81320e-4	7.33718e-1		1260#4
17.865	BB	781.63293	9.53486e-4	7.45276e-1		1260#5
21.433	BB	1623.18958	8.31009e-5	1.34888e-1		dcbp

Totals: 9.50421

Signal 2: ECD2 B,

RetTime	Туре	Area	Amt/Area	Amount	Grp	Name
[min]	1	[Hz*s]		[ng/ul]	1 1	
					-	
8.553	VB	3768.82227	3.12146e-5	1.17642e-1	t	cmx
10.172	BV .	1224.45618	7.86884e-4	9.63505e-1	.1	.016#1
11.505	VB	455.26990	3.09265e-3	1.40799	_ 1	L016#2
11.743	BV	391.38177	3.20445e-3	1.25416	1	L016#3
11.790	VB	325.70566	3.86492e-3	1.25883	1	L016#4
12.883	VV	436.81613	1.51487e-3	6.61718e-1	1	L016#5
14.407	BB	1001.63843	8.93699e-4	8.95163e-1	1	L260#1
15.398	BV	1312.82312	6.47098e-4	8.49526e-1	1	L260#2
15.593	VV	698.79822	1.16805e-3	8.16229e-1	1	L260#3
16.029	BV	589.52930	1.33539e-3	7.87252e-1	1	L260#4
16.568	BB	1252.35352	5.33712e-4	6.68396e-1	1	L260#5
18.966	VB	1671.55273	9.33276e-5	1.56002e-1	Ċ	icbp

Totals: 9.83641

### 2 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)
Warning : Elution order of calibrated compounds may have changed

Summed Peaks Report

Data File C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\002F1701.D Sample Name: aro 1660 ccv 1.0 ppm ending Acq. Operator : Seq. Line: 17 Location: Vial 2 Acq. Instrument : Instrument 1 Injection Date : 2/7/2017 9:38:22 PM Inj : 1 Inj Volume : 1 µl : C:\CHEM32\1\DATA\PCB-DC-02-07-17B 2017-02-07 13-54-11\DC-8082-MASTER.M Acq. Method Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-02-17.M Last changed : 2/8/2017 9:38:38 AM (modified after loading) (Current integration events modified) Sample-related custom fields: Name Value _____ ______ _______ Signal 1: ECD1 A, Signal 2: ECD2 B, Final Summed Peaks Report _______ Signal 1: ECD1 A, Signal 2: ECD2 B,

*** End of Report ***

4625aogre081 3 of 3

Compound-related custom fields:

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\011F1301.D

Sample Name: PCB 2ND SS 1.0 UG/ML

_______

Acq. Operator : Seq. Line : 13
Acq. Instrument : Instrument 1 Location : Vial 11

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

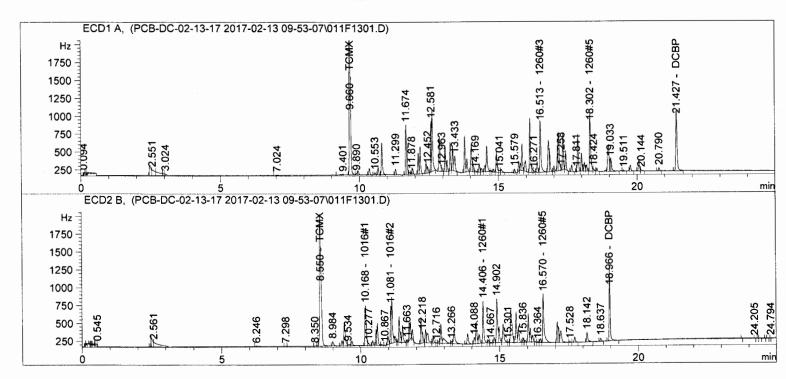
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name | Value



### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/15/2017 1:50:53 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
9.660	BV	7340.47021	1.45049e-5	1.06473e-1		TCMX	
10.805	BV	1227.59937	9.04033e-4	1.10979		1016#1	
12.185	VB	921.15533	1.14993e-3	1.05926		1016#2	
12.882	BV	1433.08398	7.45963e-4	1.06903		1016#3	
13.354	BV	839.58740	1.27419e-3	1.06980		1016#4	
13.790	BV	1177.64197	9.19521e-4	1.08287		1016#5	

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\011F1301.D

Sample Name: PCB 2ND SS 1.0 UG/ML

Acq. Operator : Seq. Line: 13 Acq. Instrument : Instrument 1 Location : Vial 11 Injection Date : 2/13/2017 3:34:49 PM Inj: 1

Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM

Analysis Method : C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 1:54:25 PM

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	) Name	
14.933	BV	768.68634	1.33843e-3	1.02883		1260#1	
16.141	BV	1841.12854	6.16620e-4	1.13528		1260#2	
16.513	VB	2048.17261	5.86642e-4	1.20154		1260#3	
17.324	VB	1145.68823	9.67272e-4	1.10819		1260#4	
18.302	BV	2285.07471	5.45463e-4	1.24642		1260#5	
21.427	BV	2813.50781	7.78761e-5	2.19105e-1		DCBP	

Totals : 11.43659

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name
8.550	VV	6679.44336	1.59827e-5	1.06756e-1		TCMX
10.168	BV	2002.97742	5.29949e-4	1.06147		1016#1
11.081	BV	1056.84814	1.01657e-3	1.07436		1016#2
11.122	VV	1758.63013	6.24386e-4	1.09806		1016#3
11.381	BV	853.31403	1.33261e-3	1.13713		1016#4
12.168	BV	905.21765	1.23755e-3	1.12025		1016#5
14.406	BB	1554.02539	7.41400e-4	1.15215		1260#1
15.125	VB	877.52997	1.32064e-3	1.15890		1260#2
15.592	VV	1110.03345	1.17030e-3	1.29907		1260#3
16.029	BV	996.72687	1.28939e-3	1.28517		1260#4
16.570	VB	2276.12695	5.55499e-4	1.26439		1260#5
18.966	BB	2611.26831	8.56432e-5	2.23637e-1		DCBP

Totals : 11.98136

1 Warnings or Errors :

Warning: Calibration warnings (see calibration table listing)

______

Summed Peaks Report

________

Signal 1: ECD1 A,

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\011F1301.D Sample Name: PCB 2ND SS 1.0 UG/ML Acq. Operator : Seq. Line: 13 Acq. Instrument : Instrument 1 Location : Vial 11 Injection Date : 2/13/2017 3:34:49 PM Inj : 1 Inj Volume : 1 µl Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M Last changed : 2/15/2017 1:54:25 PM Sample-related custom fields: |Value _____ ______ Signal 2: ECD2 B, ______ Final Summed Peaks Report ______

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\008F1701.D

Sample Name: aro 1660 ccv 1.0 ppm

Acq. Operator : Seq. Line : 17
Acq. Instrument : Instrument 1 Location : Vial 8
Injection Date : 2/13/2017 5:28:18 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

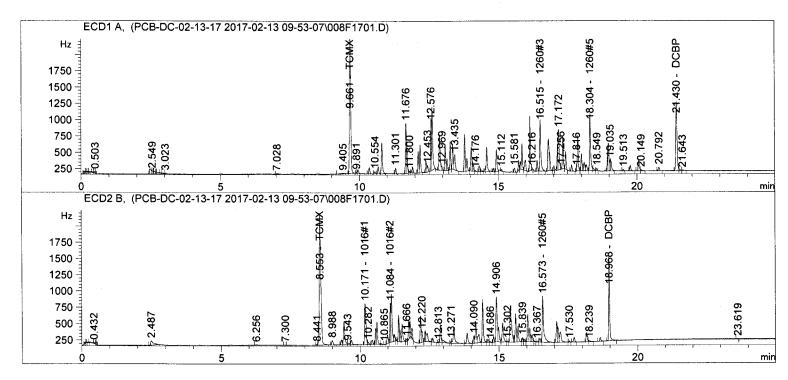
Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 2:13:56 PM (modified after loading)

Sample-related custom fields:

Name | Value



### External Standard Report

Sorted By : Signal

Calib. Data Modified : 2/15/2017 1:50:53 PM

Multiplier: : 1.0000 Dilution: : 1.0000

Do not use Multiplier & Dilution Factor with ISTDs

Signal 1: ECD1 A,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
9.661	BB	8156.06299	1.45074e-5	1.18323e-1	•	TCMX	
10.806	BV	1284.45325	9.04810e-4	1.16219		1016#1	
12.186	VB	1034.76746	1.15198e-3	1.19203	. :	1016#2	
12.884	BV	1604.08264	7.45924e-4	1.19652		1016#3	
13.355	BV	945.39813	1.27569e-3	1.20603		1016#4	

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\008F1701.D

Sample Name: aro 1660 ccv 1.0 ppm

Acq. Operator : Seq. Line : 17
Acq. Instrument : Instrument 1 Location : Vial 8
Injection Date : 2/13/2017 5:28:18 PM Inj : 1
Inj Volume : 1 µl

Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M

Last changed : 2/2/2017 9:17:18 AM

Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M

Last changed : 2/15/2017 2:13:56 PM (modified after loading)

Sample-related custom fields:

Name	Value

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp	Name	
13.791	BV	1302.51892	9.20644e-4	1.19916		1016#5	
14.935	BV	871.68787	1.35076e-3	1.17744		1260#1	
16.143	BV	1939.26978	6.17476e-4	1.19745		1260#2	
16.515	BV	2183.97192	5.87508e-4	1.28310		1260#3	
17.326	VB	1127.21118	9.66896e-4	1.08990		1260#4	
18.304	BV	2420.63965	5.45995e-4	1.32166		1260#5	
21.430	BV	3387.45313	7.80350e-5	2.64340e-1		DCBP	

Totals: 12,40814

Signal 2: ECD2 B,

RetTime [min]	Туре	Area [Hz*s]	Amt/Area	Amount [ng/ul]	Grp Name	
8.553	VV	7461.86865	1.59724e-5	1.19184e-1	TCMX	
10.171	BV	2251.58057	5.30908e-4	1.19538	1016#1	
11.084	BV	1196.37952	1.01743e-3	1.21723	1016#2	
11.124	VV	1981.14160	6.23782e-4	1.23580	1016#3	
11.382	BV	937.82031	1.33252e-3	1.24966	1016#4	
12.170	BV	1005.13995	1.23709e-3	1.24345	1016#5	
14.409	BB	1730.35693	7.42624e-4	1.28500	1260#1	
15.127	VB	968.27643	1.32209e-3	1.28015	1260#2	
15.595	VV	1121.78174	1.17047e-3	1.31301	1260#3	
16.032	BV	1032.85950	1.28972e-3	1.33210	1260#4	
16.573	VB	2423.38354	5.55554e-4	1.34632	1260#5	
18.968	вв	3240.05103	8.56032e-5	2.77359e-1	DCBP	

Totals: 13.09467

### 1 Warnings or Errors :

Warning : Calibration warnings (see calibration table listing)

Summed Peaks Report

_______

Data File C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\008F1701.D Sample Name: aro 1660 ccv 1.0 ppm _____ Acq. Operator : Seq. Line: 17 Location : Vial 8 Acq. Instrument : Instrument 1 Injection Date : 2/13/2017 5:28:18 PM Inj : 1 Inj Volume : 1 µl Acq. Method : C:\CHEM32\1\DATA\PCB-DC-02-13-17 2017-02-13 09-53-07\DC-8082-MASTER.M Last changed : 2/2/2017 9:17:18 AM Analysis Method: C:\CHEM32\1\METHODS\PCB DC ICAL 02-02-17.M\PCB DC ICAL 02-13-17.M Last changed : 2/15/2017 2:13:56 PM (modified after loading) Sample-related custom fields: Name Value ______ ______ Signal 1: ECD1 A, Signal 2: ECD2 B, _______ Final Summed Peaks Report ______

Signal 1: ECD1 A, Signal 2: ECD2 B,

Compound-related custom fields:

*** End of Report ***

	40000000	Prep Ba	atch ID	Prep Batch ID ARS1-P17-00147	<b>1</b>				
		Matri	Matrix	SO					
MERMANOWAL		Prep	Prep Group	SOLID					
PBatch Sample ID	Gamma		Wet Rad	Basis	SDG	Æ	Storage	Client ID	Lab Deadline
ARS1-P17-00147-01	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	003	<b>7</b>	0S-2	02/11/17
ARS1-P17-00147-02	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	900	<b>7</b>	BB-16B	02/11/17
ARS1-P17-00147-03	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	900	7	BB-16A	02/11/17
ARS1-P17-00147-04	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	200	7	BB-17	02/11/17
ARS1-P17-00147-05	×	×	×	DGAM, DINO, DPCB, DRAD, DSVO	ARS1-17-00216	800	40	BB-17 Mud/Sludge	02/11/17

			4	Prep Batch	atch Report - Gamma Spec Aliquot	na Spec Aliquot			
Prep Batch ID	SDG	FR	ICOC ID	Parent ID	Туре	Geometry	Tare 9	Cont+Sample g	Net Sample g
ARS1-P17-00147-	ARS1-17-00216	003			DGAM, DINO, DPCB, DRAD, DSVO	momente de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annual de l'annua			
ARS1-P17-00147-	ARS1-17-00216	900			DGAM, DINO, DPCB, DRAD, DSVO				
ARS1-P17-00147- 03	ARS1-17-00216	900			DGAM, DINO, DPCB, DRAD, DSVO		**************************************		
ARS1-P17-00147- 04	ARS1-17-00216	007		No. 10 10 10 10 10 10 10 10 10 10 10 10 10	DGAM, DINO, DPCB, DRAD, DSVO				
ARS1-P17-00147- 05	ARS1-17-00216	800			DGAM, DINO, DPCB, DRAD, DSVO				

					Æ	Prep Bat	ch Repo	- t	Percen	atch Report - Percent Moisture					
Prep Batch ID SDG FR ICOC ID Parent ID Tare g Cont+Sample Net Sample Over ID	SDG	E	ICOC ID	Parent ID	Tare g	Cont+Sample Net Sample Oven g D	Net Sample g	Oven	Oven Temp C		Stop Time Cont+Sample Net Sample % Soild % Moisure	Cont+Sample Net Sample % Solid % Molsure 9	Net Sample 9	pijos %	% Moisur
<b>ARS1-P17-00147-</b> ARS1-17-00216 003	ARS1-17-00216	903		255893	6.63		18.61	е	120	2/2/2017 3:49 PM	2/3/2017 8:00 AM	21.09	14.46	77.70%	22.30%
ARS1-P17-00147- ARS1-17-00216 005	.RS1-P17-00147- ARS1-17-00216 0	900	256339	255887	6.64	24.15	17.51	٣	120	2/2/2017 3:49 PM	2/3/2017 8:01 AM	22.20	15.56	88.86%	11.14%
ARS1-P17-00147- ARS1-17-00216 006	ARS1-17-00216	900	256340		jana en en en en en en en en en en en en en	28.33	21.69			2/2/2017 3:49 PM	2/3/2017 8:00 AM		18.80	86.68%	2
ARS1-P17-00147- ARS1-17-00216	ARS1-17-00216	002	256341	255889	************	20.98	14.36	т	<u>.</u>	2/2/2017 3:49 PM	2/3/2017 8:00 AM	18.47	11.85	82.52%	17.48%
ARS1-P17-00147- ARS1-17-00216 008	ARS1-17-00147-         ARS1-17-00216         008         255342         255890         6.59         291.47         284.88         3         120         1/27/2017 5:08 PM         1/28/2017 9:31 AM         65.39         58.80         20.64%         79.36%	800	256342	255890	6.59	291.47	284.88	ю	120	1/27/2017 5:08 PM	1/28/2017 9:31 AM	65.39	58.80	20.64%	79.36%

Printed: 2/3/2017 12:45 PM Page 1 of 1



### SDG ARS1-17-00216

7	INTERNATIONAL								
Fraction	Container	Client ID	Aliquot	Units	Geometry	Prep Type	Origin	Origin2	ICOC ID
001	1	BB-16L	211.0000	g		ORIG	SCI		255884
001	2	BB-16L	1195.0000	g	······································	ORIG	SCI	······································	255894
001	2	BB-16L	549.6800	g		DRYF	PRP	***************************************	256078
001	2	BB-16L	292.7500	g	250 mL Jar	DGAM	PRP		256081
001	2	BB-16L	37.2600	g		DRAD	ALI	Manual	256085
001	2	BB-16L	2.5078	g		DRAD	PRO	ARS-032	256122
002	1	BB-18	218.0000	g		ORIG	SCI	***************************************	255883
002	2	BB-18	237.0000	g		ORIG	SCI		255895
002	3	BB-18	234.0000	g		ORIG	SCI	earrannean earrannean ann ann ann ann ann ann ann ann a	255896
002	4	BB-18	1366.0000	g		ORIG	SCI	***************************************	255899
002	4	BB-18	683.3300	g		DRYF	PRP		256079
002	4	BB-18	381.3300	g	250 mL Jar	DGAM	PRP	· · · · · · · · · · · · · · · · · · ·	256082
002	4	BB-18	52,0400	g		DRAD	ALI	Manual	256086
002	4	BB-18	2.5164	g		DRAD	PRO	ARS-032	256123
003	1	OS-2	226.0000	g		ORIG	SCI		255885
003	2	OS-2	206.0000	g	~~~~	ORIG	SCI		255893
003	2	OS-2	18.6100	g		DRYF	PRP	······································	256338
004	1	BB-19M	1266.0000	g		ORIG	SCI		255886
004	2	BB-19M	238,0000	g		ORIG	SCI	and the second second second second second second second second second second second second second second second	255892
004	3	BB-19M	211.0000	g		ORIG	SCI	····	255897
004	4	BB-19M	216.0000	g		ORIG	SCI		255898
004	4	BB-19M	742.2500	g	***************************************	DRYF	PRP		256080
004	4	BB-19M	284.5300	g	250 mL Jar	DGAM	PRP	•••••	256083
004	4	BB-19M	34.3700	g		DRAD	ALI	Manual	256087
004	4	BB-19M	2.5041	g		DRAD	PRO	ARS-032	256245
005	1	BB-16B	214.0000	g	**************************************	ORIG	SCI	***************************************	255887
005	1	BB-16B	17.5100	g	erende som versen som årske klamment men ockser et træmmelde det helse koloniske klamet en skore.	DRYF	PRP		256339
006	1	BB-16A	228.0000	g		ORIG	SCI		255888
006	1	BB-16A	21.6900	g	**************************************	DRYF	PRP		256340
007	1	BB-17	206.0000	g		ORIG	SCI		255889
007	1	BB-17	14.3600	g		DRYF	PRP	***************************************	256341
007	2	BB-17	215.0000	g	en communication and an analysis and an analysis and an analysis and an analysis and an analysis and the contr	ORIG	SCI	***************************************	255891
800	1	BB-17 Mud/Sludge	352.0000	g		ORIG	SCI	***************************************	255890
800	1	BB-17 Mud/Sludge	22.0400	g	······································	DRAD	ALI	Manual	256084
008	1	BB-17 Mud/Sludge	2.5081	g		DRAD	PRO	ARS-032	256124
800	1	BB-17 Mud/Sludge	284.8800	g		DRYF	PRP		256342
						······································			



# **Standard Information**

SDG# ARS1-17-00216 COC SOLID SAMPLES

### STD ID: S-0313

ARS	Add/Edit Secondary Stds	Parent Sta	ndard Data	
	Planning	Parent Solution Reference #	75186:326	and the second second second
Planning Comments	Create a Sr-90 LCS Standard	Parent Solution #	8-0160	TORK AND THE
Target dpm/g (on dil. date)	46.66	Parent Principal Radionuclide		alf Life (Days) 10409.6250000
Target Final volume mL	1000	Parent Reference Date	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	
Appx mass g of Parent Sol'n	12:82144386	Parent Certified Act	4521.643783 Certi /	Act/Vol Units dpm g
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### QUALITY CONTROL PROGRAM

### AMERICAN RADIATION SERVICES RADIOACTIVE REFERENCE SOLUTIONS ANNUAL ACTIVITY VERIFICATION

**VERIFICATION DATE** 

5/9/2016 16:52 date counted

STANDARD REFERENCE # \$ 50313

Principal Radionuclide

Sr-90

Half Life, Years ENTER -->

2.880E+01

2.880E+01

OR --->

Half Life, Days

1.0520E+04 1.0520E+04

Sr-90 Radionuclide

**Dilution Reference Date** 

5/5/2016 0:00

**Dilution Activity** Verif. Date Decay Corrected

19.75 pCi per gram ===> dpm/g 19.74 pCi per gram ===> dpm/g 43.85 43.83

Minimum of 3 Required MUNICHE PROFILE Decay Corrected **Decay Corrected** Net Weight Activity Result (dpm/g) Trial ID Sample Counts | Count Time (min) Detector Efficiency Bkg. (cpm) Activity Result (pCl/g) 1.4.4 ALC: N S-0313-V1 2347.00 120 A2 1.005 0.4153 1.26 43.82 19.74 2336.00 120 S-0313-V2 АЗ 0.99 1.009 0.4145 44.17 19.90 2335.00 120 S-0313-V3 **A**4 0.4147 1.05 1.008 44.01 19.82 120 S-0313-V4 2329.50 B₁ 0.4033 0.83 1.011 45.58 20.53 2363.00 120 **B2** 0.80 S-0313-V5 0.4193 1.009 44.65 20.11

> Average 44.44 20.02 Two Sigma Uncertainty 1.38 0.62 **PASS** Standard Deviation percent of known concentration 1.60% 1.60% Target Activity

5% Max

PASS

% Diff

43.83 19.74 1.39% 1.40%

Verification Expiration Date: May 9, 2017

Prepared & Counted By Jacob

10% Max

5/9/2016 16:52

Verified & Approved By

QC Approval DLY

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### Sr-90 Verification

### 5/9/2016

Tech:	,	J Byrd
		,

Pipet #

Scale ID 12332539

Standard # S-0313

Sample ID	Std weight g.
S-0313-V1	1.0053
S-0313-V2	1.0091
S-0313-V3	1.0084
S-0313-V4	1.0109
S-0313-V5	1.0091

Performed By: J Byrd

GEN 239 A 35723 Sr WJS

TOD	5/9/16 16:52	5/9/16 16:52	5/9/16 16:52	5/9/16 16:52	5 5/9/16 16:52
Voltage	1402.5	1402.5	1402.5	1402.5	1402.5
Count Time			120		
Beta	4694	4672	4670	4659	4726
Alpha	12	2	14	2	18
Sample ID	S-0313-V1	S-0313-V2	S-0313-V3	S-0313-V4	S-0313-V5
Detector ID Sample ID Alpl	<b>V</b> 2	A3	A4	B1	B2

GEN 233 A 35723 LONG BKG WJS

TOD	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00
Voltage	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5
Count Time	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006
		1137														
Alpha	61	86	86	77	46	88	32	26	43	46	22	105	41	65	တ္တ	24
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	B1-01	B2-01	B3-01	B4-01	D1-01	D2-01	D3-01	D4-01
Detector ID	A1	A2	A3	A4	ပ	C5	င္ပ	C4	B1	82	B3	B4	10	D2	D3	D4

Tech:

J Byrd

Pipet #

12332539

Scale ID Standard # S-0313

Sample ID	Std weight g.
S-0313-V1	1:0053
S-0313-V2	1,0041
S-0313-V3	1.0084
S-0313-V4	10109
S-0313-V5	1.0091

Performed By: J Byrd

ARS	Add/Edit Secondary Stds	Parent Stand	dard Data
9	Planning	Parent Solution Reference #	75186-516
Planning Comments	Create a Surgo LCS standard	Parent Solution #	S-0160
Target dpm/g (on dil. date)	46.66	Parent Principal Radionuclide	Sr-90 Half Life (Days) 10409:6250000
Target Final volume mL	1000	Parent Reference Date	06/01/2007 12:00
Appx mass g of Parent Sol'n	12.80817542	Parent Certified Act	4521,641783 Certi Act/Vol- Units dpm g
Appx vol mi of Parent Sol'n	A STATE OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE P	Parent Cert Act Uncert 1 Sigma	0.017
Expected Addition for Analysis g	1	Parent Sp. Gravity G/MI	Particular of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Con
Star	ndards Preparation / Dilution	Parent Supplier	Analytics
Secondary Solution #	5-0313	Parent Date Recvd	05/21/07
Dilution Date (New Ref Date)	5-5-16	Parent Received By	AGuerraro
Ampoule, Empty (g)		Parent Cert Exp Date	
Ampoule /Solution Gross (g)	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	Parent Matrix	.1M HCL with 30 ug/g Sr carrier
Net Wt Removed (g)		Certified dpm/g At Ref Date	4521.643763
Transfer Container, empty (g)	17. 2513	Certifled dpm/g on 04/19/2016 10:49	3642.985708
Container Plus Solution (g)	29.2848	TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL	Intermediate standard for creating LCS standards, Dilution performed as stated above by BSteffensBJS 6/1/2007
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DPM Xferred on 04/19/2016 10:49			
Diluent/matrix		Parent Tech	BStoffens
Diluent Density Cont, empty (9)		(s_Primary	FALSE
Test Mass of 5 ml of Diluent (g)		ls_LCS	FALSE
Diluent Density Test - (g/mL)		ls_Tracer	FALSE
Dilution Empty Container Mass (g)	258,23	ls_Calib	FALSE
Dilution Full Cont g (if measured)	1256,98		
ilution Final Volume ml (if measured)	1000 mL	realization to the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the	
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Final Dil New Ref Date/Time	04/19/2016 10:49		



**Isotope Products** 

2777/ Avenue Hubills Valencia, California 91355

Tel 661-309-1010 Fax 661-257-8303



## CERTIFICATE OF CALIBRATION MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

11-0530

Source No.:

1559-72-6

P.O. No.:

EG-ML

Reference Date:

1-Feb-12

12:00 PST

Contained Radioactivity:

2.549

94.31

kBq

Physical Description:

Catalog No.:

A. Capsule type:

B. Nature of active deposit:

Customer supplied tuna can Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (375.2 grams)

D. Backing: E. Cover:

Steel Steel

Gamma-Ray Nuclide Energy (keV)		Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.	
47	Pb-210	22.3 ± 0.2 years	4.18	0.5834	902.3	7.0 %	
60	Am-241	432.17 ± 0.66 years	36.0	0.05866	781.4	3.0 %	
88 .	Cd-109	462.6 ± 0.7 days	3.63	0.5345	717.9	3.1 %	
122	Co-57	271.79 ± 0.09 days	85.6	0.02013	637.6	3.1 %	
159	Te-123m	119.7 ± 0.1 days	84.0	0.02758	857.2	3.0 %	
320	Cr-51	27.706 ± 0.007 days	9.86	0.6881	2510	3.0 %	
392	Sn-113	115.09 ± 0.04 days	64.9	0.1048	2517	3.0 %	
514	Sr-85	64.849 ± 0.004 days	98.4	0.1282	4668	3.0 %	
662	Cs-137	30.17 ± 0.16 years	85.1	0.08881	2796	3.0 %	
898	Y-88	106.630 ± 0.025 days	94.0	0.2068	7193	3.0 %	
1173	Co-60	5.272 ± 0.001 years	99.86	0.1077	3979	3.0 %	
1333	Co-60	5.272 ± 0.001 years	99.98	0.1077	3984	3.0 %	
1836	Y-88	106.630 ± 0.025 days	99.4	0.2068	7606	3.0 %	

### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in µCi/g were determined by gamma spectrometry.

### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

EZIP Ref. No.: 1559-72

ISO 9001 CERTIFIED

SOURCE DESCRIBED ON THE FRONT SIDE. THE LEAK TESTS INDICATED BELOW WERE EITHER TAKEN DIRECTLY FEITH ISO 9978:1992 OR DERIVED FROM THE LEAK TEST METHODS LISTED IN ISO 9978:1992. THE REGULATORY LIMITADE LEAK TEST RESULTS IS <5 nCi (185 Bq) FOR BOTH ALPHA AND BETA-GAMMA ACTIVITY. LEAK TEST RESULTS IMARIA-BELOW CONTAINED <5 nCi (185 Bg) OF REMOVABLE ACTIVITY UNLESS OTHERWISE STATED ON THIS CERTIFICATE Standard Wipe Test The source was wiped over its entire surface with a moistened filter paper disk. After drying, the disk was checked for activity using a scintillation detector. Special Wipe Test The source was wiped over its entire surface with moistened polystyrene. The polystyrene was then dissolved in a liquid scintillation cocktail and counted in a liquid scintillation counter. Distilled Water Soak Test The source was immersed in distilled water and maintained at (50 ± 5)°C for a minimum of four hours or room temperature (20 ± 5)°C for 24 hours. After removal of the source, the liquid was a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue checked for activity using a windowless proportional counter or end-window G.M. tube. Liquid Scintillation Soak Test The source was immersed for a minimum of 3 hours at room temperature (20 ± 5)°C in a liquid scintillation cocktail, which does not attack the source's outer surface material. The source was stored away from light to avoid photoluminescence. The sealed source was then removed and the activity of the liquid scintillation cocktail was measured. Gas Source Test The source was placed in a vacuum desiccator and maintained at a pressure of <10 mm Hg for not less than 12 hours. The activity was checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Ampoule Leak Test The ampoule was kept in an inverted position on a filter paper disk or polystyrene wipe for a minimum of 16 hours. The wipe was then checked for activity using a scintillation detector or liquid scintillation counter. Bubble Leak Test The container was pressurized to its fill pressure; then soapy water was applied over its valve and neck or, the valve and neck of the vessel were immersed in water. If no growing bubbles were observed, the container was considered leak free. Wipe Test for Industrial Ni-63 Sources The sources were wipe tested by an approved sampling plan, which called for either 100% of the batch to be individually wipe tested, or, a subset thereof. The wipe test(s) used to test for removable contamination and the results of those tests are recorded on the front of this form. Pressure Test for Triotech Kr-85 Sources Prior to filling the vessel with Kr-85 gas, the vessel was evacuated to <5 mm Hg, the gas manifold system shut off and the system allowed to stand for a minimum of 30 minutes. A vacuum difference not greater than the known vacuum loss of the manifold system itself signified the vessel did not leak. Leak Test Not Applicable The active area of the source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test or special wipe test depending on the nuclide.

Other Leak Test

24937 Avenue Tibbitts Valencia, California 91355

**Isotope Products** 

Tel 661-309-1010 Fax 661-257-8303

## CERTIFICATE OF CALIBRATION MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

Source No.:

1748-90-1

P.O. No.:

14-0236

Reference Date:

1-Oct-14

12:00 PST

Catalog No.:

EG-ML

Contained Radioactivity:

0.9342

μCi

34.57 kBq

Physical Description:

A. Capsule type:

Customer supplied tuna can

B. Nature of active deposit:

Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (377.6 grams)

D. Backing:

Steel

E. Cover:

Steel

Gamma-Ray Nuclide Energy (keV)		Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.	
47	Pb-210	22.3 ± 0.2 years	4.18	0.2133	329.9	4.1 %	
60	Am-241	432.17 ± 0.66 years	36.0	0.02113	281.5	3.1 %	
88	Cd-109	462.6 ± 0.7 days	3.63	0.2039	273.9	3.1 %	
122	Co-57	271.79 ± 0.09 days	85.6	0.007394	234.2	3.1 %	
159	Te-123m	119.7 ± 0.1 days	84.0	0.01066	331.3	3.1 %	
320	Cr-51	27.706 ± 0.007 days	9.86	0.2517	918.3	3.0 %	
392	Sn-113	115.09 ± 0.04 days	64.9	0.03574	858.2	3.0 %	
514	Sr-85	64.849 ± 0.004 days	98.4	0.04568	1663	3.0 %	
662	Cs-137	30.17 ± 0.16 years	85.1	0.03171	998.5	3.1 %	
898	Y-88	106.630 ± 0.025 days	94.0	0.07337	2552	3.0 %	
1173	Co-60	5.272 ± 0.001 years	99.86	0.03965	1465	3.0 %	
1333	Co-60	5.272 ± 0.001 years	99.98	0.03965	1467	3.0 %	
1836	Y-88	106.630 ± 0.025 days	99.4	0.07337	2698	3.0 %	

#### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in µCi/g were determined by gamma spectrometry.

### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

EZIP Ref. No.: 1748-90

ISO 9001 CERTIFIED -

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO DETERMINE THE INTEGRITOR SOURCE DESCRIBED ON THE FRONT SIDE. THE LEAK TESTS INDICATED BELOW WERE EITHER TAKEN DIRECTOR SOURCE DESCRIBED ON THE FRONT SIDE. THE LEAK TESTS INDICATED BELOW WERE EITHER TAKEN DIRECTOR IN ISO 9978:1992 OR DERIVED FROM THE LEAK TEST METHODS LISTED IN ISO 9978:1992. THE REGULATOR STATED IN ISO 9978:1992. THE R

<b>√</b> I	Standard Wipe Test  The source was wiped over its entire surface with a moistened filter paper disk. After drying, the disk was checked for activity using a scintillation detector.
	Special Wipe Test  The source was wiped over its entire surface with moistened polystyrene. The polystyrene was then dissolved in a liquid scintillation cocktail and counted in a liquid scintillation counter.
_	Distilled Water Soak Test  The source was immersed in distilled water and maintained at (50 ± 5)°C for a minimum of four hours or room temperature (20 ± 5)°C for 24 hours. After removal of the source, the liquid was a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue checked for activity using a windowless proportional counter or end-window G.M. tube.
١	<b>Liquid Scintillation Soak Test</b> The source was immersed for a minimum of 3 hours at room temperature(20 ± 5)°C in a liquid scintillation cocktail, which does not attack the source's outer surface material. The source was stored away from light to avoid photoluminescence. The sealed source was then removed and the activity of the liquid scintillation cocktail was measured.
١	Gas Source Test  The source was placed in a vacuum desiccator and maintained at a pressure of <10 mm Hg for not less than 12 hours.  The activity was checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube.
١	Ampoule Leak Test  The ampoule was kept in an inverted position on a filter paper disk or polystyrene wipe for a minimum of 16 hours. The wipe was then checked for activity using a scintillation detector or liquid scintillation counter.
	Bubble Leak Test  The container was pressurized to its fill pressure; then soapy water was applied over its valve and neck or, the valve and neck of the vessel were immersed in water. If no growing bubbles were observed, the container was considered leak free.
	Wipe Test for Industrial Ni-63 Sources  The sources were wipe tested by an approved sampling plan, which called for either 100% of the batch to be individually wipe tested, or, a subset thereof. The wipe test(s) used to test for removable contamination and the results of those tests are recorded on the front of this form.
	Pressure Test for Triotech Kr-85 Sources  Prior to filling the vessel with Kr-85 gas, the vessel was evacuated to <5 mm Hg, the gas manifold system shut off and the system allowed to stand for a minimum of 30 minutes. A vacuum difference not greater than the known vacuum loss of the manifold system itself signified the vessel did not leak.
	Leak Test Not Applicable  The active area of the source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test or special wipe test depending on the nuclide.
	Other Leak Test

E&Z 1748-90-1 250ml Tuna Can 1.5g/cc

Nuclide	Energy	GPS	BRatio	Bq	DPM	pCi
PB-210	47	329.9	0.0418	7892.344	473540.7	213306.4
AM-241	60	281.5	0.36	781.9444	46916.67	21133.61
CD-109	88	273.9	0.0363	7545.455	452727.3	203931
CO-57	122	234.2	0.856	273.5981	16415.89	7394.537
TE-123m	159	331.3	0.84	394.4048	23664.29	10659.58
CR-51	320	918.3	0.0986	9313.387	558803.2	251712.9
SN-113	392	858.2	0.649	1322.342	79340.52	35738.94
SR-85	514	1663	0.984	1690.041	101402.4	45676.73
CS-137	662	998.5	0.851	1173.325	70399.53	31711.47
Y-88	898	2552	0.94	2714.894	162893.6	73375.43
CO-60	1173	1465	0.9986	1467.054	88023.23	39650.07
CO-60	1333	1467	0.9998	1467.293	88037.61	39656.54
Y-88	1836	2698	0.994	2714.286	162857.1	73359

24937 Avenue Tibbitts Valencia, California 91355 Received JoT 7-11-12

**Isotope Products** 

Tel 661-309-1010 Fax 661-257-8303

## CERTIFICATE OF CALIBRATION MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

P.O. No.: Catalog No.: 12-0210 / R5197

EG-ML

Source No.:

Reference Date:

Contained Radioactivity:

1595-98-4

1-Jul-12

12:00 PST

1.024

μCi 37.89

kBq

Physical Description:

A. Capsule type:

Customer supplied tuna can

B. Nature of active deposit:

Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (376.2 grams)

D. Backing:

Plastic

**Plastic** E. Cover:

Gamma-Ray Nuclide Energy (keV)		Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.	
47	Pb-210	22.3 ± 0.2 years	4.18	0.2320	358.8	7.0 %	
60	Am-241	432.17 ± 0.66 years	36.0	0.02273	302.8	3.0 %	
88	Cd-109	462.6 ± 0.7 days	3.63	0.2223	298.6	3.2 %	
122	Co-57	271.79 ± 0.09 days	85.6	0.008038	254.6	3.1 %	
159	Te-123m	119.7 ± 0.1 days	84.0	0.01098	341.3	3.1 %	
320	Cr-51	27.706 ± 0.007 days	9.86	0.2766	1009	3.0 %	
392	Sn-113	115.09 ± 0.04 days	64.9	0.04358	1046	3.0 %	
514	Sr-85	64.849 ± 0.004 days	98.4	0.05122	1865	3.0 %	
662	Cs-137	30.17 ± 0.16 years	85.1	0.03546	1117	3.0 %	
898	Y-88	106.630 ± 0.025 days	94.0	0.07866	2736	3.0 %	
1173	Co-60	5.272 ± 0.001 years	99.86	0.04279	1581	3.0 %	
1333	Co-60	5.272 ± 0.001 years	99.98	0.04279	1583	3.0 %	
1836	Y-88	106.630 ± 0.025 days	99.4	0.07866	2893	3.0 %	

### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in µCi/g were determined by gamma spectrometry.

#### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

EZIP Ref. No.: 1595-98

1595-98-4 - Tuna Can 1.5g/cc - 7-1-12

Nuclide	Energy	GPS	BRatio	Bq	DPM	pCi
PB-210	47	358.8	0.0418	8583.73	515023.92	231992.53
AM-241	60	302.8	0.36	841.11	50466.67	22732.71
CD-109	88	298.6	0.0363	8225.90	493553.72	222321.27
CO-57	122	254.6	0.856	297.43	17845.79	8038.64
TE-123M	159	341.3	0.84	406.31	24378.57	10981.33
CR-51	320	1009	0.0986	10233.27	613995.94	276574.47
SN-113	392	1046	0.649	1611.71	96702.62	43559.69
SR-85	514	1865	0.984	1895.33	113719.51	51224.95
CS-137	662	1117	0.851	1312.57	78754.41	35474.92
Y-88	898	2736	0.94	2910.64	174638.30	78665.82
CO-60	1173	1581	0.9986	1583.22	94992.99	42789.59
CO-60	1333	1583	0.9998	1583.32	94999.00	42792.30
Y-88	1836	2893	0.994	2910.46	174627.77	78661.08





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

### CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73518-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.888 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

O A APPROVED:

09-12-2006





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404•352•8677 Fax 404•352•2837 www.analyticsinc.com

### **CERTIFICATE OF CALIBRATION**

Standard Radionuclide Source

73519-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.851 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

09-11-2006

Q A APPROVED:





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

## CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73520-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.907 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

O A APPROVED:

498 of 1081





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## CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73521-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.916 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

O A APPROVED:

09-11-2006



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## **CERTIFICATE OF CALIBRATION**

Standard Radionuclide Source

73522-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.826 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: γ-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

SOURCE PREPARED BY:	M. Dimitrova, Radiochemist
	M. Dimitrova, Radiochemist
Q A APPROVED:	M. m. 10-10-06

06-0422, Item 1

P O NUMBER



1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

## **CERTIFICATE OF CALIBRATION**

Standard Radionuclide Source

73523-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.837 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities:  $\gamma$ -impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER 06-0422, Item 1

SOURCE PREPARED BY:

M. Smitron

M. Dimitrova, Radiochemist

Q A APPROVED:

M MJ 10-10-06



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## CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73524-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.833 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: y-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

SOURCE	PREPARED	BY:		Dimitrova,	بر	typy	
			M.	Dimitrova,	Rad	iochemist	
O A API	PROVED:		1	M-MT	2-	10-10-06	

06-0422, Item 1

P O NUMBER

1 -b-----



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## CERTIFICATE OF CALIBRATION

**Standard Radionuclide Source** 

73525-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.811 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: y-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER

06-0422, Item 1

SOURCE PREPARED BY:

ova Radiochemist

Q A APPROVED:

M P J 10-10-01



# CERTIFIED REFERENCE MATERIAL



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

www.restek.com

# **Certificate of Analysis**





calibration std

### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. :	31850	Lot No.:	A0120345	
Description :	8270 MegaMix®			
	8270 MegaMix® 500-1,000µg/mL, Methylo	ene Chloride	, 1mL/ampul	
Container Size :	2 mL	Pkg Amt:	> 1 mL	
Expiration Date :	January 31, 2018	Storage:	0°C or colder	
Handling:	Sonication required. Mix is photosensitive			_

### CERTIFIED VALUES

Elution Order		Comp	oound	Grav. C (weight/v			Expanded Uncertainty (95% C.L.; K=2)		
	Pyridine CAS # Purity	110-86-1 99%	(Lot SHBC7174V)	1,004.3	μg/mL	+/- +/- +/-	6.3298 30.4764 30.4764	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	N-Nitrose CAS # Purity	odimethylamine 62-75-9 99%	(Lot 3846000)	1,000.0	μg/mL	+/- +/- +/-	6.3027 30.3459 30.3459	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	Aniline CAS # Purity	62-53-3 99%	(Lot K22Z462)	1,001.0	μg/mL	+/- +/- +/-	6.3090 30.3762 30.3762	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	Phenol CAS # Purity	108-95-2 99%	(Lot SHBF1351V)	1,000.5	μg/mL	+/- +/- +/-	6.3055 30.3595 30.3595	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chl CAS # Purity	oroethyl)ether 111-44-4 99%	(Lot 45296HKV)	1,000.7	μg/mL	+/- +/- +/-	6.3068 30.3656 30.3656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6	2-Chloro CAS # Purity	phenol 95-57-8 99%	(Lot STBF2690V)	1,003.3	μg/mL	+/- +/- +/-	6.3235 30.4460 30.4460	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7	1,3-Dichl CAS # Purity	orobenzene 541-73-1 99%	(Lot BCBM5751V)	1,001.0	μg/mL	+/- +/- +/-	6.3087 30.3747 30.3747	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

8	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS1350V)	1,004.9 μg/mL	+/- 6.3335 +/- 30.4946 +/- 30.4946	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
9	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot SHBD7331V)	1,004.0 μg/mL	+/- 6.3279 +/- 30.4673 +/- 30.4673	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
10	Benzyl alcohol CAS # 100-51-6 Purity 99%	(Lot SHBC1850V)	1,007.4 μg/mL	+/- 6.3490 +/- 30.5689 +/- 30.5689	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
11	2,2'-oxybis(1-chloropropane) CAS # 108-60-1 Purity 99%	(Lot 2-KMW-57-8)	1,002.5 μg/mL	+/- 6.3184 +/- 30.4218 +/- 30.4218	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
12	2-Methylphenol (o-cresol) CAS # 95-48-7 Purity 99%	(Lot SHBC1479V)	1,002.0 μg/mL	+/- 6.3150 +/- 30.4051 +/- 30.4051	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
13	Hexachloroethane CAS # 67-72-1 Purity 99%	(Lot 4H3SF)	1,003.9 μg/mL	+/- 6.3269 +/- 30.4627 +/- 30.4627	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
14	N-Nitroso-di-n-propylamine CAS # 621-64-7 Purity 99%	(Lot OPAGF)	1,001.5 μg/mL	+/- 6.3121 +/- 30.3914 +/- 30.3914	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
15	4-Methylphenol (p-cresol) CAS # 106-44-5 Purity 99%	(Lot 49396APV)	504.3 μg/mL	+/- 3.1784 +/- 15.3034 +/- 15.3034	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4 Purity 99%	(Lot SHBD0627V)	500.5 μg/mL	+/- 3.1542 +/- 15.1866 +/- 15.1866	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
17	Nitrobenzene CAS # 98-95-3 Purity 99%	(Lot SHBB0246V)	1,002.2 μg/mL	+/- 6.3165 +/- 30.4127 +/- 30.4127	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
18	Isophorone CAS # 78-59-1 Purity 99%	(Lot MKBG2442V)	1,004.3 μg/mL	+/- 6.3298 +/- 30.4764 +/- 30.4764	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
19	2-Nitrophenol CAS # 88-75-5 Purity 99%	(Lot BCBH7602V)	1,000.3 μg/mL	+/- 6.3046 +/- 30.3550 +/- 30.3550	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
20	2,4-Dimethylphenol CAS # 105-67-9 Purity 99%	(Lot 10165155)	1,001.4 μg/mL	+/- 6.3112 +/- 30.3869 +/- 30.3869	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
21	Bis(2-chloroethoxy)methane CAS # 111-91-1 Purity 99%	(Lot 3299900)	1,000.1 μg/mL	+/- 6.3033 +/- 30.3489 +/- 30.3489	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
22	2,4-Dichlorophenol CAS # 120-83-2 Purity 99%	(Lot BCBH1617V)	1,004.1 μg/mL	+/- 6.3282 +/- 30.4688 +/- 30.4688	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
23	1,2,4-Trichlorobenzene CAS # 120-82-1 Purity 99%	(Lot 26896BM)	1,003.0 μg/mL	+/- 6.3216 +/- 30.4369 +/- 30.4369	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

24	Naphthalene CAS # 91-20-3 Purity 99%	(Lot MKBH4351V)	1,002.0 μg/mL	+/- 6.3153 +/- 30.4066 +/- 30.4066	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
25	4-Chloroaniline CAS # 106-47-8 Purity 99%	(Lot BCBJ1580V)	1,002.7 μg/mL	+/- 6.3197 +/- 30.4278 +/- 30.4278	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
26	Hexachlorobutadiene CAS # 87-68-3 Purity 98%	(Lot J31X013)	1,000.5 μg/mL	+/- 6.3057 +/- 30.3605 +/- 30.3605	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
27	2-Methylnaphthalene CAS # 91-57-6 Purity 95%	(Lot STBF0201V)	993.5 μg/mL	+/- 6.2618 +/- 30.1489 +/- 30.1489	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
28	4-Chloro-3-methylphenol CAS # 59-50-7 Purity 99%	(Lot STBC0769V)	1,002.2 μg/mL	+/- 6.3162 +/- 30.4111 +/- 30.4111	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
29	1-Methylnaphthalene CAS # 90-12-0 Purity 99%	(Lot 525000-10)	1,005.3 μg/mL	+/- 6.3358 +/- 30.5052 +/- 30.5052	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
30	Hexachlorocyclopentadiene CAS # 77-47-4 Purity 99%	(Lot 4306600)	1,004.4 μg/mL	+/- 6.3301 +/- 30.4779 +/- 30.4779	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
31	2,4,6-Trichlorophenol CAS # 88-06-2 Purity 98%	(Lot MKBL4698V)	1,008.3 μg/mL	+/- 6.3548 +/- 30.5969 +/- 30.5969	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
32	2,4,5-Trichlorophenol CAS # 95-95-4 Purity 99%	(Lot FHM01)	1,000.3 μg/mL	+/- 6.3042 +/- 30.3535 +/- 30.3535	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
33	2-Chloronaphthalene CAS # 91-58-7 Purity 99%	(Lot AJ2U1-TE)	1,007.8 μg/mL	+/- 6.3518 +/- 30.5826 +/- 30.5826	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
34	2-Nitroaniline CAS # 88-74-4 Purity 99%	(Lot MKBK7597V)	1,000.4 μg/mL	+/- 5.8164 +/- 30.2603 +/- 30.2603	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
35	1,4-Dinitrobenzene CAS # 100-25-4 Purity 99%	(Lot S58502V)	1,000.7 μg/mL	+/- 6.3068 +/- 30.3656 +/- 30.3656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
36	Acenaphthylene CAS# 208-96-8 Purity 96%	(Lot Q03P)	1,001.1 μg/mL	+/- 6.3098 +/- 30.3804 +/- 30.3804	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
37	1,3-Dinitrobenzene CAS # 99-65-0 Purity 99%	(Lot BCBN4329V)	1,000.5 μg/mL	+/- 6.3058 +/- 30.3611 +/- 30.3611	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
38	Dimethylphthalate CAS # 131-11-3 Purity 99%	(Lot 10117699)	1,005.1 μg/mL	+/- 6.3348 +/- 30.5007 +/- 30.5007	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
39	2,6-Dinitrotoluene CAS # 606-20-2 Purity 99%	(Lot 1437483V)	1,000.4 μg/mL	+/- 6.3052 +/- 30.3580 +/- 30.3580	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

40	1,2-Dinitrobenzene CAS # 528-29-0 Purity 99%	(Lot MKBK2313V)	1,000.9 μg/mL	+/- 6.3080 +/- 30.3717 +/- 30.3717	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
41	Acenaphthene CAS # 83-32-9 Purity 99%	(Lot MKBP0384V)	1,000.0 μg/mL	+/- 6.3027 +/- 30.3459 +/- 30.3459	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
42	3-Nitroaniline CAS # 99-09-2 Purity 99%	(Lot MKBQ6338V)	1,001.3 μg/mL	+/- 5.8216 +/- 30.2875 +/- 30.2875	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
43	2,4-Dinitrophenol CAS # 51-28-5 Purity 99%	(Lot MKBP5833V)	1,000.5 μg/mL	+/- 6.3058 +/- 30.3611 +/- 30.3611	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
44	Dibenzofuran CAS # 132-64-9 Purity 99%	(Lot MKBW2691V)	1,007.5 μg/mL	+/- 6.3496 +/- 30.5720 +/- 30.5720	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
45	2,4-Dinitrotoluene CAS # 121-14-2 Purity 99%	(Lot MKAA0690V)	1,004.4 μg/mL	+/- 6.3304 +/- 30.4794 +/- 30.4794	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
46	4-Nitrophenol CAS # 100-02-7 Purity 99%	(Lot MKBP6945V)	1,001.0 μg/mL	+/- 6.3087 +/- 30.3747 +/- 30.3747	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
47	2,3,4,6-Tetrachlorophenol CAS # 58-90-2 Purity 99%	(Lot B16W0112)	1,003.2 μg/mL	+/- 5.8327 +/- 30.3450 +/- 30.3450	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
48	2,3,5,6-Tetrachlorophenol CAS # 935-95-5 Purity 99%	(Lot 012016)	1,001.8 μg/mL	+/- 5.8246 +/- 30.3026 +/- 30.3026	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
49	Fluorene CAS # 86-73-7 Purity 98%	(Lot 10174662)	1,001.9 μg/mL	+/- 6.3147 +/- 30.4036 +/- 30.4036	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
50	4-Chlorophenyl phenyl ether CAS # 7005-72-3 Purity 99%	(Lot MKBM4925V)	1,004.9 μg/mL	+/- 6.3335 +/- 30.4946 +/- 30.4946	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
51	Diethylphthalate CAS # 84-66-2 Purity 99%	(Lot MKBJ3578V)	1,001.7 μg/mL	+/- 6.3134 +/- 30.3975 +/- 30.3975	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
52	4-Nitroaniline CAS # 100-01-6 Purity 98%	(Lot BCBG4702V)	1,003.4 μg/mL	+/- 5.8340 +/- 30.3517 +/- 30.3517	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
53	4,6-Dinitro-2-methylphenol (Dir CAS # 534-52-1 Purity 99%	nitro-o-cresol) (Lot LC18040V)	1,005.8 μg/mL	+/- 6.3392 +/- 30.5219 +/- 30.5219	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
54	Diphenylamine CAS # 122-39-4 Purity 99%	(Lot MKBN8295V)	1,003.4 μg/mL	+/- 6.3238 +/- 30.4476 +/- 30.4476	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
55	Azobenzene CAS # 103-33-3 Purity 99%	(Lot MKBS2559V)	1,004.2 μg/mL	+/- 6.3288 +/- 30.4718 +/- 30.4718	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

56	4-Bromophenyl phenyl ether CAS # 101-55-3 Purity 98%	(Lot STBB9729V)	1,001.2 μg/mL	+/- 6.3100 +/- 30.3813 +/- 30.3813	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
57	Hexachlorobenzene CAS # 118-74-1 Purity 99%	(Lot LC19614V)	1,000.7 μg/mL	+/- 6.3071 +/- 30.3671 +/- 30.3671	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
58	Pentachlorophenol CAS # 87-86-5 Purity 99%	(Lot 160412JLM)	1,000.6 μg/mL	+/- 6.3061 +/- 30.3626 +/- 30.3626	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
59	Phenanthrene CAS # 85-01-8 Purity 99%	(Lot MKBT8628V)	1,003.8 μg/mL	+/- 6.3263 +/- 30.4597 +/- 30.4597	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
60	Anthracene CAS # 120-12-7 Purity 99%	(Lot MKBR2268V)	1,001.1 μg/mL	+/- 6.3096 +/- 30.3793 +/- 30.3793	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
61	Carbazole CAS # 86-74-8 Purity 98%	(Lot 3715800)	995.8 μg/mL	+/- 6.2764 +/- 30.2193 +/- 30.2193	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
62	Di-n-butylphthalate CAS # 84-74-2 Purity 99%	(Lot MKBL8501V)	1,001.3 μg/mL	+/- 6.3109 +/- 30.3853 +/- 30.3853	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
63	Fluoranthene CAS # 206-44-0 Purity 98%	(Lot MKBQ6360V)	1,001.4 μg/mL	+/- 6.3116 +/- 30.3888 +/- 30.3888	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
64	Pyrene  CAS # 129-00-0  Purity 99%	(Lot BCBL6786V)	1,001.0 μg/mL	+/- 6.3090 +/- 30.3762 +/- 30.3762	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
65	Benzyl butyl phthalate CAS # 85-68-7 Purity 99%	(Lot 03027HV)	1,003.0 μg/mL	+/- 6.3216 +/- 30.4369 +/- 30.4369	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
66	Bis(2-ethylhexyl)adipate CAS # 103-23-1 Purity 99%	(Lot MKBT7307V)	1,002.4 μg/mL	+/- 6.3178 +/- 30.4187 +/- 30.4187	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
67	Benz(a)anthracene CAS # 56-55-3 Purity 99%	(Lot ER031412-01)	1,003.0 μg/mL	+/- 6.3213 +/- 30.4354 +/- 30.4354	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
68	Chrysene CAS # 218-01-9 Purity 99%	(Lot ER120810-02)	1,000.5 μg/mL	+/- 6.3055 +/- 30.3595 +/- 30.3595	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
69	Bis(2-ethylhexyl)phthalate CAS # 117-81-7 Purity 99%	(Lot MKBK2695V)	1,001.8 μg/mL	+/- 6.3137 +/- 30.3990 +/- 30.3990	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
70	Di-n-octyl phthalate CAS # 117-84-0 Purity 99%	(Lot 3998900)	1,001.9 μg/mL	+/- 6.3143 +/- 30.4020 +/- 30.4020	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
71	Benzo(b)fluoranthene CAS # 205-99-2 Purity 99%	(Lot ER03101401)	1,002.6 μg/mL	+/- 6.3191 +/- 30.4248 +/- 30.4248	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

- 72	Benzo(k)fluoranthene CAS # 207-08-9 Purity 99%	(Lot 012012K)	1,002.5 μg/mL	+/- 6.3181 +/- 30.4202 +/- 30.4202	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
73	Benzo(a)pyrene CAS # 50-32-8 Purity 99%	(Lot ER071309-02)	1,001.3 μg/mL	+/- 6.3105 +/- 30.3838 +/- 30.3838	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
74	Indeno(1,2,3-cd)pyrene CAS # 193-39-5 Purity 99%	(Lot ER082107-02)	1,001.2 μg/mL	+/- 6.3099 +/- 30.3808 +/- 30.3808	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
75	Dibenz(a,h)anthracene CAS # 53-70-3 Purity 99%	(Lot ER032211-01)	1,002.8 μg/mL	+/- 6.3203 +/- 30.4309 +/- 30.4309	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
76	Benzo(g,h,i)perylene CAS # 191-24-2 Purity 99%	(Lot ER05121401)	1,000.2 μg/mL	+/- 6.3036 +/- 30.3504 +/- 30.3504	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
Solvent:	Methylene Chloride CAS # 75-09-2			···		

Purity

99%

Column:

30m x 0.25mm x 0.25μm Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi

Temp. Program:

35°C (hold 3 min.) to 330°C @ 3°C/min. (hold 3 min.)

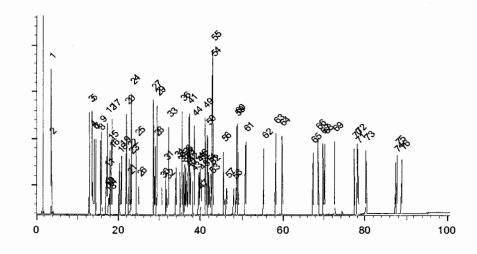
Inj. Temp:

250°C

Det. Temp:

300°C

Det. Type:



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Date Mixed:

12-Jul-2016

Balance: 1128360905

Date Passed:

18-Jul-2016

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

### **General Certified Reference Material Notes**

### **Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

#### **Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/µECD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts.
   A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- Purity of isomeric compounds is reported as the sum of the isomers.
- Purity values are rounded to the nearest whole number.

### **Certified Uncertainty Value Notes:**

The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty
value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and
shipping stability uncertainty and were combined using the following formula:

$$U_{combined \ stressed} = \ k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage \ stability}^2 + U_{shipping \ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at <a href="https://www.restek.com/Contact-Us">www.restek.com/Contact-Us</a> for use recommendations if your shipment was in-transit for more than 7 days at non-standard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping
  conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard
  conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at <a href="https://www.restek.com/Contact-Us">www.restek.com/Contact-Us</a>.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure
  that the minimum packaged amount can be sufficiently transferred.

### **Manufacturing Notes:**

Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily
using NIST traceable weights, and/or dilutions with Class A glassware.

### **Handling Notes:**

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item. Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely
  dissolved.



# CERTIFIED REFERENCE MATERIAL



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

www.restek.com

## **Certificate of Analysis**





SECOND SOURCE

### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No. :	31850	Lot No.: A0119125	
Description :	8270 MegaMix®		
	8270 MegaMix® 500-1,000µg/ml	., Methylene Chloride, 1mL/ampul	
Container Size :	2 mL	Pkg Amt: > 1 mL	
Expiration Date :	November 30, 2017	Storage: 0°C or colde	·r
Handling:	Sonication required. Mix is photo	sensitive.	

### CERTIFIED VALUES

Elution Order		Comp	oound	Grav. C (weight/v			Expanded Uncertainty (95% C.L.; K=2)		
1	Pyridine CAS # Purity	110-86-1 99%	(Lot SHBC7174V)	1,004.3	μg/mL	+/- +/- +/-	6.3298 30.4764 30.4764	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	N-Nitroso CAS # Purity	odimethylamine 62-75-9 99%	(Lot 3846000)	1,000.0	μg/mL	+/- +/- +/-	6.3027 30.3459 30.3459	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	Aniline CAS # Purity	62-53-3 99%	(Lot K22Z462)	1,001.0	μg/mL	+/- +/- +/-	6.3090 30.3762 30.3762	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	Phenoi CAS # Purity	108-95-2 99%	(Lot SHBF1351V)	1,000.5	μg/mL	+/- +/- +/-	6.3058 30.3611 30.3611	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5	Bis(2-chl CAS # Purity	oroethyl)ether 111-44-4 99%	(Lot 45296HKV)	1,000.7	μg/mL	+/- +/- +/-	6.3068 30.3656 30.3656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6	2-Chloro CAS # Purity	phenol 95-57-8 99%	(Lot MKBD3900V)	1,000.0	μg/mL	+/- +/- +/-	6.3027 30.3459 30.3459	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7	1,3-Dichl CAS # Purity	lorobenzene 541-73-1 99%	(Lot BCBM5751V)	1,001.0	μg/mL	+/- +/- +/-	6.3087 30.3747 30.3747	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

	CAS # 120-82-1 Purity 99%	(Lot 26896BM)	1,500.0 PE	+/- +/-	30.4369 30.4369	μg/mL μg/mL	Unstressed Stressed
22	2,4-Dichlorophenol CAS # 120-83-2 Purity 99%  1,2,4-Trichlorobenzene	(Lot BCBH1617V)	1,000.5 µg	g/mL +/- +/- +/- g/mL +/-	6.3055 30.3595 30.3595 6.3216	μg/mL μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed Gravimetric
21	Bis(2-chloroethoxy)methane CAS # 111-91-1 Purity 99%	(Lot 3299900)	1,000.1 µg	z/mL +/- +/- +/-	6.3033 30.3489 30.3489	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
20	2,4-Dimethylphenol CAS # 105-67-9 Purity 99%	(Lot 10165155)	1,000.1 µg	z/mL +/- +/- +/-	6.3033 30.3489 30.3489	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
19	2-Nitrophenol CAS # 88-75-5 Purity 99%	(Lot BCBH7602V)	1,000.2 µg	y/mL +/- +/- +/-	6.3036 30.3504 30.3504	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
18	Isophorone CAS # 78-59-1 Purity 99%	(Lot MKBG2442V)	1,004.3 µg	z/mL +/- +/- +/-	6.3298 30.4764 30.4764	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
17	Nitrobenzene CAS # 98-95-3 Purity 99%	(Lot SHBB0246V)	1,002.2 µg	y/mL +/- +/- +/-	6.3165 30.4127 30.4127	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
16	3-Methylphenol (m-cresol) CAS # 108-39-4 Purity 99%	(Lot SHBD0627V)	501.6 µg	z/mL +/- +/- +/-	3.1614 15.2215 15.2215	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
15	4-Methylphenol (p-cresol) CAS # 106-44-5 Purity 99%	(Lot 49396APV)	500.5 µg	z/mL +/- +/- +/-	3.1542 15.1866 15.1866	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
14	N-Nitroso-di-n-propylamine CAS # 621-64-7 Purity 99%	(Lot OPAGF)	1,001.5 µg	z/mL +/- +/- +/-	6.3121 30.3914 30.3914	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
13	Hexachloroethane CAS # 67-72-1 Purity 99%	(Lot 4H3SF)	1,003.9 µg	z/mL +/- +/- +/-	6.3269 30.4627 30.4627	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
12	2-Methylphenol (o-cresol) CAS # 95-48-7 Purity 99%	(Lot SHBC1479V)	1,000.1 µg	z/mL +/- +/- +/-	6.3030 30.3474 30.3474	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
11	2,2'-oxybis(1-chloropropane)  CAS # 108-60-1  Purity 99%	(Lot 2-KMW-57-8)	1,002.5 µg	t/mL +/- +/- +/-	6.3184 30.4218 30.4218	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
10	Benzyl alcohol CAS # 100-51-6 Purity 99%	(Lot SHBC1850V)	1,007.4 µg	y/mL +/- +/- +/-	6.3490 30.5689 30.5689	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
9	1,2-Dichlorobenzene CAS # 95-50-1 Purity 99%	(Lot SHBD7331V)	1,004.0 µg	z/inL +/- +/- +/-	6.3279 30.4673 30.4673	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
8	1,4-Dichlorobenzene CAS # 106-46-7 Purity 99%	(Lot MKBS1350V)	1,004.9 µg	g/mL +/- +/- +/-	6.3335 30.4946 30.4946	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

24	Naphthalene CAS # 91-20-3 Purity 99%	(Lot MKBH4351V)	1,002.0	μg/mL	+/- +/- +/-	6.3153 30.4066 30.4066	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
25	4-Chloroaniline CAS # 106-47-8 Purity 99%	(Lot BCBJ1580V)	1,002.7	μg/mL	+/- +/- +/-	6.3197 30.4278 30.4278	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
26	Hexachlorobutadiene CAS # 87-68-3 Purity 98%	(Lot J31X013)	1,000.5	μg/mL	+/- +/- +/-	6.3057 30.3605 30.3605	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
27	2-Methylnaphthalene CAS # 91-57-6 Purity 95%	(Lot STBF0201V)	993.5	μg/mL	+/- +/- +/-	6.2618 30.1489 30.1489	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
28	4-Chloro-3-methylphenol CAS # 59-50-7 Purity 99%	(Lot STBC0769V)	1,000.2	μg/mL	+/- +/- +/-	6.3039 30.3520 30.3520	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
29	I-Methylnaphthalene CAS # 90-12-0 Purity 99%	(Lot 525000-10)	1,005.3	μg/mL	+/- +/- +/-	6.3358 30.5052 30.5052	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
30	Hexachlorocyclopentadiene CAS # 77-47-4 Purity 99%	(Lot 4306600)	1,004.4	μg/mL	+/- +/- +/-	6.3301 30.4779 30.4779	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
31	2,4,6-Trichlorophenol CAS # 88-06-2 Purity 98%	(Lot MKBL4698V)	1,000.1	μg/mL	+/- +/- +/-	6.3032 30.3486 30.3486	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
32	2,4,5-Trichlorophenol CAS # 95-95-4 Purity 99%	(Lot 150724JLM)	1,000.3	μg/mL	+/- +/- +/-	6.3042 30.3535 30.3535	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
33	2-Chloronaphthalene CAS # 91-58-7 Purity 99%	(Lot AJ2UI-TE)	1,007.8	μg/mL	+/- +/- +/-	6.3518 30.5826 30.5826	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
34	2-Nitroaniline CAS # 88-74-4 Purity 99%	(Lot MKBK7597V)	1,008.6	μg/mL	+/- +/- +/-	5.8778 30.5117 30.5117	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
35	1,4-Dinitrobenzene CAS # 100-25-4 Purity 99%	(Lot S58502V)	1,000.7	μg/mL	+/- +/- +/-	6.3068 30.3656 30.3656	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
36	Acenaphthylene CAS # 208-96-8 Purity 96%	(Lot Q03P)	1,001.1	μg/mL	+/- +/- +/-	6.3098 30.3804 30.3804	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
37	1,3-Dinitrobenzene CAS # 99-65-0 Purity 99%	(Lot BCBN4329V)	1,000.5	μg/mL	+/- +/- +/-	6.3058 30.3611 30.3611	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
38	Dimethylphthalate CAS # 131-11-3 Purity 99%	(Lot 10117699)	1,005.1	μg/mL	+/- +/- +/-	6.3348 30.5007 30.5007	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
39	2,6-Dinitrotoluene CAS # 606-20-2 Purity 99%	(Lot 1437483V)	1,000.4	μg/mL	+/- +/- +/-	6.3052 30.3580 30.3580	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

40	1,2-Dinitrobenzene CAS # 528-29-0 Purity 99%	(Lot MKBK2313V)	1,000.9 μg/mL	+/- 6.3080 +/- 30.3717 +/- 30.3717	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
41	Acenaphthene CAS # 83-32-9 Purity 99%	(Lot MKBP0384V)	1,000.0 μg/mL	+/- 6.3027 +/- 30.3459 +/- 30.3459	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
42	3-Nitroaniline CAS # 99-09-2 Purity 99%	(Lot MKBQ6338V)	1,008.5 μg/mL	+/- 5.8771 +/- 30.5079 +/- 30.5079	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
43	2,4-Dinitrophenol CAS # 51-28-5 Purity 99%	(Lot STBD8351V)	1,000.2 μg/mL	+/- 6.3036 +/- 30.3504 +/- 30.3504	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
44	Dibenzofuran CAS # 132-64-9 Purity 99%	(Lot MKBW2691V)	1,007.5 μg/mL	+/- 6.3496 +/- 30.5720 +/- 30.5720	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
45	2,4-Dinitrotoluene CAS # 121-14-2 Purity 99%	(Lot MKAA0690V)	1,004.4 μg/mL	+/- 6.3304 +/- 30.4794 +/- 30.4794	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
46	4-Nitrophenol CAS # 100-02-7 Purity 99%	(Lot MKBP6945V)	1,000.3 μg/mL	+/- 6.3046 +/- 30.3550 +/- 30.3550	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
47	2,3,4,6-Tetrachlorophenol CAS # 58-90-2 Purity 99%	(Lot B16W0112)	1,008.0 μg/mL	+/- 5.8741 +/- 30.4928 +/- 30.4928	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
48	2,3,5,6-Tetrachlorophenol <b>CAS #</b> 935-95-5 <b>Purity</b> 99%	(Lot 012016)	1,008.6 μg/mL	+/- 5.8778 +/- 30.5117 +/- 30.5117	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
49	Fluorene CAS # 86-73-7 Purity 98%	(Lot 10174662)	1,001.9 μg/mL	+/- 6.3147 +/- 30.4036 +/- 30.4036	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
50	4-Chlorophenyl phenyl ether CAS # 7005-72-3 Purity 99%	(Lot MKBM4925V)	1,004.9 μg/mL	+/- 6.3335 +/- 30.4946 +/- 30.4946	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
51	Diethylphthalate CAS # 84-66-2 Purity 99%	(Lot MKBJ3578V)	1,001.7 μg/mL	+/- 6.3134 +/- 30.3975 +/- 30.3975	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
52	4-Nitroaniline CAS # 100-01-6 Purity 98%	(Lot BCBG4702V)	1,002.4 μg/mL	+/- 5.8416 +/- 30.3239 +/- 30.3239	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
53	4,6-Dinitro-2-methylphenol (Di CAS # 534-52-1 Purity 99%	nitro-o-cresol) (Lot LC12394V)	1,000.5 μg/mL	+/- 6.3058 +/- 30.3611 +/- 30.3611	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
54	Diphenylamine CAS # 122-39-4 Purity 99%	(Lot MKBN8295V)	1,003.4 μg/mL	+/- 6.3238 +/- 30.4476 +/- 30.4476	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
55	Azobenzene CAS # 103-33-3 Purity 99%	(Lot MKBS2559V)	1,004.2 μg/mL	+/- 6.3288 +/- 30.4718 +/- 30.4718	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

, 1	CAS # 205-99-2 Purity 99%	(Lot ER03101401)	1,002.0 µg/ш	+/- 30.4248 +/- 30.4248	μg/mL μg/mL	Unstressed Stressed
70	Di-n-octyl phthalate CAS # 117-84-0 Purity 99%  Benzo(b)fluoranthene	(Lot 3998900)	1,001.9 μg/mL 1,002.6 μg/mL	+/- 6.3143 +/- 30.4020 +/- 30.4020 +/- 6.3191	μg/mL μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed Gravimetric
69	Bis(2-ethylhexyl)phthalate CAS # 117-81-7 Purity 99%	(Lot MKBK2695V)	1,001.8 μg/mL	+/- 6.3137 +/- 30.3990 +/- 30.3990	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
68	Chrysene CAS # 218-01-9 Purity 99%	(Lot ER120810-02)	1,000.5 μg/mL	+/- 6.3055 +/- 30.3595 +/- 30.3595	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
67	Benz(a)anthracene CAS # 56-55-3 Purity 99%	(Lot ER031412-01)	1,003.0 μg/mL	+/- 6.3213 +/- 30.4354 +/- 30.4354	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
66	Bis(2-ethylhexyl)adipate CAS # 103-23-1 Purity 99%	(Lot MKBT7307V)	1,002.4 μg/mL	+/- 6.3178 +/- 30.4187 +/- 30.4187	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
65	Benzyl butyl phthalate CAS # 85-68-7 Purity 99%	(Lot 03027HV)	1,003.0 μg/mL	+/- 6.3216 +/- 30.4369 +/- 30.4369	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
64	Рутепе CAS # 129-00-0 Purity 99%	(Lot BCBL6786V)	1,001.0 μg/mL	+/- 6.3090 +/- 30.3762 +/- 30.3762	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
63	Fluoranthene CAS # 206-44-0 Purity 98%	(Lot MKBQ6360V)	1,001.4 μg/mL	+/- 6.3116 +/- 30.3888 +/- 30.3888	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
62	Di-n-butylphthalate CAS # 84-74-2 Purity 99%	(Lot MKBL8501V)	1,001.3 μg/mL	+/- 6.3109 +/- 30.3853 +/- 30.3853	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
61	Carbazole CAS# 86-74-8 Purity 98%	(Lot 3715800)	995.8 μg/mL	+/- 6.2764 +/- 30.2193 +/- 30.2193	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
60	Anthracene CAS # 120-12-7 Purity 99%	(Lot MKBR2268V)	1,001.1 μg/mL	+/- 6.3096 +/- 30.3793 +/- 30.3793	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
59	Phenanthrene CAS # 85-01-8 Purity 99%	(Lot MKBT8628V)	1,003.8 μg/mL	+/- 6.3263 +/- 30.4597 +/- 30.4597	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
58	Pentachlorophenol CAS # 87-86-5 Purity 99%	(Lot 140626JLM)	1,000.3 μg/mL	+/- 6.3042 +/- 30.3535 +/- 30.3535	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
57	Hexachlorobenzene CAS # 118-74-1 Purity 99%	(Lot LC19614V)	1,000.7 μg/mL	+/- 6.3071 +/- 30.3671 +/- 30.3671	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
56	4-Bromophenyl phenyl ether CAS# 101-55-3 Purity 98%	(Lot STBB9729V)	1,001.2 μg/mL	+/- 6.3100 +/- 30.3813 +/- 30.3813	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

72	Benzo(k)fluoranthene CAS # 207-08-9 Purity 99%	(Lot 012012K)	1,002.5 μg/mL	+/- 6.3181 +/- 30.4202 +/- 30.4202	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
73	Benzo(a)pyrene CAS # 50-32-8 Purity 99%	(Lot ER071309-02)	1,001.3 μg/mL	+/- 6.3105 +/- 30.3838 +/- 30.3838	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
74	Indeno(1,2,3-cd)pyrene CAS # 193-39-5 Purity 99%	(Lot ER082107-02)	1,001.2 μg/mL	+/- 6.3099 +/- 30.3808 +/- 30.3808	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
75	Dibenz(a,h)anthracene CAS # 53-70-3 Purity 99%	(Lot ER032211-01)	1,002.8 μg/mL	+/- 6.3203 +/- 30.4309 +/- 30.4309	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
76	Benzo(g,h,i)perylene CAS # 191-24-2 Purity 99%	(Lot ER05121401)	1,000.2 μg/mL	+/- 6.3036 +/- 30.3504 +/- 30.3504	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

Solvent: M

Methylene Chloride

CAS # 75-09-2 Purity 99% Column:

30m x 0.25mm x 0.25μm Rtx-5 (cat.#10223)

Carrier Gas:

hydrogen-constant pressure 10 psi

Temp, Program:

35°C (hold 3 min.) to 330°C

@ 3°C/min. (hold 3 min.)

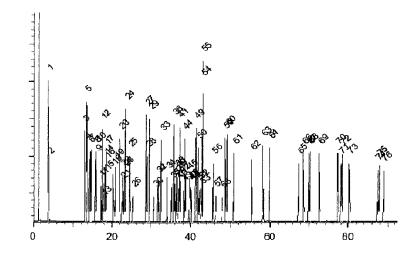
inj. Temp:

250°C

Det. Temp:

300°C

Det. Type:



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Cheryl Graham - Mix Technician

Date Mixed:

05-May-2016

Balance: B442140311

Date Passed:

09-May-2016

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

### **General Certified Reference Material Notes**

### **Expiration Notes:**

- Expiration date valid for unopened ampul stored in compliance with the recommended conditions.
- Uncertainty, concentration, and expiration of the CRM are based on the unopened product being stored according to the recommended condition found in the storage field.

#### **Purity Notes:**

- Purity and/or chemical identity are determined by one or more of the following techniques: GC/FID, HPLC, GC/μΕCD, GC/MS, LC/MS, RI, and/or melting point.
- Compounds with a listed purity of less than 99% have been weight corrected to compensate for impurities and/or salts.
   A correction factor is used to calculate the amount of compound necessary to achieve the desired concentration of the parent compound in solution.
- · Purity of isomeric compounds is reported as the sum of the isomers.
- · Purity values are rounded to the nearest whole number.

#### **Certified Uncertainty Value Notes:**

The uncertainties are determined in accordance with ISO Guides 34 and 35. The certified combined stressed uncertainty value (includes gravimetric uncertainty, homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty and were combined using the following formula:

$$U_{combined \ stressed} = k \sqrt{U_{gravimetric}^2 + U_{homogeneity}^2 + U_{storage \ stability}^2 + U_{shipping \ stability}^2}$$

k is a coverage factor of 2, which gives a level of confidence of approximately 95%.

- It is important to note that the shipping stability uncertainty was obtained under temperature extremes for specific time
  intervals; therefore, the certified combined stressed uncertainty value should only be applied to the product if it was
  stored at non-standard temperature conditions up to and including 7 days. Contact Restek Technical Service at
  www.restek.com/Contact-Us for use recommendations if your shipment was in-transit for more than 7 days at nonstandard temperature conditions.
- Apply the certified combined unstressed uncertainty value if the product was received under standard shipping
  conditions. Apply the certified combined stressed uncertainty value if the product was received under non-standard
  conditions as specified below.

Label Conditions	Standard Conditions	Non-Standard Conditions
25°C Nominal (Room Temperature)	< 60°C	≥ 60°C up to 7 days
10°C or colder (Refrigerate)	< 40°C	≥ 40°C up to 7 days
0°C or colder (Freezer)	< 25°C	≥ 25°C up to 7 days

- Separate (not combined) uncertainty values for gravimetric uncertainty are also displayed on the certificate, if needed, separate homogeneity between-ampul uncertainty, storage stability uncertainty and shipping stability uncertainty values are available by contacting Restek Technical Service at <a href="https://www.restek.com/Contact-Us">www.restek.com/Contact-Us</a>.
- The packaged amount is the minimum sample size for which uncertainty is valid. The ampules are over-filled to ensure
  that the minimum packaged amount can be sufficiently transferred.

### **Manufacturing Notes:**

• Concentration is based upon gravimetric preparation using either a balance whose calibration has been verified daily using NIST traceable weights, and/or dilutions with Class A glassware.

### **Handling Notes:**

- Samples should be transferred into deactivated vials for handling and storage. Restek supplies deactivated vials along
  with most standards packed in 2 mL ampules. Due to space constraints, Restek does not supply vials for larger volume
  ampules. Restek sells DMDCS for the purpose of glassware deactivation as catalog number 31861, which includes
  complete instructions. Restek will also deactivate larger volume vials from our inventory as a custom ordered item.
   Contact your Restek sales or customer service representative for details.
- If any undissolved material is visible inside the ampul, sonicate the unopened ampul until the material is completely dissolved.

125 Market Street New Haven, CT 06513

# AccuStandard® Inc.

Tel (203)786-5290 Fax (203)786-5287 www.AccuStandard.com

## CERTIFICATE OF ANALYSIS

Catalog No: C-216S-H-10X
Description: Aroclor 1016
Twitial Californ 1018

Description: Aroclor 1016 Lot: 216011018

Solvent: Hexane

Hazards: HIGHLY FLAMMABLE - Refer to SDS for safety info

Date Certified: Jan 4, 2016 Expiration: Jan 4, 2026 Sample Size: 1 mL

Components: 1

Storage Condition: Ambient (>5 °C)

Included on ISO/IEC 17025 Scope of Accreditation: Yes

Included on ISO Guide 34 Scope of Accreditation: Yes





Component	CAS#	Purity %	Prepared Concentration ¹	Certified Analyte Concentration ²	
·		(GC/FID)	(μg/mL)	(μg/mL)	
Aroclor 1016	12674-11-2	Tech Mix	1005	1005	

A product with a suffix (-1A, -2B, etc. or -01, -02, etc.) on its lot number has had its expiration date extended and is identical to the same lot number without the suffix.

Labels and certificates follow U.S. Conventions in reporting numerical values: A comma (,) is used to separate units of one-thousand or greater. A period (.) is used as a decimal place marker.

See reverse side for additional information

Certified By:

Page 1 of 1

For use in routine laboratory analysis.

AccuStandard is accredited to ISO Guide 34, ISO/IEC 17025 and certified to ISO 9001

OR-ORG/INO-001

¹ All weights are traceable through NIST, Test No. 822-275872-11

² Certified Analyte Concentration = Purity x Prepared Concentration. The Uncertainty associated with the gravimetric values reported on this certificate is ±0.24%. The CRM Uncertainty calculated for this product is ±5%. These values are the expanded uncertainty and represent an estimated standard deviation equal to the positive square root of the total variation of the uncertainty of components. A normal distribution is assumed and a coverage factor of K=2 is chosen using approximately a 95% confidence level.

## CERTIFICATION REPORT

Quality Documentation: This certificate is designed in accordance with ISO Guide 31 (Reference Materials - Contents
of Certificates and Labels) and ISO Guide 35 (Reference Materials - General and Statistical Principles for Certification).

### 2. Quality Standards:

ISO Guide 34 - General Requirements for the Competence of Reference Material Producers ACLASS Certificate Number AR-1463



ISO/IEC 17025:2005 - General Requirements for the Competence of Testing and Calibration Laboratories ACLASS Certificate Number AT-1339





ISO 9001:2008 Quality Management System - Requirements Eagle Registrations Certificate Number 3774

- 3. <u>Intended Use:</u> The product covered by this certificate is designed for calibration or for use in quality control procedures for the specified chemical compounds listed on the reverse side. This product can be used for quantification and/or identification. This product can also be used as a reference material to validate analytical procedures, subject to the conditions under Section 11. If dilution is required, use only Class A glassware and diluent compatible with all certified analytes in this preparation. All solutions should be thoroughly mixed prior to use.
- **4.** Raw Materials: Reference standards are prepared from the highest quality starting materials with defined purities. All analytes and solvents are obtained from pre-qualified vendors and then analyzed or evaluated prior to use.
- 5. Manufacturing: All balances are calibrated daily using an in-house procedure with weights that are compared annually to master weights and traceable to NIST. The balances are also calibrated annually by an ISO/IEC 17025 accredited calibration laboratory. Please refer to the NIST test number listed on the front of this certificate. Class A glassware is used in the manufacture and quality control of all standards and calibrated using an in-house procedure. Good Laboratory Practices have been used throughout the preparation of this CRM.
- 6. Homogeneity Assessment: Homogeneity of the finished product is assessed by analyzing sample batches or by other methods consistent with the intended use of the product and by procedures that comply with the appropriate Quality System requirements, and ISO Guide 35.
- 7. <u>Stability Assessment:</u> The manufacturer guarantees the stability of this solution through the expiration date stated on the label, when handled and stored according to the conditions stated on the label. To ensure a uniform solution, mix the contents of the sealed container thoroughly prior to use. Care should be taken not to contaminate the contents of the original container.
- 8. Analytical Quality Control: Products are tested by validated analytical methods specified in the manufacturer's quality system.
- 9. Uncertainty Statistics and Confidence Limits: The uncertainty values as stated on the face of this certificate have been determined using the EURACHEM/CITAC Guide (Quantifying Uncertainty in Analytical Measurement). We have evaluated both Type A (based on a series of observations) and Type B (manufacturers specifications and calibration data) factors and report a combined expanded uncertainty equal to the positive square root of the total variance of the uncertainty of the components using the following formula:  $u_{\rm m} = \sqrt{(u(P))^2 + (u(m))^2 + (u(V))^2}$ . The expanded uncertainty, U, assumes a normal distribution and a coverage factor of k=2 is chosen using approximately a 95% confidence level. Laboratories accredited to ISO/IEC 17025 and ISO Guide 34 are required to estimate uncertainty budgets associated with the measurements they make. However, for analysis, the certified value should be used as the actual value.
- 10. <u>Warranties:</u> The manufacturer warrants that its products shall conform to the description of such products as provided in its catalog or on the specific product label. This warranty is exclusive, and the manufacturer makes no other warranty, express or implied, including any implied warranty of merchantability or fitness for any particular purpose.
- 11. Legal Notice and Limit of Liability: This product is for routine laboratory analysis and research purposes only. Due to the hazardous nature, only trained personnel should handle this product. The company's liability will be limited to replacement of product or refund of purchase price. Notice of claims must be made within thirty (30) days from date of delivery.



2609 North River Road, Port Allen, Louisiana 1 (800) 401-4277 FAX (225) 381-2996

# **ADDENDUM**

**Subcontract Work** 

SDG# ARS1-17-00216
COC SOLID SAMPLES

2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

## Type I Data Package

Prepared for:

**ARS International, LLC** 2609 North River Road Port Allen LA 70769

Project: 161115 SL Soil Samples Collected on 01/17/17-01/18/17

## SDG# AIL01

**GROUP** 

**SAMPLE NUMBERS** 

1759120

8807304-8807306

PA Cert. # 36-00037 NY Cert. # 10670 NJ Cert. # PA011 NC Cert. # 521

TX Cert. # T104704194-13-10

AZ Cert. # AZ0780

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by:

Date: 03/03/2017

Dana M. Kauffman

Koma on Kayfman

Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Stacy Hess at (717) 556-7236.



2425 New Holland Pike, Lancaster, PA 17601 | 717-656-2300 | Fax: 717-656-2681 | www.LancasterLabs.com

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Lancaster Laboratories Environmental

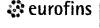
2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

# Sample Reference List for SDG Number AIL01 with a Data Package Type of I

37646 - ARS International, LLC

Project: 161115 SL

Lab Sample			
Number	Client Sample ID	Collection Date	Date Received
8807304	ARS1-17-00216-007	01/17/2017 12:00	01/26/2017 09:30
8807305	ARS1-17-00216-004	01/18/2017 12:00	01/26/2017 09:30
8807306	ARS1-17-00216-002	01/17/2017 12:00	01/26/2017 09:30



2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 · 717-656-2300 Fax: 717-656-2681 · www.lancasterlabs.com

#### 12937 Dioxins/Furans in Solids-8290

The method provides procedures for the detection and quantitative measurement of polychlorinated dibenzo-p-dioxins (tetra- through octachlorinated homologues; PCDDs), and polychlorinated dibenzofurans (tetra- through octachlorinated homologues; PCDFs) in a variety of environmental matrices and at part-per-trillion (ppt) to part-per-quadrillion. The method requires the use of high-resolution gas chromatography and high-resolution mass spectrometry (HRGC/HRMS) on purified sample extracts.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8290A, Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzo-furans (PCDFs) by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (HRGC/HRMS)

### 11030 Dioxins/Furans in Solids - Sox

The samples are extracted with toluene in a Soxhlet - Dean Stark extractor. The extract is concentrated for clean-up or instrumental analysis.

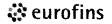
Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8290A, Polychlorinated Dibenzo-p-Dioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by High Resolution Gas Chromatography/High Resolution Mass Spectrometry (HRGC/HRMS)

### 00111 Moisture

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 22nd Edition, 2012, Method 2540 G-1997

# **Analysis Reports / Field Chain of Custody**



Lancaster Laboratories Environmental

## **Analysis Report**

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

### ANALYTICAL RESULTS

Prepared by:

Prepared for:

Eurofins Lancaster Laboratories Environmental 2425 New Holland Pike Lancaster, PA 17601 ARS International, LLC 2609 North River Road Port Allen LA 70769

Report Date: February 09, 2017

Project: 161115 SL

Submittal Date: 01/26/2017 Group Number: 1759120 SDG: AIL01 PO Number: 17-0043

 Client Sample Description
 (LL) #

 ARS1-17-00216-007 Soil
 8807304

 ARS1-17-00216-004 Soil
 8807305

 ARS1-17-00216-002 Soil
 8807306

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

Regulatory agencies do not accredit laboratories for all methods, analytes, and matrices. Our current scopes of accreditation can be viewed at <a href="http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/">http://www.eurofinsus.com/environment-testing/laboratories/eurofins-lancaster-laboratories-environmental/resources/certifications/</a>. To request copies of prior scopes of accreditation, contact your project manager.

Electronic Copy To

ARS International, LLC

Attn: Susan Leese

Respectfully Submitted,

Stacy L. Hess Project Manager

(717) 556-7236



## Lancaster Laboratories Environmental

## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-007 Soil

161115 SL

LL Sample # SW 8807304

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30 Reported: 02/09/2017 12:58

-007-SDG#: AIL01-01

Dry Dry Method Limit of CAT Dilution Dry Detection Limit* Quantitation Analysis Name CAS Number No. Result Wet Chemistry SM 2540 G-1997 00111 Moisture 11.7 0.50 0.50

Moisture represents the loss in weight of the sample after oven drying at  $103\,$  -  $\,105\,$  degrees Celsius. The moisture result reported is on an

as-received basis.



### **Lancaster Laboratories** Environmental

## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-007 Soil

161115 SL

LL Sample # SW 8807304

LL Group # 1759120 Account # 37646

# 37646 Account

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Submitted: 01/26/2017 09:30

Port Allen LA 70769

Reported: 02/09/2017 12:58

-007-SDG#: AIL01-01

CAT No.	Analysis Name		CAS Number	Dry Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxi	ns/Furans	SW-846 8290	A Feb 2007	ng/kg		ng/kg	ng/kg	
		Rev 1						
12937	2378-TCDD		1746-01-6	0.0698	JQ	0.0154	1.10	1
12937	12378-PeCDD		40321-76-4	0.420	JBQ	0.0267	5.50	1
12937	123478-HxCDD		39227-28-6	0.324	JBQ	0.0260	5.50	1
12937	123678-HxCDD		57653-85-7	0.931	JB	0.0252	5.50	1
12937	123789-HxCDD		19408-74-3	0.450	JB	0.0247	5.50	1
12937	1234678-HpCDD		35822-46-9	13.6	В	0.0422	5.50	1
12937	OCDD		3268-87-9	195	В	0.0422	11.0	1
12937	2378-TCDF		51207-31-9	0.360	JQ	0.0424	1.10	1
12937	12378-PeCDF		57117-41-6	0.576	JB	0.0226	5.50	1
12937	23478-PeCDF		57117-31-4	0.947	JBQ	0.0202	5.50	1
12937	123478-HxCDF		70648-26-9	0.500	JB	0.0252	5.50	1
12937	123678-HxCDF		57117-44-9	0.486	JB	0.0220	5.50	1
12937	123789-HxCDF		72918-21-9	0.402	JВ	0.0299	5.50	1
12937	234678-HxCDF		60851-34-5	0.475	JB	0.0237	5.50	1
12937	1234678-HpCDF		67562-39-4	2.32	JB	0.0134	5.50	1
12937	1234789-HpCDF		55673-89-7	0.340	JВ	0.0208	5.50	1
12937	OCDF		39001-02-0	5.55	JB	0.0198	11.0	1
D/F To	oxic Equivalents	SW-846 8290	A Feb 2007	ng/kg	·	ng/kg	ng/kg	

D/F	Toxic Equivalents	SW-846	8290A E	?eb	2007	ng/kg	ng/kg
		D 1					

		_		
12937 TEO WHO	2005 - EDLx0.0	n.a.	0.564	1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	74	40 - 135
13C12-12378-PeCDD	86	40 - 135
13C12-123478-HxCDD	87	40 - 135
13C12-123678-HxCDD	85	40 - 135
13C12-123789-HxCDD	87	40 - 135
13C12-1234678-HpCDD	92	40 - 135
13C12-OCDD	92	40 - 135
13C12-2378-TCDF	73	40 - 135
13C12-12378-PeCDF	89	40 - 135
13C12-23478-PeCDF	84	40 - 135
13C12-123478-HxCDF	80	40 - 135
13C12-123678-HxCDF	89	40 - 135
13C12-234678-HxCDF	80	40 - 135
13C12-123789-HxCDF	74	40 - 135
13C12-1234678-HpCDF	103	40 - 135
13C12-1234789-HpCDF	77	40 - 135
13C12-OCDF	75	40 - 135

### Dioxins/Furans Data Qualifiers:

Detected in Method Blank В

UUndetected

EDL = Estimated Detection Limit

^{*=}This limit was used in the evaluation of the final result



### Lancaster Laboratories Environmental

# Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-007 Soil

161115 SL

LL Sample # SW 8807304

Dilution

Factor

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road Port Allen LA 70769

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:59

Reported: 02/09/2017 12:58

-007- SDG#: AIL01-01

CAT Dry Dry Dry
No. Analysis Name CAS Number Result EDL* MRL

J Estimated concentration between Estimated Detection Limit and Minimum Reporting Level

E Exceeds calibration range

C Confirmed quantitation on secondary GC column

Q EMPC - Estimated Maximum Possible Concentration

F Interference is present

S Saturation of detection signal



### Lancaster Laboratories Environmental

## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-007 Soil

161115 SL

LL Sample # SW 8807304 LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Submitted: 01/26/2017 09:30

Port Allen LA 70769

Reported: 02/09/2017 12:58

-007- SDG#: AIL01-01

### Sample Comments

The temperature of the sample bottle(s) upon receipt at the lab was 6.6-16.2 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

### Laboratory Sample Analysis Record

			_	_			
CAT No.	Analysis Name	Method .	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	17031003	02/08/2017 01:2	0 Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	17031003	01/31/2017 10:4	5 Deborah M Zimmerman	1
00111	Moisture	SM 2540 G-1997	1	17033820006A	02/02/2017 19:3	9 Scott W Freisher	1



### Lancaster Laboratories Environmental

## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-004 Soil

161115 SL

LL Sample # SW 8807305

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/18/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

-004-SDG#: AIL01-02

Dry Method Limit of Dilution CAT Drv Detection Limit* Quantitation Analysis Name CAS Number Factor No. Result Wet Chemistry 윰 SM 2540 G-1997 00111 Moisture 41.7 0.50 0.50 n.a.

Moisture represents the loss in weight of the sample after oven drying at  $103\,$  -  $\,105\,$  degrees Celsius. The moisture result reported is on an

as-received basis.



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-004 Soil

161115 SL

LL Sample # SW 8807305

LL Group # 1759120 # 37646 Account

Project Name: 161115 SL

Collected: 01/18/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30 Reported: 02/09/2017 12:58

SDG#: AIL01-02 -004-

CAT No.	Analysis Name	CAS 1	Dry Number Result		Dry EDL*	Dry MRL	Dilution Factor
Dioxi	ıs/Furans	SW-846 8290A F	eb 2007 ng/kg		ng/kg	ng/kg	
		Rev 1					
12937	2378-TCDD	1746	-01-6 0.0300	JO	0.0256	1.69	1
12937	12378-PeCDD	4032	1-76-4 0.303	JBQ	0.0517	8.44	1
12937	123478-HxCDD	3922	7-28-6 0.479	JВ	0.0365	8.44	1
12937	123678-HxCDD	5765	3-85-7 2.21	JB	0.0356	8.44	1
12937	123789-HxCDD	1940	8-74-3 0.791	JВ	0.0354	8.44	1 .
12937	1234678-HpCDD	3582:	2-46-9 41.5	В	0.0622	8.44	1
12937	OCDD	3268	-87-9 297	В	0.0567	16.9	1
12937	2378-TCDF	5120	7-31-9 0.0731	J	0.0286	1.69	1
12937	12378-PeCDF	5711	7-41-6 0.247	JB	0.0190	8,44	1
12937	23478-PeCDF	5711	7-31-4 0.241	JВ	0.0169	8.44	1
12937	123478-HxCDF	7064	8-26-9 0.352	JВ	0.0350	8.44	1
12937	123678-HxCDF	5711	7-44-9 0.487	JВ	0.0319	8.44	1
12937	123789-HxCDF	7291	8-21-9 0.261	JB	0.0388	8.44	1
12937	234678-HxCDF	6085	1-34-5 0.666	JBQ	0.0350	8.44	1
12937	1234678-HpCDF	6756	2-39-4 8.62	В	0.0340	8.44	1
12937	1234789-HpCDF	5567	3-89-7 0.891	JBQ	0.0427	8.44	1
12937	OCDF	3900	1-02-0 18.2	В	0.0255	16.9	1
D/F To	oxic Equivalents	SW-846 8290A F	eb 2007 ng/kg		ng/kg	ng/kg	

D/F	Toxic Equivalents	SW-846	8290A	Feb	2007	ng/kg	ng/l	kg ng	/ k
		Rev 1							

	1.0.			
12937	TEO WHO 2005 - EDLx0.0	n a	1 14	

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	85	40 - 135
13C12-12378-PeCDD	99	40 - 135
13C12-123478-HxCDD	92	40 - 135
13C12-123678-HxCDD	89	40 - 135
13C12-123789-HxCDD	89	40 - 135
13C12-1234678-HpCDD	95	40 - 135
13C12-OCDD	98	40 - 135
13C12-2378-TCDF	86	40 - 135
13C12-12378-PeCDF	99	40 - 135
13C12-23478-PeCDF	97	40 - 135
13C12-123478-HxCDF	88	40 - 135
13C12-123678-HxCDF	94	40 - 135
13C12-234678-HxCDF	88	40 - 135
13C12-123789-HxCDF	89	40 - 135
13C12-1234678-HpCDF	101	40 - 135
13C12-1234789-HpCDF	87	40 - 135
13C12-OCDF	85	40 - 135

#### Dioxins/Furans Data Qualifiers:

Detected in Method Blank В

UUndetected

EDL = Estimated Detection Limit

^{*=}This limit was used in the evaluation of the final result



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-004 Soil

161115 SL

LL Sample # SW 8807305

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/18/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

-004-SDG#: AIL01-02

CAT No.	Analysis Name	CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
J	Estimated concentration b	between Estimated Detection	Limit and Minimu	m Reporting Level		
E	Exceeds calibration range	?				
C	Confirmed quantitation of	n secondary GC column				
Q	EMPC - Estimated Maxin	num Possible Concentration				
F	Interference is present					
S	Saturation of detection sig	gnal .				



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-004 Soil

161115 SL

LL Sample # SW 8807305

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/18/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30 Reported: 02/09/2017 12:58

-004-SDG#: AIL01-02

#### Sample Comments

The temperature of the sample bottle(s) upon receipt at the lab was 6.6-16.2 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Sample Analysis Record

			-				
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	17031003	02/08/2017 02:	L6 Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	17031003	01/31/2017 10:	15 Deborah M Zimmerman	1
00111	Moisture	SM 2540 G-1997	1	17033820006A	02/02/2017 19:	39 Scott W Freisher	1



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-002 Soil

161115 SL

LL Sample # SW 8807306

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

-002- SDG#: AIL01-03

Dry Dry Limit of Method CAT Dilution Dry Detection Limit* Quantitation Analysis Name CAS Number Factor No. Result Wet Chemistry SM 2540 G-1997 00111 Moisture 11.2 0.50 1 n.a.

Moisture represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported is on an as-received basis.



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 - 717-656-2300 - Fax: 717-656-2681 - www.LancasterLabs.com

Sample Description: ARS1-17-00216-002 Soil

161115 SL

LL Sample # SW 8807306

LL Group # 1759120 # 37646 Account

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

Port Allen LA 70769

-002-SDG#: AIL01-03

CAT No.	Analysis Name		CAS Number	Dry Result	Dry EDL*	Dry MRL	Dilution Factor
Dioxir	ns/Furans	SW-846	8290A Feb 2007	ng/kg	ng/kg	ng/kg	
		Rev 1					
12937	2378-TCDD		1746-01-6	0.0277 JQ	0.0185	1.12	1
12937	12378-PeCDD		40321-76-4	0.179 JBQ	0.0427	5.60	1
12937	123478-HxCDD		39227-28-6	0.240 JB	0.0263	5.60	1
12937	123678-HxCDD		57653-85-7	0.502 JBQ	0.0245	5.60	1
12937	123789-HxCDD		19408-74-3	0.448 JB	0.0243	5.60	1
12937	1234678-HpCDD		35822-46-9	10.3 B	0.0368	5.60	1
12937	OCDD		3268-87-9	91.5 B	0.0281	11.2	1
12937	2378-TCDF		51207-31-9	0.617 J	0.0418	1.12	1
12937	12378-PeCDF		57117-41-6	1.08 JB	0.0199	5.60	1
12937	23478-PeCDF		57117-31-4	0.408 JB	0.0177	5.60	1
12937	123478-HxCDF		70648-26-9	0.336 JBQ	0.0204	5.60	1
12937	123678-HxCDF		57117-44-9	0.224 JB	0.0198	5.60	1
12937	123789-HxCDF		72918-21-9	0.155 JB	0.0215	5.60	1
12937	234678-HxCDF		60851-34-5	0.264 JB	0.0211	5.60	1
12937	1234678-HpCDF		67562-39-4	2.19 JB	0.0321	5.60	1
12937	1234789-HpCDF		55673-89-7	0.225 JB	0.0402	5.60	1
12937	OCDF		39001-02-0	3.88 JB	0.0186	11.2	1
D/F To	oxic Equivalents		8290A Feb 2007	ng/kg	ng/kg	ng/kg	
		Rev 1					
12937	TEQ WHO 2005 - EDLx	0.0	n.a.	0.505			1

Labeled Compounds	%Rec	Windows
13C12-2378-TCDD	92	40 - 135
13C12-12378-PeCDD	97	40 - 135
13C12-123478-HxCDD	94	40 - 135
13C12-123678-HxCDD	92	40 - 135
13C12-123789-HxCDD	94	40 - 135
13C12-1234678-HpCDD	99	40 - 135
13C12-OCDD	100	40 - 135
13C12-2378-TCDF	91	40 - 135
13C12-12378-PeCDF	100	40 - 135
13C12-23478-PeCDF	97	40 - 135
13C12-123478-HxCDF	91	40 - 135
13C12-123678-HxCDF	93	40 - 135
13C12-234678-HxCDF	91	40 - 135
13C12-123789-HxCDF	96	40 - 135
13C12-1234678-HpCDF	105	40 - 135
13C12-1234789-HpCDF	91	40 - 135

#### Dioxins/Furans Data Qualifiers:

Detected in Method Blank В

UUndetected

13C12-OCDF

EDL = Estimated Detection Limit

40 - 135

^{*=}This limit was used in the evaluation of the final result



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-002 Soil

161115 SL

LL Sample # SW 8807306

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

-002-

Collected: 01/17/2017 12:00

ARS International, LLC

2609 North River Road

Port Allen LA 70769

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

SDG#: AIL01-03

CAT No.	Analysis Name	CAS Number	Dry Result	Dry	Dry MRL	Dilution Factor
J	Estimated concentrati	on between Estimated Detection 1	ium Reporting Level			

Е Exceeds calibration range

CConfirmed quantitation on secondary GC column

EMPC - Estimated Maximum Possible Concentration Q

Interference is present

S Saturation of detection signal



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

Sample Description: ARS1-17-00216-002 Soil

161115 SL

LL Sample # SW 8807306

LL Group # 1759120

Account # 37646

Project Name: 161115 SL

Collected: 01/17/2017 12:00

ARS International, LLC 2609 North River Road

Submitted: 01/26/2017 09:30

Reported: 02/09/2017 12:58

Port Allen LA 70769

-002- SDG#: AIL01-03

#### Sample Comments

The temperature of the sample bottle(s) upon receipt at the lab was 6.6-16.2 C using an IR thermometer.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

#### Laboratory Sample Analysis Record

			_	_			
CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
12937	Dioxins/Furans in Solids-8290	SW-846 8290A Feb 2007 Rev 1	1	17031003	02/08/2017 03:13	Joseph D Anderson	1
11030	Dioxins/Furans in Solids - Sox	SW-846 8290A Feb 2007 Rev 1	1	17031003	01/31/2017 10:45	Deborah M Zimmerman	1
00111	Moisture	SM 2540 G-1997	1	17033820006A	02/02/2017 19:39	Scott W Freisher	1

^{*=}This limit was used in the evaluation of the final result



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

#### Quality Control Summary

Client Name: ARS International, LLC

Reported: 02/09/2017 12:58

Group Number: 1759120

Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method.

All Inorganic Initial Calibration and Continuing Calibration Blanks met acceptable method criteria unless otherwise noted on the Analysis Report.

#### Method Blank

Analysis Name	Result	EDL**	MRL
	ng/kg	ng/kg	ng/kg
Batch number: 17031003	Sample number	(s): 88073	04-8807306
2378-TCDD	N.D.	0.0117	1.00
12378-PeCDD	0.0463 J	0.0185	5.00
123478-HxCDD	0.0288 J	0.0116	5.00
123678-HxCDD	0.0516 J	0.0115	5.00
123789-HxCDD	0.0485 J	0.0110	5.00
1234678-HpCDD	0.0716 J	0.00895	5.00
OCDD	0.129 J	0.0197	10.0
2378-TCDF	N.D.	0.0108	1.00
12378-PeCDF	0.0902 J	0.00866	5.00
23478-PeCDF	0.0589 J	0.00813	5.00
123478-HxCDF	0.0341 J	0.00763	5.00
123678-HxCDF	0.0406 J	0.00685	5.00
123789-HxCDF	0.112 J	0.00803	5.00
234678-HxCDF	0.0489 J	0.00749	5.00
1234678-HpCDF	0.0605 J	0.00652	5.00
1234789-HpCDF	0.0578 J	0.00983	5.00
OCDF	0.0854 J	0.0135	10.0
TEQ WHO 2005 - EDLx0.0	0.0622		

#### LCS/LCSD

Analysis Name	LCS Spike Added %	LCS Conc %	LCSD Spike Added %	LCSD Conc %	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD <b>Max</b>
Batch number: 17033820006A Moisture	Sample numbe 89.5	r(s): 88073 89.47	304-8807306		100		99-101		
Analysis Name	OPR Spike Added ng/kg	OPR Conc ng/kg	OPRD Spike Added ng/kg	OPRD Conc ng/kg	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
Batch number: 17031003	Sample numbe	r(s): 8807	304-8807306						
2378-TCDD	20	19.14			96		67-158		
12378-PeCDD	100	95.31			95		70-142		
123478-HxCDD	100	96.71			97		70-164		
123678-HxCDD	100	91.49			91		76-134		
123789-HxCDD	100	94.51			95		64-162		

^{*-} Outside of specification

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ / MRL.

⁽²⁾ The unspiked result was more than four times the spike added.



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

#### Quality Control Summary

Client Name: ARS International, LLC

Reported: 02/09/2017 12:58

Group Number: 1759120

#### OPR/OPRD (continued)

Analysis Name	OPR Spike Added ng/kg	OPR Conc ng/kg	OPRD Spike Added ng/kg	OPRD Conc ng/kg	OPR %REC	OPRD %REC	OPR/OPRD Limits	RPD	RPD Max
1234678-HpCDD	100	92.27			92		70-140		
OCDD	200	188.31			94		78-144		
2378-TCDF	20	19.43			97		75-158		
12378-PeCDF	100	98.17			98		80-134		
23478-PeCDF	100	90.71			91		68-160		
123478-HxCDF	100	91.17			91		72-134		
123678-HxCDF	100	90.94			91		84-130		
123789-HxCDF	100	91.33			91		78-130		
234678-HxCDF	100	93.89			94		70-156		
1234678-HpCDF	100	96.13			96		82-122		
1234789-HpCDF	100	95.43			95		78-138		
OCDF	200	181.35			91		63-170		

#### Laboratory Duplicate

Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	BKG Conc	DUP Conc	DUP RPD	DUP RPD Max
	%	%		
Batch number: 17033820006A	Sample number(s):	8807304-8807306 BKG:	P807415	
Moisture	11.02	11.07	0	5

#### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Dioxins/Furans in Solids-8290

Batch number: 17031003

	13C12-2378-TCDD	13C12-12378-PeCDD	13C12-123478-HxCDD	13C12-123678-HxCDD	13C12-123789-HxCDD	13C12-1234678-HpCDE
8807304	74	86	87	85	87	92
8807305	85	99	92	89	89	95
8807306	92	97	94	92	94	99
Blank	82	95	85	85	86	93
OPR	64	84	85	83	84	90
Limits:	40-135	40-135	40-135	40-135	40-135	40-135
	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF
8807304	92	73	89	84	80	89
8807305	98	86	99	97	88	94
8807306	100	91	100	97	91	93

^{*-} Outside of specification

P##### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ / MRL.

⁽²⁾ The unspiked result was more than four times the spike added.



## Analysis Report

2425 New Holland Pike, Lancaster, PA 17601 • 717-656-2300 • Fax: 717-656-2681 • www.LancasterLabs.com

#### Quality Control Summary

Client Name: ARS International, LLC

Reported: 02/09/2017 12:58

Group Number: 1759120

#### Surrogate Quality Control (continued)

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: Dioxins/Furans in Solids-8290

Batch number: 17031003

	13C12-OCDD	13C12-2378-TCDF	13C12-12378-PeCDF	13C12-23478-PeCDF	13C12-123478-HxCDF	13C12-123678-HxCDF
Blank	94	69	96	87	78	88
OPR	93	62	84	78	74	84
Limits:	40-135	40-135	40-135	40-135	40-135	40-135
	13C12-234678-HxCDF	13C12-123789-HxCDF	13C12-1234678-HpCDF	13C12-1234789-HpCDF	13C12-OCDF	
8807304	80	74	103	77	75	
8807305	88	89	101	87	85	
8807306	91	96	105	91	91	
Blank	79	83	101	77	74	
OPR	76	72	98	73	73	
Limits:	40-135	40-135	40-135	40-135	40-135	

^{*-} Outside of specification

^{**-}This limit was used in the evaluation of the final result for the blank

⁽¹⁾ The result for one or both determinations was less than five times the LOQ / MRL.

⁽²⁾ The unspiked result was more than four times the spike added.

P###### is indicative of a Background or Unspiked sample that is batch matrix QC and was not performed using a sample from this submission group.

	•
ARS	

Company Name: ARS INTERNATIONAL
Address: 2609 11, 12, 122 Rd
Phone #: 225-361-799 3991

Fax #: 325-361-7996

E-mail: RVARUEII 6 AMDA, COM

7-37646 9-1759120 5-8807304-06 Ollent Contact:

Purchase Order

Job #:

Turn around time in bussiness days (please circle one)

Day Day Days Other:

**F**ах:

Sent TO: <u>EURINS LANCASTER</u> LANS
CONTACT: <u>FAVE HYDER ISTACY</u> HESS
Address: <u>2425 NEW HOLAND BLE</u>
ANCHETER: PA 12601
PHONE: 717-656-2308

Analysis Requested HONCE SHAMS Matrix # of Cont. ø5 4151-17-00216-002 4PS 1-17-00216-004 Sample ID LEVE Additional notes: 12:00 Time Date | -/7-/7 1-18-1 1-17-1 140

0 1 2 2 4 9 9 7 8 6

6

5

Does Not Need totAls

Time	32h1		
Date	L1-52-1		
/// Relinquished by (signature)	1111	In last	

rime		8	
Oate		41-12	
Received by (signature)		CX polac	

Types of sample:
 String Water, Sm. Smear, LT. Leak Test, AF. Ar. Al' Filter, Sf. Silica Gel, VG: vegetation, Bio: Bloassay

AIL01 Page 22 of 560 Page 17 of 19



#### Sample Administration Receipt Documentation Log

Doc Log ID:

174066

Group Number(s): /759/20

Client: ARS

**Delivery and Receipt Information** 

**Delivery Method:** 

**UPS** 

Arrival Timestamp:

01/26/2017 9:30

Number of Packages:

1

Number of Projects:

1

**Arrival Condition Summary** 

Shipping Container Sealed:

Yes

Sample IDs on COC match Containers:

No

**Custody Seal Present:** 

No

Sample Date/Times match COC:

Yes

Samples Chilled:

No

VOA Vial Headspace ≥ 6mm:

N/A

Paperwork Enclosed:

Yes

Total Trip Blank Qty:

0

Samples Intact:

Yes

Air Quality Samples Present:

No

Missing Samples: Extra Samples:

No

No

Discrepancy in Container Qty on COC:

No

Unpacked by Melvin Sanchez (8943) at 16:46 on 01/26/2017

#### **Elevated Temperature Details**

All Temperatures in °C

**Thermometer** Cooler# ΙD

Top Left <u>Temp</u>

Top Right **Bottom Left** <u>Temp</u> Temp

**Bottom** 

Center Factors Contributing to **Elevated Temp** Temp

Comments

32170023

10.9

16.2

Right Temp

6.6

Sample ID Discrepancy Details

Sample ID on COC

Sample ID on Label

Comments

ARS1-17-00216-002 or -007 ARS1-17-00216-004

BB17 or BB18 BB19M

both coll. 01/17/17 per the bottles both coll. 01/18/17 per the bottle



### **Explanation of Symbols and Abbreviations**

The following defines common symbols and abbreviations used in reporting technical data:

BMQL	Below Minimum Quantitation Level	mg	milligram(s)
С	degrees Celsius	mL	milliliter(s)
cfu	colony forming units	MPN	Most Probable Number
CP Units	cobalt-chloroplatinate units	N.D.	none detected
F	degrees Fahrenheit	ng	nanogram(s)
g	gram(s)	NTU	nephelometric turbidity units
IU	International Units	pg/L	picogram/liter
kg	kilogram(s)	RL	Reporting Limit
Ĺ	liter(s)	TNTC	Too Numerous To Count
lb.	pound(s)	μg	microgram(s)
m3	cubic meter(s)	μĽ	microliter(s)
meq	milliequivalents	umhos/cm	micromhos/cm
<	less than		
>	greater than		
ppm		e equivalent to milli	kilogram (mg/kg) or one gram per million grams. For igrams per liter (mg/l), because one liter of water has a weight juivalent to one microliter per liter of gas.

#### Laboratory Data Qualifiers:

ppb Dry weight

basis

C - Result confirmed by reanalysis

as-received basis.

parts per billion

- E Concentration exceeds the calibration range
- J (or G, I, X) estimated value ≥ the Method Detection Limit (MDL or DL) and < the Limit of Quantitation (LOQ or RL)
- P Concentration difference between the primary and confirmation column >40%. The lower result is reported.
- U Analyte was not detected at the value indicated
- V Concentration difference between the primary and confirmation column >100%. The reporting limit is raised due to this disparity and evident interference...

Results printed under this heading have been adjusted for moisture content. This increases the analyte weight

concentration to approximate the value present in a similar sample without moisture. All other results are reported on an

W - The dissolved oxygen uptake for the unseeded blank is greater than 0.20 mg/L.

Additional Organic and Inorganic CLP qualifiers may be used with Form 1 reports as defined by the CLP methods. Qualifiers specific to Dioxin/Furans and PCB Congeners are detailed on the individual Analysis Report.

Analytical test results meet all requirements of the associated regulatory program (i.e., NELAC (TNI), DoD, and ISO 17025) unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff.

This report shall not be reproduced except in full, without the written approval of the laboratory.

Times are local to the area of activity. Parameters listed in the 40 CFR Part 136 Table II as "analyze immediately" are not performed within 15 minutes.

WARRANTY AND LIMITS OF LIABILITY - In accepting analytical work, we warrant the accuracy of test results for the sample as submitted. THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IS GIVEN IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. WE DISCLAIM ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING A WARRANTY OF FITNESS FOR PARTICULAR PURPOSE AND WARRANTY OF MERCHANTABILITY. IN NO EVENT SHALL EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL, LLC BE LIABLE FOR INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, DAMAGES FOR LOSS OF PROFIT OR GOODWILL REGARDLESS OF (A) THE NEGLIGENCE (EITHER SOLE OR CONCURRENT) OF EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL AND (B) WHETHER EUROFINS LANCASTER LABORATORIES ENVIRONMENTAL HAS BEEN INFORMED OF THE POSSIBILITY OF SUCH DAMAGES. We accept no legal responsibility for the purposes for which the client uses the test results. No purchase order or other order for work shall be accepted by Eurofins Lancaster Laboratories Environmental which includes any conditions that vary from the Standard Terms and Conditions, and Eurofins Lancaster Laboratories Environmental hereby objects to any conflicting terms contained in any acceptance or order submitted by client.

## Dioxins/Furans by HRMS Data

# Case Narrative/Conformance Summary Dioxins/Furans by HRMS



#### **Case Narrative/Conformance Summary**

CLIENT: ARS International, LLC SDG: AIL01

**Specialty Services Group** Fraction: Dioxins/Furans by HRMS

<b>B</b> 4	•	•
<b>A</b> /		****
IVI	7	rix

Sample #	Client ID	Liquid	Solid	DF	Comments
8807304	ARS1-17-00216-007		X	1	
8807305	ARS1-17-00216-004		X	1	
8807306	ARS1-17-00216-002		X	1	

#### LABORATORY SUBMITTED QC:

	Matrix			
Sample #	Liquid	Solid		
BLK031003		X		
OPR031003		X		

#### **SAMPLE PREPARATION:**

No problems were encountered with the extraction of these samples.

#### QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specifications.

#### **SAMPLE ANALYSIS:**

All samples were analyzed by SW846 Method 8290A.

No problems were encountered with the analysis of the samples.

#### **DATA INTERPRETATION:**

Data was processed and interpreted using standard operating procedures.

## **Quality Control and Calibration Summary Forms**

Dioxins/Furans by HRMS



FORM 01A CDD/CDF SAMPLE DATA SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID:

Lab File ID: N/A

17FEB07-15

Water Sample Prep: N/A

10.0 (g)

Date Received:

Concentration Extract Volume: 20.0 (uL) Injection Volume: 1.00 (uL)

% Solid/Lipids: 0.0

Date Extracted: 01/31/2017 10:45 Date Analyzed:

02/07/2017 22:30

GC Column: DB5MS

Sample (wt):

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

	Selected	Peak	Ion			
Analyte	Ions	RT	Ratio	Concentration	Qual.	EDL
2378-TCDF	304/306	30.98	0.76	19.4		0.0187
2378-TCDD	320/322	32.02	0.81	19.1		0.0170
12378-PeCDF	340/342	36.54	1.57	98.2	В	0.0133
23478-PeCDF	340/342	37.76	1.57	90.7	В	0.0123
12378-PeCDD	356/358	38.14	1.63	95.3	В	0.0298
123478-HxCDF	374/376	41.33	1.26	91.2	В	0.033
123678-HxCDF	374/376	41.48	1.23	90.9	В	0.0280
234678-HxCDF	374/376	42.17	1.27	93.9	В	0.0312
123478-HxCDD	390/392	42.36	1.27	96.7	В	0.0262
123678-HxCDD	390/392	42.47	1.25	91.5	В	0.025
123789-HxCDD	390/392	42.78	1.24	94.5	В	0.024
123789-HxCDF .	374/376	43.17	1.25	91.3	В	0.037
1234678-HpCDF	408/410	44.86	1.04	96.1	В	0.0292
1234678-HpCDD	424/426	46.04	1.04	92.3	В	0.0365
1234789-HpCDF	408/410	46.61	1.03	95.4	В	0.046
OCDD	458/460	49.05	0.89	188	В	0.037
OCDF	442/444	49.25	0.91	181	В	0.0253

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-1278-TCDD (CRS)	332/334	32.38	0.83	0.65 - 0.90	37	31 - 191
13C12-2378-TCDF	316/318	30.94	0.79	0.65 - 0.90	62	40 - 135
13C12-2378-TCDD	332/334 .	31.99	0.79	0.65 - 0.90	64	40 - 135
13C12-12378-PeCDF	352/354	36.52	1.60	1.32 - 1.79	84	40 <b>-</b> 135
13C12-23478-PeCDF	352/354	37.74	1.61	1.32 - 1.79	78	40 - 135
13C12-12378-PeCDD	368/370	38.13	1.62	1.32 - 1.79	84	40 - 135
13C12-123478-HxCDF	384/386	41.32	0.53	0.43 - 0.60	74	40 <b>-</b> 135
13C12-123678-HxCDF	384/386	41.47	0.53	0.43 - 0.60	84	40 - 135
13C12-234678-HxCDF	384/386	42.16	0.52	0.43 - 0.60	76	40 - 135
13C12-123478-HxCDD	402/404	42.33	1.26	1.05 - 1.44	85	40 <b>-</b> 135
13C12-123678-HxCDD	402/404	42.45	1.27	1.05 - 1.44	83	40 - 135
13C12-123789-HxCDD	402/404	42.76	1.26	1.05 - 1.44	84	40 - 135
13C12-123789-HxCDF	384/386	43.15	0.52	0.43 - 0.60	72	40 - 135
13C12-1234678-HpCDF	418/420	44.85	0.45	0.37 - 0.52	98	40 - 135
13C12-1234678-HpCDD	436/438	46.03	1.07	0.88 - 1.21	90	40 - 135
13C12-1234789-HpCDF	418/420	46.59	0.44	0.37 - 0.52	73	40 - 135
13C12-OCDD	470/472	49.03	0.91	0.76 - 1.03	93	40 - 135

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ

N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated

Q = Estimated Maximum Possible Concentration

* = Outside QC Limits

FORM 01A

Page 1 of 2



FORM 01A

CDD/CDF SAMPLE DATA SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: OPR031003

Lab File ID:

17FEB07-15

Sample (wt): 10.0 (g) Water Sample Prep: N/A

Date Received:

N/A

Concentration Extract Volume: 20.0 (uL)

Injection Volume: 1.00 (uL) % Solid/Lipids: 0.0

Date Extracted: 01/31/2017 10:45 Date Analyzed: 02/07/2017 22:30

GC Column: DB5MS

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-OCDF	454/456	49.23	0.89	0.76 - 1.03	73	40 - 135

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

J = Estimated concentration between EDL and LOQ

Q = Estimated Maximum Possible Concentration

C = Concentration confirmed on second column

E = Exceeds calibration range

F = Interference is present

N = See comment in Case Narrative

S = The detector is saturated

* = Outside QC Limits

FORM 01A

Page 2 of 2



FORM 01A CDD/CDF SAMPLE DATA SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

ID: 0.25 (mm)

Lab Sample ID: BLK031003

Sample (wt): 10.0 (g)

Lab File ID:

17FEB07-17

Water Sample Prep: N/A

Date Received: N/A

Date Extracted: 01/31/2017 10:45

Injection Volume: 1.00 (uL) % Solid/Lipids: 0.0 GC Column: DB5MS

Concentration Extract Volume: 20.0 (uL)

Date Analyzed: 02/08/2017 00:23

Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	EDL
2378-TCDF	304/306	31.02	0.05 *	Concentration	U	0.0108
2378-TCDD	320/322	32.03	48.60 *		U	0.0108
12378-PeCDF	340/342	36.55	2.16 *	0.0902		0.00866
23478-PeCDF	340/342	37.76	1.97 *	0.0589		0.00813
12378-PeCDD	356/358	38.16	1.40	0.0463		0.00813
123478-HxCDF	374/376	41.36	1.16	0.0341		0.00763
123678-HxCDF	374/376	41.49		0.0406		0.00783
234678-HxCDF	374/376	42.18	5.94 *	0.0489		0.00749
123478-HxCDD	390/392	42.16	3.61 *	0.0288		0.00749
123678-HxCDD	390/392	42.47	4.10 *	0.0516		0.0115
123789-HxCDD	390/392	42.78	0.90 *	0.0485		0.0110
123789-HxCDF	374/376	43.16	1.07	0.112		0.00803
1234678-HpCDF	408/410	44.86	0.90	0.0605		0.00652
1234678-HpCDD	424/426	46.04	1.37 *	0.0716		0.00895
1234789-HpCDF	408/410	46.60	0.98	0.0578		0.00983
OCDD	458/460	49.04	0.99	0.129		0.0197
OCDF	442/444	49.26	3.03 *	0.0854		0.0137

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-1278-TCDD (CRS)	332/334	32.39	0.78	0.65 - 0.90	44	35 <b>-</b> 197
13C12-2378-TCDF	316/318	30.95	0.79	0.65 - 0.90	69	40 <b>-</b> 135
13C12-2378-TCDD	332/334	32.00	0.82	0.65 - 0.90	82	40 - 135
13C12-12378-PeCDF	352/354	36.53	1.58	1.32 - 1.79	96	40 - 135
13C12-23478-PeCDF	352/354	37.75	1.58	1.32 - 1.79	87	40 - 135
13C12-12378-PeCDD	368/370	38.13	1.59	1.32 - 1.79	95	40 - 135
13C12-123478-HxCDF	384/386	41.33	0.51	0.43 - 0.60	78	40 - 135
13C12-123678-HxCDF	384/386	41.48	0.52	0.43 - 0.60	88	40 - 135
13C12-234678-HxCDF	384/386	42.15	0.53	0.43 - 0.60	79	40 - 135
13C12-123478-HxCDD	402/404	42.34	1.25	1.05 - 1.44	85	40 - 135
13C12-123678-HxCDD	402/404	42.46	1.25	1.05 - 1.44	85	40 - 135
13C12-123789-HxCDD	402/404	42.77	1.26	1.05 - 1.44	86	40 - 135
13C12-123789-HxCDF	384/386	43.16	0.54	0.43 - 0.60	83	40 - 135
13C12-1234678-HpCDF	418/420	44.85	0.45	0.37 - 0.52	101	40 - 135
13C12-1234678-HpCDD	436/438	46.04	1.05	0.88 - 1.21	93	40 <b>-</b> 135
13C12-1234789-HpCDF	418/420	46.60	0.45	0.37 - 0.52	77	40 - 135
13C12-OCDD	470/472	49.04	0.92	0.76 - 1.03	94	40 - 135

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column S = The detector is saturated

Q = Estimated Maximum Possible Concentration

* = Outside QC Limits

FORM 01A

Page 1 of 2



FORM 01A

CDD/CDF SAMPLE DATA SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: BLK031003

Lab File ID:

17FEB07-17

Date Received:

N/A

Sample (wt): 10.0 (g) Water Sample Prep: N/A

Concentration Extract Volume: 20.0 (uL)

Date Extracted: 01/31/2017 10:45

Injection Volume: 1.00 (uL) % Solid/Lipids: 0.0

Date Analyzed: 02/08/2017 00:23

GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-OCDF	454/456	49.23	0.92	0.76 - 1.03	74	40 - 135

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column

Q = Estimated Maximum Possible Concentration

E = Exceeds calibration range

F = Interference is present

S = The detector is saturated

* = Outside QC Limits

FORM 01A

Page 2 of 2



FORM 01A CDD/CDF SAMPLE DATA SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL Instrument ID: DF18471 Lab Sample ID: 8807304

Sample (wt): 10.3 (g) Lab File ID: 17FEB07-18 Water Sample Prep: N/A Date Received: 01/26/2017 09:30

Concentration Extract Volume: 20.0 (uL)

Injection Volume: 1.00 (uL) % Solid/Lipids: 88.3

Date Extracted: 01/31/2017 10:45

Date Extracted: 02/08/2017 01:20

GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: ng/kg

	Selected	Peak	Ion			
Analyte	Ions	RT	Ratio	Concentration	Qual.	EDL
2378-TCDF	304/306	30.98	0.99 *	0.360	JQ	0.0424
2378-TCDD	320/322	32.03	0.49 *	0.0698	JQ	0.0154
12378-PeCDF	340/342	36.54	1.44	0.576	ВЈ	0.0226
23478-PeCDF	340/342	37.76	1.90 *	0.947	ВJQ	0.0202
12378-PeCDD	356/358	38.15	2.23 *	0.420	BJQ	0.0267
123478-HxCDF	374/376	41.34	1.25	0.500	ВЈ	0.0252
123678-HxCDF	374/376	41.50	1.42	0.486	ВЈ	0.0220
234678-HxCDF	374/376	42.17	1.38	0.475	ВЈ	0.0237
123478-HxCDD	390/392	42.35	1.69 *	0.324	BJQ	0.0260
123678-HxCDD	390/392	42.47	1.08	0.931	ВJ	0.0252
123789-HxCDD	390/392	42.79	1.30	0.450	ВЈ	0.0247
123789-HxCDF	374/376	43.17	1.35	0.402	BJ .	0.0299
1234678-HpCDF	408/410	44.87	1.09	2.32	BJ	0.0134
1234678-HpCDD	424/426	46.04	1.07	13.6	В	0.0422
1234789-HpCDF	408/410	46.61	1.17	0.340	ВЈ	0.0208
OCDD	458/460	49.05	0.90	195	В	0.0422
OCDF	442/444	49.25	0.79	5.55	BJ	0.0198

Labeled	Selected	Peak	Ion	Ion Ratio	° DEG	Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-1278-TCDD (CRS)	332/334	32.39	0.82	0.65 - 0.90	. 38	35 - 197
13C12-2378-TCDF	316/318	30.97	0.80	0.65 - 0.90	73	40 - 135
13C12-2378-TCDD	332/334	31.99	0.81	0.65 - 0.90	74	40 - 135
13C12-12378-PeCDF	352/354	36.53	1.62	1.32 - 1.79	89	40 - 135
13C12-23478-PeCDF	352/354	37.75	1.57	1.32 - 1.79	84	40 - 135
13C12-12378-PeCDD	368/370	38.13	1.62	1.32 - 1.79	86	40 - 135
13C12-123478-HxCDF	384/386	41.32	0.53	0.43 - 0.60	80	40 - 135
13C12-123678-HxCDF	384/386	41.47	0.53	0.43 - 0.60	89	40 - 135
13C12-234678-HxCDF	384/386	42.16	0.54	0.43 - 0.60	80	40 - 135
13C12-123478-HxCDD	402/404	42.35	1.27	1.05 - 1.44	87	40 - 135
13C12-123678-HxCDD	402/404	42.45	1.25	1.05 - 1.44	85	40 - 135
13C12-123789-HxCDD	402/404	42.76	1.24	1.05 - 1.44	87	40 - 135
13C12-123789-HxCDF	384/386	43.16	0.54	0.43 - 0.60	74	40 - 135
13C12-1234678-HpCDF	418/420	44.85	0.46	0.37 - 0.52	103	40 - 135
13C12-1234678-HpCDD	436/438	46.03	1.05	0.88 - 1.21	92	40 - 135
13C12-1234789-HpCDF	418/420	46.60	0.47	0.37 - 0.52	77	40 - 135
13C12-OCDD	470/472	49.05	0.89	0.76 - 1.03	92	40 - 135

#### Abbreviations:

B = Detected in Method Blank

J = Estimated concentration between EDL and LOQ

C = Concentration confirmed on second column
Q = Estimated Maximum Possible Concentration

N = See comment in Case Narrative

S = The detector is saturated

E = Exceeds calibration range

* = Outside QC Limits

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FORM 01A

CDD/CDF SAMPLE DATA SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: 8807304

Sample (wt): 10.3 (g) Lab File ID:

17FEB07-18

Water Sample Prep: N/A

Date Received:

01/26/2017 09:30

Date Extracted: 01/31/2017 10:45

Concentration Extract Volume: 20.0 (uL)

Injection Volume: 1.00 (uL) % Solid/Lipids: 88.3

Date Analyzed:

02/08/2017 01:20

GC Column: DB5MS

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-OCDF	454/456	49.23	0.90	0.76 - 1.03	75	40 - 135

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ

N = See comment in Case Narrative

C = Concentration confirmed on second column

S =The detector is saturated

Q = Estimated Maximum Possible Concentration

* = Outside QC Limits

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FORM 01A CDD/CDF SAMPLE DATA SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL Lab Sample ID: Instrument ID: DF18471

8807305 Sample (wt): 10.2 (g) Lab File ID: 17FEB07-19

Date Received: Water Sample Prep: N/A 01/26/2017 09:30 Concentration Extract Volume: 20.0 (uL) Date Extracted: 01/31/2017 10:45

Injection Volume: 1.00 (uL) % Solid/Lipids: 58.3 Date Analyzed: 02/08/2017 02:16 GC Column: DB5MS Dilution Factor: 1.0 ID: 0.25 (mm)

Concentration Units: ng/kg

	Selected	Peak	Ion			
Analyte	Ions	RT	Ratio	Concentration	Qual.	EDL
2378-TCDF	304/306	30.99	0.83	0.0731	J	0.0286
2378-TCDD	320/322	32.03	0.33 *	0.0300	JQ	0.0256
12378-PeCDF	340/342	36.53	1.68	0.247	ВЈ	0.0190
23478-PeCDF	340/342	37.76	1.53	0.241	BJ	0.0169
12378-PeCDD	356/358	38.15	1.29 *	0.303	BJQ	0.0517
123478-HxCDF	374/376	41.34	1.17	0.352	BJ	0.0350
123678-HxCDF	374/376	41.49	1.32	0.487	ВЈ	0.0319
234678-HxCDF	374/376	42.18	1.45 *	0.666	BJQ	0.0350
123478-HxCDD	390/392	42.37	1.29	0.479	ВЈ	0.0365
123678-HxCDD	390/392	42.47	1.16	2.21	ВЈ	0.0356
123789-HxCDD	390/392	42.78	1.16	0.791	ВЈ	0.0354
123789-HxCDF	374/376	43.17	1.43	0.261	ВЈ	0.0388
1234678-HpCDF	408/410	44.86	1.10	8.62	В	0.0340
1234678-HpCDD	424/426	46.05	0.99	41.5	В	0.0622
1234789-HpCDF	408/410	46.62	1.27 *	0.891	BJQ	0.0427
OCDD	458/460	49.05	0.88	297	В	0.0567
OCDF	442/444	49.24	0.85	18.2	В	0.0255

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-1278-TCDD (CRS)	332/334	32.39	0.77	0.65 - 0.90	40	35 – 197
13C12-2378-TCDF	316/318	30.97	0.80	0.65 - 0.90	86	40 - 135
13C12-2378-TCDD	332/334	32.00	0.81	0.65 - 0.90	85	40 - 135
13C12-12378-PeCDF	352/354	36.53	1.64	1.32 - 1.79	99	40 - 135
13C12-23478-PeCDF	352/354	37.75	1.59	1.32 - 1.79	97	40 - 135
13C12-12378-PeCDD	368/370	38.13	1.60	1.32 - 1.79	99	40 - 135
13C12-123478-HxCDF	384/386	41.33	0.52	0.43 - 0.60	88	40 - 135
13C12-123678-HxCDF	384/386	41.48	0.52	0.43 - 0.60	94	40 - 135
13C12-234678-HxCDF	384/386	42.16	0.54	0.43 - 0.60	88	40 - 135
13C12-123478-HxCDD	402/404	42.34	1.29	1.05 - 1.44	92	40 - 135
13C12-123678-HxCDD	402/404	42.46	1.25	1.05 - 1.44	89	40 - 135
13C12-123789-HxCDD	402/404	42.77	1.24	1.05 - 1.44	89	40 <b>-</b> 135
13C12-123789-HxCDF	384/386	43.16	0.53	0.43 - 0.60	88	40 - 135
13C12-1234678-HpCDF	418/420	44.85	0.45	0.37 - 0.52	101	40 - 135
13C12-1234678-HpCDD	436/438	46.04	1.05	0.88 - 1.21	95	40 - 135
13C12-1234789-HpCDF	418/420	46.60	0.45	0.37 - 0.52	87	40 - 135
13C12-OCDD	470/472	49.04	0.89	0.76 - 1.03	98	40 - 135

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

J = Estimated concentration between EDL and LOQ

C = Concentration confirmed on second column

Q = Estimated Maximum Possible Concentration

E = Exceeds calibration range

F = Interference is present

N = See comment in Case Narrative

S = The detector is saturated

* = Outside QC Limits

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FORM 01A

CDD/CDF SAMPLE DATA SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: 8807305

Lab File ID:

17FEB07-19

Sample (wt): 10.2 (g) Water Sample Prep: N/A

Date Received:

01/26/2017 09:30

Concentration Extract Volume: 20.0 (uL)

Date Extracted: 01/31/2017 10:45

Injection Volume: 1.00 (uL) % Solid/Lipids: 58.3

Date Analyzed: 02/08/2017 02:16

GC Column: DB5MS

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-OCDF	454/456	49.23	0.90	0.76 - 1.03	85	40 - 135

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

J = Estimated concentration between EDL and LOQ

C = Concentration confirmed on second column

Q = Estimated Maximum Possible Concentration

E = Exceeds calibration range

F = Interference is present

N = See comment in Case Narrative

S = The detector is saturated

* = Outside QC Limits

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FORM 01A CDD/CDF SAMPLE DATA SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL Instrument ID: DF18471 Lab Sample ID:

8807306 Sample (wt): 10.1 (g) Lab File ID: 17FEB07-20

Date Received: Water Sample Prep: N/A 01/26/2017 09:30 Concentration Extract Volume: 20.0 (uL) Date Extracted: 01/31/2017 10:45 Injection Volume: 1.00 (uL) % Solid/Lipids: 88.8 Date Analyzed: 02/08/2017 03:13

GC Column: DB5MS ID: 0.25 (mm) Dilution Factor: 1.0

Concentration Units: ng/kg

	Selected	Peak	Ion			
Analyte	Ions	RT	Ratio	Concentration	Qual.	EDL
2378-TCDF	304/306	31.00	0.69	0.617	J	0.0418
2378-TCDD	320/322	32.01	1.88 *	0.0277	JQ	0.0185
12378-PeCDF	340/342	36.55	1.42	1.08	BJ	0.0199
23478-PeCDF	340/342	37.79	1.61	0.408	BJ	0.0177
12378-PeCDD	356/358	38.16	1.83 *	0.179	BJQ	0.0427
123478-HxCDF	374/376	41.35	1.51 *	0.336	BJQ	0.0204
123678-HxCDF	374/376	41.48	1.20	0.224	ВЈ	0.0198
234678-HxCDF	374/376	42.18	1.14	0.264	BJ	0.0211
123478-HxCDD	390/392	42.36	1.37	0.240	BJ	0.0263
123678-HxCDD	390/392	42.48	1.01 *	0.502	BJQ	0.0245
123789-HxCDD	390/392	42.79	1.35	0.448	ВЈ	0.0243
123789-HxCDF	374/376	43.18	1.36	0.155	BJ	0.0215
1234678-HpCDF	408/410	44.87	1.03	2.19	ВJ	0.0321
1234678-HpCDD	424/426	46.05	1.09	10.3	В	0.0368
1234789-HpCDF	408/410	46.61	1.17	0.225	BJ	0.0402
OCDD	458/460	49.06	0.90	91.5	В	0.0281
OCDF	442/444	49.25	0.89	3.88	BJ	0.0186

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-1278-TCDD (CRS)	332/334	32.40	0.83	0.65 - 0.90	45	35 - 197
13C12-2378-TCDF	316/318	30.96	0.79	0.65 - 0.90	91	40 - 135
13C12-2378-TCDD	332/334	32.01	0.80	0.65 - 0.90	92	40 - 135
13C12-12378-PeCDF	352/354	36.54	1.57	1.32 - 1.79	100	40 - 135
13C12-23478-PeCDF	352/354	37.76	1.58	1.32 - 1.79	97	40 - 135
13C12-12378-PeCDD	368/370	38.14	1.59	1.32 - 1.79	97	40 - 135
13C12-123478-HxCDF	384/386	41.33	0.52	0.43 - 0.60	91	40 - 135
13C12-123678-HxCDF	384/386	41.48	0.53	0.43 - 0.60	93	40 - 135
13C12-234678-HxCDF	384/386	42.17	0.53	0.43 - 0.60	91	40 - 135
13C12-123478-HxCDD	402/404	42.35	1.25	1.05 - 1.44	94	40 - 135
13C12-123678-HxCDD	402/404	42.47	1.26	1.05 - 1.44	92	40 - 135
13C12-123789-HxCDD	402/404	42.78	1.23	1.05 - 1.44	94	40 - 135
13C12-123789-HxCDF	384/386	43.17	0.53	0.43 - 0.60	96	40 - 135
13C12-1234678-HpCDF	418/420	44.85	0.46	0.37 - 0.52	105	40 - 135
13C12-1234678-HpCDD	436/438	46.04	1.04	0.88 - 1.21	99	40 - 135
13C12-1234789-HpCDF	418/420	46.61	0.45	0.37 - 0.52	91	40 - 135
13C12-OCDD	470/472	49.05	0.91	0.76 - 1.03	100	40 - 135

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column S = The detector is saturated

Q = Estimated Maximum Possible Concentration

E = Exceeds calibration range

F = Interference is present

* = Outside QC Limits

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FORM 01A

CDD/CDF SAMPLE DATA SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: 8807306

Sample (wt): 10.1 (g)

Lab File ID:

17FEB07-20

Water Sample Prep: N/A

Date Received: 01/26/2017 09:30

Date Extracted: 01/31/2017 10:45

Concentration Extract Volume: 20.0 (uL)

Injection Volume: 1.00 (uL) % Solid/Lipids: 88.8 Date Analyzed: 02/08/2017 03:13

GC Column: DB5MS

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled	Selected	Peak	Ion	Ion Ratio		Recovery
Compounds	Ions	RT	Ratio	Limits	% REC	Limits
13C12-OCDF	454/456	49.25	0.90	0.76 - 1.03	91	40 - 135

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated

Q = Estimated Maximum Possible Concentration

* = Outside QC Limits

FORM 01A

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FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Lab Sample ID: BLK031003

Water Sample Prep: N/A

Sample (wt): 10.0 (g)

Lab File ID:

17FEB07-17

Concentrated Extract Volume: 20.0 (uL)

Date Received: N/A

Injection Volume 1.00 (uL) % Solid/Lipids: N/A

Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 00:23

Dilution Factor: 1.0

Concentration Units: ng/kg

Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	TEF-Adjusted Concentration
2378-TCDF		Ū	0.1	0.0108	0	0
2378-TCDD		U	1	0.0117	0	0
12378-PeCDF	0.0902	JQ	0.03	0.00866	0	0
23478-PeCDF	0.0589	JQ	0.3	0.00813	0	0
12378-PeCDD	0.0463	J	1	0.0185		0.0463
123478-HxCDF	0.0341	J	0.1	0.00763		0.00341
123678-HxCDF	0.0406	JQ	0.1	0.00685	. 0	0
234678-HxCDF	0.0489	JQ	0.1	0.00749	0	0
123478-HxCDD	0.0288	JQ	0.1	0.0116	0	0
123678-HxCDD	0.0516	JQ	0.1	0.0115	0	0
123789-HxCDD	0.0485	JQ	0.1	0.0110	0	0
123789-HxCDF	0.112	J	0.1	0.00803		0.0112
1234678-HpCDF	0.0605	J	0.01	0.00652		0.000605
1234678-HpCDD	0.0716	JQ	0.01	0.00895	0	0
1234789-HpCDF	0.0578	J	0.01	0.00983		0.000578
OCDD	0.129	J .	0.0003	0.0197		0.0000390

Total TEQ (excluding EMPC):

0.0622

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

 ${
m J}$  = Estimated concentration between EDL and LOQ  ${
m N}$  = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated

Q = Estimated Maximum Possible Concentration

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^{*} TEF - Toxicity Equivalent Factors from World Health Organization (WHO), 2005

^{**} DLF - Detection Limit Factors applied to the EDL.



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample (wt): 10.0 (g)Lab Sample ID: BLK031003

Water Sample Prep: N/A

Lab File ID:

17FEB07-17

Concentrated Extract Volume: 20.0 (uL)

Date Received: N/A

Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

Injection Volume 1.00 (uL) % Solid/Lipids: N/A

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 00:23

Dilution Factor: 1.0

Concentration Units: ng/kg

<del> </del>	<del></del>					
						TEF-Adjusted
Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	Concentration
OCDF	0.0854	JQ	0.0003	0.0135	0	0

Total TEQ (excluding EMPC):

0.0622

- * TEF Toxicity Equivalent Factors from World Health Organization (WHO), 2005
- ** DLF Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ  $\,$  N = See comment in Case Narrative

C = Concentration confirmed on second column S = The detector is saturated



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL Instrument ID: DF18471

Sample (wt): 10.3 (g) Lab Sample ID: 8807304

Lab File ID: Water Sample Prep: N/A 17FEB07-18

Date Received: 01/26/2017 09:30 Concentrated Extract Volume: 20.0 (uL)

Injection Volume 1.00 (uL) % Solid/Lipids: 88.3 Date Extracted: 01/31/2017 10:45

GC Column: DB5MS Date Analyzed: 02/08/2017 01:20 ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

						TEF-Adjusted
Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	Concentration
2378-TCDF	0.360	JQ	0.1	0.0424	0	0
2378-TCDD	0.0698	JQ	1	0.0154	0	0
12378-PeCDF	0.576	ВЈ	0.03	0.0226		0.0173
23478-PeCDF	0.947	BJQ	0.3	0.0202	0	0
12378-PeCDD	0.420	ВJQ	1	0.0267	0	0
123478-HxCDF	0.500	ВЈ	0.1	0.0252		0.0500
123678-HxCDF	0.486	ВЈ	0.1	0.0220		0.0486
234678-HxCDF	0.475	ВJ	0.1	0.0237		0.0475
123478-HxCDD	0.324	ВJQ	0.1	0.0260	0	0
123678-HxCDD	0.931	ВJ	0.1	0.0252		0.0931
123789-HxCDD	0.450	ВЈ	0.1	0.0247		0.0450
123789-HxCDF	0.402	ВJ	0.1	0.0299		0.0402
1234678-HpCDF	2.32	ВЈ	0.01	0.0134		0.0232
1234678-HpCDD	13.6	В	0.01	0.0422		0.136
1234789-HpCDF	0.340	ВJ	0.01	0.0208		0.00340
OCDD	195	В	0.0003	0.0422		0.0586

Total TEQ (excluding EMPC):

0.564

* TEF - Toxicity Equivalent Factors from World Health Organization (WHO), 2005

** DLF - Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample (wt): 10.3 (g)

Lab Sample ID: 8807304

Water Sample Prep: N/A

Lab File ID:

17FEB07-18

Concentrated Extract Volume: 20.0 (uL)

Date Received: 01/26/2017 09:30

Injection Volume 1.00 (uL) % Solid/Lipids: 88.3

Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 01:20

Dilution Factor: 1.0

Concentration Units: ng/kg

	J					
						TEF-Adjusted
Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	Concentration
OCDF	5.55	ВЈ	0.0003	0.0198		0.00166

Total TEQ (excluding EMPC):

0.564

- * TEF Toxicity Equivalent Factors from World Health Organization (WHO), 2005
- ** DLF Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank

U = Undetected

E = Exceeds calibration range F = Interference is present

 ${
m J}$  = Estimated concentration between EDL and LOQ  ${
m N}$  = See comment in Case Narrative

C = Concentration confirmed on second column S = The detector is saturated



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample (wt): 10.2 (g)

Lab Sample ID: 8807305

Lab File ID: 17FEB07-19

Concentrated Extract Volume: 20.0 (uL)

Water Sample Prep: N/A

Date Received: 01/26/2017 09:30

Injection Volume 1.00 (uL) % Solid/Lipids: 58.3 Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 02:16

Dilution Factor: 1.0

Concentration Units: ng/kg

Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	TEF-Adjusted Concentration
2378-TCDF	0.0731	J	0.1	0.0286		0.00731
2378-TCDD	0.0300	JQ	1	0.0256	0	0
12378-PeCDF	0.247	ВЈ	0.03	0.0190		0.00743
23478-PeCDF	0.241	ВJ	0.3	0.0169		0.0724
12378-PeCDD	0.303	BJQ	1	0.0517	0	0
123478-HxCDF	0.352	ВЈ	0.1	0.0350		0.0352
123678-HxCDF	0.487	ВЈ	0.1	0.0319		0.0487
234678-HxCDF	0.666	BJQ	0.1	0.0350	0	0
123478-HxCDD	0.479	ВJ	0.1	0.0365		0.0479
123678-HxCDD	2.21	ВJ	0.1	0.0356		0.221
123789-HxCDD	0.791	ВJ	0.1	0.0354		0.0791
123789-HxCDF	0.261	ВĴ	0.1	0.0388		0.0261
1234678-HpCDF	8.62	В	0.01	0.0340		0.0862
1234678-HpCDD	41.5	В	0.01	0.0622		0.415
1234789-HpCDF	0.891	BJQ	0.01	0.0427	0	0
OCDD	297	В	0.0003	0.0567		0.0892

Total TEQ (excluding EMPC):

1.14

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ  $\,$  N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated

^{*} TEF - Toxicity Equivalent Factors from World Health Organization (WHO), 2005

^{**} DLF - Detection Limit Factors applied to the EDL.



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample (wt): 10.2 (g)

Lab Sample ID: 8807305

Lab File ID:

17FEB07-19

Water Sample Prep: N/A

Concentrated Extract Volume: 20.0 (uL)

Date Received: 01/26/2017 09:30

Injection Volume 1.00 (uL) % Solid/Lipids: 58.3

Date Extracted: 01/31/2017 10:45

Date Analyzed: 02/08/2017 02:16

GC Column: DB5MS

ID: 0.25 (mm)

Dilution Factor: 1.0

Concentration Units: ng/kg

Target Analyte	Concentration Qual.	TEF*	EDL	DLF**	TEF-Adjusted Concentration
OCDF	18.2B	0.0003			0.00545

Total TEQ (excluding EMPC):

1.14

- * TEF Toxicity Equivalent Factors from World Health Organization (WHO), 2005
- ** DLF Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL Instrument ID: DF18471

Sample (wt): 10.1 (g) Lab Sample ID: 8807306

Water Sample Prep: N/A Lab File ID: 17FEB07-20

Concentrated Extract Volume: 20.0 (uL) Date Received: 01/26/2017 09:30

Injection Volume 1.00 (uL) % Solid/Lipids: 88.8 Date Extracted: 01/31/2017 10:45

GC Column: DB5MS ID: 0.25 (mm) Date Analyzed: 02/08/2017 03:13

Dilution Factor: 1.0

Concentration Units: ng/kg

Target Analyte	Concentration	Qual.	TEF*	EDL	DLF**	TEF-Adjusted Concentration
2378-TCDF	0.617	J	0.1	0.0418		0.0617
2378-TCDD	0.0277	JQ	1	0.0185	0	0
12378-PeCDF	1.08	ВЈ	0.03	0.0199		0.0324
23478-PeCDF	0.408	ВЈ	0.3	0.0177		0.122
12378-PeCDD	0.179	BJQ	1	0.0427	0	0
123478-HxCDF	0.336	ВJQ	0.1	0.0204	0	0
123678-HxCDF	0.224	вЈ	0.1	0.0198		0.0224
234678-HxCDF	0.264	ВЈ	0.1	0.0211		0.0264
123478-HxCDD	0.240	ВЈ	0.1	0.0263		0.0240
123678-HxCDD	0.502	ВJQ	0.1	0.0245	0	0
123789-HxCDD	0.448	ВJ	0.1	0.0243		0.0448
123789-HxCDF	0.155	ВJ	0.1	0.0215		0.0155
1234678-HpCDF	2.19	ВJ	0.01	0.0321		0.0219
1234678-HpCDD	10.3	В	0.01	0.0368		0.103
1234789-HpCDF	0.225	ВJ	0.01	0.0402		0.00225
OCDD	91.5	В	0.0003	0.0281		0.0274

Total TEQ (excluding EMPC):

0.505

- * TEF Toxicity Equivalent Factors from World Health Organization (WHO), 2005
- ** DLF Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank E = Exceeds calibration range

U = Undetected F = Interference is present

 ${\tt J}$  = Estimated concentration between EDL and LOQ  ${\tt N}$  = See comment in Case Narrative

C = Concentration confirmed on second column S = The detector is saturated



FORM 01B

CDD/CDF TOXICITY EQUIVALENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample (wt): 10.1 (g)

Lab Sample ID:

8807306

Water Sample Prep: N/A

Lab File ID:

17FEB07-20

Concentrated Extract Volume: 20.0 (uL)

Date Received: 01/26/2017 09:30

Injection Volume 1.00 (uL) % Solid/Lipids: 88.8

Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 03:13

Dilution Factor: 1.0

Concentration Units: ng/kg

						TEF-Adjusted
Target Analyte	Concentration Qua	ıal.	TEF*	EDL	DLF**	Concentration
OCDF	3.88BJ	Ţ	0.0003	0.0186		0.00116

Total TEQ (excluding EMPC):

0.505

* TEF - Toxicity Equivalent Factors from World Health Organization (WHO), 2005

** DLF - Detection Limit Factors applied to the EDL.

#### Abbreviations:

B = Detected in Method Blank

E = Exceeds calibration range

U = Undetected

F = Interference is present

J = Estimated concentration between EDL and LOQ N = See comment in Case Narrative

C = Concentration confirmed on second column

S = The detector is saturated



FORM 03A

CDD/CDF OPR SUMMARY HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Instrument ID: DF18471

Sample wt: 10.0 (g)

Lab Sample ID:

OPR031003

Water Sample PREP: N/A

Lab File ID:

17FEB07-15

Concentrated Extract Volume: 20.0 (uL)

Date Received:

N/A

Injection Volume: 1.00 (uL) %SOLID/LIPIDS: 0.0

Date Extracted: 01/31/2017 10:45

GC Column: DB5MS

Date Analyzed: 02/07/2017 22:30

ID: 0.25 (mm)

Method Reference: SW-846 8290A Feb 2007 Rev 1

Dilution Factor: 1.0

Concentration Units: ng/kg

	Spike	Amount	Percent	
Spike Analyte	Added	Recovered	Recovery	QC Limits
2378-TCDF	20.0	19.4	97	75 – 158
2378-TCDD	20.0	19.1	96	67 - 158
12378-PeCDF	100	98.2	98	80 - 134
23478-PeCDF	100	90.7	91	68 - 160
12378-PeCDD	100	95.3	95	70 - 142
123478-HxCDF	100	91.2	91	72 - 134
123678-HxCDF	100	90.9	91	84 - 130
234678-HxCDF	100	93.9	94	70 – 156
123478-HxCDD	100	96.7	97	70 - 164
123678-HxCDD	100	91.5	91	76 - 134
123789-HxCDD	100	94.5	95	64 - 162
123789-HxCDF	100	91.3	91	78 - 130
1234678-HpCDF	100	96.1	96	82 - 122
1234678-HpCDD	100	92.3	92	70 - 140
1234789-HpCDF	100	95.4	95	78 - 138
OCDD	200	188	94	78 - 144
OCDF	200	181	91	63 - 170

^{*} Outside Quality Control (QC) limits.



FORM 04

CDD/CDF METHOD BLANK SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

Matrix: SOIL

Lab Sample ID: BLK031003

Water Sample Prep: N/A

Lab File ID:

17FEB07-17

Sample wt: 10.0 (g)

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 02/08/2017 00:23

This Method Blank applies to Samples:

Lab Sample ID	Lab File ID	Date Analyzed
OPR031003	17FEB07-15	02/07/2017 22:30
8807304	17FEB07-18	02/08/2017 01:20
8807305	17FEB07-19	02/08/2017 02:16
8807306	17FEB07-20	02/08/2017 03:13

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Lancaster Laboratories Environmental

FORM 05B

CDD/CDF CHROMATOGRAPHIC RESOLUTION SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm)

			Analysis			QC Limits
Instrument ID	Lab File ID	Sample ID	Date/Time	Compound Name	% Valley	(용)
DF18471	17JAN31-02	CPS01	01/31/2017 21:06	2378-TCDD	10.821	25
DF18471	17FEB07-13	CPS03	02/07/2017 20:39	2378-TCDD	11.049	25



Lancaster Laboratories
Environmental Environmental

FORM 05C

CDD/CDF ANALYTICAL SEQUENCE SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 01/31/2017 22:57 02/01/2017 06:29

		Date/Time			
Lab Sample ID	Lab File ID	Analyzed			
CPS01	17JAN31-02	01/31/2017 21:06			
CSL01	17JAN31-04	01/31/2017 22:57			
CS101	17JAN31-08	02/01/2017 02:43			
CS201	17JAN31-09	02/01/2017 03:39			
CS301	17JAN31-10	02/01/2017 04:36			
CS401	17JAN31-11	02/01/2017 05:32			
CS501	17JAN31-12	02/01/2017 06:29			
CPS03	17FEB07-13	02/07/2017 20:39			
CS3CC03	17FEB07-14	02/07/2017 21:33			
OPR031003	17FEB07-15	02/07/2017 22:30			
BLK031003	17FEB07-17	02/08/2017 00:23			
8807304	17FEB07-18	02/08/2017 01:20			
8807305	17FEB07-19	02/08/2017 02:16			
8807306	17FEB07-20	02/08/2017 03:13			
CS3CC04	17FEB07-28	02/08/2017 10:03			



FORM 06A - SW-846 8290A Feb 2007 Rev 1 CDD/CDF INITIAL CALIBRATION RESPONSE FACTOR SUMMARY HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF18471

Init. Calib. Date/Times: 01/31/2017 22:57 02/01/2017 06:29

Lab File Names: CSL = 17JAN31-04; CS1 = 17JAN31-08; CS2 = 17JAN31-09;

CS3 = 17JAN31-10; CS4 = 17JAN31-11; CS5 = 17JAN31-12;

				RI	7					QC Limits
Analyte	Type	CSL	CS1	CS2	CS3	CS4	CS5	Mean RF	%RSD	(용)
2378-TCDF	TARGET	1.269	0.943	0.985	0.992	1.021	1.000	1.035	11.33	± 20
2378-TCDD	TARGET	1.096	1.279	1.322	1.255	1.234	1.216	1.234	6.23	± 20
12378-PeCDF	TARGET	1.011	0.995	0.948	0.959	0.979	0.928	0.970	3.17	± 20
23478-PeCDF	TARGET	1.109	1.047	1.099	1.095	1.089	1.033	1.079	2.86	± 20
12378-PeCDD	TARGET	1.118	1.049	1.040	1.044	1.071	1.033	1.059	3.01	± 20
123478-HxCDF	TARGET	1.174	1.133	1.179	1.187	1.228	1.149	1.175	2.81	± 20
123678-HxCDF	TARGET	1.227	1.140	1.149	1.134	1.161	1.093	1.151	3.80	± 20
234678-HxCDF	TARGET	1.167	1.256	1.205	1.223	1.246	1.167	1.211	3.17	± 20
123478-HxCDD	TARGET	0.959	1.048	1.026	1.067	1.044	1.001	1.024	3.80	± 20
123678-HxCDD	TARGET	1.093	1.026	0.995	1.001	1.043	0.969	1.021	4.26	± 20
123789-HxCDD	TARGET	1.146	1.013	1.102	1.088	1.106	1.048	1.084	4.34	± 20
123789-HxCDF	TARGET	1.241	1.142	1.143	1.120	1.173	1.101	1.153	4.29	± 20
1234678-HpCDF	TARGET	1.217	1.304	1.292	1.292	1.352	1.236	1.282	3.81	± 20
1234678-HpCDD	TARGET	1.044	1.116	1.054	1.054	1.072	1.013	1.059	3.24	± 20
1234789-нрСDF	TARGET	1.358	1.274	1.366	1.352	1.329	1.260	1.323	3.44	± 20
OCDD	TARGET	1.018	1.014	1.040	1.026	1.041	0.990	1.021	1.87	± 20
OCDF	TARGET	0.961	0.939	0.925	0.921	0.955	0.897	0.933	2.51	± 20
13C12-1278-TCDD (CRS)	LABELED		1.371	1.300	1.247	1.230	1.274	1.284	4.31	± 20
13C12-2378-TCDF	LABELED	1.854	1.810	1.909	1.867	1.842	1.927	1.868	2.31	± 20
13C12-2378-TCDD	LABELED	0.970	0.956	1.002	0.963	1.003	1.016	0.985	2.52	± 20
13C12-12378-PeCDF	LABELED	1.687	1.596	1.724	1.764	1.782	1.810		4.50	± 20
13C12-23478-PeCDF	LABELED	1.648	1.585	1.705	1.753	1.810	1.849	1.725	5.75	± 20
13C12-12378-PeCDD	LABELED	0.951	0.889	0.956	1.011	1.015	1.028	0.975	5.41	± 20
13C12-123478-HxCDF	LABELED	1.264	1.262	1.275	1.266	1.265	1.379	1.285	3.60	± 20
13C12-123678-HxCDF	LABELED	1.309	1.304	1.334	1.345	1.323	1.498	1.352	5.40	± 20
13C12-234678-HxCDF	LABELED	1.215	1.214	1.239	1.235	1.257	1.367	1.254	4.59	± 20
13C12-123478-HxCDD	LABELED	0.916	0.899	0.949	0.910	0.953	1.051	0.946		± 20
13C12-123678-HxCDD	LABELED	0.940	0.924	0.939	0.971	0.983	1.099			± 20
13C12-123789-HxCDD	LABELED	0.922	0.886	0.921	0.928	0.925	1.024	0.934	4.98	± 20
13C12-123789-HxCDF	LABELED	1.165	1.123	1.156	1.166	1.188	1.307	1.184	5.40	± 20
13C12-1234678-HpCDF	LABELED	1.080	1.036	1.075	1.114	1.111	1.215		5.51	± 20
13C12-1234678-HpCDD	LABELED	0.836	0.793	0.828	0.874	0.901	0.958		6.79	± 20
13C12-1234789-HpCDF	LABELED	0.917	0.851	0.891	0.939	1.001	1.063	0.944	8.15	± 20
13C12-OCDD	LABELED	0.773	0.691	0.738	0.785	0.808			8.25	± 20
13C12-OCDF	LABELED	1.144	0.996	1.071	1.152	1.211	1.316	1.149	9.65	± 20

^{*} Outside QC Limits.



FORM 06B

CDD/CDF INITIAL CALIBRATION ION ABUNDANCE RATIO SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID: DF18471

Init. Calib. Date/Times: 01/31/2017 22:57 02/01/2017 06:29

Lab File Names: CSL = 17JAN31-04; CS1 = 17JAN31-08; CS2 = 17JAN31-09;

CS3 = 17JAN31-10; CS4 = 17JAN31-11; CS5 = 17JAN31-12;

	Se1	lected		Ion	Abundan	ce Ratio	)	_	Ion Ratio
Analytes	Type	Ion	CSL	CS1	CS2	CS3	CS4	CS5	QC Limits
2378-TCDF	TARGET 304	1/306	0.65	0.75	0.75	0.80	0.78	0.78	0.65 - 0.90
2378-TCDD	TARGET 320	)/322	0.68	0.65	0.78	0.77	0.79	0.78	0.65 - 0.90
12378-PeCDF	TARGET 340	0/342	1.61	1.53	1.59	1.58	1.57	1.55	1.32 - 1.79
23478-PeCDF	TARGET 340	)/342	1.63	1.52	1.63	1.58	1.56	1.56	1.32 - 1.79
12378-PeCDD	TARGET 356	5/358	1.78	1.49	1.63	1.56	1.59	1.53	1.32 - 1.79
123478-HxCDF	TARGET 374	1/376	1.34	1.29	1.28	1.24	1.27	1.24	1.05-1.44
123678-HxCDF	TARGET 374	1/376	1.25	1.21	1.24	1.24	1.24	1.26	1.05 - 1.44
234678-HxCDF	TARGET 374	1/376	1.31	1.12	1.21	1.25	1.26	1.25	1.05 - 1.44
123478-HxCDD	TARGET 390	0/392	1.09	1.29	1.29	1.25	1.27	1.24	1.05 - 1.44
123678-HxCDD	TARGET 390	0/392	1.06	1.25	1.25	1.28	1.26	1.24	1.05 - 1.44
123789-HxCDD	TARGET 390	)/392	1.22	1.18	1.20	1.27	1.24	1.23	1.05 - 1.44
123789-HxCDF	TARGET 374	1/376	1.42	1.30	1.23	1.25	1.25	1.25	1.05 - 1.44
1234678-HpCDF	TARGET 408	3/410	1.05	0.96	1.03	1.05	1.04	1.04	0.88 - 1.21
1234678-HpCDD	TARGET 424	1/426	0.92	1.06	1.02	1.05	1.04	1.04	0.88 - 1.21
1234789-HpCDF	TARGET 408	3/410	0.91	1.00	1.01	1.08	1.05	1.04	0.88 - 1.21
OCDD	TARGET 458	3/460	0.85	1.01	0.86	0.89	0.90	0.89	0.76 - 1.03
OCDF	TARGET 442	2/444	0.94	0.98	0.90	0.91	0.91	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED 332	2/334		0.84	0.67	0.88	0.80	0.81	0.65 - 0.90
13C12-2378-TCDF	LABELED 316	6/318	0.78	0.79	0.82	0.79	0.80	0.81	0.65 - 0.90
13C12-2378-TCDD	LABELED 332	2/334	0.78	0.78	0.82	0.81	0.80	0.77	0.65 - 0.90
13C12-12378-PeCDF	LABELED 352	2/354	1.57	1.61	1.59	1.60	1.56	1.60	1.32 - 1.79
13C12-23478-PeCDF	LABELED 352	2/354	1.56	1.58	1.55	1.60	1.55	1.58	1.32 - 1.79
13C12-12378-PeCDD	LABELED 368	3/370	1.59	1.62	1.60	1.62	1.59	1.60	1.32 - 1.79
13C12-123478-HxCDF	LABELED 384		0.51	0.52	0.52	0.52	0.51	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED 384		0.54	0.53	0.54	0.54	0.54	0.52	0.43 - 0.60
13C12-234678-HxCDF	LABELED 384		0.53	0.53	0.53	0.54	0.54	0.52	0.43 - 0.60
13C12-123478-HxCDD	LABELED 402	2/404	1.24	1.26	1.30	1.28	1.26	1.30	1.05 - 1.44
13C12-123678-HxCDD	LABELED 402		1.24	1.25	1.25	1.27	1.28	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED 402	2/404	1.22	1.31	1.24	1.23	1.29	1,21	1.05 - 1.44
13C12-123789-HxCDF	LABELED 384		0.53	0.54	0.52	0.51	0.53	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED 418		0.46	0.45	0.46	0.46	0.45	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED 436		1.08	1.06	1.06	1.09	1.05	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED 418		0.45	0.45	0.46	0.46	0.45	0.45	0.37 - 0.52
13C12-OCDD	LABELED 470	•	0.90	0.89	0.90	0.88	0.90	0.90	0.76 - 1.03
13C12-OCDF	LABELED 454	4/456	0.91	0.90	0.91	0.90	0.90	0.91	0.76 - 1.03

^{*} Outside QC Limits.



FORM 07AD

CDD/CDF CONTINUING CALIBRATION SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 17FEB07-14 Lab Sample ID: CS3CC03 Date/Time Analyzed: 02/07/2017 21:33

		Selected		Mean		%D	Ion	Ion Ratio
Analytes	Type	Ions	RF	RF	%D	Limit	Ratio	QC Limits
2378-TCDF	TARGET	304/306	1.066	1.035	2.97	20	0.82	0.65-0.90
2378-TCDD	TARGET	320/322	1.270	1.234	2.96	20	0.75	0.65-0.90
12378-PeCDF	TARGET	340/342	0.979	0.970	0.97	20	1.58	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.091	1.079	1.19	20	1.58	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.053	1.059	0.62	20	1.58	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.172	1.175	0.28	20	1.25	1.05-1.44
123678-HxCDF	TARGET	374/376	1.139	1.151	1.01	20	1.25	1.05-1.44
234678-HxCDF	TARGET	374/376	1.242	1.211	2.55	20	1.26	1.05-1.44
123478-HxCDD	TARGET	390/392	1.040	1.024	1.50	20	1.26	1.05-1.44
123678-HxCDD	TARGET	390/392	1.046	1.021	2.39	20	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.102	1.084	1.72	20	1.29	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.088	1.153	5.69	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.296	1.282	1.06	20		0.88 - 1.21
1234678-HpCDD	TARGET	424/426	1.057	1.059	0.20	20	1.05	0.88-1.21
1234789-HpCDF	TARGET	408/410	1.300	1.323	1.73	20		0.88 - 1.21
OCDD	TARGET	458/460	1.035	1.021	1.35	20	0.89	0.76-1.03
OCDF ·	TARGET	442/444	0.917	0.933	1.73	20		0.76-1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.217	1.284	5.24	20	0.72	0.65-0.90
13C12-2378-TCDF	LABELED	316/318	1.888	1.868	1.08	30		0.65-0.90
13C12-2378-TCDD	LABELED	332/334	0.997	0.985	1.19	30		0.65-0.90
13C12-12378-PeCDF	LABELED	352/354	1.814	1.727	5.01	30		1.32 <b>-</b> 1.79
13C12-23478-PeCDF	LABELED	352/354	1.878	1.725	8.88	30	1.57	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.019	0.975	4.50	30	1.58	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.258	1.285	2.14	30		0.43-0.60
13C12-123678-HxCDF	LABELED	384/386	1.315	1.352	2.75	30		0.43-0.60
13C12-234678-HxCDF	LABELED	384/386	1.214	1.254	3.21	30		0.43-0.60
13C12-123478-HxCDD	LABELED	402/404	0.951	0.946	0.55	30		1.05-1.44
13C12-123678-HxCDD	LABELED	402/404	0.964	0.976	1.26	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.920	0.934	1.49	30	1.24	1.05-1.44
13C12-123789-HxCDF	LABELED	384/386	1.188	1.184	0.33	30	0.53	0.43-0.60
13C12-1234678-HpCDF	LABELED	418/420	1.173	1.105	6.13	30	0.47	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.929	0.865	7.37	30	1.08	0.88-1.21
13C12-1234789-HpCDF	LABELED	418/420	0.972	0.944	2.99	30		0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.862	0.779	10.55	30		0.76-1.03
13C12-OCDF	LABELED	454/456	1.185	1.149	3.16	30	0.90	0.76-1.03

^{*} Outside QC Limits.



Lancaster Laboratories
Environmental Environmental

FORM 07AD

CDD/CDF CONTINUING CALIBRATION SUMMARY

HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 17FEB07-28 Lab Sample ID: CS3CC04 Date/Time Analyzed: 02/08/2017 10:03

Init. Calib. Date/Times: 01/31/2017 22:57 02/01/2017 06:29

	I	Selected		Mean		%D	Ion	Ion Ratio
Analytes	Туре	Ions	RF	RF	%D	Limit	Ratio	QC Limits
2378-TCDF	TARGET	304/306	1.038	1.035	0.26	20	0.77	0.65-0.90
2378-TCDD	TARGET	320/322	1.268	1.234	2.74	20	0.77	0.65-0.90
12378-PeCDF	TARGET	340/342	0.992	0.970	2.33	20	1.59	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.088	1.079	0.86	20	1.56	1.32 - 1.79
12378-PeCDD	TARGET	356/358	1.070	1.059	0.99	20	1.57	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.188	1.175	1.13	20	1.24	1.05-1.44
123678-HxCDF	TARGET	374/376	1.134	1.151	1.41	20	1.24	1.05-1.44
234678-HxCDF	TARGET	374/376	1.222	1.211	0.92	20	1.26	1.05 - 1.44
123478-HxCDD	TARGET	390/392	1.039	1.024	1.46	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	1.043	1.021	2.18	20	1.26	1.05-1.44
123789-HxCDD	TARGET	390/392	1.107	1.084	2.16	20	1.27	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.136	1.153	1.51	20	1.28	1.05 - 1.44
1234678-HpCDF	TARGET .	408/410	1.265	1.282	1.31	20	1.03	0.88-1.21
1234678-HpCDD	TARGET	424/426	1.073	1.059	1.36	20		0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.322	1.323	0.12	20	1.04	0.88 - 1.21
OCDD	TARGET	458/460	1.043	1.021	2.15	20	0.89	0.76-1.03
OCDF	TARGET	442/444	0.918	0.933	1.64	20	0.89	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.225	1.284	4.65	20	0.82	0.65-0.90
13C12-2378-TCDF	LABELED	316/318	1.845	1.868	1.21	30	0.79	0.65-0.90
13C12-2378-TCDD	LABELED	332/334	0.952	0.985	3.31	30		0.65-0.90
13C12-12378-PeCDF	LABELED	352/354	1.791	1.727	3.68	30		1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.829	1.725	6.01	30	1.59	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	1.020	0.975	4.63	30	1.61	1.32 <b>-</b> 1.79
13C12-123478-HxCDF	LABELED	384/386	1.200	1.285	6.62	30		0.43-0.60
13C12-123678-HxCDF	LABELED	384/386	1.252	1.352	7.37	30		0.43-0.60
13C12-234678-HxCDF	LABELED	384/386	1.134	1.254	9.57	30		0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.873	0.946	7.73	30		1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.869	0.976	10.97	30	1.29	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.843	0.934	9.81	30	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.059	1.184	10.58	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	0.995	1.105	9.91	30	0.45	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.763	0.865		30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.790	0.944	16.24	30	0.44	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.659	0.779		30	0.91	0.76-1.03
13C12-OCDF	LABELED	454/456	0.921	1.149	19.84	30	0.89	0.76-1.03

^{*} Outside QC Limits.



FORM 07B CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY HIGH RESOLUTION

SDG No.: AIL01

GC Column: DB5MS

ID: 0.25 (mm) Instrument ID: DF18471

Lab File ID: 17FEB07-14 Lab Sample ID: CS3CC03 Date/Time Analyzed: 02/07/2017 21:33

Init. Calib. Date/Times: 01/31/2017 22:57

02/01/2017 06:29

				RRT
Analytes	Type	RT	RRT	QC Limits
2378-TCDF	TARGET	30.98	1.001	0.999-1.003
2378-TCDD	TARGET	32.01	1.001	0.999-1.002
12378-PeCDF	TARGET	36.54	1.001	0.999-1.002
23478-PeCDF	TARGET	37.76	1.000	0.999-1.002
12378-PeCDD	TARGET	38.15	1.001	0.999-1.002
123478-HxCDF	TARGET	41.34	1.000	0.999-1.001
123678-HxCDF	TARGET	41.49	1.000	0.997-1.005
234678-HxCDF	TARGET	42.16	1.000	0.999-1.001
123478-HxCDD	TARGET	42.35	1.000	0.999-1.001
123678-HxCDD	TARGET	42.47	1.000	0.998-1.004
123789-HxCDD	TARGET	42.78	1.000	1.000-1.019
123789-HxCDF	TARGET	43.17	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.86	1.000	0.999-1.001
1234678-HpCDD	TARGET	46.05	1.000	0.999-1.001
1234789-HpCDF	TARGET	46.61	1.000	0.999-1.001
OCDD	TARGET	49.05	1.000	0.999-1.001
OCDF	TARGET	49.24	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	32.37	1.036	0.988-1.056
13C12-2378-TCDF	LABELED	30.95	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	31.99	1.024	0.976-1.043
13C12-12378-PeCDF	LABELED	36.51	1.169	1.000-1.425
13C12-23478-PeCDF	LABELED	37.75	1.208	1.011-1.526
13C12-12378-PeCDD	LABELED	38.12	1.220	1.000-1.567
13C12-123478-HxCDF	LABELED	41.32	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	41.47	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	42.15	1.022	0.992-1.053
13C12-123478-HxCDD	LABELED	42.33	1.027	1.016-1.039
13C12-123678-HxCDD	LABELED	42.46	1.030	1.019-1.041
13C12-123789-HxCDD	LABELED	42.77	1.037	1.027-1.049
13C12-123789-HxCDF	LABELED	43.16	1.047	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.84	1.088	1.067-1.109
13C12-1234678-HpCDD	LABELED	46.03	1.116	1.105 - 1.129
13C12-1234789-HpCDF	LABELED	46.60	1.130	1.084-1.178
13C12-OCDD	LABELED	49.04	1.189	1.051-1.330
13C12-OCDF	LABELED	49.22	1.194	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

^{*} RRT exceeds the acceptable range



FORM 07B

CDD/CDF CONTINUING CALIBRATION RETENTION TIME SUMMARY

HIGH RESOLUTION

SDG No.:

AIL01

GC Column: DB5MS

ID:

0.25 (mm)

Instrument ID:

DF18471

Lab File ID: 17FEB07-28 Lab Sample ID: CS3CC04 Date/Time Analyzed: 02/08/2017 10:03

Init. Calib. Date/Times: 01/31/2017 22:57

02/01/2017 06:29

				RRT
Analytes	Type	RT	RRT	QC Limits
2378-TCDF	TARGET	31.00	1.001	0.999-1.003
2378-TCDD	TARGET	32.05	1.001	0.999-1.002
12378-PeCDF	TARGET	36.56	1.000	0.999-1.002
23478-PeCDF	TARGET	37.78	1.001	0.999-1.002
12378-PeCDD	TARGET	38.16	1.001	0.999-1.002
123478-HxCDF	TARGET	41.35	1.000	0.999-1.001
123678-HxCDF	TARGET	41.50	1.000	0.997 - 1.005
234678-HxCDF	TARGET	42.18	1.000	0.999-1.001
123478-HxCDD	TARGET	42.37	1.000	0.999-1.001
123678-HxCDD	TARGET	42.49	1.000	0.998-1.004
123789-HxCDD	TARGET	42.80	1.000	1.000-1.019
123789-HxCDF	TARGET	43.19	1.000	0.999-1.001
1234678-HpCDF	TARGET	44.87	1.000	0.999-1.001
1234678-HpCDD	TARGET	46.06	1.000	0.999-1.001
1234789-HpCDF	TARGET	46.63	1.000	0.999-1.001
OCDD	TARGET	49.06	1.000	0.999-1.001
OCDF	TARGET	49.26	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	32.41	1.037	0.988-1.056
13C12-2378-TCDF	LABELED	30.97	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	32.01	1.024	0.976-1.043
13C12-12378-PeCDF	LABELED	36.55	1.169	1.000-1.425
13C12-23478-PeCDF	LABELED	37.76	1.208	1.011-1.526
13C12-12378-PeCDD	LABELED	38.13	1.220	1.000-1.567
13C12-123478-HxCDF	LABELED	41.34	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	41.49	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	42.16	1.022	0.992-1.053
13C12-123478-HxCDD	LABELED	42.35	1.027	1.016-1.039
13C12-123678-HxCDD	LABELED	42.47	1.030	1.019-1.041
13C12-123789-HxCDD	LABELED	42.78	1.037	1.027 - 1.049
13C12-123789-HxCDF	LABELED	43.17	1.047	1.012-1.082
13C12-1234678-HpCDF	LABELED	44.86	1.088	1.067-1.109
13C12-1234678-HpCDD	LABELED	46.05	1.116	1.105-1.129
13C12-1234789-HpCDF	LABELED	46.62	1.130	1.084-1.178
13C12-OCDD	LABELED	49.06	1.189	1.051-1.330
13C12-OCDF	LABELED	49.24	1.194	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

 $[\]star$  RRT exceeds the acceptable range

# Sample Data Dioxins/Furans by HRMS



#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/08 01:20

**Number of Entries** 

269

Comment

S:11030:12937:15831

Vial

103

Sample Name

SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil

Sample ID

8807304

Inst ID Client

DF18471-17FEB07 ARS International LLC

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

**BatchNo** 

17031003

Barcode

**Files Parameter** 

Quan

y:\17feb07\17feb07-18.quan y:\17feb07\17feb07-18.raw

Data Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

**Quantitation Status** 

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

20.0

Sample Weight [hSWT]

Dilution Factor [hDF]

10.3

Det. Limit Factor [hDLF]

1.0 2.5

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0







No.	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status	
	Name	Time	Overview	Status	Status	Status	Status	Time Status	Info	
1	2378-TCDF	30.98	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
2	2378-TCDD	32.03	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
3	12378-PeCDF	36.54	passed	passed	passed	passed	passed	passed		
4	23478-PeCDF	37.76	failed	passed	passed	failed	passed	passed		Failed on: Ratio 1A
5	12378-PeCDD	38.15	failed	passed	passed	failed	passed	passed		Failed on: Ratio 1A
6	123478-HxCDF	41.34	passed	passed	passed	passed	passed	passed		
7	123678-HxCDF	41.50	passed	passed	passed	passed	passed	passed		
8	234678-HxCDF	42.17	passed	passed	passed	passed	passed	passed		
9	123478-HxCDD	42.35	falled	passed	passed	failed	passed	passed		Failed on: Ratio1A
10	123678-HxCDD	42.47	passed	passed	passed	passed	passed	passed		
11	123789-HxCDD	42.79	passed	passed	passed	passed	passed	passed		
12	123789-HxCDF	43.17	passed	passed	passed	passed	passed	passed		
13	1234678-HpCDF	44.87	passed	passed	passed	passed	passed	passed		
14	1234678-HpCDD	46.04	passed	passed	passed	passed	passed	passed		
15	1234789-HpCDF	46.61	passed	passed	passed	passed	passed	passed		
16	OCDD	49.05	passed	passed	passed	passed	passed	passed		
17	OCDF	49.25	passed	passed	passed	passed	passed	passed		
18	13C12-1278-TCDD (CRS)	32.39	passed	passed	passed	passed	passed	passed		
19	13C12-1234-TCDD	31.24	passed	passed	passed	passed	passed	passed		
20	13C12-123468-HxCDD	41.23	passed	passed	passed	passed	passed	passed		
21	13C12-2378-TCDF	30.97	passed	passed	passed	passed	passed	passed		
22	13C12-2378-TCDD	31.99	passed	passed	passed	passed	passed	passed		
23	13C12-12378-PeCDF	36.53	passed	passed	passed	passed	passed	passed		
24	13C12-23478-PeCDF	37.75	passed	passed	passed	passed	passed	passed		
25	13C12-12378-PeCDD	38.13	passed	passed	passed	passed	passed	passed		
26	13C12-123478-HxCDF	41.32	passed	passed	passed	passed	passed	passed		
27	13C12-123678-HxCDF	41.47	passed	passed	passed	passed	passed	passed		
28	13C12-234678-HxCDF	42.16	passed	passed	passed	passed	passed	passed		
29	13C12-123478-HxCDD	42.35	passed	passed	passed	passed	passed	passed		
30	13C12-123678-HxCDD	42.45	passed	passed	passed	passed	passed	passed		
31	13C12-123789-HxCDD	42.76	passed	passed	passed	passed	passed	passed		
32	13C12-123789-HxCDF	43.16	passed	passed	passed	passed	passed	passed		
33	13C12-1234678-HpCDF	44.85	passed	passed	passed	passed	passed	passed		
34	13C12-1234678-HpCDD	46.03	passed	passed	passed	passed	passed	passed		
35	13C12-1234789-HpCDF	46.60	passed	passed	passed	passed	passed	passed		
36	13C12-OCDD	49.05	passed	passed	passed	passed	passed	passed		
37	13C12-OCDF	49.23	passed	passed	passed	passed	passed	passed		
								,		



#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/08 01:20

Number of Entries

269

Comment

S:11030:12937:15831

Vial

103

Sample Name

SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil

Sample ID

8807304

Inst ID Client

DF18471-17FEB07 ARS International LLC

Analyst

ida02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo

17031003

Barcode

**Files Parameter** 

Quan Data

y:\17feb07\17feb07-18.quan y:\17feb07\17feb07-18.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height **Quantitation Status** 

Sum QM RM1 Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

20.0

Sample Weight [hSWT]

Dilution Factor [hDF]

10.3 1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

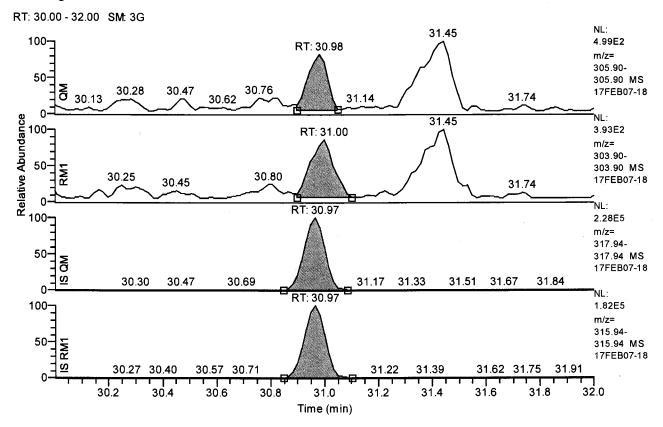
Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0





#### **Entry Parameters**

Compound Name 2378-TCDF 30.98 QM Retention Time QM Area 1911 QM Integration Mode RM1 Area 1891 RM1 Integration Mode Α 0 Manint Detection Limit (A) 0.0375 Unqualified Amount (A) 0.318014 Adjusted Amount (A) n.d.

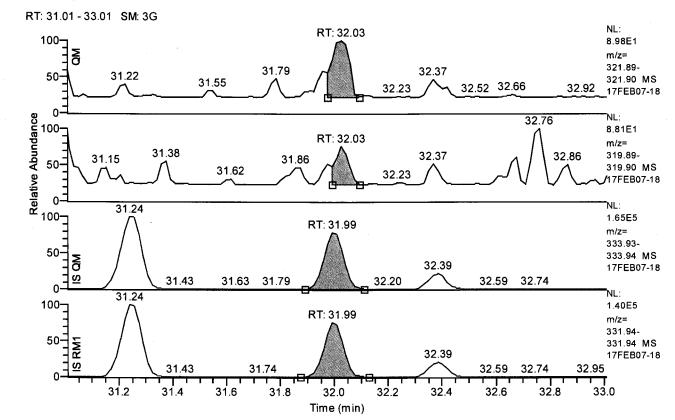
Signal-to-Noise 21

Client Flags Status Overview

failed

Status Info

Failed on: Ratio1A



#### **Entry Parameters**

Compound Name 2378-TCDD

QM Retention Time 32.03 QM Area 318

QM Integration Mode Α

RM1 Area 154

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0136 Unqualified Amount (A) 0.061598

Adjusted Amount (A) n.d.

Signal-to-Noise 14

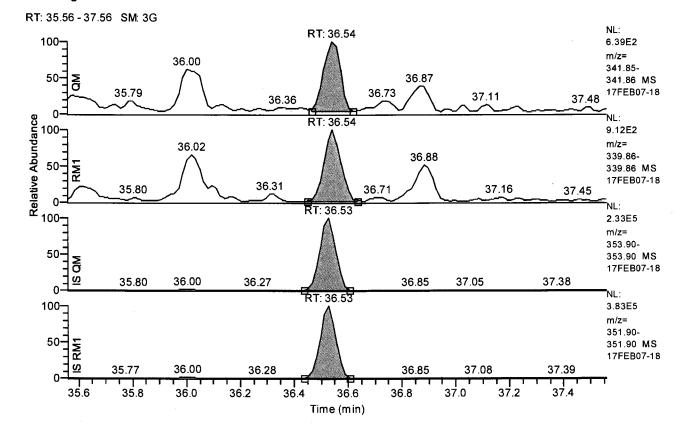
Client Flags

Status Overview

failed Status Info

Failed on: Ratio1A





#### **Entry Parameters**

Compound Name

12378-PeCDF

QM Retention Time

36.54

QM Area

2633

QM Integration Mode

Α

RM1 Area

3784

RM1 Integration Mode ManInt Α

Detection Limit (A)

0 0.0199

Unqualified Amount (A)

0.508956

Adjusted Amount (A)

0.5090

Signal-to-Noise

61

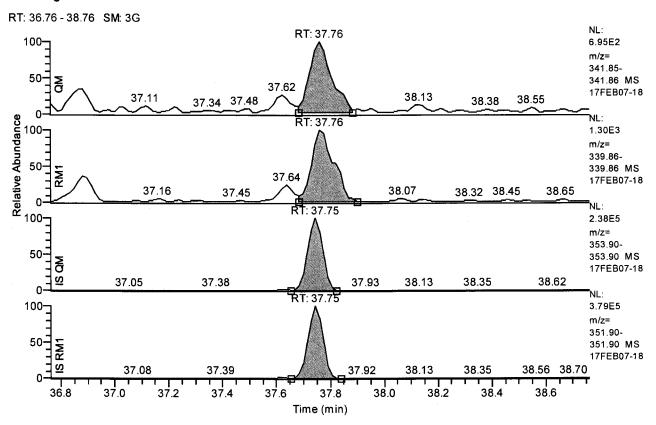
Client Flags

Status Overview

passed

**eurofins** 

#### Chromatogram



#### **Entry Parameters**

Compound Name

23478-PeCDF

QM Retention Time

37.76

QM Area

3832

QM Integration Mode

Α

RM1 Area

7279

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A) Unqualified Amount (A) 0.0179 0.835875

Adjusted Amount (A)

n.d.

Signal-to-Noise

80

Client Flags

Status Overview

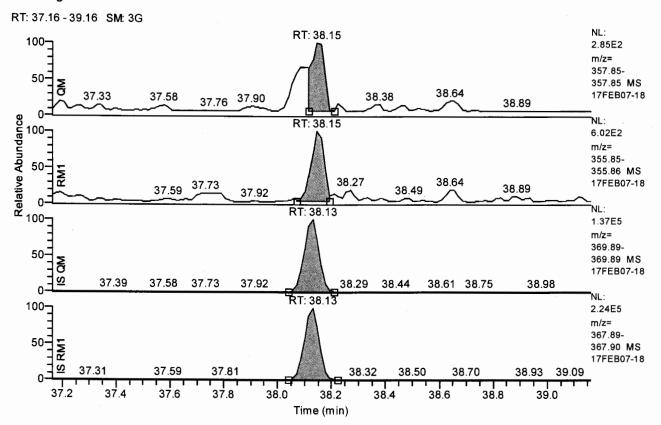
failed

Status Info

Failed on: Ratio1A







#### **Entry Parameters**

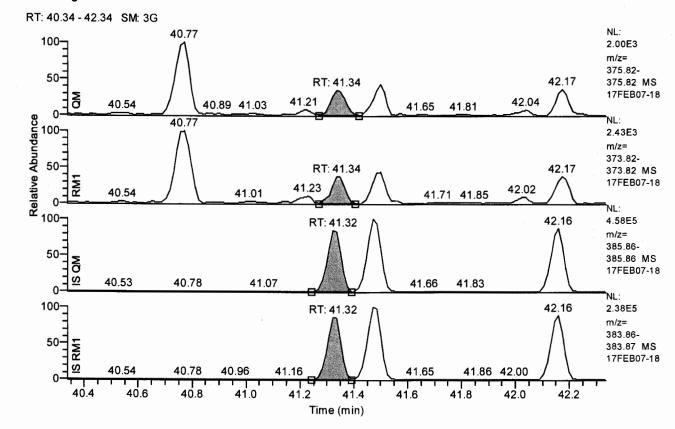
Status Overview

Status Info

Compound Name 12378-PeCDD QM Retention Time 38.15 QM Area 863 QM Integration Mode RM1 Area 1922 RM1 Integration Mode Manint 0 Detection Limit (A) 0.0236 Unqualified Amount (A) 0.370481 Adjusted Amount (A) n.d. Signal-to-Noise 45 Client Flags

failed

Failed on: Ratio1A



#### **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.34

QM Area

QM Integration Mode

2494

RM1 Area

3111

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)

0.0222

Unqualified Amount (A)

0.441547 0.4415

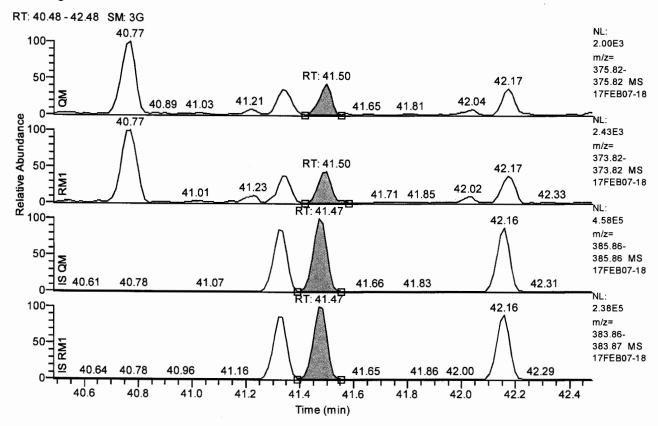
Adjusted Amount (A) Signal-to-Noise

49

Client Flags

Status Overview

passed



#### **Entry Parameters**

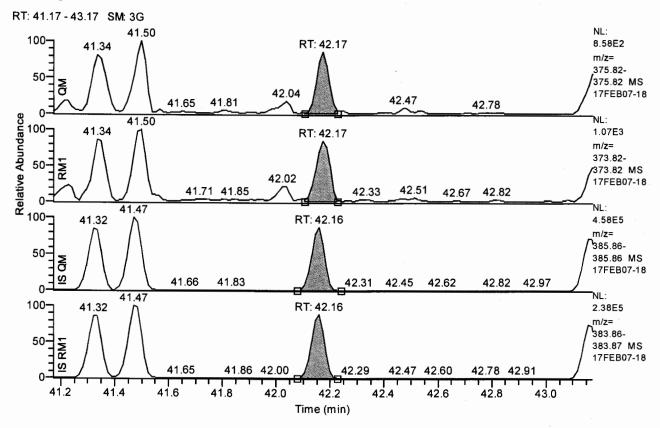
Status Overview

Status Info

Compound Name 123678-HxCDF QM Retention Time 41.50 QM Area 2589 QM Integration Mode Α RM1 Area 3674 RM1 Integration Mode Α Manint 0 Detection Limit (A) 0.0194 Unqualified Amount (A) 0.429490 Adjusted Amount (A) 0.4295 Signal-to-Noise 59 Client Flags

passed





# **Entry Parameters**

Status Overview

Status Info

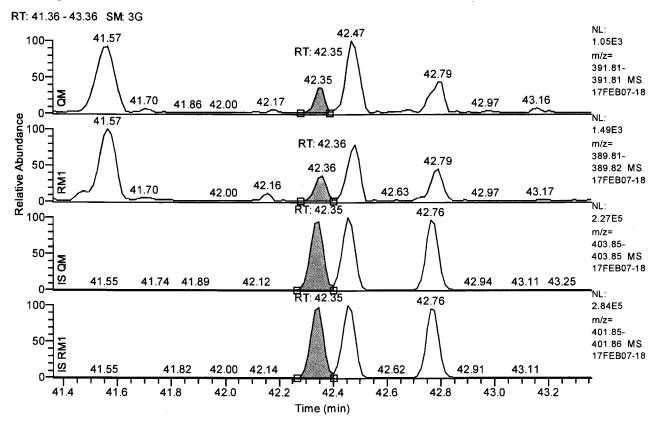
Compound Name	234678-HxCDF
QM Retention Time	42.17
QM Area	2244
QM Integration Mode	Α
RM1 Area	3108
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0209
Unqualified Amount (A)	0.419003
Adjusted Amount (A)	0.4190
Signal-to-Noise	50
Client Flags	

passed



eurofins





#### **Entry Parameters**

Compound Name

123478-HxCDD

**QM** Retention Time

42.35

QM Area

946

QM Integration Mode

Α

RM1 Area

1596

RM1 Integration Mode ManInt

Α 0

Detection Limit (A)

0.0230

Unqualified Amount (A)

0.285766

Adjusted Amount (A)

n.d.

Signal-to-Noise

37

Client Flags Status Overview

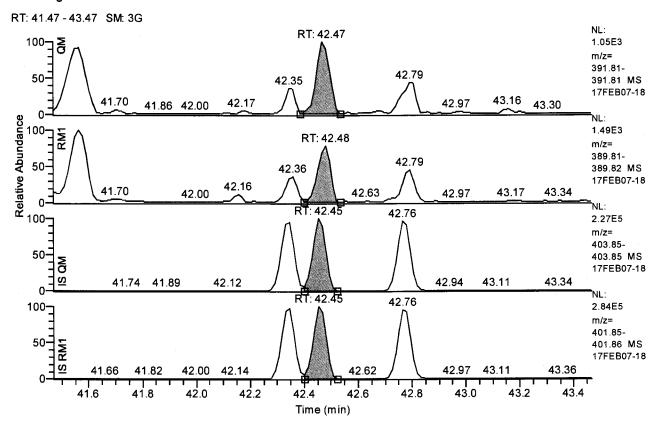
failed

Status Info

Failed on: Ratio1A

eurofins

#### Chromatogram



#### **Entry Parameters**

Compound Name 123678-HxCDD

QM Retention Time 42.47

QM Area 3528

QM Integration Mode A

RM1 Area 3813

RM1 Integration Mode A

0

Detection Limit (A)

0.0222

Unqualified Amount (A) 0.822382

0.8224

Adjusted Amount (A) Signal-to-Noise

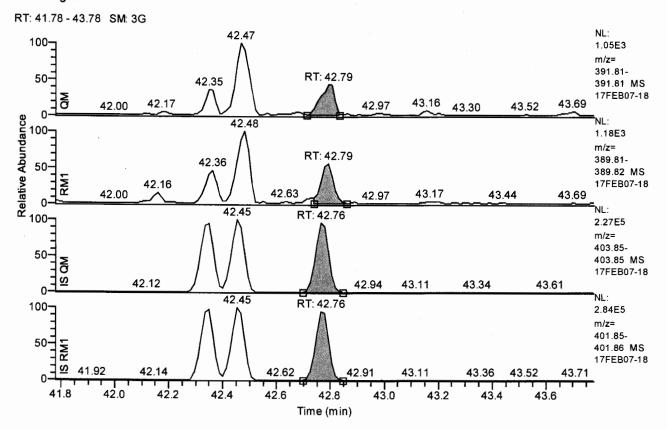
92

Client Flags

ManInt

Status Overview

passed



# **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.79

QM Area

1608

QM Integration Mode

Α

RM1 Area

2082 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0

Unqualified Amount (A)

0.0218 0.397732

Adjusted Amount (A)

0.3977

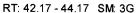
Signal-to-Noise

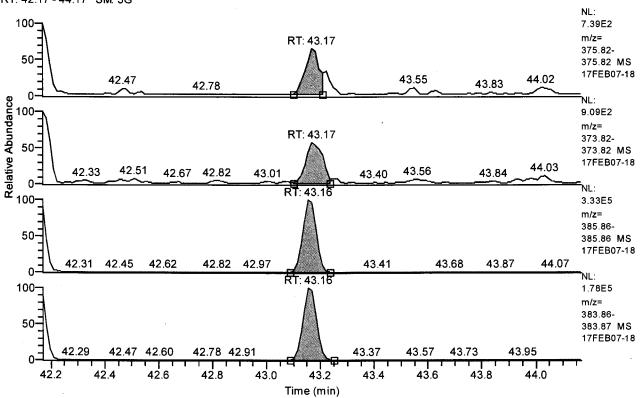
46

Client Flags

Status Overview

passed





#### **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.17

QM Area

1614

QM Integration Mode

Α

RM1 Area

2176

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)

0.0264 0.355167

Unqualified Amount (A)
Adjusted Amount (A)

0.3552

Signal-to-Noise

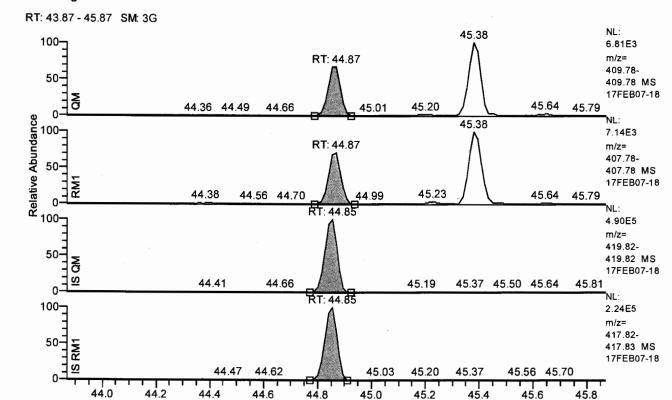
30

Client Flags

Status Overview

passed





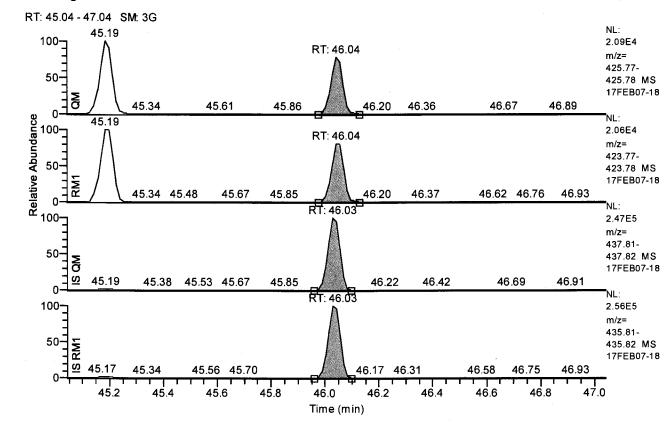
Time (min)

AIL01 Page 1₹3 of 560

#### **Entry Parameters**

TargetQuan3

Compound Name 1234678-HpCDF QM Retention Time 44.87 QM Area 15095 QM Integration Mode RM1 Area 16492 RM1 Integration Mode Α Manint Detection Limit (A) 0.0118 Unqualified Amount (A) 2.046364 Adjusted Amount (A) 2.0464 Signal-to-Noise 429 Client Flags Status Overview passed Status Info



#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.04

QM Area

51328

QM Integration Mode

Α

RM1 Area

54906

RM1 Integration Mode

Α

ManInt Detection Limit (A)

0.0373

Unqualified Amount (A)

11.992395

Adjusted Amount (A)

11.9924

Signal-to-Noise

809

Client Flags

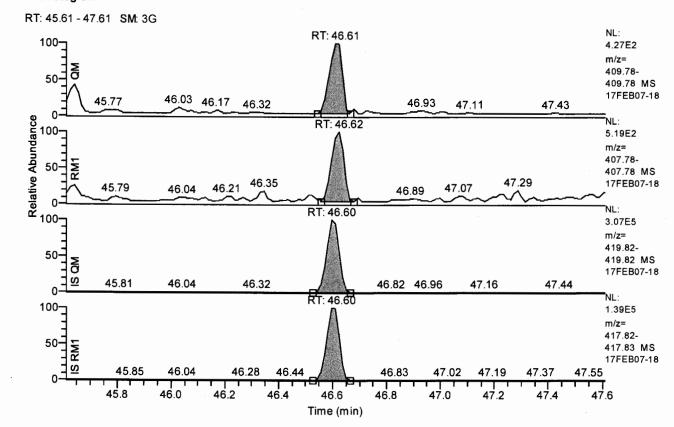
Status Overview

passed



**eurofins** 

#### Chromatogram



#### **Entry Parameters**

Compound Name

1234789-HpCDF

**QM** Retention Time

46.61

QM Area

1389

QM Integration Mode

Α

RM1 Area RM1 Integration Mode

1630 Α

ManInt

0

Detection Limit (A)

0.0184

Unqualified Amount (A)

0.299853 0.2999

Adjusted Amount (A) Signal-to-Noise

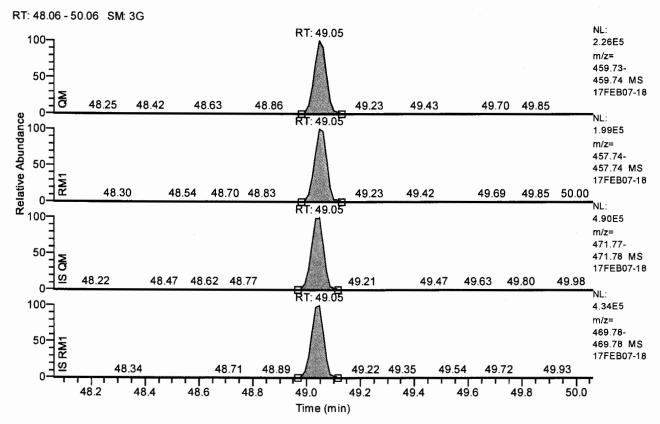
40

Client Flags

Status Overview

passed



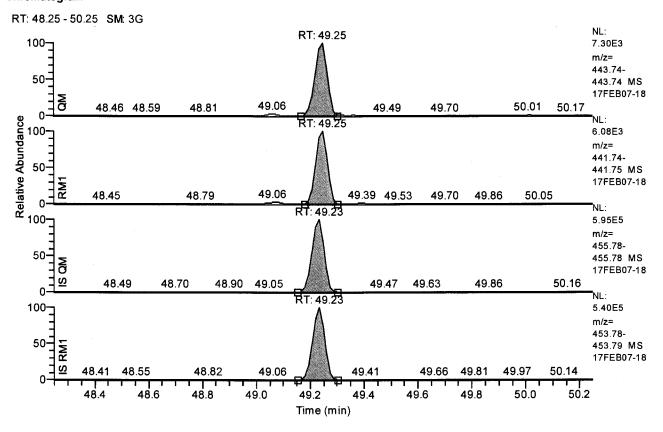


#### **Entry Parameters**

Compound Name OCDD QM Retention Time 49.05 QM Area 698744 QM Integration Mode RM1 Area 628080 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0373 Unqualified Amount (A) 172.521839 Adjusted Amount (A) 172.5218 Signal-to-Noise 11744 Client Flags Status Overview passed Status Info

**eurofins** 

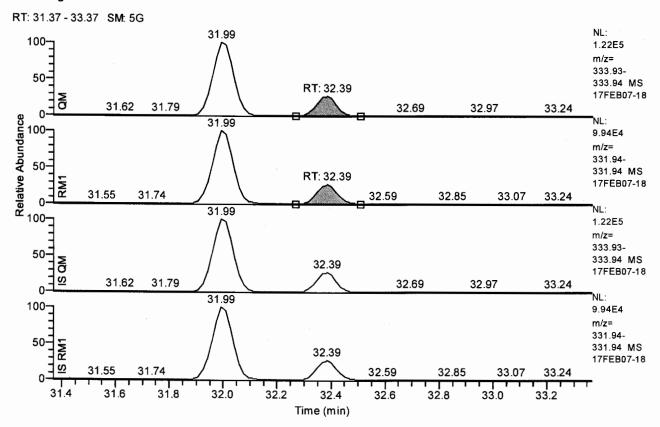




#### **Entry Parameters**

Compound Name **OCDF** QM Retention Time 49.25 QM Area 23261 QM Integration Mode Α RM1 Area 18339 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0175 Unqualified Amount (A) 4.896454 Adjusted Amount (A) 4.8965 Signal-to-Noise 699 Client Flags Status Overview passed





# **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.39

QM Area

175833

QM Integration Mode

Α

RM1 Area

144071

RM1 Integration Mode

Α

Manint

0

Detection Limit (A)

0.0202 29.375921

Unqualified Amount (A)
Adjusted Amount (A)

29.3759

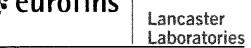
Signal-to-Noise

3740

Client Flags

Status Overview

passed





No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98	30.98	31.00	30.97	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01	32.03	32.03	31.99	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54		36,54	36.53	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76		37.76	37.75	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15	38.15	38.15	38.13	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34	41.34	41.34	41.32	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49		41.50	41.47	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16	42.17	42.17	42.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.35	42.36	42.35	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.48	42.45	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.79	42.79	42.76	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.17	43.17	43.17	43.16	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.87	44.87	44.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.04	46.04	46.03	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.61	46.62	46.60	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.05	49.05	49.05	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.25	49.25	49.23	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.39	32.39	32.39	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31.24	31.24	31.24	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.23	41.23	41.23	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95	30.97	30.97	30.97	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	31.99	31.99	31.99	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.53	36.53	36.51	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.75	37.75	37.78	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.12	38.13	38.13	38.13	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32	41.32	41.32	41.24	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.47	41.47	41.46	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.15	42.16	42.16	42.20	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.33	42.35	42.35	42.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.46	42.45	42.45	42.45	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.76	42.76	42.76	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.16	43.16	43.16	43.10	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.84	44.85	44.85	44.85	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.03	46.03	46.03	46.03	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.60	46.60	46.60	46.42		passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.04	49.05	49.05	49.05	P	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22	49.23	49.23	49.22	passed	passed



No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery		Recovery	
	Name	Time	(A)	Limit		Status	Recovery (A)	Limit		Status	
1	2378-TCDF	30.98	0.9896	0.6450 -	0.8950	failed		0 -	0		passed
2	2378-TCDD	32.03	0.4851	0.6450 -	0.8950	failed		0 -	0	)	passed
3	12378-PeCDF	36.54	1.4369	1.3150 -	1.7850	passed		0 -	0	)	passed
4	23478-PeCDF	37.76	1.8997	1.3150 -	1.7850	failed		0 -	0	)	passed
5	12378-PeCDD	38.15	2.2288	1.3150 -	1.7850	failed		0-	0	)	passed
6	123478-HxCDF	41.34	1.2472	1.0450 -	1.4350	passed		0 -	0	)	passed
7	123678-HxCDF	41.50	1.4191	1.0450 -	1.4350	passed		0 -	0	)	passed
8	234678-HxCDF	42.17	1.3847	1.0450 -	1.4350	passed		0 -	0	)	passed
9	123478-HxCDD	42.35	1.6879	1.0450 -	1.4350	failed		0 -	0	)	passed
10	123678-HxCDD	42.47	1.0809	1.0450 -	1.4350	passed		0 -	0	)	passed
11	123789-HxCDD	42.79	1.2952	1.0450 -	1.4350	passed		0 -	0	)	passeo
12	123789-HxCDF	43.17	1.3484	1.0450 -	1.4350	passed		0 -	0	)	passed
13	1234678-HpCDF	44.87	1.0926	0.8750 -	1.2050	passed		0 -	0		passed
14	1234678-HpCDD	46.04	1.0697	0.8750 -	1.2050	passed		· O-	0	)	passed
15	1234789-HpCDF	46.61	1.1736	0.8750 -	1.2050	passed		0-	0	)	passed
16	OCDD	49.05	0.8989	0.7550 -	1.0250	passed		0 -	0	)	passed
17	OCDF	49.25	0.7884	0.7550 -	1.0250	passed		0-	0	)	passed
18	13C12-1278-TCDD (CRS)	32.39	0.8194	0.6450 -	0.8950	passed	37.82	35 -	197	· ·	passed
19	13C12-1234-TCDD	31.24	0.8334	0.6450 -	0.8950	passed	100.00	0 -	C		passed
20	13C12-123468-HxCDD	41.23	1.2421	1.0450 -	1.4350	passed	100.00	0 -	0	)	passed
21	13C12-2378-TCDF	30.97	0.8022	0.6450 -	0.8950	passed	72.93	40 -	135	5	passed
22	13C12-2378-TCDD	31.99	0.8082	0.6450 -	0.8950	passed	74.28	40 -	135	5	passed
23	13C12-12378-PeCDF	36.53	1.6221	1.3150 -	1.7850	passed	88.77	40 -	135	· ·	passed
24	13C12-23478-PeCDF	37.75	1.5747	1.3150 -	1.7850	passed	84.26	40 -	135	5	passed
25	13C12-12378-PeCDD	38.13	1.6192	1.3150 -	1.7850	passed	85.85	40 -	135	5	passed
26	13C12-123478-HxCDF	41.32	0.5300	0.4250 -	0.5950	passed	79.78	40 -	135		passed
27	13C12-123678-HxCDF	41.47	0.5252	0.4250 -	0.5950	passed	88.97	40 -	135	·	passed
28	13C12-234678-HxCDF	42.16	0.5372	0.4250 -	0.5950	passed	79.83	40 -	135	5	passed
29	13C12-123478-HxCDD	42.35	1.2695	1.0450 -	1.4350	passed	87.13	40 -	135	5	passed
30	13C12-123678-HxCDD	42.45	1.2516	1.0450 -	1.4350	passed	85.00	40 -	135	5	passed
31	13C12-123789-HxCDD	42.76	1.2417	1.0450 -	1.4350	passed	86.96	40 -	135	5	passed
32	13C12-123789-HxCDF	43.16	0.5374	0.4250 -	0.5950	passed	74.15	40 -	135	5	passe
33	13C12-1234678-HpCDF	44.85	0.4568	0.3650 -	0.5150	passed	103.41	40 -	135	5	passe
34	13C12-1234678-HpCDD	46.03	1.0498	0.8750 -	1.2050	passed	91.77	40 -	135	5	passe
35	13C12-1234789-HpCDF	46.60	0.4658	0.3650 -	0.5150	passed	76.52	40 -	135	5	passed
36	13C12-OCDD	49.05	0.8875	0.7550 -	1.0250	passed	91.69	40 -	135	5	passed
37	13C12-OCDF	49.23	0.8978	0.7550 -	1.0250	passed	75.26	40 -	135	5	passed

No.	Compound	Status	QM Retention	QM Area	QM	RM1 Area	RM1	Detection	Unqualified	Adjusted	AdjSpecAMT	Signal-to-Noise	Client Flags
$\sqcup$	Name	Overview	Time		Mode	<u> </u>	Mode	Limit (A)	Amount (A)	Amount (A)			
1	2378-TCDF	failed	30.98	1911	A		Α	0.0375	0.318014	n.d.	0.000000	21	
2	2378-TCDD	failed	32.03	318	A	154	Α	0.0136	0.061598	n.d.	0.000000	14	
3	12378-PeCDF	passed	36.54	2633	A	3784	Α	0.0199	0.508956	0.5090	0.000000	61	
4	23478-PeCDF	failed	37.76	3832	A	7279	А	0.0179	0.835875	n.d.	0.000000	80	
5	12378-PeCDD	failed	38.15	863	Α	1922	А	0.0236	0.370481	n.d.	0.000000	45	
6	123478-HxCDF	passed	41,34	2494	Д	3111	Α	0.0222	0.441547	0.4415	0.000000	49	
7	123678-HxCDF	passed	41.50	2589	A	3674	А	0.0194	0.429490	0.4295	0.000000	59	
8	234678-HxCDF	passed	42.17	2244	A	3108	А	0.0209	0.419003	0.4190	0.000000	50	
9	123478-HxCDD	failed	42.35	946	<b>A</b>	1596	А	0.0230	0.285766	n.d.	0.000000	37	
10	123678-HxCDD	passed	42.47	3528	A	3813	А	0.0222	0.822382	0.8224	0.000000	92	
11	123789-HxCDD	passed	42.79	1608	A	2082	Α	0.0218	0.397732	0.3977	0.000000	46	
12	123789-HxCDF	passed	43.17	1614	<b>A</b>	2176	А	0.0264	0.355167	0.3552	0.000000	30	
13	1234678-HpCDF	passed	44.87	15095	<b>A</b>	16492	Α	0.0116	2.046364	2.0464	0.000000	429	
14	1234678-HpCDD	passed	46.04	51328	<b>A</b>	54906	Α	0.0373	11.992395	11.9924	0.000000	809	
15	1234789-HpCDF	passed	46.61	1389	4	1630	Α	0.0184	0.299853	0.2999	0.000000	40	
16	OCDD	passed	49.05	698744	4	628080	А	0.0373	172.521839	172.5218	0.000000	11744	
17	OCDF	passed	49.25	23261	A	18339	Α	0.0175	4.896454	4.8965	0.000000	699	
18	13C12-1278-TCDD (CR\$)	passed	32.39	175833	4	144071	А	0.0202	29.375921	29.3759	77.669903	3740	
19	13C12-1234-TCDD	passed	31.24	898129	4	748500	Α	0.0256	194.174757	194.1748	194.174757	18991	
20	13C12-123468-HxCDD	passed	41.23	912501	A	1133419	A	0.0383	194.174757	194.1748	194.174757	12663	
21	13C12-2378-TCDF	passed	30.97	1244788	<i>p</i>	998586	A	0.0197	141.614743	141.6147	194.174757	17815	
22	13C12-2378-TCDD	passed	31.99	666288	A	538503	A	0.0260	144.238386	144.2384	194.174757	14841	
23	13C12-12378-PeCDF	passed	36.53	962754	A	1561686	A	0.0776	172,367305	172.3673	194.174757	7305	
24	13C12-23478-PeCDF	passed	37.75	929443		1463624	A	0.0779	163.604359	163.6044	194.174757	7328	
25	13C12-12378-PeCDD	passed	38.13	526197	<i>p</i>	851996	A	0.0475	166.708205	166.7082	194.174757	12427	
26	13C12-123478-HxCDF	passed	41.32	1371134	<i>F</i>	726641	A	0.0439	154.921064	154.9211	194.174757	8745	
27	13C12-123678-HxCDF	passed	41.47	1613543	<i>p</i>	847444	A	0.0417	172,753303	172.7533	194.174757	10215	
28	13C12-234678-HxCDF	passed	42.16	1332823	A	716010	A	0.0450	155.014976	155.0150	194.174757	9027	
29	13C12-123478-HxCDD	passed	42.35	743086		943336	A	0.0405	169,177051	169.1771	194.174757	10671	
30	13C12-123678-HxCDD	passed	42.45	753889		943556	A	0.0393	165.052496	165.0525	194.174757	11062	
31	13C12-123789-HxCDD	passed	42.76	741403	,	920614	А	0.0410	168.860284	168.8603	194.174757	10643	
32	13C12-123789-HxCDF	passed	43.16	1168394	,	627876	A	0.0477	143.982788	143.9828	194.174757	7511	
33	13C12-1234678-HpCDF	passed	44.85	1604725		733065	А	0.0605	200.797641	200.7976		8871	
34	13C12-1234678-HpCDD	passed	46.03	792431		831895	A	0.0531	178.203065	178.2031	194.174757	9086	
35	13C12-1234789-HpCDF	passed	46.60	1007898	A	469444	A	0.0709	148.585244	148.5852	194.174757	5539	
36	13C12-OCDD	passed	49.05	1549227	A	1374974	A	0.0365	356,076054	356.0761	388.349515	26936	
37	13C12-OCDF	passed	49.23	1863533	,	1673161	Α	0.0266	292.271781	292.2718	388.349515	30859	1

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807304 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1005 680 777 965 1033 1170 1274 4.04E5 28.59 1312 23.03 24.69 27.91 29.07 31,41 33,19 33,84 m/z=291.9825-80 292.9825 MS 60 17FEB07-18 40 20 0 NL: 1563 1467 1607 1433 36,39 37.87 5.37E5 38,55 35.87 100-m/z=330.4792-80 331.4792 MS 17FEB07-60-18 40-20-0-NL: 1808 1684 1956 1993 3.42E5 1671 41.46 39.79 43.45 100-43,95 39.61 m/z=1566 380.4760-1450 Relative Abundance 36.13 37.92 80-381.4760 MS 17FEB07-60-18 40-20-0 2082 NL: 2252 2281 2021 8.66E4 45.26 47.61 100-48.01 44,41 m/z= 2016 404.4760-44.34 80-405.4760 MS 17FEB07-60-18 40-20-0 NL: 2331 2301 48.75 1.10E5 48.35 100-,m/z= 442.4728-80-443.4728 MS 17FEB07-60-18 40-20-AlL01 Page 82 of 560 34 36 38 40 42 24 ²By uma<del>9 St</del> 12:02 3m, 2/9/1<del>3</del> Time (min)

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil Sample ID: 8807304 Chlorodiphenylether Interference Traces RT: 20.40 - 34.90 NL: RT: 26.98 RT: 32.74 1.00E3 AA: 4978 100-AA: 6285 m/z=305.3987-306.3987 80-MS ICIS TCDF Quan Mass 17FEB07-18 RT: 31.45 60-AA: 3823 RT: 28.23 RT: 29.24 RT: 32.95 AA: 2187 AA: 2171 AA:_1617 RT: 26.83 RT: 29.92 AA: 818 AA: 930 RT: 25.48 20-RT: 22.08 RT: 23.24 AA: 207 AA: 101 AA: 133 A March 0 RT: 32.73 NL: RT: 26.97 AA: 3384 7.57E2 100-AA: 4150 m/z=303.4016-304.4016 80-MS ICIS RT: 33.82 TCDF Ratio Mass 17FEB07-AA: 2414 RT: 29.24 RT: 28.23 RT: 31.45 18 60-AA: 1995 AA: 2817 AA: 1857 RT: 26.85 AA: 1252 40-RT: 29.72 RT: 26.03 RT: 22.20 RT: 23.24 AA: 515 20-AA: 361 AA: 294 AA: 294 0 RT: 30.97 NL: 2.30E5 AA: 1245023 100m/z=317.4389-318.4389 TCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-18 60-40-RT: 24.64 RT: 29.91 AA: 212872 AA: 8261 20 RT: 23.67 RT: 29.21 RT: 26.45 RT: 31.09 RT: 34.08 RT: 22.13 AA: 29900 <u>AA: 162</u>1 AA: 21857 AA: 31819 AA: 7632 AA: 588 0 NL: RT: 23.20 1.03E3 AA: 4253 100m/z=RT: 22.18 375.3364-AA: 4304 376.3364 80 RT: 21.99 MS ICIS AA: 3222 17FEB07-**HxCDPE Trace** RT: 33.79 18 60-AA: 2135 RT: 32.97 AA: 859 RT: 23.29 RT: 26.83 RT: 30.04 20 RT: 28.88 RT: 32.28 | RT: 21.26 AA: 326 AA: 203 AA: 138 AA: 106 AILU1 21 26 30 By uma9 at 12:02 pm, 2/9/17 Time (min)

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807304 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil Chlorodiphenylether Interference Traces RT: 34.50 - 39.80 NL: RT: 35.30 9.19E2 AA: 4536 100m/z=341.3567-RT: 37.76 342.3567 RT: 36.54 80 AA: 3845 MS ICIS AA: 2644 PeCDF Quan Mass 17FEB07-18 60-RT: 36.00 RT: 35.13 AA: 2015 RT: 38.96 AA: 1331 40-RT: 39.50 RT: 36.87 AA: 927 RT: 38.55 RT: 37.62 AA: 20.54 AA: 1060 RT: 35.57 AA: 92.48 AA: 717 AA: 465 RT: 39.06 RT: 38.13 RT: 34.59 20 AA: 232 AA: 231 AA: 180 RT: 37.76 NL: AA: 5476 1.32E3 RT: 35.30 100-AA: 6577 m/z=339.3597-340.3597 RT: 36.54 80 MS ICIS AA: 3787 PeCDF Ratio Mass 17FEB07-RT: 37.82 18 60 AA: 1579 RT: 36.02 AA: 2895 RT: 36.88 RT: 38.96 AA: 2211 40-AA: 1306 RT: 37.64 RT: 35.17 AA: 1130 AA: 1872 RT: 35.60 AA: 1097 20-RT: 38.82 RT: 38.07 RT: 34.97 RT: 37.16 RT: 39.07 AA: 313 AA: 164 AA: 79.50 AA: 131 AA: 143 NL: RT: 37.75 RT: 36.53 2.42E5 AA: 929748 AA: 963190 100m/z=353.3970-PeCDF 13C12 Quan Mass 354.3970 80-MS ICIS 17FEB07-18 60-RT: 36.33 40-AA: 86.46 20-RT: 35.05 RT: 35.28 RT: 36.00 RT: 37.82 RT: 36.85 RT: 37.62 RT: 38.96 RT: 39.50 AA: 2883 AA: 20385 AA: 20279 AA: 1305 AA: 9810 AA: 4022 AA: 3724 AA: 96.34 RT: 38.93 NL: RT: 37.58 8.30E1 AA: 249 AA: 153 100m/z=RT: 37.14 409.2974-AA: 125 410.2974 80 RT: 38.64 MS ICIS RT: 37.62 AA: 80.44 17FEB07-HpCDPE Trace RT: 36.87 AA: 66.04 18 AA: 61.94 60-RT: 35.91 RT: 39.26 RT: 37.88 RT: 35.70 AA: 53.63 AA: 6.29 AA: 4.16 40 RT: 36.25 AA: 18.50 RT: 39.50 RT: 34.71 RT: 38.55 AA: 13.87 AA: 84.92 AA: 100 AA: 7.40 20-AlL01 Page 84 of 560 5 37.0 37.5 34.5 36.5 38.0 35 By um39 at 12:02 pin, 2/9/17 By UMJS at 12:42 pm 02/8/17 Time (min)

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807304 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil Chlorodiphenylether Interference Traces RT: 39.20 - 44.50 RT: 40.06 NL: AA: 8762 2.40E3 100-RT: 40.77 m/z=AA: 7334 375.3178-376.3178 80 MS ICIS HxCDF Quan Mass 17FEB07-18 60 RT: 41.21 AA: 384 RT: 41.50 RT: 42.17 RT: 39.85 AA: 2599 40 AA: 2246 AA: 2367 RT: 43.17 AA: 1614 RT: 40.86 20 RT: 42.04 AA: 81.70 RT: 40.54 RT: 43.55 RT: 44.02 RT: 42.47 RT: 39.64 AA: 456 AA: 307 AA: 203 AA: 128 AA: 154 AA: 43.03 RT: 40.07 NL: AA: 10720 2.98E3 100m/z=RT: 40.77 373.3208-AA: 9660 374.3208 80 MS ICIS HxCDF Ratio Mass 17FEB07-18 60-RT: 41.50 RT: 39.85 RT: 42.17 40-AA: 3692 AA: 3141 AA: 3117 RT: 41.23 RT: 43.17 AA: 2178 20-AA: 812 RT: 42.02 RT: 40.54 RT: 42.51 RT: 43.25 RT: 44.03 RT: 39.62 AA: 643 AA: 169 AA: 123 AA: 275 AA: 113 AA: 37.66 RT: 41.47 NL: AA: 1610666 4.64E5 100-RT: 42.16 RT: 41.32 m/z=AA: 1330821 385.3610-AA: 1370212 HxCDF 13C12 Quan Mass RT: 43.16 386.3610 80-AA: 1168745 MS ICIS 17FEB07-18 60-40 RT: 42.82 20-AA: 654 RT: 40.04 RT: 43.24 RT: 39.61 RT: 41.07 RT: 41.66 RT: 42.45 RT: 44.07 AA: 25407 AA: 5185 AA: 96.78 AA: 1827 AA: 245 AA: 7727 AA: 1567 RT: 42.48 NL: RT: 40.99 5.40E1 AA: 69.55 100-AA: 66.27 m/z=445.2555-446.2555 80 RT: 42.60 MS ICIS AA: 4.85 17FEB07-OCDPE Trace RT: 42.99 18 60-RT: 43.21 AA: 18.60 AA: 14.18 RT: 39.60 RT: 44.23 RT: 42.36 AA: 114 AA: 90.76 AA: 3.23 40-20 Page 85 42.0 39.5 44.5 By uma9 at 12:02 5m, 2/9/17 42.5 Time (min)

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807304 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil Chlorodiphenylether Interference Traces RT: 44.10 - 48.20 NL: RT: 45.38 6.93E3 AA: 21352 100m/z=409.2789-410.2789 80-RT: 44.87 MS ICIS HpCDF Quan Mass AA: 15102 17FEB07-18 60-40-RT: 44.55 20-AA: 8.74 RT: 46.62 RT: 45.45 RT: 45.20 RT: 46.03 RT: 44.34 RT: 46.93 RT: 47.74 RT: 47.95 AA: 1389 AA: 375 AA: 295 AA: 120_ AA: 69.68 AA: 57.29 AA: 4.36 AA: 119 RT: 45.38 NL: 7.27E3 AA: 23675 100m/z=407.2818-408.2818 RT: 44.87 80 MS ICIS AA: 16470 HpCDF Ratio Mass 17FEB07-18 60-RT: 44.62 AA: 19.38 20-RT: 46.62 RT: 45.23 RT: 46.35 AA: 1634 RT: 44.38 RT: 45.64 RT: 47.29 RT: 47.85 AA: 615 AA: 380 AA: 192 AA: 169 AA: 153 AA: 294 0 RT: 44.85 NL: 4.99E5 AA: 1601371 100m/z=419.3220-HpCDF 13C12 Quan Mass 420.3220 80-MS ICIS RT: 46.60 17FEB07-AA: 1008276 18 60-40-RT: 46.32 AA: 517 20-RT: 46.67 RT: 44.92 RT: 45.37 RT: 47.74 RT: 47.94 RT: 44.41 RT: 46.04 AA: 5990 AA: 5818 AA: 245 AA: 4876 AA: 1489 AA: 1<u>583</u> AA: 1991 NL: RT: 46.32 RT: 47.81 1.29E2 AA: 208 AA: 268 100m/z=479.2165-480.2165 80-MS ICIS 17FEB07-NCDPE Trace 18 60 RT: 47.44 AA: 111 RT: 44.58 RT: 45.63 AA: 63.33 RT: 44.85 AA: 26.11 AA: 7.47 20 AlL01 Page 86 of 560 46.0 46.5 By uma9 at 12.02 pm, 2/9/145 By UMJS at 12:42 pm₀₈/9/17 Time (min)

File Name: Y:\17FEB07\17FEB07-18 Acq. Data: 2/8/2017 1:20:07 AM Instrument ID: DF18471-17FEB07 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB17 ARS1-17-00216-007 Soil Sample ID: 8807304 Chlorodiphenylether Interference Traces RT: 47.90 - 51.20 NL: RT: 49.25 7.42E3 AA: 23271 100m/z=443.2399-444.2399 80-MS ICIS OCDF Quan Mass 17FEB07-18 60-40-20-RT: 49.06 RT: 48.70 RT: 50.01 RT: 50.17 RT: 50.62 RT: 50.84 RT: 48.11 RT: 49.31 AA: 573 AA: 148 AA: 148 AA: 254 AA: 57.09 AA: 106 AA: 42,85 NL: RT: 49.25 6.19E3 AA: 18351 100m/z=441.2428-442.2428 80-MS ICIS OCDF Ratio Mass 17FEB07-18 60-40 20 RT: 49.06 RT: 49.39 RT: 49.70 RT: 48.30 RT: 50.93 RT: 50.22 RT: 50.40 AA: 548 AA: 148 AA: 215 AA: 62.54 AA: 87.72 AA: 29,24 AA: 4.01 RT: 49.23 NL: 6.05E5 AA: 1863731 100m/z=455.2802-456.2802 OCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-18 60-40 20-RT: 49.30 RT: 49.59 RT: 49.96 RT: 50.40 RT: 50.65 RT: 50.93 RT: 48.10 RT: 48.71 RT: 49.05 AA: 18,41 AA: 1727 AA: 84.34 AA: 507_ AA: 328_ AA: 192 RT: 48.58 NL: 2.50E1 AA: 11.61 RT: 48.15 100m/z=AA: 33.42 RT: 48.75 RT: 50.58 513.1775-AA: 2.80 AA: 4.01 514.1775 80 MS ICIS 17FEB07-18 DCDPE 20-**Page 87** 49.5 48.0 50.0 By uma9 at 12:02 pm, 2/9/17 By UMJS at 12:42 pm 2/9/ Time (min)

```
*** file opened Wed Feb 08 01:25:34 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 08-Feb-17 01:25:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:
```

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

```
Mid Time Windows:
       Start
                                    End
                                                Cycletime
                     Measure
                              21:00 min
 1
     11:30 min
                   9:30 min
                                            1.00 sec
#
  2
     21:00 min
                  13:36 min
                              34:36 min
                                            1.00 sec
  3
     34:36 min
                              39:30 min
                   4:53 min
                                            0.90 sec
#
     39:30 min
                   4:45 min
                              44:15 min
                                            0.80 sec
                                            0.80 sec
#
  5
     44:15 min
                   3:45 min
                              48:00 min
#
  6
     48:00 min
                   3:00 min
                               51:00 min
                                            0.80 sec
Mid Masses:
 Window # 1
      mass F
                int
                     gr
                          time (ms)
  218.0129
                 1
                             95
                    1
  218.9851 1
                20
                    1
                              4
  220.0100
                              95
                    1
                 1
  230.0532
                 2
2
1
                    1
                              47
  232.0502
                              47
                    1
  251.9739
                              95
                    1
                             95
47
  253.9710
                 1
                    1
  264.0142
                    1
  266.0112
                    1
  285.9350
                             95
                 1
                    1
  287.9320
                              95
                 1
                    1
  292.9819 c
                               4
                20
                    1
                 2
  297.9752
                    1
                              47
  299.9723
                    1
                              47
 Window # 2
                int
                          time (ms)
       mass F
                     gr
  292.9819 1
                    1
                20
  303.9011
                 1
                    1
                             118
  305.8981
                 1
                    1
                             118
  315.9413
317.9384
                             23
23
                 5
                    1
                 5
                    1
  319.8960
                 1
                    1
                            118
  321.8930
                            118
```

Page 1





```
331.9363
                               23
                     1
 333.9333
                 5
                     1
                               23
 339.8592
                 1
                     1
                             118
 341.8562
                     1
                              118
 354.9787 c
                20
2
                     1
                                5
 375.8364
                     1
                               59
Window # 3
 mass F
330.9787 1
                int
                      gr
                           time (ms)
                20
                     1
                                6
 339.8592
                 1
1
                     1
                              133
 341.8562
                     1
                              133
 351.8994
                     1
                               44
 353.8965
                     1
                               44
 355.8541
                     1
                              133
                    1
 357.8511
                              133
 367.8943
                     1
                               44
 369.8914
                               44
 380.9755
                20
2
                     1
           C
                                6
 409.7969
                     1
                               66
Window # 4
      mass F
                int
                      gr
                           time (ms)
 373.8201
                 1
                     1
                             117
 375.8172
                              117
 380.9755
                     1
                20
 383.8634
                 3
                     1
                               39
 385.8604
                     1
                               39
 389.8151
                 1
                     1
                              117
 391.8121
                 1
                     1
                              117
 401.8554
                               39
 403.8524
                     1
                               39
                    1
 430.9723 c
                20
                                5
 445.7550
                     1
                               58
Window # 5
 mass F
404.9755 1
                           time (ms)
                int
                      gr
                20
 407.7812
                     1
                 1
 409.7783
                 1
                     1
                             117
 417.8244
                     1
                               39
 419.8215
                     1
                               39
 423.7761
425.7732
                 1
1
3
                     1
                              117
                     1
                              117
 435.8164
                     1
                               39
 437.8134
                 3
2
                     1
                               39
 479.7160
                     1
                               58
 480.9691 c
                20
                     1
Window # 6
      mass F
                int
                      gr
                           time (ms)
 441.7422
                 1
                               95
 442.9723
                20
                     1
                                4
 443.7393
                 1
                     1
                               95
 453.7825
                 1
                               95
                     1
 455.7795
                     1
                               95
 457.7372
459.7342
                               95
                 1
                     1
                               95
 469.7774
                               31
                     1
 471.7745
                     1
                               31
 492.9691 c
                20
                     1
                                4
                     \bar{1}
                               47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

## DFS - Parameter

ACCU BQUAD CCURR DRAW DYNVOLTAGE	1000.0000 0.0500 0.0000 -25.0000 20.0000	BCORRS CAPIL COUNTING DRAWC ECORR	0.0170 0.0000 0.0000 0.0000 0.9995	BMASS CAPTSET DELAY DRAWS ECURR	96.5000 0.0000 0.0000 0.0000 1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL FWIN	0.0176	FVINLET	0.0301	FVSRC	0.0289
HVSRC	0.7000 0.0000	HCURR	0.0000	HVANAL	0.0000 0.4030
ICAL2	0.5865	ICALO IONEN	$0.0011 \\ 0.0000$	ICAL1 IST	0.4030
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	96.5000	LKM	442.9723	MASS	96.5000
MDAC	1441808.5140	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2525.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8943	RELEN	0.0000
RES	12502.5077	RPUSHER	-8.6813	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	638.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.5000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.8e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

## Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11825.
MID Time Window 2: Resolution is 12886.
MID Time Window 3: Resolution is 12462.
MID Time Window 4: Resolution is 12233.
Page 3
```





17FEB07-18 MID Time Window 5: Resolution is 13629. MID Time Window 6: Resolution is 12502.

Amplifier Offset: 87.

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## **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 02:16

Number of Entries 285

Comment S:11030:12937:15831

Vial 104

Sample Name SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil

Sample ID 8807305

Inst ID DF18471-17FEB07
Client ARS International LLC

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-19.quan
Data y:\17feb07\17feb07-19.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser CompatibilityCompatibility offSum Area/HeightSum QM RM1Quantitation StatusDependend on Area

Injection Volume [hIJV] 1.0
Sample Volume [hSV] 20.0
Sample Weight [hSWT] 10.16
Dilution Factor [hDF] 1.0
Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





Lancaster Laboratories

# **Entry Parameters**

ſ	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status	
No.	Name	Time	Overview	Status	Status	Status	Status	Time Status	Info	
1	2378-TCDF	30.99	passed	passed	passed	passed	passed	passed		
2	2378-TCDD	32.03	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
3	12378-PeCDF	36.53	passed	passed	passed	passed	passed	passed		
4	23478-PeCDF	37.76	passed	passed	passed	passed	passed	passed		
5	12378-PeCDD	38.15	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
6	123478-HxCDF	41.34	passed	passed	passed	passed	passed	passed		
7	123678-HxCDF	41.49	passed	passed	passed	passed	passed	passed		
8	234678-HxCDF	42.18	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
9	123478-HxCDD	42.37	passed	passed	passed	passed	passed	passed		
10	123678-HxCDD	42.47	passed	passed	passed	passed	passed	passed		
11	123789-HxCDD	42.78	passed	passed	passed	passed	passed	passed		
12	123789-HxCDF	43.17	passed	passed	passed	passed	passed	passed		
13	1234678-HpCDF	44.86	passed	passed	passed	passed	passed	passed		
14	1234678-HpCDD	46.05	passed	passed	passed	passed	passed	passed		
15	1234789-HpCDF	46.62	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
16	OCDD	49.05	passed	passed	passed	passed	passed	passed		
17	OCDF	49.24	passed	passed	passed	passed	passed	passed		
18	13C12-1278-TCDD (CRS)	32.39	passed	passed	passed	passed	passed	passed		
19	13C12-1234-TCDD	31.24	passed	passed	passed	passed	passed	passed		
20	13C12-123468-HxCDD	41.23	passed	passed	passed	passed	passed	passed		
21	13C12-2378-TCDF	30.97	passed	passed	passed	passed	passed	passed		
22	13C12-2378-TCDD	32.00	passed	passed	passed	passed	passed	passed		
23	13C12-12378-PeCDF	36.53	passed	passed	passed	passed	passed	passed		
24	13C12-23478-PeCDF	37.75	passed	passed	passed	passed	passed	passed		
25	13C12-12378-PeCDD	38.13	passed	passed	passed	passed	passed	passed		
26	13C12-123478-HxCDF	41.33	passed	passed	passed	passed	passed	passed		
27	13C12-123678-HxCDF	41.48	passed	passed	passed	passed	passed	passed		
28	13C12-234678-HxCDF	42.16	passed	passed	passed	passed	passed	passed		
29	13C12-123478-HxCDD	42.34	passed	passed	passed	passed	passed	passed		
30	13C12-123678-HxCDD	42.46	•	passed	passed	passed	passed	passed		
31	13C12-123789-HxCDD	42.77	passed	passed	passed	passed	passed	passed		
32	13C12-123789-HxCDF	43.16	passed	passed	passed	passed	passed	passed		
33	13C12-1234678-HpCDF	44.85	•	passed	passed	passed	passed	passed		
34	13C12-1234678-HpCDD	46.04	•	passed	passed	passed	passed	passed		
35	13C12-1234789-HpCDF	46.60		passed	passed	passed	passed	passed		
36	13C12-OCDD	49.04	passed	passed	passed	passed	passed	passed		
37	13C12-OCDF	49.23	passed	passed	passed	passed	passed	passed		



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## **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 02:16

**Number of Entries** 285

Comment S:11030:12937:15831

Vial 104

Sample Name SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil

Sample ID 8807305

Inst ID DF18471-17FEB07 Client ARS International LLC

Analyst ida02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

Files Parameter

Quan y:\17feb07\17feb07-19.quan Data y:\17feb07\17feb07-19.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

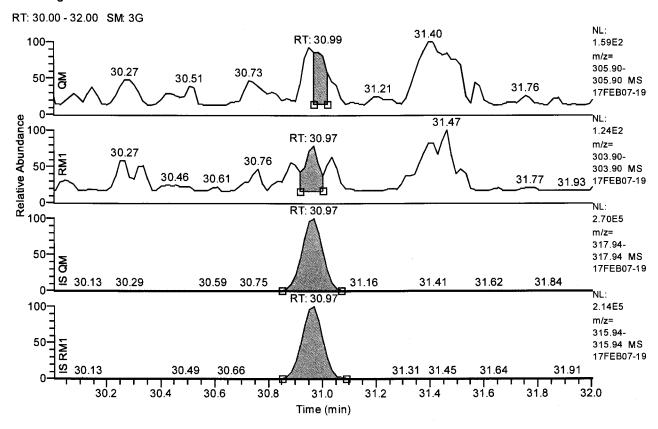
QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 20.0 Sample Weight [hSWT] 10.16 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

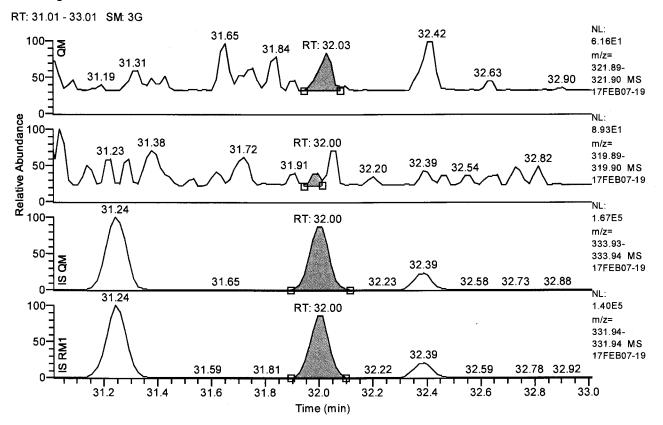
Weighted Regression Factor 1.0



## **Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	30.99
QM Area	322
QM Integration Mode	Α
RM1 Area	269
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0167
Unqualified Amount (A)	0.042644
Adjusted Amount (A)	0.0426
Signal-to-Noise	11
Client Flags	
Status Overview	passed
Status Info	





#### **Entry Parameters**

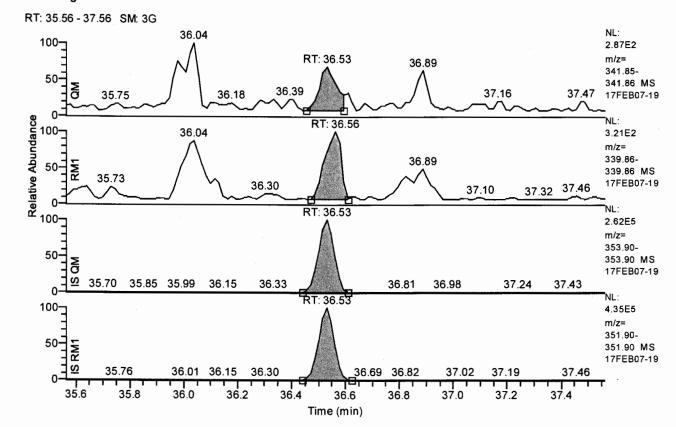
Status Overview

Compound Name 2378-TCDD QM Retention Time 32.03 QM Area 113 QM Integration Mode Α RM1 Area 37 RM1 Integration Mode Α 0 ManInt Detection Limit (A) 0.0149 Unqualified Amount (A) 0.017500 Adjusted Amount (A) n.d. Signal-to-Noise 5 Client Flags

Status Info Failed on: Ratio1A

failed



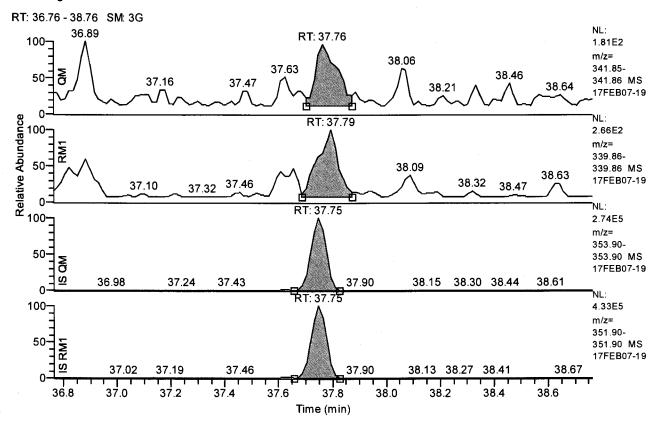


#### **Entry Parameters**

Compound Name 12378-PeCDF QM Retention Time 36.53 QM Area 746 QM Integration Mode RM1 Area 1257 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0111 Unqualified Amount (A) 0.144290 Adjusted Amount (A) 0.1443 Signal-to-Noise Client Flags Status Overview passed Status Info

eurofins





## **Entry Parameters**

Compound Name

23478-PeCDF

**QM** Retention Time

37.76

QM Area

839

QM Integration Mode

RM1 Area RM1 Integration Mode 1281

ManInt

Α 0

Detection Limit (A)

0.0098

Unqualified Amount (A)

0.140690

Adjusted Amount (A)

0.1407

Signal-to-Noise

26

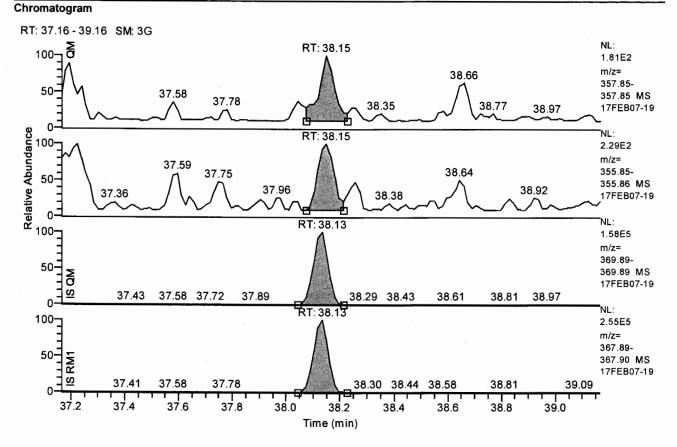
Client Flags

Status Overview

passed

eurofins 🔆





# **Entry Parameters**

Compound Name 12378-PeCDD QM Retention Time 38.15

QM Area 658

QM Integration Mode Α RM1 Area 847

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0301 Unqualified Amount (A) 0.176842

Adjusted Amount (A) n.d. Signal-to-Noise 14

Client Flags

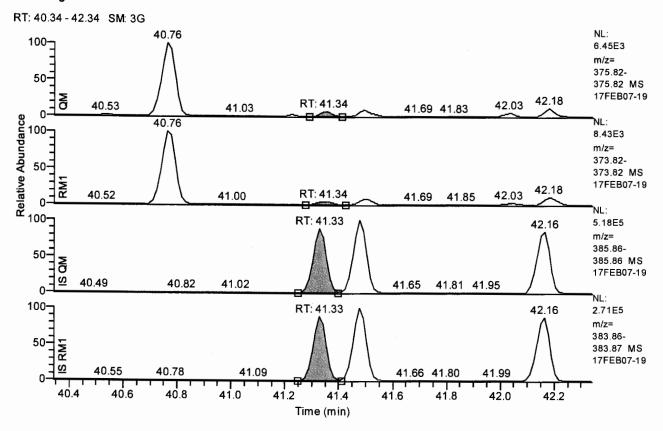
Status Overview failed

Status Info Failed on: Ratio 1A



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# Chromatogram



# **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.34

QM Area

1335

QM Integration Mode

Α 1568

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0 0.0204

Unqualified Amount (A)

0.205179

Adjusted Amount (A)

0.2052

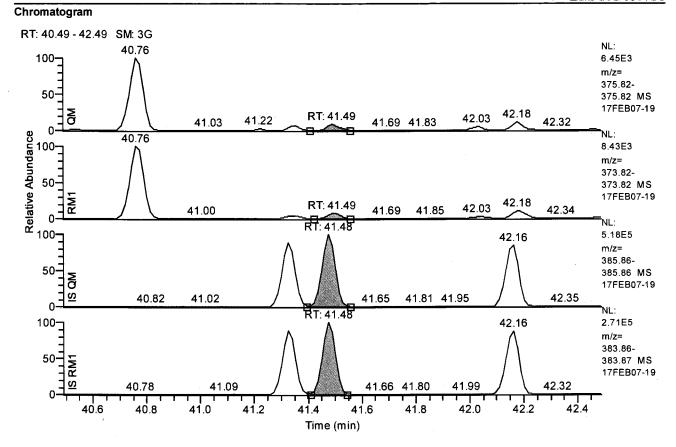
Signal-to-Noise

Client Flags

Status Overview

passed





## **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.49

QM Area

1912

QM Integration Mode

Α

RM1 Area

2527

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0 0.0186

0.284068

Unqualified Amount (A) Adjusted Amount (A)

0.2841

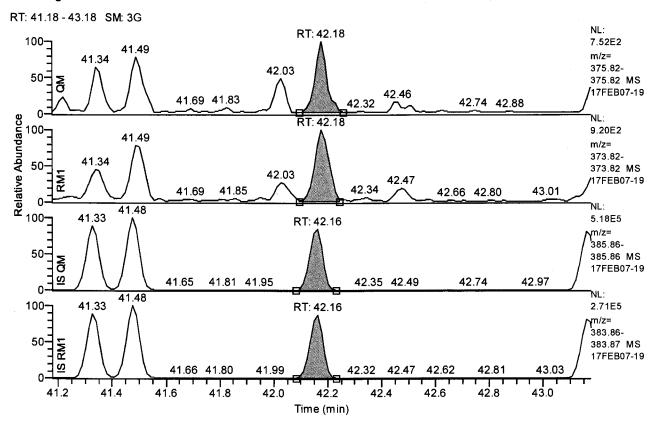
Signal-to-Noise

37

Client Flags

Status Overview

passed



#### **Entry Parameters**

Compound Name

234678-HxCDF

QM Retention Time

42.18

QM Area

2250

QM Integration Mode

Α

RM1 Area

3266

RM1 Integration Mode

Α

ManInt Detection Limit (A)

0 0.0204

Unqualified Amount (A)

0.388415

Adjusted Amount (A)

n.d.

Signal-to-Noise

48

Client Flags

Status Overview

failed

Status Info

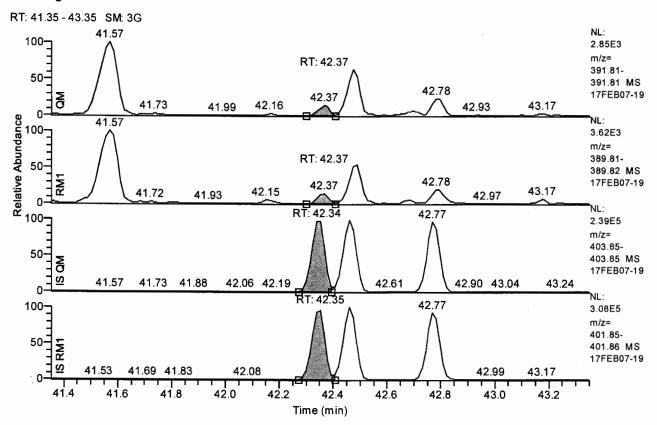
Failed on: Ratio1A





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# Chromatogram



## **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.37

QM Area

1151

QM Integration Mode

RM1 Area

1486

RM1 Integration Mode

Α

ManInt Detection Limit (A)

Unqualified Amount (A)

0.0213 0.279522

Adjusted Amount (A)

0.2795

Signal-to-Noise

37

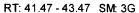
Client Flags

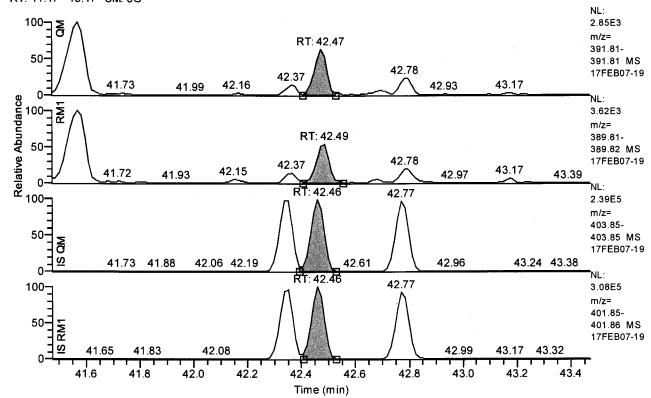
Status Overview

passed

**eurofins** 

## Chromatogram





#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.47 5649

QM Area

.

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 6536 A

ManInt

0

Detection Limit (A)

0.0208

Unqualified Amount (A)

1.290683

Adjusted Amount (A)

1.2907

Signal-to-Noise

160

Client Flags

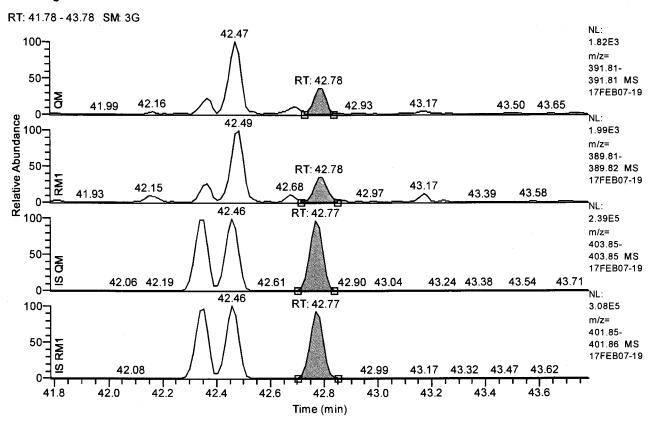
Status Overview

passed



# eurofins

#### Chromatogram



## **Entry Parameters**

Compound Name 123789-HxCDD

42.78 QM Retention Time 2051 QM Area

QM Integration Mode RM1 Area 2377

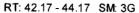
RM1 Integration Mode Α ManInt 0

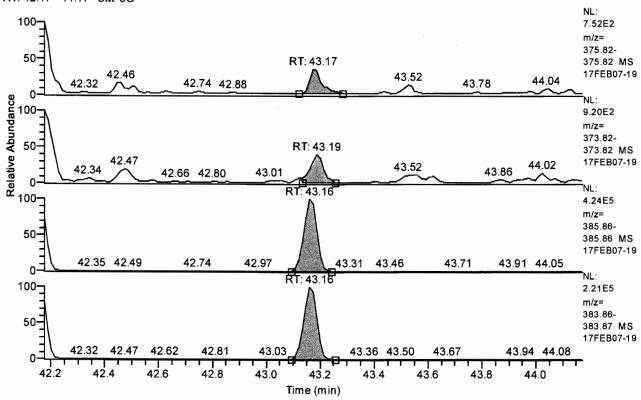
Detection Limit (A) 0.0207 Unqualified Amount (A) 0.461169 Adjusted Amount (A) 0.4612

Signal-to-Noise 56

Client Flags

Status Overview passed





## **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.17

QM Area

807

QM Integration Mode

Α

RM1 Area

1151

RM1 Integration Mode ManInt A 0

Detection Limit (A)

0.0226

Unqualified Amount (A)

0.152294

Adjusted Amount (A)

0.1523

Signal-to-Noise

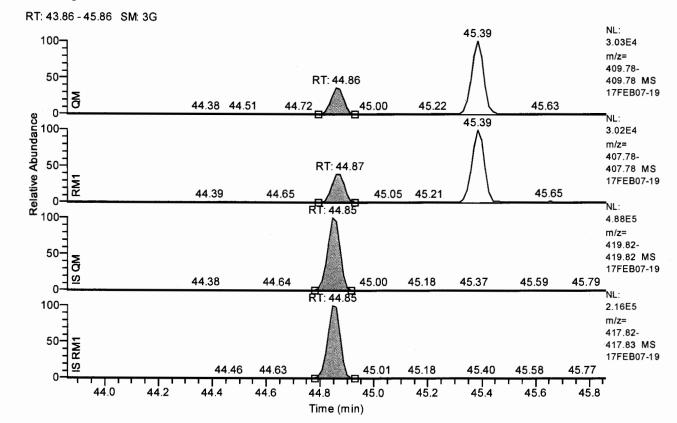
18

Client Flags

Status Overview

passed

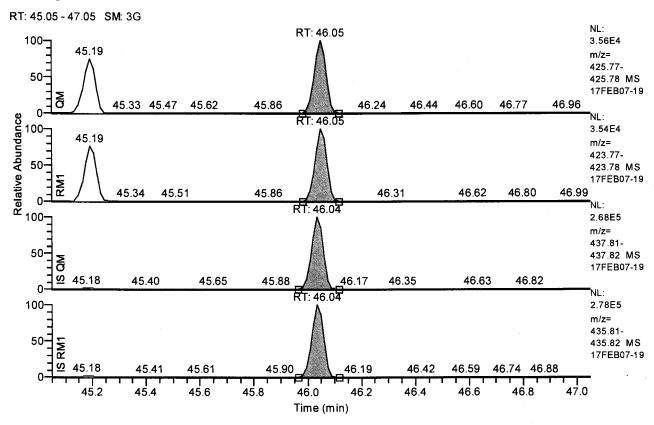




#### **Entry Parameters**

Compound Name 1234678-HpCDF QM Retention Time 44.86 QM Area 36518 QM Integration Mode Α RM1 Area 40223 RM1 Integration Mode Α 0 ManInt Detection Limit (A) 0.0198 Unqualified Amount (A) 5.027382 Adjusted Amount (A) 5.0274 Signal-to-Noise 628 Client Flags Status Overview passed Status Info





## **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.05

QM Area

111816

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 111137 A

Manint

0

Detection Limit (A)

0.0363

Unqualified Amount (A)

24.181691

Adjusted Amount (A)

24.1817

Signal-to-Noise

1669

Client Flags

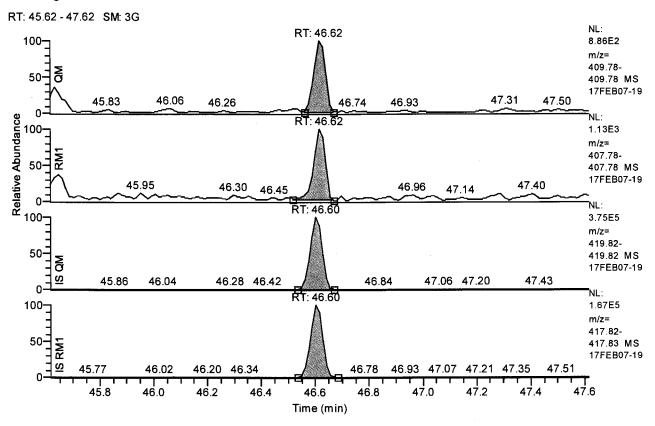
Status Overview

passed



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## Chromatogram



#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.62

QM Area

2655

QM Integration Mode

Α

RM1 Area

3379

RM1 Integration Mode

Α

ManInt
Detection Limit (A)

0.0249

Unqualified Amount (A)

0.519432

Adjusted Amount (A)

0.519432 n.d.

Signal-to-Noise

54

Client Flags

Status Overview

failed

Status Info

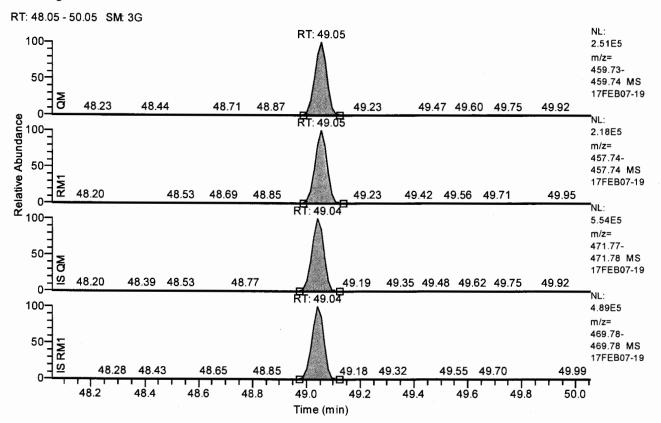
Failed on: Ratio1A





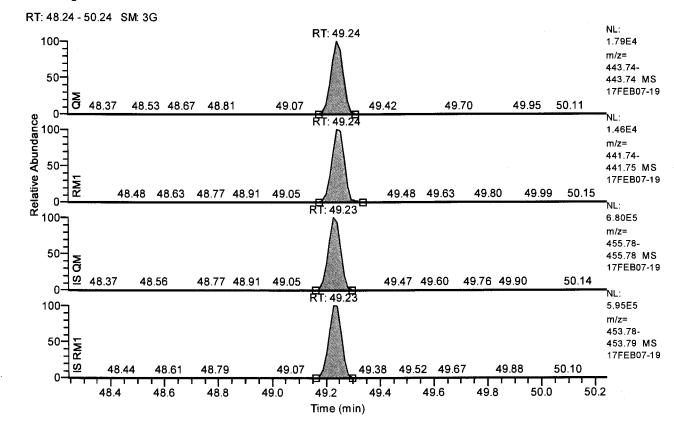
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## Chromatogram



#### **Entry Parameters**

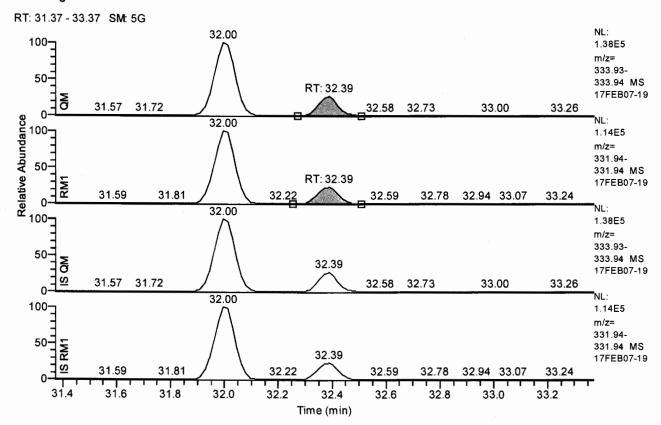
Compound Name	OCDD
QM Retention Time	49.05
QM Area	763085
QM Integration Mode	Α
RM1 Area	668603
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0330
Unqualified Amount (A)	173.315705
Adjusted Amount (A)	173.3157
Signal-to-Noise	13125
Client Flags	
Status Overview	passed
Status Info	



## **Entry Parameters**

Compound Name	OCDF
QM Retention Time	49.24
QM Area	55561
QM Integration Mode	Α
RM1 Area	47230
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0148
Unqualified Amount (A)	10.588891
Adjusted Amount (A)	10.5889
Signal-to-Noise	1807
Client Flags	
Status Overview	passed
Status Info	





# **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

QM Area

32.39 193180

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 148630 Α

ManInt

Detection Limit (A)

0.0202

Unqualified Amount (A)

31.862559

Adjusted Amount (A)

31.8626 4014

Signal-to-Noise Client Flags

Status Overview

passed

Status Info

# **Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
	2378-TCDF	305,8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98		30.97	30.97	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01		32.00	32.00	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54		36.56	36.53	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76		37.79	37.75	•	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15		38.15	38.13	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34		41.34	41,33	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49		41.49	41.48	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16		42.18	42.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.37	42.37	42.34	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.49	42.46	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.78	42.78	42.77	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.17	43.17	43.19	43.16	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.86	44.87	44,85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.05	46.05	46.04	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.62	46.62	46.60	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.05	49.05	49.04	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.24	49.24	49.23	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.39	32.39	32.39	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31.24	31.24	31.24	P	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.23	41.23	41.23	paosoa	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95	30.97	30.97	30.97	paooee	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	32.00	32.00	32.00	,	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.53	36.53	36.56		passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.75	37.75	37.84	P=====	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.12	38.13	38.13	38.13	P	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32	41.33	41.33	41.35		passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.48	41.48	41.44		passed
28	13C12-234678-HxCDF		383.8639 +/- 5 ppm	42.15	42.16	42.16	42.10	P4.00-4	•
29	13C12-123478-HxCDD		401.8559 +/- 5 ppm	42.33		42.35	42.35	,	passed
30	13C12-123678-HxCDD	• • • • • • • • • • • • • • • • • • • •	401.8559 +/- 5 ppm	42.46		42.46	42.46	F	
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.77	42.77	42.77		•
32	13C12-123789-HxCDF		383.8639 +/- 5 ppm	43.16			43.19	passea	
33	13C12-1234678-HpCDF		417.8253 +/- 5 ppm	44.84		44.85	44.83	paoooa	
34	13C12-1234678-HpCDD			46.03		46.04	46.04	P4000-	passed
35	13C12-1234789-HpCDF			46.60			46.56		
36 37	13C12-OCDD		469,7779 +/- 5 ppm	49.04		49.04	49.04 49.22	P	passed
3/	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22	49.23	49.23	49.22	passed	passed





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# **Entry Parameters**

No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Recovery	
	Name	Time	(A)	Limit		Status	Recovery (A)	Limit		Status	
1	2378-TCDF	30.99	0.8341	0.6450 -	0.8950	passed		0 -	0	1.	passe
2	2378-TCDD	32.03	0.3288	0.6450 -	0.8950	failed		0 -	0	1	passe
3	12378-PeCDF	36.53	1.6849	1.3150 -	1.7850	passed		0 -	0	1	passe
4	23478-PeCDF	37.76	1.5280	1.3150 -	1.7850	passed		0 -	0	)	passe
5	12378-PeCDD	38.15	1.2872	1.3150 -	1.7850	failed		0 -	0	1	passe
6	123478-HxCDF	41.34	1.1749	1.0450 -	1.4350	passed		0 -	0	)	passe
7	123678-HxCDF	41.49	1.3220	1.0450 -	1.4350	passed		0 -	0	)	passe
8	234678-HxCDF	42.18	1.4515	1.0450 -	1.4350	failed		0-	0	)	passe
9	123478-HxCDD	42.37	1.2914	1.0450 -	1.4350	passed		0 -	0	)	passe
10	123678-HxCDD	42.47	1.1570	1.0450 -	1.4350	passed		0 -	0	)	passe
11	123789-HxCDD	42.78	1.1588	1.0450 -	1.4350	passed		0 -	0	)	passe
12	123789-HxCDF	43.17	1.4271	1.0450 -	1.4350	passed		0 -	0	)	passe
13	1234678-HpCDF	44.86	1.1014	0.8750 -	1.2050	passed		0 -	0		passi
14	1234678-HpCDD	46.05	0.9939	0.8750 -	1.2050	passed		0 -	0	)	pass
15	1234789-HpCDF	46.62	1.2724	0.8750 -	1.2050	failed		0 -	0	)	pass
16	OCDD	49.05	0.8762	0.7550 -	1.0250	passed		0-	0	)	pass
17	OCDF	49.24	0.8501	0,7550 -	1.0250	passed		0-	0	)	pass
18	13C12-1278-TCDD (CRS)	32.39	0.7694	0.6450 -	0.8950	passed	40.47	35 -	197		pass
19	13C12-1234-TCDD	31.24	0.8108	0.6450 -	0.8950	passed	100.00	0 -	0	1	pass
20	13C12-123468-HxCDD	41.23	1.2658	1.0450 -	1.4350	passed	100.00	0 -	0		pass
21	13C12-2378-TCDF	30.97	0.7973	0.6450 -	0.8950	passed	85.81	40 -	135	;	pass
22	13C12-2378-TCDD	32.00	0.8121	0.6450 -	0.8950	passed	84.80	40 -	135	i	pass
23	13C12-12378-PeCDF	36.53	1.6386	1.3150 -	1.7850	passed	99.24	40 -	135	i	pass
24	13C12-23478-PeCDF	37.75	1.5893	1.3150 -	1.7850	passed	96.95	40 -	135	i	pass
25	13C12-12378-PeCDD	38.13	1.6028	1.3150 -	1.7850	passed	98.62	40 -	135		pass
26	13C12-123478-HxCDF	41.33	0.5199	0.4250 -	0.5950	passed	88.08	40 -	135		pass
27	13C12-123678-HxCDF	41.48	0.5203	0.4250 -	0.5950	passed	94.40	40 -	135		pass
28	13C12-234678-HxCDF	42.16	0.5390	0.4250 -	0.5950	passed	87.90	40 -	135	}	pass
29	13C12-123478-HxCDD	42.34	1.2858	1.0450 -	1.4350	passed	91.50	40 -	135	•	pass
30	13C12-123678-HxCDD	42.46	1.2457	1.0450 -	1.4350	passed	89.03	40 -	135		pass
31	13C12-123789-HxCDD	42.77	1,2403	1.0450 -	1.4350	passed	89.14	40 -	135		pass
32	13C12-123789-HxCDF	43.16	0.5268	0.4250 -	0.5950	passed	88.50	40 -	135	i	pass
33	13C12-1234678-HpCDF	44.85	0.4469	0.3650 -	0.5150	passed	101.28	40 -	135		pass
34	13C12-1234678-HpCDD	46.04	1.0535	0.8750 -	1.2050	passed	94.59	40 -	135		pass
35	13C12-1234789-HpCDF	46.60	0.4519	0.3650 -	0.5150	passed	87.45	40 -	135		pass
36	13C12-OCDD	49.04	0.8861	0.7550 -	1.0250	passed	97.53	40 -	135		pass
37	13C12-OCDF	49.23	0.8973	0.7550 -	1.0250	passed	85,16	40 -	135		pass



Lancaster Laboratories

# **Entry Parameters**

	Compound	Startus	QM Retention	T	QM	T	RM1	Detection	Unqualified	Adjusted		I	Client
No.	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode	Limit (A)	Amount (A)	Amount (A)	AdjSpecAMT	Signal-to-Noise	Flags
1	2378-TCDF	passed	30.99	322		A 26	9 /	0.016	7 0.042644	0.0426	0.000000	11	
2	2378-TCDD	failed	32.03	113		д 3	7 /	0.014	9 0.017500	n.d.	0.000000	5	i
3	12378-PeCDF	passed	36.53	746		A 125	7 ,	0.011	0.144290	0.1443	0.000000	31	
4	23478-PeCDF	passed	37.76	839		A 128	1 /	0.009	8 0.140690	0.1407	0.000000	26	
5	12378-PeCDD	failed	38.15	658		A 84	7 ,	0.030	1 0.176842	n.d.	0.000000	14	
6	123478-HxCDF	passed	41.34	1335		A 156	9 ,	0.020	4 0,205179	0.2052	0.000000	25	
7	123678-HxCDF	passed	41.49	1912		A 252	7 ,	0.018	0.284068	0.2841	0.000000	37	
8	234678-HxCDF	failed	42.18	2250		A 326	3 ,	0.020	4 0.388415	n.d.	0.000000	48	
9	123478-HxCDD	passed	42.37	1151		A 148	ŝ	0.021	3 0.279522	0.2795	0.000000	37	
10	123678-HxCDD	passed	42.47	5649		д 653	3 /	0.020	8 1.290683	1.2907	0.000000	160	•
11	123789-HxCDD	passed	42.78	2051		A 237	7 ,	0.020	7 0.461169	0.4612	0.000000	56	:
12	123789-HxCDF	passed	43.17	807		A 115	1 /	0.022	6 0.152294	0.1523	0.000000	18	ı
13	1234678-HpCDF	passed	44.86	36518		A 4022	3 /	0.019	8 5.027382	5.0274	0.000000	628	
14	1234678-HpCDD	passed	46.05	111816		A 11113	7 ,	0.036	3 24.181691	24.1817	0.000000	1669	
15	1234789-HpCDF	failed	46.62	2655		A 337	9 /	0.024	9 0.519432	n,d.	0.000000	54	
16	OCDD	passed	49.05	763085		A 66860	3,	0.033	0 173.315705	173.3157	0.000000		
17	OCDF	passed	49.24	55561		A 4723	0 /	0.014	8 10.588891	10.5889			
18	13C12-1278-TCDD (CRS)	passed	32.39	193180		A 14863	ο ,	0.020	2 31.862559	31.8626	78.740157		
19	13C12-1234-TCDD	passed	31.24	908118		A 73631	1 ,	0.025	8 196.850394	196.8504	196.850394		
20	13C12-123468-HxCDD	passed	41.23	924348		A 117003	5 ,	0.032	9 196.850394	196.8504	196.850394		
21	13C12-2378-TCDF	passed	30.97	1466695		A 116943	9. ,	0.015	4 168.926842	168.9268			
22	13C12-2378-TCDD	passed	32.00	757948		A 61554	7,	0.026	1 166,924647	166.9246			
23	13C12-12378-PeCDF	passed	36.53			A 175032	â,	0.055	9 195,359756	195.3598			
24	13C12-23478-PeCDF	passed	37.75	1062083		A 168794	4 ,	A	0 190.853912	190.8539			
25	13C12-12378-PeCDD	passed	38.13			A 97361	4 /	0,053	0 194.142660	194.1427	196.850394		
26	13C12-123478-HxCDF	passed	41.33			A 81099	9,	0.051	2 173.390937	173.3909			
27	13C12-123678-HxCDF	passed	41.48			A 91485		0.048	6 185.829851	185.8299			
28	13C12-234678-HxCDF	passed	42.16			A 80875	4,	0.052	4 173.035469	173.0355			
29	13C12-123478-HxCDD	passed	42.34			A 101992		0.034					
30	13C12-123678-HxCDD	passed				A 100960		0.033		175.2631	196.850394		
31	13C12-123789-HxCDD	passed	42.77			A 96549		0.035	2 175.468666	175.4687	196.850394		
32	13C12-123789-HxCDF	passed				A 75719		0.055		174.2119			
33	13C12-1234678-HpCDF	passed	44.85			A 72389		0.066		199.3639			
34	13C12-1234678-HpCDD	passed				A 87929		0.051					
35	13C12-1234789-HpCDF	passed	46.60			A 53788		0.077	4 172.140384	172.1404			
36	13C12-OCDD	passed	49.04			A 149592	,	A 0.031		383.9755			
37	13C12-OCDF	passed	49.23	2159254		A 193740	7,	A 0.029	0 335.270568	335.2706	393,700787	30096	5

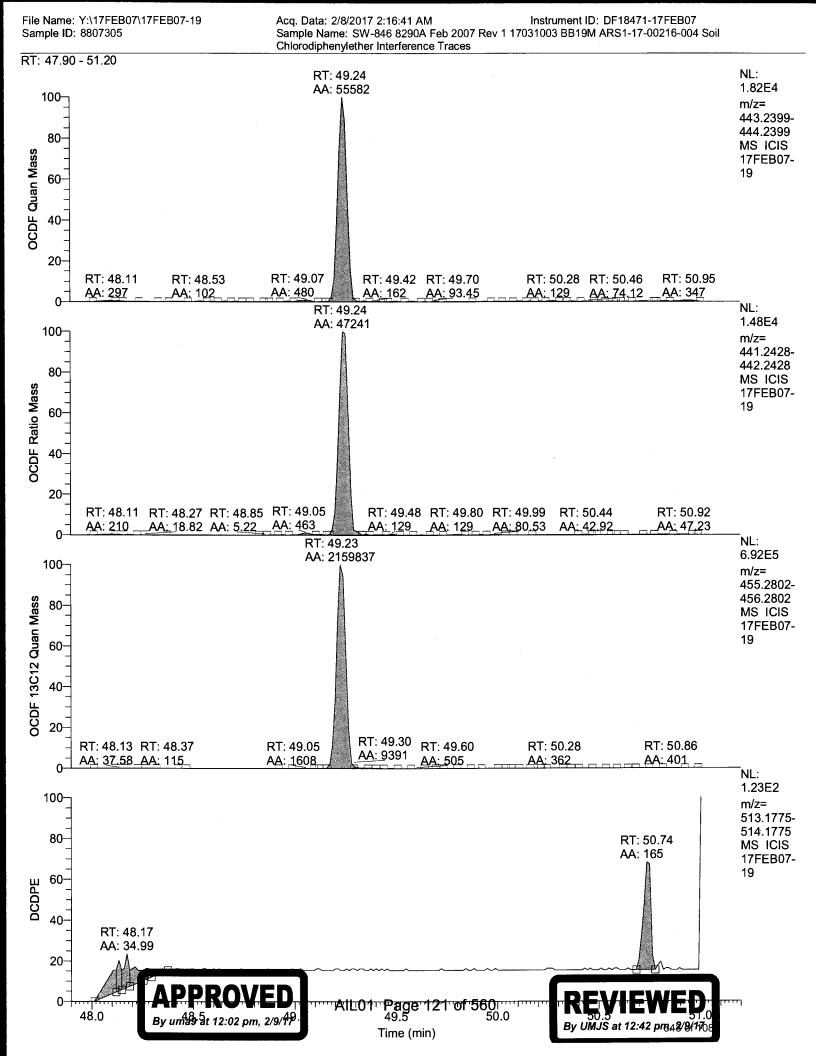
File Name: Y:\17FEB07\17FEB07-19 Acq. Data: 2/8/2017 2:16:41 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807305 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1086 889 1040 1259 801 1274 3.84E5 29.98 26.61 29.19 100 23.33 25.11 32.94 33.19 m/z=291.9825-80-292.9825 MS 60-17FEB07-19 40-20-0-NL: 1669 1604 1358 1403 39.51 5.20E5 38.50 35.41 100-34.71 m/z=THERETONIANIE 330.4792-80-331.4792 MS 17FEB07-60-19 40-20-0-NL: 1737 1810 2016 1674 3.26E5 40.51 41,49 44.27 39,66 100m/z=1473 1621 380.4760-1415 Relative Abundance 80-36.49 38,77 35,59 381.4760 MMM who was work the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the many the MS 17FEB07-60-19 40-20-0 NL: 2167 2104 2184 8.47E4 46.44 45,57 46.67 100m/z=404.4760-80-405.4760 MS 17FEB07-60-19 40-20-0 2284 48.13 1.06E5 50,63 100m/z= 442.4728-80-443.4728 MS 17FEB07-60 19 40 20 AIL01 34 Page 116 of 560 36 38 40 24 26y uma9²8t 12:02 3m, 2/9/1<del>3</del>2 42 Time (min)

File Name: Y:\17FEB07\17FEB07-19 Acq. Data: 2/8/2017 2:16:41 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807305 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil Chlorodiphenylether Interference Traces RT: 20.40 - 34.90 RT: 26.99 NL: AA: 1650 4.60E2 100m/z=305.3987-306.3987 80 RT: 32.75 MS ICIS AA: 1503 TCDF Quan Mass 17FEB07-RT: 26.47 19 60-AA: 312 RT: 25.53 RT: 28.23 RT: 31.41 AA: 456 AA: 629 40-AA: 812 RT: 29.21 AA: 335 RT: 32.95 AA: 228 RT: 23.05 20-RT: 24.64 RT: 21.31 AA: 76.95 AA: 51.77 AA: 97.55 Mark A MAR CARAGO CAMO CAMANA RT: 26.99 NL: AA: 1352 3.31E2 100m/z=RT: 32.78 303.4016-AA: 982 304.4016 80-MS ICIS RT: 32.73 TCDF Ratio Mass RT: 28.32 17FEB07-AA: 598 AA: 56.94 19 60-RT: 27.47 AA: 577 RT: 29.41 RT: 31.47 AA: 346 AA: 302 RT: 33.40 40-RT: 26.49 AA: 105 AA: 168 RT: 29.81 RT: 34.59 AA:_197 RT: 21.45 RT: 22.47 20-RT: 25.09 AA: 164 AA: 98.90 AA: 41.07 AA: 45.04 FRITAM IF HITHE 0-RT: 30.97 NL: AA: 1467097 2.73E5 100m/z=317.4389-318.4389 TCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-19 60-40-RT: 29.89 AA: 2719 20-RT: 24.64 RT: 31.07 RT: 25.89 RT: 22.17 RT: 23.67 RT: 27.43 RT: 29.21 RT: 32.39 AA: 50163 AA: 31400 AA: 5537 AA: 1684 AA: 2989 AA:_701 AA: 7622 AA: 483 0 RT: 22.18 NL: AA: 2873 5.89E2 100-RT: 21.94 RT: 23.21 m/z=AA: 1845 AA: 2041 375.3364-376.3364 80-MS ICIS 17FEB07-HxCDPE Trace 19 60-40-RT: 23.28 RT: 34.61 AA: 206 RT: 24.71 RT: 33.55 AA: 471 20-RT: 21.12 RT: 30.06 AA: 122 AA: 5,13 T**AlL01⊢Page**1111710f15601 26 27 28 29 21 30 By uma9 at 12:02 pm, 2/9/17 Time (min)

File Name: Y:\17FEB07\17FEB07-19 Acq. Data: 2/8/2017 2:16:41 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807305 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil Chlorodiphenylether Interference Traces RT: 34.50 - 39.80 RT: 35.31 NL: RT: 36.04 AA: 1393 3.03E2 AA: 670 100m/z=341.3567-RT: 35.98 342.3567 80-AA: 582 RT: 36.53 MS ICIS PeCDF Quan Mass RT: 36.89 AA: 756 RT: 37.76 17FEB07-AA: 544 AA: 835 19 60-RT: 35.13 AA: 257 RT: 38.95 RT: 38.06 AA: 272 RT: 37.63 AA: 265 RT: 35.08 40-RT: 39.47 RT: 38.46 AA: 188 AA: 260 AA: 133 AA: 117 RT: 35.41 AA: 50.69 20-RT: 35.30 NL: AA: 2560 4.51E2 100m/z=339.3597-340.3597 RT: 36.56 80-MS ICIS AA: 1261 PeCDF Ratio Mass RT: 36.04 RT: 37.79 17FEB07-AA: 1370 AA: 1287 19 60-RT: 35.11 RT: 38.97 AA: 606 RT: 36.89 AA: 620 40-AA: 485 RT: 37.66 RT: 38.09 AA: 269 RT: 35.64 AA: 278 RT: 38.63 RT: 39.37 AA: 270 20-RT: 37.46 RT: 34.90 AA: 130 AA: 150 AA: 41.60 AA: 55.00 10-10-RT: 37.75 NL: RT: 36.53 AA: 1062434 2.78E5 100-AA: 1068616 m/z=353.3970-PeCDF 13C12 Quan Mass 354.3970 80-MS ICIS 17FEB07-19 60-40-RT: 36.33 AA: 154 20-RT: 36.81 RT: 37.83 RT: 37.63 RT: 38.95 RT: 39.23 RT: 35.07 RT: 35.99 AA: 3492 AA: 2395 AA: 13548 AA: 5836 AA: 11726 AA: 307 AA: 6458 0-NL: RT: 37.18 3.79E2 AA: 1253 100m/z=409.2974-410.2974 80-MS ICIS HpCDPE Trace 17FEB07-19 60-40-RT: 36.89 RT: 35.95 RT: 35.61 AA: 180 RT: 39.07 AA: 134 AA: 111 20-RT: 34.71 RT: 39.37 AA: 82.63 AlL01: Page 118:of 560: 36.5 37.5 34.5 35 By uma9 at 12:02 pin 279/17 38.0 Time (min)

File Name: Y:\17FEB07\17FEB07-19 Acq. Data: 2/8/2017 2:16:41 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807305 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil Chlorodiphenylether Interference Traces RT: 39.20 - 44.50 NL: RT: 40.76 6.54E3 AA: 22788 100m/z=375.3178-RT: 40.86 376.3178 80-AA: 131 RT: 40.06 MS ICIS **HxCDF Quan Mass** 17FEB07-AA: 15417 19 60-40-RT: 41.22 RT: 39.85 AA: 343 AA: 4785 RT: 42.18 20-RT: 41.49 AA: 2252 RT: 42.46 RT: 43.17 AA: 1917 RT: 43.52 RT: 44.04 RT: 40.53 RT: 39.72 AA: 807 AA: 368 AA: 280 AA: 251 AA: 162 AA: 39.24 NL: RT: 40.76 AA: 30223 8.55E3 100m/z=373.3208-374.3208 RT: 40.84 80-MS ICIS AA: 118 RT: 40.06 **HxCDF Ratio Mass** 17FEB07-AA: 18866 19 60-40 RT: 41.25 RT: 39.85 AA: 209 AA: 6844 RT: 42.18 20 RT: 41.49 RT: 43.19 AA: 3274 RT: 42.47 AA: 2558 RT: 44.02 RT: 40.52 RT: 39.60 AA: 1152 AA: 555 AA: 257 AA: 212 AA: 75.68 NL: RT: 41.48 AA: 1760580 5.26E5 100-RT: 42.16 m/z=RT: 43.16 385.3610-AA: 1501034 AA: 1438069 HxCDF 13C12 Quan Mass 386.3610 80-MS ICIS 17FEB07-19 60-40-RT: 42.82 AA: 473 20-RT: 43.24 RT: 39.68 RT: 40.05 RT: 44.24 RT: 41.21 RT: 41.65 RT: 42.35 AA: 6745 AA: 1612 AA: 6426 <u>4A: 7632</u> AA: 892 AA: 174_ AA: <u>18</u>7 n NL: RT: 42.00 7.70E1 AA: 115 100m/z= RT: 40.96 445.2555-AA: 83.64 446.2555 80 MS ICIS 17FEB07-RT: 41.02 OCDPE Trace RT: 42.06 RT: 42.92 19 AA: 37.57 60-AA: 31.09 AA: 38.01 RT: 41.44 40-AA: 15.36 RT: 42.10 RT: 44.27 RT: 39.60 AA: 2.83 AA: 104 AA: 55.09 20-AIL01 41.5 Page 119 of 560 42.5 44.5 39.5 By uma9 at 12.402 5m, 2/9/171 Time (min)

File Name: Y:\17FEB07\17FEB07-19 Acq. Data: 2/8/2017 2:16:41 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807305 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB19M ARS1-17-00216-004 Soil Chlorodiphenylether Interference Traces RT: 44.10 - 48.20 NL: RT: 45.39 3.08E4 AA: 95305 100m/z=409.2789-410.2789 80-MS ICIS HpCDF Quan Mass 17FEB07-19 60-RT: 44.86 AA: 36517 40-20-RT: 46.62 RT: 45.63 RT: 44.72 RT: 45.22 RT: 46.06 RT: 47.31 RT: 48.01 AA: 2657 AA: 992 AA: 82.28 AA: 623 AA: 122 AA: 47.82 AA: 136 0-NL: RT: 45.39 AA: 97633 3.07E4 100m/z=407.2818-408.2818 80 MS ICIS HpCDF Ratio Mass 17FEB07-19 60-RT: 44.87 AA: 40255 40 RT: 44.65 AA: 180 20-RT: 46.62 RT: 45.21 RT: 45.65 RT: 45.95 RT: 44.39 RT: 46.96 RT: 47.40 RT: 47.78 AA: 3400 AA: 884 AA: 273 AA: 1519 AA: 297 AA: 373__ AA: 251 AA: 182 0 RT: 44.85 NL: 4.96E5 AA: 1620843 100m/z=419.3220-RT: 46.60 HpCDF 13C12 Quan Mass 420.3220 AA: 1190779 80-MS ICIS 17FEB07-19 60-40 RT: 44.58 20-AA: 8.43 RT: 44.92 RT: 46.67 RT: 44.36 RT: 47.32 RT: 47.75 RT: 48.01 RT: 45.37 RT: 46.04 RT: 46.28 AA: 8154 AA: 6451 AA: 88.38 AA: 1497 AA: 2512 AA:<u>_</u>2663_ AA: 426 AA: 612 NL: RT: 45.62 1.83E2 AA: 425 100-RT: 47.85 m/z=AA: 296 479.2165-480.2165 80 MS ICIS 17FEB07-RT: 46.33 NCDPE Trace 19 AA: 180 60-RT: 44.83 AA: 128 RT: 47.27 RT: 44.63 RT: 46.44 AA: 63.06 AA: 2.00 AA: 43.98 RT: 44.36 RT: 46.04 RT: 47,78 RT: 47.10 20-AA: 7.47 AA: 52.27 AA: 3.32 AIL01 Page 120 of 560 46.0 46.5 By uma9 at 12.02 pm, 2/9/17 Time (min)



```
17FEB07-19
```

*** file opened Wed Feb 08 02:22:12 2017 ***

Started by - Xcalibur Instrument Internet name - DFS MS Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 08-Feb-17 02:22:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

Measure

MID procedure: PFK16MAR24+MDT

### Mid Time Windows: Start

# 3 # 4 # 5	11:30 min 21:00 min 34:36 min 39:30 min 44:15 min 48:00 min		1.00 sec 1.00 sec 0.90 sec 0.80 sec 0.80 sec 0.80 sec
	Masses: dow # 1		

ma masses.		
Window # 1		
mass F	int gr	time (ms)
218.0129	1 1	95
218.9851 ]	20 1	4
220.0100	$\bar{1}$ $\bar{1}$	95
230.0532	² 1	47
232.0502	2 1 2 1	47
251.9739	2 1 2 1 1 1	
	1 1	95
253.9710	1 1	95
264.0142	1 1 2 1 2 1 1 1	47
266.0112	2 1	47
285.9350	1 1	95
287.9320	1 1	95
292.9819 c	20 1	4
297.9752	2 1	47
299.9723	2 1	47
Window # 2		• • •
mass F	int gr	time (ms)
292.9819 1	int gr 20 1	5
303.9011		
		118
305.8981	1 1 5 1 5 1 1 1	118
315.9413	2 T	23
317.9384	5 1	23
319.8960	1 1	118
321.8930	1 1	118
321.8930	T T	118

Page 1

Cycletime

End





```
331.9363
                              23
 333.9333
                    1
                              23
 339.8592
                             118
                 1
 341.8562
                    1
                             118
 354.9787 c
375.8364
               20
2
                    1
                               5
                    1
                              59
Window # 3
               int
      mass F
                          time (ms)
                     gr
 330.9787
                               6
               20
 339.8592
                             133
                1
                    1
 341.8562
                 1
                    1
                             133
 351.8994
                              44
 353.8965
                 3
                              44
                    1
 355.8541
                 1
                    1
                             133
                 1
3
 357.8511
                    1
                             133
 367.8943
                    1
                              44
                 3
 369.8914
                    1
                              44
 380.9755 c
               20
                    1
                               6
                 2
 409.7969
                    1
                              66
Window # 4
      mass F
                int
                          time (ms)
                     gr
                    1
                             117
 373.8201
                 1
 375.8172
                 1
                    1
                             117
 380.9755
                20
                    1
                              39
 383.8634
                    1
                 3
 385.8604
                 3
                              39
                    1
 389.8151
                 1
                    1
                             117
 391.8121
                    1
                             117
 401.8554
                              39
                    1
 403.8524
                    1
                              39
 430.9723
                20
                    1
                               5
 445.7550
                 2
                    1
                              58
Window # 5
 mass F
404.9755 1
                          time (ms)
                int
                     gr
               20
                    1
 407.7812
                 1
                    1
                             117
 409.7783
                 1
                    1
                             117
 417.8244
                 3
                    1
                              39
 419.8215
                              39
                    1
 423.7761
                    1
                             117
 425.7732
                    1
                             117
 435.8164
                 3
                              39
                    1
 437.8134
                              39
                    1
 479.7160
                    1
                              58
 480.9691 c
                20
                    1
                               5
Window # 6
      mass F
                int
                          time (ms)
                     gr
                              95
 441.7422
                 1
                    1
 442.9723
                20
                    1
                               4
 443.7393
                              95
                 1
                    1
 453.7825
                              95
                 1
                    1
 455.7795
                              95
 457.7372
                    1
                              95
 459.7342
                 1
                              95
                    1
 469.7774
                    1
                              31
 471.7745
                 3
                    1
                              31
 492.9691 c
                20
                    1
                               4
                              47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.0000
BQUAD	0.0500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0173	FVINLET	0.0302	FVSRC	0.0291
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1435550.5184	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2524.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8972	RELEN	0.0000
RES	12717.7186	RPUSHER	-8.6960	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.8e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

# Sourcemode is EI POS

MID Time Window 1: Resolution is 11968.
MID Time Window 2: Resolution is 12291.
MID Time Window 3: Resolution is 12369.
MID Time Window 4: Resolution is 12691.
Page 3





MID Time Window 5: Resolution is 13942.
MID Time Window 6: Resolution is 12717.

Amplifier Offset: 88.

*** File closed Wed Feb 08 03:13:13 2017

Page 4





### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 03:13

Number of Entries 265

Comment S:11030:12937:15831

Vial 105

Sample Name SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil

Sample ID 8807306

Inst ID DF18471-17FEB07
Client ARS International LLC

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

**Files Parameter** 

 Quan
 y:\17feb07\17feb07-20.quan

 Data
 y:\17feb07\17feb07-20.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser CompatibilityCompatibility offSum Area/HeightSum QM RM1Quantitation StatusDependend on Area

Injection Volume [hIJV] 1.0

Sample Volume [hSV] 20.0

Sample Weight [hSWT] 10.05

Dilution Factor [hDF] 1.0

Det. Limit Factor [hDLF] 2.5

Response Factor Mode

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



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No.	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status	
	Name	Time	Overview	Status	Status	Status	Status	Time Status	Info	
1	2378-TCDF	31.00	passed	passed	passed	passed	passed	passed		
2	2378-TCDD	32.01	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
3	12378-PeCDF	36.55	passed	passed	passed	passed	passed	passed		
4	23478-PeCDF	37.79	passed	passed	passed	passed	passed	passed		
5	12378-PeCDD	38.16	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
6	123478-HxCDF	41.35	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
7	123678-HxCDF	41.48	passed	passed	passed	passed	passed	passed		
8	234678-HxCDF	42.18	passed	passed	passed	passed	passed	passed		
9	123478-HxCDD	42.36	passed	passed	passed	passed	passed	passed		
10	123678-HxCDD	42.48	failed	passed	passed	failed	passed	passed		Failed on: Ratio1A
11	123789-HxCDD	42.79	passed	passed	passed	passed	passed	passed		
12	123789-HxCDF	43.18	passed	passed	passed	passed	passed	passed		
13	1234678-HpCDF	44.87	passed	passed	passed	passed	passed	passed		
14	1234678-HpCDD	46.05	passed	passed	passed	passed	passed	passed		
15	1234789-HpCDF	46.61	passed	passed	passed	passed	passed	passed		
16	OCDD	49.06	passed	passed	passed	passed	passed	passed		
17	OCDF	49.25	passed	passed	passed	passed	passed	passed		
18	13C12-1278-TCDD (CRS)	32.40	passed	passed	passed	passed	passed	passed		
19	13C12-1234-TCDD	31.25	passed	passed	passed	passed	passed	passed		
20	13C12-123468-HxCDD	41.24	passed	passed	passed	passed	passed	passed		
21	13C12-2378-TCDF	30.96	passed	passed	passed	passed	passed	passed		
22	13C12-2378-TCDD	32.01	passed	passed	passed	passed	passed	passed		
23	13C12-12378-PeCDF	36.54	passed	passed	passed	passed	passed	passed		
24	13C12-23478-PeCDF	37.76	passed	passed	passed	passed	passed	passed		
25	13C12-12378-PeCDD	38.14	passed	passed	passed	passed	passed	passed		
26	13C12-123478-HxCDF	41.33	passed	passed	passed	passed	passed	passed		
27	13C12-123678-HxCDF	41.48	passed	passed	passed	passed	passed	passed		•
28	13C12-234678-HxCDF	42.17	passed	passed	passed	passed	passed	passed		
29	13C12-123478-HxCDD	42.35	passed	passed	passed	passed	passed	passed		
30	13C12-123678-HxCDD	42.47	passed	passed	passed	passed	passed	passed		
31	13C12-123789-HxCDD	42.78	passed	passed	passed	passed	passed	passed		
32	13C12-123789-HxCDF	43.17	passed	passed	passed	passed	passed	passed		
33	13C12-1234678-HpCDF	44.85	passed	passed	passed	passed	passed	passed		
34	13C12-1234678-HpCDD	46.04	passed	passed	passed	passed	passed	passed		
35	13C12-1234789-HpCDF	46.61	passed	passed	passed	passed	passed	passed		
36	13C12-OCDD	49.05	passed	passed	passed	passed	passed	passed		
37	13C12-OCDF	49.25	passed	passed	passed	passed	passed	passed		





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# **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/08 03:13

**Number of Entries** 

265

Comment

S:11030:12937:15831

Vial

105

Sample Name

SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil

Sample ID

8807306

Inst ID Client

DF18471-17FEB07 ARS International LLC

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo

17031003

Barcode

Files Parameter

Quan Data

y:\17feb07\17feb07-20.quan y:\17feb07\17feb07-20.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV] Sample Weight [hSWT] 20.0

10.05

Dilution Factor [hDF]

Det. Limit Factor [hDLF]

1.0 2.5

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

Regression Mode

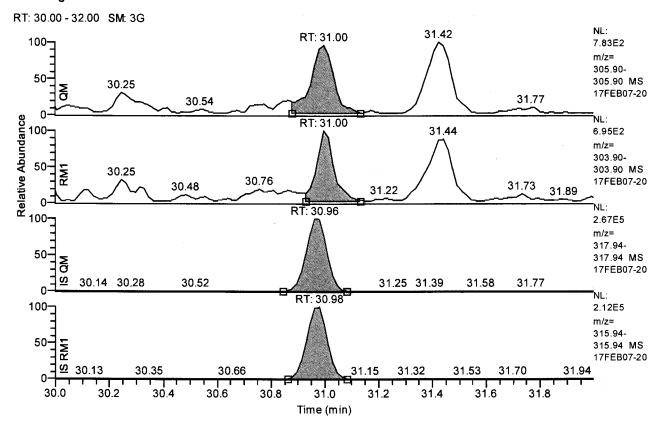
Non weighted Regression

Weighted Regression Factor

1.0



### Chromatogram

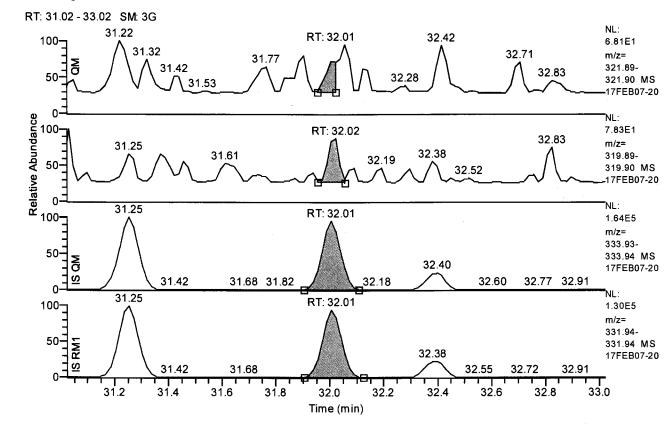


#### **Entry Parameters**

Compound Name 2378-TCDF QM Retention Time 31.00 QM Area 4373 QM Integration Mode Α RM1 Area 3004 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0371 Unqualified Amount (A) 0.548110 Adjusted Amount (A) 0.5481 Signal-to-Noise 38 Client Flags Status Overview passed





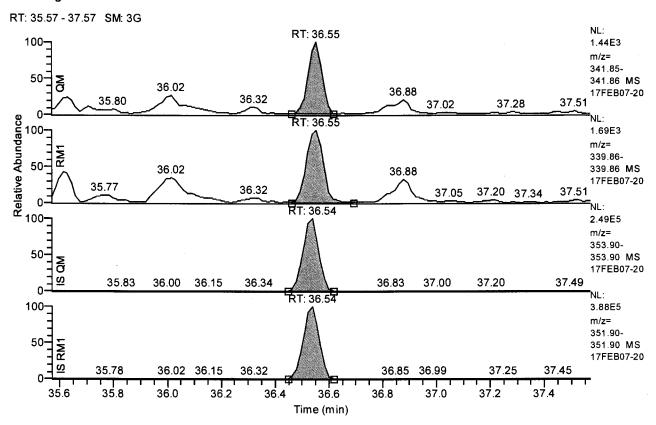


### **Entry Parameters**

Compound Name 2378-TCDD QM Retention Time 32.01 QM Area 73 QM Integration Mode Α RM1 Area 137 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0164 Unqualified Amount (A) 0.024607 Adjusted Amount (A) n.d. Signal-to-Noise Client Flags Status Overview failed

Failed on: Ratio1A

### Chromatogram



#### **Entry Parameters**

Compound Name

12378-PeCDF

QM Retention Time

36.55

QM Area

5060

QM Integration Mode

Α

RM1 Area

7199

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A) Unqualified Amount (A) 0.0177 0.958556

Adjusted Amount (A)

0.9586

Signal-to-Noise

140

Client Flags

Status Overview

passed

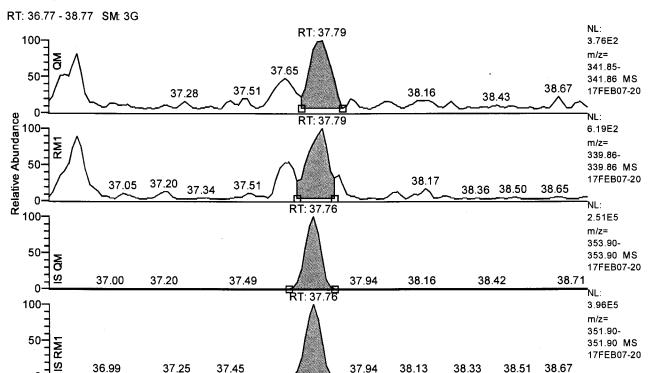
38.2

38.4

38.6

38.0

# Chromatogram



37.8 Time (min)

# **Entry Parameters**

0-

36.8

23478-PeCDF Compound Name **QM** Retention Time 37.79

37.0

37.2

37.4

37.6

QM Area 1916

QM Integration Mode Α RM1 Area 3083

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0157 Unqualified Amount (A) 0.362259 Adjusted Amount (A) 0.3623

Signal-to-Noise 43

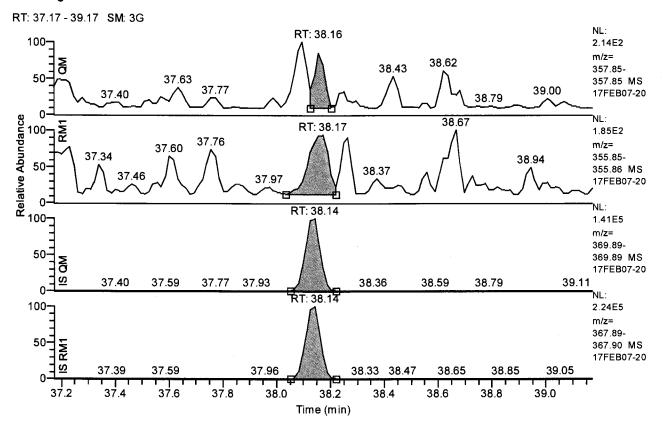
Client Flags

Status Overview passed





### Chromatogram



#### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.16

QM Area

428

QM Integration Mode

Α

RM1 Area

784

RM1 Integration Mode Manint

Α 0

Detection Limit (A)

0.0379

Unqualified Amount (A)

0.159128

Adjusted Amount (A)

n.d. 11

Signal-to-Noise Client Flags

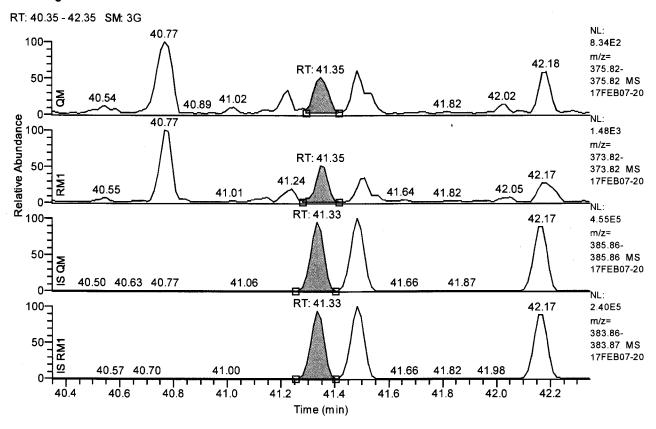
Status Overview

failed

Status Info

Failed on: Ratio1A

### Chromatogram



#### **Entry Parameters**

Compound Name 123478-HxCDF

QM Retention Time 41.35

QM Area 1573

QM Integration Mode Α

RM1 Area 2378

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0182

Unqualified Amount (A) 0.298740

Adjusted Amount (A) n.d. 41

Signal-to-Noise

Client Flags

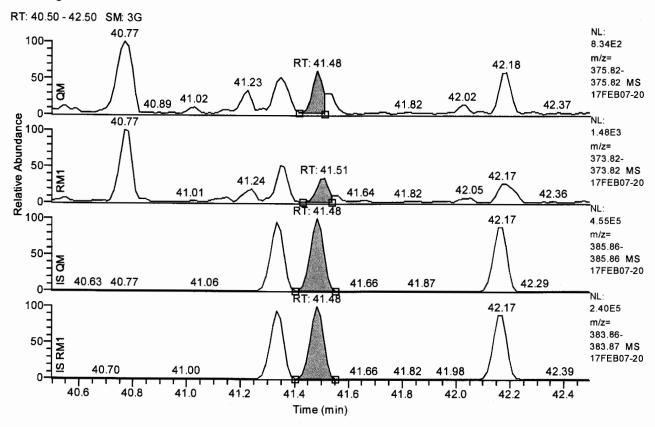
Status Overview failed

Status Info Failed on: Ratio1A



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# Chromatogram



#### **Entry Parameters**

Compound Name 123678-HxCDF QM Retention Time

41.48 QM Area 1253

QM Integration Mode RM1 Area 1509

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0176 Unqualified Amount (A) 0.199335 Adjusted Amount (A) 0.1993

Signal-to-Noise 35

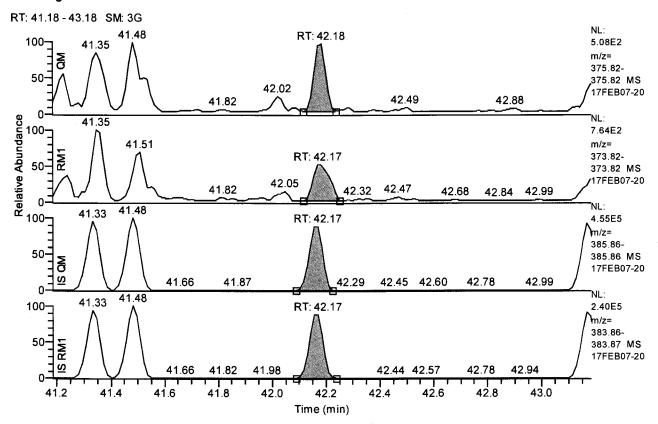
Client Flags Status Overview

passed





# Chromatogram



# **Entry Parameters**

Compound Name

234678-HxCDF

QM Retention Time

42.18 1457

QM Area

Α

QM Integration Mode

RM1 Area

1655

RM1 Integration Mode ManInt

Α 0

Detection Limit (A)

0.0187

Unqualified Amount (A)

0.234141

Adjusted Amount (A)

0.2341

Signal-to-Noise

30

Client Flags

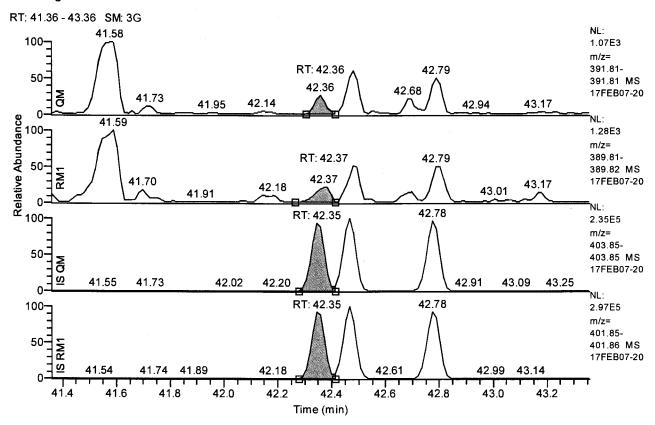
Status Overview

passed





### Chromatogram



#### **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.36

QM Area

787

QM Integration Mode

Α

RM1 Area

1080

RM1 Integration Mode

Α

ManInt
Detection Limit (A)

0 0.0234

Unqualified Amount (A)

0.213373

Adjusted Amount (A)

0.2134

Signal-to-Noise

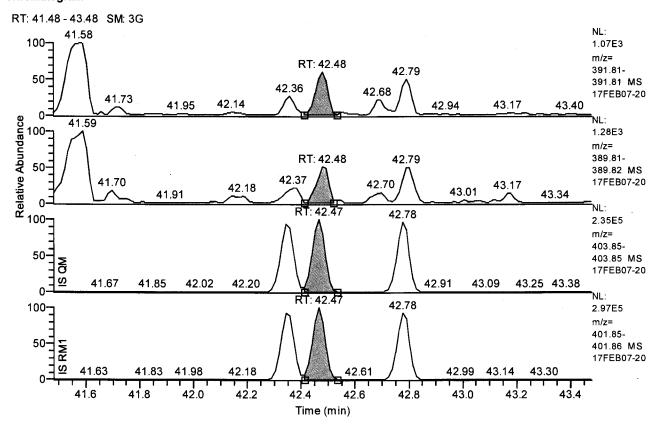
23

Client Flags

Status Overview

passed





#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.48

QM Area

1961

QM Integration Mode

Α 1982

RM1 Area RM1 Integration Mode

Α

Manint

0

Detection Limit (A)

0.0218

Unqualified Amount (A)

0.445575

Adjusted Amount (A) Signal-to-Noise

n.d. 54

Client Flags

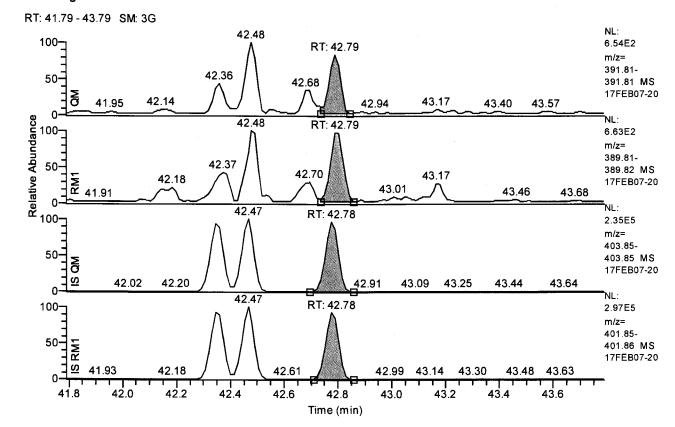
Status Overview

failed

Status Info

Failed on: Ratio1A

# Chromatogram



### **Entry Parameters**

Compound Name

123789-HxCDD

**QM** Retention Time

42.79

QM Area

1548

QM Integration Mode

Α

RM1 Area

2085

RM1 Integration Mode ManInt Α

Detection Limit (A)

0 0.0216

Unqualified Amount (A)

0.397414

Adjusted Amount (A)

0.3974

Signal-to-Noise

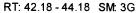
48

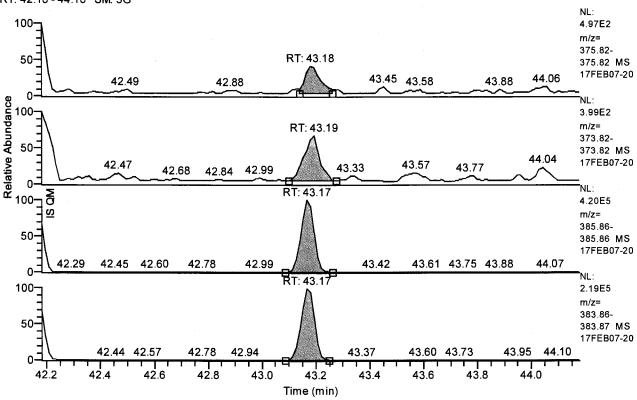
Client Flags

Status Overview

passed

# Chromatogram





# **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.18

QM Area

733

QM Integration Mode

Α

RM1 Area

999

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0191 0.137925

Unqualified Amount (A) Adjusted Amount (A)

0.1379

Signal-to-Noise

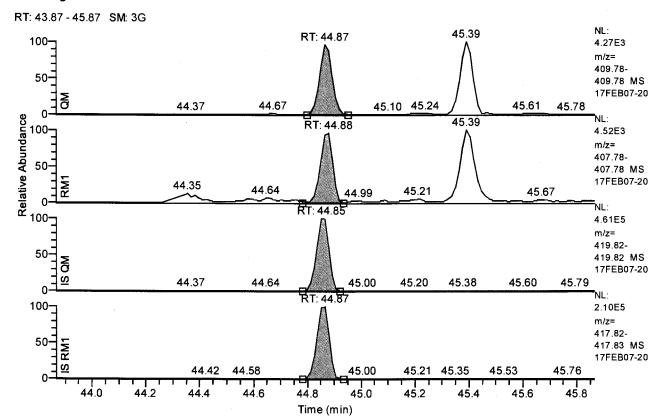
16

Client Flags

Status Overview

passed

# Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.87

QM Area

13746

QM Integration Mode

Α

RM1 Area

14147

RM1 Integration Mode ManInt A 0

Detection Limit (A)

0.0285

Unqualified Amount (A)

1.945470

Adjusted Amount (A)

1.9455

Signal-to-Noise

172

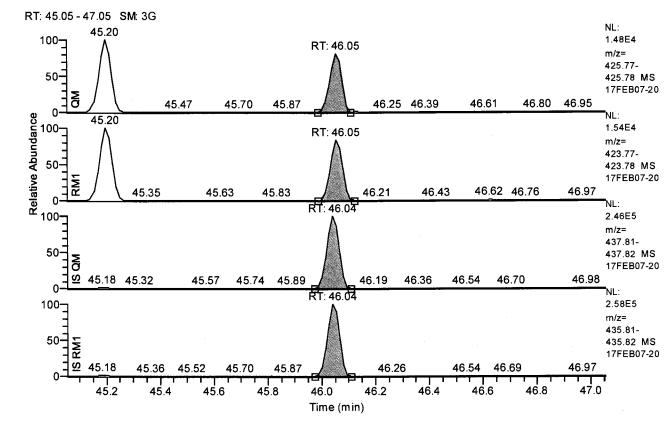
Client Flags

Status Overview

passed







#### **Entry Parameters**

Compound Name 1234678-HpCDD

QM Retention Time 46.05

QM Area 37829

QM Integration Mode A

RM1 Area 41298

RM1 Integration Mode A

ManInt 0

Detection Limit (A) 0.0327

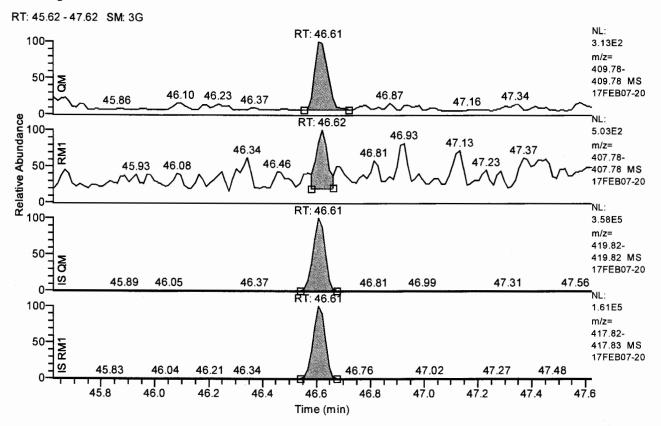
Unqualified Amount (A) 9.103848 Adjusted Amount (A) 9.1038 Signal-to-Noise 707

Signal-to-Noise 707 Client Flags

Status Overview passed



# Chromatogram



### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.61

QM Area

1009

QM Integration Mode

RM1 Area

1176

RM1 Integration Mode

Α

Manint

0

Detection Limit (A)

0.0357

Unqualified Amount (A)

0.199683 0.1997

Adjusted Amount (A) Signal-to-Noise

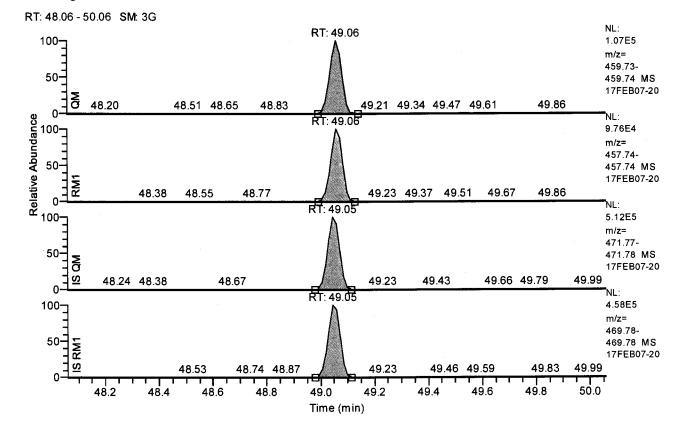
14

Client Flags

Status Overview

passed

# Chromatogram

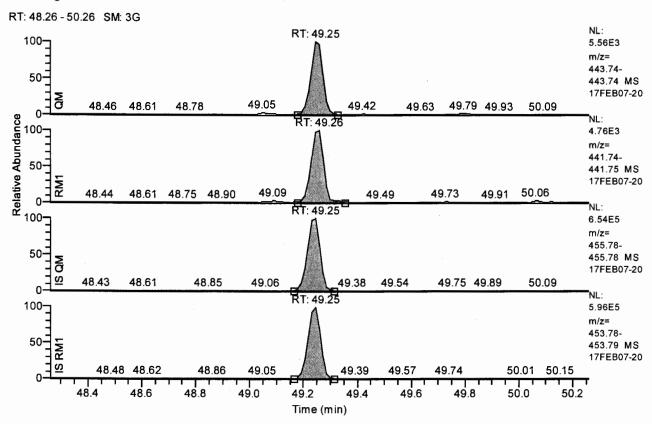


# **Entry Parameters**

Compound Name	OCDD
QM Retention Time	49.06
QM Area	327484
QM Integration Mode	Α
RM1 Area	294025
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	81.232333
Adjusted Amount (A)	81.2323
Signal-to-Noise	8257
Client Flags	
Status Overview	passed

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# Chromatogram



### **Entry Parameters**

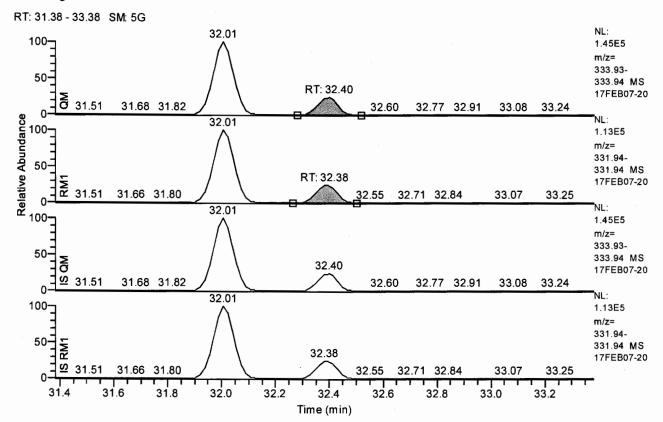
Status Info

TargetQuan3

Compound Name	OCDF
QM Retention Time	49.25
QM Area	17179
QM Integration Mode	Α
RM1 Area	15217
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0166
Unqualified Amount (A)	3.446370
Adjusted Amount (A)	3.4464
Signal-to-Noise	530
Client Flags	
Status Overview	passed



# Chromatogram



#### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.40 189848

QM Integration Mode

.

RM1 Area

157963

RM1 Integration Mode

Α

ManInt Detection Limit (A)

QM Area

0

Unqualified Amount (A)

0.0238 35.538421

Adjusted Amount (A)

35.5384

Signal-to-Noise

3540

Client Flags

Status Overview

passed



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No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98	31.00	31.00	30.96	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01	32.01	32.02	32.01	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54	36.55	36.55	36.54	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76	37.79	37.79	37.76	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15	38.16	38.17	38.14	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34	41.35	41.35	41.33	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49	41.48	41.51	41.48	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16	42.18	42.17	42.17	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.36	42.37	42.35		passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.48	42.48	42.47	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.79	42.79	42.78	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.17	43.18	43.19	43.17	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.87	44.88	44.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.05	46.05	46.04	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.61	46.62	46.61	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.06	49.06	49.05	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.25	49.26	49.25	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.40	32.38	32.40	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31.25	31.25	31.25	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.24	41.24	41.24	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95	30.96	30.98	30.93	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	32.01	32.01	32.01	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.54	36.54	36.54	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.76	37.76	37.79	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.12	38.14	38.14	38.14	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32	41.33	41.33	41.35	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.48	41.48	41.52	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	<b>4</b> 2.15	42.17	42.17	42.24	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.33	42.35	42.35	42.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.46	42.47	42.47	42.47	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.78	42.78	42.78	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.16	43.17	43.17	43.19	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.84	44.85	44.87	44.81	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.03	46.04	46.04	46.04	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.60	46.61	46.61	46.61	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.04	49.05	49.05	49.05	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22	49.25	49.25	49.25	passed	passed

No	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery		Recovery
No.	Name	Time	(A)	Limit		Status	Recovery (A)	Limit		Status
1	2378-TCDF	31.00	0.6869	0.6450 -	0.8950	passed		0 -	0	pas
2	2378-TCDD	32.01	1.8847	0.6450 -	0.8950	failed		0 -	0	pas
3	12378-PeCDF	36.55	1.4228	1.3150 -	1.7850	passed		0 -	0	pas
4	23478-PeCDF	37.79	1.6095	1.3150 -	1.7850	passed		0 -	0	pass
5	12378-PeCDD	38.16	1.8344	1.3150 -	1.7850	failed		0 -	0	pas
6	123478-HxCDF	41.35	1.5119	1.0450 -	1.4350	failed		0 -	0	pass
7	123678-HxCDF	41.48	1.2040	1.0450 -	1.4350	passed		0 -	0	pas
8	234678-HxCDF	42.18	1.1359	1.0450 -	1.4350	passed		0 -	0	pass
9	123478-HxCDD	42.36	1.3736	1.0450 -	1.4350	passed		0 -	0	pas
10	123678-HxCDD	42.48	1.0107	1.0450 -	1.4350	failed		0 -	0	pas
11	123789-HxCDD	42.79	1.3474	1.0450 -	1.4350	passed		0-	0	pass
12	123789-HxCDF	43.18	1.3625	1.0450 -	1.4350	passed		0 -	0	pass
13	1234678-HpCDF	44.87	1.0292	0.8750 -	1.2050	passed		0 -	0	pass
14	1234678-HpCDD	46.05	1.0917	0.8750 -	1.2050	passed		0 -	0	pass
15	1234789-HpCDF	46.61	1.1658	0.8750 -	1.2050	passed		0 -	0	pass
16	OCDD	49.06	0.8978	0.7550 -	1.0250	passed		0 -	0	pas
17	OCDF	49.25	0.8858	0.7550 -	1.0250	passed		0 -	0	pass
18	13C12-1278-TCDD (CRS)	32.40	0.8320	0.6450 -	0.8950	passed	44.65	35 -	197	pas
19	13C12-1234-TCDD	31.25	0.7908	0.6450 -	0.8950	passed	100.00	0 -	0	pass
20	13C12-123468-HxCDD	41.24	1.2757	1.0450 -	1.4350	passed	100.00	0 -	0	pass
21	13C12-2378-TCDF	30.96	0.7930	0.6450 -	0.8950	passed	91.35	40 -	135	pas
22	13C12-2378-TCDD	32.01	0.7981	0.6450 -	0.8950	passed	91.98	40 -	135	pas
23	13C12-12378-PeCDF	36.54	1.5688	1.3150 -	1.7850	passed	100.19	40 -	135	pas
24	13C12-23478-PeCDF	37.76	1.5771	1.3150 -	1.7850	passed	97.33	40 -	135	pass
25	13C12-12378-PeCDD	38.14	1.5940	1.3150 -	1.7850	passed	96.79	40 -	135	pass
26	13C12-123478-HxCDF	41.33	0.5220	0.4250 -	0.5950	passed	91.11	40 -	135	pas
27	13C12-123678-HxCDF	41.48	0.5345	0.4250 -	0.5950	passed	92.65	40 -	135	pass
28	13C12-234678-HxCDF	42.17	0.5317	0.4250 -	0.5950	passed	91.04	40 -	135	pas
29	13C12-123478-HxCDD	42.35	1.2464	1.0450 -	1.4350	passed	93.95	40 -	135	pass
30	13C12-123678-HxCDD	42.47	1.2595	1.0450 -	1.4350	passed	92.37	40 -	135	pas
31	13C12-123789-HxCDD	42.78	1.2316	1.0450 -	1.4350	passed	93.93	40 -	135	pass
32	13C12-123789-HxCDF	43.17	0.5323	0.4250 -	0.5950	passed	95.70	40 -	135	pass
33	13C12-1234678-HpCDF	44.85	0.4553	0.3650 -	0.5150	passed	105.29	40 -	135	pas
34	13C12-1234678-HpCDD	46.04	1.0406	0.8750 -	1.2050	passed	98.70	40 -	135	pas
35	13C12-1234789-HpCDF	46.61	0.4519	0.3650 -	0.5150	passed	91.14	40 -	135	pass
36	13C12-OCDD	49.05	0.9097	0.7550 -	1.0250	passed	99.99	40 -	135	pass
37	13C12-OCDF	49.25	0.8982	0.7550 -	1.0250	passed	91.27	40 -	135	pass



# Lancaster Laboratories

No	Compound	Status	QM Retention	014 6555	QM	DM4 Arra	RM1	Detection	Unqualified	Adjusted	Adicassatt	Signal to Nais	Client
No.	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode	Limit (A)	Amount (A)	Amount (A)	AdjSpecAMT	Signal-to-Noise	Flags
1	2378-TCDF	passed	31.00	4373	4	3004	Α	0.037	0.548110	0.5481	0.000000	38	
2	2378-TCDD	failed	32.01	73	4	137	, A	0.0164	0.024607	n.d.	0.000000	7	
3	12378-PeCDF	passed	36.55	5060	4	7199	) д	0.017	0.958556	0.9586	0.000000	140	
4	23478-PeCDF	passed	37.79	1916	Α.	308	3 д	0.015	0.362259	0.3623	0.000000	43	
5	12378-PeCDD	failed	38.16	428		. 784	<b>І</b> д	0.0379	0.159128	n.d.	0.000000	11	
6	123478-HxCDF	failed	41.35	1573	Δ.	2378	3 д	0.0182	0.298740	n.d.	0.000000	41	
7	123678-HxCDF	passed	41.48	1253	4	1509	Α .	0.0176	0.199335	0.1993	0.000000	35	
8	234678-HxCDF	passed	42.18	1457	4	1658	. A	0.0187	0.234141	0.2341	0.000000	30	
9	123478-HxCDD	passed	42.36	787	4	1080	) д	0.023	0.213373	0.2134	0.000000	23	
10	123678-HxCDD	failed	42.48	1961	Д	1982	2 A	0.0218	0.445575	n.d.	0.000000	54	
11	123789-HxCDD	passed	42.79	1548	A	208	5 д	0.0216	0.397414	0.3974	0.000000	48	
12	123789-HxCDF	passed	43.18	733	4	999	Э А	0.019	0.137925	0.1379	0.000000	16	
13	1234678-HpCDF	passed	44.87	13746	Δ.	1414	' A	0.028	1.945470	1.9455	0.000000	172	
14	1234678-HpCDD	passed	46.05	37829	4	41298	3 д	0.032	9.103848	9.1038	0.000000	707	
15	1234789-HpCDF	passed	46.61	1009	Δ.	1176	В Д	0.035	0.199683	0.1997	0.000000	14	
16	OCDD	passed	49.06	327484	4	29402	5 А	0.0249	81.232333	81.2323	0.000000	8257	
17	OCDF	passed	49.25	17179	A	15217	, A	0.0166	3,446370	3.4464	0.000000	530	
18	13C12-1278-TCDD (CRS)	passed	32.40	169846	4	15796	3 д	0.023	35,538421	35.5384	79,601990	3540	
19	13C12-1234-TCDD	passed	31.25	846894	4	669752	2 A	0.030	199.004975	199.0050	199.004975	16392	
20	13C12-123468-HxCDD	passed	41.24	840577	Α.	1072330	) д	0.0470	199.004975	199.0050	199.004975	10594	
21	13C12-2378-TCDF	passed	30.96	1443369	4	114460	В д	0.0220	181.781634	181.7816	199.004975	19740	
22	13C12-2378-TCDD	passed	32.01	764174	A	609906	3 д	0.030	183.047439	183.0474	199.004975	15496	
23	13C12-12378-PeCDF	passed	36.54	1021618	4	1602686	3 д	0.055	199.382270	199.3823	199.004975	11316	
24	13C12-23478-PeCDF	passed	37.76	987970	4	1558100	) д	0.055	193.683569	193.6836	199.004975	11490	
25	13C12-12378-PeCDD	passed	38.14	551676	4	87936	7 A	0.036	192.611547	192.6115	199.004975	17456	
26	13C12-123478-HxCDF	passed	41.33	1471675	A	768176	5 д	0.0414	181.316107	181.3161	199.004975	11000	
27	13C12-123678-HxCDF	passed	41.48	1561508	4	834666	3 д	0.0393	184.374722	184.3747	199.004975	11584	
28	13C12-234678-HxCDF	passed	42.17	1426292	Δ.	75830	5 A	0.0424	181.177525	181.1775	199.004975	10361	
29	13C12-123478-HxCDD	passed	42.35	756940		943411	3 д	0.0496	186.974126	186,9741	199.004975	9344	
30	13C12-123678-HxCDD	passed	42.47	763272	A	96131	1 A	0.048	183.813113	183.8131	199.004975	10046	
31	13C12-123789-HxCDD	passed	42.78	752146	, and	92631	5 A	0.050	186.925628	186.9256	199.004975	9557	
32	13C12-123789-HxCDF	passed	43.17	1414626	4	75297	5 4	0.0449	190.451426	190.4514	199.004975	10673	
33	13C12-1234678-HpCDF	passed	44.85	1529232		69624	Э Д	0.0624	209.528410	209.5284	199.004975	8642	
34	13C12-1234678-HpCDD	passed	46.04	800443	4	83293	3 д	0.059	196.423692	196.4237	199.004975	8736	
35	13C12-1234789-HpCDF	passed	46.61	1133165	<i>p</i>	51208	Э Д	0.0730	181.381689	181.3817	199,004975	6674	
36	13C12-OCDD	passed	49.05	1561215	4	142023	7 д	0.035	7 397.950619	397,9506	398.009950	30985	
37	13C12-OCDF	passed	49.25	2112681		1897628	3 д	0.0396	363.273043	363,2730	398,009950	24409	





File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807306 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil PFK Reference Lock Mass Traces RT: 22.50 - 51.00 1075 NL: 897 882 667 1123 1223 1325 29.80 3.86E5 26.76 26,50 100 22.83 30,62 32,33 34,07 m/z=291.9825-80-292.9825 MS 60-17FEB07-20 40-20-0-NL: 1592 1524 1469 1359 5.03E5 36.43 37.28 38.33 39.44 100 34.74 m/z=330.4792-80-331.4792 MS 60-17FEB07-20 40-20-0-1794 1964 NL: 1696 2007 41.28 43.57 3.15E5 39.96 100-44.15 m/z=1480 1668 1364 380.4760-36.60 39,50 Relative Abundance 34.81 80-381.4760 MS 17FEB07-60-20 40-20-0-2036 NL: 2263 8.39E4 44.63 100 2022 47.77 m/z=44,44 404.4760-80-405.4760 MS 17FEB07-60-20 40-20 0 2389 NL: 2319 1.11E5 49.54 100-48,61 m/z=442.4728-80-443.4728 **IMS** 17FEB07-60-20 40-20-0-Page 150 of 560 AIL01 24 42 2By uma9 at 12:02 3m, 2/9/13 By UMJS at 12:42 pm, 72/9/11 Time (min)

File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807306 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil Chlorodiphenylether Interference Traces RT: 20.40 - 34.90 RT: 32.79 NL: 3.16E3 AA: 15465 100m/z=305.3987-306.3987 80 RT: 32.21 MS ICIS AA: 687 TCDF Quan Mass 17FEB07-20 60 RT: 28.57 RT: 26.98 RT: 31.42 RT: 25.54 AA: 4168 AA: 2904 AA: 4900 AA: 3496 RT: 29.94 20 RT: 33.58 RT: 26.14 RT: 24.74 AA: 1802 AA: 980 RT: 22.71 RT: 21.12 AA: 13.32 AA: 217 AA: 241 AA: 251 RT: 32.79 NL: AA: 11570 2.37E3 100m/z=303.4016-304.4016 80 MS ICIS TCDF Ratio Mass 17FEB07-20 60 RT: 32.19 AA: 486 RT: 31.00 40 RT: 27.83 RT: 28.57 AA: 3015 RT: 26.98 AA: 3183 AA: 2895 AA: 1932 RT: 33.83 20-RT: 22.21 RT: 24.77 AA: 713 AA: 233 AA: 251 0 RT: 30.96 NL: AA: 1443644 2.70E5 100m/z=317.4389-318.4389 TCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-20 60 40 RT: 29.92 RT: 24.65 AA: 4143 20-AA: 144837 RT: 25.90 RT: 22.16 RT: 23.68 RT: 28.35 RT: 29.20 RT: 31.32 RT: 33.49 AA: 23920 AA: 11228 AA: 15210 AA: 1031 AA: 370 AA: 6167 AA: 308 0 RT: 22.19 NL: 1.10E3 AA: 6156 100m/z=375.3364-376.3364 RT: 23.24 80 RT: 21.99 AA: 5117 MS ICIS AA: 3045 17FEB07-HxCDPE Trace 20 60-RT: 23.41 RT: 33.56 AA: 88.14 RT: 32.71 AA: 1139 RT: 26.81 RT: 24.67 RT: 29.94 20 AA: 498 AA: 520 RT: 29.19 AA: 256 RT: 21.13 AA: 17.44 AA: 177 21 30 By umag at 12:02 pm, 2/9/17

Time (min)

By UMJS at 12:42 pm 72/9/11

File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil Sample ID: 8807306 Chlorodiphenylether Interference Traces RT: 34.50 - 39.80 NL: RT: 36.55 1.46E3 AA: 5068 100m/z=341.3567-342.3567 80-MS ICIS PeCDF Quan Mass 17FEB07-RT: 35.31 20 RT: 36.32 60-AA: 4493 AA: 490 RT: 35.14 AA: 2611 RT: 39.07 40-RT: 36.02 RT: 37.79 AA: 1971 AA: 2478 RT: 36.88 AA: 1926 AA: 873 20-RT: 38.96 RT: 39.33 RT: 34.95 RT: 37.51 RT: 37.90 AA: 303 AA: 340 AA: 109 AA: 107 AA: 102 RT: 36.55 NL: 1.71E3 AA: 7163 100 RT: 35.32 m/z=AA: 7434 339.3597-340.3597 80-MS ICIS PeCDF Ratio Mass 17FEB07-20 60-RT: 35.15 RT: 35.61 RT: 39.07 AA: 3188 RT: 37.79 AA: 2757 RT: 36.02 AA: 2272 RT: 36.88 AA: 3096 40-AA: 3347 AA: 2676 RT: 37.66 RT: 37.85 AA: 1313 RT: 38.97 20-AA: 404 RT: 37.20 RT: 35.01 AA: 565 RT: 39.34 AA: 192 AA: 110 AA: 143 RT: 37.76 NL: RT: 36.54 2.55E5 AA: 988241 AA: 1021978 100m/z=353.3970-354.3970 PeCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-20 60-RT: 36.34 40 AA: 77.36 RT: 37.83 RT: 36.65 RT: 37.62 RT: 38.96 RT: 39.36 RT: 35.21 RT: 36.00 AA: 2724 AA: 13830 AA: 3527 AA: 93<u>95</u> AA: 9154 AA: 336 AA: 4354 RT: 37.16 NL: 2.04E2 AA: 844 100m/z=409.2974-410.2974 80 MS ICIS 17FEB07-HpCDPE Trace 20 60-RT: 38.97 RT: 37.57 AA: 150 AA: 1.28 RT: 36.88 RT: 38.08 RT: 38.31 RT: 39.24 AA: 90.10 AA: 108 AA: 83.41 AA: 8.14 RT: 36.69 RT: 38.88 RT: 39.51 RT: 34.71 RT: 35.12 AA: 25.40 AA: 126 AlL01 Page 152 of 560 36.5 37.0 37.5 38.0 34.5 By umas at 12:02 pin 279/17 By UMJS at 12:42 pr6,72/9/1 Time (min)

File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807306 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil Chlorodiphenylether Interference Traces RT: 39.20 - 44.50 NL: RT: 40.07 1.95E3 AA: 7097 100m/z=375.3178-376.3178 80-MS ICIS HxCDF Quan Mass 17FEB07-20 60-RT: 40.77 AA: 3330 40 RT: 41.48 RT: 42.18 RT: 39.85 AA: 1260 AA: 1457 AA: 1754 RT: 43.18 20 RT: 42.02 RT: 40.54 AA: 734 RT: 44.06 RT: 39.78 RT: 42.49 AA: 279 AA: 193 AA: 126 AA: 88.82 AA: 58.94 NL: RT: 40.07 2.20E3 AA: 8004 100m/z=373.3208-374.3208 80 RT: 40.77 MS ICIS HxCDF Ratio Mass AA: 4642 17FEB07-20 60-RT: 41.35 RT: 41.58 RT: 39.87 40 AA: 2389 AA: 182 AA: 2415 RT: 42.17 RT: 41.24 RT: 43.19 AA: 1661 20-AA: 896 AA: 999 RT: 40.55 RT: 44.04 RT: 42.47 RT: 39.76 AA: 268 AA: 307 AA: 114 AA: 118 0 NL: RT: 41.48 4.62E5 AA: 1561990 RT: 43.17 100-RT: 42.17 AA: 1412860 m/z=AA: 1427088 385.3610-386.3610 HxCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-20 60-40-RT: 42.78 AA: 621 20-RT: 42.24 RT: 44.26 RT: 39.61 RT: 40.05 RT: 40.77 RT: 41.66 RT: 43.42 AA: 6210 AA: 5073 AA: 1351 AA:_1703 AA: 77.91 AA: 3788 AA: 17.37 0-RT: 43.54 NL: 7.90E1 AA: 110 100m/z=445.2555-446.2555 80-RT: 42.90 MS ICIS AA: 59.85 17FEB07-OCDPE Trace 20 60-RT: 43.73 AA: 16.96 40-RT: 41.02 RT: 44.26 RT: 43.13 RT: 39.61 RT: 40.39 RT: 41.68 AA: 21.96 AA: 10.51 AA: 4.04 AA: 119 AA: 3.24 AA: 3.23 20-0-Page 153 of 560 42.5 B\$ 0ma9 at 12.025m, 2/9/17 44.5 39.5 By UMJS at 12:42 pr07 2/9/170 Time (min)

File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample ID: 8807306 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil Chlorodiphenylether Interference Traces RT: 44.10 - 48.20 RT: 45.39 NL: RT: 44.87 AA: 13796 4.34E3 AA: 13752 100m/z=409.2789-410.2789 80 MS ICIS HpCDF Quan Mass 17FEB07-20 60-40-20-RT: 46.61 RT: 45.24 RT: 45.46 RT: 44.67 RT: 46.10 AA: 1008 RT: 46.87 RT: 47.34 RT: 47.74 AA: 343 AA: 128 AA: 155 AA: 95.72 AA: 51.28 AA: 65.05 AA: 112 0 RT: 45.39 NL: RT: 44.88 AA: 16952 4.59E3 AA: 14173 100m/z=407.2818-408.2818 80-MS ICIS HpCDF Ratio Mass 17FEB07-20 60-RT: 44.64 40-AA: 742 RT: 44.35 RT: 46.62 RT: 46.93 RT: 47.67 RT: 47.88 20-AA: 2152 RT: 46.34 RT: 45.21 RT: 45.67 AA: 1273 AA: 846 AA: 1581 AA: 552 AA: 844 AA: 599 AA: 352 0-RT: 44.85 NL: AA: 1529576 4.68E5 100m/z=419.3220-RT: 46.61 HpCDF 13C12 Quan Mass 420.3220 AA: 1133551 80-MS ICIS 17FEB07-20 60-40-RT: 46.68 AA: 5540 RT: 46.37 RT: 44.64 AA: 37.80 AA: 412 RT: 44.35 RT: 44.93 RT: 45.38 RT: 46.05 RT: 46.99 RT: 47.75 RT: 47.99 AA: 4562 AA: 81.62 AA: 3356 AA: 1015 AA: 1178 AA: 2884 _AA: 1352 RT: 47.84 NL: AA: 1246 4.72E2 100m/z=479.2165-480.2165 80-MS ICIS 17FEB07-NCDPE Trace RT: 46.32 20 AA: 870 60-RT: 47.52 AA: 439 RT: 46.72 RT: 47.04 RT: 45.97 RT: 45.13 RT: 45.40 AA: 218 RT: 44.70 AA: 219 AA: 211 AA: 248 AA: 240 AA: 195 RT: 44.41 20-AA: 126 1 Page 154 of 560 46.0 46.5 AIL01 By uma9 at 72.02 pm, 2/9/14 By UMJS at 12:42 pn6,7209/11 Time (min)

File Name: Y:\17FEB07\17FEB07-20 Acq. Data: 2/8/2017 3:13:19 AM Instrument ID: DF18471-17FEB07 Sample Name: SW-846 8290A Feb 2007 Rev 1 17031003 BB18 ARS1-17-00216-002 Soil Sample ID: 8807306 Chlorodiphenylether Interference Traces RT: 47.90 - 51.20 NL: RT: 49.25 5.66E3 AA: 17200 100m/z=443.2399-444.2399 80-MS ICIS OCDF Quan Mass 17FEB07-20 60-20-RT: 49.05 RT: 49.79 RT: 50.09 RT: 49.42 RT: 48.23 RT: 48.46 RT: 50.69 RT: 50.90 AA: 516 AA: 316 AA: 96.77 AA: 103 AA: 104 AA: 86.99 AA: 74.51 AA: 1<u>5</u>7 0 NL: RT: 49.26 4.85E3 AA: 15187 100m/z=441.2428-442.2428 80-MS ICIS OCDF Ratio Mass 17FEB07-20 60-RT: 49.43 AA: 37.37 20-RT: 49.09 RT: 50.06 RT: 51.00 RT: 48.44 RT: 49.73 RT: 50.55 RT: 48.10 AA: 249 AA: 451 AA: 52.81 AA: 92.10 AA: 54.29 AA: 73.55 AA: 50.62 RT: 49.25 NL: 6.65E5 AA: 2113658 100m/z=455.2802-456.2802 OCDF 13C12 Quan Mass 80-MS ICIS 17FEB07~ 20 60-40-20-RT: 49.31 RT: 49.67 RT: 49.90 RT: 50.65 RT: 51.00 RT: 48.61 RT: 49.06 RT: 48.11 AA: 58.77 AA: 228 AA: 100 AA: 58.41 AA: 1640 AA: 505 NL: 1.68E2 100m/z=513.1775-514.1775 RT: 49.57 80-MS ICIS AA: 250 17FEB07-RT: 50.41 RT: 48.10 20 AA: 140 RT: 49.79 AA: 288 DCDPE RT: 50.81 AA: 127 RT: 49.21 AA: 118 AA: 97.02 RT: 48.12 RT: 50.18 40-AA: 63.62 RT: 48.78 RT: 49.25 AA: 91.29 AA: 51.23 AA: 25.96 RT: 48.16 RT: 49.83 AA: 24.30 20-AA: 3.60 **Page 155 of 560** 49.5 AlL01 50.0 48.0 By umas at 12:02 pm, 2/9/17 By UMJS at 12:42 png-72/9/17 Time (min)

```
17FEB07-20
```

```
*** file opened Wed Feb 08 03:18:46 2017 ***
```

```
Started by
Instrument Internet name
Instrument model
                                  - Xcalibur
                                 - DFS MS
- DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470
```

Analysis started at: 08-Feb-17 03:18:45

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

#### Mid Time Windows:

	Start	Measure	End	Cycletime
# 1	11:30 min	9:30 min		1.00 sec
# 2	21:00 min	13:36 min	34:36 min	1.00 sec
# 3	34:36 min	4:53 min	39:30 min	0.90 sec
# 4	39:30 min	4:45 min	44:15 min	0.80 sec
# 5	44:15 min	3:45 min	48:00 min	0.80 sec
# 6	48:00 min	3:00 min	51:00 min	0.80 sec

Mid Masses: Window # 1		
mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723 Window # 2	int gr 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2 1 2 1 2	time (ms) 95 47 47 95 47 47 95 47 47 47
mass F 292.9819 1 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	int gr 20 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118

Page 1





```
331.9363
                    1
                              23
 333.9333
                 5
                              23
                    1
 339.8592
                    1
                             118
 341.8562
                             118
 354.9787 c
               20
                    1
 375.8364
                    1
                              59
                 2
Window # 3
      mass F
               int
                          time (ms)
                     gr
 330.9787 1
                    1
                               6
               20
 339.8592
                 1
                    1
                             133
 341.8562
                    1
                             133
 351.8994
                    1
                              44
 353.8965
                    1
                              44
 355.8541
                    1
                             133
 357.8511
                    1
                             133
 367.8943
                    1
                              44
 369.8914
                              44
                 3
                    1
 380.9755 c
               20
                    1
                               6
 409.7969
                    1
                 2
                              66
Window # 4
      mass F
               int
                          time (ms)
                     gr
 373.8201
                    1
                             117
                 1
 375.8172
                 1
                    1
                             117
 380.9755
               20
                    1
                               5
 383.8634
                    1
                              39
 385.8604
                              39
                    1
 389.8151
                    1
                             117
 391.8121
                    1
                             117
 401.8554
                    1
                              39
                 3
 403.8524
                    1
                              39
 430.9723 c
445.7550
               20
                    1
                               5
                              58
                    1
Window # 5
 mass F
404.9755 1
                          time (ms)
               int
                     gr
                    1
               20
 407.7812
                1
                    1
                             117
 409.7783
                 1
                    1
                             117
 417.8244
                    1
                              39
 419.8215
                    1
                              39
 423.7761
                    1
                             117
 425.7732
                    1
                             117
 435.8164
                    1
                              39
 437.8134
                    1
                              39
 479.7160
                    1
                              58
 480.9691 c
               20
                    1
Window # 6
                   gr
1
               int
                          time (ms)
      mass F
                              95
 441.7422
                1
 442.9723 1
               20
                    1
                               4
 443.7393
                1
                    1
 453.7825
455.7795
                1
                    1
                              95
                              95
                    1
 457.7372
                              95
                    1
 459.7342
                              95
                    1
 469.7774
                    1
                              31
 471.7745
                 3
                    1
                              31
 492.9691 c
               20
                    1
                               4
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	95.5000
BQUAD	0.0500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0175	FVINLET	0.0306	FVSRC	0.0289
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1429287.2593	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2524.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8977	RELEN	0.0000
RES	12476.3116	RPUSHER	-8.6667	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	638.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.5000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.7e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

```
MID Time Window 1: Resolution is 12110.
MID Time Window 2: Resolution is 12335.
MID Time Window 3: Resolution is 12382.
MID Time Window 4: Resolution is 12632.
```







17FEB07-20 MID Time Window 5: Resolution is 12403. MID Time Window 6: Resolution is 12476.

Amplifier Offset: 87.

*** File closed Wed Feb 08 04:09:48 2017

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# Standards Data Dioxins/Furans by HRMS



#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/01/31 21:06

Number of Entries

26

Comment

Vial

Sample Name

**TDTFWD ST1701737A** 

DF18471-17JAN31

Sample ID

CPS01

Inst ID Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan Data

y:\17jan31\17jan31-02.quan y:\17jan31\17jan31-02.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off No Summation

Sum Area/Height Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0 1.0

Sample Volume [hSV] Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

1.0

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

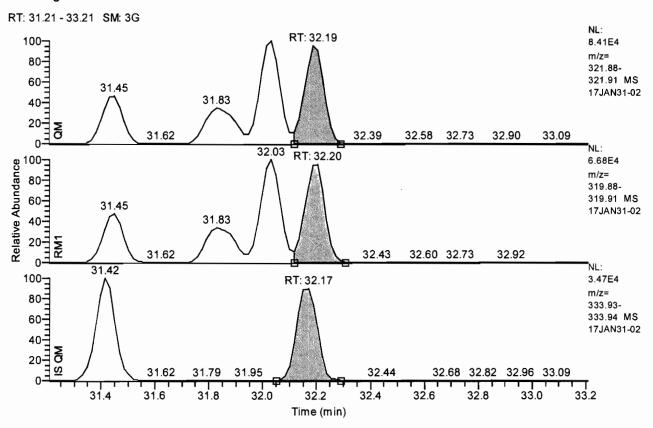
Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0

#### Chromatogram



#### **Entry Parameters**

Smoothing Points 3

Compound Name 2378-TCDD

Quan. Mass 321.8936 +/- 50 ppm

QM Integration Mode

Ratio Mass 1 319.8965 +/- 50 ppm

RM1 Integration Mode Α

0

RM1 Retention Time

ManInt

32.20

RM1 Left Baseline Height

360.97

RM1 Left Height

6483 63563

GC Res (%) left

RM1 Height

10.821187





File Name: Y:\17JAN31\17JAN31-02 Acq. Data: 1/31/2017 9:06:30 PM Instrument ID: DF18471-17JAN31 Sample ID: CPS01 Sample Name: TDTFWD ST1701737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1053 1041 29.42 1069 5.55E5 935 29,21 100-838 1195 1305 1355 29.69 m/z=31.85 25.74 33.72 34.58 291.9825-80 292.9825 MS 60-17JAN31-02 40-20-0-NL: 1682 1518 1491 1367 5.52E5 39.72 37.20 36.78 34,87 100m/z=330.4792-80-331.4792 MS 60-17JAN31-02 40-20-0-NL: 1708 1987 1799 2.80E5 40.17 43.93 2002 1693 41.39 100-1534 1446 <u>44</u>.13 39.97 m/z= 1367 37,44 36.09 380.4760-34.87 Relative Abundance 80-381.4760 MS 17JAN31-60-02 40-20-0-NL: 2255 2143 2061 6.20E4 46,16 100-2276 45.02 m/z=48,00 404.4760-80-405.4760 MS 17JAN31-60-02 40-20-0 2440 NL: 2334 2286 50.27 6.90E4 48,85 100-48.21 m/z=442.4728-80-443.4728 MS 60-17JAN31-02 40-20-0-

Page 163

Time (min)

42

By UMJS at 10:13 am \$252017

32

By ujd2 at 10:16 am, 2/1/17

```
17JAN31-02
```

*** file opened Tue Jan 31 21:09:24 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 31-Jan-17 21:09:24

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

#### Mid Time Windows:

	Start	Measure	End	Cycletime
# 2 # 3 # 4	11:30 min 21:00 min 34:44 min 39:47 min	9:30 min 13:44 min 5:03 min 4:27 min	34:44 min 39:47 min 44:15 min	1.00 sec 1.00 sec 0.90 sec 0.80 sec
#5	44:15 min	3:45 min	48:00 min	0.80 sec
# 6	48:00 min	3:00 min	51:00 min	0.80 sec

#### Mid Masses:

Tru Masses.		
Window # 1		
mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723 Window # 2	int gr 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2 1 2 1 2	time (ms) 95 47 47 95 47 47 95 47 47 95 47
mass F 292.9819 1 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	int gr 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118

Page 1





```
23
 331.9363
                    1
 333.9333
                5
                    1
                             23
 339.8592
                    1
                            118
 341.8562
                1
                             118
 354.9787 c
               20
                    1
                               5
 375.8364
                              59
                2
                    1
Window # 3
      mass F
               int
                     gr
                          time (ms)
 330.9787
               20
                    1
                               6
 339.8592
                1
                    1
                             133
                    1
 341.8562
                1
                             133
 351.8994
                             44
                    1
 353.8965
                              44
                    1
 355.8541
                    1
                             133
 357.8511
                             133
                    1
 367.8943
                    1
                             44
 369.8914
                    1
                              44
 380.9755 c
               20
                    1
                               6
 409.7969
                2
                    1
                              66
Window # 4
      mass F
               int
                     gr
                          time (ms)
                    1
                            117
 373.8201
                1
                            117
 375.8172
                1
                    1
 380.9755
               20
                    1
                              39
 383.8634
                    1
                              39
 385.8604
                    1
 389.8151
                             117
                    1
 391.8121
                    1
                             117
                              39
 401.8554
                    1
 403.8524
                    1
                              39
               20
                               5
 430.9723 c
                    1
 445.7550
                2
                    1
                              58
Window # 5
 mass F
404.9755 1
               int
                          time (ms)
                     gr
                               5
                    1
               20
 407.7812
                    1
                             117
                1
 409.7783
                    1
                             117
                              39
 417.8244
                    1
 419.8215
                              39
                    1
 423.7761
                    1
                             117
 425.7732
                    1
                             117
                              39
 435.8164
                    1
 437.8134
                    1
                              39
 479.7160
                    1
                              58
 480.9691 c
                20
                    1
Window # 6
                int
      mass F
                          time
                                (ms)
                     gr
                    1
                              95
 441.7422
                 1
 442.9723 1
                20
                    1
                               4
 443.7393
                 1
                    1
                              95
 453.7825
455.7795
                              95
                    1
                              95
                 1
                    1
 457.7372
                    1
                              95
 459.7342
                    1
                              95
                              31
 469.7774
                    1
 471.7745
                 3
                    1
                              31
 492.9691 c
                               4
               20
                    1
                    1
                              47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
FDMA :	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0153	FVINLET	0.0275	FVSRC	0.0273
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1472957.1872	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2520.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8972	RELEN	0.0000
RES	14475.0295	RPUSHER	-14.5568	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	664.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11312.
MID Time Window 2: Resolution is 10930.
MID Time Window 3: Resolution is 10949.
MID Time Window 4: Resolution is 11416.
Page 3
```





17JAN31-02 MID Time Window 5: Resolution is 14928. MID Time Window 6: Resolution is 14475.

Amplifier Offset: 88.

*** File closed Tue Jan 31 22:00:26 2017

Page 4





		DE10471	1714812101						
		DF18471	17JAN31DF	ICAL					
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
Compound Warne	17JAN31-04	17JAN31-08	17JAN31-09	17JAN31-10	17JAN31-11	17JAN31-12	71146	514 501	75 11.52
	1/3/(431-04	173/1431-08	1/3/(31-05	173/1451 10	17371131 11	1737113112			
2378-TCDF	1.2686	0.9433	0.9848	0.9924	1.0207	0.9997	1.0349	0.1173	11.33
2378-TCDF	1.0962	1.2788		1.2553	1.2343	1.2160		0.0769	6.23
12378-PeCDF	1.0106	0.9945	0.9482	0.9591	0.9792	0.9275	0.9698	0.0308	3.17
23478-PeCDF	1.1087	1.0468		1.0954	1.0889	1.0331	1.0786	0.0309	2.86
12378-PeCDD	1.1183	1.0488		1.0442	1.0714	1.0325	1.0591	0.0318	3.01
12378-PECOD 123478-HxCDF	1.1736	1.1331	1.1791	1.1873	1.2283	1.1485	1.1750	0.0331	2.81
123678-HxCDF	1.2265	1.1404	1.1493	1.1337	1.1607	1.0931	1.1506	0.0437	3.80
234678-HxCDF	1.1669	1.2558		1.2228	1.2464	1.1666	-	0.0383	3.17
	0.9591	1.0483			1.0438	1.0008		0.0389	3.80
123478-HxCDD	_	1.0483		1.0008	1.0438	0.9689	_	0.0434	
123678-HxCDD	1.0928	1.0260		1.0013	1.1062	1.0483		0.0470	4.34
123789-HxCDD	1.1461	1.1415		1.1200		1.1009	-	0.0495	4.29
123789-HxCDF				1.1200	1.1733	1.2360		0.0493	
1234678-HpCDF	1.2168	1.3035		1.0544	1.0722	1.0126			
1234678-HpCDD	1.0440	1.1163	<del></del>		1.3290	1.0126	+	0.0343	3.44
1234789-HpCDF	1.3579	1.2741	-	1.3523 1.0261	1.0409	0.9897		0.0433	1.87
OCDD	1.0176	<del>-</del>							
OCDF	0.9608	0.9388		0.9212	1.0000			0.0000	
13C12-1234-TCDD	1.0000	1.0000							-
13C12-123468-HxCDD	1.0000	1.0000			1.0000		_	-	
13C12-2378-TCDF	1.8541	1.8101						0.0432	
13C12-2378-TCDD	0.9704	-	+						4.50
13C12-12378-PeCDF	1.6871	1.5955	_			-		0.0777	
13C12-23478-PeCDF	1.6480		+	-		<del>-</del>	+	_	-
13C12-12378-PeCDD	0.9507	0.8892					+	_	_
13C12-123478-HxCDF	1.2640							0.0463	
13C12-123678-HxCDF	1.3088	-	<del></del>						
13C12-234678-HxCDF	1.2151	-			-	-		-	
13C12-123478-HxCDD	0.9156								
13C12-123678-HxCDD	0.9403	0.9241							_
13C12-123789-HxCDD	0.9220						_		
13C12-123789-HxCDF	1.1650								
13C12-1234678-HpCDF	1.0796		_				+		
13C12-1234678-HpCDD	0.8364								+
13C12-1234789-HpCDF	0.9172	-			-				+
13C12-OCDD	0.7725	-			-	_			_
13C12-OCDF	1.1442			-					+
Total TCDF	1.2686				+				
Total TCDD	1.0962	_					_		
Total PeCDD	1.1183	1.0488	1.0397	1.0442			<del>                                     </del>		
Total PeCDF	1.0590	1.0206	1.0230	1.0270	1.0345	0.9808	1.0242	0.0254	2.48
Total HpCDD	1.0440	1.1163	1.0542	1.0544	1.0722	1.0126	1.0590	0.0343	3.24
Total HxCDF	1.2019	1.1673	1.1692	1.1660	1.2021	1.1268	1.1722	0.0280	2.38
Total HxCDD	1.0664	1.0290	1.0404	1.0510	1.0636	1.0051	1.0426	0.0231	2.22
Total HpCDF	1.2816	1.2902	1.3256	1.3195	1.3411	1.2470	1.3008	0.0345	2.65
13C12-1278-TCDD (CRS)		1.3707	1.3004	1.2467	1.2296	1.2735	1.2842	0.0553	4.31







#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/01/31 22:57

**Number of Entries** 

63

Comment

Vial

3

Sample Name

CALDF11737B

Sample ID

CSL01

Inst ID

DF18471-17JAN31

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan

y:\17jan31\17jan31-04.quan

Data

y:\17jan31\17jan31-04.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

Det. Limit Factor [hDLF]

1.0 2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0





#### **Entry Parameters**

		OMD-4- "	Otation		DM T	D 0 1			
No.					RM1 Time Status	Ratio1	Recovery Status	RRT Status	Status Info
1	Name 2378-TCDF	11me 31,17	Passed	passed	Status passed	Status	Status	passed	
2	2378-TCDD	32.19	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.68	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.88	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	38.26	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.44	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.60	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.57	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.88	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.27	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.96	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.15	passed	passed	passed	passed	passed	passed	
15 16	1234789-HpCDF	46.70	passed	passed	passed	passed	passed	passed	
16 17	OCDD	49.14	passed	passed	passed	passed	passed	passed	
17 18	OCDF 13C12-1234-TCDD	49.34 31.41	passed	passed	passed	passed	passed	passed	
18 19	13C12-1234-TCDD 13C12-123468-HxCDD	31.41 41.34	passed	passed	passed	passed	passed	passed passed	
19 20	13C12-123468-HxCDD 13C12-2378-TCDF	41.34 31.13	passed passed	passed passed	passed	passed passed	passed passed	passed passed	
20	13C12-2378-TCDF 13C12-2378-TCDD	31.13 32.16	passed passed	passed passed	passed	passed passed	passed passed	passed passed	
22	13C12-2378-1CDD	32.16 36.65	passed passed	passed passed	passed passed	passed passed	passed passed	passed passed	
23	13C12-23478-PeCDF	37.86	passed	passed	passed	passed	passed passed	passed	
24	13C12-12378-PeCDD	38.25	passed	passed	passed	passed	passed	passed	
25	13C12-123478-HxCDF	41.44	passed	passed	passed	passed	passed	passed	
26	13C12-123678-HxCDF	41.59	passed	passed	passed	passed	passed	passed	
27	13C12-234678-HxCDF	42.26	passed	passed	passed	passed	passed	passed	
28	13C12-123478-HxCDD	42.45	passed	passed	passed	passed	passed	passed	
29	13C12-123678-HxCDD	42.56	passed	passed	passed	passed	passed	passed	
30	13C12-123789-HxCDD	42.87	passed	passed	passed	passed	passed	passed	
31 32	13C12-123789-HxCDF	43.26	passed	passed	passed	passed	passed	passed	
32 33	13C12-1234678-HpCDF	44.94	passed	passed	passed	passed	passed	passed	
33 34	13C12-1234678-HpCDD 13C12-1234789-HpCDF	46.13 46.70	passed	passed	passed	passed	passed	passed passed	
34 35	13C12-1234789-HpCDF 13C12-OCDD	46.70 49.12	passed passed	passed passed	passed passed	passed passed	passed passed	passed passed	
36	13C12-OCDF	49.12	passed passed	passed passed	passed	passed	passed passed	passed	
37	Total TCDF	49,32 29.84	passed passed (1)	passed	passed 	passed	passed	_	
38	Total TCDD	29.64 30.61	passed (1) passed (1)		_		_		
39	Total PeCDF	36.97	passed (1) passed (2)		_	-	_	_	
40	Total PeCDD	37.05	passed (2)		_	_	_	_	
41	Total HxCDF	41.91	passed (1)		_			_	
42	Total HxCDD	42.65	passed (3)		_	_	_	-	
43	Total HpCDD	45.68	passed (1)		-		-	-	
44	Total HpCDF	45.90	passed (2)					_	
45	Single TCDF	31 17	passed	passed	passed	passed	passed	passed	
46 47	Single TCDD	32.19	passed	passed	passed	passed	passed	passed	
47	Single PeCDD	38.26	passed	passed	passed	passed	passed	passed	
48 49	Single PeCDF	37.88	passed	passed	passed	passed	passed	passed	
49 50	Single PeCDF	36.68 46.15	passed	passed	passed	passed	passed	passed	
50 51	Single HyCDE	46.15 41.60	passed	passed	passed	passed	passed	passed	
51 52	Single HxCDF	41.60 41.44	passed	passed	passed	passed	passed	passed	
52 53	Single HxCDF Single HxCDF	41.44 42.27	passed passed	passed	passed	passed	passed	passed passed	
53 54	Single HxCDF Single HxCDF	42.27 43.27	passed passed	passed passed	passed	passed	passed passed	passed passed	
55	Single HxCDF Single HxCDD	43.27 42.57	passed passed	passed passed	passed passed	passed passed	passed passed	passed passed	
56	Single HxCDD	42.46	passed passed	passed passed	passed passed	passed	passed passed	passed	
57	Single HxCDD	42.46 42.88	passed passed	passed passed	passed passed	passed passed	passed passed	passed	
58	Single HpCDF	44.96	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	46.70	passed	passed	passed	passed	passed	passed	
			,	,	F-3004	,	F-300 d		







#### **Quantitation Settings**

**Data File Parameter** 

2017/01/31 22:57 Acq. Data

**Number of Entries** 63

Comment

Vial 3

Sample Name CALDF11737B

Sample ID CSL01

Inst ID DF18471-17JAN31

Client

ida02741 Analyst

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-04.quan Data y:\17jan31\17jan31-04.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

1.0 Injection Volume [hIJV] Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

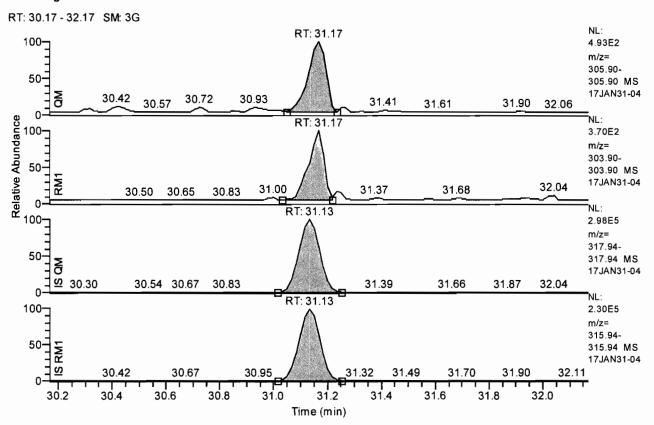
Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



#### Chromatogram

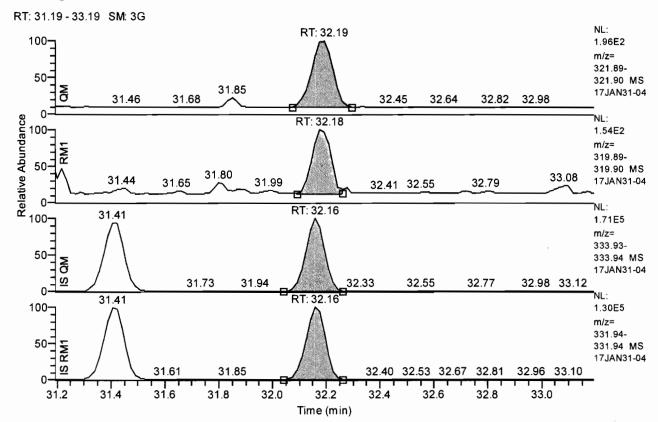


#### **Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	31.17
QM Area	2214
QM Integration Mode	М
RM1 Area	1431
RM1 Integration Mode	Α
ManInt	1
Detection Limit (A)	0.0022
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	139
Client Flags	
Status Overview	passed
Status Info	



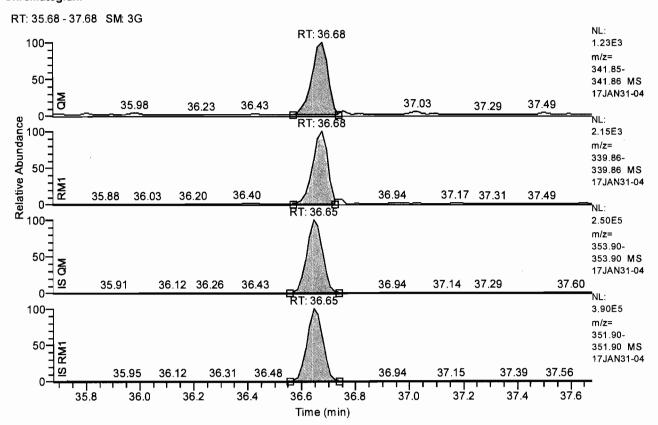
#### Chromatogram



#### **Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	32.19
QM Area	984
QM Integration Mode	Α
RM1 Area	664
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0030
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	80
Client Flags	
Status Overview	passed

#### Chromatogram

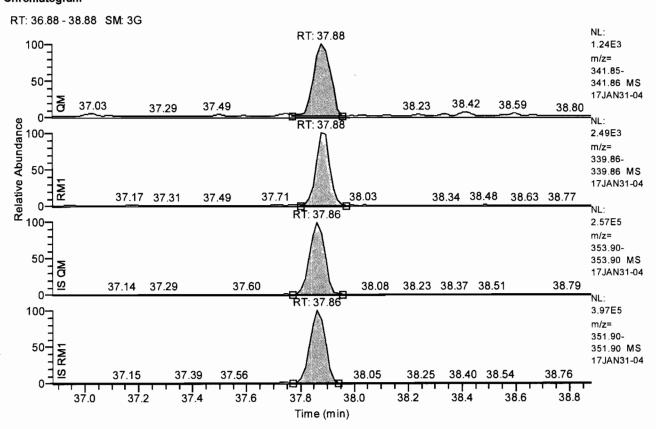


#### **Entry Parameters**

Compound Name 12378-PeCDF 36.68 QM Retention Time QM Area 5060 QM Integration Mode RM1 Area 8150 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0024 Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 532 Client Flags Status Overview passed Status Info



#### Chromatogram

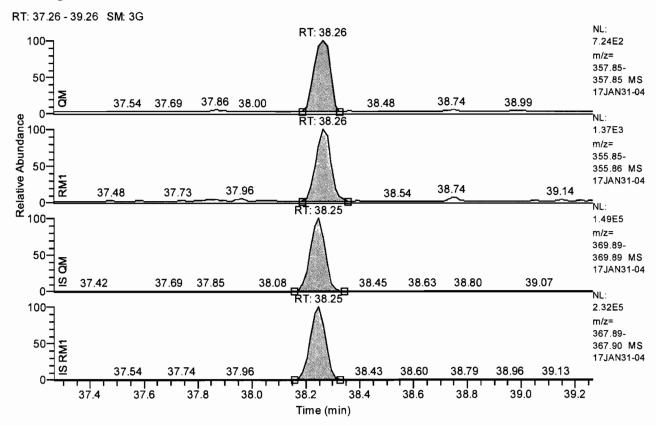


#### **Entry Parameters**

Status Info

Compound Name 23478-PeCDF QM Retention Time 37.88 QM Area 5380 QM Integration Mode Α RM1 Area 8776 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0022 Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 585 Client Flags Status Overview passed

#### Chromatogram



#### **Entry Parameters**

Compound Name 12378-PeCDD QM Retention Time 38.26 QM Area 2959 QM Integration Mode RM1 Area 5278 RM1 Integration Mode М ManInt Detection Limit (A) 0.0063 Unqualified Amount (A) 0.500000 0.5000 Adjusted Amount (A) Signal-to-Noise 193 Client Flags Status Overview passed Status Info



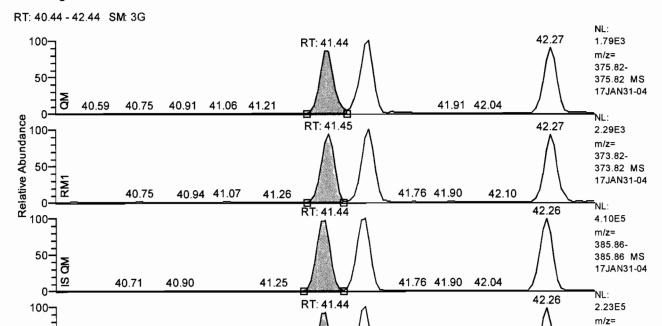
383.86-

42.4

383.87 MS 17JAN31-04

# eurofins

#### Chromatogram



41.76

41.8

41.6

41.94

42.0

42.10

42.2

#### **Entry Parameters**

50-RM1

0-

 $\overline{\mathbf{c}}$ 

40.63

40.6

40.84

40.8

41.01

41.0

41.24

41.4

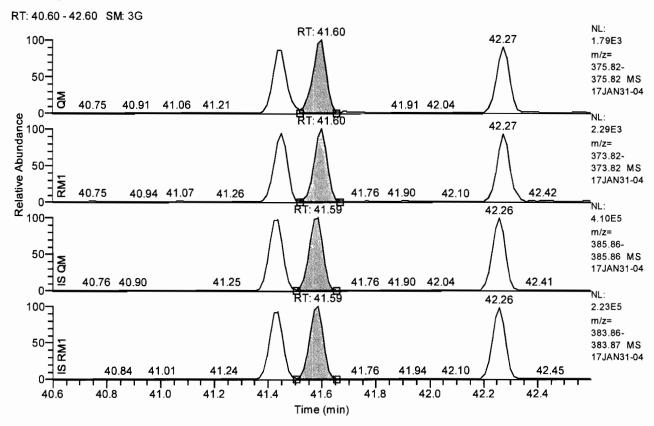
Time (min)

41.2

Compound Name 123478-HxCDF 41.44 QM Retention Time QM Area 5444 QM Integration Mode Α RM1 Area 7288 RM1 Integration Mode Α ManInt 0.0037 Detection Limit (A) Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 343 Client Flags Status Overview passed Status Info





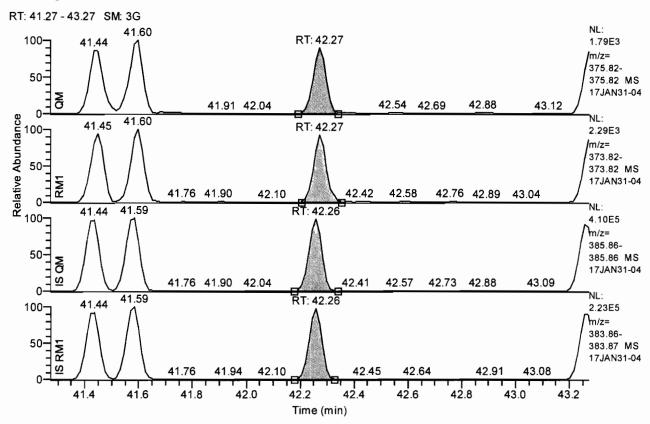


#### **Entry Parameters**

Compound Name 123678-HxCDF QM Retention Time 41.60 QM Area 6125 QM Integration Mode Α RM1 Area 7653 RM1 Integration Mode Α ManInt 0.0034 Detection Limit (A) Unqualified Amount (A) 0.500000 0.5000 Adjusted Amount (A) Signal-to-Noise 378 Client Flags Status Overview passed Status Info







#### **Entry Parameters**

Compound Name

234678-HxCDF

QM Retention Time

42.27

QM Area

5275

QM Integration Mode RM1 Area

Α 6895

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0037 0.500000

Unqualified Amount (A) Adjusted Amount (A)

0.5000

Signal-to-Noise

347

Client Flags

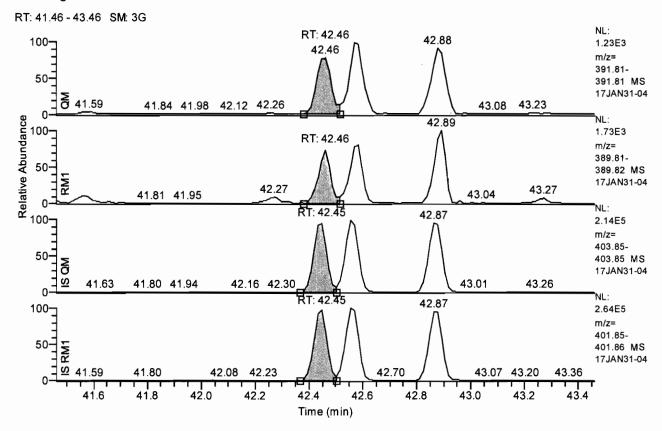
Status Overview

passed

Status Info

ermoFisher f 1081

#### Chromatogram



#### **Entry Parameters**

Compound Name 123478-HxCDD QM Retention Time 42.46 QM Area 3610 QM Integration Mode Α RM1 Area 3927 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0079 Unqualified Amount (A) 0.500000 0.5000 Adjusted Amount (A) Signal-to-Noise 156 Client Flags

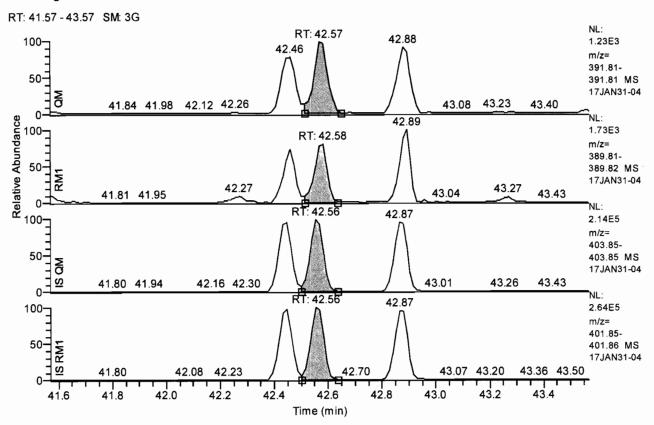
passed

Status Info

Status Overview



#### Chromatogram



#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.57

QM Area

4271

QM Integration Mode

4548

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0068

Unqualified Amount (A)

0.500000

Adjusted Amount (A)

0.5000 184

Signal-to-Noise Client Flags

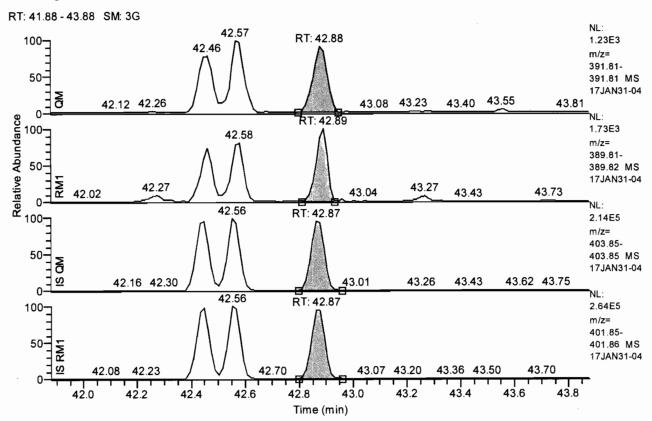
Status Overview

Status Info

passed



#### Chromatogram



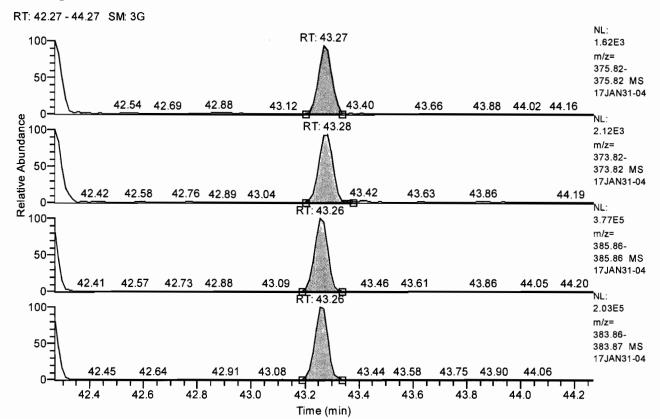
#### **Entry Parameters**

123789-HxCDD Compound Name QM Retention Time 42.88 QM Area 4091 QM Integration Mode Α RM1 Area 4978 Α RM1 Integration Mode ManInt Detection Limit (A) 0.0068 0.500000 Unqualified Amount (A) 0.5000 Adjusted Amount (A) Signal-to-Noise 200 Client Flags

Status Overview

passed

#### Chromatogram

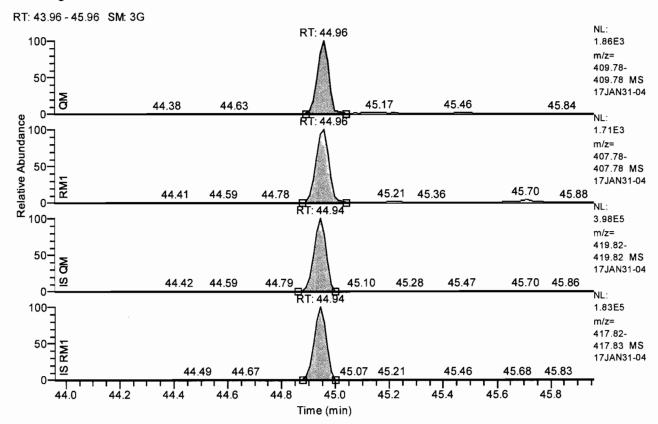


#### **Entry Parameters**

Compound Name 123789-HxCDF QM Retention Time 43.27 QM Area 5122 QM Integration Mode RM1 Area 7290 RM1 Integration Mode Α ManInt 0.0037 Detection Limit (A) Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 328 Client Flags Status Overview passed Status Info



#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.96

QM Area

5496

QM Integration Mode

Α 5779

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0023

Unqualified Amount (A)

0.500000 0.5000

Adjusted Amount (A) Signal-to-Noise

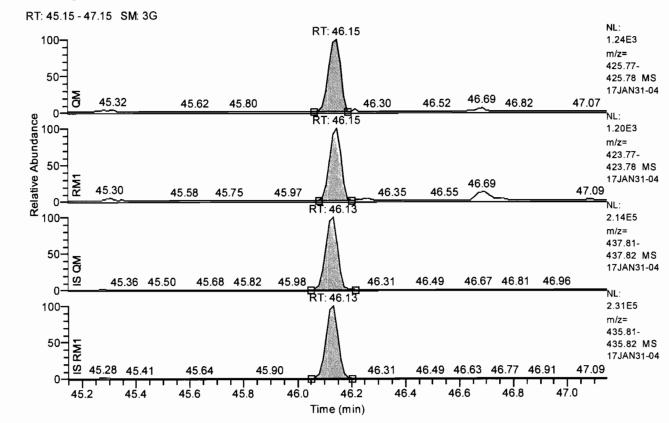
538

Client Flags

Status Overview

passed





#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.15

QM Area

3913

QM Integration Mode

Α 3581

RM1 Area RM1 Integration Mode

Α

ManInt Detection Limit (A)

Unqualified Amount (A)

0.0045 0.500000

Adjusted Amount (A)

0.5000

Signal-to-Noise

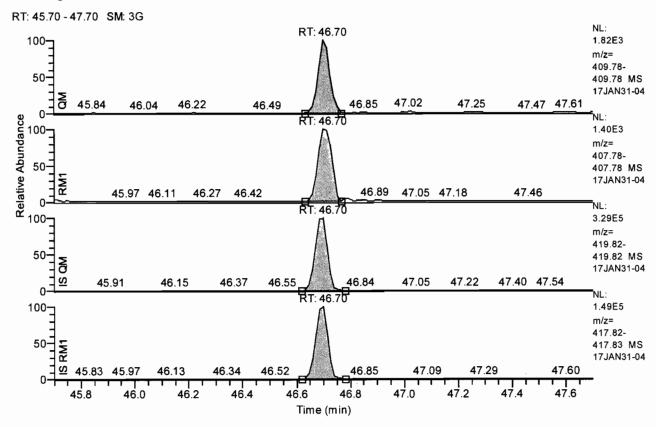
289

Client Flags

Status Overview

passed





#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.70

QM Area

5603

QM Integration Mode

RM1 Area

5087

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0025 0.500000

Adjusted Amount (A)

0.5000

Signal-to-Noise

483

Client Flags

Status Overview

passed

3.84E5 m/z= 469.78-

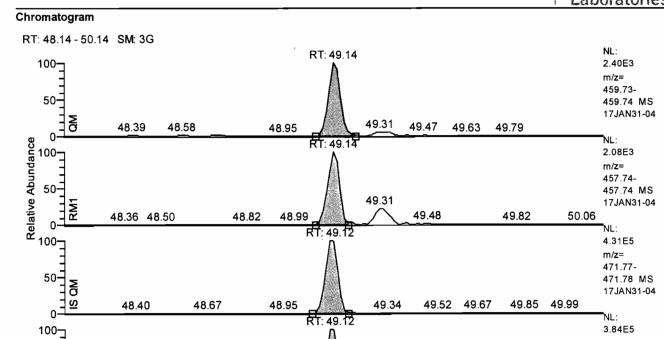
50.05

50.0

469.78 MS 17JAN31-04

eurofins





49.34

49.4

49.2

Time (min)

49.52 49.66

49.6

49.85

49.8

#### **Entry Parameters**

TargetQua

50-IS RM1

48.2

Compound Name	OCDD
QM Retention Time	49.14
QM Area	7308
QM Integration Mode	Α
RM1 Area	6187
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	567
Client Flags	
Status Overview	passed
Status Info	

48.39

48.4

48.56

48.6

48.90

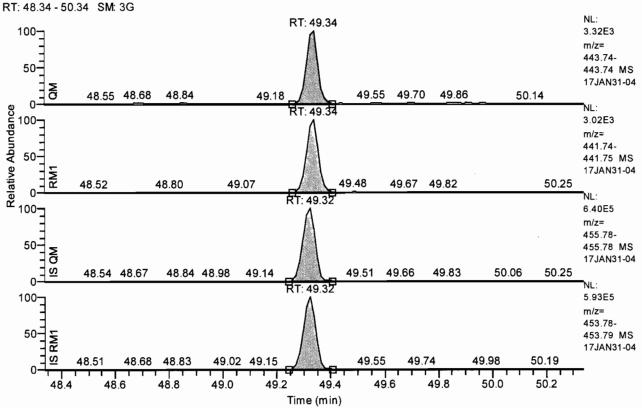
49.0

48.8



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#### **Entry Parameters**

Status Info

Compound Name **OCDF** 49.34 QM Retention Time QM Area 9738 QM Integration Mode RM1 Area 9133 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0051 Unqualified Amount (A) 1.000000 Adjusted Amount (A) 1.0000 Signal-to-Noise 523 Client Flags Status Overview passed





#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/01/31 22:57

**Number of Entries** 

63

Comment

Vial

3

Sample Name

CALDF11737B

Sample ID

CSL01

Inst ID

DF18471-17JAN31

Client

Analyst

ida02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan Data

y:\17jan31\17jan31-04.quan y:\17jan31\17jan31-04.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

Quan Parameter

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

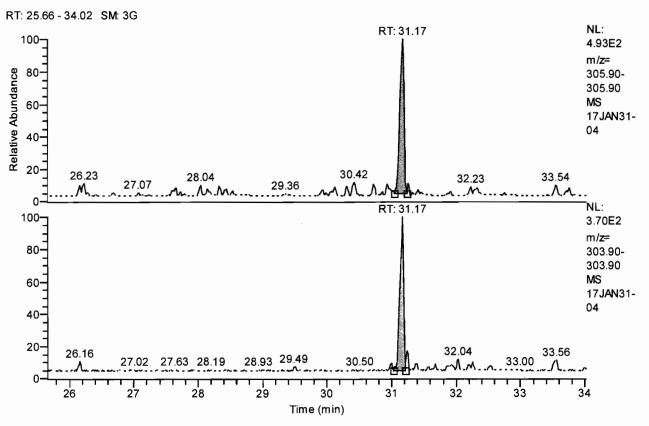
Weighted Regression Factor

1.0



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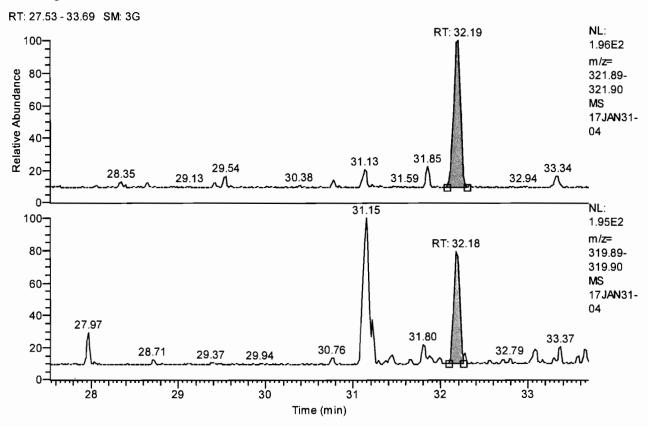
#### **Entry Parameters**

Status Info

Compound Name Total TCDF QM Retention Time 29.84 QM Area 2214 QM Integration Mode RM1 Area 1431 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0022 0.100000 Unqualified Amount (A) Adjusted Amount (A) 0.1000 Signal-to-Noise 139 Client Flags Status Overview passed (1)





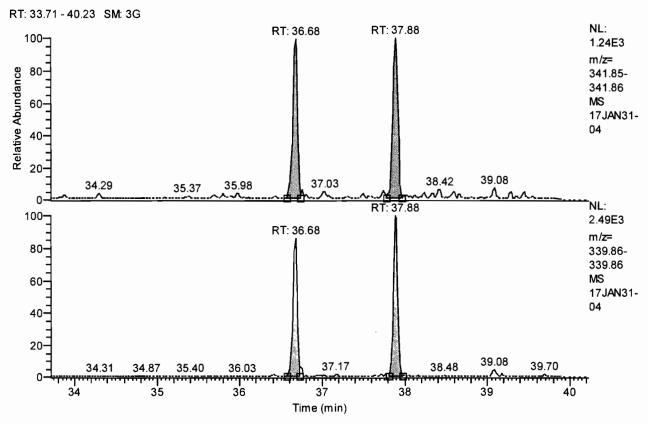


#### **Entry Parameters**

Total TCDD
30.61
984
Α
664
Α
0
0.0030
0.100000
0.1000
80
passed (1)





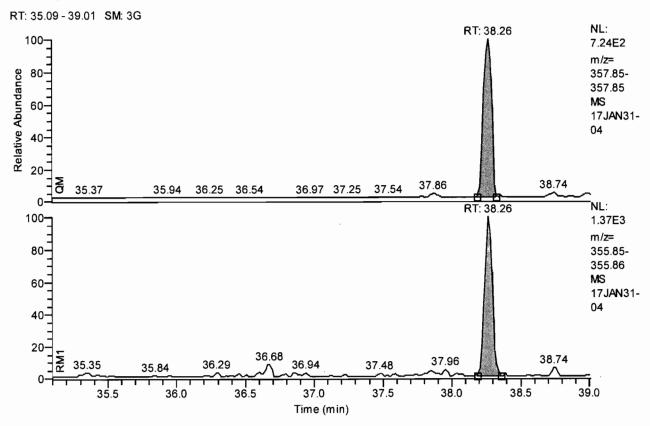


#### **Entry Parameters**

Status Info

Compound Name Total PeCDF 36.97 QM Retention Time QM Area 10441 QM Integration Mode RM1 Area 16926 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0023 0.500000 Unqualified Amount (A) 1.0000 Adjusted Amount (A) Signal-to-Noise 559 Client Flags Status Overview passed (2)



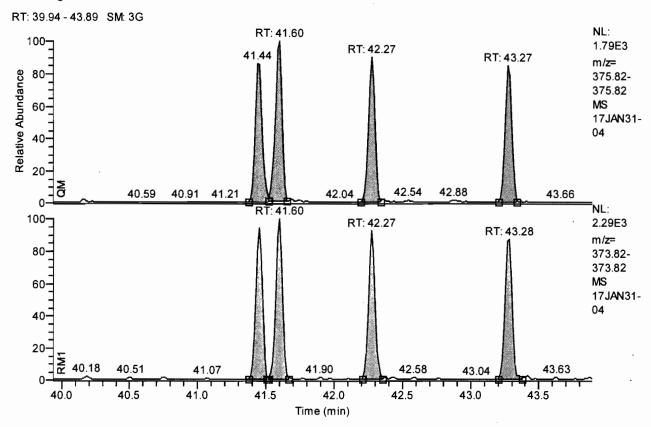


#### **Entry Parameters**

Status Info

Total PeCDD Compound Name QM Retention Time 37.05 2959 QM Area QM Integration Mode RM1 Area 5278 RM1 Integration Mode М ManInt 0.0063 Detection Limit (A) 0.500000 Unqualified Amount (A) Adjusted Amount (A) 0.5000 Signal-to-Noise 193 Client Flags Status Overview passed (1)

### Chromatogram



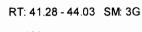
#### **Entry Parameters**

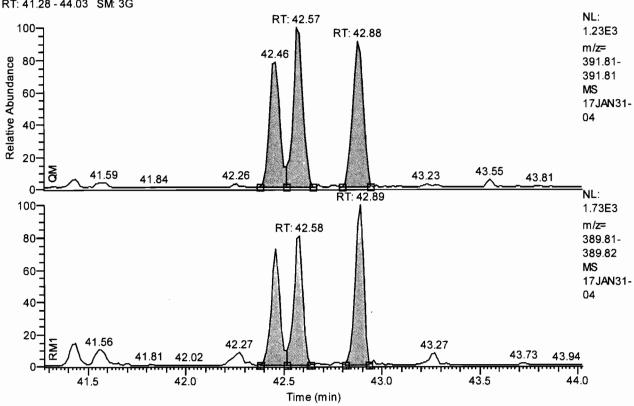
Compound Name	Total HxCD
QM Retention Time	41.91
QM Area	21966
QM Integration Mode	Α
RM1 Area	29126
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0036
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0000
Signal-to-Noise	349
Client Flags	
Status Overview	passed (4)





# eurofins





#### **Entry Parameters**

Compound Name Total HxCDD 42.65 QM Retention Time 11973 QM Area

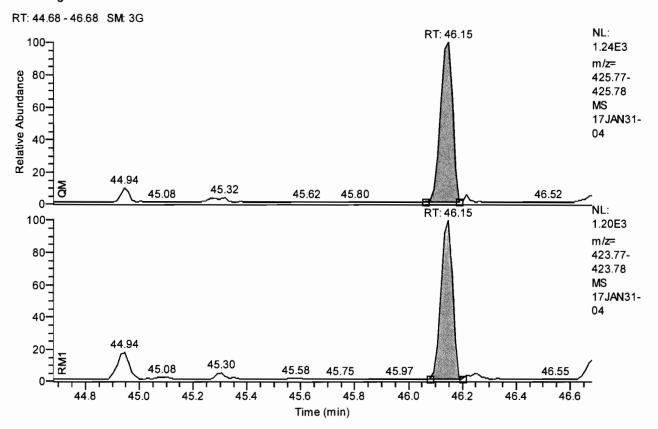
QM Integration Mode RM1 Area 13453

RM1 Integration Mode Α ManInt Detection Limit (A) 0.0072

Unqualified Amount (A) 0.500000 Adjusted Amount (A) 1.5000 Signal-to-Noise 180

Client Flags

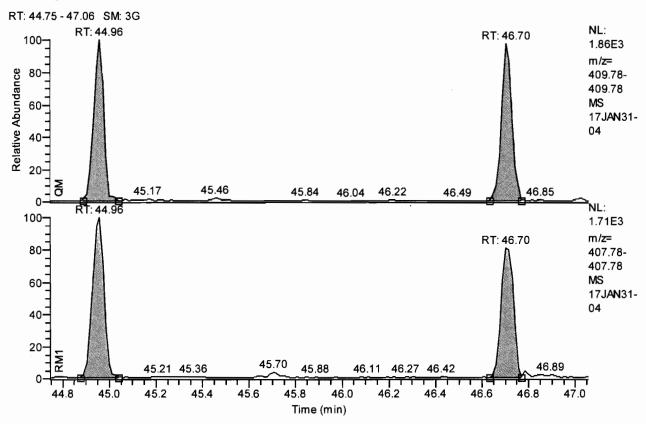
Status Overview passed (3)



#### **Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	45.68
QM Area	3913
QM Integration Mode	Α
RM1 Area	3581
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0045
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	289
Client Flags	
Status Overview	passed (1)
Status Info	





#### **Entry Parameters**

Compound Name Total HpCDF QM Retention Time 45.90 QM Area 11099 QM Integration Mode RM1 Area 10866 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0024 Unqualified Amount (A) 0.500000 Adjusted Amount (A) 1.0000 Signal-to-Noise 510 Client Flags Status Overview passed (2) Status Info





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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/01/31 22:57

Number of Entries

195

Comment

Vial

3

Sample Name

CALDF11737B

Sample ID

CSL01

Inst ID

DF18471-17JAN31

Client

Analyst

ida02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan

y:\17jan31\17jan31-04.quan

Data

y:\17jan31\17jan31-04.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

**Quantitation Status** 

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0 2.5

Det. Limit Factor [hDLF] Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

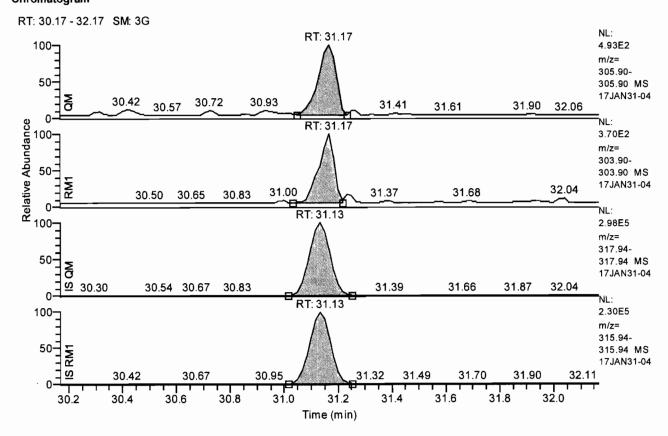
Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0

# Chromatogram



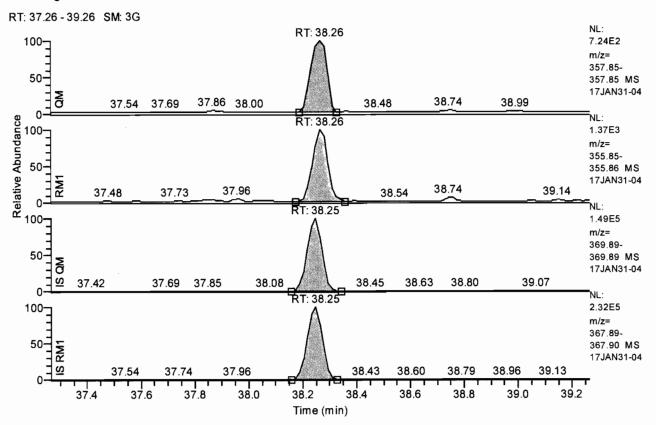
#### **Entry Parameters**

Status Info

2378-TCDF Compound Name QM Retention Time 31.17 QM Area 2244 QM Integration Mode Α RM1 Area 1431 Α RM1 Integration Mode ManInt Detection Limit (A) 0.0022 0.100825 Unqualified Amount (A) Adjusted Amount (A) n.d. Signal-to-Noise 139 Client Flags Status Overview failed

Failed on: Ratio1A

#### Chromatogram



#### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.26

QM Area

2959

QM Integration Mode

RM1 Area

5291

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0063

Unqualified Amount (A) Adjusted Amount (A)

0.500758 n.d.

Signal-to-Noise

193

Client Flags

Status Overview

failed

Status Info

Failed on: Ratio1A







Lancaster Laboratories

#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/01/31 22:57

**Number of Entries** 

195

Comment

Vial

Sample Name

CALDF11737B

Sample ID

CSL01

Inst ID

DF18471-17JAN31

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan

y:\17jan31\17jan31-04.quan

Data

y:\17jan31\17jan31-04.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Script Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height Quantitation Status Sum QM RM1 Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

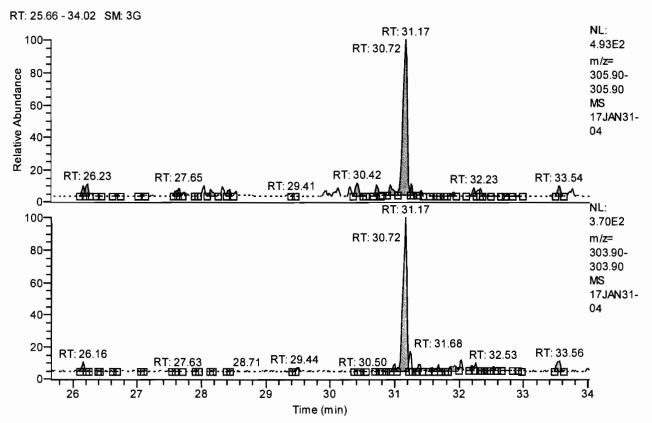
Weighted Regression Factor

1.0



# eurofins Lancaster





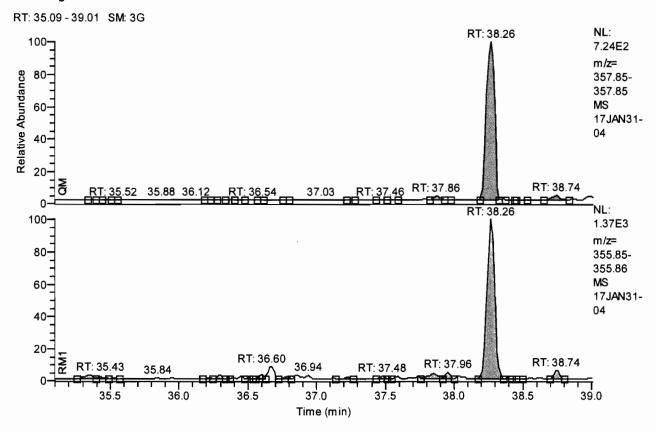
# **Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	29.84
QM Area	42
QM Integration Mode	Α
RM1 Area	36
RM1 Integration Mode	Α
ManInt	1
Detection Limit (A)	0.0022
Unqualified Amount (A)	0.002154
Adjusted Amount (A)	0.0022
Signal-to-Noise	5
Client Flags	
Status Overview	passed (1)





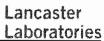




# **Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	37.05
QM Area	2
QM Integration Mode	Α
RM1 Area	3
RM1 Integration Mode	Α
ManInt	1
Detection Limit (A)	0.0063
Unqualified Amount (A)	0.000275
Adjusted Amount (A)	0.0003
Signal-to-Noise	0
Client Flags	
Status Overview	passed (1)
Status Info	







1	No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention	RM1 Time Status	RRT Status
12378-PacCP  34 1907 - 4-6 ppm   332007 - 4-5 ppm   0.67   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   32.68   3	1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm			31.17	31.17	passed	passed
### 129/AP-PLOD 31 867 4- Figer		2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	32.19	32.19	32.18	passed	passed
### STATE NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO. 1972 NO		12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36,68	36.68	36.68	passed	passed
Statistical Color		23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.88	37.88	37.88	passed	
123/173-1027   173/173-1027   173/173-173-173-173-173-173-173-173-173-173-		12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	38.26		38.26	passed	
2									passed	·
10   123/478-44000   33/4 5177 - 4.5 ppm   38/4 5177 - 4.5 ppm   0.67   42.46   42.46   42.46   23.47   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.5									passed	,
10   12/2078-H-CDD   351-8127 - 4-5 ppm   388-8127 - 4-5 ppm   0.67   42.57   42.57   42.58   passed   passed   passed   12   12/2078-H-CDE   375-8174 - 4-5 ppm   388-8127 - 4-5 ppm   0.67   42.56   42.57   42.27   43.28   passed   passed   passed   12   12/2078-H-CDE   40.7781 - 4-5 ppm   40.7781 - 4-5 ppm   0.67   44.27   43.28   passed   passed   passed   12   12/2078-H-CDE   40.7781 - 4-5 ppm   40.7781 - 4-5 ppm   0.67   44.56   44.56   44.57   passed   passed   12   12/2078-H-CDE   45.7781 - 4-5 ppm   40.7781 - 4-5 ppm   0.67   44.76   46.76   46.76   46.70   passed   passed   15   12/2078-H-CDE   45.7281 - 4-5 ppm   40.7781 - 4-5 ppm   0.67   44.76   46.76   46.76   46.70   passed   passed   passed   15   12/2078-H-CDE   45.7281 - 4-5 ppm   40.7781 - 4-5 ppm   0.67   44.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.76   46.7				• • • • • • • • • • • • • • • • • • • •						
11   123788-HCDC   316 1872 + 5 ppm   381 1872 + 5 ppm   378 200 + 5 ppm   0.67   42.27   43.27   43.28   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   pas										
13   123/674-HCDE   378-8174 + 5 gym										
13 123473-H2CDF 409.7796 - 5.5 ppm 40.77819 - 5.5 ppm 0.67 44.96 44.96 43.96 passed passed 15 1234781-H2CDF 409.7796 - 5.5 ppm 47.7819 - 5.5 ppm 0.67 46.70 46.70 46.70 passed passed 15 1234781-H2CDF 409.7796 - 5.5 ppm 47.7797 - 5.5 ppm 0.67 46.70 46.70 46.70 passed passed 17 OCDF 44.7399 - 5.5 ppm 47.7797 - 5.5 ppm 0.67 46.70 46.70 passed passed 17 OCDF 44.7399 - 5.5 ppm 47.7797 - 5.5 ppm 0.67 49.74 40.74 40.74 40.74 40.74 passed passed 17 OCDF 44.7399 - 5.5 ppm 1.00 47.34 13.44 13.44 passed passed 19 13C12-12348-H1CDD 40.05 97 - 5.5 ppm 1.00 47.34 13.44 13.44 13.44 passed passed 19 13C12-12348-H1CDD 40.05 97 - 5.5 ppm 1.00 47.34 13.44 13.44 passed passed 12 13C12-12348-H1CDD 333.8399 - 5.5 ppm 315.909 - 5.5 ppm 0.67 31.13 31.31 31.31 passed passed 12 13C12-12348-H1CDF 35.9 ppm 315.909 - 5.5 ppm 0.67 31.53 13.31 31.31 passed passed 12 13C12-123478-HCCD 35.9 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 38.50 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 38.50 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 38.50 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 ppm 32.5 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.86 37.86 37.86 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.68 37.86 37.86 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 31.86 37.86 37.86 ppm 4.5 ppm 315.909 - 5.5 ppm 0.67 41.54 41.44 41.44 passed passed 13C12-12378-H1CDF 35.68 50.6 - 5.5 ppm 38.8699 - 5.5 ppm 0.67 41.59 41.59 41.59 41.59 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.59 41.59 41.59 41.59 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.56 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 ppm 4.5 ppm 4.0 1.5599 - 5.5 ppm 0.67 41.26 41.26 41.26 ppm 4.5 ppm 31.88849 - 5.5 ppm 31.88849 - 5.5 ppm 31.88										,
14   1234/78-14-CDD   425.737. 4-5 ppm   427.737. 4-5 ppm   677. 784.75   676. 48.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.70   427.				***						·
15   124789-H-CDF										,
10   OCDD										,
18   13C12-1234-FHCDD   443.7389 +-7 Spm   417.829 +-5 Spm   0.67   349.34   49.34   49.34   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed		•	.,							,
19   131-1246-94-10D   331-1393-1-5 pm   331-1386 +-5 pm   0.67   31-14   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41-34   41										·
19   13C12-12948-H-N-DD			***						,	•
20   13C1-22378-PCDC   337,3889 S. ppm   315,9419 S. ppm   0.67   31.13   31.13   21.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16   23.16									p	· ·
21   13/21/2378-PLOD   335,8373 +/-5 ppm   351,900 +/-5 ppm   0.67   32.16   32.16   32.16   passed   passed   22   13/21/21378-PLODF   355,8670 +/-5 ppm   351,900 +/-5 ppm   0.67   37.86   37.86   37.86   38.85   passed   passed   24   13/21/2378-PLODF   358,8670 +/-5 ppm   351,900 +/-5 ppm   0.67   37.86   37.86   37.86   38.85   passed   passed   25   13/21/2378-PLODF   368,8610 +/-5 ppm   367,8869 +/-5 ppm   0.67   32.25   38.25   38.25   passed   passed   25   13/21/2378-PLODF   386,8610 +/-5 ppm   388,8610 +/-5 ppm   0.67   41.59   41.59   41.59   passed   passed   26   13/21/2378-PLODF   386,8610 +/-5 ppm   388,8610 +/-5 ppm   0.67   41.59   41.59   41.59   passed   passed   26   13/21/2378-PLODF   386,8610 +/-5 ppm   41.8550 +/-5 ppm   0.67   42.64   42.26   42.26   passed   passed   26   13/21/2378-PLODF   40.8529 +/-5 ppm   41.8550 +/-5 ppm   0.67   42.56   42.56   42.56   passed   passed   31.500   31.500   40.8529 +/-5 ppm   41.8550 +/-5 ppm   0.67   42.56   42.56   42.56   passed   passed   31.500   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.56   42.56   42.56   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.56   42.56   42.66   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.57   42.57   42.87   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.56   42.56   42.56   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.57   42.57   42.57   42.87   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.56   42.56   42.56   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.57   42.57   42.57   42.87   passed   passed   31.500   40.8529 +/-5 ppm   40.8550 +/-5 ppm   0.67   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42.57   42										·
22 13C12-12378-PACDF 358,8870 +/- 5 ppm 351,900 +/- 5 ppm 0,67 35.86 38.65 38.65 38.65 passed passed 4 13C12-12376-PACDD 358,8870 +/- 5 ppm 367,886 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37.86 37			• • • • • • • • • • • • • • • • • • • •							
23   13C12-23478-HCDF   358.8819 + F spm   378.889 + F spm   0.67   37.88   37.88   37.88   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25   38.25	22									passed
13   13   13   13   13   14   15   15   15   15   15   15   15	23									passed
13C12-122878-HxCDF	24									
13C12-234678-HACDF	25								passed	passed
13C12-123478-HxCDD	26	13C12-123678-HxCDF	385.8610 +/-5 ppm	383.8639 +/- 5 ppm	0.67	41.59	41.59	41.59	passed	passed
29   13C12-123678-HxCDD	27	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.26	42.26	42.26	passed	passed
30   13C12-123788-hcDD	28	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.45	42.45	42.45	passed	passed
31 13C12-123789-HxCDF 385.8810 +/- 5 ppm 383.8639 +/- 5 ppm 0.67 43.26 43.26 43.26 passed passed passed 13C12-1234678-HpCDD 417.8140 +/- 5 ppm 417.8253 +/- 5 ppm 0.67 44.94 44.94 44.94 passed passed passed 31 13C12-123478-HpCDF 419.8220 +/- 5 ppm 435.8169 +/- 5 ppm 0.67 44.94 44.94 44.94 passed passed 31 13C12-123478-HpCDF 419.8220 +/- 5 ppm 417.8253 +/- 5 ppm 0.67 48.70 48.70 48.70 passed passed 32 13C12-CODD 471.7750 +/- 5 ppm 453.7833 +/- 5 ppm 0.67 48.70 48.70 48.70 passed passed 33 13C12-CODD 471.7750 +/- 5 ppm 453.7833 +/- 5 ppm 0.67 48.12 49.12 passed passed 34 13C12-CODF 455.7802 +/- 5 ppm 453.7833 +/- 5 ppm 7.60 28.84 28.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84 29.84	29	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.56	42.56	42.56	passed	passed
32 13C12-1234678-HpCDF	30	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.87	42.87	42.87	passed	passed
13   13   13   13   13   13   14   13   14   13   15   18   18   18   18   18   18   18		13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	43.26	43.26	43.26	passed	
13   13   13   13   12   12   12   13   13		13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.94	44.94	44.94	passed	passed
35   13C12-OCDD			437.8140 +/- 5 ppm	435.8169 +/- 5 ppm					passed	· ·
36										· ·
15   15   15   15   15   15   15   15									passed	
Total TCDD   321 8936 +/-5 ppm   319 8965 +/-5 ppm   5.60   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61   30.61									passed	passed
39 Total PeCDF 341.8567 +-5 ppm 358.857 +-5 ppm 3.56									-	_
Total PeCDD   357,8518 +/-5 ppm   358,8548 +/-5 ppm   3.56   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05   37.05										
41 Total HxCDF 375,8178 +/-5 ppm 378,8028 +/-5 ppm 2,50 42,65 42,65 42,65 — — — — — — — — — — — — — — — — — — —										
Total HxCDP			.,,							
43 Total HpCDD 425,7737 +/-5 ppm 423,7766 +/-5 ppm 1.05 45,68 45,68 45,68 — — — — — — — — — — — — — — — — — — —										
44 Total HpCDF 409.7789 +/-5 ppm 407.7819 +/-5 ppm 7.60 31.17 31.17 31.17 passed passed 45 Single TCDF 305.8987 +/-5 ppm 303.9016 +/-5 ppm 5.60 32.19 32.19 32.18 passed passed 46 Single TCDD 321.8936 +/-5 ppm 319.8965 +/-5 ppm 3.56 38.26 38.26 38.26 38.26 passed passed 47 Single PcCDD 357.8516 +/-5 ppm 355.8546 +/-5 ppm 5.80 32.19 32.19 32.18 passed passed 48 Single PcCDF 341.8567 +/-5 ppm 339.8597 +/-5 ppm 5.93 37.88 37.88 37.88 37.88 37.88 passed passed 49 Single PcCDF 341.8567 +/-5 ppm 339.8597 +/-5 ppm 5.93 36.68 36.68 36.68 passed passed 50 Single HpCDD 425.7737 +/-5 ppm 423.7766 +/-5 ppm 1.05 46.15 46.15 46.15 passed passed 51 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 41.60 41.60 41.60 passed passed 52 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 41.44 41.44 41.44 14.45 passed passed 53 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 42.27 42.27 42.27 passed passed 54 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 42.27 42.27 42.27 passed passed 55 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 42.27 42.27 42.27 passed passed 55 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.57 42.57 42.58 passed passed 56 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.86 42.86 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.86 42.86 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.86 42.86 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.86 42.86 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.86 42.8										
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46 Single PCDD 321,8936 +/-5 ppm 319,8965 +/-5 ppm 5,60 32.19 32.19 32.18 passed passed 47 Single PcCDD 357,8516 +/-5 ppm 355,8546 +/-5 ppm 3,58 38.26 38.26 38.26 passed passed 48 Single PcCDF 311,8567 +/-5 ppm 339,8597 +/-5 ppm 5,83 37,88 37,88 37,88 passed passed 49 Single PcCDF 314,8567 +/-5 ppm 339,8597 +/-5 ppm 5,83 37,88 37,88 37,88 passed passed 50 Single HpCDD 425,7737 +/-5 ppm 423,7766 +/-5 ppm 1 05 46,15 46,15 46,15 passed passed 51 Single HxCDF 375,8178 +/-5 ppm 373,8208 +/-5 ppm 3,59 41,60 41,60 41,60 passed passed 52 Single HxCDF 375,8178 +/-5 ppm 373,8208 +/-5 ppm 3,59 41,44 41,44 41,45 passed passed 53 Single HxCDF 375,8178 +/-5 ppm 373,8208 +/-5 ppm 3,59 41,44 41,44 41,44 41,45 passed passed 54 Single HxCDF 375,8178 +/-5 ppm 373,8208 +/-5 ppm 3,59 42,27 42,27 42,27 passed passed 54 Single HxCDF 375,8178 +/-5 ppm 373,8208 +/-5 ppm 3,59 43,27 43,27 43,28 passed passed 55 Single HxCDD 391,8127 +/-5 ppm 373,8208 +/-5 ppm 2,50 42,57 42,57 42,58 passed passed 56 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,46 42,46 42,46 passed passed 57 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,89 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,88 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,88 passed passed 58 Single HxCDD 391,8127 +/-5 ppm 389,8157 +/-5 ppm 2,50 42,88 42,88 42,88 passed p				• • • • • • • • • • • • • • • • • • • •						passed
47 Single PeCDD 357.8516 +/- 5 ppm 355.8546 +/- 5 ppm 3.56 38.26 38.26 38.26 passed passed 48 Single PeCDF 341.8567 +/- 5 ppm 339.8597 +/- 5 ppm 5.93 37.88 37.88 37.88 passed passed 49 Single PeCDF 341.8567 +/- 5 ppm 339.8597 +/- 5 ppm 5.93 36.68 36.68 36.68 passed passed 50 Single HpCDD 425.7737 +/- 5 ppm 423.7766 +/- 5 ppm 105 46.15 46.15 46.15 passed passed 51 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 41.60 41.60 41.60 passed passed 52 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 41.44 41.44 41.45 passed passed 53 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 42.27 42.27 42.27 passed passed 54 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 43.27 43.28 passed passed 55 Single HxCDF 375.8178 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.57 42.57 42.57 43.28 passed passed 56 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.67 42.67 42.68 42.48 passed passed 57 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.88 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.88 42.88 42.89 passed passed										
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49 Single PeCDF 341.8567 +/- 5 ppm 339.8597 +/- 5 ppm 5.93 36.68 36.68 36.68 passed passed 50 Single HpCDD 425.7737 +/- 5 ppm 423.7766 +/- 5 ppm 1.05 45.15 46.15 46.15 passed passed 51 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 41.60 41.60 41.60 passed passed 52 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 41.60 41.60 41.60 passed passed 53 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 42.27 42.27 42.27 passed passed 54 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.59 42.27 42.27 42.27 passed passed 55 Single HxCDD 391.8127 +/- 5 ppm 373.8208 +/- 5 ppm 2.50 42.57 42.57 42.58 passed passed 56 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.86 42.86 42.89 passed 58 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.8157 +/- 5 ppm 389.	48	•								passed
50 Single HpCDD 425.7737 +/-5 ppm 423.7766 +/-5 ppm 1 05 46.15 46.15 46.15 passed passed 51 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 41.60 41.60 41.60 passed passed passed 52 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 41.44 41.44 41.45 passed passed 53 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 42.27 42.27 42.27 passed passed 54 Single HxCDF 375.8178 +/-5 ppm 373.8208 +/-5 ppm 3.59 42.27 42.27 43.28 passed passed 55 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.57 42.57 42.58 passed passed 56 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.89 passed passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 2.50 42.88 42.89 passed passed 58 Single HxCDD 391.8127 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm 389.8157 +/-5 ppm	49	•		.,					-	passed
51         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         41.60         41.60         41.60         passed         passed           52         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         41.44         41.44         41.45         passed         passed           53         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         42.27         42.27         passed         passed           54         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         43.27         43.27         43.28         passed         passed           55         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         42.27         42.27         passed         passed           55         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.57         42.57         42.58         passed           56         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.46         42.46         42.46         passed           57         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.88         42.88<									,	passed
52         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         41.44         41.44         41.45         passed         passed           53         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         42.27         42.27         42.27         passed         passed           54         Single HxCDF         375.8178 +/-5 ppm         373.8208 +/-5 ppm         3.59         43.27         43.27         43.28         passed         passed           55         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.57         42.57         42.58         passed         passed           56         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.46         42.46         42.46         passed         passed           57         Single HxCDD         391.8127 +/-5 ppm         389.8157 +/-5 ppm         2.50         42.88         42.88         42.89         passed           58         Single HyCDF         409.7789 +/-5 ppm         407.7818 +/-5 ppm         2.50         42.88         42.88         42.89         passed	51									,
54 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.5.9 43.27 43.27 43.28 passed passed 55 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.57 42.57 42.58 passed passed 56 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.88 42.88 42.88 passed passed 58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2.10 44.96 44.96 44.96 passed passed 58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2.10 44.96 44.96 44.96 passed passed	52						41.44	41.45		passed
54 Single HxCDF 375.8178 +/- 5 ppm 373.8208 +/- 5 ppm 3.5.9 43.27 43.27 43.28 passed passed 55 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.57 42.57 42.58 passed passed 56 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.88 42.88 42.89 passed passed 58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2.10 44.96 44.96 44.96 passed passed 58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2.10 44.96 44.96 44.96 passed passed	53	-								passed
56 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.46 42.46 42.46 passed passed 57 Single HxCDD 391.8127 +/- 5 ppm 389.8157 +/- 5 ppm 2.50 42.88 42.89 passed passed 58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2.10 44.96 44.96 44.96 passed passed	54	-					43.27	43.28	passed	passed
56         Single HxCDD         391.8127 +/- 5 ppm         389.8157 +/- 5 ppm         2.50         42.46         42.46         passed         passed           57         Single HxCDD         391.8127 +/- 5 ppm         389.8157 +/- 5 ppm         2.50         42.88         42.88         42.89         passed           58         Single HpCDF         409.7769 +/- 5 ppm         407.7818 +/- 5 ppm         2.10         44.96         44.96         44.96         passed		Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.57	42.57	42.58	passed	passed
58 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2 10 44.96 44.96 passed passed		Single HxCDD	391.8127 +/- 5 ppm		2.50	42.46	42.46	42.46	passed	passed
angle specific services of principles of principles and principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of principles of pr		Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2 50	42.88	42.88	42.89	passed	
59 Single HpCDF 409.7789 +/- 5 ppm 407.7818 +/- 5 ppm 2 10 46.70 46.70 46.70 passed passed		Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2 10	44.96	44.96	44.96	passed	
	59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2 10	46.70	46.70	46.70	passed	passed



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## Entry Parameters

No.	Compaund	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
1	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
2	2378-TCDF	31.17		0.6450 -	0.8950	passed	100.00		passed
3	2378-TCDD	32.19		0.6450 -	0.8950	passed	100.00		passed
4	12378-PeCDF	36.68		1.3150 -	1.7850	passed	100.00		passed
5	23478-PeCDF	37,88 38,26		1.3150 -	1.7850	passed	100.00		passed
6	12378-PeCDD			1.3150 -	1.7850	passed	100.00		
7	123478-HxCDF	41.44		1.0450 -	1.4350	passed	100.00	0- (	ranna.
8	123678-HxCDF 234678-HxCDF	41.60 42.27		1.0450 - 1.0450 -	1.4350	passed	100.00	0- (	
9	123478-HxCDD	42.27 42.46		1.0450 -	1.4350 1.4350	passed passed	100.00 100.00	0- (	
10	123678-HxCDD	42.57		1.0450 -	1.4350	passed	100.00	0- (	-
11	123789-HxCDD	42.88		1,0450 -	1,4350	passed	100.00	0- (	·
12	123789-HxCDF	43.27		1.0450 -	1,4350	passed	100.00	0- (	-
13	1234678-HpCDF	44.96		0.8750 -	1,2050	passed	100.00	0- (	
14	1234678-HpCDD	46.15		0.8750 -	1.2050	passed	100.00	0- (	
15	1234789-HpCDF	46.70		0.8750 -	1.2050	passed	100.00	0- (	,
16	OCDD	49.14		0.7550 -	1,0250	passed	100.00	0- (	
17	OCDF	49.34	0.9379	0.7550 -	1.0250	passed	100.00	0- (	
18	13C12-1234-TCDD	31.41	0.8031	0.6450 -	0.8950	passed	100.00	0- 0	) passed
19	13C12-123468-HxCDD	41.34		1.0450 -	1.4350	. passed	100.00	0 - 0	•
20	13C12-2378-TCDF	31.13	0.7792	0.6450 -	0.8950	passed	100.00	0 - 0	) passed
21	13C12-2378-TCDD	32.16		0.6450 -	0.8950	passed	100.00	0- (	) passed
22	13C12-12378-PeCDF	36.65	1.5695	1.3150 -	1.7850	passed	100.00	0 - 0	) passed
23	13C12-23478-PeCDF	37.86	1.5646	1.3150 -	1.7850	passed	100.00	0 - 0	passed
24	13C12-12378-PeCDD	38.25	1.5928	1.3150 -	1.7850	passed	100.00	0 - 0	passed
25	13C12-123478-HxCDF	41.44	0.5095	0.4250 -	0.5950	passed	100.00	0 - 0	passed
26	13C12-123678-HxCDF	41.59		0.4250 -	0.5950	passed	100.00	0- (	•
27	13C12-234678-HxCDF	42.26		0.4250 -	0.5950	passed	100.00	0 - 0	· · · · · · · · · · · · · · · · · · ·
28	13C12-123478-HxCDD	42.45		1 0450 -	1.4350	passed	100.00	0- (	,
29	13C12-123678-HxCDD	42.56		1.0450 -	1.4350	passed	100.00	0- (	P
30	13C12-123789-HxCDD	42.87		1.0450 -	1.4350	passed	100.00	0- (	•
31	13C12-123789-HxCDF	43.26		0.4250 -	0.5950	passed	100.00	0 - (	Ferror
32 33	13C12-1234678-HpCDF	44.94		0.3650 -	0.5150	passed	100.00	0 - 0	
34	13C12-1234678-HpCDD 13C12-1234789-HpCDF	46.13 46.70		0.8750 -	1.2050	passed	100.00	0 - 0	,
35	13C12-1234789-HpCDF	49.12		0.3650 - 0.7550 -	0.5150 1.0250	passed passed	100.00 100.00	0- (	,
36	13C12-0CDF	49.32		0.7550 -	1.0250		100.00	0- (	· ·
37	Total TCDF	29.84		0.7550 -	0.8950	passed	100.00	0- (	,
38	Total TCDD	30.61		0.6450 -	0.8950		100.00	0- (	
39	Total PeCDF	36.97		1.3150 -	1.7850	_	100.00	0- (	
40	Total PeCDD	37.05		1.3150 -	1.7850	_	100.00	0- (	
41	Total HxCDF	41.91		1.0450 -	1.4350		100.00	0- (	
42	Total HxCDD	42 65		1.0450 -	1.4350		100.00	0- 0	
43	Total HpCDD	45.68		0.8750 -	1.2050		100.00	0 - 0	_
44	Total HpCDF	45.90		0.8750 -	1.2050		100.00	0 - 0	_
<b>4</b> 5	Single TCDF	31.17	0.6462	0.6450 -	0.8950	passed	100.00	0 - 0	passed
46	Single TCDD	32.19	0.6752	0 6450 -	0.8950	passed	100.00	0 - 0	) passed
47	Single PeCDD	38.26	1.7838	1.3150 -	1.7850	passed	100.00	0 - 0	passed
48	Single PeCDF	37.66		1.3150 -	1.7850	passed	100.00	0 - 0	
49	Single PeCDF	36.68		1.3150 -	1.7850	passed	100.00	0 - 0	,
50	Single HpCDD	46.15		0.8750 -	1.2050	passed	100.00	0 - 0	-
51	Single HxCDF	41.60		1.0450 -	1.4350	passed	100.00	0 - 0	
52	Single HxCDF	41.44		1.0450 -	1.4350	passed	100.00	0 - 0	•
53	Single HxCDF	42.27		1.0450 -	1.4350	passed	100.00	0 - 0	·
54	Single HxCDF	43.27		1.0450 -	1.4350	passed	100.00	0 - 0	•
55	Single HxCDD	42.57		1.0450 -	1.4350	passed	100.00	0 - (	
56 57	Single HxCDD	42.46		1.0450 -	1.4350	passed	100.00	0- (	•
58	Single HxCDD	42.88		1.0450 -	1.4350	passed	100.00	0- 0	•
59	Single HpCDF	44.96		0.8750 -	1.2050	passed	100.00	0- 0	,
29	Single HpCDF	46.70	0.9079	0.8750 -	1.2050	passed	100.00	0 - 0	passed





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# Entry Parameters

		61-1-1	CHID I I	r	1011		T 2014	1					
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	31,17	2214	M	1431	A		0.100000	0.1000	0.100000	139	. iaya
2	2378-TCDD	passed	32.19	984	A		A		0.100000	0,1000	0.100000	80	
3	12378-PeCDF	passed	36.68	5060	A		A		0,500000	0.5000	0.500000	532	
4	23478-PeCDF	passed	37.88	5380	A		A		0.500000	0.5000	0.500000	585	
5	12378-PeCDD	passed	38.26	2959	A	****	м		0.500000	0.5000	0.500000	193	
6	123478-HxCDF	passed	41.44	5444	A	7000	Α		0.500000	0.5000	0.500000	343	
7	123678-HxCDF	passed	41.60	6125	A		A		0.500000	0.5000	0.500000	378	
8	234678-HxCDF	passed	42.27	5275	A		A		0.500000	0.5000	0.500000	347	
9	123478-HxCDD	passed	42.46	3610	A		A		0.500000	0.5000	0.500000	156	
10	123678-HxCDD	passed	42.57	4271	A		A		0,500000	0,5000	0.500000	184	
11	123789-HxCDD	passed	42.88	4091	А	4978	A		0.500000	0.5000	0.500000	200	
12	123789-HxCDF	passed	43.27	5122	А	7290	Α	0.0037	0.500000	0.5000	0.500000	328	
13	1234678-HpCDF	passed	44.96	5496	А	5779	Α	0.0023	0.500000	0.5000	0.500000	538	
14	1234678-HpCDD	passed	46.15	3913	Α	3581	А		0.500000	0.5000	0.500000	289	
15	1234789-HpCDF	passed	46.70	5603	Α	5087	Α	0.0025	0.500000	0.5000	0.500000	483	
16	OCDD	passed	49.14	7308	Α	6187	Α	0.0047	1.000000	1.0000	1.000000	567	
17	OCDF	passed	49.34	9738	А	9133	Α		1.000000	1.0000	1.000000	523	
18	13C12-1234-TCDD	passed	31.41	859424	Α	690222	Α	0.0121	100.000000	100.0000	100.000000	20596	
19	13C12-123468-HxCDD	passed	41.34	757718	А		A		100.000000	100.0000	100.000000	11104	
20	13C12-2378-TCDF	passed	31.13	1614889	А	1258368	Α		100.000000	100.0000	100.000000	55032	
21	13C12-2378-TCDD	passed	32.16	843952	Α	659847	А	0.0125	100,000000	100.0000	100.000000	21338	
22	13C12-12378-PeCDF	passed	36.65	1017487	А	1596981	Α	0.0298	100.00000	100.0000	100.000000	10972	
23	13C12-23478-PeCDF	passed	37.86	995810	А	1558028	Α	0.0305	100,000000	100.0000	100.000000	11193	
24	13C12-12378-PeCDD	passed	38.25	568191	Α	905030	Α	0.0201	100.000000	100.0000	100.000000	17204	
25	13C12-123478-HxCDF	passed	41.44	1437426	Α	732340	Α	0.0246	100.000000	100.0000	100.000000	9942	
26	13C12-123678-HxCDF	passed	41.59	1452339	Α	784314	Α	0.0237	100.000000	100.0000	100.000000	10342	
27	13C12-234678-HxCDF	passed	42.26	1359673	Α	726044	Α	0.0256	100.000000	100.0000	100.000000	10242	
28	13C12-123478-HxCDD	passed	42.45	700908	A	870856	A	0,0246	100.000000	100,0000	100.000000	10478	
29	13C12-123678-HxCDD	passed	42.56	719073	A	895012	Α	0.0239	100.000000	100.0000	100.000000	10795	
30	13C12-123789-HxCDD	passed	42.87	711820	A	870872	Α	0.0244	100.000000	100.0000	100.000000	10319	
31	13C12-123789-HxCDF	passed	43.26	1305618	A	694171	Α	0.0267	100.000000	100,0000	100.000000	9500	
32	13C12-1234678-HpCDF	passed	44.94	1269886	A	583331	Α	0.0322	100.000000	100,0000	100.000000	8509	
33	13C12-1234678-HpCDD	passed	46.13	690399	A	745248	Α	0.0266	100.000000	100.0000	100.000000	10195	
34	13C12-1234789-HpCDF	passed	46.70	1085981	Α		A	0.0379	100.000000	100.0000	100.000000	6996	
35	13C12-OCDD	passed	49.12	1393945	A	1258306	Α	0.0204	200.000000	200.0000	200.000000	26347	
36	13C12-OCDF	passed	49.32	2051878	Α		Α	0.0218	200.000000	200.0000	200.000000	25215	
37	Total TCDF	passed (1)	29.84	2214	M		A	0.0022	0.100000	0.1000	0.100000	139	
36	Total TCDD	passed (1)	30.61	984	Α		Α	0.0030	0.100000	0.1000	0.100000	80	
39	Total PeCDF	passed (2)	36.97	10441	Α	16926	Α	0.0023	0.500000	1.0000	0.500000	559	
40	Total PeCDD	passed (1)	37.05	2959	Α	5278	М		0.500000	0.5000	0.500000	193	
41	Total HxCDF	passed (4)	41.91	21966	Α		Α	0.0036	0.500000	2.0000	0.500000	349	
42	Total HxCDD	passed (3)	42.65	11973	Α		Α		0.500000	1.5000	0.500000	180	
43	Total HpCDD	passed (1)	45.68	3913	A	3581	Α	0.0045	0.500000	0.5000	0.500000	289	
44	Total HpCDF	passed (2)	45.90	11099	A	10866	A	0.0024	0.500000	1.0000	0.500000	510	
45 46	Single TCDF	passed	31.17	2214	М		A		0.100000	0.1000	0.100000	139	
46 47	Single TCDD	passed	32.19	984	Α	664	A	0.0030	0.100000	0.1000	0.100000	80	
47	Single PeCDD	passed	38.26	2959	A		М	0.0063	0.500000	0.5000	0.500000	193	
48 49	Single PeCDF	passed	37.88	5380	A	8776	A	0.0022	0.500000	0.5000	0.500000	585	
49 50	Single PeCDF	passed	36.68	5060	A	8150	A	0.0024	0.500000	0.5000	0.500000	532	
50 51	Single HpCDD	passed	46.15	3913 6125	A	3581	A	0.0045	0.500000	0.5000	0.500000	289 378	
51 52	Single HxCDF	passed	41.60		A	7653	A		0.500000	0.5000	0.500000		
	Single HxCDF	passed	41.44	5444	A	7288	A	0.0036	0.500000	0.5000	0.500000	343	
53 54	Single HxCDF	passed	42.27	5275	A	6895	A	0.0038	0.500000	0.5000	0.500000	347	
54 55	Single HxCDF	passed	43.27	5122	A	7290	A	0.0037	0.500000	0.5000	0.500000	328	
56	Single HxCDD	passed	42.57	4271	A	4548	A	0.0068	0,500000	0.5000	0.500000	184	
56 57	Single HxCDD	passed	42.46	3610 4091	A	3927	A	0.0080	0.500000	0.5000	0.500000	156	
58	Single HxCDD	passed	42.88	4091 5496	A	4978 5779	A	0.0066	0.500000	0.5000	0.500000 0.500000	200 538	
59	Single HpCDF	passed	44.96 46.70	5496	A	5//9	A	0.0024 0.0025	0.500000	0.5000 0.5000	0.500000	538 483	
29	Single HpCDF	passed	46.70	5003	Α	5087	Α	0.0025	0.500000	0.5000	0.500000	483	

File Name: Y:\17JAN31\17JAN31-04 Acq. Data: 1/31/2017 10:57:03 PM Instrument ID: DF18471-17JAN31 Sample ID: CSL01 Sample Name: CALDF11737B PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1017 817 974 727 1204 1352 28.79 1365 4.61E5 28,06 100-25.37 31.99 23,84 34.52 34.74 m/z=291.9825-80-292.9825 MS 60-17JAN31-04 40-20-0-NL: 1588 1660 1450 1367 5.07E5 38.26 39.37 36.14 34.86 100-Programme Workship m/z=330.4792-80-331.4792 MS 60-17JAN31-04 40 20-0-1975 NL: 1722 1903 1704 43.75 2012 2.69E5 40.35 40.10 42,78 100-44.25 m/z=1617 1429 1368 380.4760-38,71 35.81 Relative Abundance 34.87 80-381.4760 MS 60-17JAN31-04 40-20-0-2161 NL: 2220 2073 46.40 6.42E4 2026 100 47,21 45,18 m/z=44.53 404.4760-2014 80-405.4760 MS 60-17JAN31-04 40-20-0 2290 2428 NL: 48.26 50.10 6.57E4 100m/z=442.4728-80-443.4728 MS 60-17JAN31-04 40 20-AlL01 Page 207 of 560 32 42 By ujd2 at 10:16 am, 2/1/17 By UMJS at 10:13 am, 29/201 Time (min)

```
17JAN31-04

*** file opened Tue Jan 31 23:02:28 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 31-Jan-17 23:02:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT
```

Mid Time Wi		251110	End C	.clotimo
Start	L Mea	asure	End C	ycletime
# 1 11:30 # 2 21:00 # 3 34:44 # 4 39:47 # 5 44:15 # 6 48:00	min 9:30 min 13:44 min 5:03 min 4:27 min 3:45 min 3:00	min 21:00 min 34:44 min 39:47 min 44:15 min 48:00 min 51:00	min 1.00 min 1.00 min 0.90 min 0.80 min 0.80 min 0.80	sec sec sec sec sec sec
220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320	1 F int gr 1 1 1 20 1 2 1 2 1 1 1 1 1 2 1 2 1 1 1 2 1 2 1 2	time (ms) 95 4 95 47 47 95 47 47 95 95 47 47		
mass	F int gr 1 20 1 1 1 1 1 5 1 5 1 1 1	time (ms) 5 118 118 23 23 118 118		





Page 1

```
331.9363
                             23
 333.9333
                5
                             23
 339.8592
                1
                    1
                            118
                1
 341.8562
                            118
               20
2
 354.9787 c
                    1
                               5
 375.8364
                    1
                             59
Window # 3
     mass F
               int
                          time (ms)
                     gr
               20
 330.9787
                    1
                              6
 339.8592
                1
                    1
                            133
                 1
                    1
                            133
 341.8562
 351.8994
                             44
                 3
                    1
                              44
 353.8965
                3
                    1
 355.8541
                    1
                            133
 357.8511
                    1
                            133
 367.8943
                             44
                    1
                3
                              44
 369.8914
                    1
 380.9755 c
               20
                    1
                              6
                2
                    1
 409.7969
                              66
Window # 4
      mass F
               int
                     gr
                          time (ms)
                            117
                    1
 373.8201
                1
 375.8172
                1
                    1
                            117
 380.9755
               20
                    1
                               5
                              39
                    1
 383.8634
                 3
 385.8604
                 3
                    1
                              39
 389.8151
                1
                    1
                            117
 391.8121
                            117
                              39
 401.8554
                3
                    1
                    1
                              39
 403.8524
 430.9723 c
                               5
               20
                    1
 445.7550
                2
                    1
                              58
Window # 5
      mass F
               int
                          time (ms)
                     gr
                               5
 404.9755
               20
                    1
 407.7812
                    1
                            117
                1
 409.7783
                1
                    1
                            117
 417.8244
                              39
 419.8215
                              39
                    1
 423.7761
                 1
                    1
                            117
 425.7732
                            117
 435.8164
                              39
                    1
                3
 437.8134
                    1
                              39
 479.7160
                    1
                              58
               20
                    1
                               5
 480.9691 c
Window # 6
                          time (ms)
      mass F
               int
                     gr
 441.7422
                    1
                              95
                1
 442.9723 1
                               4
               20
                    1
                             95
95
 443.7393
                1
                    1
 453.7825
 455.7795
                              95
 457.7372
                1
                              95
                    1
 459.7342
                 1
                    1
                              95
 469.7774
                    1
                              31
                 3
 471.7745
                    1
                              31
 492.9691 c
               20
                    1
                              4
                    1
                              47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.0000
BQUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0155	FVINLET	0.0276	FVSRC	0.0273
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1460524.2399	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8977	RELEN	0.0000
RES	12476.8853	RPUSHER	-14.5568	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.0000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.7e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

MID Time Window 1: Resolution is 11373.
MID Time Window 2: Resolution is 11461.
MID Time Window 3: Resolution is 11648.
MID Time Window 4: Resolution is 11061.
Page 3





17JAN31-04 MID Time Window 5: Resolution is 11753. MID Time Window 6: Resolution is 12476.

Amplifier Offset: 89.

*** File closed Tue Jan 31 23:53:30 2017

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#### **Quantitation Settings**

**Data File Parameter** 

2017/02/01 02:43 Acq. Data

Number of Entries

Comment

Vial

Sample Name CALDF21737B

Sample ID CS101

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

64

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-08.quan Data y:\17jan31\17jan31-08.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

1.0 Injection Volume [hIJV] Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

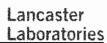
Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





# Entry Parameters

No.	Compound	QM Retention	Status	Amount Status	RM1 Time Status	Ratio1	Recovery Status	RRT Status	Status Info
1	Name 2378-TCDF	Time 31.14	Overview passed	status passed	Status	passed	Status passed	passed	THE THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF T
2	2378-TCDD	32.17	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.66	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.87	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	38.26	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.45	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.60	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.27	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.57	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.89	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.27	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.95	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.13	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.71	passed	passed	passed	passed	passed	passed	
16	OCDD	49.13	passed	passed	passed	passed	passed	passed	
17	OCDF	49.33	passed	passed	passed		passed	passed	
18	13C12-1278-TCDD (CRS)	32.53	passed	passed	passed		passed	passed	
19	13C12-1234-TCDD	31.40		passed	passed		passed	passed	
20	13C12-123468-HxCDD	41.34	passed	passed	passed		passed	passed passed	
21 22	13C12-2378-TCDF	31.11	passed	passed	passed		passed	passed	
23	13C12-2378-TCDD	32.13	,	passed	passed		passed	passed passed	
24	13C12-12378-PeCDF 13C12-23478-PeCDF	36.64 37.86	passed passed	passed passed	passed passed	passed passed	passed passed	passed	
25	13C12-23478-PeCDF	37.86	passed	passed	,	passed	passed	passed	
26	13C12-123478-HxCDF	41.42		passed	passed passed		passed	passed	
27	13C12-123678-HxCDF	41.58		passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	42.26		passed	passed	passed	passed	passed	
29	13C12-123476-HxCDD	42.44		passed	passed		passed	passed	
30	13C12-123678-HxCDD	42.55	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.88	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.25	passed	passed	passed	passed	passed	passed	,
33	13C12-1234678-HpCDF	44.94	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.13		passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.70		passed	passed	passed	passed		
36	13C12-OCDD	49.13		passed	passed		passed	passed	
37	13C12-OCDF	49.32		passed	passed	passed	passed	passed	
38 39	Total TCDF	29.82		_	_		-	_	
40	Total TCDD	30.59		~			_		
41	Total PeCDF Total PeCDD	36.96 37.04				_	_		
42	Total HxCDF	41.91				_			
43	Total HxCDD	42.65		-	_		_		
44	Total HpCDD	45.68				_		-	
45	Total HpCDF	45.90					_	_	
46	Single TCDF	31.14		passed	passed	passed	passed	passed	
47	Single TCDD	32.17		passed	passed		passed		
48	Single PeCDD	38.26	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.87	passed	passed	passed	passed	passed	passed	
50	Single PeCDF	36.66	passed	passed	passed	passed	passed		
51	Single HpCDD	46.13		passed	passed	passed	passed		
52	Single HxCDF	42.27		passed	passed	passed	passed		
53	Single HxCDF	41.45			passed	passed			
54	Single HxCDF	41.60			passed				
55	Single HxCDF	43.27			passed				
56	Single HxCDD	42.89		passed	passed				
57	Single HxCDD	42.46		passed	passed				
58 59	Single HxCDD	42.57		passed	passed		passed		
60	Single HpCDF	44.95			passed				
90	Single HpCDF	46.71	passed	passed	passed	passed	passed	passed	



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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 02:43

**Number of Entries** 

Comment

Vial

CALDF21737B Sample Name

Sample ID CS101

DF18471-17JAN31 Inst ID

Client

Analyst ida02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

64

BatchNo Barcode

**Files Parameter** 

y:\17jan31\17jan31-08.quan Quan y:\17jan31\17jan31-08.raw Data

Response y:\responsefiles\df18471-17jan31dfical.resp

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

Compatibility off QualBrowser Compatibility Sum Area/Height Sum QM RM1 Dependend on Area Quantitation Status

Injection Volume [hIJV] 1.0 1.0 Sample Volume [hSV] Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

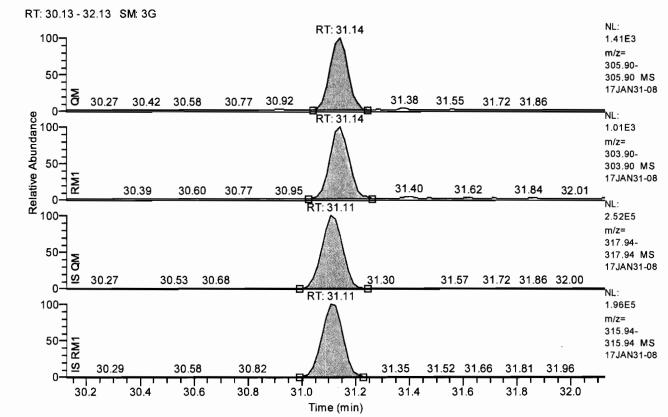
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



# eurofins Lancaster

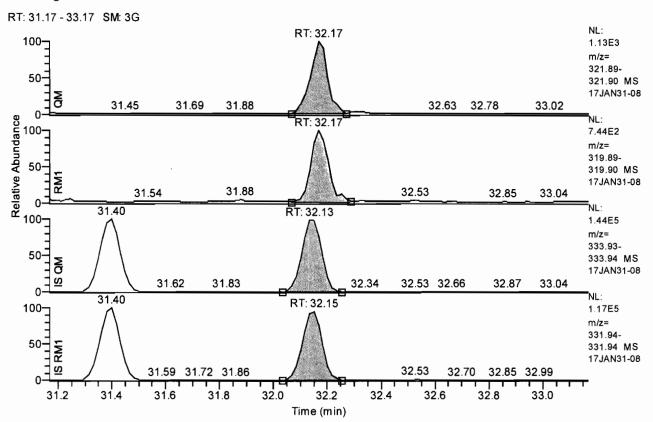




#### **Entry Parameters**

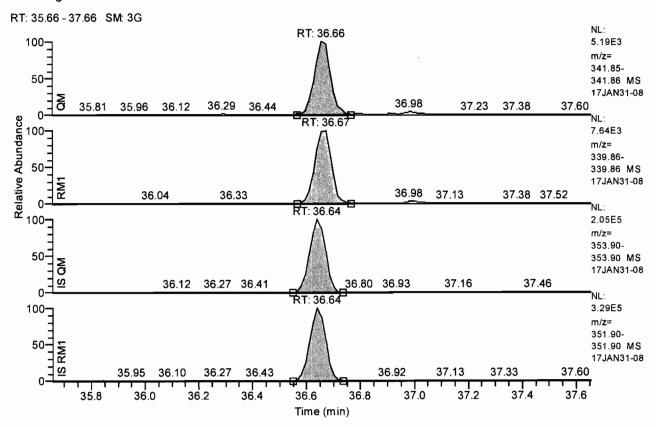
Status Info

Compound Name 2378-TCDF QM Retention Time 31.14 QM Area 6702 QM Integration Mode Α 5002 RM1 Area RM1 Integration Mode Α Manint Detection Limit (A) 0.0033 Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 432 Client Flags Status Overview passed



#### **Entry Parameters**

2378-TCDD
32.17
5065
Α
3314
М
1
0.0033
0.500000
0.5000
428
passed



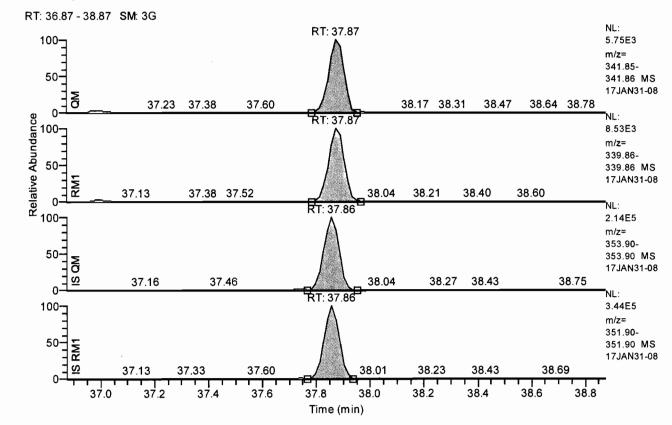
#### **Entry Parameters**

Status Info

Compound Name 12378-PeCDF QM Retention Time 36.66 QM Area 21515 QM Integration Mode RM1 Area 32868 RM1 Integration Mode Α Manint 0.0030 Detection Limit (A) 2.500000 Unqualified Amount (A) 2.5000 Adjusted Amount (A) 1998 Signal-to-Noise Client Flags Status Overview passed

# eurofins Lancaster





#### **Entry Parameters**

Compound Name

23478-PeCDF

QM Retention Time

37.87

QM Area

22543

QM Integration Mode

Α

RM1 Area

34328

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0027

Unqualified Amount (A)

2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

2223

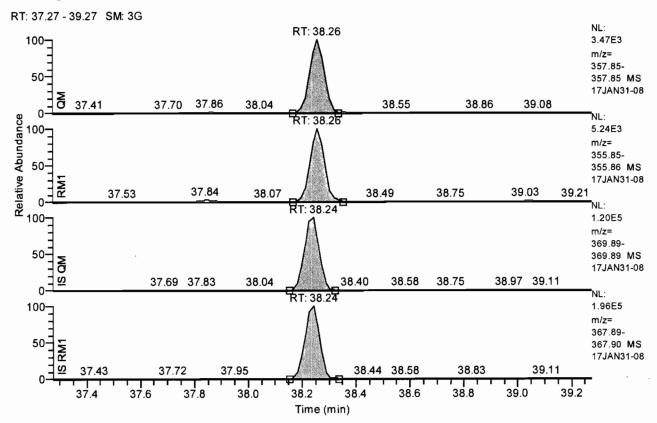
Client Flags

Status Overview

passed







## **Entry Parameters**

Compound Name

12378-PeCDD

**QM Retention Time** 

38.26

QM Area

12817

QM Integration Mode

Α

RM1 Area

19144

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0077 2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

847

Client Flags

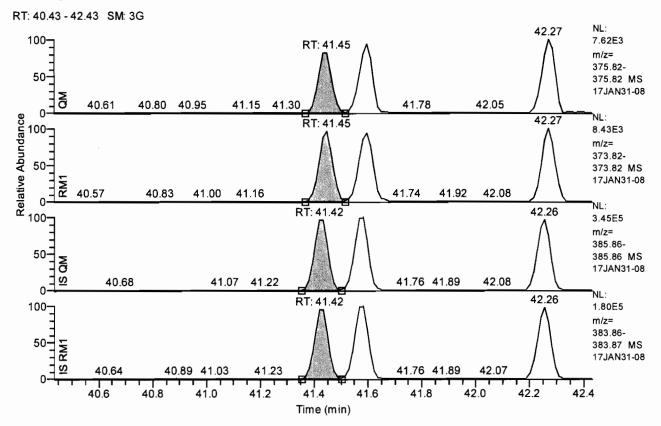
Status Overview

passed

Status Info

TargetQua

### Chromatogram



#### **Entry Parameters**

Compound Name 123478-HxCDF

QM Retention Time 41.45 QM Area 22382

QM Integration Mode Α

RM1 Area 28775

RM1 Integration Mode Α

ManInt

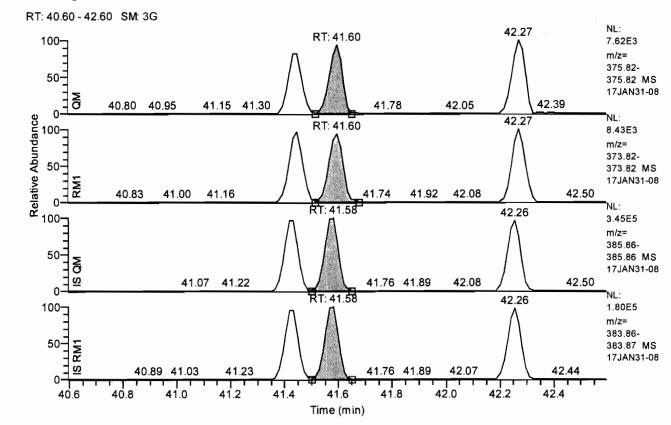
Detection Limit (A) 0.0074

Unqualified Amount (A) 2.500000 2.5000 Adjusted Amount (A)

Signal-to-Noise 851

Client Flags

Status Overview passed



#### **Entry Parameters**

123678-HxCDF Compound Name

QM Retention Time 41.60

24118 QM Area

QM Integration Mode 29074 RM1 Area

RM1 Integration Mode Α

ManInt

0.0071 Detection Limit (A)

Unqualified Amount (A) 2.500000

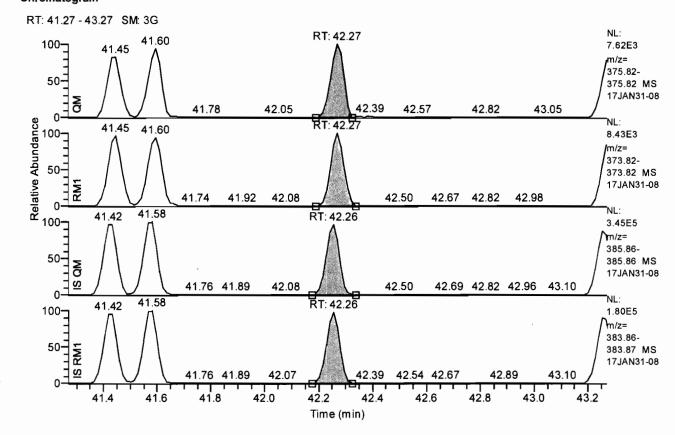
2.5000 Adjusted Amount (A)

883 Signal-to-Noise

Client Flags

Status Overview passed

# Chromatogram



#### **Entry Parameters**

Detection Limit (A)

234678-HxCDF Compound Name

QM Retention Time 42.27

25712 QM Area

QM Integration Mode Α

RM1 Area 28825

RM1 Integration Mode Α

ManInt

0.0066

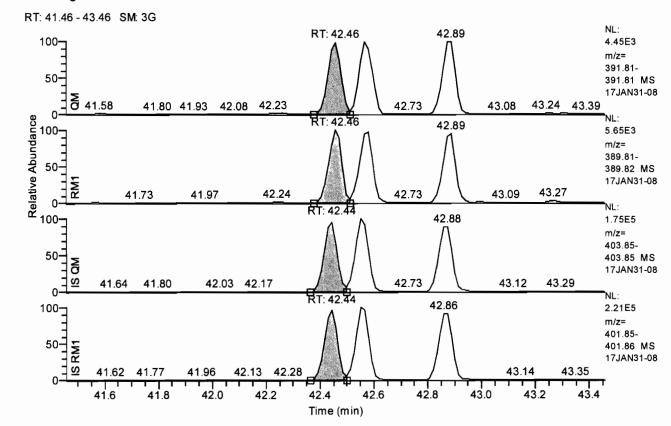
2.500000 Unqualified Amount (A)

Adjusted Amount (A) 2.5000

Signal-to-Noise 943

Client Flags

Status Overview passed



#### **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.46

QM Area

14707

QM Integration Mode

Α

RM1 Area

19000

RM1 Integration Mode

Α

ManInt

0.0081

Detection Limit (A)

2.500000

Unqualified Amount (A)
Adjusted Amount (A)

2.5000

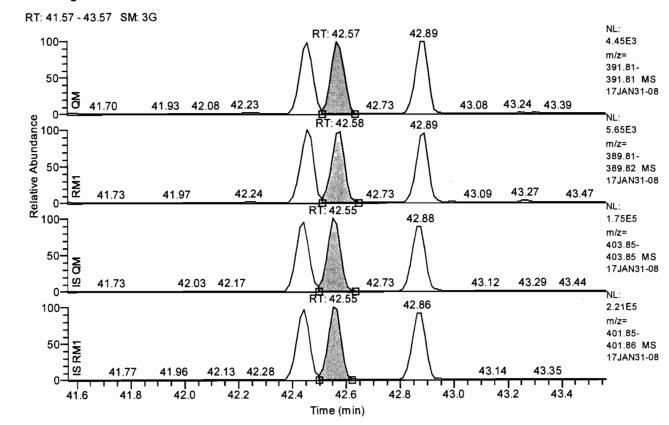
Signal-to-Noise

776

Client Flags

Status Overview

passed



#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.57

QM Area

15073

QM Integration Mode

RM1 Area

18843

RM1 Integration Mode

Α

ManInt

0.0079

Detection Limit (A) Unqualified Amount (A)

2.500000

Adjusted Amount (A)

2.5000

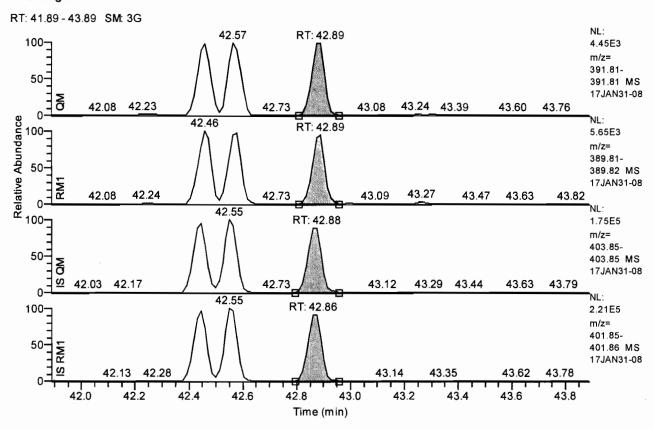
Signal-to-Noise

773

Client Flags

Status Overview

passed



#### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.89 14695

QM Area

۸

QM Integration Mode RM1 Area

17380

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)

0.0088 2.500000

Unqualified Amount (A) Adjusted Amount (A)

2.5000

Signal-to-Noise

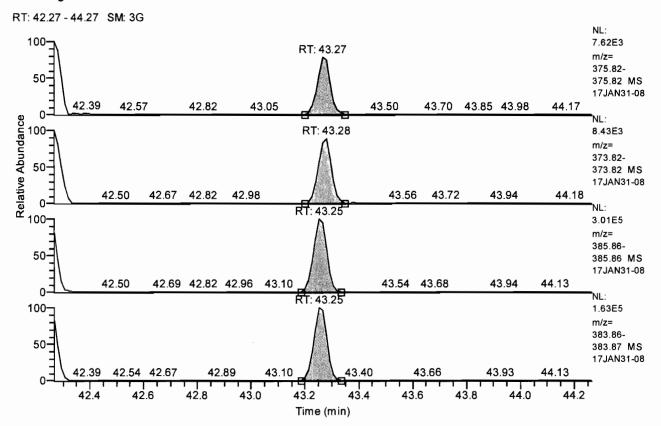
762

Client Flags

Status Overview

passed

# Chromatogram



## **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.27

QM Area

19908

QM Integration Mode

25934

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0080 2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

790

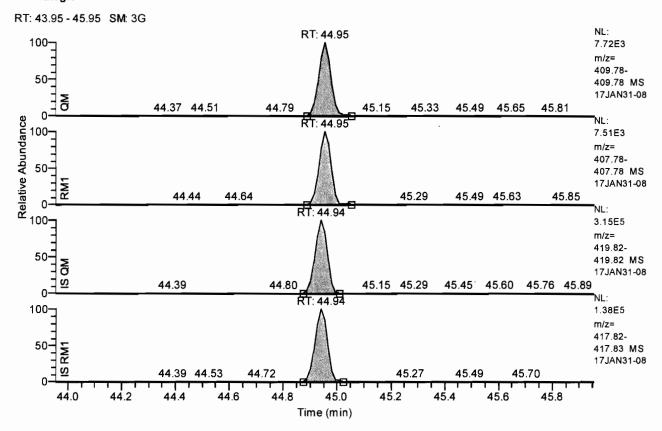
Client Flags

Status Overview

passed

Status Info

ermoFisher 1081



## **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.95

QM Area

24704

QM Integration Mode

Α

RM1 Area

23614

RM1 Integration Mode

Α

ManInt Detection Limit (A)

Unqualified Amount (A)

0.0046 2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

1400

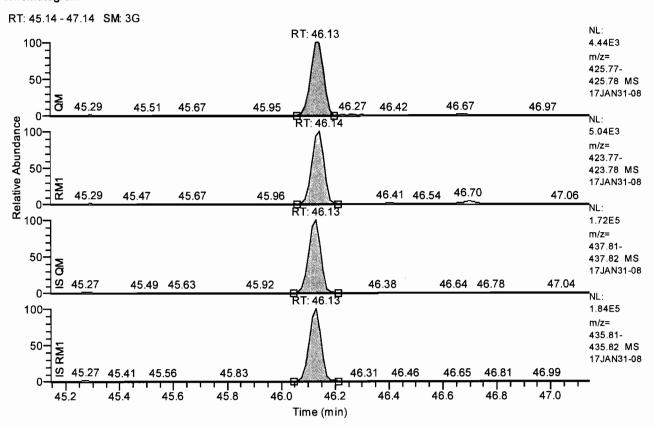
Client Flags

Status Overview

passed

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### Chromatogram



### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.13

QM Area

15361

QM Integration Mode

RM1 Area

16321

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0056 2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

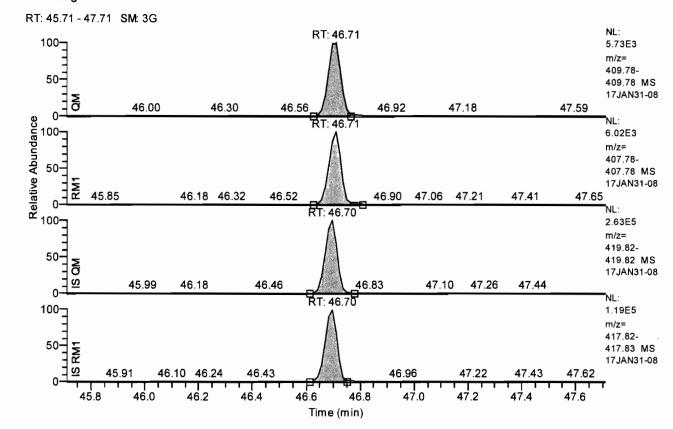
1065

Client Flags

Status Overview

passed

### Chromatogram



#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.71

QM Area

19351

QM Integration Mode

Α

RM1 Area

19418

RM1 Integration Mode

Α

ManInt Detection Limit (A)

0

Unqualified Amount (A)

0.0056 2.500000

Adjusted Amount (A)

2.5000

Signal-to-Noise

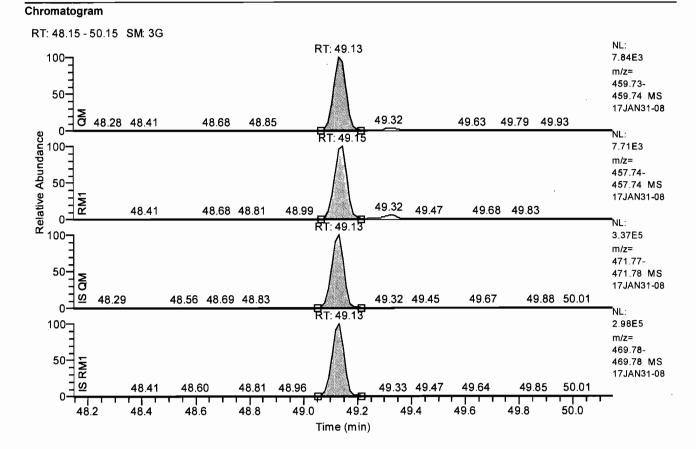
1079

Client Flags

Status Overview

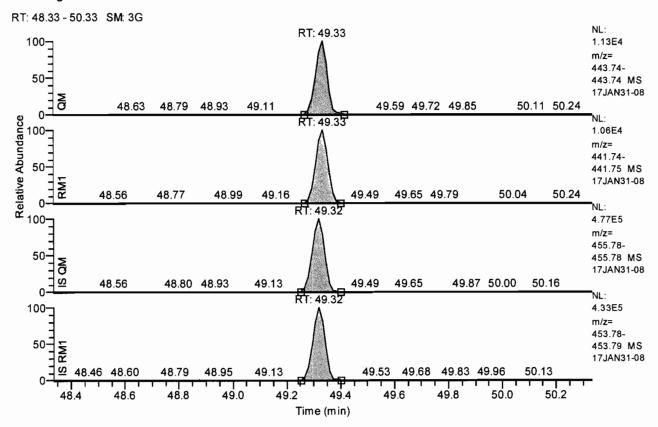
passed





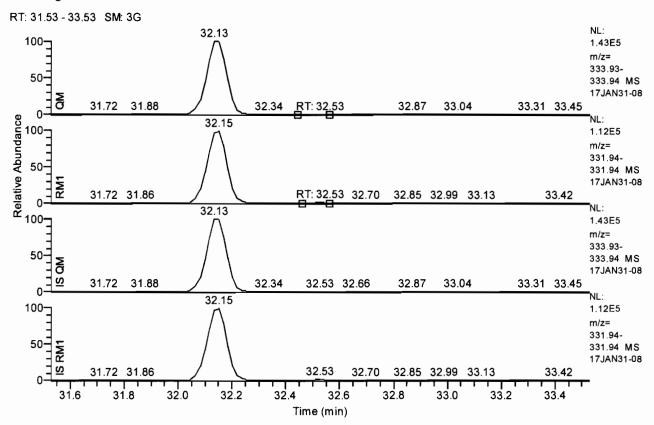
Compound Name	OCDD
QM Retention Time	49.13
QM Area	24963
QM Integration Mode	Α
RM1 Area	25170
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1628
Client Flags	
Status Overview	passed

### Chromatogram



Compound Name	OCDF
QM Retention Time	49.33
QM Area	33832
QM Integration Mode	Α
RM1 Area	33092
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0058
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	2212
Client Flags	
Status Overview	passed
Status Info	





Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.53

QM Area

5107

QM Integration Mode

М

RM1 Area

4288

RM1 Integration Mode ManInt

М

Detection Limit (A)

0.0093

Unqualified Amount (A)

0.500000

Adjusted Amount (A)

0.5000

Signal-to-Noise

233

Client Flags

Status Overview

passed



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### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/01 02:43

Number of Entries

64

Comment

Vial

Sample Name

CALDF21737B

Sample ID

CS101

Inst ID

DF18471-17JAN31

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan Data

y:\17jan31\17jan31-08.quan y:\17jan31\17jan31-08.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

Det. Limit Factor [hDLF]

1.0

2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

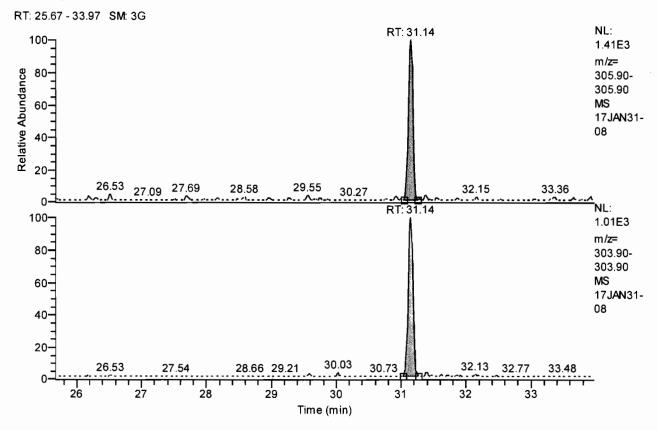
Weighted Regression Factor

1.0



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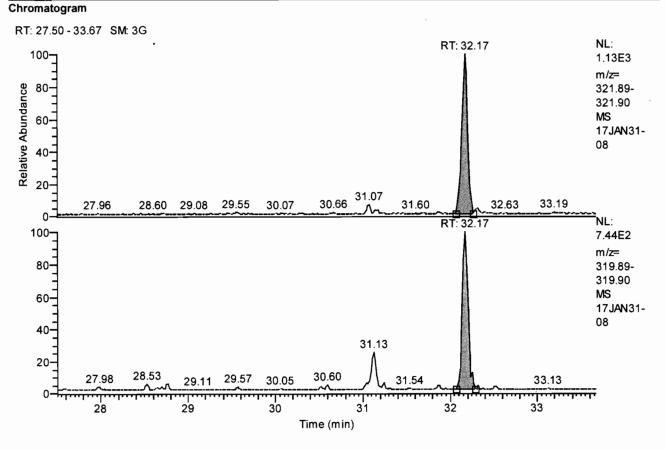


### **Entry Parameters**

Compound Name Total TCDF 29.82 QM Retention Time QM Area 6702 QM Integration Mode Α RM1 Area 5002 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0033 Unqualified Amount (A) 0.500000 Adjusted Amount (A) 0.5000 Signal-to-Noise 432 Client Flags Status Overview passed (1)

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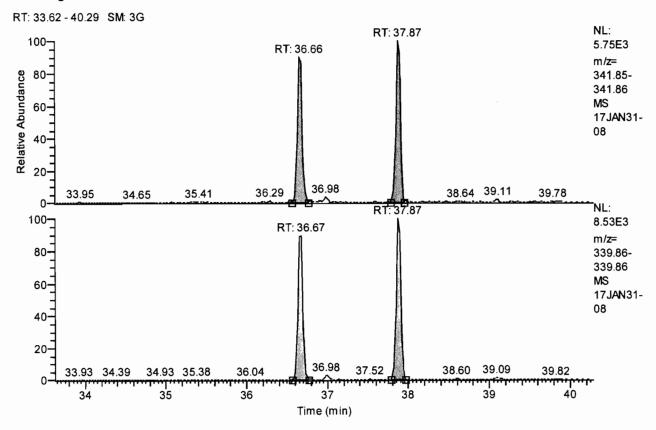




Compound Name	Total TCDD
QM Retention Time	30.59
QM Area	5065
QM Integration Mode	Α
RM1 Area	3314
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0033
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	428
Client Flags	
Status Overview	passed (1)
Status Info	

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### Chromatogram



### **Entry Parameters**

Compound Name

Total PeCDF

QM Retention Time

36.96

QM Area

44059

QM Integration Mode

67195

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0029

Unqualified Amount (A)

2.500000

Adjusted Amount (A)

5.0000

Signal-to-Noise

2110

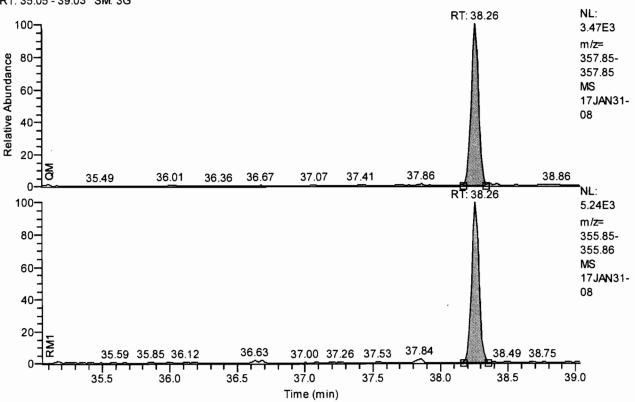
Client Flags

Status Overview

passed (2)







Compound Name

Total PeCDD

QM Retention Time

37.04

QM Area

12817

QM Integration Mode

RM1 Area

19144 Α

RM1 Integration Mode Manint

Detection Limit (A)

0.0077

Unqualified Amount (A)

2.500000

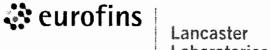
Adjusted Amount (A)

2.5000 847

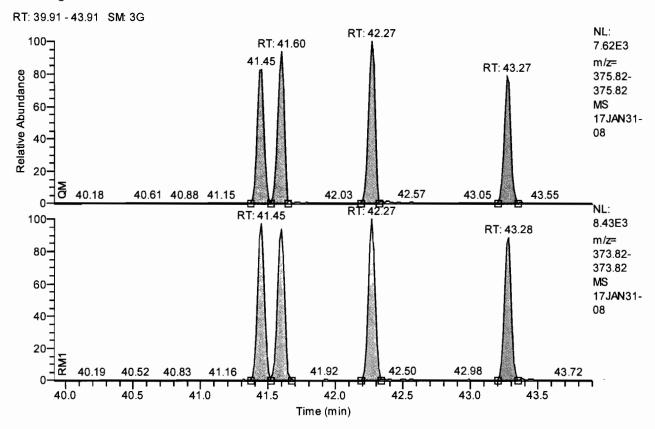
Signal-to-Noise Client Flags

Status Overview

passed (1)







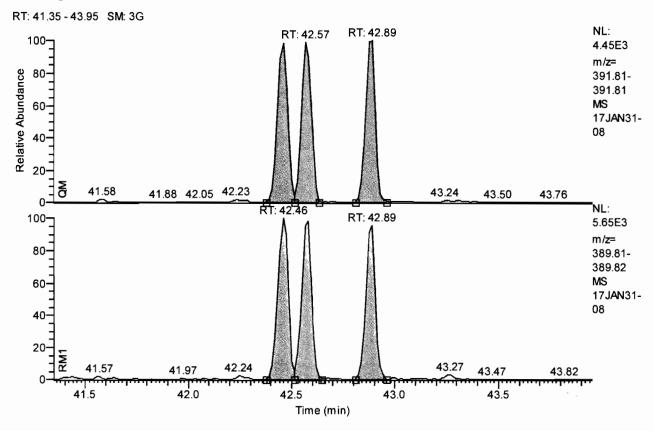
Status Info

Total HxCDF Compound Name QM Retention Time 41.91 QM Area 92120 QM Integration Mode Α RM1 Area 112608 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0073 Unqualified Amount (A) 2.500000 Adjusted Amount (A) 10.0000 Signal-to-Noise 867 Client Flags Status Overview passed (4)





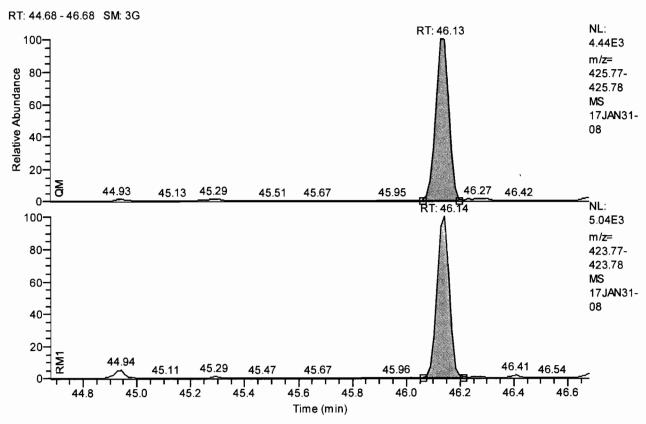




Compound Name	Total HxCDD
QM Retention Time	42.65
QM Area	44474
QM Integration Mode	Α
RM1 Area	55223
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0083
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.5000
Signal-to-Noise	771
Client Flags	
Status Overview	passed (3)





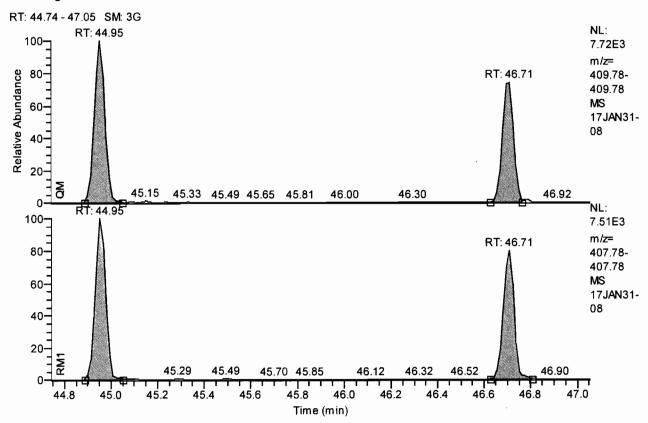


Status Info

Total HpCDD Compound Name 45.68 QM Retention Time QM Area 15361 QM Integration Mode Α RM1 Area 16321 Α RM1 Integration Mode ManInt Detection Limit (A) 0.0056 Unqualified Amount (A) 2.500000 2.5000 Adjusted Amount (A) Signal-to-Noise 1065 Client Flags Status Overview passed (1)



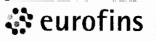




Compound Name Total HpCDF 45.90 QM Retention Time QM Area 44055 QM Integration Mode Α 43032 RM1 Area RM1 Integration Mode Α ManInt 0.0051 Detection Limit (A) Unqualified Amount (A) 2.500000 Adjusted Amount (A) 5.0000 1240 Signal-to-Noise Client Flags

Status Overview

passed (2)



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### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 02:43

Number of Entries 220

Comment

Vial

Sample Name CALDF21737B

Sample ID CS101

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-08.quan Data y:\17jan31\17jan31-08.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

TargetQua

**Quan Parameter** 

Compatibility off QualBrowser Compatibility Sum Area/Height Sum QM RM1 Dependend on Area Quantitation Status

Injection Volume [hlJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

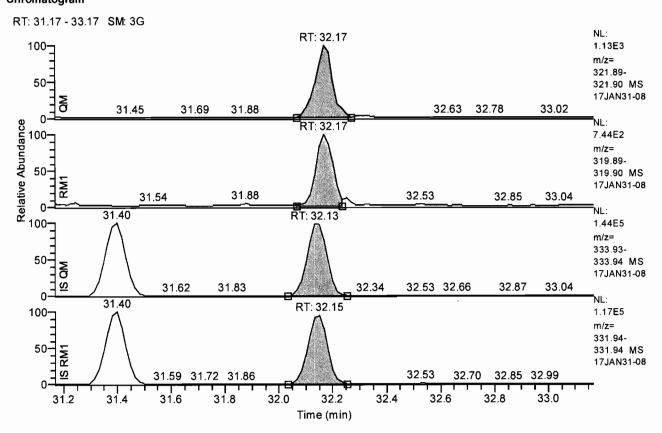
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



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### Chromatogram



### **Entry Parameters**

Compound Name 2378-TCDD QM Retention Time 32.17 QM Area 5065 QM Integration Mode RM1 Area 3174 RM1 Integration Mode Α ManInt 0.0033 Detection Limit (A) Unqualified Amount (A) 0.491609 Adjusted Amount (A) n.d. 428

Signal-to-Noise Client Flags

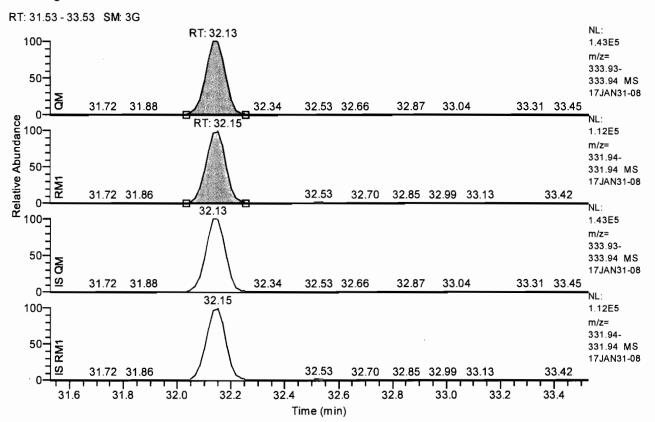
TargetQua

Status Overview failed

Status Info Failed on: Ratio1A



### Chromatogram



### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.13

574667

QM Area

735846

QM Integration Mode

Α

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0093 69.742121

Unqualified Amount (A) Adjusted Amount (A)

n.d.

Signal-to-Noise

19200

Client Flags

Status Overview

failed

Status Info

Failed on: RT







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### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/01 02:43

Number of Entries

220

Comment

Vial

4

Sample Name

CALDF21737B

Sample ID

CS101

Inst ID

DF18471-17JAN31

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan Data y:\17jan31\17jan31-08.quan y:\17jan31\17jan31-08.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

Quantitation Status Injection Volume [hIJV] Dependend on Area

injection volume [mov]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

Weighted Regression Factor

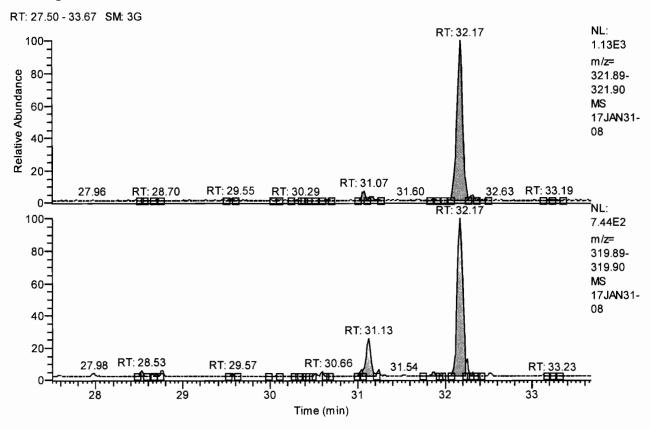
1.0





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Compound Name	Total TCDD
QM Retention Time	30.59
QM Area	0
QM Integration Mode	Α
RM1 Area	0
RM1 Integration Mode	Α
ManInt	1
Detection Limit (A)	
Unqualified Amount (A)	
Adjusted Amount (A)	
Signal-to-Noise	
Client Flags	
Status Overview	failed
Status Info	Failed on:





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No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
1 2	2378-TCDF	31.14		0.6450 -	0.8950			0 - 0	,
3	2378-TCDD	32.17		0.6450 -	0.8950	passed	100.00	0 - 0	
4	12378-PeCDF	36.66		1.3150 -	1.7850		100.00	0 - 0	
5	23478-PeCDF 12378-PeCDD	37.87 38.26		1.3150 - 1.3150 -	1.7850 1.7850		100.00	0- (	F
6							100.00		passea
7	123478-HxCDF 123678-HxCDF	41.45 41.60		1.0450 - 1.0450 -	1.4350 1.4350		100.00 100.00	0- (	•
8	234678-HxCDF	42.27		1.0450 -	1.4350		100.00	0- (	F
9	123478-HxCDD	42.46		1.0450 -	1.4350		100.00	0- (	
10	123678-HxCDD	42.57		1.0450 -	1.4350	passed	100.00	0- (	,
11	123789-HxCDD	42.89		1,0450 -	1.4350		100.00	0- (	•
12	123789-HxCDF	43,27		1.0450 -	1,4350		100.00	0- (	
13	1234678-HpCDF	44.95	0.9559	0.8750 -	1.2050	passed	100.00	0 - 0	
14	1234678-HpCDD	46.13	1.0625	0.8750 -	1.2050	passed	100.00	0 - 0	•
15	1234789-HpCDF	46.71	1.0034	0.8750 -	1.2050		100.00	0 - 0	passed
16	OCDD	49,13	1.0083	0.7550 -	1.0250	passed	100.00	0 - 0	
17	OCDF	49.33	0.9781	0.7550 -	1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	32.53	0.8397	0.6450 -	0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	31.40		0.6450 -	0.8950	passed	100.00	0 - 0	
20	13C12-123468-HxCDD	41.34		1.0450 -	1.4350		100.00	0 - 0	,
21	13C12-2378-TCDF	31.11		0.6450 -	0.8950		100.00	0 - 0	-
22	13C12-2378-TCDD	32.13		0.6450 -	0.8950		100.00	0 - 0	·
23	13C12-12378-PeCDF	36.64		1.3150 -	1.7850		100.00	0- (	•
24 25	13C12-23478-PeCDF	37.86		1,3150 -	1.7850		100.00	0- (	,
25 26	13C12-12378-PeCDD	38.24		1.3150 -	1.7850			0 - 0	•
27	13C12-123478-HxCDF	41.42		0.4250 -	0.5950		100.00	0- (	passoa
28	13C12-123678-HxCDF 13C12-234678-HxCDF	41.58 42.26		0.4250 - 0.4250 -	0.5950		100.00 100.00	0- (	•
29	13C12-234678-HxCDF	42.26 42.44		1.0450 -	1.4350	,	100.00	0- 0	F=====
30	13C12-123478-HxCDD	42.44		1.0450 -	1.4350		100.00	0- (	
31	13C12-123789-HxCDD	42.88		1.0450 -	1.4350		100.00	0- (	-
32	13C12-123789-HxCDF	43.25		0.4250 -	0.5950		100.00	0- (	·
33	13C12-1234678-HpCDF	44.94		0.3650 -	0.5150			0- (	F=====
34	13C12-1234678-HpCDD	46.13		0.8750 -	1.2050	passed	100.00	0- (	•
35	13C12-1234789-HpCDF	46.70		0.3650 -	0.5150		100.00	0- 0	
36	13C12-OCDD	49.13		0.7550 -	1.0250		100.00	0- 0	•
37	13C12-OCDF	49.32		0.7550 -	1.0250		100.00	0- 0	•
38	Total TCDF	29.82	0.7464	0.6450 -	0.8950		100.00	0- 0	·
39	Total TCDD	30.59	0.6544	0.6450 -	0.8950		100.00	0 - 0	
40	Total PeCDF	36.96		1.3150 -	1.7850		100.00	0 - 0	_
41	Total PeCDD	37.04	1.4937	1.3150 -	1.7850		100.00	0 - 0	
42	Total HxCDF	41.91		1.0450 -	1.4350		100.00	0 - 0	
43	Total HxCDD	42.65		1.0450 -	1.4350		100.00	0 - 0	
44	Total HpCDD	45.68		0 8750 -	1.2050		100.00	0 - 0	
45	Total HpCDF	45.90		0.8750 -	1.2050		100.00	0 - 0	
46 47	Single TCDF	31.14		0.6450 -	0.8950	passed	100.00	0 - 0	•
	Single TCDD	32.17		0.6450 -	0.8950		100.00	0 - 0	, , , , , , , , , , , , , , , , , , , ,
48	Single PeCDD	38.26		1.3150 -	1.7850		100.00	0 - 0	•
49 50	Single PeCDF	37.87		1.3150 -	1.7850	,	100.00	0- 0	•
51	Single PeCDF Single HpCDD	36.66 46.13		1.3150 - 0.8750 -	1.7850	passed	100.00 100.00	0- 0	•
52	Single HxCDF	46.13 42.27		0.8750 - 1.0450 -	1.2050	passed passed	100.00	0- 0	·
53	Single HxCDF	42.27		1.0450 -	1.4350	passed	100.00	0- 0	Passage
54	Single HxCDF	41.60		1.0450 -	1.4350	passed	100.00	0- 0	-
55	Single HxCDF	43.27		1.0450 -	1.4350	passed	100.00	0- 0	•
56	Single HxCDD	42.89		1.0450 -	1.4350	passed	100.00	0- 0	
57	Single HxCDD	42.46		1,0450 -	1.4350	passed	100.00	0- 0	·
58	Single HxCDD	42.57		1.0450 -	1.4350	passed	100.00	0- 0	passed
59	Single HpCDF	44.95		0.8750 -	1.2050	passed	100.00	0 - 0	
60	Single HpCDF	46.71	1.0034	0.8750 -	1.2050	passed	100.00	0 - 0	) passed





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No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois Flags
1	2378-TCDF	passed	31.14	6702	Α	5002	A	0.0033	0.500000	0.5000	0.500000	432
2	2378-TCDD	passed	32.17		A		м	0.0033	0.500000	0.5000	0.500000	428
3	12378-PeCDF	passed	36.66	21515	А	32868	Α	0.0030	2.500000	2.5000	2.500000	1998
4	23478-PeCDF	passed	37.87	22543	А		Α	0.0027	2.500000	2.5000	2.500000	2223
5	12378-PeCDD	passed	38.26	12817	Α	19144	Α	0.0077	2.500000	2.5000	2.500000	847
6	123478-HxCDF	passed	41.45	22382	А	28775	Α	0.0074	2.500000	2.5000	2.500000	851
7	123678-HxCDF	passed	41.60	24118	Α	29074	Α	0.0071	2.500000	2.5000	2.500000	883
8	234678-HxCDF	passed	42.27	25712	Α	28825	А	0.0066	2.500000	2.5000	2.500000	943
9	123478-HxCDD	passed	42.46	14707	А		Α	0.0081	2.500000	2.5000	2.500000	776
10	123678-HxCDD	passed	42.57	15073	Α	18843	Α	0.0079	2.500000	2.5000	2.500000	773
11	123789-HxCDD	passed	42.89	14695	Α	17380	Α	0.0088	2.500000	2.5000	2.500000	762
12	123789-HxCDF	passed	43.27	19908	Α	25934	A	0.0080	2.500000	2.5000	2.500000	790
13	1234678-HpCDF	passed	44.95	24704	Α	23614	Α	0.0046	2.500000	2,5000	2.500000	1400
14	1234678-HpCDD	passed	46.13	15361	А	16321	Α	0.0056	2.500000	2.5000	2.500000	1065
15	1234789-HpC DF	passed	46.71	19351	Α	19418	Α	0.0056	2.500000	2.5000	2.500000	1079
16	OCDD	passed	49.13	24963	Α	25170	Α	0.0074	5.000000	5.0000	5.000000	1628
17	OCDF	passed	49.33	33832	Α	33092	Α	0.0058	5.000000	5.0000	5.000000	2212
18	13C12-1278-TCDD (CRS)	passed	32.53	5107	М	4288	м	0.0093	0.500000	0.5000	0.500000	233
19	13C12-1234-TCDD	passed	31.40	759078	Α	611806	Α	0.0127	100,000000	100.0000	100.000000	19634
20	13C12-123468-HxCDD	passed	41.34	633980	A	796873	Α	0.0297	100.000000	100.0000	100.000000	8416
21	13C12-2378-TCDF	passed	31.11	1383785	A	1097616	Α	0.0071	100.000000	100.0000	100.000000	33535
22	13C12-2378-TCDD	passed	32.13	735846	Α	574667	A	0.0133	100.000000	100.0000	100.000000	19200
23	13C12-12378-PeCDF	passed	36.64	839362	Α	1347892	Α	0.0329	100.00000	100.0000	100.000000	9752
24	13C12-23478-PeCDF	passed	37.86	842742	Α	1330312	Α	0.0331	100.00000	100.0000	100.000000	10205
25	13C12-12378-PeCDD	passed	38.24	465777	Α	753153	Α	0.0267	100.000000	100.0000	100.000000	12745
26	13C12-123478-HxCDF	passed	41.42		Α		Α	0.0269	100.000000	100,0000	100.000000	9082
27	13C12-123678-HxCDF	passed	41.58		Α		Α	0.0260	100.000000	100.0000	100.000000	9420
28	13C12-234678-HxCDF	passed	42.26		Α	602766	Α	0.0279	100.000000	100.0000	100.000000	9195
29	13C12-123478-HxCDD	passed	42.44		A		Α	0.0330	100.000000	100.0000	100.000000	7781
30	13C12-123678-HxCDD	passed	42.55		A	734173	Α	0.0321	100.000000	100.0000	100.000000	8114
31	13C12-123789-HxCDD	passed	42.88		A		Α	0.0335	100.000000	100.0000	100.000000	7393
32	13C12-123789-HxCDF	passed	43.25		A		Α	0.0302	100.000000	100.0000	100.000000	8353
33	13C12-1234678-HpCDF	passed	44.94		Α		Α	0.0296	100.000000	100.0000	100.000000	9027
34	13C12-1234678-HpCDD	passed	46.13		A		Α	0.0210	100.000000	100.0000	100.000000	13011
35	13C12-1234789-HpCDF	passed	46.70		Α	379112	Α	0.0360	100.000000	100,0000	100.000000	7621
36	13C12-OCDD	passed	49.13		A		Α	0.0264	200.000000	200.0000	200.000000	21199
37 38	13C12-OCDF	passed	49.32		Α		A	0.0264	200.000000	200.0000	200.000000	19621
39	Total TCDF	passed (1)	29.82		Α		Α	0.0033	0.500000	0.5000	0.500000	432
40	Total TCDD	passed (1)	30,59		Α		М	0.0033	0.500000	0.5000	0,500000	428
41	Total PeCDF	passed (2)	36.96		Α	10111	Α	0.0029	2.500000	5.0000	2.500000	2110
42	Total PeCDD	passed (1)	37.04		A		A	0.0077	2.500000	2.5000	2.500000 2.500000	847 867
43	Total HxCDF	passed (4)	41.91		A		A	0.0073	2.500000	10.0000	2.500000	771
44	Total HxCDD Total HpCDD	passed (3)	42.65		A		A	0.0083	2.500000	7.5000	2.500000	1065
45		passed (1)	45.68		A	43032	A	0.0056	2.500000	2.5000	2.500000	1240
46	Total HpCDF Single TCDF	passed (2)	45.90 31.14		A A		A A	0.0051 0.0033	2.500000 0.500000	5.0000 0.5000	0.500000	432
47	Single TCDF Single TCDD	passed passed	31.14 32.17		A		A M	0.0033	0.500000	0,5000	0.500000	428
48	Single 1CDD Single PeCDD	passed	32.17		A		M A	0.0033	2.500000	2.5000	2.500000	847
49	Single PeCDF	passed	38.26		A		A	0.0077	2.500000	2.5000	2.500000	2223
50	Single PeCDF	passed	36.66		A		A	0.0028	2.500000	2.5000	2.500000	1998
51	Single PeCDF Single HpCDD	passed	36.66 46.13		A		A	0.0029	2.500000	2.5000	2.500000	1065
52	Single HxCDF	passed	40 13		A		A	0.0056	2.500000	2.5000	2,500000	943
53	Single HxCDF	passed	41.45		Α Α	28775	Ä	0.0073	2.500000	2.5000	2.500000	851
54	Single HxCDF	passed	41.60		A		Ā	0.0073	2.500000	2.5000	2.500000	883
55	Single HxCDF	passed	43.27	19908	A		A	0.0070	2.500000	2,5000	2.500000	790
56	Single HxCDD	passed	42.89		A	17380	A	0.0081	2.500000	2.5000	2.500000	762
57	Single HxCDD	passed	42.46	14707	A		A	0.0082	2.500000	2.5000	2.500000	776
58	Single HxCDD	passed	42.57	15073	A		A	0.0081	2.500000	2.5000	2.500000	773
59	Single HpCDF	passed	44.95	24704	A		A	0.0045	2.500000	2.5000	2.500000	1400
60	Single HpCDF	passed	46.71	19351	A	19418	A	0.0056	2.500000	2.5000	2.500000	1079
	3g.c p301	passad	10.71		^		^	0.0000	2.00000	2.0000		-



File Name: Y:\17JAN31\17JAN31-08 Acq. Data: 2/1/2017 2:43:15 AM Instrument ID: DF18471-17JAN31 Sample ID: CS101 Sample Name: CALDF21737B PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 900 1038 887 1049 688 1360 4.23E5 26.80 29.16 29.35 1150 26,58 100 23,18 34.66 31,07 m/z=291.9825-80 292.9825 MS 60 17JAN31-80 40 20-0-NL: 1390 1475 1562 1676 1368 35.22 4.65E5 36.53 37,87 39,63 100-34.88 m/z=330.4792-80-331.4792 MS 17JAN31-60-80 40-20-0-NL: 1818 1978 1717 1993 2.39E5 41.65 40,29 43.81 1551 44.01 100-1511 1380 37.70 m/z=37.09 380.4760-35,07 Relative Abundance 80-381.4760 MS 60-17JAN31-80 0-NL: 2185 2256 2022 5.59E4 46.74 47.72 2275 100m/z=47.98 404.4760-80-405.4760 MS 60-17JAN31-80 40-20-0-2333 NL: 2287 6.33E4 48.84 48.22 100m/z=442.4728-80-443.4728 MS 17JAN31-60 80 40-20-0-Page 250 of 560 36 38 40 32 42

Time (min)

By ujd2 at 10:16 am, 2/1/17

By UMJS at 10:13 am, 12/2917

```
*** file opened Wed Feb 01 02:48:38 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - LX18470

Analysis started at: 01-Feb-17 02:48:37

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:
```

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

Mid Time Windo Start	ows: Measur	e End	Cycletime
# 1 11:30 mir # 2 21:00 mir # 3 34:44 mir # 4 39:47 mir # 5 44:15 mir # 6 48:00 mir	n 13:44 min n 5:03 min n 4:27 min n 3:45 min	34:44 min 39:47 min 44:15 min 48:00 min	1.00 sec 1.00 sec 0.90 sec 0.80 sec 0.80 sec 0.80 sec
Mid Masses: window # 1 mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723 window # 2	int gr ti 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2 1 2 1 2	me (ms) 95 47 47 95 47 47 95 47 47 47	
mass F 292.9819 T 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	20 1 1 1 1 1 5 1 5 1 1 1	me (ms) 5 118 118 23 23 118	

Page 1





```
331.9363
                             23
 333.9333
                             23
 339.8592
                1
                            118
                   1
                1
 341.8562
                   1
                            118
 354.9787 c
               20
                              5
                2
                             59
 375.8364
                    1
Window # 3
               int
                     gr
                         time (ms)
     mass F
                              6
 330.9787 1
               20
                    1
 339.8592
                1
                            133
 341.8562
                1
                    1
                            133
 351.8994
                             44
                             44
 353.8965
                    1
 355.8541
                            133
                   1
 357.8511
                            133
                   1
 367.8943
                             44
                             44
                3
 369.8914
                   1
 380.9755 c
               20
                   1
                              6
 409.7969
                2
                             66
Window # 4
                         time (ms)
117
     mass F
               int
                     gr
 373.8201
                1
 375.8172
                            117
               20
 380.9755
                    1
                              5
 383.8634
                3
                             39
                    1
 385.8604
                             39
                    1
 389.8151
                            117
                   1
 391.8121
                            117
                    1
 401.8554
                             39
                3
 403.8524
                             39
                   1
 430.9723 c
               20
                   1
                              5
 445.7550
                2
                             58
Window # 5
               int
                         time (ms)
     mass F
                     gr
 404.9755
               20
                    1
 407.7812
                            117
                1
 409.7783
                            117
                1
                    1
 417.8244
                             39
                    1
 419.8215
                             39
 423.7761
                            117
 425.7732
                            117
 435.8164
                    1
                             39
                             39
 437.8134
 479.7160
                2
                   1
                             58
 480.9691 c
               20
                    1
Window # 6
      mass F
               int
                     gr
                         time (ms)
 441.7422
                             95
                1
                    1
 442.9723 1
               20
 443.7393
                1
                   1
                             95
 453.7825
                1
                   1
 455.7795
457.7372
                    1
                             95
                             95
 459.7342
                             95
 469.7774
                             31
                   1
 471.7745
                             31
 492.9691 c
                              4
               20
                   1
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

### DFS - Parameter

A C C I I	1000 0000	BCOBBC	0.0170	DMACC	96.0000
ACCU	1000.0000 0.4500	BCORRS CAPIL	0.0170 0.0000	BMASS	0.0000
BQUAD		<b>-</b>	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	•	DELAY	
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0159	FVINLET	0.0275	FVSRC	0.0275
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1435550.5184	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8962	RELEN	0.0000
RES	13122.1795	RPUSHER	-14.4982	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	664.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500
X	2.3000		332.0000		, , , , , ,

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.3e-008 mbar Pirani Analyse: 1.6e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11863.
MID Time Window 2: Resolution is 11423.
MID Time Window 3: Resolution is 11447.
MID Time Window 4: Resolution is 12156.
Page 3
```





17JAN31-08

MID Time Window 5: Resolution is 13685. MID Time Window 6: Resolution is 13122.

Amplifier Offset: 88.

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Lancaster Laboratories

#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 03:39

Number of Entries 64

Comment

Vial

Sample Name CALDF31737A

Sample ID CS201

Inst ID DF18471-17JAN31

Client

jda02741 Analyst

DB5MS 60 M x 0.25um x 0.25mm GC Column

BatchNo Barcode

**Files Parameter** 

y:\17jan31\17jan31-09.quan Quan Data y:\17jan31\17jan31-09.raw

y:\responsefiles\df18471-17jan31dfical.resp Response

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hlJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

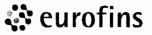
Single Point (Spec. RF) Response Factor Mode

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





Lancaster Laboratories

	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery		Status
No.	Name	Time	Overview	Status	Status	Status	Status	RRT Status	Info
1 2	2378-TCDF	31.12			passed	passed	passed	passed passed	
3	2378-TCDD 12378-PeCDF	32.16 36.65	,		passed passed	passed passed	passed passed	passed	
4	23478-PeCDF	37.87	passed		passed	passed	passed	passed	
5	12378-PeCDD	38.24			passed	passed	passed	passed	
6	123478-HxCDF	41.43	P		passed	passed	passed	passed	
7	123678-HxCDF	41.58			passed	passed	passed	passed	
8	234678-HxCDF	42.25			passed	passed	passed	passed	
9	123478-HxCDD	42.44		-	passed	passed	passed	passed	
10	123678-HxCDD	42.55	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.87	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.25			passed	passed	passed	passed	
13	1234678-HpCDF	44.93		F	passed	passed	passed	passed	
14 15	1234678-HpCDD	46.11			passed	passed	passed	passed passed	
15 16	1234789-HpCDF OCDD	46.69 49.11			passed	passed	passed	passed passed	
17	OCDD	49.11			passed passed	passed passed	passed passed	passed	
18	13C12-1278-TCDD (CRS)	32.52			passed	passed	passed	passed	
19	13C12-1276-1CDD (CRS)	31.37			passed	passed	passed	passed	
20	13C12-123468-HxCDD	41.32			passed	passed	passed	passed	
21	13C12-2378-TCDF	31.10		•	passed	passed	passed	passed	
22	13C12-2378-TCDD	32.13	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.62	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.84	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	38.22		passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.41			passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.56			passed	passed	passed	passed	
28 29	13C12-234678-HxCDF	42.24			passed	passed	passed	passed passed	
30	13C12-123478-HxCDD 13C12-123678-HxCDD	42.43 42.53			passed passed	passed passed	passed passed	passed	
31	13C12-123789-HxCDD	42.84			passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.23			passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.92			passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.11			passed	passed	pessed	passed	
35	13C12-1234789-HpCDF	46.68	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.11	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.30	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.81				-		_	
39 40	Total TCDD	30.58					_	_	
41	Total PeCDF	36.93			-				
42	Total PeCDD Total HxCDF	37.02 41.89						_	
43	Total HxCDF Total HxCDD	41.89 42.63							
44	Total HpCDD	42.63			_		_	_	
45	Total HpCDF	45.88			_				
46	Single TCDF	31.12			pessed	passed	passed	passed	
<b>4</b> 7	Single TCDD	32.16	passed	passed	passed	passed		passed	
48	Single PeCDD	38.24	passed	passed	passed	passed	passed	passed	
49	Single PeCDF	37.87			passed	passed	passed	passed	
50	Single PeCDF	36.65			passed	passed		passed	
51	Single HpCDD	46.11			passed	passed	passed	passed	
52	Single HxCDF	42.25			passed	passed	passed	passed	
53 54	Single HxCDF	41.43	,		passed	passed	passed	passed passed	
55	Single HxCDF Single HxCDF	41.58 43.25			passed passed	passed passed	passed passed	passed	
56	Single HxCDD	43.25			passed	passed	passed	passed	
57	Single HxCDD	42.44			passed	passed	passed	passed	
58	Single HxCDD	42.55			passed	passed	passed	passed	
59	Single HpCDF	44.93			passed	passed	passed	passed	
60	Single HpCDF	46.69			passed	passed	passed	passed	
	- '						-		





#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 03:39

Number of Entries 64

Comment

5 Vial

Sample Name CALDF31737A

Sample ID CS201

Inst ID DF18471-17JAN31

Client

jda02741 Analyst

DB5MS 60 M x 0.25um x 0.25mm GC Column

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-09.quan Data y:\17jan31\17jan31-09.raw

y:\responsefiles\df18471-17jan31dfical.resp Response

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

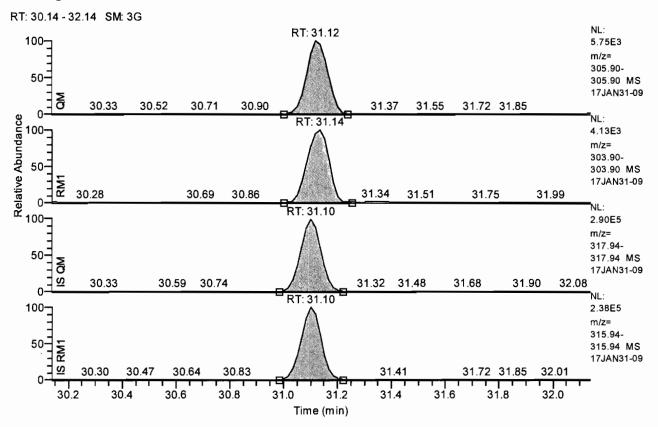
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



# eurofins

### Chromatogram



### **Entry Parameters**

Compound Name 2378-TCDF QM Retention Time 31.12 QM Area 31629 QM Integration Mode Α 23651 RM1 Area RM1 Integration Mode Α ManInt 0.0028 Detection Limit (A) Unqualified Amount (A) 2.000000 2.0000 Adjusted Amount (A) Signal-to-Noise 1696 Client Flags Status Overview passed Status Info

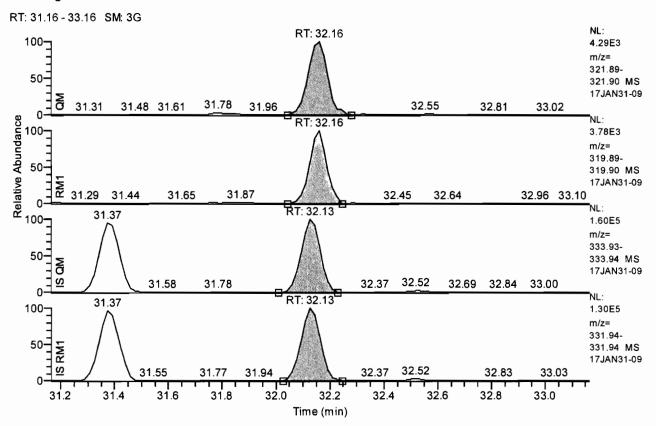


ermoFisher

*'*160,871

## eurofins

### Chromatogram

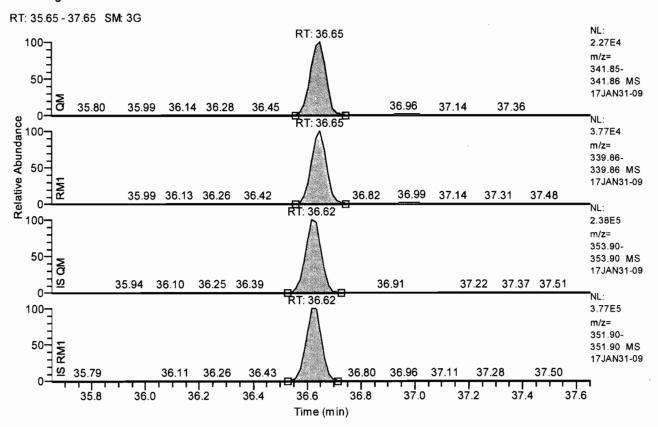


### **Entry Parameters**

2378-TCDD Compound Name QM Retention Time 32.16 QM Area 21881 QM Integration Mode Α 17082 RM1 Area RM1 Integration Mode Α ManInt 0.0034 Detection Limit (A) Unqualified Amount (A) 2.000000 2.0000 Adjusted Amount (A) 1524 Signal-to-Noise Client Flags Status Overview passed Status Info

By ujd2 at 10:16 am, 2/1/17

### Chromatogram



### **Entry Parameters**

Compound Name

12378-PeCDF

QM Retention Time

36.65

QM Area

92762

QM Integration Mode

147587

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0035

Unqualified Amount (A)

10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

7457

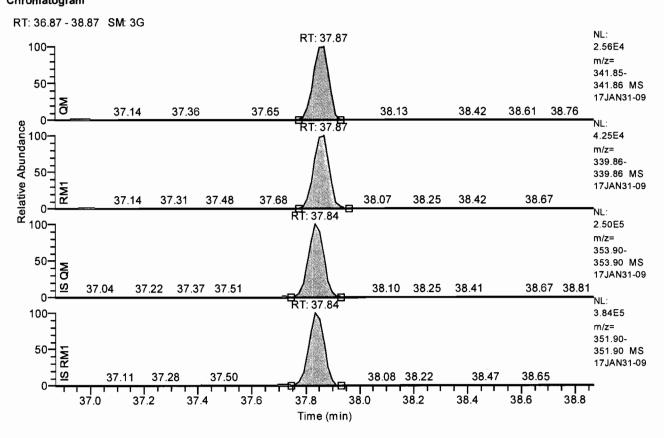
Client Flags

Status Overview

passed

eurofins

### Chromatogram



### **Entry Parameters**

Compound Name

23478-PeCDF

QM Retention Time

37.87

QM Area

104540

QM Integration Mode

Α

RM1 Area

170811

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0029 10.000000

Unqualified Amount (A) Adjusted Amount (A)

10.0000

Signal-to-Noise

8396

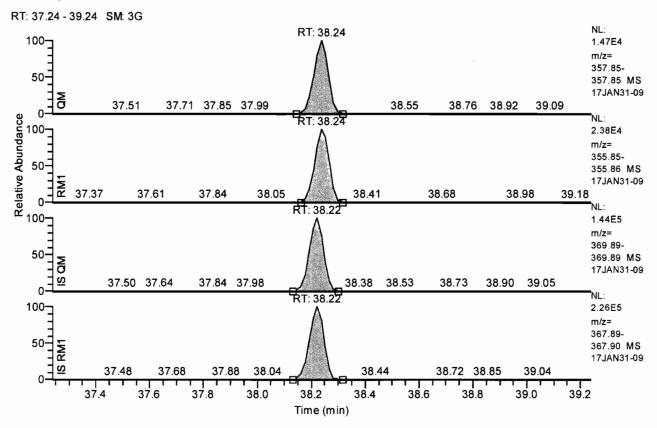
Client Flags

Status Overview

passed

# 🔅 eurofins





### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.24

QM Area

55524

QM Integration Mode

Α

RM1 Area

90701

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0076

Unqualified Amount (A) Adjusted Amount (A)

10.000000 10.0000

Signal-to-Noise

3287

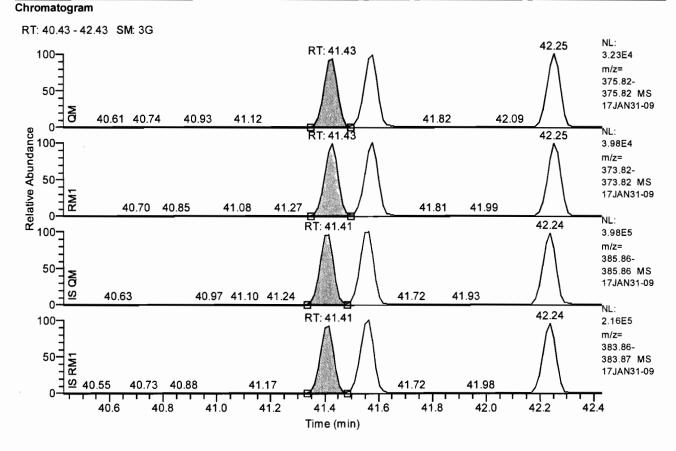
Client Flags

Status Overview

passed

neurofins :





### **Entry Parameters**

Compound Name

123478-HxCDF

**QM** Retention Time

41.43

QM Area

107321

QM Integration Mode

Α

RM1 Area

137608

RM1 Integration Mode

ManInt

0.0096

Detection Limit (A) Unqualified Amount (A)

10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

2624

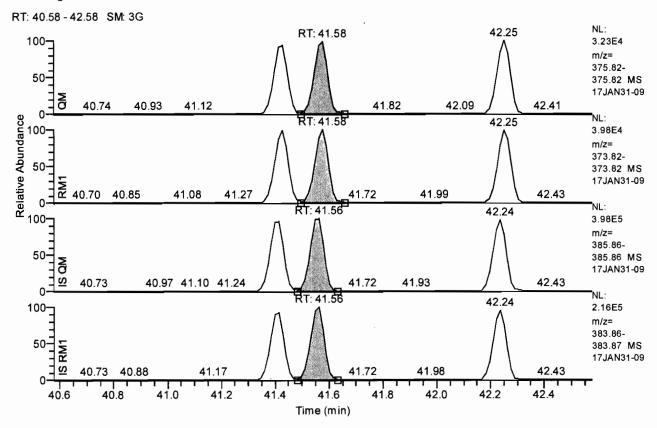
Client Flags

Status Overview

passed

### eurofins

### Chromatogram



### **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.58

QM Area

111365

QM Integration Mode

RM1 Area

138401

RM1 Integration Mode

Α

ManInt

0.0095

Detection Limit (A) Unqualified Amount (A)

10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

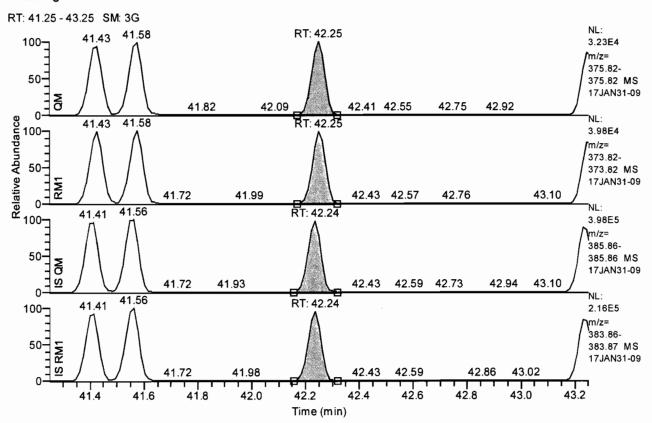
2689

Client Flags

Status Overview

passed

#### Chromatogram



#### **Entry Parameters**

Compound Name 234678-HxCDF

QM Retention Time 42.25

QM Area 110315

QM Integration Mode A

RM1 Area 133019

RM1 Integration Mode A

Detection Limit (A) 0.0093

Unqualified Amount (A) 10.000000

Adjusted Amount (A) 10.0000

Signal-to-Noise 2697

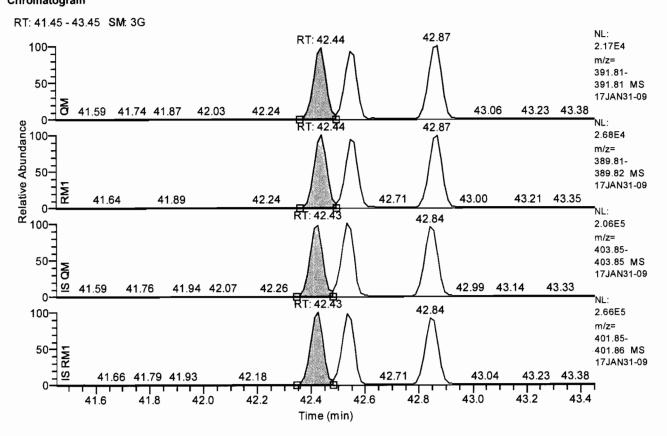
Client Flags

Status Overview passed

Status Info

ManInt

### Chromatogram



#### **Entry Parameters**

Compound Name

123478-HxCDD

**QM** Retention Time

42.44

QM Area

69400

QM Integration Mode

RM1 Area

89195

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0099 10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

2528

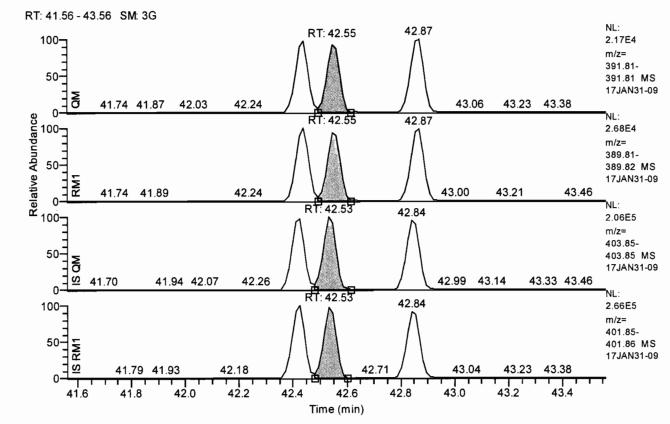
Client Flags

Status Overview

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.55

QM Area

67590

QM Integration Mode

Α

RM1 Area

84688

RM1 Integration Mode ManInt

Α

Detection Limit (A)

Unqualified Amount (A)

0.0103 10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

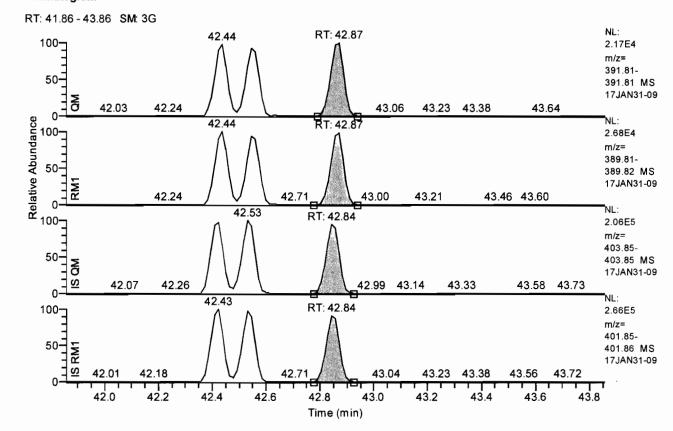
2386

Client Flags

Status Overview

passed

#### Chromatogram



#### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.87

QM Area

75205

QM Integration Mode

Α

RM1 Area

90141

RM1 Integration Mode

Α

ManInt Detection Limit (A)

0.0098

Unqualified Amount (A)

10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

2532

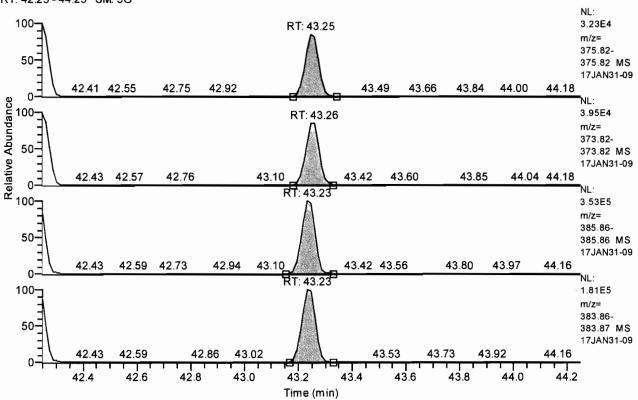
Client Flags

Status Overview

passed

#### Chromatogram





#### **Entry Parameters**

Compound Name 123789-HxCDF

QM Retention Time 43.25 QM Area 96556

QM Integration Mode A

RM1 Area 118734

RM1 Integration Mode A

ManInt 0

Detection Limit (A) 0.0109

Unqualified Amount (A) 10.000000

Adjusted Amount (A) 10.0000

Signal-to-Noise 2309

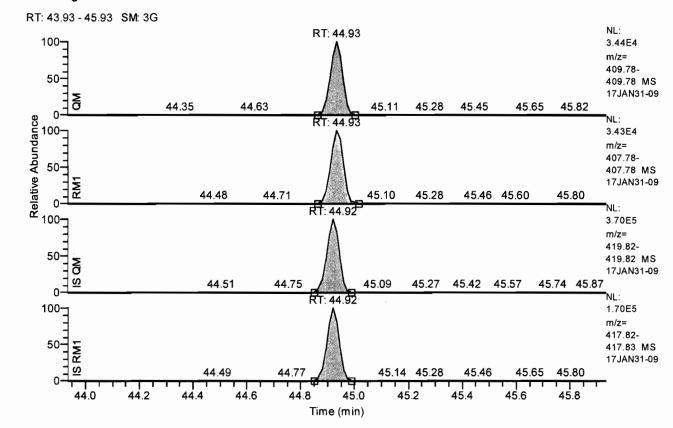
Client Flags

Status Overview passed



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#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.93

QM Area

111505

QM Integration Mode

Α

RM1 Area

114804

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0096 10.000000

Unqualified Amount (A) Adjusted Amount (A)

10.0000

Signal-to-Noise

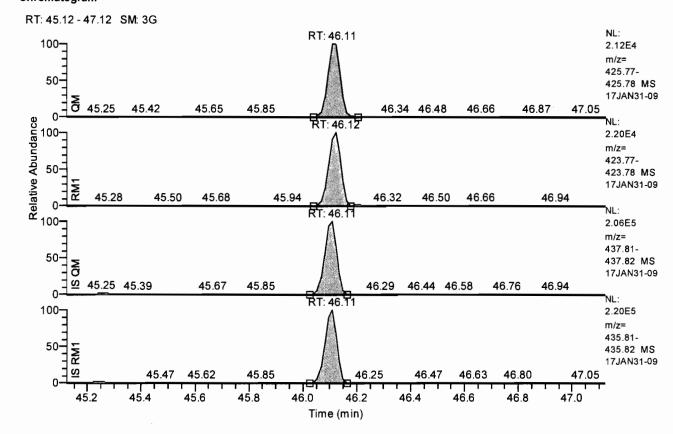
2571

Client Flags

Status Overview

passed

#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.11

QM Area

70434

QM Integration Mode

RM1 Area

71895

RM1 Integration Mode

ManInt

Detection Limit (A)

0.0106

Unqualified Amount (A)

10.000000

Adjusted Amount (A) Signal-to-Noise

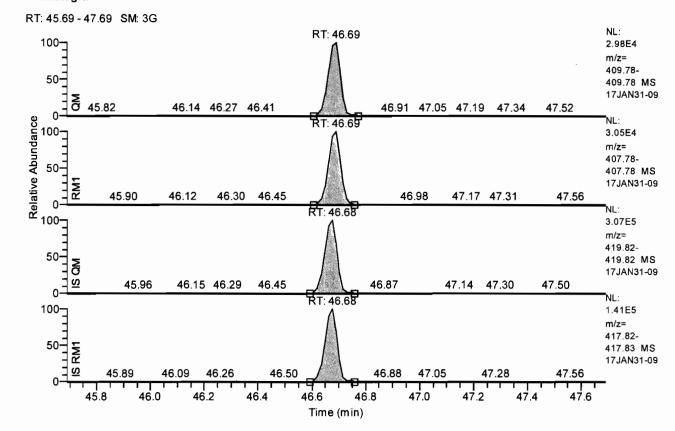
10.0000 2266

Client Flags

Status Overview

passed

#### Chromatogram



#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.69

QM Area

98436

QM Integration Mode

Α

RM1 Area

99900 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0109

Unqualified Amount (A)

10.000000

Adjusted Amount (A) Signal-to-Noise

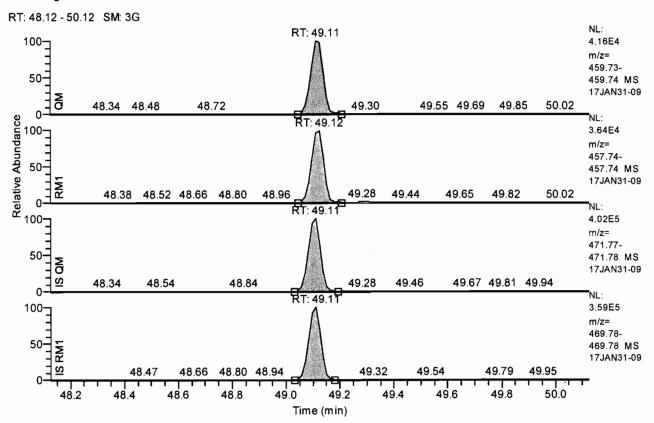
10.0000 2257

Client Flags

Status Overview

passed

#### Chromatogram



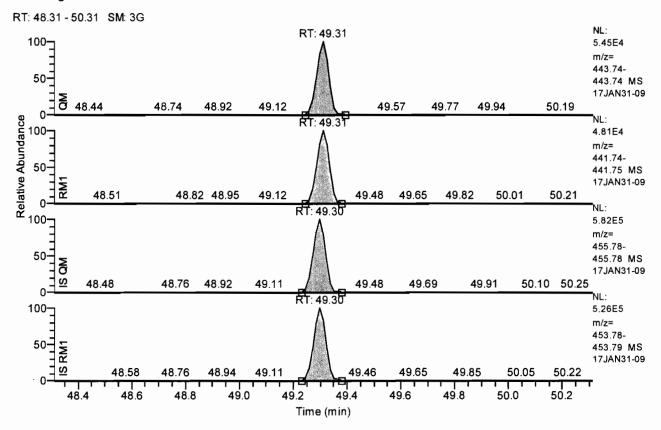
#### **Entry Parameters**

Status Info

Compound Name OCDD QM Retention Time 49.11 QM Area 134573 QM Integration Mode RM1 Area 115762 RM1 Integration Mode Α Manint Detection Limit (A) 0.0111 Unqualified Amount (A) 20.000000 20.0000 Adjusted Amount (A) Signal-to-Noise 4422 Client Flags Status Overview passed



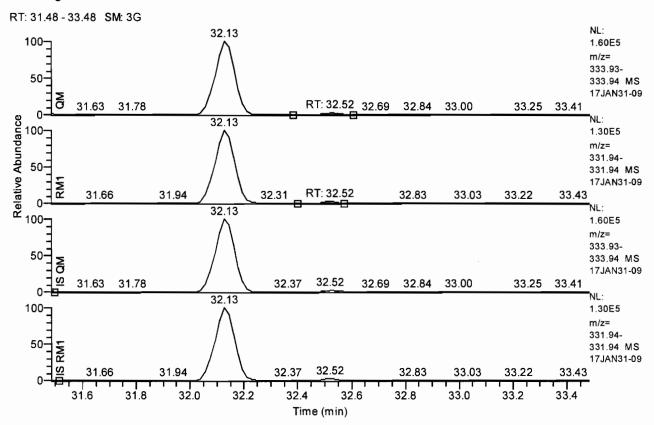
#### Chromatogram



#### **Entry Parameters**

OCDF Compound Name QM Retention Time 49.31 QM Area 169942 QM Integration Mode 152697 RM1 Area RM1 Integration Mode Α ManInt 0.0079 Detection Limit (A) Unqualified Amount (A) 20.000000 Adjusted Amount (A) 20.0000 6362 Signal-to-Noise Client Flags Status Overview passed Status Info





Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.52

QM Area

22844

QM Integration Mode

Α

RM1 Area

15401

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0095 2.000000

Adjusted Amount (A)

2.0000

Signal-to-Noise

574

Client Flags

Status Overview

passed

Status Info

TargetQua



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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/01 03:39

**Number of Entries** 

64

Comment

Vial

Sample Name

CALDF31737A

Sample ID

CS201

Inst ID

DF18471-17JAN31

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan Data

y:\17jan31\17jan31-09.quan y:\17jan31\17jan31-09.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off Sum QM RM1

Sum Area/Height Quantitation Status

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

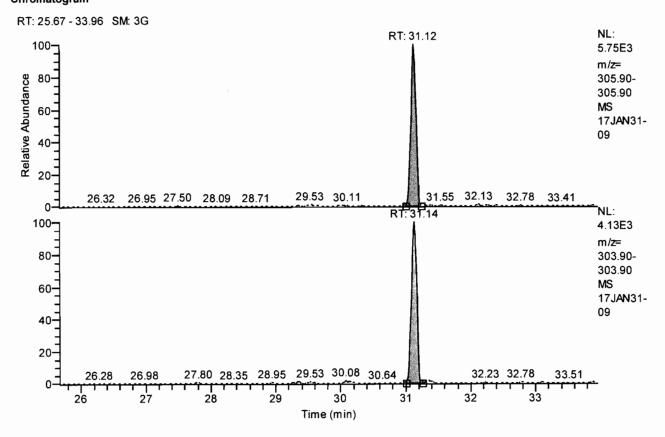
Regression Mode

Non weighted Regression

Weighted Regression Factor

1.0

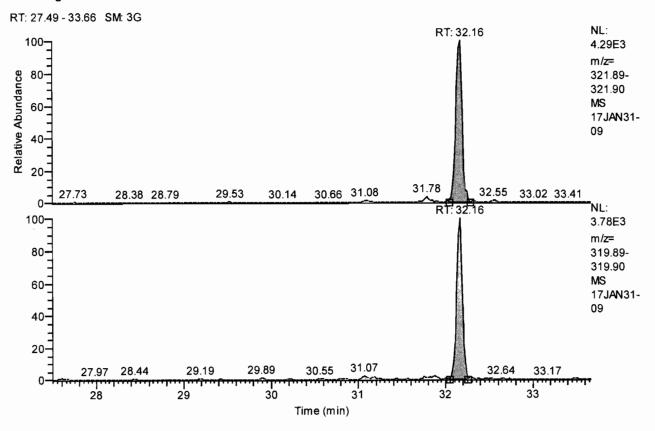




#### **Entry Parameters**

Total TCDF Compound Name QM Retention Time 29.81 31629 QM Area QM Integration Mode Α RM1 Area 23651 RM1 Integration Mode Α 0 ManInt Detection Limit (A) 0.0028 2.000000 Unqualified Amount (A) Adjusted Amount (A) 2.0000 Signal-to-Noise 1696 Client Flags Status Overview passed (1)

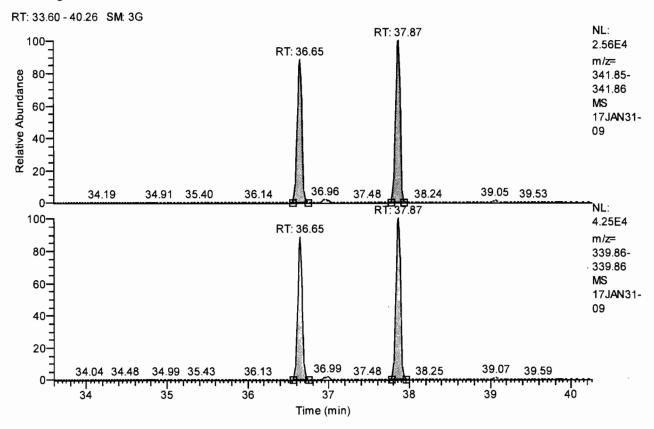




Compound Name	Total TCDD
QM Retention Time	30.58
QM Area	21881
QM Integration Mode	Α
RM1 Area	17082
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0034
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	1524
Client Flags	
Status Overview	passed (1)
Status Info	

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#### **Entry Parameters**

Compound Name Total PeCDF 36.93 QM Retention Time QM Area 197302 QM Integration Mode 318398 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0032 10.000000 Unqualified Amount (A)

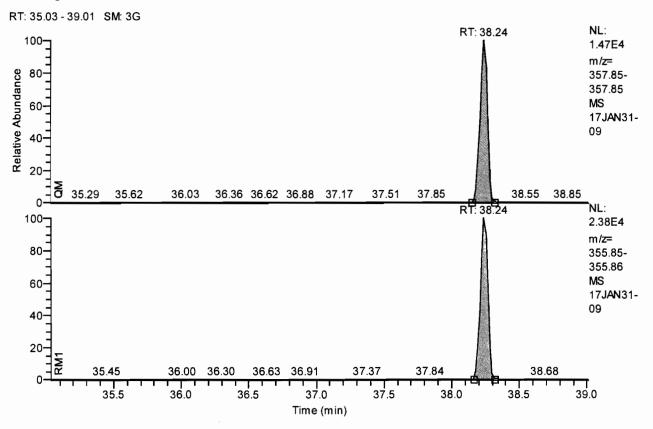
20.0000 Adjusted Amount (A) 7926 Signal-to-Noise

Client Flags

Status Overview passed (2)





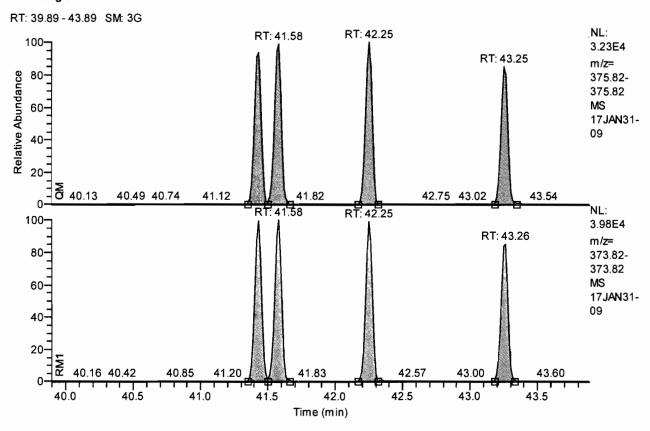


Status Info

Compound Name Total PeCDD QM Retention Time 37.02 QM Area 55524 QM Integration Mode Α 90701 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0076 Unqualified Amount (A) 10.000000 10.0000 Adjusted Amount (A) 3287 Signal-to-Noise Client Flags Status Overview passed (1)

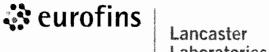


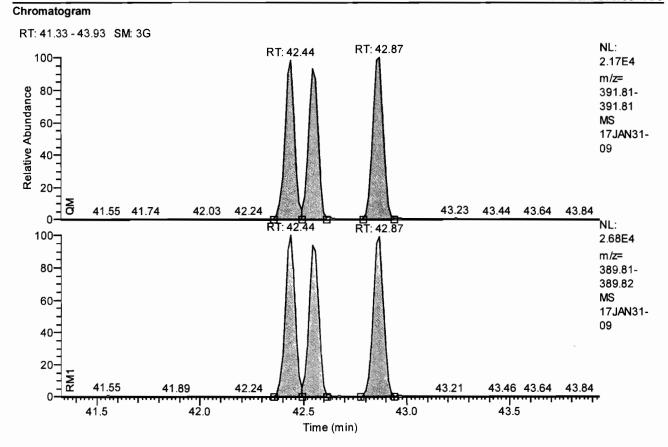
#### Chromatogram



#### **Entry Parameters**

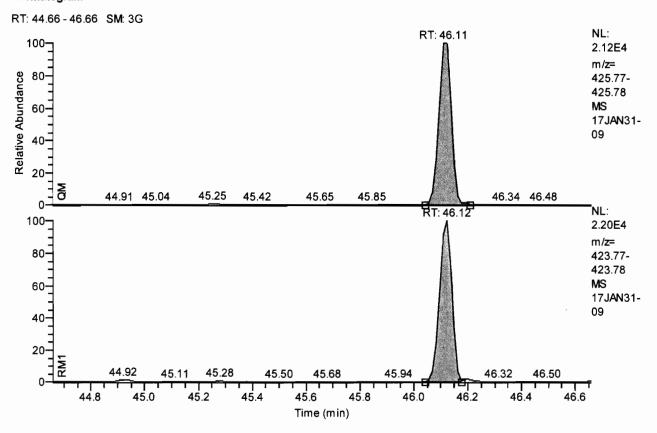
Compound Name Total HxCDF QM Retention Time 41.89 QM Area 425558 QM Integration Mode RM1 Area 527761 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0098 Unqualified Amount (A) 10.000000 40.0000 Adjusted Amount (A) Signal-to-Noise 2580 Client Flags Status Overview passed (4) Status Info





Total HxCDD Compound Name QM Retention Time 42.63 QM Area 212195 QM Integration Mode Α RM1 Area 264024 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0100 10.000000 Unqualified Amount (A) 30.0000 Adjusted Amount (A) Signal-to-Noise 2482 Client Flags Status Overview passed (3) Status Info

#### Chromatogram



#### **Entry Parameters**

Status Overview

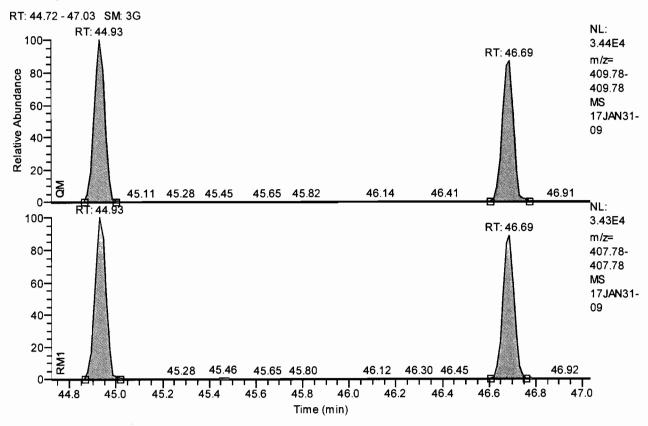
Status Info

Compound Name Total HpCDD QM Retention Time 45.66 QM Area 70434 QM Integration Mode RM1 Area 71895 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0106 Unqualified Amount (A) 10.000000 Adjusted Amount (A) 10.0000 Signal-to-Noise 2266 Client Flags

passed (1)



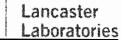




#### **Entry Parameters**

Compound Name Total HpCDF 45.88 QM Retention Time QM Area 209941 QM Integration Mode Α 214704 RM1 Area Α RM1 Integration Mode Manint 0.0102 Detection Limit (A) Unqualified Amount (A) 10.000000 Adjusted Amount (A) 20.0000 2414 Signal-to-Noise Client Flags Status Overview passed (2) Status Info

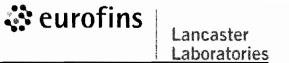




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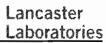
	Compound	Quan	Ratio	RT Window	Specified	QM Retention	RM1 Retention	DM1 Time	
No	Name	Mass	Mass 1	[min]	RT [min]	Time	Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303,9016 +/- 5 ppm	0.67	31.12	31.12	31.14	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	32.16	32.16	32.16	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.65	36.65	36.65	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.87	37.87	37.87	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355,8546 +/- 5 ppm	0.67	38.24	38.24	38.24	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.43	41.43	41.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.58	41.58	41.58	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.25	42.25	42.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.44	42.44	42.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.55	42.55	42.55	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.87	42.87	42.87	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	43.25	43.25	43.26	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.93	44.93	44.93	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	46.11	46.11	46.12	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.69	46.69	46.69	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	49.11	49.11	49.12	passed	passed
17 18	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	49.31	49.31	49.31	passed	passed
18 19	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	32.52	32.52	32.52	passed	passed
20	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.37	31.37	31.37	passed	passed
21	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	41.32	41.32	41.31	passed	passed
22	13C12-2378-TCDF	317.9389 +/- 5 ppm	315,9419 +/-5 ppm	0.67	31.10	31.10	31.10	passed	passed
23	13C12-2378-TCDD 13C12-12378-PeCDF	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	32.13	32.13	32.13	passed	passed passed
24	13C12-12378-PeCDF 13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/-5 ppm	0.67	36.62	36.62	36.62	passed	·
25	13C12-23478-PeCDF 13C12-12378-PeCDD	353.8970 +/- 5 ppm 369.8919 +/- 5 ppm	351.9000 +/-5 ppm 367.8949 +/-5 ppm	0.67 0.67	37.84 38.22	37.84 38.22	37.84 38.22	passed passed	passed passed
26	13C12-123478-PeCDD	369.8919 +/- 5 ppm 385.8610 +/- 5 ppm	367.8949 +/- 5 ppm 383.8639 +/- 5 ppm	0.67	38.22 41.41	38.22 41.41	38.22 41.41	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.41	41.56	41.56	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383,8639 +/- 5 ppm	0.67	42.24	42.24	42.24	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.43	42.43	42.43	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.53	42.53	42.53	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.84	42.84	42.84	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383,8639 +/- 5 ppm	0.67	43.23	43.23	43.23	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.92	44.92	44.92	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	46.11	46.11	46.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0,67	46.68	46.68	46.68	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	49.11	49.11	49.11	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	49.30	49.30	49.30	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	29.81	29.81	29.81	_	_
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	30.58	30.58	30.58		
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	36,93	36.93	36,93	_	_
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	37.02	37.02	37.02		
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.89	41.89	41.89		_
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	42.63	42.63	42.63		
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	45.66	45.66	45.66	-	
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.88	45.88	45.88		_
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.54	31.12	31.12	31.14	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.61	32.16	32.16	32.16	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.62	38.24	38.24	38.24	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	37.87	37.87	37.87	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.06	36.65	36.65	36,65	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.06	46.11	46.11	46.12	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3 63	42.25	42.25	42.25	passed	passed
53 54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.43	41.43	41.43	passed	passed
54 55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	41.58	41.58	41.58	passed	passed
56	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.63	43.25	43.25	43.26	passed	passed
56 57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	42.87	42.87	42.87	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	42 44	42.44	42.44	passed	passed passed
59	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.37	42.55	42.55	42.55	passed	passed passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.93	44.93	44.93	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	46.69	46.69	46.69	passed	passed





No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
1	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
2	2378-TCDF	31.12		0.6450 -	0.8950	passed	100.00	0- 0	•
3	2378-TCDD	32.16		0.6450 -	0.8950		100.00		,
4	12378-PeCDF	36.65		1.3150 -	1.7850		100.00	0- (	•
5	23478-PeCDF	37.87		1.3150 -	1.7850		100.00		•
6	12378-PeCDD	38.24		1.3150 -	1.7850		100.00		
7	123478-HxCDF	41.43		1.0450 -	1.4350	P	100.00	0- (	
8	123678-HxCDF	41.58		1.0450 -	1.4350		100.00	0- (	•
9	234678-HxCDF	42.25		1.0450 -	1.4350		100.00	0 - 0	
	123478-HxCDD	42.44		1.0450 -	1.4350		100.00	0- (	
10	123678-HxCDD	42.55		1.0450 -	1.4350		100.00	0- 0	-
11	123789-HxCDD	42.87		1.0450 -	1.4350	, .	100.00	-	
12	123789-HxCDF	43.25		1.0450 -	1.4350		100.00	0- (	•
13	1234678-HpCDF	44.93		0.8750 -	1.2050	,	100.00	0- (	
14	1234678-HpCDD	46.11		0.8750 -	1.2050		100.00		
15	1234789-HpCDF	46.69		0.8750 -	1.2050		100.00	0 - 0	
16	OCDD			0.7550 ~	1.0250	,	100.00	0 - 0	•
17	OCDF	49.31		0.7550 -	1.0250		100.00	0- (	,
18	13C12-1278-TCDD (CRS)	32.52		0.6450 -	0.8950	,	100.00	0- (	
19	13C12-1234-TCDD	31.37		0.6450 -	0.8950	,	100.00	0- (	•
20	13C12-123468-HxCDD	41.32		1.0450 -	1.4350		100.00		•
21	13C12-2378-TCDF	31.10		0.6450 -	0.8950		100.00	0- (	
22	13C12-2378-TCDD	32.13		0.6450 -	0.8950		100.00	0- 0	
23	13C12-12378-PeCDF	36.62		1.3150 -	1.7850		100.00	0- (	•
24	13C12-23478-PeCDF	37.84		1.3150 -	1.7850		100.00	0- (	
25	13C12-12378-PeCDD	38.22		1.3150 -	1.7850		100.00	0- (	
26	13C12-123478-HxCDF	41.41		0.4250 -	0.5950		100.00	0 - 0	
27 28	13C12-123678-HxCDF	41.56		0.4250 -	0.5950		100.00	0- (	•
28	13C12-234678-HxCDF	42.24		0.4250 -	0.5950		100.00	0- 0	•
	13C12-123478-HxCDD	42.43		1.0450 -	1.4350		100.00		,
30	13C12-123678-HxCDD	42.53		1.0450 -	1.4350		100.00	0- (	
31 32	13C12-123789-HxCDD	42.84		1.0450 -	1.4350	•	100.00	0- (	•
33	13C12-123789-HxCDF	43.23		0.4250 - 0.3650 -	0.5950		100.00 100.00		•
34	13C12-1234678-HpCDF	44.92 46.11		0.8750 -	0.5150		100.00	0- (	
35	13C12-1234678-HpCDD	46.11 46.68		0.8/50 -	0.5150	,	100.00	0- (	•
36	13C12-1234789-HpCDF								•
37	13C12-OCDD	49.11		0.7550 -	1.0250	,	100.00	-	•
38	13C12-OCDF	49.30		0.7550 -	1.0250	,	100.00	0 - (	•
39	Total TCDF	29.81		0.6450 -	0 8950		100.00		
40	Total TCDD	30.58		0.6450 -	0 8950		100.00		
41	Total PeCDF	36.93		1.3150 -	1.7850		100.00 100.00	0 - (	
42	Total PeCDD	37.02		1.3150 -	1.7850		100.00		
43	Total HxCDF	41.89		1.0450 -	1.4350		100.00		
44	Total HxCDD			1.0450 - 0.8750 -	1.4350		100.00		
45	Total HpCDD								
46	Total HpCDF			0.8750 -	1.2050		100.00		
47	Single TCDF	31.12		0.6450 -	0.8950		100.00		
48	Single TCDD	32.16		0.6450 -	0.8950		100.00		
49	Single PeCDD			1.3150 - 1.3150 -	1.7850		100.00 100.00		
49 50	Single PeCDF					,			•
51	Single PeCDF	36.65		1.3150 -	1.7850		100.00		
51 52	Single HpCDD			0.8750 - 1.0450 -	1.2050		100.00 100.00		
52 53	Single HxCDF								
54	Single HxCDF			1.0450 -	1.4350			0- 0	·
54 55	Single HxCDF			1.0450 -	1.4350	,	100.00		•
55 56	Single HxCDF			1.0450 -	1.4350		100.00		
56 57	Single HxCDD			1.0450 -	1.4350		100.00	0 -	
5/ 58	Single HxCDD			1.0450 -	1.4350		100.00		•
58 59	Single HxCDD			1.0450 -	1.4350	passed	100.00	0- (	
59 60	Single HpCDF			0.8750 -	1.2050		100.00	0- (	•
60	Single HpCDF	46.69	1.0149	0.8750 -	1.2050	passed	100.00	U - (	passed







	Compound	Status	QM Retention		QM		RM1	Detection	Unqualified	Adjusted			Client
No.	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode		Amount (A)	Amount (A)	AdjSpecAMT		Flags
1	2378-TCDF	passed	31.12		А	23651	A		2.000000	2.0000	2.000000	1696	
2	2378-TCDD	passed	32.16		Α	17082	A	0.0034	2.000000	2.0000	2.000000	1524	
3	12378-PeCDF	passed	36.65		Α	147587	A		10.000000	10.0000	10.000000	7457	
4	23478-PeCDF	passed	37.87	104540	Α	170811	A		10.000000	10.0000	10.000000	8396	
5	12378-PeCDD	passed	38.24	55524	Α	90701	A	0.0076	10.000000	10.0000	10.000000	3287	
6	123478-HxCDF	passed	41.43		A		Α	0.0096	10,000000	10.0000	10.000000	2624	
7	123678-HxCDF	passed	41.58	111365	Α	138401	Α	0.0095	10,000000	10.0000	10.000000	2689	
8	234678-HxCDF	passed	42.25		A	133019	A		10.000000	10,0000	10.000000	2697	
9	123478-HxCDD	passed	42.44		A	89195	A		10.000000	10.0000	10.000000	2528	
10	123678-HxCDD	passed	42.55		A	84688	A		10.000000	10.0000	10.000000	2386	
11	123789-HxCDD	passed	42.87	75205	A	90141	A		10,000000	10.0000	10.000000	2532	
12	123789-HxCDF	passed	43.25		A	118734	A		10.000000	10.0000	10.000000	2309	
13	1234678-HpCDF	passed	44.93		Α	114804	A		10.000000	10.0000	10.000000	2571	
14	1234678-HpCDD	passed	46.11	70434	Α	71895	A		10.000000	10,0000	10.000000	2266	
15	1234789-HpCDF	passed	46.69		A	99900	A		10.000000	10.0000	10.000000	2257	
16	OCDD	passed	49.11		A	115762	A		20.000000	20.0000	20.000000	4422	
17	OCDF	passed	49.31	169942 22844	A	152697	A		20.000000	20.0000	2.000000	6362 574	
18 19	13C12-1278-TCDD (CRS) 13C12-1234-TCDD	passed passed	32.52 31.37	808178	A	15401 662288	A		2.000000 100.000000	2.0000 100.0000	100.000000	20249	
20	13C12-1234-TCDD	passed	31.37 41.32		A	911917	A		100.000000	100,0000	100.000000	8340	
21	13C12-2378-TCDF	passed	31.10		A	1261062	A		100.000000	100.0000	100.000000	33356	
22	13C12-2378-TCDF	passed	32.13		A	663354	A		100.000000	100.0000	100.000000	21117	
23	13C12-12378-PeCDF	passed	36.62		A		Ā		100.000000	100.0000	100.000000	10922	
24	13C12-23478-PeCDF	passed	37.84		A	1521769	A		100.000000	100.0000	100,000000	11259	
25	13C12-12378-PeCDD	passed	38.22		A		A		100.000000	100.0000	100.000000	22189	
26	13C12-123478-HxCDF	passed	41.41	1370072	A		A		100.000000	100.0000	100.000000	10449	
27	13C12-123678-HxCDF	passed	41.56	1412661	Α	760561	A		100.000000	100.0000	100.000000	10892	
28	13C12-234678-HxCDF	passed	42.24	1321539	A	697387	A		100.000000	100.0000	100.000000	10591	
29	13C12-123478-HxCDD	passed	42.43		A	873530	A		100.000000	100.0000	100.000000	8584	
30	13C12-123678-HxCDD	passed	42.53	679999	Α	850432	A	0.0319	100.000000	100.0000	100.000000	8523	
31	13C12-123789-HxCDD	passed	42.84	670540	Α	829773	A	0.0326	100.000000	100.0000	100.000000	8061	
32	13C12-123789-HxCDF	passed	43.23	1237959	A	646124	A	0.0268	100.000000	100.0000	100.000000	9505	
33	13C12-1234678-HpCDF	passed	44.92	1203015	Α	548526	A	0.0347	100.000000	100.0000	100.000000	7981	
34	13C12-1234678-HpCDD	passed	46.11	656057	А	694053	А	0.0216	100.000000	100.0000	100.000000	13097	
35	13C12-1234789-HpCDF	passed	46.68		A	454681	A	0.0418	100.000000	100.0000	100.000000	6624	
36	13C12-OCDD	passed	49 11	1267817	A	1139034	A	0.0197	200.000000	200.0000	200.000000	28759	
37	13C12-OCDF	passed	49 30	1830640	A	1658657	A	0.0219	200,000000	200.0000	200.000000	26053	
38	Total TCDF	passed (1)	29.81	31629	A	23651	A	0.0028	2.000000	2.0000	2.000000	1696	
39	Total TCDD	passed (1)	30.58		Α	17082	A	0.0034	2.000000	2.0000	2.000000	1524	
40	Total PeCDF	passed (2)	36.93		A	318398	A		10.000000	20.0000	10.000000	7926	
41	Total PeCDD	passed (1)	37.02		Α	90701	A		10.000000	10.0000	10.000000	3287	
42	Total HxCDF	passed (4)	41.89		A		A	-	10.000000	40.0000	10.000000	2580	
43	Total HxCDD	passed (3)	42.63		A	264024	Α		10.000000	30.0000	10.000000	2482	
44 45	Total HpCDD	passed (1)	45.66		A	71895	A		10.000000	10.0000	10.000000 10.000000	2266 2414	
45 46	Total HpCDF	passed (2)	45.88		A		A		10.000000	20.0000	2.000000	1696	
46 47	Single TCDF	passed	31.12		A	17082	A		2.000000	2.0000	2.000000	1524	
47	Single TCDD	passed	32.16		A		A		2.000000	2.0000	10.000000	3287	
48 49	Single PeCDD	passed	38.24		A	170811	A		10.000000	10.0000	10.000000	8396	
49 50	Single PeCDF	passed	37.87	104540 92762	A	1/0811	A		10.000000	10.0000	10.000000	7 <b>4</b> 57	
51	Single PeCDF	passed	36.65 46.11	70434	A	71895	A		10.000000 10.000000	10.0000 10.0000	10.000000	2266	
52	Single HpCDD Single HxCDF	passed passed	46.11 42.25		A		A		10.000000	10.0000	10.000000	2697	
53	Single HxCDF	passed	42.25		A		A		10.000000	10.0000	10.000000	2624	
54	Single HxCDF	passed	41.43		A	138401	A		10.000000	10.0000	10.000000	2689	
55	Single HXCDF	passed	41.58		A		A		10.000000	10.0000	10.000000	2309	
56	Single HxCDP	passed	43.25		A	90141	A		10.000000	10.0000	10.000000	2532	
57	Single HxCDD	passed	42.44		A	89195	A		10.000000	10.0000	10.000000	2528	
58	Single HxCDD	passed	42.55		A		A		10.000000	10.0000	10.000000	2386	
59	Single HpCDF	passed	44 93		Ā	114804	Ā		10.000000	10.0000	10.000000	2571	
60	Single HpCDF	passed	46.69		A		A		10.000000	10.0000	10.000000	2257	
	Single i ipobl	passa	10.00				^	0.0.00	15.55560				



File Name: Y:\17JAN31\17JAN31-09 Acq. Data: 2/1/2017 3:39:47 AM Instrument ID: DF18471-17JAN31 Sample ID: CS201 Sample Name: CALDF31737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 943 780 1144 27.15 1239 4.03E5 1352 27.53 100-24.74 1366 30.96 32.59 34.52 m/z=34.76 291.9825-80 292.9825 MS 60-17JAN31-09 40-20-0-NL: 1380 1421 1624 1367 1675 35.06 4.41E5 35,69 38.82 34,86 39.61 100m/z=hariftenigen innaft/ hanstrokengelei 330.4792-80-331.4792 MS 17JAN31-60-09 40-20-0-NL: 1954 1917 2008 1770 43.48 2.63E5 42.98 100 44.20 41,00 m/z=380.4760-1377 1447 1667 Relative Abundance 80-35.02 36.10 381.4760 39,49 MS 60-17JAN31-09 40-20-0-NL: 2014 2263 2147 44.37 6.06E4 100m/z= 2276 404.4760-47,99 80-405.4760 MS 60-17JAN31-09 40-20-0-2316 NL: 6.93E4 48.60 100 m/z=2291 442.4728-48,2 80-443.4728 MS 17JAN31-60-40-20-Page 288 36 38 of 560 32 42 By UMJS at 10:13 am 322917 By ujd2 at 10:16 am, 2/1/17 Time (min)

```
17JAN31-09

*** file opened Wed Feb 01 03:45:10 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - Lx18470

Analysis started at: 01-Feb-17 03:45:10

Analysis will stop at user request
```

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

Mid Time W Star		asure	End C	ycletime
# 1 11:30 # 2 21:00 # 3 34:44 # 4 39:47 # 5 44:15 # 6 48:00	min 9:30 min 13:44 min 5:03 min 4:27 min 3:45 min 3:00	min 34:44 min 39:47 min 44:15 min 48:00	min 1.00 min 0.90 min 0.80 min 0.80	sec sec sec sec sec sec
Mid Masses Window #  mass 218.0129 218.9851 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 297.9752 299.9723 Window #	1 F int gr 1 1 1 20 1 2 1 2 1 2 1 1 1 2 1 2 1 2 1 2 1 2 1 2	time (ms) 95 47 47 95 95 47 47 95 95 47 47 47		
mass 292.9819 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	F int gr 1 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118		

Page 1





```
331.9363
                    1
                              23
 333.9333
                 5
                    1
                              23
 339.8592
                    1
                 1
                             118
 341.8562
                    1
                             118
 354.9787 c
               20
                    1
 375.8364
                    1
                              59
                2
Window # 3
      mass F
               int
                          time (ms)
                     gr
 330.9787
                    1
                               6
               20
 339.8592
                1
                    1
                             133
 341.8562
                    1
                             133
 351.8994
                              44
                    1
                              44
 353.8965
                    1
 355.8541
                    1
                             133
 357.8511
                    1
                             133
                              44
 367.8943
                    1
 369.8914
                 3
                              44
                    1
 380.9755 c
               20
                    1
                               6
                    1
 409.7969
                2
                              66
Window # 4
      mass F
               int
                          time (ms)
                     gr
                    1
                             117
 373.8201
                 1
 375.8172
                 1
                    1
                             117
 380.9755
               20
                    1
                               5
                              39
 383.8634
                    1
                 3
 385.8604
                    1
                              39
 389.8151
                    1
                             117
 391.8121
                    1
                             117
 401.8554
                    1
                              39
                 3
                    1
                              39
 403.8524
 430.9723 c
               20
                    1
                               5
 445.7550
                2
                    1
                              58
Window # 5
 mass F
404.9755 1
                          time (ms)
               int
                     gr
                    1
               20
 407.7812
                1
                    1
                             117
 409.7783
                 1
                    1
                             117
 417.8244
                    1
                              39
 419.8215
                              39
                    1
 423.7761
                    1
                             117
 425.7732
                    1
                             117
 435.8164
                    1
                              39
                    1
                              39
 437.8134
 479.7160
                 2
                    1
                              58
 480.9691 c
               20
                    1
Window # 6
      mass F
               int
                          time (ms)
                     gr
 441.7422
                    1
                              95
                1
 442.9723 1
               20
                    1
                               4
 443.7393
                1
                    1
                              95
 453.7825
455.7795
                 1
                    1
                              95
                              95
                    1
 457.7372
                              95
                    1
 459.7342
                    1
                              95
 469.7774
                    1
                              31
                 3
 471.7745
                    1
                              31
 492.9691 c
               20
                    1
                               4
                    1
 513.6770
                              47
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	95.5000
BQUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0157	FVINLET	0.0276	FVSRC	0.0272
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1429287.2593	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8962	RELEN	0.0000
RES	13526.1016	RPUSHER	-14.5861	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.5000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11437.
MID Time Window 2: Resolution is 11372.
MID Time Window 3: Resolution is 11130.
MID Time Window 4: Resolution is 11505.
Page 3
```





17JAN31-09 MID Time Window 5: Resolution is 14477. MID Time Window 6: Resolution is 13526.

Amplifier Offset: 88.









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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 04:36

Number of Entries 64

Comment

Vial

Sample Name CALDF41737A

Sample ID CS301

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-10.quan Data y:\17jan31\17jan31-10.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] 2.5 Det. Limit Factor [hDLF]

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





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#### Entry Parameters

No.	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	RRT Status	Status
L	Name	Time	Overview	Status	Status	Status	Status		Info
1	2376-TCDF	31.13	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	32.15	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.65	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.86	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	38.24	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.42	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.57	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.26	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.43	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.55	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.86	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.25	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.94		passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.11		passed	passed	passed		passed	
15	1234789-HpCDF	46.68		passed	passed	passed		passed	
16	OCDD	49.12		passed	passed	passed		passed	
17	OCDF	49.32		passed	passed	passed		passed	
18	13C12-1278-TCDD (CRS)	32.51	,	passed	passed	passed	,	passed	
19	13C12-1234-TCDD	31.38		passed	passed	passed		passed	
20	13C12-123468-HxCDD	41,31		passed	passed	passed		passed	
21	13C12-2378-TCDF	31.11		passed	passed	passed		passed	
22	13C12-2378-TCDD	32.13		passed	passed	passed		passed	
23	13C12-12378-PeCDF	36.62		passed	passed	passed		passed	
24	13C12-23478-PeCDF	37.84		passed	passed	passed		passed	
25	13C12-12378-PeCDD	38.23	,	passed	passed	passed		passed	
26	13C12-123478-HxCDF	41.41	,	passed	passed	passed		passed	
27	13C12-123678-HxCDF	41.56	,	passed	passed	passed		passed	
28	13C12-234678-HxCDF	42.24		passed	passed	passed		passed	
29	13C12-123478-HxCDD	42.42	,	passed	passed	passed		passed	
30	13C12-123678-HxCDD	42.54		passed	passed	passed		passed	
31	13C12-123789-HxCDD	42.85		passed	passed	passed		passed	
32	13C12-123789-HxCDF	43.24		passed		passed		passed	
33	13C12-123789-HxCDF	44.93			passed passed	passed		passed	
34	13C12-1234678-HpCDD	46.10		passed	passed	passed		passed	
35	13C12-1234789-HpCDF	46.67	,	passed	passed	passed	•	passed	
36	13C12-0CDD	49.10		passed		passed		passed	
37	13C12-0CDF	49.10		,	passed	,	,	passed	
38	Total TCDF	49.30 29.82	,	passed 	passed	passed 	passed 	_	
39				_					
40	Total TCDD	30.59							
41	Total PeCDF	36.94		_					
42	Total PeCDD	37.03		-				_	· ·
43	Total HxCDF	41.88					_	_	
44	Total HxCDD	42.62 45.65						_	
45	Total HpCDD		,	-					
46	Total HpCDF	45.87						passed	
47	Single TCDF	31.13		passed	passed			passed	
48	Single TCDD	32.15		passed	passed	passed		passed	
49	Single PeCDD	38.24 37.86	,	passed	passed	passed		passed	
50	Single PeCDF		,	passed	passed	passed		passed	
51	Single PeCDF	36.65		passed	passed	passed		passed	
51 52	Single HpCDD	46.11		passed	passed	passed			
52	Single HxCDF	42.26		passed	passed	passed		passed	
53 54	Single HxCDF	41.42		passed	passed	passed		passed	
54 55	Single HxCDF	41.57		passed	passed	passed		passed passed	
56	Single HxCDF	43.25		passed	passed	passed		passed passed	
57	Single HxCDD	42.86		passed	passed	passed		-	
58	Single HxCDD	42.43		passed	passed	passed		passed passed	
58 59	Single HxCDD	42.55		passed	passed	passed			
59	Single HpCDF	44.94	passed	passed	passed	passed	passed	passed	



Single HpCDF





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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/01 04:36

**Number of Entries** 

Comment

6

64

Sample Name

CALDF41737A

Sample ID

CS301

Inst ID

DF18471-17JAN31

Client

Vial

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan Data

y:\17jan31\17jan31-10.quan y:\17jan31\17jan31-10.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height **Quantitation Status**  Sum QM RM1 Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

Det. Limit Factor [hDLF]

1.0

Response Factor Mode

2.5 Single Point (Spec. RF)

Fit Calc. Mode

Linear Fit

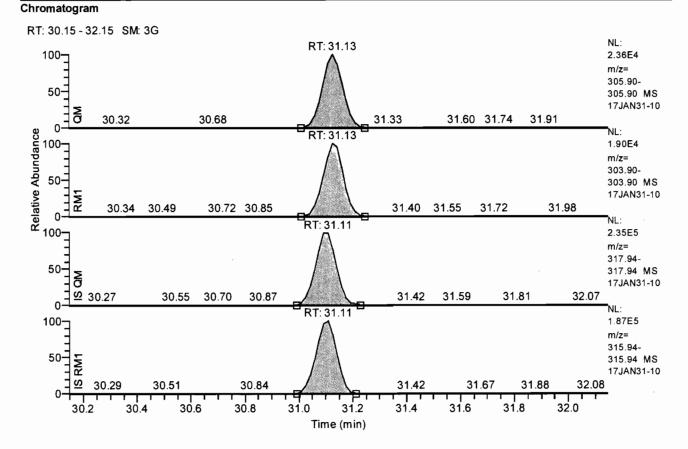
Regression Mode

Non weighted Regression

Weighted Regression Factor



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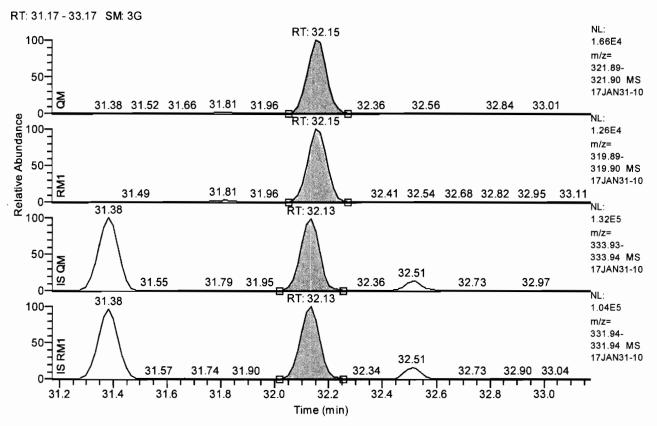


#### **Entry Parameters**

Compound Name 2378-TCDF QM Retention Time 31.13 QM Area 126925 QM Integration Mode Α RM1 Area 101187 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0048 Unqualified Amount (A) 10.000000 10.0000 Adjusted Amount (A) Signal-to-Noise 5296 Client Flags Status Overview passed Status Info



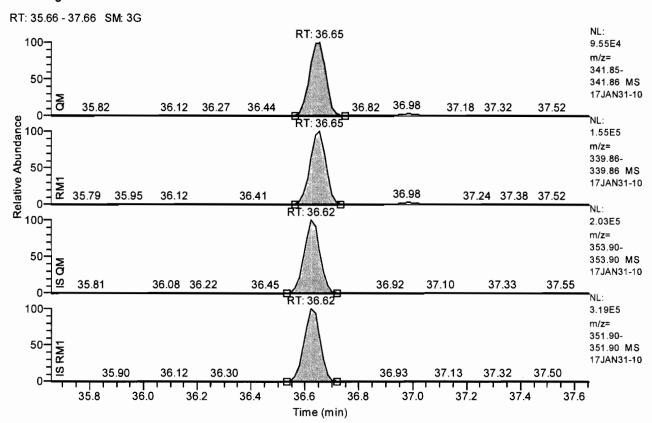




Compound Name 2378-TCDD QM Retention Time 32.15 QM Area 83956 QM Integration Mode RM1 Area 64932 RM1 Integration Mode Α ManInt 0.0056 Detection Limit (A) Unqualified Amount (A) 10.000000 Adjusted Amount (A) 10.0000 Signal-to-Noise 4430 Client Flags Status Overview passed Status Info







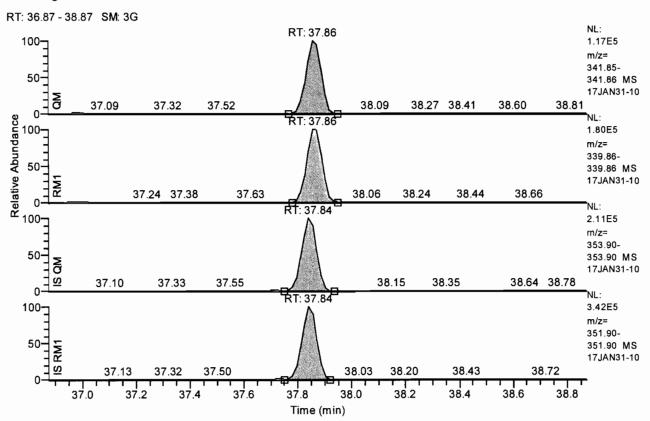
#### **Entry Parameters**

Status Info

12378-PeCDF Compound Name QM Retention Time 36.65 QM Area 404299 QM Integration Mode RM1 Area 637239 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0058 50.000000 Unqualified Amount (A) Adjusted Amount (A) 50.0000 Signal-to-Noise 21668 Client Flags Status Overview passed

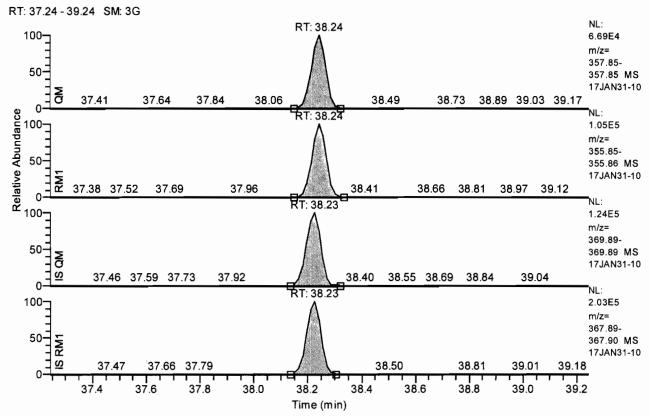






23478-PeCDF Compound Name QM Retention Time 37.86 QM Area 458862 QM Integration Mode Α RM1 Area 723138 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0048 Unqualified Amount (A) 50.000000 50.0000 Adjusted Amount (A) Signal-to-Noise 25623 Client Flags Status Overview passed Status Info





#### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.24

QM Area

253735

QM Integration Mode

Α

RM1 Area

395844

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0132 50.000000

Unqualified Amount (A) Adjusted Amount (A)

50.0000

Signal-to-Noise

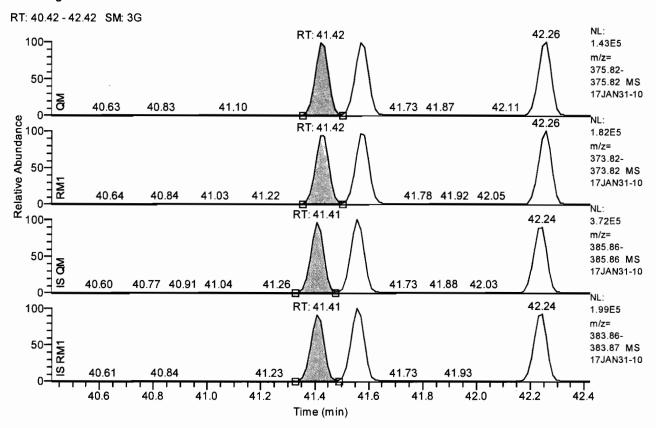
9517

Client Flags

Status Overview

passed

### Chromatogram



### **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.42

QM Area

490884

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 608801 Α

ManInt

Detection Limit (A)

0.0178

Unqualified Amount (A)

50.000000

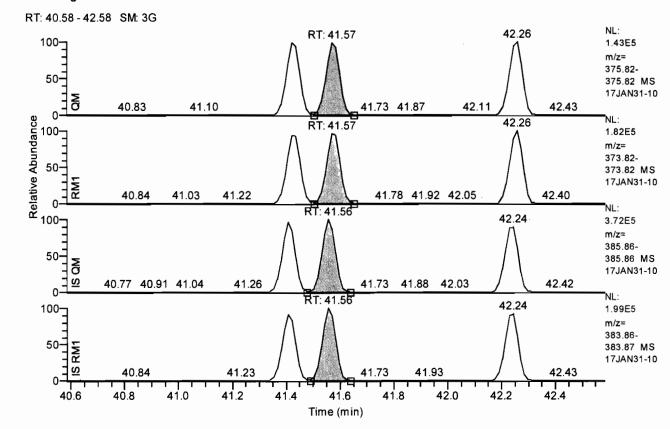
Adjusted Amount (A)

50.0000 6810

Signal-to-Noise Client Flags

Status Overview

passed



### **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.57

QM Area

497196

QM Integration Mode

Α

RM1 Area

618722

RM1 Integration Mode

ManInt

Detection Limit (A)

0.0178 50.000000

Unqualified Amount (A)

50.0000

Adjusted Amount (A) Signal-to-Noise

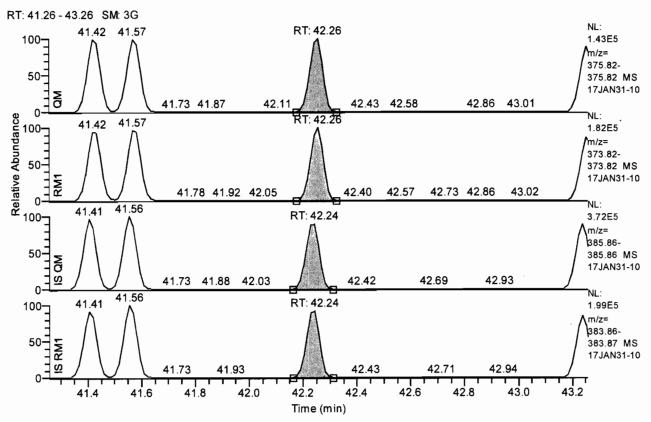
6912

Client Flags

Status Overview

passed





### **Entry Parameters**

Compound Name

234678-HxCDF

QM Retention Time

42.26

QM Area

490433

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 614127 Α

ManInt

Detection Limit (A)

0.0180

Unqualified Amount (A)

50.000000

Adjusted Amount (A)

50.0000

Signal-to-Noise

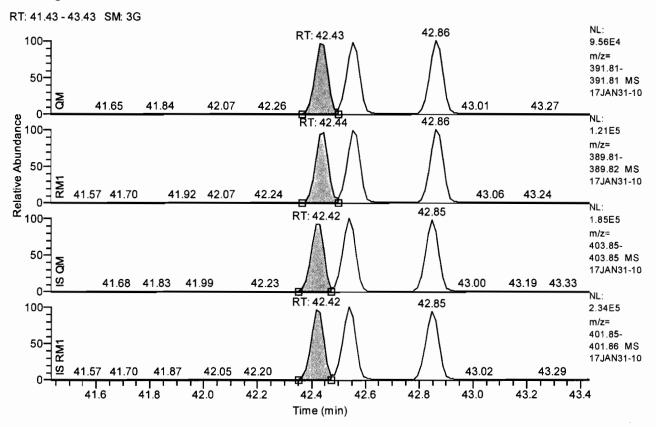
7069

Client Flags

Status Overview

passed





### **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.43

QM Area

316134

QM Integration Mode

Α

RM1 Area

393975 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0187

Unqualified Amount (A)

50.000000

Adjusted Amount (A)

50.0000

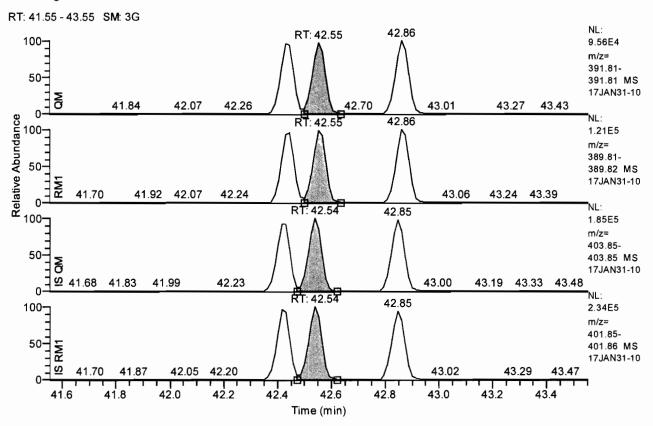
Signal-to-Noise

6577

Client Flags

Status Overview

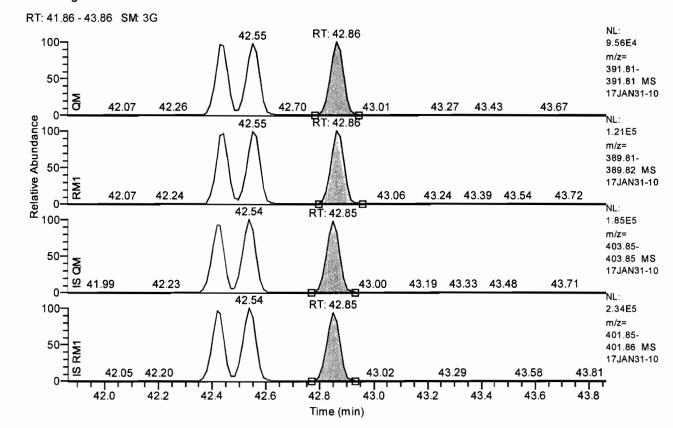
passed



### **Entry Parameters**

Status Info

Compound Name 123678-HxCDD QM Retention Time 42.55 QM Area 311420 QM Integration Mode Α RM1 Area 400139 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0189 Unqualified Amount (A) 50.000000 50.0000 Adjusted Amount (A) Signal-to-Noise 6719 Client Flags Status Overview passed



### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.86

QM Area

325889

QM Integration Mode

Α 412542

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0182

Unqualified Amount (A)

50.000000

Adjusted Amount (A)

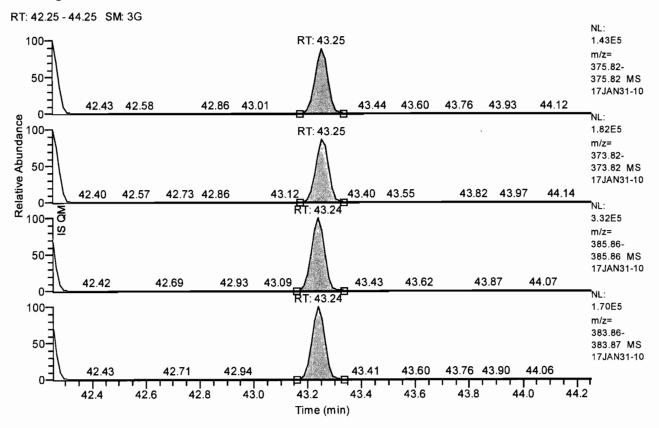
50.0000

Signal-to-Noise

6819

Client Flags Status Overview

passed



### **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.25

QM Area

423867

QM Integration Mode

RM1 Area

531146

RM1 Integration Mode

ManInt

0.0204

Detection Limit (A) Unqualified Amount (A)

50.000000

Adjusted Amount (A)

50.0000

Signal-to-Noise

6184

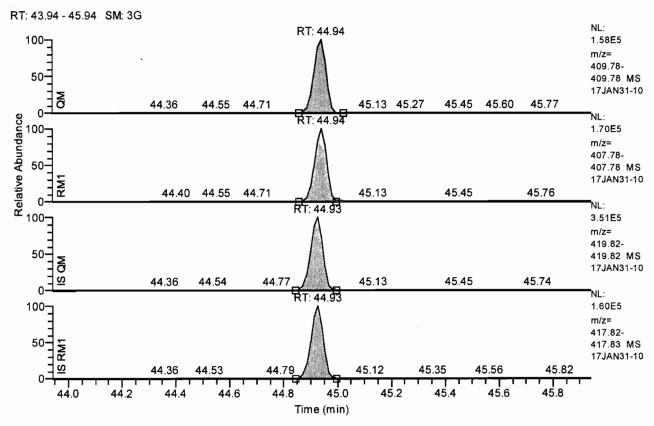
Client Flags

Status Overview

passed







### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.94

QM Area

513505

QM Integration Mode

Α

RM1 Area

539020 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0160

Unqualified Amount (A)

50.000000 50.0000

Adjusted Amount (A) Signal-to-Noise

7792

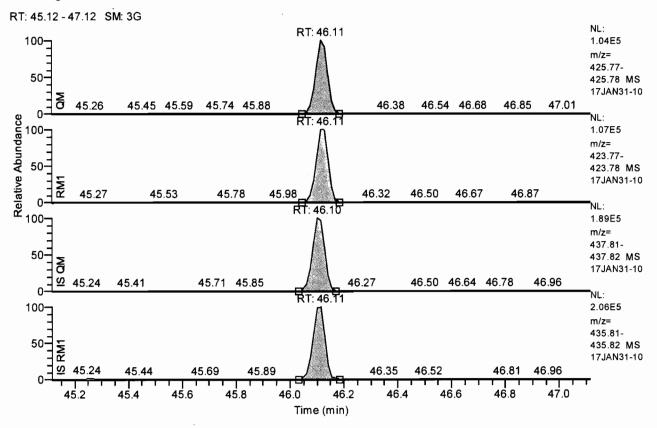
Client Flags

Status Overview

passed

# neurofins :

### Chromatogram



### **Entry Parameters**

Compound Name 1234678-HpCDD

QM Retention Time 46.11 QM Area

328495 QM Integration Mode

RM1 Area 345592

RM1 Integration Mode Α ManInt

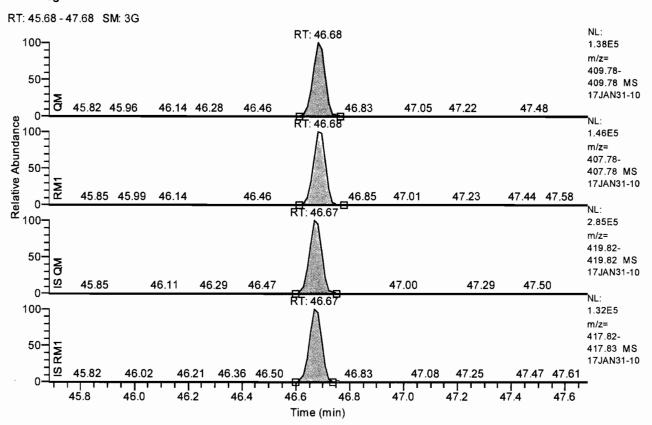
Detection Limit (A) 0.0182 Unqualified Amount (A) 50.000000

Adjusted Amount (A) 50.0000 Signal-to-Noise 6938

Client Flags

Status Overview passed

### Chromatogram



### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.68

QM Area

446612

QM Integration Mode

RM1 Area

482805

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0187

Unqualified Amount (A)

50.000000

Adjusted Amount (A) Signal-to-Noise

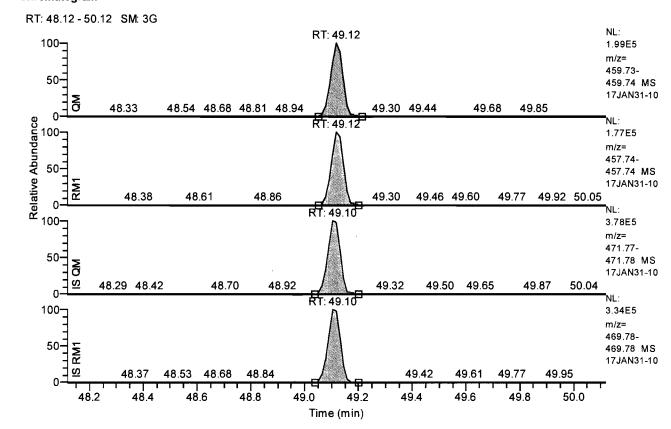
50.0000 6747

Client Flags

Status Overview

passed

### Chromatogram

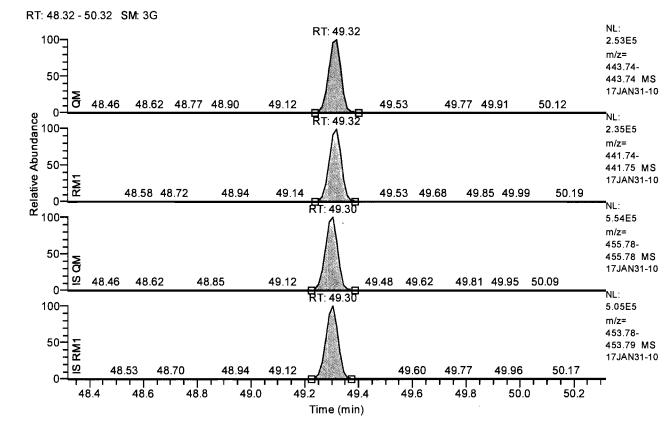


### **Entry Parameters**

OCDD
49.12
623186
Α
555804
Α
0
0.0200
100.000000
100.0000
12844
passed



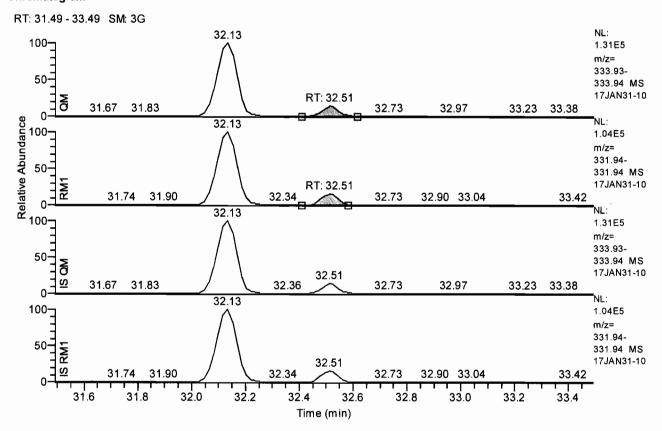




### **Entry Parameters**

Compound Name OCDF QM Retention Time 49.32 QM Area 813641 QM Integration Mode RM1 Area 739445 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0144 Unqualified Amount (A) 100.000000 Adjusted Amount (A) 100.0000 Signal-to-Noise 17357 Client Flags Status Overview passed Status Info





### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.51

QM Area

81841

QM Integration Mode

Α

RM1 Area

71666

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)
Unqualified Amount (A)

0.0108 10.000000

Adjusted Amount (A)

10.0000

Signal-to-Noise

2783

Client Flags

Status Overview

passed



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### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 04:36

**Number of Entries** 64

Comment

Vial

Sample Name CALDF41737A

Sample ID CS301

Inst ID DF18471-17JAN31

Client

Analyst ida02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

y:\17jan31\17jan31-10.quan Quan Data y:\17jan31\17jan31-10.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 Quantitation Status Dependend on Area

Injection Volume [hlJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

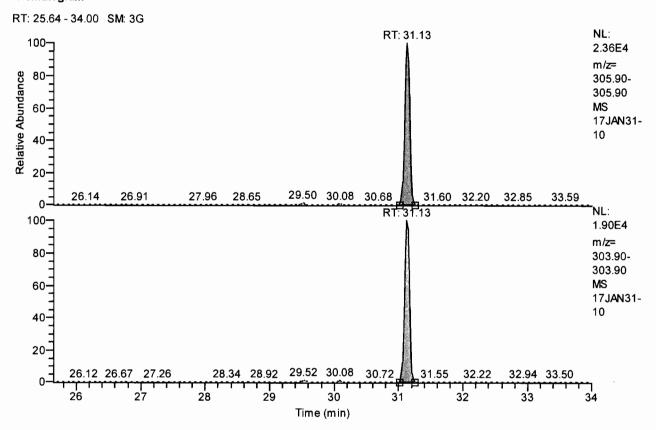
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



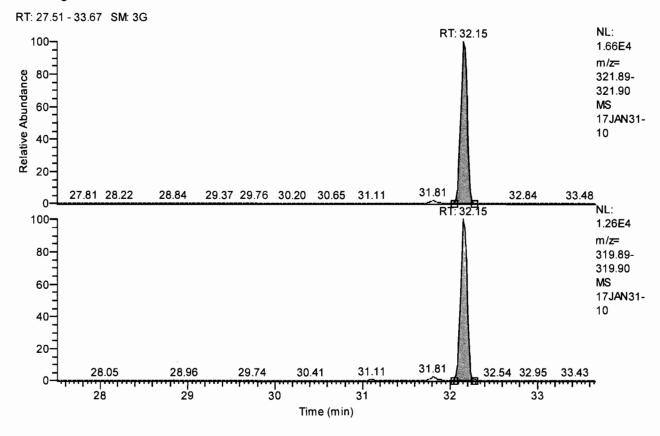


### Chromatogram



### **Entry Parameters**

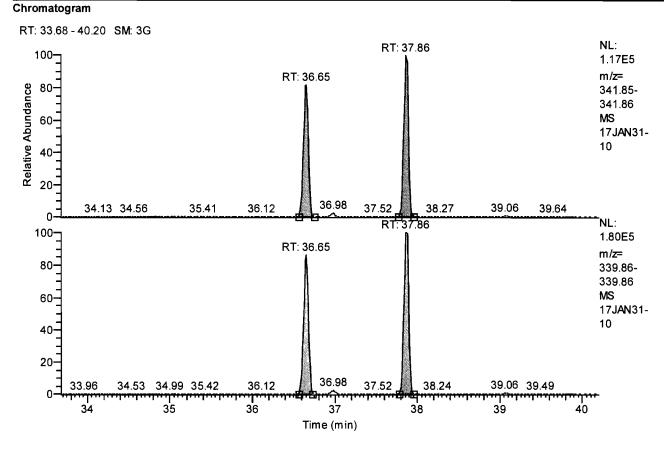
Compound Name	Total TCDF
QM Retention Time	29.82
QM Area	126925
QM Integration Mode	Α
RM1 Area	101187
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	5296
Client Flags	
Status Overview	passed (1)



### **Entry Parameters**

Total TCDD Compound Name QM Retention Time 30.59 QM Area 83956 QM Integration Mode Α RM1 Area 64932 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0056 Unqualified Amount (A) 10.000000 Adjusted Amount (A) 10.0000 Signal-to-Noise 4430 Client Flags Status Overview passed (1) Status Info

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### **Entry Parameters**

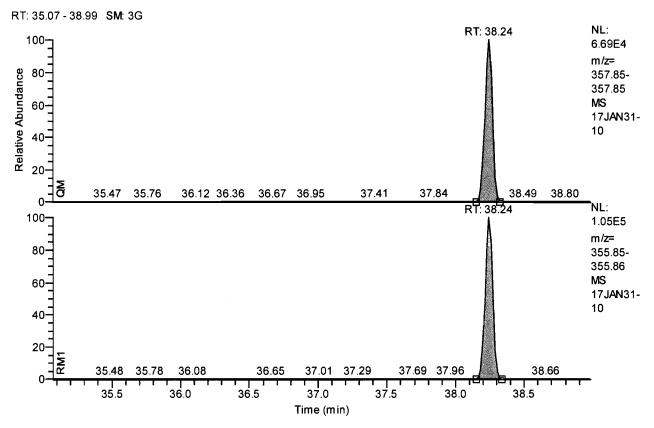
Compound Name Total PeCDF QM Retention Time 36.94 QM Area 863161 QM Integration Mode RM1 Area 1360377 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0053 Unqualified Amount (A) 50.000000 Adjusted Amount (A) 100.0000 Signal-to-Noise 23646

Client Flags

Status Overview passed (2)







### **Entry Parameters**

Compound Name

Total PeCDD

QM Retention Time

37.03

QM Area

253735

QM Integration Mode

RM1 Area

395844

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0132 50.000000

Unqualified Amount (A) Adjusted Amount (A)

50.0000

Signal-to-Noise

9517

Client Flags

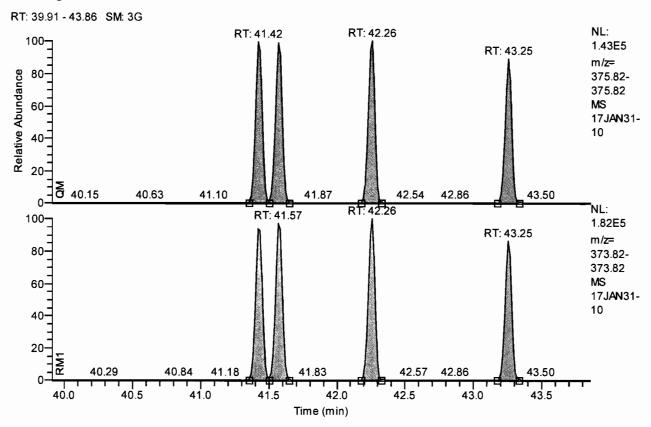
Status Overview

passed (1)

Status Info

rmoFisher f 1081



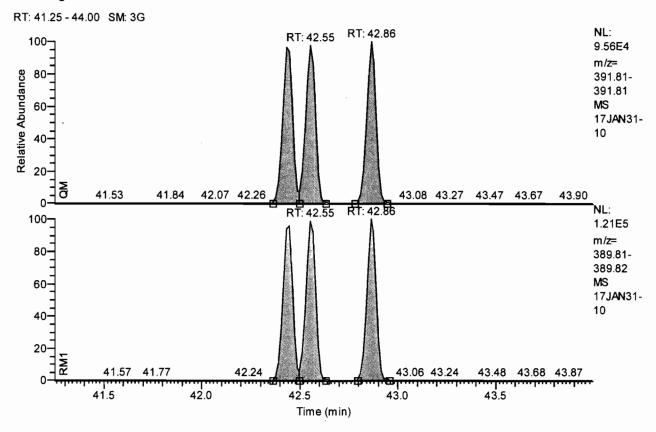


### **Entry Parameters**

Compound Name Total HxCDF QM Retention Time 41.88 QM Area 1902380 QM Integration Mode RM1 Area 2372796 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0185 Unqualified Amount (A) 50.000000 Adjusted Amount (A) 200.0000 Signal-to-Noise 6744 Client Flags Status Overview passed (4) Status Info





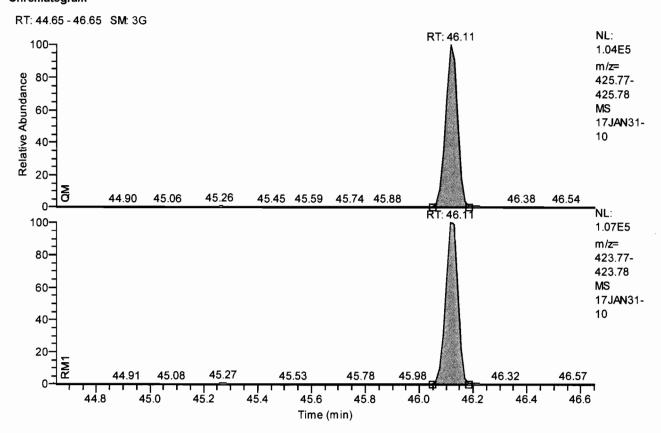


### **Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	42.62
QM Area	953444
QM Integration Mode	Α
RM1 Area	1206656
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0186
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	6705
Client Flags	
Status Overview	passed (3)
Status Info	



### Chromatogram



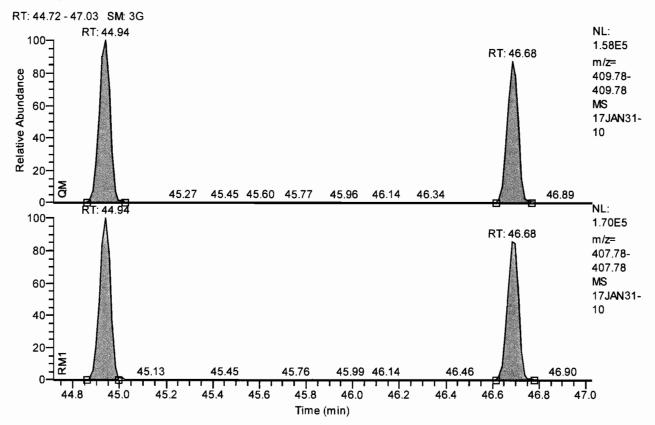
### **Entry Parameters**

Compound Name Total HpCDD QM Retention Time 45.65 QM Area 328495 QM Integration Mode RM1 Area 345592 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0182 Unqualified Amount (A) 50.000000 Adjusted Amount (A) 50.0000 Signal-to-Noise 6938 Client Flags Status Overview passed (1) Status Info

TargetQua







### **Entry Parameters**

Compound Name Total HpCDF QM Retention Time 45.87 QM Area 960117 QM Integration Mode RM1 Area 1021825 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0173 Unqualified Amount (A) 50.000000 Adjusted Amount (A) 100.0000 Signal-to-Noise 7270 Client Flags Status Overview

passed (2)



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### Entry Parameters

No	Compound	Quan.	Ratio	RT Window	Specified	QM Retention	RM1 Retention	RM1 Time	DDT OLD
No.	Name	Mass	Mass 1	[min]	RT [min]	Time	Time	Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm		0.67	31,13	31.13	31.13		
2	2378-TCDD	321.8936 +/- 5 ppm		0.67	32.15	32.15	32.15		passed
4	12378-PeCDF	341.8567 +/- 5 ppm		0.67	36.65		36.65		pessed
5	23478-PeCDF	341.8567 +/- 5 ppm		0.67	37.86	37.86	37.86		passed
6	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	38.24	38.24	38.24	passed	passed
7	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.42	41.42	41.42		passed
8	123678-HxCDF	375.8178 +/- 5 ppm		0.67	41.57	41.57	41.57		passed
9	234678-HxCDF	375.8178 +/- 5 ppm		0.67	42.26	42.26	42.26		passed
10	123478-HxCDD	391.8127 +/- 5 ppm		0.67	42.43	42.43	42.44	passed	passed
11	123678-HxCDD 123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.55	42.55	42.55		passed
12	123789-HxCDD	391.8127 +/- 5 ppm	389,8157 +/- 5 ppm	0.67	42.86	42.86	42.86		passed
13	1234678-HpCDF	375.8178 +/- 5 ppm 409.7789 +/- 5 ppm	373.8208 +/- 5 ppm 407.7818 +/- 5 ppm	0,67 0.67	43.25 44.94	43.25 44.94	43.25 44.94		passed passed
14	1234678-HpCDF	425.7737 +/- 5 ppm	407.7818 +/- 5 ppm 423.7766 +/- 5 ppm		44.94 46.11			passed	passed passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.11 46.68	46.11 46.68	46.11 46.68	passed	
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67 0.67	49.12	49.12	49.12	passed	passed passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	49.12	49.12	49.12		passed
18	13C12-1278-TCDD (CRS)	333,9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	32.51	32.51	32.51	passed	passed
19	13C12-1234-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	32.51	32.51	32.51	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	41.31	41.31	41.31	passed passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	31.11	31.11	31.11	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	32.13	32.13	32.13	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.62	36.62	36.62	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351,9000 +/- 5 ppm	0.67	37.84	37.84	37.84	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0,67	38,23	38.23	38.23	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.41	41.41	41.41	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm		0.67	41.56	41.56	41.56	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm		0.67	42.24	42.24	42.24	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0,67	42.42	42.42	42.42	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.54	42.54	42.54	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.85	42.85	42.85	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	43.24	43.24	43.24	passed	passed .
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	44.93	44.93	44.93	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0,67	46.10	46.10	46.11	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.67	46,67	46.67	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	49.10	49.10	49.10	passed	passed
37	13C12-0CDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	49.30	49.30	49.30	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303,9016 +/- 5 ppm	7 60	29.82	29.82	29.82	***	
39 40	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	30.59	30.59	30,59	_	_
41	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.94	36.94	36.94		
42	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.03	37.03	37.03	_	
43	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.88	41.88	41.88	_	
44	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.62	42.62	42.62	_	_
45	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.65	45.65	45.65		_
46	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.87	45.87	45.87		passed
47	Single TCDF Single TCDD	305.8987 +/- 5 ppm 321.8936 +/- 5 ppm	303.9016 +/- 5 ppm 319.8965 +/- 5 ppm	7 60 5.60	31.13 32.15	31.13 32.15	31.13 32.15	passed	passed
48	Single PeCDD	321.8936 +/- 5 ppm 357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3,56	32.15 38.24	32.15 38.24	32.15 38.24	passed passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.86	37.86	37.86	passed passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.65	36.65	36.65	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	46.11	46.11	46.11	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	42.26	42.26	42.26	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.42	41.42	41.42	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.57	41.57	41.57	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	43.25	43.25	43.25	passed	pessed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.86	42.86	42.86	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389 8157 +/- 5 ppm	2.50	42.43	42.43	42.44	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.55	42.55	42.55	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.94	44.94	44.94	passed	pessed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	46.68	46.68	46.68	passad	passed

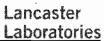






### Entry Parameters

No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
1	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
2	2378-TCDF	31.13		0.6450 -	0.8950		100.00	0 - 0	
3	2378-TCDD	32.15		0.6450 -	0.8950		100.00	0 - 0	passa
4	12378-PeCDF	36.65		1.3150 -	1.7850		100.00	0 - 0	
5	23478-PeCDF	37.86		1.3150 -	1.7850	,	100.00	0 - 0	,
6	12378-PeCDD	38.24	1.5601	1.3150 -	1.7850		100.00	0 - 0	passes
7	123478-HxCDF	41.42		1.0450 -	1.4350		100.00	0 - 0	P
8	123678-HxCDF	41.57	1.2444	1.0450 -	1.4350	,	100.00	0 - 0	Passea
9	234678-HxCDF	42.26		1.0450 -	1.4350		100.00	0- 0	,
10	123478-HxCDD	42.43	1.2462	1.0450 -	1.4350		100.00	0 - 0	,
11	123678-HxCDD	42.55	1.2849	1.0450 -	1.4350	passed	100.00	0- 0	F
	123789-HxCDD	42.86		1.0450 -	1.4350		100.00	0 - 0	
12 13	123789-HxCDF	43.25	1.2531	1.0450 -	1.4350		100.00	0 - 0	F
	1234678-HpCDF	44.94	1.0497	0.8750 -	1.2050	passed	100.00	0 - 0	passea
14 15	1234678-HpCDD	46.11	1.0520	0.8750 -	1.2050	passed	100.00	0 - 0	F
16	1234789-HpCDF	46.68	1.0810	0.8750 -	1.2050	passed	100.00	0- 0	
17	OCDD	49.12		0.7550 -	1.0250	passed	100.00	0 - 0	passou
1/	OCDF	49.32		0.7550 -	1.0250	passed	100.00	0- 0	passou
19	13C12-1278-TCDD (CRS)	32.51	0.8757	0.6450 -	0.8950	passed	100.00	0 - 0	,
20	13C12-1234-TCDD	31.38	0.7594	0.6450 -	0.8950	passed	100.00	0 - 0	· · · · · · · · · · · · · · · · · · ·
21	13C12-123468-HxCDD	41.31	1.2471	1.0450 -	1.4350	passed	100.00	0 - 0	<b>P</b>
22	13C12-2378-TCDF	31.11	0.7911	0.6450 -	0.8950	passed	100.00	0 - 0	Factors
23	13C12-2378-TCDD	32.13	0.8081	0.6450 -	0.8950	passed	100.00	0 - 0	F=====
24	13C12-12378-PeCDF	36.62	1.6035	1.3150 -	1.7850	passed	100.00	0 - 0	Passea
25	13C12-23478-PeCDF	37.84	1.6031	1.3150 -	1.7850	passed	100.00	0- 0	passea
26	13C12-12378-PeCDD	38.23	1.6162	1.3150 -	1.7850	passed	100.00	0 - 0	passoa
27	13C12-123478-HxCDF 13C12-123678-HxCDF	41.41	0.5243	0.4250 -	0.5950	passed	100.00	0 - 0	F
28	13C12-234678-HxCDF	41.56	0.5371	0.4250 -	0.5950	passed	100.00	0- 0	,
29	13C12-123478-HxCDD	42.24	0.5375	0.4250 -	0.5950	passed	100.00		passage .
30	13C12-123678-HxCDD	42.42 42.54	1 2807 1.2688	1.0450 - 1.0450 -	1.4350 1.4350	passed	100.00	0 - 0 0 - 0	F
31	13C12-123789-HxCDD	42.85	1.2000	1.0450 -	1.4350	passed	100.00 100.00	0- 0	Feeters
32	13C12-123789-HxCDF	43.24	0.5059	0.4250 -	0.5950	passed passed	100.00	0- 0	
33	13C12-1234678-HpCDF	44.93	0.4561	0.4250 -	0.5950	passed	100.00	0- 0	P
34	13C12-1234678-HpCDD	46.10	1 0896	0.8750 -	1.2050	passed	100.00	0- 0	•
35	13C12-1234789-HpCDF	46.67	0.4608	0.3650 -	0.5150	passed	100.00	0- 0	F
36	13C12-OCDD	49.10		0.7550 -	1.0250			0- 0	F
37	13C12-0CDF	49.30	0.8988	0.7550 -	1.0250	passed passed	100.00 100.00	0- 0	
38	Total TCDF	29.82	0.7972	0.6450 -	0.8950	passeu	100.00	0- 0	
39	Total TCDD	30.59	0.7372	0.6450 -	0.8950	-	100.00	0- 0	
40	Total PeCDF	36.94	1,5760	1,3150 -	1.7850		100.00	0- 0	
41	Total PeCDD	37.03	1.5601	1,3150 -	1.7850	_	100.00	0- 0	
42	Total HxCDF	41.88	1.2473	1.0450 -	1.4350		100.00	0- 0	
43	Total HxCDD	42.62	1.2656	1.0450 -	1.4350		100.00	0- 0	
44	Total HpCDD	45.65	1.0520	0.8750 -	1.2050	_	100.00	0- 0	
45	Total HpCDF	45.87	1.0643	0.8750 -	1.2050	_	100.00	0 - 0	
46	Single TCDF	31.13	0.7972	0.6450 -	0.8950	passed	100.00	0 - 0	
47	Single TCDD	32.15	0.7734	0.6450 -	0.8950	passed	100.00	0- 0	•
48	Single PeCDD	38.24	1.5601	1,3150 -	1.7850	passed	100.00	0- 0	•
49	Single PeCDF	37.86	1.5759	1.3150 -	1.7850	passed	100.00	0- 0	, -
50	Single PeCDF	36.65	1.5762	1.3150 -	1.7850	passed	100.00	0- 0	*
51	Single HpCDD	46.11	1.0520	0.8750 -	1.2050	passed	100.00	0- 0	*
52	Single HxCDF	42.26	1.2522	1.0450 -	1.4350	passed	100.00	0- 0	•
53	Single HxCDF	41.42	1.2402	1.0450 -	1.4350	passed	100.00	0- 0	
54	Single HxCDF	41.57	1.2444	1.0450 -	1.4350	passed	100.00	0- 0	F
55	Single HxCDF	43.25	1.2531	1.0450 -	1.4350	passed	100.00	0- 0	
56	Single HxCDD	42.86	1.2659	1.0450 -	1.4350	passed	100.00	0- 0	
57	Single HxCDD	42.43	1.2462	1.0450 -	1.4350	passed	100.00	0- 0	·
58	Single HxCDD	42.55	1.2849	1.0450 -	1.4350	passed	100.00	0- 0	
59	Single HpCDF	44.94	1.0497	0.8750 -	1.2050	passed	100.00	0- 0	·
60	Single HpCDF	46.68	1.0810	0.8750 -	1.2050	passed	100.00	0- 0	F
	• '					F		_	passa







No.	Compound	Status	QM Retention	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client
1	Name 2378-TCDF	010111011	Time 31.13				Mode A		10.000000	7 ( /	10,000000		riags
2	2378-TCDF 2378-TCDD	passed passed	31.13 32.15		A				10.000000		10.000000	_	
3	12378-PeCDF	passed	36.65		A		A		50.000000		50.000000		
4	23478-PeCDF	passed	37.86				A		50.000000		50.000000		
5	12378-PeCDD	passed	38.24	253735	A		, A		50.000000		50.000000		
6	123478-HxCDF	passed	30.24 41.42		A		Ā		50.000000		50.000000	6810	
7	123678-HxCDF	passed	41.42		Ā		Ā		50.000000		50.000000		
8	234678-HxCDF	passed	42.26	490433	A		Ā		50.000000		50.000000	7069	
9	123478-HxCDD	passed	42.43	316134	A		A		50.000000		50.000000	6577	
10	123678-HxCDD	passed	42.55	311420	A		A		50.000000		50.000000	6719	
11	123789-HxCDD	passed	42.86		A				50.000000		50.000000	6819	
12	123789-HxCDF	passed	43.25	423867	A		, A		50.000000		50.000000		
13	1234678-HpCDF	passed	44.94		, A				50.000000		50.000000	7792	
14	1234678-HpCDD	passed	46.11		A		,		50,000000		50.000000	6938	
15	1234789-HpCDF	passed	46 68		A		,		50.000000		50.000000	6747	
16	OCDD	passed	49.12		A		,		100.000000		100.000000	12844	
17	OCDF	passed	49.32	813641					100.000000		100.000000	17357	
18	13C12-1278-TCDD (CRS)	passed	32.51	81841			A		10.000000	10.0000	10.000000	2783	
19	13C12-1234-TCDD	passed	31.38	699860	A	531465	A	0.0135	100.000000	100.0000	100.000000	18510	
20	13C12-123468-HxCDD	passed	41.31	651172	A	812068	A	0.0293	100,000000	100.0000	100.000000	8541	
21	13C12-2378-TCDF	passed	31.11	1283399	A		A	0.0049	100.000000	100.0000	100,000000		
22	13C12-2378-TCDD	passed	32.13	655964	A	530090	A	0.0140	100,000000	100.0000	100.000000	18660	
23	13C12-12378-PeCDF	passed	36.62	834243	A	1337730	A	0.0387	100.000000	100.0000	100.000000	8204	
24	13C12-23478-PeCDF	passed	37.84	829051	A	1329085	A	0.0389	100.000000	100,0000	100.000000		
25	13C12-12378-PeCDD	passed	38.23	475589	<i>p</i>	768629	A	0.0220	100.000000	100.0000	100.000000		
26	13C 12-123478-HxCDF	passed	41.41		<b>A</b>	637137	<i>p</i>	0.0253	100.000000	100.0000	100.000000		
27	13C12-123678-HxCDF	passed	41.56		<b>A</b>		A	0.0238	100.000000	100.0000	100.000000		
28	13C12-234678-HxCDF	passed	42.24		A			0.0260	100.000000		100.000000		
29	13C12-123478-HxCDD	passed	42.42		A				100.000000		100.000000		
30	13C12-123678-HxCDD	passed	42.54		Α.				100.000000		100.000000		
31	13C12-123789-HxCDD	passed	42.85		<i>p</i>				100.000000		100.000000		
32	13C12-123789-HxCDF	passed	43.24		A				100.000000		100.000000		
33	13C12-1234678-HpCDF	passed	44.93		<i>A</i>				100.000000		100.000000		
34	13C12-1234678-HpCDD	passed	46.10						100.000000		100.000000		
35	13C12-1234789-HpCDF	passed	46,67		4		4		100.00000		100.000000		
36	13C12-OCDD	passed	49.10		4		,		200.000000		200.000000	27779 22716	
37 38	13C12-OCDF	passed			A		4		200.000000		10.000000		
38	Total TCDF	passed (1)		83956	A		4		10.000000		10.000000	4430	
40	Total TCDD	passed (1)			A		,		10.000000		50.000000		
41	Total PeCDF	passed (2)	36,94		4	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	4		50.000000		50.000000		
41	Total PeCDD	passed (1)					4		50.000000		50.000000		
43	Total HxCDF	passed (4)	41.88	*****					50.000000 50.000000		50.000000		
44	Total HxCDD Total HpCDD	passed (3) passed (1)	42.62 45.65		A		<i>F</i>		50.000000		50.000000		
45	Total HpCDD	passed (1) passed (2)		·	,		,		50.000000		50.000000		
46	Single TCDF	passed (2)	31.13		,	`	,		10.000000		10.000000		
47	Single TCDF Single TCDD	passed	32.15		,				10.000000		10.000000		
48	Single 1CDD	passed	38.24			•			50.000000		50.000000	9517	
49	Single PeCDF	passed	37.86		,				50.000000		50.000000	25623	
50	Single PeCDF	passed			,				50.000000		50.000000		
51	Single HpCDD	passed	46.11						50.000000		50.000000		
52	Single HxCDF	passed	42,26		,				50.000000		50,000000		
53	Single HxCDF	passed			,				50.000000		50.000000	6810	
54	Single HxCDF	passed	41.57		,	•			50.000000		50.000000		
55	Single HxCDF	passed	43.25		,		,		50.000000		50.000000	6184	
56	Single HxCDD	passed	42.86						50.000000		50.000000	6819	
57	Single HxCDD	passed	42.43		,	•	,		50.000000		50.000000	6577	
58	Single HxCDD	passed			,				50.000000		50.000000		
59	Single HpCDF	passed	44.94						50.000000		50.000000	7792	
60	Single HpCDF	passed			,				50.00000		50.000000	6747	
	g pob!	,	.5.00										



File Name: Y:\17JAN31\17JAN31-10 Acq. Data: 2/1/2017 4:36:17 AM Instrument ID: DF18471-17JAN31 Sample ID: CS301 Sample Name: CALDF41737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1331 1355 1302 663 752 33.66 34.15 992 1051 3.73E5 34.56 100-7 22,74 24,26 29.37 28,36 m/z=291.9825-80 292.9825 MS 17JAN31-60-10 40-20 0-NL: 1535 1473 1411 35.53 36.48 37.44 1569 1660 4.52E5 100-37.96 <u>39</u>.37 m/z= 330.4792-80-331.4792 MS 17JAN31-60 10 40-20-0-NL: 2001 1698 1775 2.33E5 44.10 40.02 41.06 100 1491 1475 m/z=36.76 1368 36.52 380.4760-Relative Abundance 80-34.87 381.4760 MS 60-17JAN31-10 20-0-NL: 2043 2022 6.06E4 44.76 2108 100-2193 44.47 m/z=45,66 46,83 2013 404.4760-80-405.4760 MS 60-17JAN31-10 40-20-0-2345 NL: 2289 48.98 6.11E4 48.24 100_ m/z=442.4728-80-443.4728 MS 17JAN31-10 40 20-32 42 By UMJS at 10:13 am \$2/2/917 By ujd2 at 10:16 am, 2/1/17 Time (min)

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17JAN31-10
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*** file opened Wed Feb 01 04:41:42 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - LX18470

Analysis started at: 01-Feb-17 04:41:42

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

### Mid Time Windows:

	Start	Measure	Ena	Cycletime
# 2 # 3 # 4	11:30 min 21:00 min 34:44 min 39:47 min	4:27 min	34:44 min 39:47 min 44:15 min	0.90 sec 0.80 sec
	44:15 min		48:00 min	0.80 sec
# O	48:00 min	3:00 min	or:on win	0.80 sec

### Mid Masses:

iiu Musscs.		
Window # 1		
mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723 Window # 2	int gr 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 1 1 2 1 2	time (ms) 95 4 95 47 47 95 95 47 47 95 95 47 47
mass F	int gr	time (ms)
292.9819 1 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	20 1 1 1 1 1 5 1 5 1 1 1 1 1	5 118 118 23 23 118

Page 1





```
331.9363
                               23
                     1
                               23
 333.9333
 339.8592
                              118
                 1
                     1
 341.8562
                 1
                     1
                              118
 354.9787
                20
                     1
                                5
            c
                               59
 375.8364
                     1
Window # 3
 mass F
330.9787 1
                int
                           time (ms)
                      gr
                20
                     1
                                6
                              133
 339.8592
                 1
                     1
 341.8562
                 1
                              133
                     1
 351.8994
                     1
                               44
                               44
 353.8965
                     1
                              133
 355.8541
                     1
 357.8511
                 1
                     1
                              133
 367.8943
                               44
                               44
 369.8914
                     1
 380.9755
                20
                     1
                                6
            c
 409.7969
                 2
                     1
                               66
Window # 4
                           time (ms)
117
      mass F
                int
                      gr
 373.8201
375.8172
                 1
                     1
                              117
 380.9755
                20
                     1
 383.8634
                               39
                     1
 385.8604
                     1
                               39
 389.8151
                     1
                              117
 391.8121
                 1
                     1
                              117
 401.8554
403.8524
                     1
                               39
                               39
                 3
                     1
                                5
 430.9723
                20
                     1
            C
 445.7550
                 2
                     1
                               58
Window # 5
                           time (ms)
5
117
      mass F
                int
                      gr
 404.9755
407.7812
                20
                     1
                 1
 409.7783
                 1
                              117
                     1
 417.8244
                               39
                     1
                               39
 419.8215
                     1
 423.7761
                     1
                              117
 425.7732
                     1
                              117
 435.8164
437.8134
                               39
                     1
                               39
                     1
 479.7160
                     1
                               58
 480.9691 c
                20
                     1
                                5
Window # 6
      mass F
                int
                           time (ms)
                      gr
                               95
 441.7422
                 1
 442.9723
443.7393
                20
                                4
                               95
                 1
                               95
 453.7825
                 1
                     1
 455.7795
                               95
                     1
                               95
 457.7372
 459.7342
                               95
                     1
 469.7774
                 3
                     1
                               31
 471.7745
                     1
                               31
                20
 492.9691 c
                     1
                                4
 513.6770
                     1
                               47
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	95.0000
BOUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
	0.4300	EXS	171.0000	EXSBR	-0.5300
ESIPAR FDMA			100.0000		
	18000000.0000	FILTER		FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0151	FVINLET	0.0275	FVSRC	0.0275
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	95.0000	LKM	442.9723	MASS	95.0000
MDAC	1423018.7233	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8952	RELEN	0.0000
RES	12861.3326	RPUSHER	-14.5568	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.0000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

### Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11263.
MID Time Window 2: Resolution is 11997.
MID Time Window 3: Resolution is 11911.
MID Time Window 4: Resolution is 11852.
Page 3
```





```
17JAN31-10
```

MID Time Window 5: Resolution is 14486. MID Time Window 6: Resolution is 12861.

Amplifier Offset: 88.









### Lancaster Laboratories

### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 05:32

**Number of Entries** 64

Comment

Vial

Sample Name CALDF51737A

Sample ID CS401

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

y:\17jan31\17jan31-11.quan Quan Data y:\17jan31\17jan31-11.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 1.0 Sample Weight [hSWT] Dilution Factor [hDF] 1.0 2.5 Det. Limit Factor [hDLF]

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





### **Entry Parameters**

No.					RM1 Time Status	Ratio1	Recovery Status	RRT Status	Status Info
1	Name 2378-TCDF	31.11	Dverview	Status	Status	Status		passed	
2	2378-TCDF 2378-TCDD	31.11	passed passed	passed passed	passed passed	passed passed	-	passed	
3	12378-PeCDF	36.64	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.86	passed	passed	passed	passed	,	passed	
5	12378-PeCDD	38.24	passed	passed	passed		passed	passed	
6	123478-HxCDF	41.42	passed	passed	passed	passed		passed	
7	123678-HxCDF	41.57	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.24	passed	passed	passed	passed		passed	
9	123478-HxCDD	42.43	passed	passed	passed	passed		passed	
10	123678-HxCDD	42.55	passed	passed	passed	passed		passed	
11	123789-HxCDD	42.86	passed	passed	passed	passed		passed	
12	123789-HxCDF	43.25	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.94	passed	passed	passed	passed		passed	
14 15	1234678-HpCDD	46.11	passed	passed	passed	passed	passed	passed	
15 16	1234789-HpCDF	46.68	passed	passed	passed	passed	,	passed	
16 17	OCDD	49.12 49.31	passed	passed	passed	passed		passed	
1/	OCDF 13C12-1278-TCDD (CRS)	49.31 32.50	passed passed	passed passed	passed	passed passed	passed passed	passed passed	
19	13C12-1278-1CDD (CRS)	32.50	passed passed	passed passed	passed passed	passed passed		passed	
20	13C12-123468-HxCDD	41.31	passed	passed	passed	passed		passed	
21	13C12-2378-TCDF	31.09	passed	passed	passed	passed	•	passed	
22	13C12-2378-TCDD	32.12	passed	passed	passed	-		passed	
23	13C12-12378-PeCDF	36.63	passed	passed	passed	passed	•	passed	
24	13C12-23478-PeCDF	37.84	passed	passed	passed	passed		passed	
25	13C12-12378-PeCDD	38.21	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.41	passed	passed	passed	passed		passed	
27	13C12-123678-HxCDF	41.55	passed	passed	passed	passed		passed	
28 29	13C12-234678-HxCDF	42.23	passed	passed	passed	passed	passed	passed	
29 30	13C12-123478-HxCDD	42.42	passed	passed	passed	passed		passed	
30 31	13C12-123678-HxCDD 13C12-123789-HxCDD	42.54 42.85	passed	passed	passed	passed		passed passed	
32	13C12-123789-HxCDD	42.85	passed passed	passed passed	passed passed	passed passed	passed passed	passed passed	
33	13C12-123/69-HXCDF	44.92	passed passed	passed passed	passed passed	passed passed		passed	
34	13C12-1234678-HpCDD	46.10	passed	passed	passed	passed	,	passed	
35	13C12-1234789-HpCDF	46.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.11	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.29	passed	passed	passed	passed	,	passed	
38	Total TCDF	29.81	passed (1)	-	_	***		_	
39	Total TCDD	30,57	passed (1)	_				_	
40	Total PeCDF	36.92	passed (2)		_				
41 42	Total PeCDD	37.01	passed (1)		_	-	-	_	
42	Total HxCDF	41.88	passed (4)		_	-	-	_	
43	Total HxCDD	42.62 45.65	passed (3)					_	
45	Total HpCDD Total HpCDF	45.65 45.87	passed (1)		_		-	_	
46	Single TCDF	45.87 31.11	passed (2) passed	passed	passed	passed	passed	passed	
47	Single TCDD	31.11	passed	passed	passed	passed	passed	passed	
48	Single PeCDD	38.24	passed	passed	passed	passed		passed	
49	Single PeCDF	37.86	passed	passed	passed	passed		passed	
50	Single PeCDF	36.64	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	46.11	passed	passed	passed	passed	passed	passed	
52	Single HxCDF	41.42	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.57	passed	passed	passed	passed		passed	
54	Single HxCDF	42.24	passed	passed	passed	passed	passed	passed	
55 56	Single HxCDF	43.25	passed	passed	passed	passed		passed	
56 57	Single HxCDD	42.86	passed	passed	passed	passed	passed	passed	
57 58	Single HxCDD	42.43	passed	passed	passed	passed	passed	passed passed	
58 59	Single HxCDD	42.55	passed	passed	passed	passed	pessed	passed passed	
59 60	Single HpCDF Single HpCDF	44.94 46.68	passed passed	passed passed	passed	passed	passed	passed passed	
00	Single HpCDF	45.68	passed	passed	passed	passed	passed	passed	







Lancaster Laboratories

### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 05:32

Number of Entries 64

Comment

Vial

Sample Name CALDF51737A

Sample ID CS401

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-11.quan Data y:\17jan31\17jan31-11.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

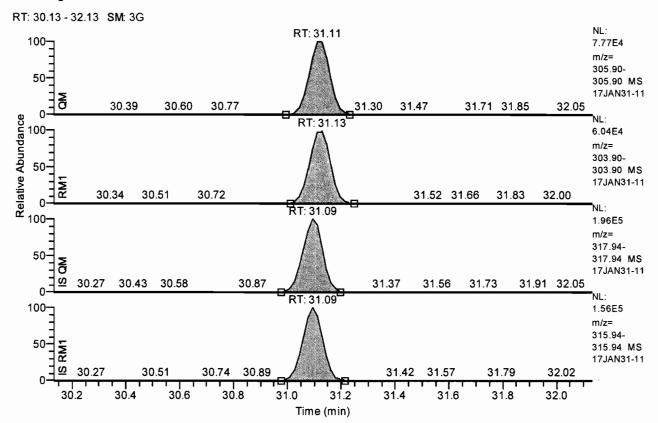
Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0

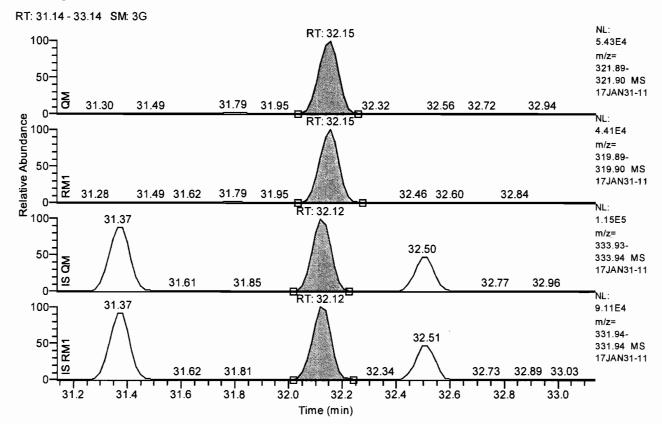
### Chromatogram



### **Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	31.11
QM Area	421958
QM Integration Mode	Α
RM1 Area	330587
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11116
Client Flags	
Status Overview	passed

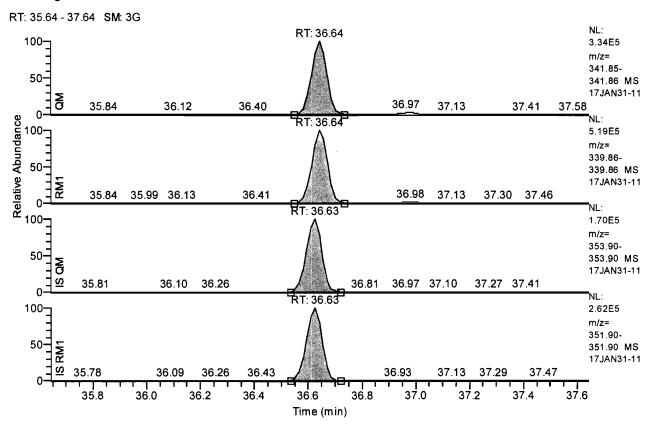




### **Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	32.15
QM Area	277270
QM Integration Mode	Α
RM1 Area	218013
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11096
Client Flags	
Status Overview	passed
Status Info	

### Chromatogram



### **Entry Parameters**

Compound Name

12378-PeCDF

QM Retention Time

36.64

QM Area

1357309

QM Integration Mode

RM1 Area

2134135

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0104

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

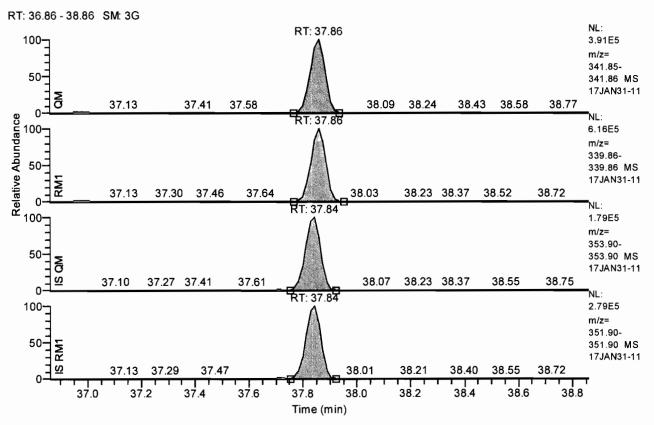
48296

Client Flags

Status Overview

passed





# **Entry Parameters**

Compound Name

23478-PeCDF

QM Retention Time

37.86

QM Area

1543609

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 2400669 Α

ManInt

0

Detection Limit (A)

0.0089

Unqualified Amount (A)

200.000000

Adjusted Amount (A) Signal-to-Noise

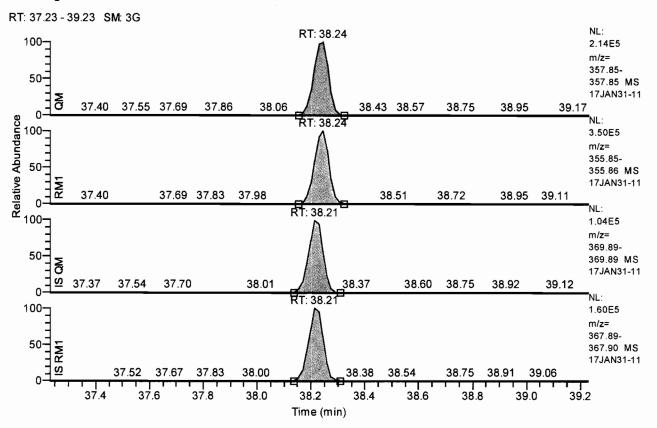
200.0000 56980

Client Flags

Status Overview

passed

#### Chromatogram



## **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.24

QM Area

839707

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 1336188 Α

ManInt

Detection Limit (A)

0.0236

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

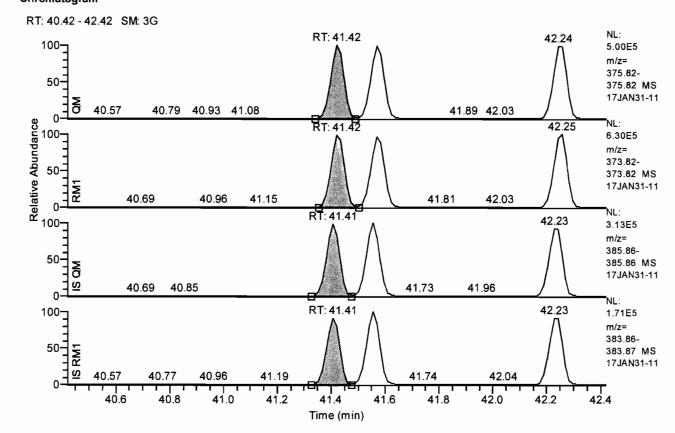
21038

Client Flags

Status Overview

passed

# Chromatogram



#### **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.42

QM Area

1697242

QM Integration Mode

RM1 Area RM1 Integration Mode 2156528 Α

ManInt

Detection Limit (A)

0.0346

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

14219

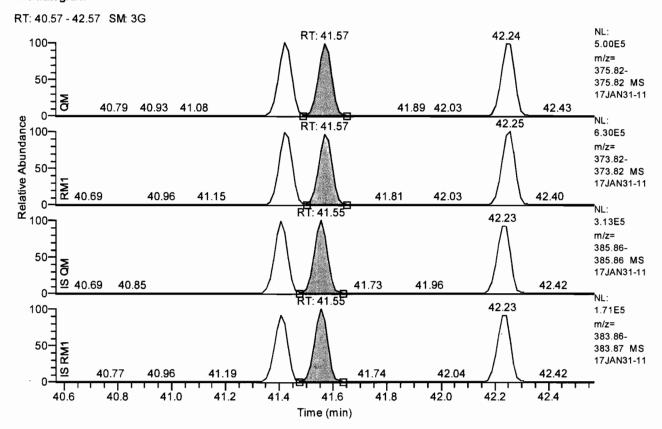
Client Flags

Status Overview

passed

🔅 eurofins

# Chromatogram



## **Entry Parameters**

Compound Name 123678-HxCDF QM Retention Time 41.57 QM Area 1699347

QM Integration Mode

RM1 Area 2109214 RM1 Integration Mode Α

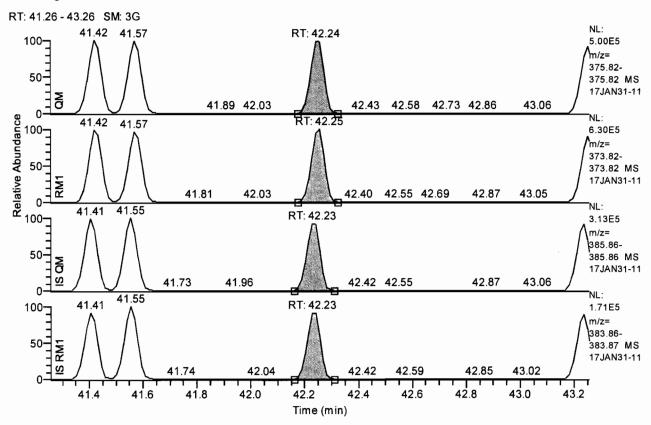
Manint Detection Limit (A) 0.0353 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000

Signal-to-Noise 13996 Client Flags

Status Overview passed







## **Entry Parameters**

Compound Name 234678-HxCDF

QM Retention Time 42.24

QM Area 1717946

QM Integration Mode

2166663 RM1 Area

RM1 Integration Mode Α

ManInt

Detection Limit (A) 0.0353

Unqualified Amount (A) 200.000000

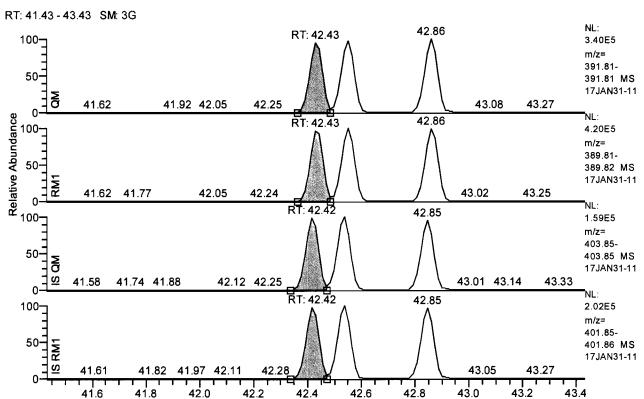
200.0000 Adjusted Amount (A)

14277 Signal-to-Noise

Client Flags

Status Overview passed





Time (min)

## **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.43

QM Area

1089099

QM Integration Mode

RM1 Area RM1 Integration Mode 1377848

ManInt

Α

Detection Limit (A)

0.0279

Unqualified Amount (A)

200.000000 200.0000

Adjusted Amount (A)

Signal-to-Noise

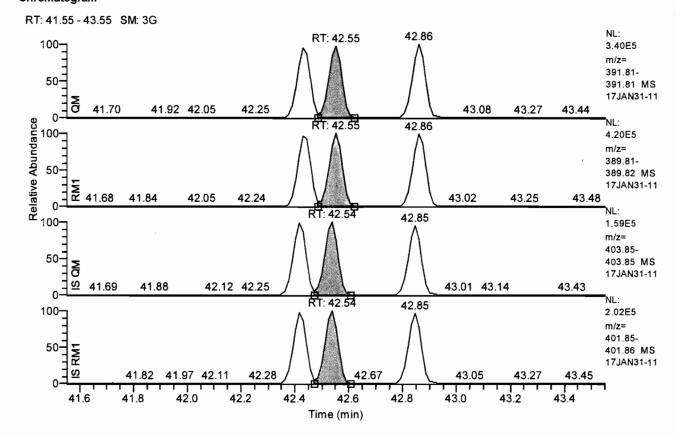
17698

Client Flags

Status Overview

passed

# Chromatogram



# **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.55

QM Area

1124697

QM Integration Mode

RM1 Area RM1 Integration Mode 1418066 Α

ManInt

Detection Limit (A)

0.0276

Unqualified Amount (A)

200.000000 200.0000

Adjusted Amount (A)

18169

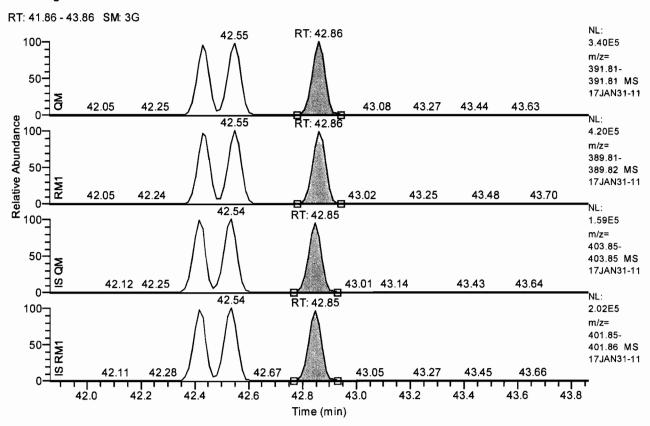
Signal-to-Noise Client Flags

Status Overview

passed



# Chromatogram



# **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.86

QM Area

1132177

QM Integration Mode

Α

RM1 Area RM1 Integration Mode

1406034 Α

ManInt

Detection Limit (A)

0.0271 200.000000

Unqualified Amount (A)

200.0000

Adjusted Amount (A)

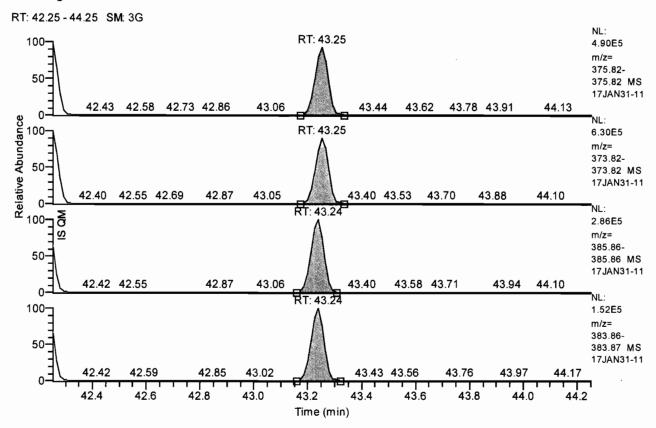
18318

Signal-to-Noise Client Flags

Status Overview

passed

#### Chromatogram



#### **Entry Parameters**

Compound Name 123789-HxCDF

QM Retention Time 43.25

QM Area 1538459

QM Integration Mode

RM1 Area 1917754

RM1 Integration Mode Α

ManInt Detection Limit (A)

0.0384

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

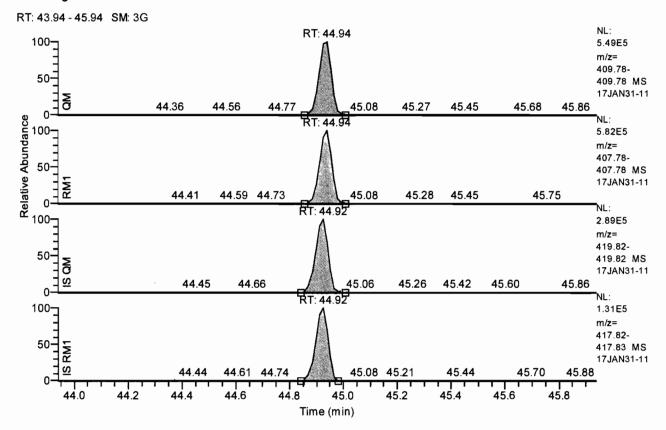
Signal-to-Noise Client Flags

12980

Status Overview

passed

# Chromatogram



# **Entry Parameters**

Compound Name 1234678-HpCDF

QM Retention Time 44.94 QM Area 1823122 QM Integration Mode RM1 Area 1901238

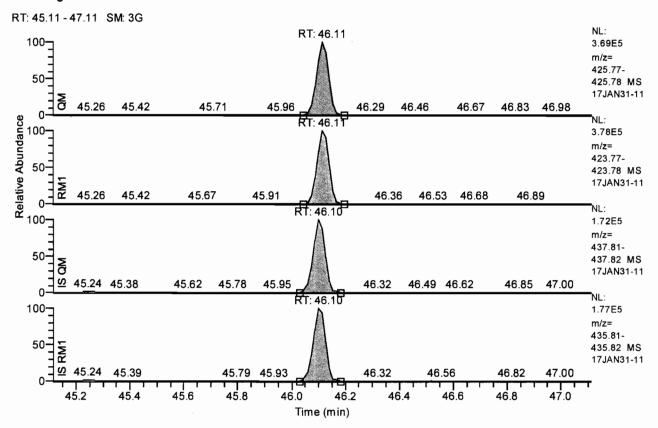
RM1 Integration Mode Α ManInt 0.0333 Detection Limit (A) Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000

14938 Signal-to-Noise Client Flags

Status Overview passed



## Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.11

QM Area

1174428

QM Integration Mode

RM1 Area RM1 Integration Mode 1221579 Α

ManInt

Detection Limit (A)

0.0308

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

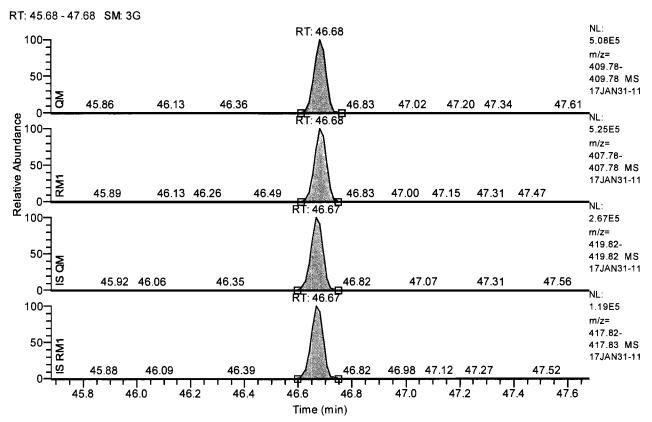
16218

Client Flags

Status Overview

passed





#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.68

QM Area

1609411

QM Integration Mode

RM1 Area

1690021

RM1 Integration Mode

Α

ManInt

0.0369

Detection Limit (A) Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

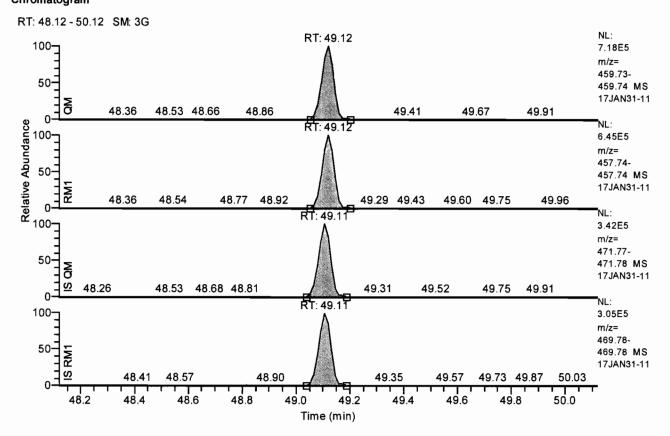
13645

Client Flags

Status Overview

passed



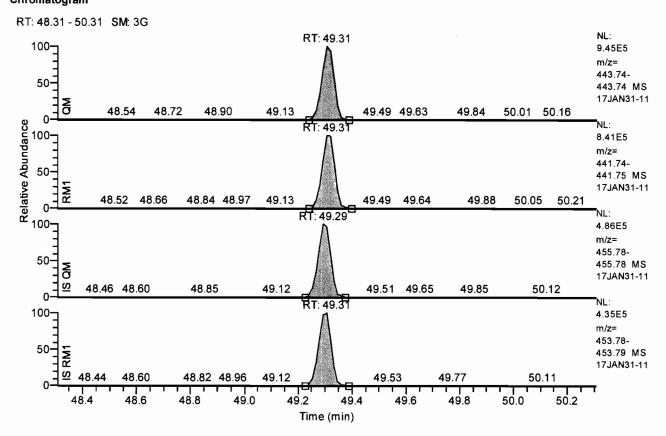


# **Entry Parameters**

Compound Name OCDD QM Retention Time 49.12 QM Area 2194846 QM Integration Mode RM1 Area 1979000 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0338 Unqualified Amount (A) 400.000000 Adjusted Amount (A) 400.0000 Signal-to-Noise 29921 Client Flags Status Overview passed Status Info





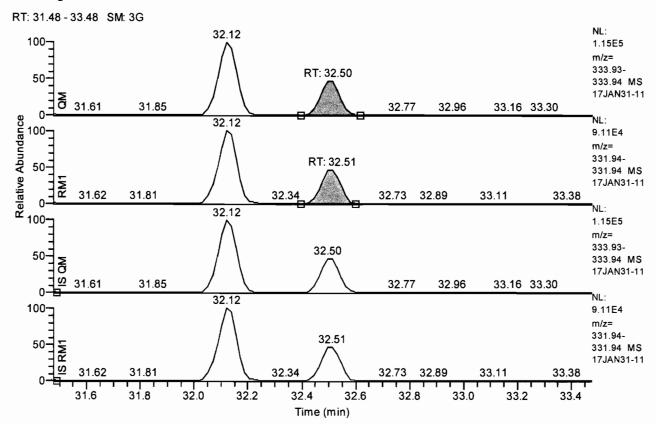


# **Entry Parameters**

OCDF Compound Name QM Retention Time 49.31 3002159 QM Area QM Integration Mode RM1 Area 2732906 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0301 Unqualified Amount (A) 400.000000 Adjusted Amount (A) 400.0000 Signal-to-Noise 33771 Client Flags Status Overview passed Status Info



#### Chromatogram



## **Entry Parameters**

Compound Name 13C12-1278-TCDD (CRS)

QM Retention Time 32.50 QM Area 273619 QM Integration Mode Α RM1 Area 218531 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0123

Unqualified Amount (A) 40.000000 40.0000 Adjusted Amount (A)

Signal-to-Noise 8660

Client Flags Status Overview

passed



# **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 05:32

Number of Entries

Comment

Vial 7

Sample Name CALDF51737A

Sample ID CS401

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

 Quan
 y:\17jan31\17jan31-11.quan

 Data
 y:\17jan31\17jan31-11.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off
Sum Area/Height Sum QM RM1
Quantitation Status Dependend on Area

Injection Volume [hIJV]1.0Sample Volume [hSV]1.0Sample Weight [hSWT]1.0Dilution Factor [hDF]1.0Det. Limit Factor [hDLF]2.5

Response Factor Mode Single Point (Spec. RF)

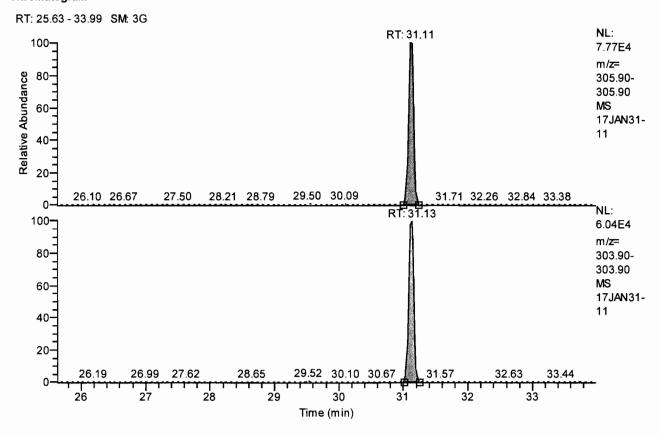
Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



# Chromatogram

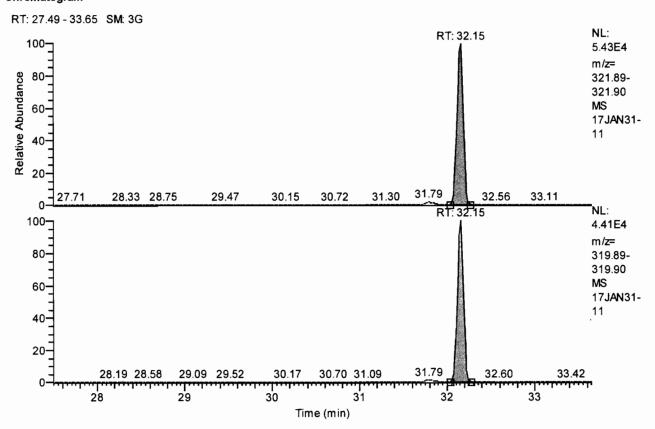


## **Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	29.81
QM Area	421958
QM Integration Mode	Α
RM1 Area	330587
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11116
Client Flags	
Status Overview	passed (1)





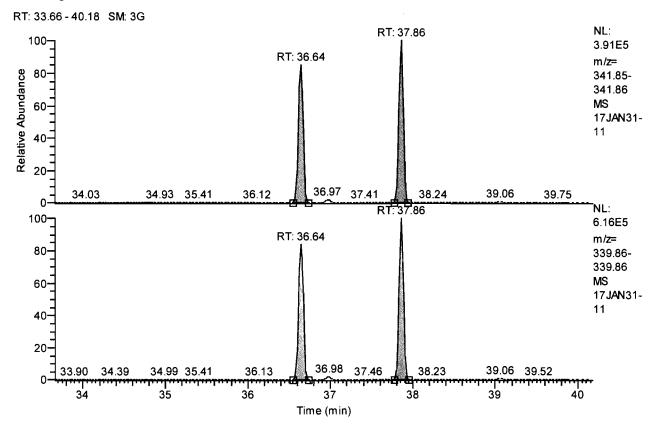


# **Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	30.57
QM Area	277270
QM Integration Mode	Α
RM1 Area	218013
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	11096
Client Flags	
Status Overview	passed (1)
Status Info	





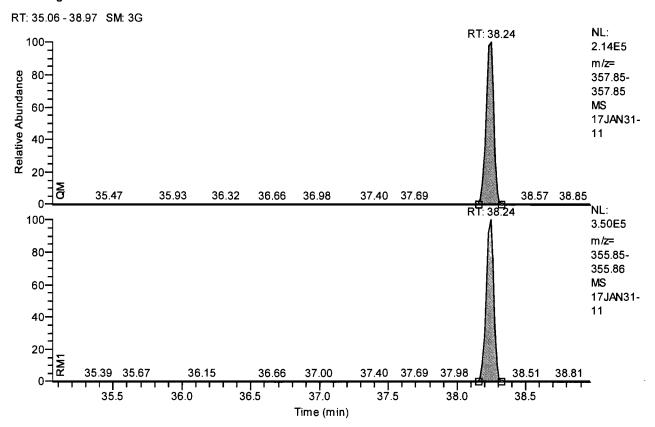


#### **Entry Parameters**

Compound Name Total PeCDF 36.92 QM Retention Time QM Area 2900918 QM Integration Mode RM1 Area 4534803 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0096 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 400.0000 Signal-to-Noise 52638 Client Flags Status Overview passed (2) Status Info



#### Chromatogram



# **Entry Parameters**

Total PeCDD Compound Name QM Retention Time 37.01 QM Area 839707 QM Integration Mode Α RM1 Area 1336188 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0236

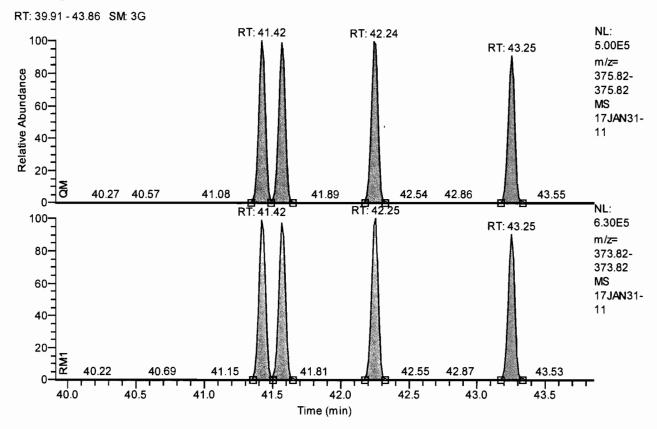
200.000000 Unqualified Amount (A) Adjusted Amount (A) 200.0000 Signal-to-Noise 21038

Client Flags Status Overview

passed (1)







## **Entry Parameters**

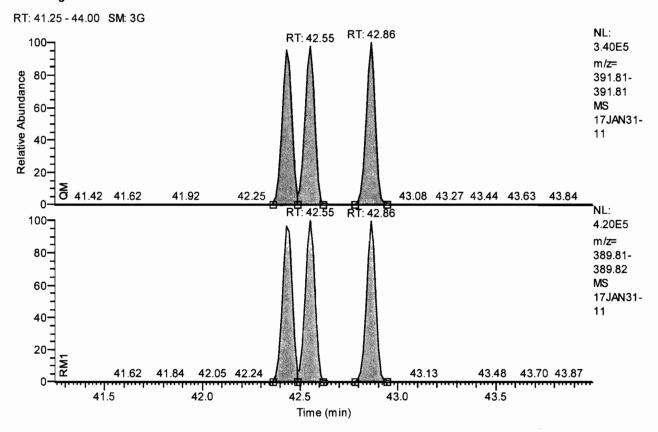
Status Info

Compound Name Total HxCDF QM Retention Time 41.88 QM Area 6652993 QM Integration Mode Α RM1 Area 8350159 RM1 Integration Mode Α Manint Detection Limit (A) 0.0359 Unqualified Amount (A) 200.000000 800.0000 Adjusted Amount (A) Signal-to-Noise 13868 Client Flags Status Overview passed (4)

TargetQua By ujd2 at 10:16 am, 2/1/17



#### Chromatogram

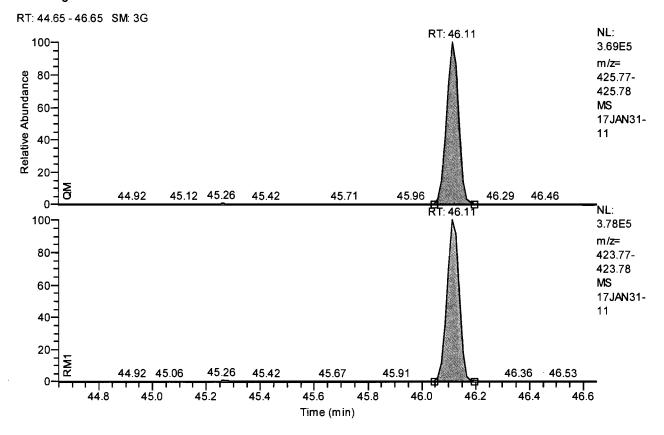


# **Entry Parameters**

Total HxCDD Compound Name QM Retention Time 42.62 3345973 QM Area QM Integration Mode RM1 Area 4201947 RM1 Integration Mode ManInt 0.0275 Detection Limit (A) Unqualified Amount (A) 200.000000 Adjusted Amount (A) 600.0000 18062 Signal-to-Noise Client Flags Status Overview passed (3) Status Info



#### Chromatogram



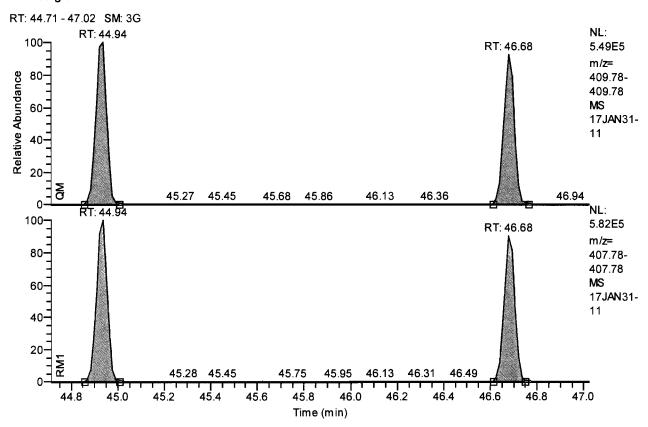
#### **Entry Parameters**

Compound Name Total HpCDD 45.65 QM Retention Time 1174428 QM Area QM Integration Mode RM1 Area 1221579 RM1 Integration Mode Α ManInt 0.0308 Detection Limit (A) Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000 Signal-to-Noise 16218 Client Flags Status Overview passed (1) Status Info









#### **Entry Parameters**

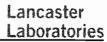
Compound Name Total HpCDF 45.87 QM Retention Time 3432533 QM Area **QM** Integration Mode RM1 Area 3591259 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0351 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 400.0000 Signal-to-Noise 14292 Client Flags

passed (2)

Status Info

Status Overview





# Entry Parameters



No.	Compound	Quan.	Ratio	RT Window	Specified	QM Retention	RM1 Retention	RM1 Time	RRT Status
1	Name	Mass	Mass 1	[min]	RT [min]	Time	Time	Status	<u> </u>
2	2378-TCDF 2378-TCDD	305.8987 +/-5 ppm 321.8936 +/-5 ppm	303.9016 +/- 5 ppm 319.8965 +/- 5 ppm	0.67 0.67	31.11 32.15	31.11 32.15	31.13 32.15	passed	•
3	12378-PeCDF	321.8930 +/- 5 ppm 341.8567 +/- 5 ppm	319.8905 +/- 5 ppm 339.8597 +/- 5 ppm	0.67	36.64	36.64	32.15	passed passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	37.86	37.86	37.86	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	38.24	38.24	38.24	passed	· .
6	123478-HxCDF	375.8178 +/-5 ppm	373.8208 +/- 5 ppm	0.67	41.42	41,42	41.42	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.57	41.57	41.57	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.24	42.24	42.25	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.43	42.43	42.43	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.55	42.55	42.55	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.86	42.86	42.86	. passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	43.25	43.25	43.25	passed	passed
13 14	1234678-HpCDF	409.7789 +/- 5 ppm	407.7618 +/- 5 ppm	0.67		44.94	44.94	passed	passed
15	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	46.11	46.11	46.11	passed	passed
16	1234789-HpCDF OCDD	409.7789 +/- 5 ppm 459.7348 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.68	46.68	46.68 49.12	passed	passed passed
17	OCDD	459./348 +/-5 ppm 443.7399 +/-5 ppm	457.7377 +/- 5 ppm 441.7428 +/- 5 ppm		49.12 49.31	49.12 49.31	49.12 49.31	passed	·
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67		32.50	49.31 32.51	passed	passed passed
19	13C12-1278-1CDD (CRS)	333.9339 +/- 5 ppm 333.9339 +/- 5 ppm	331.9368 +/- 5 ppm 331.9368 +/- 5 ppm	1.00 0.67	31.37	32.50	32.51	passed passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00		41.31	41.31	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67		31.09	31.09	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	32.12	32.12	32.12	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.63	36.63	36,63	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	37.84	37.84	37.84	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	38.21	38.21	38.21	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41 41	41.41	41.41	passed	passed
27	13C12-123678-HxCDF	385.8610 +/-5 ppm	383.8639 +/- 5 ppm	0.67	41.55	41.55	41.55	passed	passed
28	13C12-234678-HxCDF	385.8610 +/-5 ppm	383.8639 +/- 5 ppm	0.67	42.23	42.23	42.23	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.42	42.42	. 42.42	passed	passed
30 31	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.54	42.54	42.54	passed	passed
32	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.85	42.85	42.85	passed	passed
33	13C12-123789-HxCDF 13C12-1234678-HpCDF	385.8610 +/- 5 ppm 419.8220 +/- 5 ppm	383.8639 +/- 5 ppm 417.8253 +/- 5 ppm	0.67 0.67	43.24 44.92	43.24 44.92	43.24 44.92	passed	passed passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	46.10	46.10	46.10	passed passed	passed
35	13C12-1234078-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.67	46.67	46.10	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	49.11	49.11	49.11	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00		49.29	49.31	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60		29.81	29.81	_	_
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60		30.57	30.57		_
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5,93	36.92	36.92	36.92		_
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3,56	37.01	37.01	37.01		_
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.88	41.88	41.88	-	. –
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50		42.62	42.62	_	_
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05		45.65	45.65		_
45 46	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10		45.87	45.87		_
46 47	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60		31.11	31.13	passed	passed passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60		32.15	32.15	passed	,
48 49	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	38.24	38.24	38.24	passed	passed
49 50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.86	37.86	37.86	passed	passed
51	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.64 46.11	36.64	36.64 46.11	passed	passed passed
52	Single HpCDD Single HxCDF	425.7737 +/- 5 ppm 375.8178 +/- 5 ppm	423.7766 +/- 5 ppm 373.8208 +/- 5 ppm	1.05 3.59		46.11 41.42	46.11 41.42	passed passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59		41.57	41.57	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59		42.24	42.25	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	43.25	43.25	43.25	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50		42.86	42.86	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50		42.43	42.43	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50		42.55	42.55	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.94	44.94	44.94	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	46.68	46.68	46.68	passed	passed
									·







# **Entry Parameters**

ſ	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
No.	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
1	2378-TCDF	31.11	0.7835	0.6450 -	0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	32.15	0.7863	0.6450 -	0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	36.64	1.5723	1.3150 -	1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	37.86	1.5552	1.3150 -	1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	38.24	1.5913	1.3150 -	1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	41.42	1.2706	1.0450 -	1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	41.57	1.2412	1.0450 -	1.4350	passed	100.00	. 0- 0	passed
8	234678-HxCDF	42.24	1.2612	1.0450 -	1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	42.43		1.0450 -	1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	42.55		1.0450 -	1.4350	-	100.00	0 - 0	
11	123789-HxCDD	42.86		1.0450 -	1.4350	,	100.00	0 - 0	F
12	123789-HxCDF	43.25		1.0450 -	1.4350		100.00	0 - 0	F
13	1234678-HpCDF	44.94		0.8750 -	1.2050	-	100.00	0 - 0	
14	1234678-HpCDD	46.11		0.8750 -	1.2050		100.00	0 - 0	F
15	1234789-HpCDF	46.68		0.8750 -	1.2050		100.00	0 - 0	· · · · · · · · · · · · · · · · · · ·
16	OCDD	49.12		0.7550 -	1 0250		100.00	0 - 0	,
17	OCDF	49.31		0.7550 -	1.0250		100.00	0 - 0	·
18	13C12-1278-TCDD (CRS)	32.50		0.6450 -	0.8950		100.00	0 - 0	
19 20	13C12-1234-TCDD	31.37		0.6450 -	0.8950		10,0.00	0 - 0	F
21	13C12-123468-HxCDD	41.31		1.0450 -	1.4350	,	100.00	0- 0	passos
21	13C12-2378-TCDF	31.09		0.6450 -	0.8950		100.00	0 - 0	,
23	13C12-2378-TCDD	32.12		0.6450 -	0.8950	passed	100.00	0- 0	· · · · · · · · · · · · · · · · · · ·
24	13C12-12378-PeCDF 13C12-23478-PeCDF	36.63 37.84		1.3150 -	1.7850		100.00	0 - 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
25	13C12-23478-PeCDF	38.21		1.3150 - 1.3150 -	1.7850		100.00 100.00	0- 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
26	13C12-123478-HxCDF	41.41		0.4250 -	0.5950		100.00	0- 0	F
27	13C12-123678-HxCDF	41.55		0.4250 -	0.5950	,	100.00	0- 0	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
28	13C12-234678-HxCDF	42.23		0.4250 -	0.5950		100.00	0- 0	,
29	13C12-123478-HxCDD	42.42		1.0450 -	1.4350		100.00	0- 0	•
30	13C12-123678-HxCDD	42.54		1.0450 -	1.4350		100.00	0- 0	passes
31	13C12-123789-HxCDD	42.85		1.0450 -	1.4350		100.00	0- 0	F
32	13C12-123789-HxCDF	43.24	0.5321	0.4250 -	0.5950		100.00	0- 0	
33	13C12-1234678-HpCDF	44.92		0.3650 -	0.5150		100.00	0- 0	·
34	13C12-1234678-HpCDD	46.10		0.8750 -	1.2050		100.00	0- 0	
35	13C12-1234789-HpCDF	46.67	0.4522	0.3650 -	0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	49.11	0.8969	0.7550 -	1.0250	passed	100.00	0 - 0	
37	13C12-OCDF	49.29	0.9023	0.7550 -	1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	29.81	0.7835	0.6450 -	0.8950	_	100.00	0 - 0	
39	Total TCDD	30.57	0.7863	0.6450 -	0.8950		100.00	0 - 0	-
40	Total PeCDF	36.92	1.5632	1.3150 -	1.7850	-	100.00	0 - 0	_
41	Total PeCDD	37.01		1.3150 -	1.7850		100.00	0 - 0	
42	Total HxCDF	41.88	1.2551	1.0450 -	1.4350	_	100.00	0 - 0	
43	Total HxCDD	42.62		1.0450 -	1.4350		100.00	0 - 0	
44	Total HpCDD	45.65		0.8750 -	1.2050		100.00	0- 0	
45	Total HpCDF	45.87		0.8750 -	1.2050		100.00	0 - 0	
46 47	Single TCDF	31.11		0.6450 -	0.8950		100.00	0 - 0	
	Single TCDD	32.15		0.6450 -	0.8950	passed	100.00	0- 0	
48	Single PeCDD	38.24		1.3150 -	1.7850	passed	100.00	0- 0	,
49 50	Single PeCDF	37.86		1.3150 -	1.7850	passed	100.00	0- 0	F
51	Single PeCDF	36.64		1.3150 -	1.7850	passed	100.00	0 0	•
52	Single HpCDD	46.11		0.8750 -	1.2050	passed	100.00	0 - 0 0 - 0	,
53	Single HxCDF Single HxCDF	41.42 41.57	1.2706 1.2412	1.0450 - 1.0450 -	1.4350	passed	100.00	0- 0	,
54	Single HxCDF Single HxCDF	47.57		1.0450 - 1.0450 -	1.4350 1.4350	passed	100.00 100.00	0- 0	•
55	Single HxCDF	43.25		1.0450 -	1.4350	passed	100.00	0- 0	F
56	Single HxCDD	43.25		1.0450 -	1.4350	passed	100.00	0- 0	
57	Single HxCDD	42.43		1.0450 -	1.4350	passed	100.00	0- 0	
58	Single HxCDD	42.55		1.0450 -	1.4350	passed	100.00	0- 0	
59	Single HpCDF	44.94		0.8750 -		passed	100.00	0- 0	·
60	Single HnCDF	46.68	1.0501	0.8750	1 2050	passed	100.00	0- 0	



46.68

1.0501

0.8750 - 1.2050 passed

100.00

0- 0

Single HpCDF





# Entry Parameters

	Compound	Status	QM Retention	014.4	ΩМ		RM1	Detection	Unqualified	Adjusted		T	Client
No.	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode	Limit (A)	Amount (A)	Amount (A)	AdjSpecAMT —	Signal-to-Nois	Flags
1	2378-TCDF	passed	31.11	421958	Α		Α		40.000000	40.0000	40.000000	11116	
2	2378-TCDD	passed	32.15	277270	Α	218013	Α	0.0087	40.000000	40.0000	40.000000	11096	
3	12378-PeCDF	passed	36.64	1357309	Α	2134135	A		200.000000	200.0000	200.000000	48296	
4 5	23478-PeCDF	passed	37.86	1543609	A	2400669	A	0.0089	200.000000	200.0000	200.000000	56980	
6	12378-PeCDD	passed	38.24	839707 1697242	A	1336188 2156528	A	0.0236	200,000000	200.0000	200.000000	21038	
7	123478-HxCDF	passed	41.42	1699347	A	2109214	A	0.0346	200.000000	200.0000	200.000000	14219 13996	
8	123678-HxCDF	passed	41.57	1717946	A	2166663	A		200.000000	200.0000	200.000000	13996	
9	234678-HxCDF 123478-HxCDD	passed passed	42.24 42.43	1089099	A	1377848	A	0.0353	200.000000	200.0000	200.000000	17698	
10	123478-HXCDD	,	42.43	1124697	A	1418066	A	0.0279	200.000000	200.0000	200.000000	18169	
11	123789-HxCDD	passed passed	42.55 42.86	1132177	A	1406034	A	0.0276 0.0271	200.000000 200.000000	200.0000 200.0000	200.000000	18318	
12	123789-HxCDF	passed	43.25	1538459	A	1917754	A		200,000000	200.0000	200.000000	12980	
13	1234678-HpCDF	passed	44.94	1823122	A	1901238	A	0.0333	200.000000	200.0000	200.000000	14938	
14	1234678-HpCDD	passed	46.11	1174428	A	1221579	A	0.0308	200.000000	200.0000	200.000000	16218	
15	1234789-HpCDF	passed	46.68	1609411	A	1690021	A	0.0369	200.000000	200.0000	200.000000	13645	
16	OCDD	passed	49.12	2194846	A	1979000	A		400.000000	400.0000	400.000000	29921	
17	OCDF	passed	49.31	3002159	A	2732906	A	0.0301	400.000000	400.0000	400.000000	33771	
18	13C12-1278-TCDD (CRS)	passed	32.50	273619	A	218531	A	0.0123	40.000000	40,0000	40.000000	8660	
19	13C12-1234-TCDD	passed	31.37	553831	Α	446802	Α		100.000000	100.0000	100.000000	16484	
20	13C12-123468-HxCDD	passed	41.31	551359	Α	688860	Α	0.0260	100,000000	100.0000	100.000000	9609	
21	13C12-2378-TCDF	passed	31.09	1025770	Α	817354	Α	0.0068	100.000000	100.0000	100.000000	38368	
22	13C12-2378-TCDD	passed	32.12	557889	Α	445277	Α	0.0151	100.000000	100.0000	100.000000	18450	
23	13C12-12378-PeCDF	passed	36.63	695651	Α	1087111	Α	0.0398	100.000000	100.0000	100.000000	8285	
24	13C12-23478-PeCDF	passed	37.84	710386	Α	1100735	Α	0.0391	100.000000	100.0000	100,000000	8768	
25	13C12-12378-PeCDD	passed	38.21	392310	Α	623131	Α	0.0245	100.000000	100.0000	100,000000	14433	
26	13C12-123478-HxCDF	passed	41.41	1038538	Α	530256	Α	0.0289	100.000000	100.0000	100.000000	8940	
27	13C12-123678-HxCDF	passed	41.55	1062612	A	577966	A		100.000000	100,0000	100,000000	9256	
28 29	13C12-234678-HxCDF	passed	42.23	1013717 522044	A	544579	A	0.0290	100.000000	100.0000	100.000000	8626	
30	13C12-123478-HxCDD 13C12-123678-HxCDD	passed	42.42 42.54	522044	A	659721 684120	A	0.0273	100.000000	100.0000	100.000000	9568 9693	
31	13C12-123678-HXCDD	passed passed	42.85	500012	A	647246	A	0.0265 0.0281	100.000000 100.000000	100.0000 100.0000	100.000000	9294	
32	13C12-123789-HxCDF	passed	42.85	961359	A	511536	A		100.000000	100.0000	100.000000	8425	
33	13C12-1234678-HpCDF	passed	44.92	947648	A	429622	. ^	0.0307	100.000000	100.0000	100.000000	9257	
34	13C12-1234678-HpCDD	passed	46.10	545959	A	571345	A	0.0225	100.000000	100.0000	100.000000	12077	
35	13C12-1234789-HpCDF	passed	46.67	854774	A	386543	A	0.0218	100.000000	100.0000	100.000000	8486	
36	13C12-OCDD	passed	49.11	1057004	A	947996	A	0.0233	200.000000	200.0000	200.000000	24113	
37	13C12-OCDF	passed	49.29	1579048	A	1424731	A	0.0239	200.000000	200,0000	200.000000	22334	
38	Total TCDF	passed (1)	29.81	421958	A	330587	A	0.0086	40.000000	40.0000	40.000000	11116	
39	Total TCDD	passed (1)	30.57	277270	A	218013	A	0.0087	40.000000	40.0000	40.000000	11096	
40	Total PeCDF	passed (2)	36.92	2900918	Α	4534803	Α		200.000000	400.0000	200.000000	52638	
41	Total PeCDD	passed (1)	37.01	839707	Α	1336188	Α	0.0236	200.000000	200.0000	200.000000	21038	
42	Total HxCDF	passed (4)	41.88	6652993	Α	8350159	Α	0.0359	200,000000	800.0000	200.000000	13868	
43	Total HxCDD	passed (3)	42.62	3345973	Α	4201947	Α	0.0275	200.000000	600.0000	200.000000	18062	
44	Total HpCDD	passed (1)	45.65	1174428	Α	1221579	Α	0.0308	200.000000	200.0000	200.000000	16218	
45	Total HpCDF	passed (2)	45.87	3432533	A	3591259	Α	0.0351	200.000000	400.0000	200.000000	14292	
46	Single TCDF	passed	31.11	421958	Α	330587	A	0.0086	40.000000	40.0000	40.000000	11116	
47	Single TCDD	passed	32.15	277270	A	218013	A	0.0087	40.000000	40.0000	40.000000	11096	
48 49	Single PeCDD	passed	38.24	839707	A	1336188	A		200.000000	200.0000	200.000000	21038	
49 50	Single PeCDF	passed	37.86	1543609 1357309	A	2400669	A	0.0090	200.000000	200.0000	200.000000	56980	
51	Single PeCDF	passed	36,64	135/309	A	2134135 1221579	A	0.0102	200.000000	200.0000	200.000000	48296 16218	
52	Single HyCDD	passed	46.11	1697242	A	12215/9 2156528	A	0.0308	200.000000	200.0000	200.000000	16218	
53	Single HxCDF Single HxCDF	passed	41.42 41.57	1699347	A	2109214	A	0.0349 0.0353	200.000000 200.000000	200.0000 200.0000	200.000000	13996	
54	-		41.57 42.24	1717946	A	2109214	A				200.000000	14277	
55	Single HxCDF Single HxCDF	passed passed	42.24	1538459	A	1917754	A	0.0346 0.0389	200.000000 200.000000	200.0000	200.000000	12980	
56	Single HxCDD	passed	43.23	1132177	A	1406034	A	0.0389	200.000000	200.0000	200.000000	18318	
57	Single HxCDD	passed	42.60	1089099	A	1377848	A	0.0273	200.000000	200.0000	200.000000	17698	
58	Single HxCDD	passed	42.55	1124697	A	1418066	A	0.0272	200.000000	200.0000	200.000000	18169	
59	Single HpCDF	passed	44.94	1823122	A	1901238	A	0.0272	200.000000	200.0000	200.000000	14938	
60	Single HpCDF	passed	46.68	1609411	A	1690021	A	0.0373	200.000000	200.0000	200.000000	13645	
		L	.0.00					0.0070	200.00000	200.000			





File Name: Y:\17JAN31\17JAN31-11 Acq. Data: 2/1/2017 5:32:49 AM Instrument ID: DF18471-17JAN31 Sample ID: CS401 Sample Name: CALDF51737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1345 1366 1334 1002 3.72E5 1042 34.39 34.75 892 100_ 656 34,20 28.53 29,21 26.65 m/z=22.62 291.9825-80-292.9825 MS 60 17JAN31-11 40-20-0-1451 NL: 1495 1381 1685 36.15 4.11E5 36.83 35,07 100 39.75 m/z= 330.4792-80-331.4792 MS 60-17JAN31-11 40 20-0-1943 2012 NL: 1689 1856 2.29E5 43,32 44.25 100 39.90 1368 m/z=1505 1599 380.4760-34.87 36.98 Relative Abundance 80-38.43 381.4760 MS 60-17JAN31-11 40-20-0-2054 NL: 2241 5.57E4 44.91 100 47.49 2027 2265 m/z=44<u>.54</u> 47.83 404.4760-80-405.4760 MS 60-17JAN31-11 40-20-0-2366 NL: 49.27 6.71E4 100 2350 m/z=49.05 442.4728-80-443.4728 MS 60-¹17JAN31-11 40-20-0-Page 364 24 32 42 36 By ujd2 at 10:16 am, 2/1/17 By UMJS at 10:13 am,8252/917 Time (min)

```
17JAN31-11

*** file opened Wed Feb 01 05:38:18 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 01-Feb-17 05:38:17

Analysis will stop at user request
```

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

Mid Time W Star		asure	End C	ycletime
# 4 39:47	min 9:30 min 13:44 min 5:03 min 4:27 min 3:45 min 3:00	min 34:44 min 39:47 min 44:15 min 48:00	min 1.00 min 0.90 min 0.80	sec sec sec sec
Mid Masses Window # 2 18.0129 218.9851 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 297.9752 299.9723 Window # 2	1	time (ms) 95 47 47 95 47 47 95 47 47 47 47		
	F int gr 1 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118		

Page 1





```
331.9363
                              23
                 5
                              23
 333.9333
                 1
 339.8592
                     1
                             118
 341.8562
                 1
                     1
                             118
 354.9787 c
                               5
                20
 375.8364
                              59
                 2
                     1
Window # 3
      mass F
                int
                           time (ms)
                     gr
 330.9787 1
                               6
                     1
                20
 339.8592
                     1
                             133
                 1
 341.8562
                 1
                     1
                             133
 351.8994
                              44
 353.8965
                     1
                              44
 355.8541
                 1
                     1
                             133
 357.8511
                             133
 367.8943
                              44
                 3
 369.8914
                              44
                     1
 380.9755 c
               20
                     1
                               6
 409.7969
                     1
                 2
                              66
Window # 4
      mass F
                int
                          time_(ms)
                     gr
 373.8201
                             117
                 1
 375.8172
                 1
                             117
                20
 380.9755
                     1
                               5
                              39
 383.8634
 385.8604
                              39
                     1
 389.8151
                 1
                     1
                             117
 391.8121
                 1
                             117
                     1
 401.8554
                              39
 403.8524
                              39
                     1
 430.9723 c
445.7550
               20
                     1
                               5
                     1
                              58
                 2
Window # 5
                          time (ms)
                int
 mass F
404.9755 1
                     gr
                20
 407.7812
                             117
                 1
 409.7783
                     1
                             117
 417.8244
                     1
                              39
                              39
 419.8215
                1
 423.7761
                     1
                             117
 425.7732
                 1
                     1
                             117
 435.8164
                              39
                 3
                              39
 437.8134
                     1
 479.7160
                    1
                              58
 480.9691 c
               20
                     1
Window # 6
      mass
                int
                     gr
                           time (ms)
 441.7422
                              95
                 1
 442.9723
                20
 443.7393
                 1
                     1
453.7825
455.7795
457.7372
                              95
                     1
                              95
                     1
                              95
 459.7342
                              95
 469.7774
                 3
                              31
                    1
                 3
                              31
 471.7745
 492.9691 c
                               4
               20
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID window terminated after 39.800000 minutes MID window end time was 39.800000 minutes MID window terminated after 44.250000 minutes MID window end time was 44.250000 minutes MID window terminated after 48.000000 minutes MID window end time was 48.000000 minutes MID window terminated after 51.000000 minutes MID window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	94.5000
BQUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0154	FVINLET	0.0275	FVSRC	0.0275
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	94.5000	LKM	442.9723	MASS	94.5000
MDAC	1416744.8971	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8957	RELEN	0.0000
RES	12956.5230	RPUSHER	-14.6007	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	664.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TĐ	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.5000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.7e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11022.
MID Time Window 2: Resolution is 11830.
MID Time Window 3: Resolution is 11636.
MID Time Window 4: Resolution is 12670.
Page 3
```





```
MID Time Window 5: Resolution is 13042.
MID Time Window 6: Resolution is 12956.

Amplifier Offset: 88.

*** File closed Wed Feb 01 06:29:20 2017
```

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# **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 06:29

Number of Entries 64

Comment

Vial

Sample Name CALDF61737A

Sample ID CS501

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17jan31\17jan31-12.quan Data y:\17jan31\17jan31-12.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Single Point (Spec. RF) Response Factor Mode

Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





# **Entry Parameters**

	P**								
No.	Compound Name	QM Retention	Status Overview	Amount Status	RM1 Time Status	Ratio1	Recovery	RRT Status	Status Info
1	2378-TCDF	31.13	passed	passed		Status passed	Status passed	passed	Info
2	2378-TCDD	32.15		passed	passed passed	passed	passed	passed	
3	12378-PeCDF	36.64	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.86		passed	passed	passed	passed	passed	
5	12378-PeCDD	38.25	•	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.43		passed	passed	passed	passed	passed	
7	123678-HxCDF	41.58		passed	passed	passed	passed	passed	
8	234678-HxCDF	42.26	•	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.44	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.55		passed	passed	passed	passed	passed	
11	123789-H×CDD	42.86	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.25	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.94	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.12	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.68	passed	passed	passed	passed	passed	passed	
16	OCDD	49.13	•	passed	passed	passed	passed	passed	
17	OCDF	49.32	•	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	32.51	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	31.37	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	41.31	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	31.09		passed	passed	passed	passed	passed	
22 23	13C12-2378-TCDD	32.12	•	passed	passed	passed	passed	passed	
	13C12-12378-PeCDF	36,63		passed	passed	passed	passed	passed	
24 25	13C12-23478-PeCDF	37,85	•	passed	passed	passed	passed	passed	
25 26	13C12-12378-PeCDD 13C12-123478-HxCDF	38,23 41,42		passed	passed	passed	passed	passed passed	
27	13C12-123478-HXCDF	41.42		passed passed	passed	passed passed	passed passed	passed	
28	13C12-234678-HxCDF	42.24		passed	passed passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.43		passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.54	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.85		passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.24		passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.93	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.12	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.67	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.12	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.31	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.81	passed (1)	_			_	_	
39	Total TCDD	30.57	passed (1)	_	_	-	***		
40	Total PeCDF	36.92		-	_	_	-	-	
41	Total PeCDD	37.03			_	_	_	_	
42 43	Total HxCDF	41.88		_		-	-		
43 44	Total HxCDD	42.62		_	***	-		_	
45	Total HpCDD	45.67	passed (1)	-	_	_		_	
45	Total HpCDF	45.87	passed (2)					passed	
47	Single TCDF Single TCDD	31.13 32.15		passed passed	passed passed	passed passed	passed passed	passed	
48	Single PeCDD	38.25	•		•			passed	
49	Single PeCDD	37.86		passed passed	pessed passed	passed passed	passed passed	passed	
50	Single PeCDF	36,64	passed	passed	passed	passed	passed	passed	
51	Single HpCDD	46.12		passed	passed	passed	passed	passed	
52	Single HxCDF	42.26	passed	passed	passed	passed	passed	passed	
53	Single HxCDF	41.43		passed	passed	passed	passed	passed	
54	Single HxCDF	41.58		passed	passed	passed	passed	passed	
55	Single HxCDF	43.25	passed	passed	passed	passed	passed	passed	
56	Single HxCDD	42.55		passed	passed	passed	passed	passed	
57	Single HxCDD	42.44	passed	passed	passed	passed	passed	passed	
58	Single HxCDD	42.86	passed	passed	passed	passed	passed	passed	
59	Single HpCDF	44.94	passed	passed	passed	passed	passed	passed	
60	Single HpCDF	46.68	passed	passed	passed	passed	passed	passed	





#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 06:29

Number of Entries 64

Comment

Vial

Sample Name CALDF61737A

Sample ID CS501

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan y:\17jan31\17jan31-12.quan Data y:\17jan31\17jan31-12.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

Fit Calc. Mode Linear Fit

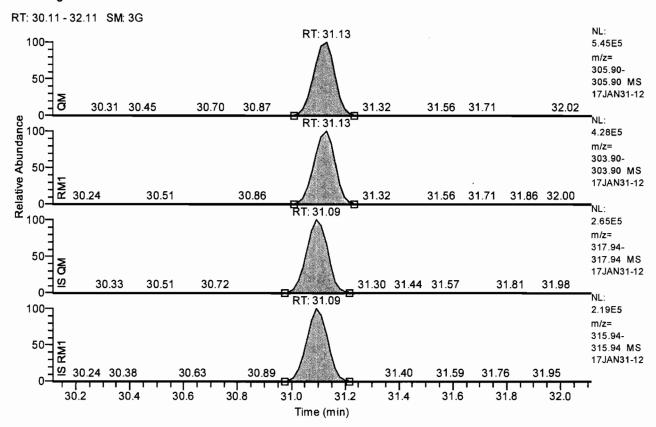
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



#### 17JAN31-12 printed 2/1/2017 10:05 Sample CALDF61737A / C\$50 Inst ID: DF18471-17JAN31 / Client:

# Chromatogram

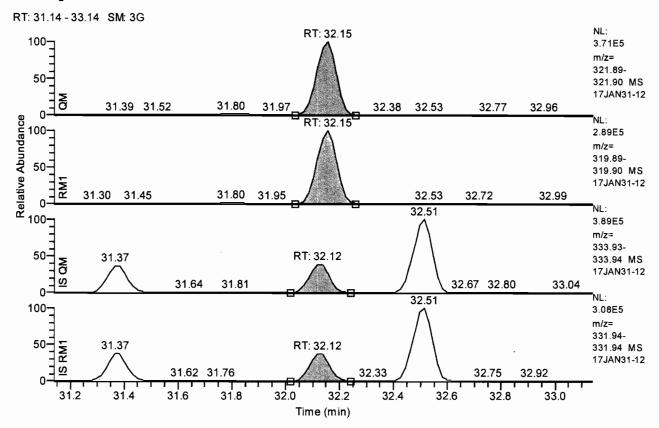


## **Entry Parameters**

Compound Name 2378-TCDF QM Retention Time 31.13 QM Area 2925614 QM Integration Mode Α RM1 Area 2286155 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0126 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000 Signal-to-Noise 39839 Client Flags Status Overview passed Status Info



### Chromatogram

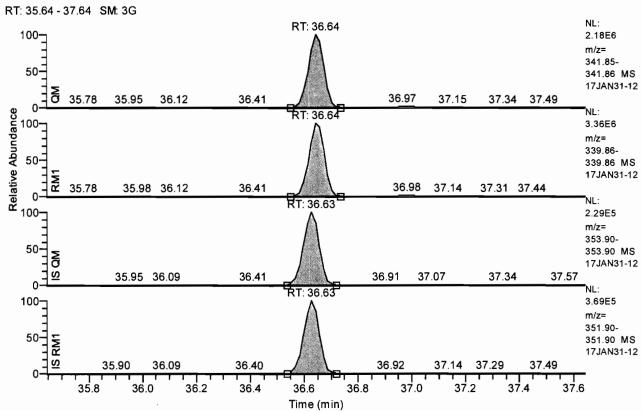


### **Entry Parameters**

Compound Name 2378-TCDD QM Retention Time 32.15 QM Area 1873000 QM Integration Mode RM1 Area 1469325 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0139 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000 Signal-to-Noise 36462 Client Flags Status Overview passed Status Info







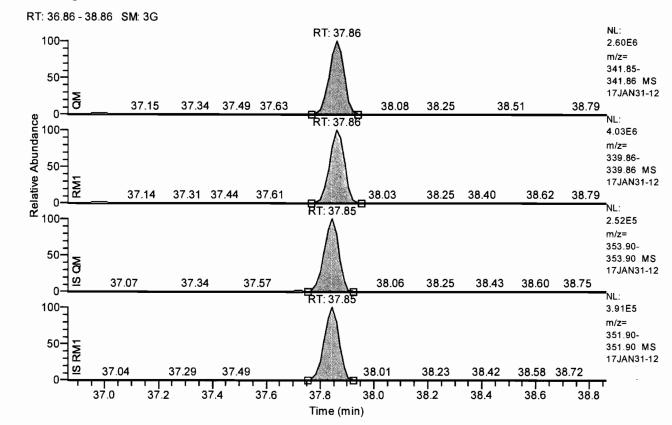
### **Entry Parameters**

Status Info

Compound Name 12378-PeCDF QM Retention Time 36.64 QM Area 8892501 QM Integration Mode RM1 Area 13823636 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0125 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 1000.0000 199858 Signal-to-Noise Client Flags Status Overview passed





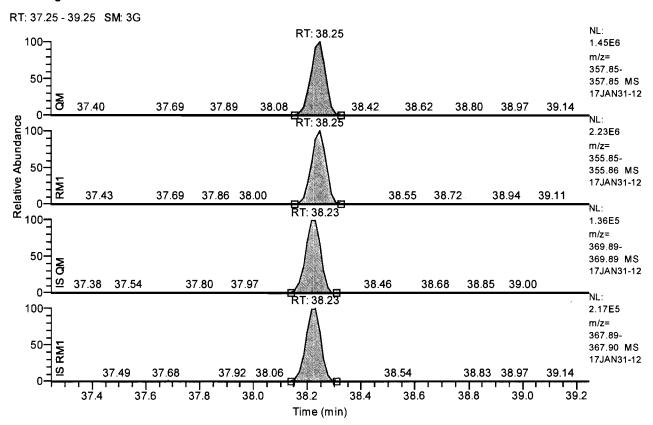


### **Entry Parameters**

Compound Name 23478-PeCDF QM Retention Time 37.86 QM Area 10092325 QM Integration Mode RM1 Area 15748932 RM1 Integration Mode Α Manint 0 Detection Limit (A) 0.0104 Unqualified Amount (A) 1000.000000 1000.0000 Adjusted Amount (A) Signal-to-Noise 239353 Client Flags Status Overview passed Status Info



### Chromatogram



### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.25

QM Area

5665435

QM Integration Mode

Α

RM1 Area

8689913

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0325

Unqualified Amount (A)

1000.000000 1000.0000

Adjusted Amount (A) Signal-to-Noise

77939

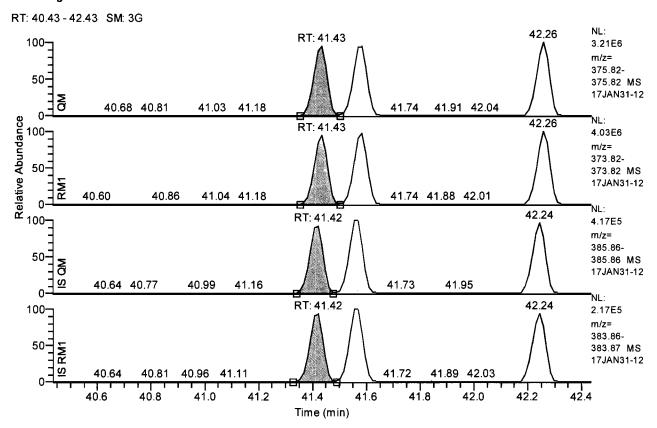
Client Flags

Status Overview

passed

: eurofins

### Chromatogram



### **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.43

QM Area

10628454

QM Integration Mode

RM1 Area

13191762

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0665

Unqualified Amount (A)

1000.000000 1000.0000

Adjusted Amount (A) Signal-to-Noise

38367

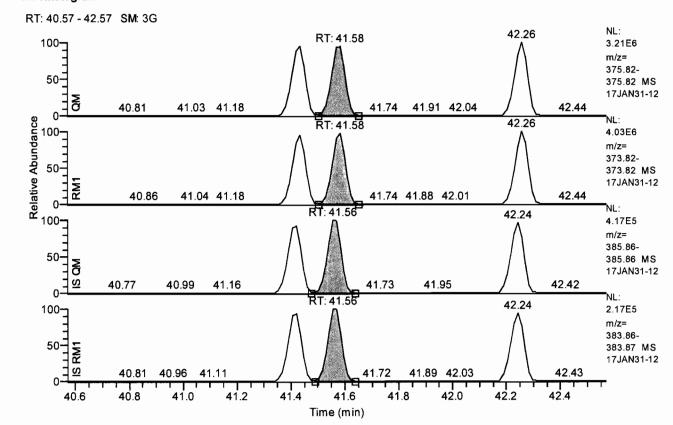
Client Flags

Status Overview

passed



### Chromatogram



### **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.58

QM Area

10916132

QM Integration Mode

Α

RM1 Area

13704794

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)

0.0651 1000.000000

Unqualified Amount (A)

1000.0000

Adjusted Amount (A) Signal-to-Noise

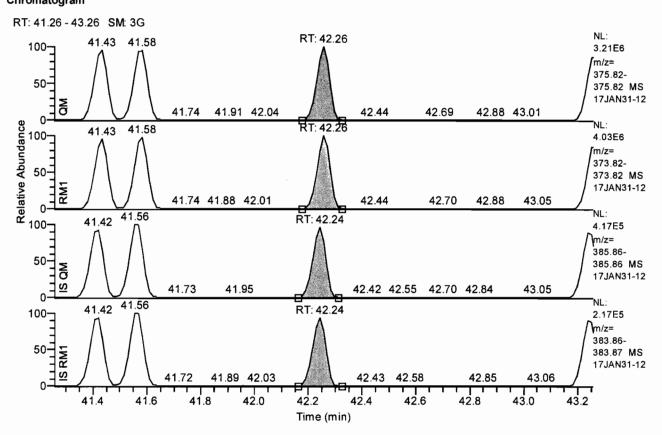
39032

Client Flags

Status Overview

passed





### **Entry Parameters**

Compound Name

234678-HxCDF

**QM** Retention Time

42.26

QM Area

10650094

QM Integration Mode

RM1 Area

13338334 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0635

Unqualified Amount (A)

1000.000000

Adjusted Amount (A)

1000.0000

Signal-to-Noise

40232

Client Flags

Status Overview

passed

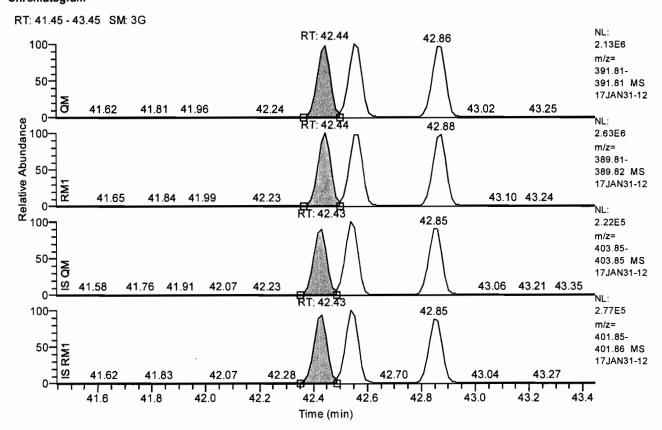
Status Info



ermoFisher

bf°1′0′8′1′

### Chromatogram



### **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.44

QM Area

7047619

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 8763815 Α

ManInt

Detection Limit (A)

0.0427

Unqualified Amount (A)

1000.000000

Adjusted Amount (A)

1000.0000

Signal-to-Noise

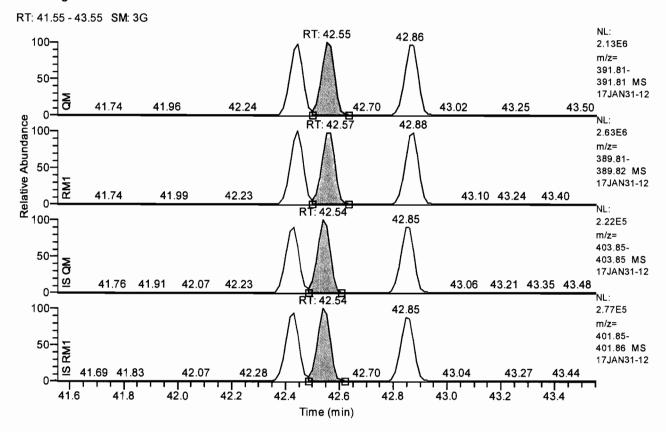
59546

Client Flags

Status Overview

passed

### Chromatogram



### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.55

QM Area

7143701

QM Integration Mode

RM1 Area

ManInt

8861153

RM1 Integration Mode

Α

Detection Limit (A)

0.0409

Unqualified Amount (A)

1000.000000

Adjusted Amount (A)

1000.0000

Signal-to-Noise

59609

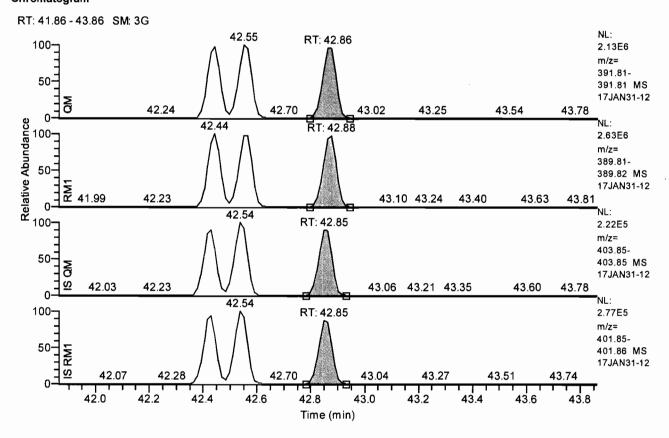
Client Flags

Status Overview

passed



### Chromatogram



### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.86

QM Area

ManInt

7223715

QM Integration Mode

RM1 Area

8914626

RM1 Integration Mode

Α

Detection Limit (A)

0.0426

Unqualified Amount (A)

1000.000000

Adjusted Amount (A)

1000.0000

Signal-to-Noise

58490

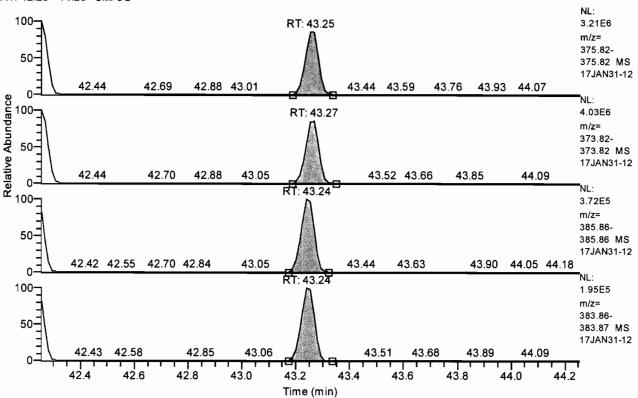
Client Flags

Status Overview

passed

### Chromatogram





### **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.25

QM Area

9613342

QM Integration Mode

RM1 Area RM1 Integration Mode 12031691

ManInt

Α

Detection Limit (A)

0.0721

Unqualified Amount (A)

1000.000000

Adjusted Amount (A)

1000.0000

Signal-to-Noise

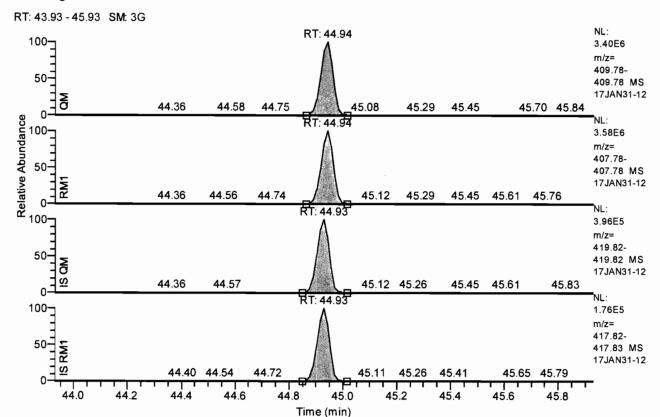
35037

Client Flags

Status Overview

passed

### Chromatogram



### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.94

QM Area

11048929

QM Integration Mode

RM1 Area

11536604

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0596 1000.000000

Unqualified Amount (A)

1000.0000

Adjusted Amount (A) Signal-to-Noise

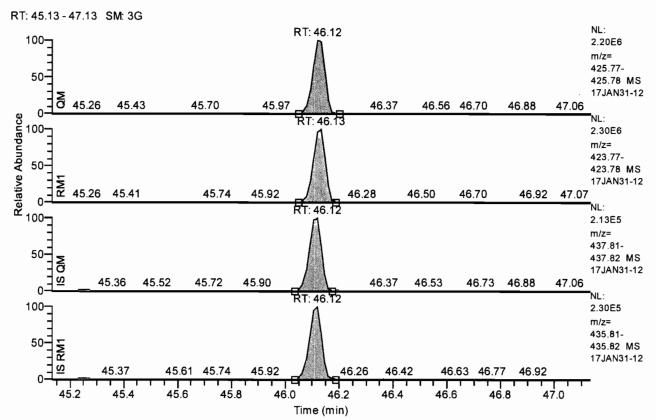
41416

Client Flags

Status Overview

passed





### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.12

QM Area

7145705

QM Integration Mode

RM1 Area

7438140

RM1 Integration Mode

ManInt

Detection Limit (A)

0.0612 1000.000000

Unqualified Amount (A)

1000.0000

Adjusted Amount (A) Signal-to-Noise

40840

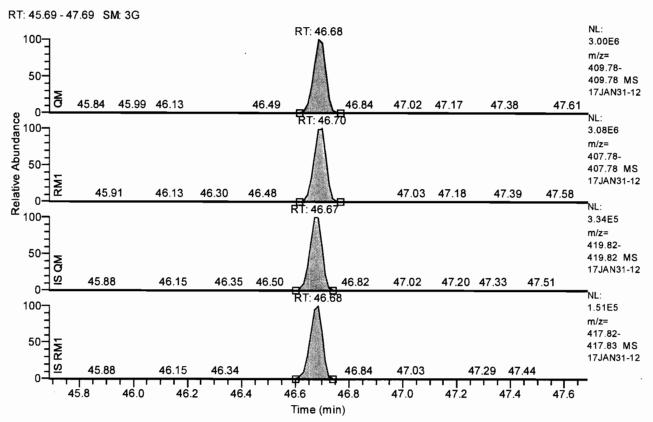
Client Flags

Status Overview

passed

### neurofins Lancaster





### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.68

QM Area

9858490

QM Integration Mode

RM1 Area

10273358 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0689 1000.000000

Unqualified Amount (A)

1000.0000

Adjusted Amount (A) Signal-to-Noise

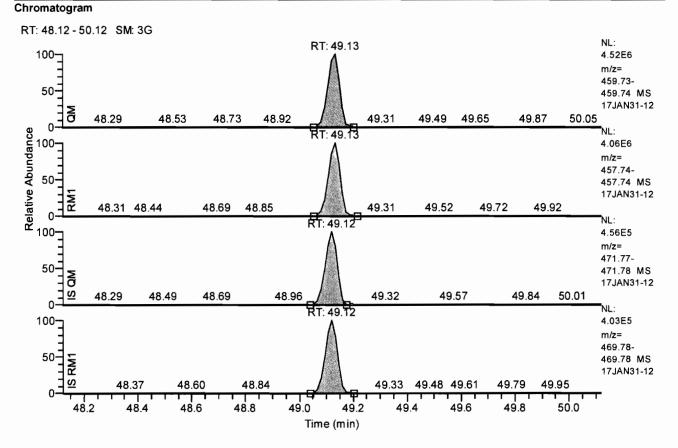
36074

Client Flags

Status Overview

passed





### **Entry Parameters**

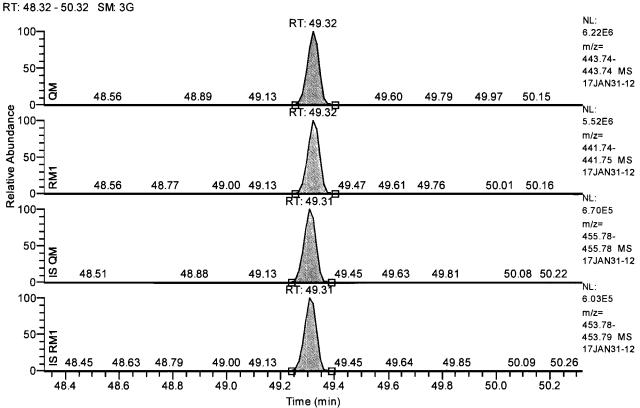
Status Info

OCDD Compound Name QM Retention Time 49.13 13861054 QM Area QM Integration Mode 12358162 RM1 Area RM1 Integration Mode Α ManInt 0 0.0563 Detection Limit (A) 2000.000000 Unqualified Amount (A) Adjusted Amount (A) 2000.0000 Signal-to-Noise 89512 Client Flags Status Overview passed



### **eurofins** Lancaster



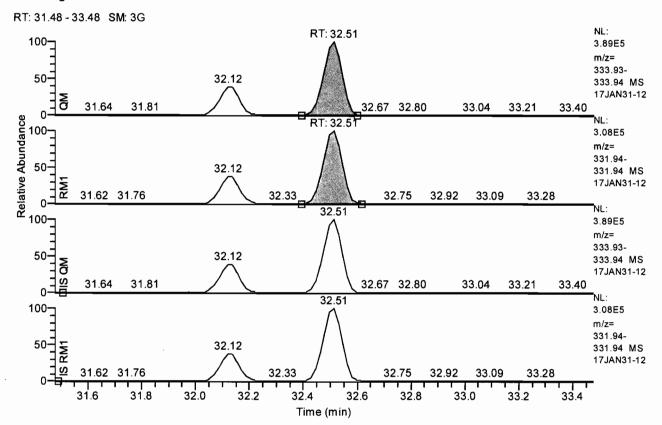


### **Entry Parameters**

OCDF Compound Name QM Retention Time 49.32 18694084 QM Area QM Integration Mode RM1 Area 16836788 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0449 Unqualified Amount (A) 2000.000000 2000.0000 Adjusted Amount (A) Signal-to-Noise 114509 Client Flags Status Overview passed Status Info



### Chromatogram



### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.51

QM Area

1903734

QM Integration Mode

RM1 Area

ManInt

1541979

RM1 Integration Mode

Α

Detection Limit (A)

0.0092

Unqualified Amount (A)

200.000000

Adjusted Amount (A)

200.0000

Signal-to-Noise

57755

Client Flags

Status Overview

passed



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### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/01 06:29

Number of Entries 64

Comment

Vial 8

Sample Name CALDF61737A

Sample ID CS501

Inst ID DF18471-17JAN31

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

 Quan
 y:\17jan31\17jan31-12.quan

 Data
 y:\17jan31\17jan31-12.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off
Sum Area/Height Sum QM RM1
Quantitation Status Dependend on Area

Injection Volume [hIJV] 1.0
Sample Volume [hSV] 1.0
Sample Weight [hSWT] 1.0
Dilution Factor [hDF] 1.0
Det. Limit Factor [hDLF] 2.5

Response Factor Mode Single Point (Spec. RF)

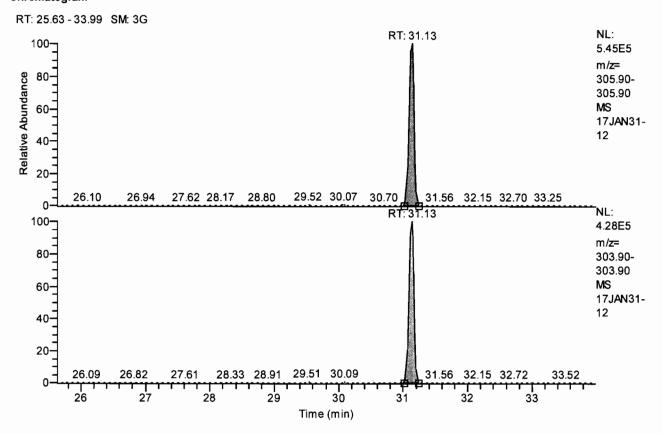
Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



### Chromatogram



### **Entry Parameters**

Status Info

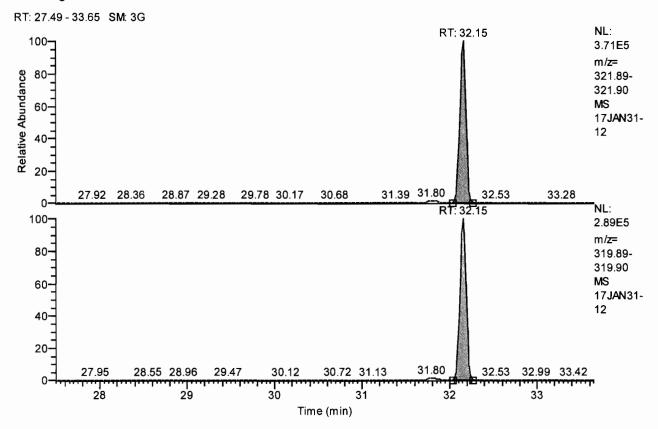
Compound Name **Total TCDF** 29.81 QM Retention Time QM Area 2925614 QM Integration Mode RM1 Area 2286155 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0126 Unqualified Amount (A) 200.000000 Adjusted Amount (A) 200.0000 Signal-to-Noise 39839 Client Flags Status Overview passed (1)







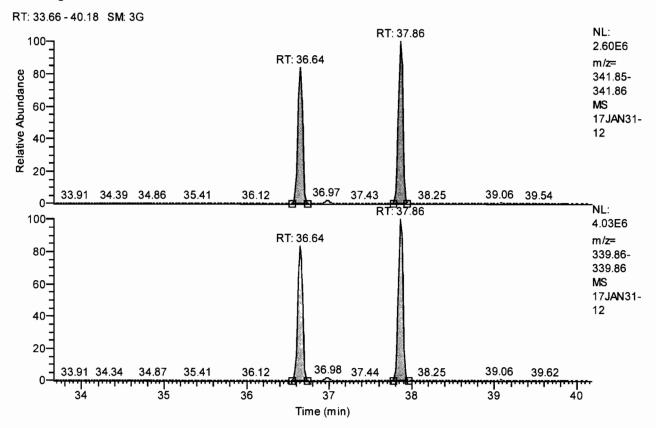




Total TCDD Compound Name QM Retention Time 30.57 QM Area 1873000 QM Integration Mode RM1 Area 1469325 RM1 Integration Mode Α Manint Detection Limit (A) 0.0139 200.000000 Unqualified Amount (A) Adjusted Amount (A) 200.0000 Signal-to-Noise 36462 Client Flags Status Overview passed (1) Status Info



### Chromatogram

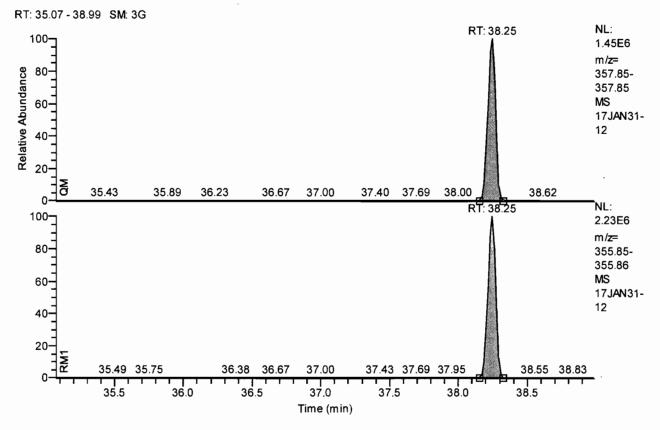


### **Entry Parameters**

Compound Name Total PeCDF 36.92 QM Retention Time QM Area 18984826 QM Integration Mode RM1 Area 29572568 RM1 Integration Mode Α Manint Detection Limit (A) 0.0114 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 2000.0000 219606 Signal-to-Noise Client Flags Status Overview passed (2) Status Info

### eurofins Lancaster





#### **Entry Parameters**

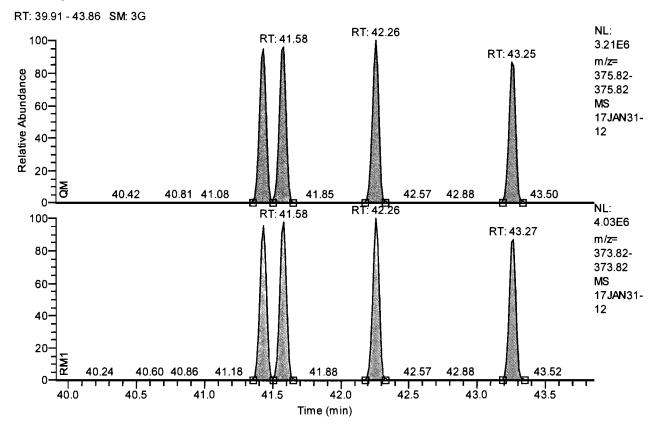
Status Info

Compound Name Total PeCDD QM Retention Time 37.03 QM Area 5665435 QM Integration Mode RM1 Area 8689913 RM1 Integration Mode Α Manint Detection Limit (A) 0.0325 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 1000.0000 Signal-to-Noise 77939 Client Flags Status Overview passed (1)

TargetQua By ujd2 at 10:16 am, 2/1/17







### **Entry Parameters**

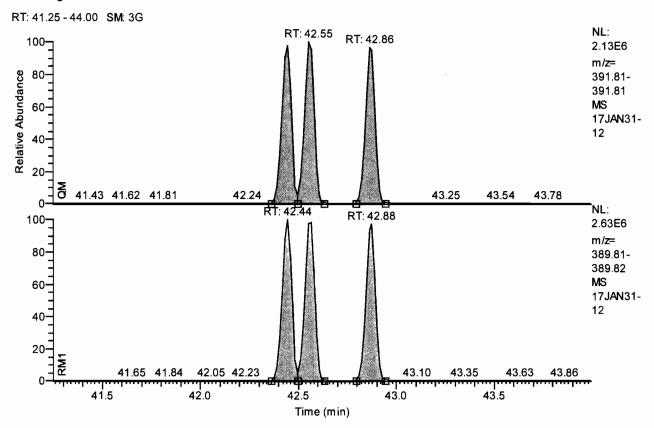
Compound Name Total HxCDF 41.88 QM Retention Time 41808022 QM Area QM Integration Mode RM1 Area 52266580 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0668 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 4000.0000 38167 Signal-to-Noise

Client Flags

Status Overview

passed (4)

### Chromatogram

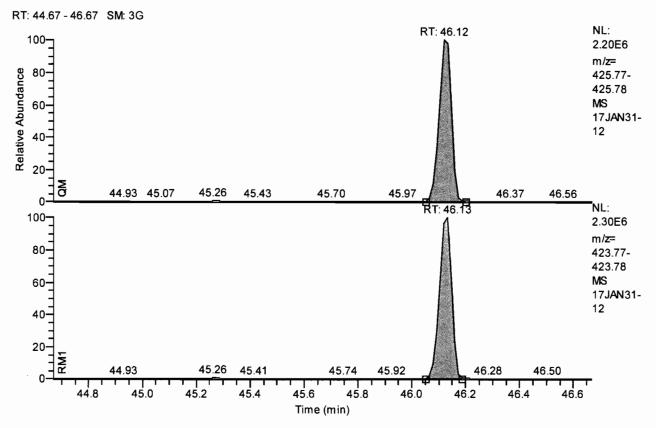


#### **Entry Parameters**

Compound Name Total HxCDD QM Retention Time 42.62 QM Area 21415035 QM Integration Mode RM1 Area 26539594 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0420 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 3000.0000 Signal-to-Noise 59215 Client Flags Status Overview passed (3) Status Info







Compound Name Total HpCDD 45.67 QM Retention Time QM Area 7145705 QM Integration Mode Α RM1 Area 7438140 RM1 Integration Mode Α Manint Detection Limit (A) 0.0612 Unqualified Amount (A) 1000.000000 Adjusted Amount (A) 1000.0000 Signal-to-Noise 40840

Status Overview

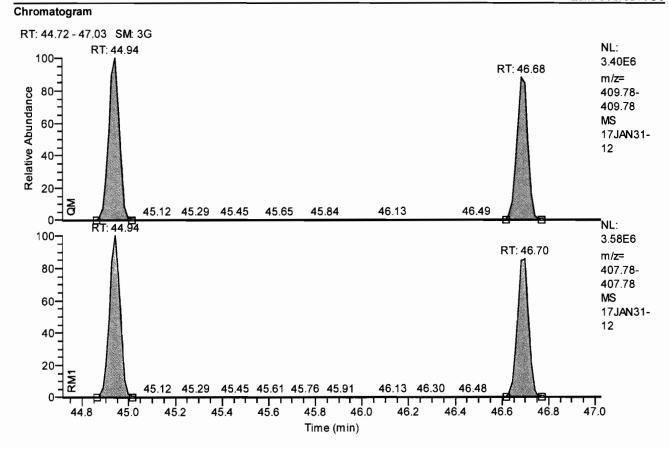
passed (1)

Status Info

Client Flags







Total HpCDF Compound Name 45.87 QM Retention Time 20907418 QM Area QM Integration Mode Α 21809962 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0641 Unqualified Amount (A) 1000.000000 2000.0000 Adjusted Amount (A) 38745 Signal-to-Noise Client Flags Status Overview passed (2) Status Info





No.	Compound	Quan.	Ratio	RT Window	Specified	QM Retention	RM1 Retention	RM1 Time	RRT Status
1	Name	Mass	Mass 1	[min]	RT [min]	Time	Time	Status	passed
2	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	31.13	31.13	31.13	passed	passed
3	2378-TCDD 12378-PeCDF	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	32.15	32.15	32.15	passed	. passed
4	23478-PeCDF	341.8567 +/- 5 ppm 341.8567 +/- 5 ppm	339.8597 +/- 5 ppm 339.8597 +/- 5 ppm	0.67 0.67	36.64 37.86	36.64 37.86	36.64 37.86	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	37.86	37.86	37,86	passed passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.43	41.43	41.43	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.43	41.43	41.58	passed	passed
В	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.26	42.26	42.26	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.44	42.44	42.44	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.55	42.55	42.57	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	42.86	42.86	42,88	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	43.25	43.25	43.27	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	44.94	44.94	44.94	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	46.12		46.13	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	46.68	46.68	46.70	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	49,13	49.13	49.13	passed	passed
17	OCDF	443,7399 +/- 5 ppm	441.7428 +/-5 ppm	0.67	49.32	49.32	49.32	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	32.51	32.51	32.51	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	31.37	31.37	31.37	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	41.31	41.31	41.31	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	31.09	31.09	31.09	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	32.12	32.12	32.12	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.63	36.63	36.63	passed	passed
24	13C12-23478-PeCDF	353.8970 +/-5 ppm	351.9000 +/- 5 ppm	0.67	37.85	37.85	37.85	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	38.23	38.23	38.23	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.42	41.42	41.42	passed	passed
27	13C12-123678-HxCDF	385.8610 +/-5 ppm	383.8639 +/- 5 ppm	0.67	41.56	41.56	41.56	passed	passed
28 29	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.24	42.24	42.24	passed	passed
30	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.43	42.43	42.43	passed	passed
31	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42.54	42.54	42.54	passed	passed
32	13C12-123789-HxCDD 13C12-123789-HxCDF	403.8529 +/- 5 ppm 385.8610 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	42,85	42.85	42.85	passed	passed passed
33	13C12-123789-HXCDF	419.8220 +/- 5 ppm	383.8639 +/-5 ppm 417.8253 +/-5 ppm	0.67	43.24	43.24 44.93	43.24	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67 0.67	44.93 46.12	46.12	44.93 46.12	passed passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	46.12	46.12	46.68	passed	passed
36	13C12-0CDD	471.7750 +/-5 ppm	469.7779 +/- 5 ppm	0.67	49.12	49.12	49.12		passed
37	13C12-0CDF	455.7802 +/- 5 ppm	453.7831 +/-5 ppm	1.00	49.12	49.12	49.12	passed passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.60	29.81	29.81	29.81	passeu	=
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	30.57	30.57	30.57	_	_
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.92	36.92	36.92		
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	37.03	37.03	37.03	_	_
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.88	41.88	41.88	_	
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.62	42.62	42.62		_
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.05	45.67	45.67	45.67	_	
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	45.87	45.87	45.87	_	_
46	Single TCDF	305.8987 +/- 5 ppm	303,9016 +/- 5 ppm	7.60	31.13	31.13	31.13	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.60	32.15	32.15	32.15	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.56	38.25	38.25	38.25	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	37.86	37.86	37.86	passed	passed
50	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	5.93	36.64	36,64	36.64	passed	passed
51	Single HpCDD	425.7737 +/-5 ppm	423.7766 +/- 5 ppm	1.05	46.12	46.12	46.13	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/-5 ppm	3.59	42.26	42.26	42.26	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.59	41.43	41.43	41.43	passed	passed
54	Single HxCDF	375.8178 +/-5 ppm	373.8208 +/- 5 ppm	3.59	41.58	41.58	41.58	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/-5 ppm	3.59	43.25	43.25	43.27	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.55	42.55	42.57	passed	passed
57 58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.50	42.44	42.44	42.44	passed	passed
58 59	Single HxCDD	391.8127 +/-5 ppm	389.8157 +/- 5 ppm	2.50	42.86	42.86	42.88	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.10	44.94	44.94	44.94	passed	passed
00	Single HpCDF	409,7789 +/- 5 ppm	407.7818 +/- 5 ppm	2 10	46.68	46.68	46.70	passed	passed







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### Entry Parameters

No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
1	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
2	2378-TCDF	31.13		0.6450 -	0.8950		100.00	0 - (	•
3	2378-TCDD	32.15		0.6450 -	0.8950	1	100.00		passed
4	12378-PeCDF	36.64		1.3150 -	1.7850		100.00		passed
5	23478-PeCDF	37.86		1.3150 -	1.7850		100.00	0 - (	
6	12378-PeCDD	38.25		1,3150 -	1.7850		100.00		passed
7	123478-HxCDF	41.43		1.0450 -	1.4350	•	100.00		passed
6	123678-HxCDF	41.58		1.0450 -	1.4350		100.00	0 - 0	P=====
9	234678-HxCDF	42.26		1.0450 -	1.4350	•	100.00	0 - 0	
10	123478-HxCDD	42.44		1.0450 -	1.4350		100.00		passed
	123678-HxCDD	42.55		1.0450 -	1.4350	•	100.00	0- 0	F
11 12	123789-HxCDD	42.86		1.0450 -	1.4350		100.00		) passed
13	123789-HxCDF	43.25		1.0450 -	1.4350	•	100.00		, accept
14	1234678-HpCDF	44.94		0.8750 -	1.2050		100.00		passed
15	1234678-HpCDD	46.12 46.68		0.8750 - 0.8750 -	1.2050	,	100.00	0- 0	
16	1234789-HpCDF OCDD				1.2050		100.00	0- 0	,
17	OCDF	49.13 49.32		0.7550 - 0.7550 -	1.0250		100.00	0- 0	
18	13C12-1278-TCDD (CRS)	32.51		0.7550 -	1.0250 0.8950		100.00 100.00		, , , , , , , , , , , , , , , , , , , ,
19	13C12-1278-1CDD (CRS)	31.37		0.6450 -	0.8950		100.00		•
20	13C12-1234-1CDD	31.37 41.31		1,0450 -	1.4350			0- 0	,
21	13C12-123468-HXCDD	41.31 31.09		0.6450 -	0.8950		100.00 100.00		passed passed
22	13C12-2378-TCDD	32.12		0.6450 -	0.8950		100.00	0- 0	•
23	13C12-12378-PeCDF	36.63		1.3150 -	1.7850		100.00	0- 0	•
24	13C12-23478-PeCDF	37.85		1,3150 -	1.7850		100.00		passed passed
25	13C12-12378-PeCDD	38.23		1.3150 -	1.7850		100.00		passed passed
26	13C12-123478-HxCDF	41.42		0.4250 -	0.5950	•	100.00		passed passed
27	13C12-123678-HxCDF	41.56		0.4250 -	0.5950		100.00	0- 0	•
28	13C12-234678-HxCDF	42.24		0.4250 -	0.5950		100.00	0- 0	
29	13C12-123478-HxCDD	42.43		1.0450 -	1.4350		100.00		passed passed
30	13C12-123678-HxCDD	42.54		1.0450 -	1.4350		100.00	0- 0	·
31	13C12-123789-HxCDD	42.85		1,0450 -	1.4350		100.00		) passed
32	13C12-123789-HxCDF	43.24		0.4250 -	0.5950		100.00		D passed
33	13C12-1234678-HpCDF	44.93		0.3650 -	0.5150		100.00		) passed
34	13C12-1234678-HpCDD	46.12		0.8750 -	1.2050		100.00	0 - 0	
35	13C12-1234789-HpCDF	46.67		0.3650 -	0.5150		100.00	0- 0	
36	13C12-OCDD	49.12	0.8966	0.7550 -	1,0250	passed	100.00	0- 0	passed
37	13C12-OCDF	49.31		0.7550 -	1.0250		100.00	0- 0	•
38	Total TCDF	29.81		0.6450 -	0.8950		100.00	0- 0	·
39	Total TCDD	30.57		0.6450 -	0.8950		100.00	0 - 0	_
40	Total PeCDF	36.92		1.3150 -	1.7850		100.00	0- 0	
41	Total PeCDD	37.03		1.3150 -	1.7850		100.00	0- 0	) -
42	Total HxCDF	41.88		1.0450 -	1.4350		100.00	0- 0	
43	Total HxCDD	42.62		1.0450 -	1.4350		100.00	0- 0	
44	Total HpCDD	45.67		0.8750 -	1.2050		100.00	0 - 0	
45	Total HpCDF	45.87	1.0432	0.8750 -	1.2050		100.00	0 - 0	_
46	Single TCDF	31.13	0.7814	0.6450 -	0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	32.15	0.7845	0.6450 -	0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	38.25	1.5338	1.3150 -	1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	37.86	1.5605	1.3150 -	1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	36.64	1.5545	1.3150 -	1.7850	passed	100.00	0- 0	passed
51	Single HpCDD	46.12		0.8750 -	1.2050	passed	100.00	0 - 0	•
52	Single HxCDF	42.26	1.2524	1.0450 -	1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	41.43	1.2412	1.0450 -	1.4350	passed	100.00	0 - 0	) passed
54	Single HxCDF	41.58		1.0450 -	1.4350	passed	100.00	0 - 0	
55	Single HxCDF	43.25		1.0450 -	1.4350	passed	100.00	0 - 0	,
56	Single HxCDD	42.55		1.0450 -	1.4350		100.00	0 - 0	
57	Single HxCDD	42.44		1.0450 -	1.4350		100.00	0 - 0	
58	Single HxCDD	42.86		1.0450 -	1.4350	passed	100.00	0 - 0	-
59	Single HpCDF	44.94		0.8750 -	1.2050		100.00	0 - 0	·
60	Single HpCDF	46.68	1.0421	0.8750 -	1.2050	passed	100,00	0 - 0	passed







Lancaster **Laboratories** 

### **Entry Parameters**

	r									,		,	
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Nois	Client Flags
1	2378-TCDF	passed	31,13	2925614	Mode   A	2286155		1	200.000000		200.000000	39839	riays
2	2378-TCDD	passed	32.15	1873000	A		Ā		200.000000		200.000000	36462	
3	12378-PeCDF	passed	36,64	8892501	A				1000.000000		1000.000000	199858	
4	23478-PeCDF	passed	37.86	10092325	A				1000.000000		1000.000000	239353	
5	12378-PeCDD	passed	38.25	5665435	Α	8689913			1000.000000	1000.0000	1000.000000	77939	
6	123478-HxCDF	passed	41.43	10628454	A	13191762			1000.000000	1000.0000	1000.000000	38367	
7	123678-HxCDF	passed	41.58	10916132	A	13704794			1000.000000	1000.0000	1000.000000	39032	
8	234678-HxCDF	passed	42.26	10650094	А	13338334	A		1000.000000	1000.0000	1000.000000	40232	
9	123478-HxCDD	passed	42.44	7047619	А	8763815	Д	0.0427	1000.000000	1000.0000	1000.000000	59546	
10	123678-HxCDD	passed	42.55	7143701	А	8861153	А	0.0409	1000.000000	1000.0000	1000.000000	59609	
11	123789-HxCDO	passed	42.86	7223715	А	8914626	A	0.0426	1000.000000	1000.0000	1000.000000	58490	
12	123789-HxCDF	passed	43.25	9613342	А	12031691	A	0.0721	1000.000000	1000.0000	1000.000000	35037	
13	1234678-HpCDF	passed	44.94	11048929	Α	11536604	А	0.0596	1000.000000	1000.0000	1000.000000	41416	
14	1234678-HpCDD	passed	46.12	7145705	Α	7438140	А	0.0612	1000.000000	1000.0000	1000.000000	40840	
15	1234789-HpCDF	passed	46.68	9858490	Α	10273358	A	0.0689	1000.000000	1000.0000	1000.000000	36074	
16	OCDD	passed	49.13	13861054	A	12358162	A	0.0563	2000.000000	2000.0000	2000.000000	89512	
17	OCDF	passed	49.32		Α	16836788	A	0.0449	2000.000000	2000.0000	2000.000000	114509	
18	13C12-1278-TCDD (CRS)	passed	32.51	1903734	Α	1541979	A	0.0092	200.000000	200.0000	200.000000	57755	
19	13C12-1234-TCDD	passed	31.37	757553	Α	595345		0.0117	100.000000	100.0000	100.000000	21337	
20	13C12-123468-HxCDD	passed	41.31	661193	Α	842665	A	0.0230	100.000000	100.0000	100.000000	10879	
21	13C12-2378-TCDF	passed	31.09		Α				100.000000		100.000000	43986	
22	13C12-2378-TCDD	passed	32.12	774919	Α				100.000000	100.0000	100.000000	22229	
23	13C12-12378-PeCDF	passed	36.63		Α	1505676			100.000000	100.0000	100.000000	13817	
24	13C12-23478-PeCDF	passed	37.85		Α	1531246			100.000000	100.0000	100.000000	14828	
25	13C12-12378-PeCDD	passed	38.23	535139	Α				100.000000		100.000000	21198	
26	13C12-123478-HxCDF	passed	41.42	1355663	Α				100.000000	100.0000	100.000000	11343	
27	13C12-123678-HxCDF	passed	41.56	1478861	Α				100.000000	100.0000	100.000000	12185	
28	13C12-234678-HxCDF	passed	42.24	1354516	A		Α		100.000000	100.0000	100,000000	11701	
29 30	13C12-123478-HxCDD	passed	42.43	687944 734048	A	891869 917892			100.000000	100.0000	100.000000	11852 12777	
31	13C12-123678-HxCDD 13C12-123789-HxCDD	passed	42.54 42.85		A	842567	A		100.000000 100.000000	100.0000 100.0000	100.000000	11346	
32	13C12-123789-HXCDD	passed passed	42.85	1281815	A		Α Α		100.000000	100.0000	100.000000	10920	
33	13C12-1234678-HpCDF	passed	44.93		A		Α Α		100.000000	100.0000	100.000000	10993	
34	13C12-1234678-HpCDD	passed	46.12		A	745485			100.000000	100,0000	100.000000	12212	
35	13C12-1234789-HpCDF	passed	46.67	1100679	Â				100.000000	100.0000	100.000000	9333	
36	13C12-OCDD	passed	49.12		A		Α.		200.000000		200.000000	39787	
37	13C12-OCDF	passed	49.31	2074084	A				200.000000	200.0000	200.000000	36607	
38	Total TCDF	passed (1)	29.81	2925614	Ā				200.000000		200.000000	39839	
39	Total TCDD	passed (1)	30.57	1873000	A	1469325			200.000000	200.0000	200.000000	36462	
40	Total PeCDF	passed (2)	36.92	18984826	A	29572568			1000.000000	2000.0000	1000.000000	219606	
41	Total PeCDD	passed (1)	37.03	5665435	A	8689913	A	0.0325	1000.000000	1000.0000	1000.000000	77939	
42	Total HxCDF	passed (4)	41.88	41808022	A	52266580	A		1000.000000	4000.0000	1000.000000	38167	
43	Total HxCDD	passed (3)	42.62		Α	26539594	A		1000.000000	3000.0000	1000.000000	59215	
44	Total HpCDD	passed (1)	45.67	7145705	Α			0.0612	1000.000000	1000.0000	1000.000000	40840	
45	Total HpCDF	passed (2)	45.87	20907418	Α		А	0.0641	1000.000000	2000.0000	1000.000000	38745	
46	Single TCDF	passed	31.13	2925614	А	2286155	A	0.0126	200.000000	200.0000	200.000000	39839	
47	Single TCDD	passed	32.15		Α		A	0.0139	200.000000	200.0000	200.000000	36462	
48	Single PeCDD	passed	38.25		Α			0.0325	1000.000000	1000.0000	1000.000000	77939	
49	Single PeCDF	passed	37.86		Α				1000.000000	1000.0000	1000.000000	239353	
50	Single PeCDF	passed	36.64	8892501	Α				1000.000000	1000.0000	1000.000000	199858	
51	Single HpCDD	passed	46.12		Α		-		1000.000000	1000.0000	1000.000000	40840	
52	Single HxCDF	passed	42.26	10650094	Α		А		1000.000000	1000.0000	1000.000000	40232	
53	Single HxCDF	passed	41.43		Α		-		1000.000000	1000.0000	1000.000000	38367	
54	Single HxCDF	passed	41.58	10916132	Α		A		1000.000000	1000.0000	1000,000000	39032	
55	Single HxCDF	passed	43.25		A		A		1000.000000	1000.0000	1000.000000	35037	
56	Single HxCDD	passed	42.55		A				1000.000000	1000.0000	1000.000000	59609	
57 58	Single HxCDD	passed	42.44	7047619	A				1000.000000	1000.0000	1000.000000	59546	
58 59	Single HxCDD	passed	42.86	7223715	A	8914626	A		1000.000000	1000.0000	1000.000000	58490 41416	
59 60	Single HpCDF	passed	44.94	11048929 9858490	A		A		1000.000000	1000.0000	1000.000000	41416 36074	
60	Single HpCDF	passed	46.68	9898490	A	10273358	A	0.0678	1000.000000	1000.0000	1000.000000	300/4	



File Name: Y:\17JAN31\17JAN31-12 Acq. Data: 2/1/2017 6:29:25 AM Instrument ID: DF18471-17JAN31 Sample ID: CS501 Sample Name: CALDF61737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1258 1065 1135 1272 888 32.91 3.58E5 854 30.80 29,61 100 26.00 26.58 33.15 m/z=291.9825-80-292.9825 MS 60-17JAN31-12 40-20-0-NL: 1650 1383 1687 1619 1372 39.22 3.83E5 35.10 39,79 38,74 100 34.93 m/z=330.4792-80-331.4792 MS 60-17JAN31-12 40-20 0-1961 NL: 1803 1775 43.56 2.22E5 41.43 100_ 41.06 m/z=1573 1486 1376 380.4760-Relative Abundance 38.03 80-34,99 36.69 381.4760 MS 17JAN31-60-12 40--20-0-2276 NL: 6.82E4 47.98 2162 100~ m/z=2020 2128 404.4760-44,45 45,94 80-405.4760 MS 60-17JAN31-12 40-20-0-2297 2442 NL: 50,28 6.94E4 48.35 100 2283 m/z=48.16 442.4728-2278 80-443.4728 MS 60-17JAN31-12 40-20-AIL01 Page 402 of 560 34 36 38 40 24 32 42 By UMJS at 10:13 am9 22/2017 By ujd2 at 10:16 am, 2/1/17

Time (min)

```
17JAN31-12
```

*** file opened wed Feb 01 06:34:48 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - LX18470

Analysis started at: 01-Feb-17 06:34:47

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: 62d69d10-234f-46c5-bc8a-53bf0dc2f3b7

MID procedure: PFK16MAR24+MDT

### Mid Time Windows:

	Start	Measure	End	Cycletim
	11:30 min 21:00 min 34:44 min	9:30 min 13:44 min 5:03 min	34:44 min	1.00 sec 1.00 sec 0.90 sec
# 4 # 5	39:47 min 44:15 min	4:27 min 3:45 min	44:15 min 48:00 min	0.80 sec 0.80 sec
#6	48:00 min	3:00 min	51:00 min	0 80 sec

### Mid Masses:

ilu Masses.		
Window # 1		
mass F	int gr	time (ms)
218.0129	1 1	95 `´
218.9851 7	20 1	4
220.0100	1 1	95
230.0532	2 1	47
232.0502	$\bar{2}$ $\bar{1}$	47 47
251.9739	$\bar{1}$ $\bar{1}$	95
253.9710	īīī	95
264.0142	2 1	47
266.0112	5 1	47
285.9350	1 1	47 95
287.9320	1 1	95
292.9819 c	20 1	4
297.9752	int gr 1 1 20 1 1 1 2 1 2 1 1 1 2 1 2 1 1 1 2 1 2 1 2	47
299.9723	2 1	47
	2 1	47
Window # 2		+4 (
mass F	int gr	time __ (ms)
292.9819 7	20 1	5
303.9011	1 1	118
305.8981	ĪĪ	118
315.9413	5 1	23 23
317.9384 319.8960	5 1	23
319.8960	20 1 1 1 5 1 5 1 1 1 1 1	118
321.8930	1 1	118

Page 1





```
331.9363
                     1
                               23
                               23
 333.9333
                     1
 339.8592
                     1
                              118
 341.8562
                     1
                              118
 354.9787
                     1
                                5
            C
                     ī
 375.8364
                               59
Window # 3
 mass F
330.9787 1
339.8592
                int
                           time (ms)
                      gr
                     1
                20
                                6
                     1
                              133
                 1
 341.8562
                 1
                     1
                              133
 351.8994
                     1
                               44
 353.8965
                               44
                     1
                              133
 355.8541
                     1
 357.8511
                     1
                              133
 367.8943
                     1
                               44
 369.8914
                     1
                               44
 380.9755 c
                20
                     1
                                6
 409.7969
                 2
                     1
                               66
Window # 4
      mass F
                int
                           time (ms)
                      gr
                     1
                              117
 373.8201
                 1
 375.8172
                     1
                              117
 380.9755
                20
                     1
 383.8634
                     1
                               39
 385.8604
                     1
                               39
 389.8151
                     1
                              117
 391.8121
                     1
                              117
                 1
 401.8554
                     1
                               39
 403.8524
                               39
                     1
 430.9723 c
                20
                     1
                                5
 445.7550
                 2
                     1
                               58
Window # 5
mass F
404.9755 T
407.7812
                           time (ms)
5
117
                int
                      gr
                20
                     1
                 1
                     1
 409.7783
                 1
                     1
                              117
 417.8244
                               39
                     1
 419.8215
                               39
                     1
 423.7761
                     1
                              117
 425.7732
435.8164
                     1
                              117
                     1
                               39
 437.8134
                     1
                               39
 479.7160
                     1
                               58
 480.9691 c
                20
                     1
                                5
Window # 6
      mass F
                int
                      gr
                           time (ms)
                               95
                     1
 441.7422
                 1
442.9723
443.7393
                20
                                4
                               95
                     1
                 1
                               95
 453.7825
                     1
 455.7795
                               95
                     1
                               95
 457.7372
                     1
 459.7342
                               95
                     1
 469.7774
                 3
                     1
                               31
 471.7745
                     1
                               31
 492.9691 c
                20
                     1
                                4
 513.6770
                     1
                               47
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.750000 minutes MID Window end time was 34.740000 minutes Page 2





```
MID Window terminated after 39.800000 minutes MID Window end time was 39.800000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	94.0000
BQUAD	0.4500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	156.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	175.0000
ENSBR	0.4500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	171.0000	EXSBR	-0.5300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	13.9000
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0155	FVINLET	0.0279	FVSRC	0.0276
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	718.0000
LENS_SYM	12.7500	LM	1050.0000	LMII	500.0000
LMASS	94.0000	LKM	442.9723	MASS	94.0000
MDAC	1410466.8076	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2521.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-15.0000	RECURR	0.8972	RELEN	0.0000
RES	13763.9385	RPUSHER	-14.5861	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0180	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.0000	XLENS_POT	880.0000
XLENS_SYM	-2.5000	YLENS_POT	602.0000	YLENS_SYM	-7.7500

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.5e-002 mbar Pirani Source: 2.8e-002 mbar Pirani Inlet System: 2.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11699.
MID Time Window 2: Resolution is 11774.
MID Time Window 3: Resolution is 11134.
MID Time Window 4: Resolution is 12079.
```







17JAN31-12

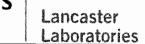
MID Time Window 5: Resolution is 12985. MID Time Window 6: Resolution is 13763.

Amplifier Offset: 87.









### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/07 20:39

Number of Entries 26

Comment

Vial 2

Sample Name **TDTFWD ST1701737A** 

Sample ID CPS03

Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan y:\17feb07\17feb07-13.quan Data y:\17feb07\17feb07-13.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script Mass Ref

Quan Parameter

QualBrowser Compatibility Compatibility off Sum Area/Height No Summation **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 1.0

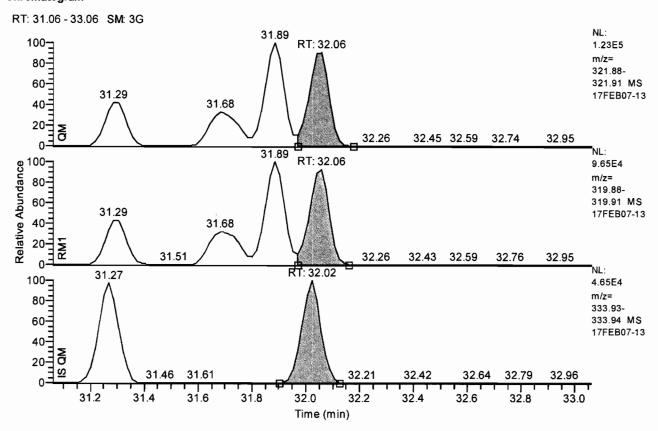
Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



### Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

### **Entry Parameters**

Smoothing	Dointe	
Simoothing	Points	

Compound Name 2378-TCDD

Quan. Mass 321.8936 +/- 50 ppm

QM Integration Mode

Ratio Mass 1

319.8965 +/- 50 ppm

RM1 Integration Mode

М

3

ManInt

1 32.06

RM1 Retention Time

546.40

RM1 Left Baseline Height RM1 Left Height

9572

RM1 Height

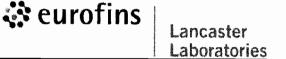
89418

GC Res (%) left

11.049462







#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/07 20:39

Number of Entries 26

Comment

Vial 2

Sample Name **TDTFWD ST1701737A** 

Sample ID CPS03

Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-13.quan Data y:\17feb07\17feb07-13.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height No Summation **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 1.0

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

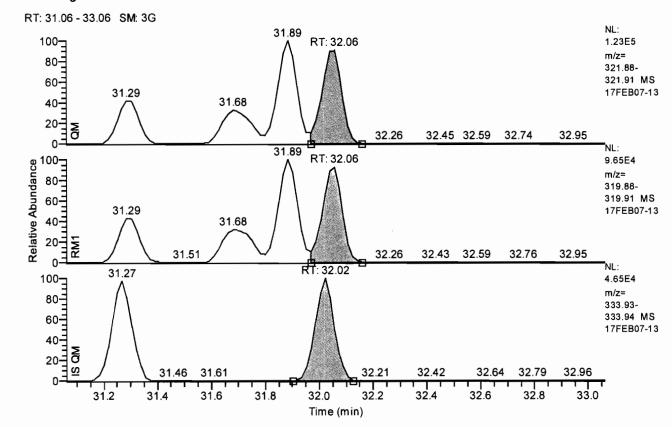
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





#### Chromatogram



Entry: 2378-TCDD IS: 13C12-2378-TCDD

#### **Entry Parameters**

Smoothing Points

3

Compound Name

2378-TCDD

Quan. Mass

321.8936 +/- 50 ppm

QM Integration Mode

Ratio Mass 1

319.8965 +/- 50 ppm

RM1 Integration Mode

Α

32.06

RM1 Retention Time

546.40

RM1 Left Baseline Height RM1 Left Height

9572

RM1 Height

89312

GC Res (%) left

11.057159





File Name: Y:\17FEB07\17FEB07-13 Acq. Data: 2/7/2017 8:39:50 PM Instrument ID: DF18471-17FEB07 Sample ID: CPS03 Sample Name: TDTFWD ST1701737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1164 1223 1282 31.30 32.31 33.32 756 887 1114 4.66E5 100 22,61 24,33 26,57 30.45 m/z=291.9825-80-292.9825 MS 17FEB07-60-13 40-20-0-NL: 1609 1670 1522 1426 6.14E5 38.57 39,51 1369 100-35.75 37.23 m/z=34.88 330.4792-80 331.4792 MS 17FEB07-60 13 40 20-0-NL: 1750 1860 1874 1672 2007 3.57E5 40.68 42.16 39.62 42.35 44.14 100m/z=1630 380.4760-1596 Relative Abundance 1429 1382 80-38.90 38.37 381.4760 35.08 35.80 Mary may property with the MS 17FEB07-60 13 40-20-0-2255 NL: 2272 2072 47.64 9.20E4 2054 47,88 45.12 100-44.87 m/z=404.4760-80 405.4760 MS 17FEB07-60 13 40 20 0 2410 NL: 2386 1.08E5 49.81 49,49 100m/z=442.4728-80-443.4728 MS 17FEB07-60-13 40-20-

APPROVED

2 By uma 2 at 12:02 3 h, 2/9/13 2 34

0-

24

AlL01 Page 411 of 560 1 1 1 34 36 38 40 42 Time (min)

**REVIEWED**46
By UMJS at 12:42 pr@32/9/11/08

```
17FEB07-13

*** file opened Tue Feb 07 20:42:43 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000XXXX
Workstation internet name - LX18470

Analysis started at: 07-Feb-17 20:42:42

Analysis will stop at user request
```

Firmware Version: 2.02

MCAL file name:

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

Mid Time W Star		asure	End C	ycletime
# 1 11:30 # 2 21:00 # 3 34:36 # 4 39:30 # 5 44:15 # 6 48:00	min 13:36 min 4:53 min 4:45 min 3:45	min 34:36 min 39:30 min 44:15 min 48:00	min 1.00 min 0.90 min 0.80 min 0.80	sec sec sec sec sec sec
Mid Masses Window #	1 F int gr 1 1 1 20 1 2 1 2 1 1 1 1 1 2 1 2 1 1 1	time (ms) 95 4 95 47 47 95 95 47 47 95 95 47 47 47		
mass 292.9819 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	F int gr 1 20 1 1 1 1 1 5 1 5 1	time (ms) 5 118 118 23 23 118 118		

Page 1





```
331.9363
                             23
                   1
                             23
 333.9333
 339.8592
                1
                   1
                            118
 341.8562
                1
                            118
 354.9787 c
               20
                   1
                              5
 375.8364
                2
                   1
                             59
Window # 3
     mass F
               int
                         time (ms)
                    gr
 330.9787
               20
                   1
                              6
 339.8592
                1
                   1
                            133
 341.8562
                   1
                            133
                1
 351.8994
                             44
                   1
 353.8965
                             44
                   1
 355.8541
                            133
 357.8511
                1
                            133
 367.8943
                             44
                   1
 369.8914
                             44
                   1
 380.9755 c
               20
                   1
                              6
 409.7969
                2
                   1
                             66
Window # 4
                         time (ms)
     mass F
               int
                    gr
                   1
                           117
 373.8201
                1
 375.8172
                1
                   1
                            117
 380.9755
               20
                   1
                             39
 383.8634
                    1
                3
 385.8604
                3
                             39
                   1
 389.8151
                1
                   1
                            117
 391.8121
                            117
                             39
 401.8554
                             39
 403.8524
                   1
                              5
 430.9723 c
               20
 445.7550
                2
                   1
                             58
Window # 5
                         time (ms)
               int
     mass F
                     gr
 404.9755
               20
 407.7812
                1
                            117
 409.7783
                1
                   1
                            117
 417.8244
                             39
 419.8215
                             39
                   1
 423.7761
                   1
                            117
 425.7732
                   1
                            117
 435.8164
                             39
 437.8134
                3
                             39
                   1
 479.7160
                2
                             58
                   1
                    1
 480.9691 c
               20
Window # 6
               int
                         time (ms)
     mass
                     gr
                   1
 441.7422
                1
                             95
 442.9723 1
               20
                              4
 443.7393
                             95
                   1
                1
                             95
 453.7825
                1
                   1
 455.7795
 457.7372
                             95
                   1
                             95
 459.7342
                   1
 469.7774
                             31
                3
 471.7745
                             31
               20
                              4
 492.9691 c
 513.6770
                             47
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	0.0500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0301	FVSRC	0.0289
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1472957.1872	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2525.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8967	RELEN	0.0000
RES	13192.5417	RPUSHER	-8.6813	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	638.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200,0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000
	0.5000				0.0000

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.7e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

### Sourcemode is EI POS

MID Time Window 1: Resolution is 11430. MID Time Window 2: Resolution is 11687. MID Time Window 3: Resolution is 12014. MID Time Window 4: Resolution is 12047.

Page 3





```
MID Time Window 5: Resolution is 13454.
MID Time Window 6: Resolution is 13192.

Amplifier Offset: 88.

*** File closed Tue Feb 07 21:33:45 2017
```









### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/07 21:33

**Number of Entries** 

150

Comment

Vial

Sample Name

VER-CALDF41737A

Sample ID

CS3CC03

Inst ID

DF18471-17FEB07

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan

y:\17feb07\17feb07-14.quan y:\17feb07\17feb07-14.raw

Data Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

**Quantitation Status** 

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

Det. Limit Factor [hDLF]

1.0 2.5

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

Regression Mode

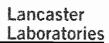
Non weighted Regression

Weighted Regression Factor

1.0







[	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status
No.	Name	Time	Overview	Status	Status	Status	Status	Time Status	Info
1	2378-TCDF	30.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	32.01	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36.54	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.76	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	38.15	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.34	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41.49	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.35	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.47	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.78	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.86	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.05	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.61	passed	passed	passed	passed	passed	passed	
16	OCDD	49.05	passed	passed	passed	passed	passed	passed	
17	OCDF	49.24	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	32.37	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	31.24	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	41.23	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.95	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.99	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.51	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.75	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	38.12	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.32	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.47	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	42.15	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.33	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.77	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.84	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.03	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.60	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.04	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.22	passed	passed	passed	passed	passed	passed	







### **Quantitation Settings**

Data File Parameter

Acq. Data 2017/02/07 21:33

Number of Entries

150

Comment

Vial

Sample Name VER-CALDF41737A

Sample ID CS3CC03

Inst ID DF18471-17FEB07

Client

jda02741 Analyst

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

Files Parameter

Quan y:\17feb07\17feb07-14.quan Data y:\17feb07\17feb07-14.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 1.0 Sample Volume [hSV] Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

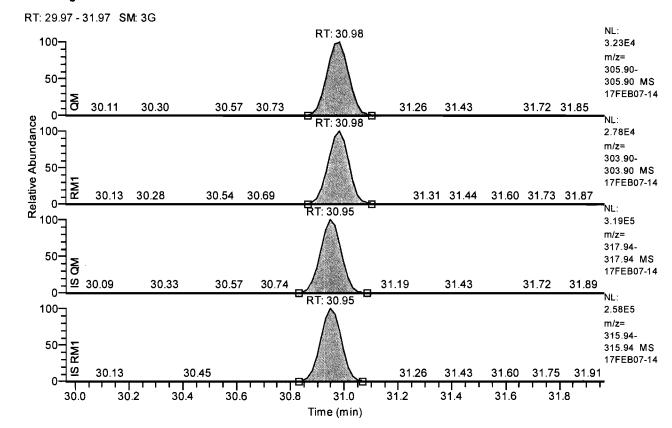
Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



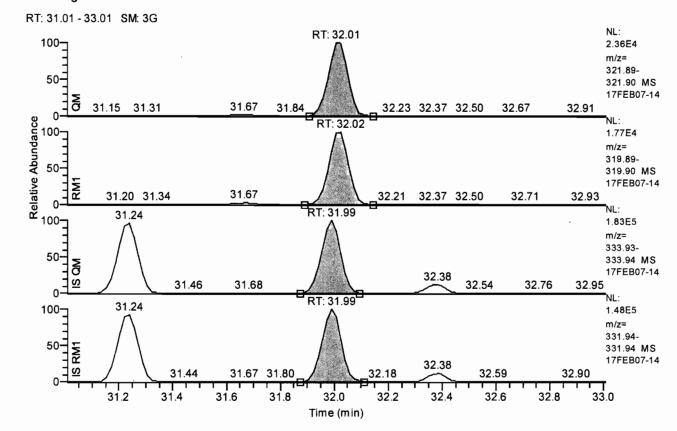
#### Chromatogram



#### **Entry Parameters**

Compound Name 2378-TCDF 30.98 QM Retention Time QM Area 186441 QM Integration Mode RM1 Area 152781 RM1 Integration Mode Α ManInt 0.0059 Detection Limit (A) 10.297268 Unqualified Amount (A) Adjusted Amount (A) 10.2973 Signal-to-Noise 4249 Client Flags Status Overview passed Status Info



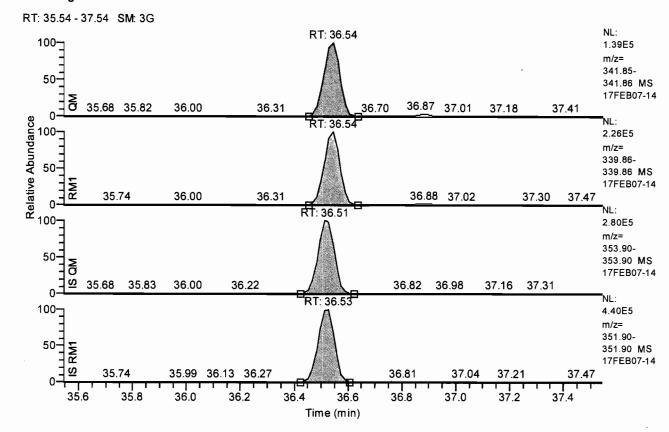


### **Entry Parameters**

Compound Name 2378-TCDD QM Retention Time 32.01 QM Area 121720 QM Integration Mode Α RM1 Area 91745 RM1 Integration Mode ManInt Detection Limit (A) 0.0059 Unqualified Amount (A) 10.296230 Adjusted Amount (A) 10.2962 Signal-to-Noise 4242 Client Flags Status Overview passed Status Info



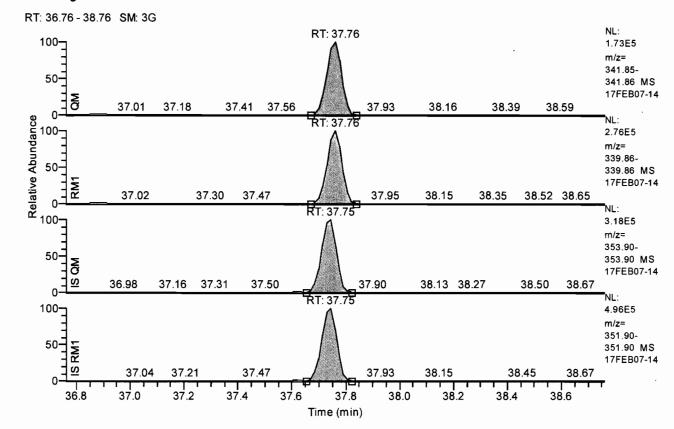
### Chromatogram



### **Entry Parameters**

Compound Name 12378-PeCDF QM Retention Time 36.54 579990 QM Area QM Integration Mode Α RM1 Area 917042 RM1 Integration Mode Α ManInt 0.0065 Detection Limit (A) Unqualified Amount (A) 50.487143 Adjusted Amount (A) 50.4871 20035 Signal-to-Noise Client Flags Status Overview passed Status Info





#### **Entry Parameters**

Status Overview

Status Info

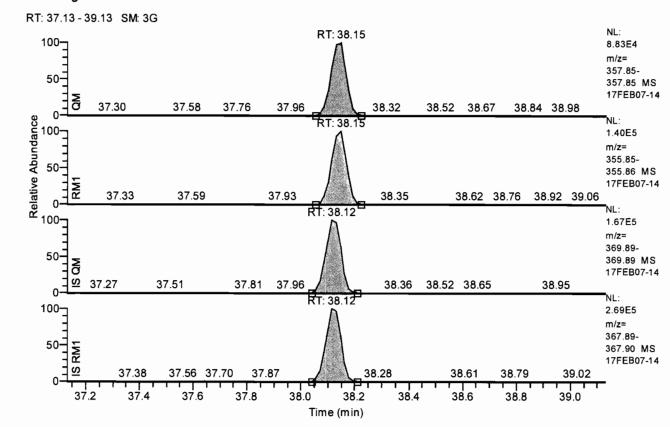
Compound Name 23478-PeCDF QM Retention Time 37.76 QM Aгеа 670846 QM Integration Mode RM1 Area 1056923 RM1 Integration Mode Α ManInt 0,0052 Detection Limit (A) Unqualified Amount (A) 50.595828 Adjusted Amount (A) 50.5958 Signal-to-Noise 24628 Client Flags

passed



# neurofins :

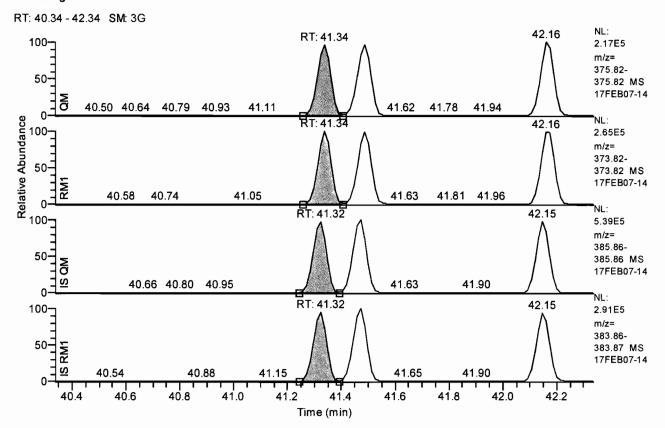
#### Chromatogram



#### **Entry Parameters**

Compound Name 12378-PeCDD QM Retention Time 38.15 QM Area 350556 QM Integration Mode RM1 Area 553251 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0129 Unqualified Amount (A) 49.687557 Adjusted Amount (A) 49.6876 Signal-to-Noise 9584 Client Flags Status Overview passed

#### Chromatogram



# **Entry Parameters**

Compound Name 123478-HxCDF

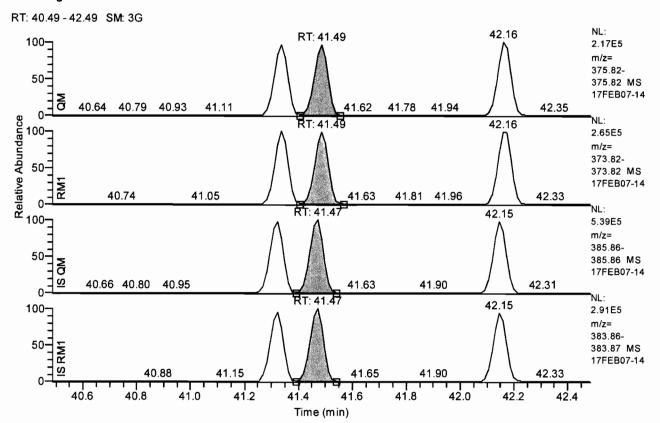
**QM** Retention Time 41.34 724359 QM Area QM Integration Mode 902340 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0121 Unqualified Amount (A) 49.858873 Adjusted Amount (A) 49.8589 Signal-to-Noise 10456

Client Flags

Status Overview passed







### **Entry Parameters**

Compound Name

123678-HxCDF

**QM** Retention Time

41.49

QM Area

734677

QM Integration Mode

Α

RM1 Area

918565 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0119

Unqualified Amount (A)

49.493914

Adjusted Amount (A) Signal-to-Noise

49.4939

Client Flags

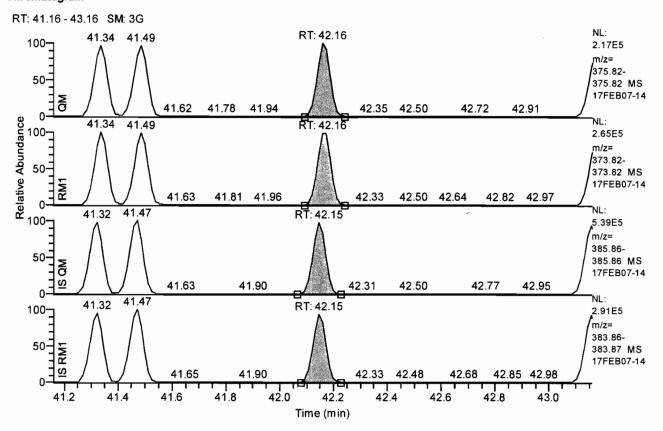
Status Overview

10460 passed





### Chromatogram



#### **Entry Parameters**

Compound Name

234678-HxCDF

QM Retention Time

42.16

QM Area

736536

QM Integration Mode

Α

RM1 Area

927430

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0117 51.276015

Unqualified Amount (A) Adjusted Amount (A)

51.2760

Signal-to-Noise

10595

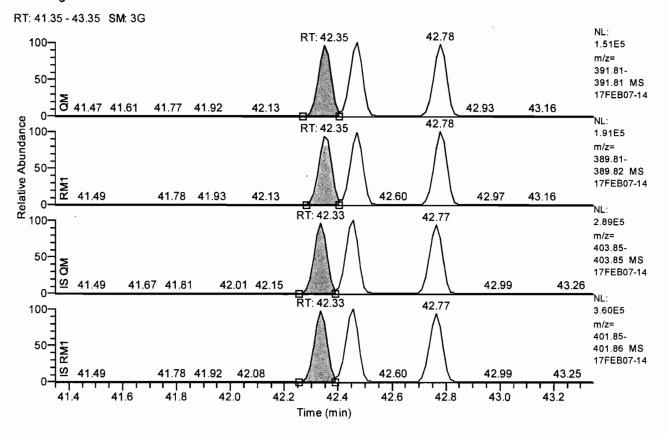
Client Flags

Status Overview

passed







#### **Entry Parameters**

Compound Name

123478-HxCDD

QM Retention Time

42.35

QM Area

483174

QM Integration Mode

Α

RM1 Area

608428

RM1 Integration Mode ManInt Α

Detection Limit (A)

0.0097

Unqualified Amount (A)

50.751955

Adjusted Amount (A)

50.7520

Signal-to-Noise

13032

Client Flags

Status Overview

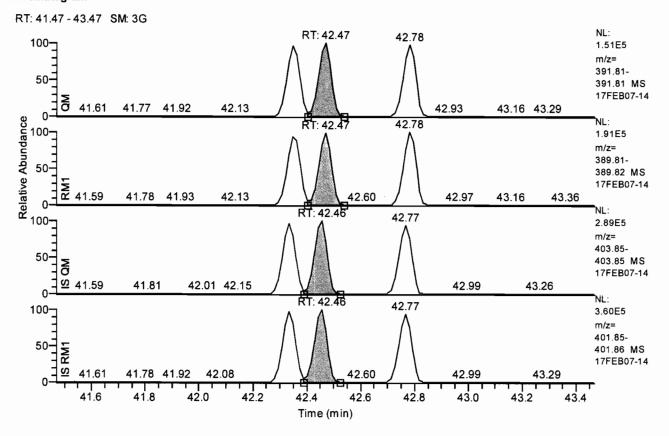
passed





# de eurofins

#### Chromatogram



AIL01 Page 428 of 560

#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.47

QM Area

493890

618416

QM Integration Mode

Α

RM1 Area

Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0094

Unqualified Amount (A)

51.193296

Adjusted Amount (A)

51.1933

Signal-to-Noise

13576

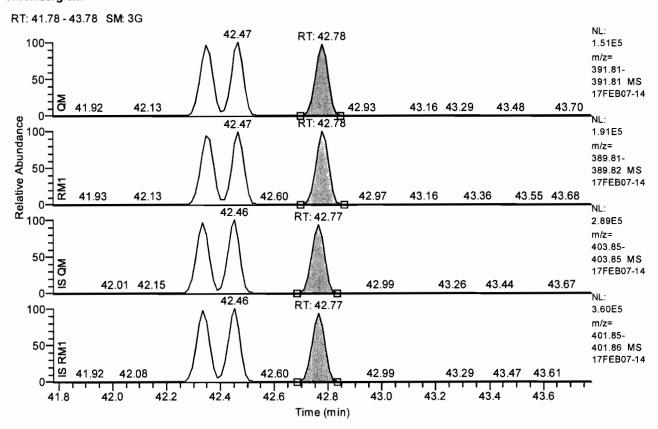
Client Flags

Status Overview

passed







#### **Entry Parameters**

Compound Name 123789-HxCDD

QM Retention Time 42.78

QM Area 488521

QM Integration Mode A

RM1 Area 631377

RM1 Integration Mode A

0

Detection Limit (A) 0.0094

50.857803

Unqualified Amount (A)
Adjusted Amount (A)

50.8578

Signal-to-Noise

13523

Client Flags

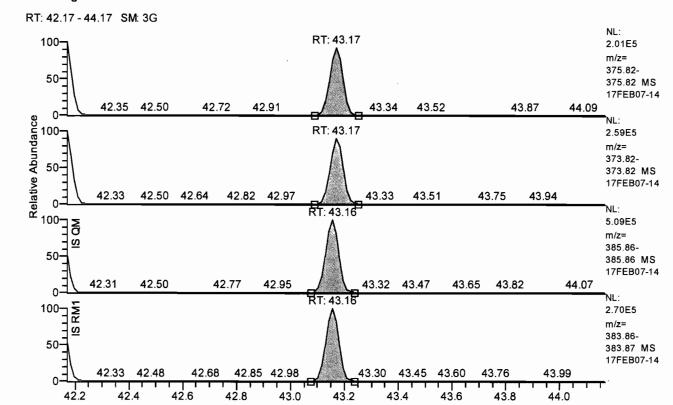
ManInt

Status Overview

passed



#### Chromatogram



Time (min)

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#### **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.17

QM Area

634049

QM Integration Mode

Α

RM1 Area

792409 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0127

Unqualified Amount (A)

47.156668

Adjusted Amount (A)

47.1567

Signal-to-Noise

9259

Client Flags

Status Overview

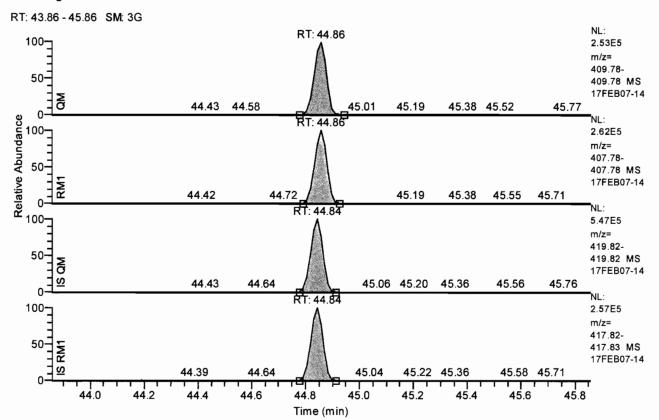
passed





# de eurofins

#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.86

QM Area

825215

QM Integration Mode

Α

RM1 Area

852071

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0156

Unqualified Amount (A)

50.530698

Adjusted Amount (A)

50.5307 7993

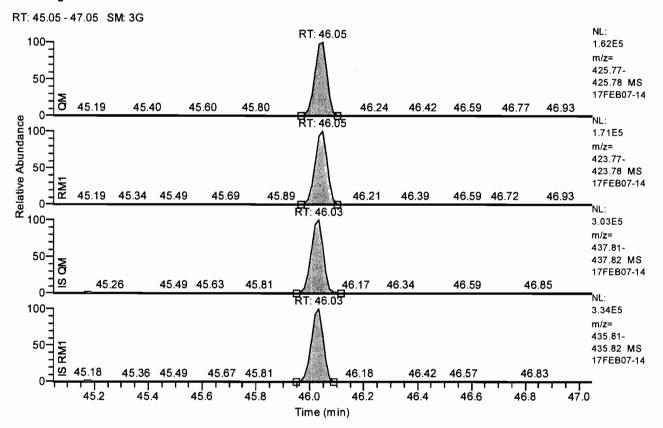
Signal-to-Noise Client Flags

Status Overview

passed



#### Chromatogram



### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.05

QM Area

529221

QM Integration Mode

Α

RM1 Area

554363

RM1 Integration Mode Manint

Α

Detection Limit (A)

0.0153

Unqualified Amount (A)

49.898481

Adjusted Amount (A)

49.8985

Signal-to-Noise

8036

Client Flags

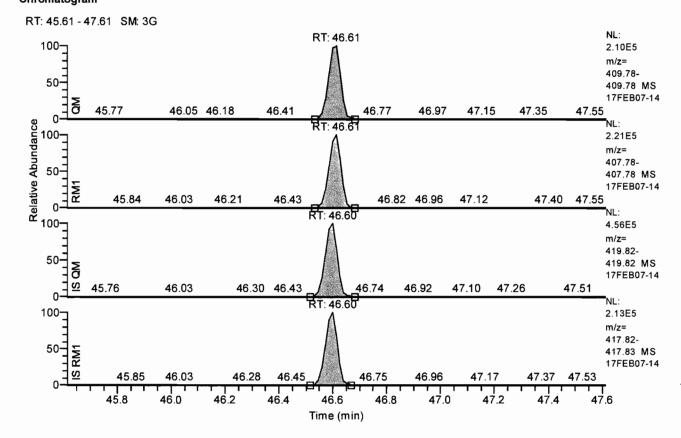
Status Overview

passed









### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.61

QM Area

684747

QM Integration Mode

Α

RM1 Area

710190

RM1 Integration Mode

ManInt

0.0182

Detection Limit (A) Unqualified Amount (A)

49.135580

Adjusted Amount (A)

49.1356

Signal-to-Noise

6684

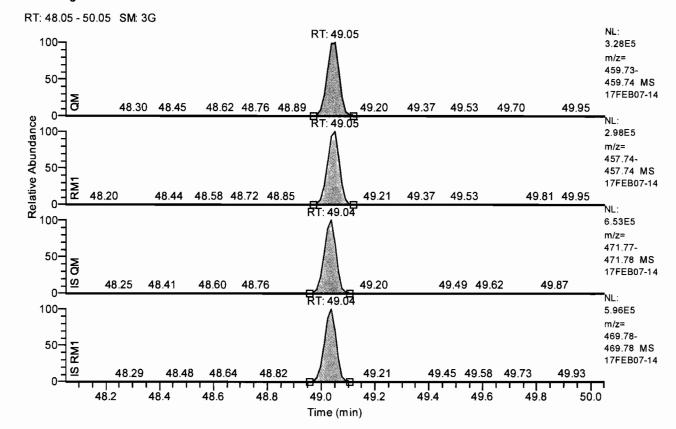
Client Flags

Status Overview

passed







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#### **Entry Parameters**

Compound Name

OCDD

QM Retention Time

49.05

QM Area

1041242

QM Integration Mode

Α

RM1 Area

928115

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0153

Unqualified Amount (A)

101.351009 101.3510

Adjusted Amount (A) Signal-to-Noise

16040

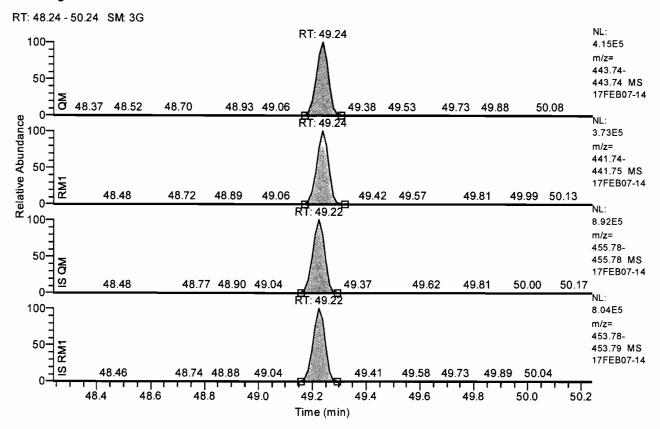
Client Flags

Status Overview

passed





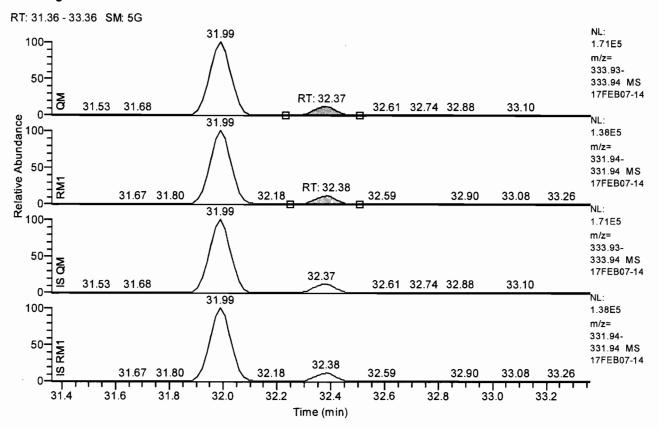


#### **Entry Parameters**

Compound Name OCDF QM Retention Time 49.24 QM Area 1264724 QM Integration Mode RM1 Area 1133209 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0106 Unqualified Amount (A) 98.265618 Adjusted Amount (A) 98.2656 Signal-to-Noise 23576 Client Flags Status Overview passed Status Info



### Chromatogram



#### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.37

QM Area

119075

QM Integration Mode

RM1 Area

86071 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0137

Unqualified Amount (A)

9.476062

Adjusted Amount (A)

9.4761

Signal-to-Noise

1680

Client Flags

Status Overview

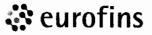
passed





No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98	30.98	30.98	30.95	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01	32.01	32.02	31.99	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54	36.54	36.54	36.51	passed	passed
4	23478-PeCDF	341,8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76	37.76	37.76	37.75	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15	38.15	38.15	38.12	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34	41.34	41.34	41.32	passed	passed
7	123678-HxCDF	375,8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49	41.49	41.49	41.47	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16	42.16	42.16	42.15	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.35	42.35	42.33	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.47	42.46	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.78	42.78	42.77	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.17	43.17	43.17	43.16	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.86	44.86	44.84	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.05	46.05	46.03	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.61	46.61	46.60	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.05	49.05	49.04	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.24	49.24	49.22	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.37	32.38	32.37	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31,24	31.24	31.24	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.23	41.23	41.23	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95	30.95	30.95	30.91	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	31.99	31.99	31.99	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.51	36.53	36.68	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.75	37.75	37.62	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367,8949 +/- 5 ppm	38.12	38.12	38.12	38.12	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32	41.32	41.32	41.35	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.47	41.47	41.46	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.15	42.15	42.15	42.33	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.33	42.33	42.33	42.33	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.46	42.46	42.46	42.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.77	42.77	42.77	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.16	43.16	43.16	43.16	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.84	44.84	44.84	44.82	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.03	46.03	46.03	46.03	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.60	46.60	46.60	46.53	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.04	49.04	49.04	49.04	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22	49.22	49.22	49.13	passed	passed





No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Calculated	Response	DE 11:02		
	Name	Time	(A)	Limit		Status	RF (A)	File RF (A)	RF Limit		RF Status
1	2378-TCDF	30.98	0.8195	0.6450 -	0.8950	passed	1.0657	1.0349	0.8227 -	1.2471	passed
2	2378-TCDD	32.01	0.7537	0.6450 -	0.8950	passed	1.2704	1.2338	0.9809 -	1.4867	passed
3	12378-PeCDF	36.54	1.5811	1,3150 -	1.7850	passed	0.9793	0.9698	0.7710 -	1.1686	passed
4	23478-PeCDF	37.76	1.5755	1.3150 -	1.7850	passed	1.0914	1.0786	0.8575 -	1.2997	passed
5	12378-PeCDD	38.15	1.5782	1.3150 -	1.7850	passed	1.0525	1.0591	0.8420 -	1.2762	passed
6.	123478-HxCDF	41.34	1.2457	1.0450 -	1.4350	passed	1.1716	1.1750	0.9341 -	1.4159	passed
7	123678-HxCDF	41.49	1.2503	1.0450 -	1.4350	passed	1.1390	1.1506	0.9147 -	1.3865	passed
8	234678-HxCDF	42.16	1.2592	1.0450 -	1.4350	passed	1.2415	1.2106	0.9624 -	1.4588	passed
9	123478-HxCDD	42.35	1.2592	1.0450 -	1.4350	passed	1.0395	1.0241	0.8142 -	1.2340	passed
10	123678-HxCDD	42.47	1.2521	1.0450 -	1.4350	passed	1.0455	1.0211	0.8118 -	1.2304	passed
11	123789-HxCDD	42.78	1.2924	1.0450 -	1.4350	passed	1.1024	1.0838	0.8616 -	1.3060	passed
12	123789-HxCDF	43.17	1.2498	1.0450 -	1.4350	passed	1.0877	1.1533	0.9169 -	1.3897	passed
13	1234678-HpCDF	44.86	1.0325	0.8750 -	1.2050	passed	1.2957	1.2820	1.0192 -	1.5448	passed
14	1234678-HpCDD	46.05	1.0475	0.8750 -	1.2050	passed	1.0568	1.0590	0.8419 -	1,2761	passed
15	1234789-HpCDF	46.61	1.0372	0.8750 -	1.2050	passed	1,3003	1.3231	1.0519 -	1.5943	passed
16	OCDD	49.05	0.8914	0.7550 -	1.0250	passed	1.0352	1.0214	0.8120 -	1.2308	passed
17	OCDF	49.24	0.8960	0.7550 -	1.0250	passed	0.9167	0.9329	0,7417 -	1.1241	passed
18	13C12-1278-TCDD (CRS)	32.37	0.7228	0.6450 -	0.8950	passed	1.2169	1.2842	0.8925 -	1.6759	passed
19	13C12-1234-TCDD	31.24	0.7780	0.6450 -	0.8950	passed	1.0000	1.0000	1.0000 -	1.0000	passed
20	13C12-123468-HxCDD	41.23	1.2569	1.0450 -	1.4350	passed	1.0000	1.0000	1.0000 -	1.0000	passed
21	13C12-2378-TCDF	30.95	0.8148	0.6450 -	0.8950	passed	1.8882	1.8681	1.2983 -	2.4379	passed
22	13C12-2378-TCDD	31.99	0.8083	0.6450 -	0.8950	passed	0.9967	0.9850	0.6846 -	1.2854	passed
23	13C12-12378-PeCDF	36.51	1.5820	1.3150 -	1.7850	passed	1.8136	1.7271	1.2003 -	2.2539	passed
24	13C12-23478-PeCDF	37.75	1.5704	1.3150 -	1.7850	passed	1.8781	1.7249	1,1988 -	2.2510	passed
25	13C12-12378-PeCDD	38.12	1.5817	1.3150 -	1.7850	passed	1.0187	0.9749	0.6776 -	1.2722	passed
26	13C12-123478-HxCDF	41.32	0.5246	0.4250 -	0.5950	passed	1.2577	1.2851	0.8931 -	1.6771	passed
27	13C12-123678-HxCDF	41.47	0.5359	0.4250 -	0.5950	passed	1.3149	1.3520	0.9396 -	1.7644	passed
28	13C12-234678-HxCDF	42.15	0.5198	0.4250 -	0.5950	passed	1.2141	1.2544	0.8718 -	1.6370	passed
29	13C12-123478-HxCDD	42.33	1.2747	1.0450 -	1.4350	passed	0.9513	0.9461	0.6575 -	1.2347	passed
30	13C12-123678-HxCDD	42.46	1.2535	1.0450 -	1.4350	passed	0.9638	0.9761	0.6784 -	1.2738	passed
31	13C12-123789-HxCDD	42.77	1.2404	1.0450 -	1.4350	passed	0.9202	0.9341	0.6492 -	1.2190	passed
32	13C12-123789-HxCDF	43.16	0.5318	0.4250 -	0.5950	passed	1.1880	1.1840	0.8229 -	1.5451	passed
33	13C12-1234678-HpCDF	44.84	0.4685	0.3650 -	0.5150	passed	1.1727	1.1050	0.7680 -	1.4420	passed
34	13C12-1234678-HpCDD	46.03	1.0771	0.8750 -	1.2050	passed	0.9288	0.8651	0.6012 -	1.1290	passed
35	13C12-1234789-HpCDF	46.60	0.4572	0.3650 -	0.5150	passed	0.9718	0.9436	0.6558 -	1.2314	passed
<b>3</b> 6	13C12-OCDD	49.04	0.9043	0.7550 -	1.0250	passed	0.8617	0.7794	0.5417 -	1.0171	passed
37	13C12-OCDF	49.22	0.9025	0.7550 -	1.0250	passed	1.1848	1,1485	0.7982 -	1.4988	passed
						F					



T.,	Compound	Status	QM Retention		QM		RM1	Detection	Unqualified	Adjusted		Ι -	Client
No	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode	Limit (A)	Amount (A)	Amount (A)	AdjSpecAMT	Signal-to-Noise	Flags
1	2378-TCDF	passed	30.98	186441	Α	152781	Α	0.0059	10.297268	10.2973	10.000000	4249	
2	2378-TCDD	passed	32.01	121720	А	91745	Α	0.0059	10.296230	10.2962	10.000000	4242	!
3	12378-PeCDF	passed	36.54	579990	А	917042	A	0,0065	50.487143	50.4871	50.000000	20035	i
4	23478-PeCDF	passed	37.76	670846	А	1056923	А	0.0052	50.595828	50,5958	50.000000	24628	3
5	12378-PeCDD	passed	38.15	350556	Α	553251	А	0.0129	49.687557	49.6876	50.000000	9584	ı
6	123478-HxCDF	passed	41 34	724359	А	902340	A	0.0121	49.858873	49.8589	50.000000	10456	•
7	123678-HxCDF	passed	41.49	734677	Α	918565	Α	0.0119	49.493914	49.4939	50.000000	10460	ı
8	234678-HxCDF	passed	42.16	736536	Α	927430	Α	0.0117	51.276015	51.2760	50.000000	10595	i
9	123478-HxCDD	passed	42.35	483174	А	608428	A	0.0097	50.751955	50.7520	50.000000	13032	!
10	123678-HxCDD	passed	42.47	493890	Α	618416	A	0.0094	51.193296	51.1933	50.000000	13576	•
11	123789-HxCDD	passed	42.78	488521	Α	631377	Α	0.0094	50.857803	50.8578	50.000000	13523	ı
12	123789-HxCDF	passed	43.17	634049	Α	792409	Α	0.0127	47.156668	47.1567	50.000000	9259	ı
13	1234678-HpCDF	passed	44.86	825215	Α	852071	Α	0.0156	50.530698	50.5307	50.000000	7993	
14	1234678-HpCDD	passed	46.05	529221	Α	554363	Α	0.0153	49.898481	49.8985	50.000000	8036	i
15	1234789-HpCDF	passed	46.61	684747	Α	710190	Α	0.0182	49,135580	49.1356	50.000000	6684	
16	OCDD	passed	49.05	1041242	Α	928115	A	0.0153	101.351009	101.3510	100.000000	16040	ı
17	OCDF	passed	49.24	1264724	Α	1133209	Α	0.0106	98.265618	98.2656	100.000000	23576	i
18	13C12-1278-TCDD (CRS)	passed	32.37	119075	А	86071	Α	0.0137	9.476062	9.4761	10.000000	1680	
19	13C12-1234-TCDD	passed	31.24	948145	Α	737673	A	0.0190	100.000000	100.0000	100.000000	13177	,
20	13C12-123468-HxCDD	passed	41.23	978273	А	1229553	А	0.0191	100.000000	100.0000	100.000000	13075	i
21	13C12-2378-TCDF	passed	30.95	1753944	Α	1429193	A	0.0057	101.077563	101.0776	100.000000	42819	ı
22	13C12-2378-TCDD	passed	31.99	929204	А	751121	Α	0.0193	101,193999	101.1940	100.000000	13896	i
23	13C12-12378-PeCDF	passed	36.51	1184091	Α	1873273	Α	0.0247	105.009709	105.0097	100.000000	13434	
24	13C12-23478-PeCDF	passed	37.75	1231765	Α	1934305	Α	0.0247	108.881188	108.8812	100.000000	15160	
25	13C12-12378-PeCDD	passed	38.12	665213	Α	1052198	Α	0.0160	104.499357	104.4994	100.000000	22234	
26	13C12-123478-HxCDF	passed	41.32	1821377	Α	955409	Α	0.0256	97.864460	97.8645	100.000000	9491	
27	13C12-123678-HxCDF	passed	41.47	1890130	Α		^	0.0244	97.252534	97.2525	100.000000	9805	
28	13C12-234678-HxCDF	passed	42.15	1763702	Α	916815	Α	0.0263	96.786933	96.7869	100.000000	9482	
29	13C12-123478-HxCDD	passed	42.33	923302	Α			0.0202	100.550420	100.5504	100.000000	12921	
30	13C12-123678-HxCDD	passed	42.46	944242	Α			0.0196	98.739997	98.7400	100.000000	13253	
31	13C12-123789-HxCDD	passed	42.77	906864	Α		, ,	0.0205	98.512181	98.5122	100.000000	12529	
32	13C12-123789-HxCDF	passed	43.16	1712246	Α		, ,	0.0278	100.334695	100.3347	100.000000	9226	
33	13C12-1234678-HpCDF	passed	44.84	1763152	Α		,,	0.0288	106.128840	106.1288	100.000000	9666	
34	13C12-1234678-HpCDD	passed	46.03	987277	Α	1063403	,,	0.0278	107.367013	107.3670	100.000000	10364	
35	13C12-1234789-HpCDF	passed	46.60	1472380	A	673236		0.0337	102.985920	102.9859	100,000000	8208	
36	13C12-OCDD	passed	49.04	1998066	Α	1806819	Α	0.0169	221.109950	221.1099	200.000000	36924	
37	13C12-OCDF	passed	49.22	2749823	Α	2481667	Α	0.0173	206.322230	206.3222	200.000000	33313	

File Name: Y:\17FEB07\17FEB07-14 Acq. Data: 2/7/2017 9:33:53 PM Instrument ID: DF18471-17FEB07 Sample ID: CS3CC03 Sample Name: VER-CALDF41737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 1089 NL: 1357 1030 729 1192 820 30.03 4.57E5 25.43 29.02 34.61 100 23.07 23.87 31.79 m/z=291.9825-80 292.9825 MS 60 17FEB07-14 40-20 0 1570 NL: 1622 1553 1364 37.98 6.00E5 <u>38</u>.78 37.71 100-34,80 m/z=330.4792-80-331.4792 MS 60-17FEB07-14 40-20-0 NL: 1672 2014 1697 3.51E5 39.63 44.23 39,96 100m/z=1558 1396 1365 380.4760-37.79 Relative Abundance 35.30 80-34,82 381.4760 MS 60-17FEB07-14 40 20-0. 2194 NL: 2087 9.26E4 46.81 2274 100-2031 45.33 47.91 m/z=44.55 404.4760-2281 80-48,01 405.4760 MS 60-17FEB07-14 40 20 0 2498 NL: 50,99 1.19E5 2329 100-2283 48.73 m/z=48,12 442.4728-80 443.4728 MS 60-17FEB07-14 40 20-0-AIL01 Page 440 of 560 24 42 28y uma98t 12:02 3m, 2/9/18 40 By UMJS at 12:42 pn9,62/9/17 Time (min)

```
17FEB07-14
```

*** file opened Tue Feb 07 21:39:19 2017 ***

Started by - Xcalibur Instrument Internet name - DFS MS Instrument model - DFS MS Instrument service number - SN0000xxxx Workstation internet name - LX18470

Analysis started at: 07-Feb-17 21:39:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

#### Mid Time Windows: Start

	Start	Measure	End	Cycletime
# 3	21:00 min 34:36 min 39:30 min 44:15 min	4:53 min 4:45 min 3:45 min	34:36 min	1.00 sec 1.00 sec 0.90 sec 0.80 sec 0.80 sec 0.80 sec

Mia Masses:		
Window # 1		
mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723 window # 2	int gr 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2 1 2 1 2	time (ms) 95 4 95 47 47 95 95 47 47 95 95 47 47
mass F 292.9819 1 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	int gr 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118

Page 1





```
331.9363
                             23
                    1
 333.9333
                5
                    1
                             23
 339.8592
                            118
 341.8562
                 1
                    1
                            118
 354.9787 c
               20
                    1
                               5
                              59
 375.8364
                    1
Window # 3
      mass F
               int
                     gr
                          time (ms)
               20
 330.9787
                    1
                               6
 339.8592
                1
                    1
                            133
 341.8562
                1
                    1
                            133
 351.8994
                             44
                    1
 353.8965
                    1
                              44
                 3
 355.8541
                1
                    1
                            133
 357.8511
                1
                    1
                            133
 367.8943
                 3
                    1
                             44
 369.8914
                    1
                              44
 380.9755 c
               20
                    1
                               6
                    1
 409.7969
                2
                             66
Window # 4
      mass F
               int
                     gr
                          time (ms)
 373.8201
                    1
                1
                            117
 375.8172
                1
                    1
                            117
 380.9755
               20
                    1
 383.8634
                    1
                              39
                 3
                3
                              39
 385.8604
                    1
 389.8151
                1
                    1
                            117
 391.8121
                    1
                            117
 401.8554
                             39
                    1
 403.8524
                    1
                              39
 430.9723 c
                    1
                               5
               20
 445.7550
                    1
                              58
Window # 5
     mass F
               int
                          time (ms)
                     gr
                               5
 404.9755
               20
                    1
 407.7812
                1
                    1
                            117
 409.7783
417.8244
                1
                            117
                              39
                 3
                    1
 419.8215
                              39
                3
                    1
 423.7761
                1
                    1
                            117
 425.7732
                    1
                            117
 435.8164
                 3
                              39
                    1
                3
2
 437.8134
                    1
                             39
 479.7160
                              58
                    1
 480.9691 c
               20
                               5
Window # 6
     mass F
                          time (ms)
               int
                     gr
 441.7422
                1
                    1
                             95
 442.9723
               20
                    1
                               4
 443.7393
                             95
95
                1
                    1
 453.7825
                1
 455.7795
                1
                             95
                    1
 457.7372
                1
                    1
                             95
 459.7342
                    1
                             95
 469.7774
                3
                              31
                3
 471.7745
                              31
                    1
 492.9691 c
                              4
               20
                    1
                             47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU BQUAD	1000.0000 0.0500	BCORRS CAPIL	0.0170 0.0000	BMASS CAPTSET	98.5000 0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0297	FVSRC	0.0286
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000 0.4030
HVSRC ICAL2	0.0000 0.5865	ICALO	$0.0011 \\ 0.0000$	ICAL1 IST	0.4030
ISTC	260.0000	IONEN ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LENS_POT	500.0000
LMASS	98.5000	LKM	442.9723	MASS	98.5000
MDAC	1466744.8101	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2525.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8982	RELEN	0.0000
RES	12487.8137	RPUSHER	-8.6374	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.7e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

## Sourcemode is EI POS

```
MID Time Window 1: Resolution is 11542.
MID Time Window 2: Resolution is 12270.
MID Time Window 3: Resolution is 11749.
MID Time Window 4: Resolution is 12327.
Page 3
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17FEB07-14

MID Time Window 5: Resolution is 11640. MID Time Window 6: Resolution is 12487.

Amplifier Offset: 88.

*** File closed Tue Feb 07 22:30:21 2017

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#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 10:03

Number of Entries 153

Comment

Vial 6

Sample Name VER-CALDF41737A

Sample ID CS3CC04

Inst ID DF18471-17FEB07

Client

jda02741 Analyst

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-28-8290.quan

Data y:\17feb07\17feb07-28.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1

**Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 1.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

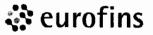
Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0

AIL01 Page 445 of 560





Name	No.	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status
2 2378-TCDD 32.05 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passe			Time	Overview	Status	Status	Status	Status	Time Status	Info
12378 PACCF   39.58   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed		2378-TCDF	31.00	passed	passed	passed	passed	passed	passed	
23478-PR-CDF   37.78   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passe		2378-TCDD	32.05	passed	passed	passed	passed	passed	passed	
5         12378-PRCDD         38.16 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed pa		12378-PeCDF	36.56	passed	passed	passed	passed	passed	passed	
123478-HxCDF		23478-PeCDF	37.78	passed	passed	passed	passed	passed	passed	
7 123978-HxCDF 41:50 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed pa		12378-PeCDD	38.16	passed	passed	passed	passed	passed	passed	
### 244678-HACDF ### 42.16 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed pas		123478-HxCDF	41.35	passed	passed	passed	passed	passed	passed	
123478-HXCDD		123678-HxCDF	41.50	passed	passed	passed	passed	passed	passed	
10   123878-HxCDD   42.49   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed		234678-HxCDF	42.18	passed	passed	passed	passed	passed	passed	
11         123789-HxCDD         42.80         passed         passed         passed         passed         passed         passed           12         123789-HxCDF         43.19         passed         passed         passed         passed         passed         passed           13         1234678-HpCDD         46.06         passed         passed         passed         passed         passed         passed           15         1234789-HpCDF         46.63         passed         passed         passed         passed         passed         passed           16         OCDD         49.06         passed         passed         passed         passed         passed         passed           18         13C12-1278-TCDD (CRS)         32.41         passed         passed         passed         passed         passed         passed         passed           19         13C12-1278-TCDD         31.26         passed		123478-HxCDD	42.37	passed	passed	passed	passed	passed	passed	
123789-HxCDF		123678-HxCDD	42.49	passed	passed	passed	passed	passed	passed	
13         1234678-HpCDF         44.87         passed         passe		123789-HxCDD	42.80	passed	passed	passed	passed	passed	passed	
14         1234678-HpCDD         46.06         passed         passe		123789-HxCDF	43.19	passed	passed	passed	passed	passed	passed	
15 1234789-hpCDF 46.63 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed		1234678-HpCDF	44.87	passed	passed	passed	passed	passed	passed	
Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   Passed   P		1234678-HpCDD	46.06	passed	passed	passed	passed	passed	passed	
17		1234789-HpCDF	46.63	passed	passed	passed	passed	passed	passed	
18         13C12-1278-TCDD (CRS)         32.41         passed         passed         passed         passed         passed           19         13C12-1234-TCDD         31.26         passed         passed         passed         passed         passed           20         13C12-12346-HxCDD         41.25         passed         passed         passed         passed         passed           21         13C12-2378-TCDF         30.97         passed         passed         passed         passed         passed         passed           22         13C12-2378-TCDD         32.01         passed         passed         passed         passed         passed         passed           23         13C12-12378-PeCDF         36.55         passed         passed <t< th=""><th></th><th>OCDD</th><th>49.06</th><th>passed</th><th>passed</th><th>passed</th><th>passed</th><th>passed</th><th>passed</th><th></th></t<>		OCDD	49.06	passed	passed	passed	passed	passed	passed	
19         13C12-1234-TCDD         31.26         passed         passed         passed         passed         passed           20         13C12-123468-HxCDD         41.25         passed         passed         passed         passed           21         13C12-2378-TCDF         30.97         passed         passed         passed         passed           22         13C12-2378-TCDD         32.01         passed         passed         passed         passed           23         13C12-12378-PeCDF         35.55         passed         passed         passed         passed         passed           24         13C12-23478-PeCDF         37.76         passed         p				passed	passed	passed	passed	passed	passed	
20         13C12-123468-HxCDD         41.25         passed passed passed passed passed passed passed passed         passed passed passed passed passed passed passed           21         13C12-2378-TCDF         30.97         passed passed passed passed passed passed passed passed passed         passed passed passed passed passed passed           22         13C12-2378-TCDD         32.01         passed passed passed passed passed passed passed passed passed         passed passed passed passed passed passed passed           24         13C12-23478-PeCDF         37.76         passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed p		13C12-1278-TCDD (CRS)	32.41	passed	passed	passed	passed	passed	passed	
21         13C12-2378-TCDF         30.97         passed         passed         passed         passed           22         13C12-2378-TCDD         32.01         passed         passed         passed         passed           23         13C12-12378-PeCDF         36.55         passed         passed         passed         passed           24         13C12-23478-PeCDF         37.76         passed         passed         passed         passed           25         13C12-12378-PeCDD         38.13         passed         passed         passed         passed           26         13C12-123478-HxCDF         41.34         passed         passed         passed         passed           27         13C12-123678-HxCDF         41.49         passed         passed         passed         passed         passed           28         13C12-123678-HxCDF         42.16         passed         passed         passed         passed         passed           29         13C12-123478-HxCDD         42.35         passed         passed         passed         passed         passed           30         13C12-1234678-HxCDD         42.47         passed         passed         passed         passed         passed		13C12-1234-TCDD	31.26	passed	passed	passed	passed	passed	passed	
13C12-2378-TCDD   32.01   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   pa		13C12-123468-HxCDD	41.25	passed	passed	passed	passed	passed	passed	
23       13C12-12378-PeCDF       36.55       passed       passed       passed       passed       passed       passed         24       13C12-23478-PeCDF       37.76       passed       passed       passed       passed       passed         25       13C12-12378-PeCDD       38.13       passed       passed       passed       passed       passed         26       13C12-123478-HxCDF       41.34       passed       passed       passed       passed       passed         27       13C12-123678-HxCDF       41.49       passed       passed       passed       passed       passed       passed         28       13C12-123478-HxCDF       42.16       passed       passed       passed       passed       passed       passed         29       13C12-123478-HxCDD       42.35       passed       passed       passed       passed       passed       passed         30       13C12-123678-HxCDD       42.47       passed       passed       passed       passed       passed         31       13C12-123678-HxCDD       42.78       passed       passed       passed       passed       passed         32       13C12-123769-HxCDF       43.17       passed       passed		13C12-2378-TCDF	30.97	passed	passed	passed	passed	passed	passed	
24         13C12-23478-PeCDF         37.76         passed         passed         passed         passed           25         13C12-12378-PeCDD         38.13         passed         passed         passed         passed           26         13C12-123478-HxCDF         41.34         passed         passed         passed         passed           27         13C12-123678-HxCDF         41.49         passed         passed         passed         passed           28         13C12-234678-HxCDF         42.16         passed         passed         passed         passed           29         13C12-123478-HxCDD         42.35         passed         passed         passed         passed         passed           30         13C12-123678-HxCDD         42.47         passed         passed         passed         passed         passed         passed           31         13C12-123789-HxCDD         42.78         passed         passed         passed         passed         passed         passed           32         13C12-123789-HxCDF         43.17         passed         passed         passed         passed         passed         passed           33         13C12-1234678-HpCDF         44.86         passed         passed<		13C12-2378-TCDD		•	passed	passed	passed	passed	passed	
25         13C12-12378-PeCDD         38.13         passed         passed         passed         passed           26         13C12-123478-HxCDF         41.34         passed         passed         passed         passed           27         13C12-123478-HxCDF         41.49         passed         passed         passed         passed           28         13C12-234678-HxCDF         42.16         passed         passed         passed         passed           29         13C12-123478-HxCDD         42.35         passed         passed         passed         passed           30         13C12-123678-HxCDD         42.47         passed         passed         passed         passed           31         13C12-123789-HxCDD         42.78         passed         passed         passed         passed           32         13C12-123789-HxCDF         43.17         passed         passed         passed         passed           33         13C12-1234678-HpCDF         44.86         passed         passed         passed         passed           34         13C12-123478-HpCDF         46.62         passed         passed         passed         passed           35         13C12-123478-HpCDF         46.62         pass		13C12-12378-PeCDF	36.55	passed	passed	passed	passed	passed	passed	
26 13C12-123478-HxCDF 41.94 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed pa		13C12-23478-PeCDF	37.76	passed	passed	passed	passed	passed	passed	
27       13C12-123678-HxCDF       41.49       passed       passed       passed       passed       passed       passed         28       13C12-234678-HxCDF       42.16       passed       passed       passed       passed       passed         29       13C12-123478-HxCDD       42.35       passed       passed       passed       passed       passed         30       13C12-123678-HxCDD       42.47       passed       passed       passed       passed       passed         31       13C12-123789-HxCDD       42.78       passed       passed       passed       passed       passed         32       13C12-123789-HxCDF       43.17       passed       passed       passed       passed       passed         33       13C12-1234678-HpCDF       44.86       passed       passed       passed       passed       passed         34       13C12-1234678-HpCDD       46.05       passed       passed       passed       passed       passed       passed         35       13C12-1234799-HpCDF       46.62       passed       passed       passed       passed       passed       passed         36       13C12-0CDD       49.06       passed       passed       passed       <		13C12-12378-PeCDD		<b>,</b>	passed	passed	passed	passed	passed	
28       13C12-234678-HxCDF       42.16       passed       passed       passed       passed       passed       passed         29       13C12-123478-HxCDD       42.35       passed       passed       passed       passed       passed         30       13C12-123678-HxCDD       42.47       passed       passed       passed       passed       passed         31       13C12-123789-HxCDD       42.78       passed       passed       passed       passed       passed         32       13C12-123789-HxCDF       43.17       passed       passed       passed       passed       passed         33       13C12-1234678-HpCDF       44.86       passed       passed       passed       passed       passed         34       13C12-1234678-HpCDD       46.05       passed       passed       passed       passed       passed         35       13C12-1234799-HpCDF       46.62       passed       passed       passed       passed       passed         36       13C12-OCDD       49.06       passed       passed       passed       passed       passed       passed					passed	passed	passed	passed	passed	
29   13C12-123478-HxCDD   42.35   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   passed   pas				,	passed	passed	passed	passed	passed	
13C12-123678-HxCDD 42.47 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passe				•	passed	passed	passed	passed	passed	
31     13C12-123789-HxCDD     42.78     passed     passed     passed     passed     passed       32     13C12-123769-HxCDF     43.17     passed     passed     passed     passed     passed       33     13C12-1234678-HpCDF     44.86     passed     passed     passed     passed     passed       34     13C12-1234678-HpCDD     46.05     passed     passed     passed     passed     passed       35     13C12-1234789-HpCDF     46.62     passed     passed     passed     passed     passed       36     13C12-OCDD     49.06     passed     passed     passed     passed     passed				passed	passed	passed	passed	passed	passed	
32     13C12-123769-HxCDF     43.17     passed     passed     passed     passed     passed       33     13C12-1234678-HpCDF     44.86     passed     passed     passed     passed     passed       34     13C12-1234678-HpCDD     46.05     passed     passed     passed     passed     passed       35     13C12-1234789-HpCDF     46.62     passed     passed     passed     passed     passed       36     13C12-OCDD     49.06     passed     passed     passed     passed     passed						passed	passed		passed	
33 13C12-1234678-HpCDF 44.86 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed p		13C12-123789-HxCDD	42.78	passed	passed	passed	passed	passed	passed	
34 13C12-1234678-HpCDD 46.05 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed p		13C12-123789-HxCDF		passed	passed	passed	passed	passed	passed	
35 13C12-1234789-HpCDF 46.62 passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed passed p		13C12-1234678-HpCDF		,	passed	passed	passed	passed	passed	
36 13C12-OCDD 49.06 passed passed passed passed passed passed		13C12-1234678-HpCDD		passed	passed	passed	passed	passed	passed	
27		,		passed	passed	passed	passed	passed	passed	
37 13C12-OCDF 49.24 passed passed passed passed passed		13C12-OCDD	49.06	passed	passed	passed	passed	passed	passed	
	37	13C12-OCDF	49.24	passed	passed	passed	passed	passed	passed	





#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data

2017/02/08 10:03

Number of Entries

153

Comment

Vial

Sample Name

VER-CALDF41737A

Sample ID

CS3CC04

Inst ID

DF18471-17FEB07

Client

Analyst

jda02741

GC Column

DB5MS 60 M x 0.25um x 0.25mm

BatchNo Barcode

**Files Parameter** 

Quan

y:\17feb07\17feb07-28-8290.quan

Data

y:\17feb07\17feb07-28.raw

Response

y:\responsefiles\df18471-17jan31dfical.resp

Script

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

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Mass Ref

Quan Parameter

QualBrowser Compatibility

Compatibility off

Sum Area/Height

Sum QM RM1

**Quantitation Status** 

Dependend on Area

Injection Volume [hIJV]

1.0

Sample Volume [hSV]

1.0

Sample Weight [hSWT]

1.0

Dilution Factor [hDF]

1.0

Det. Limit Factor [hDLF]

2.5

Response Factor Mode

Average RF

Fit Calc. Mode

Linear Fit

Regression Mode

Non weighted Regression

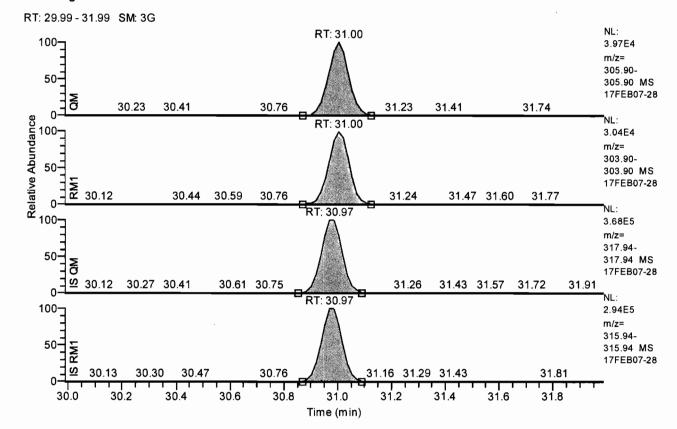
Weighted Regression Factor

1.0





#### Chromatogram



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#### **Entry Parameters**

Compound Name

QM Retention Time 31.00 QM Area 211967 QM Integration Mode Α RM1 Area 163645 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0065 Unqualified Amount (A) 10.026235 Adjusted Amount (A) 10.0262 3922 Signal-to-Noise

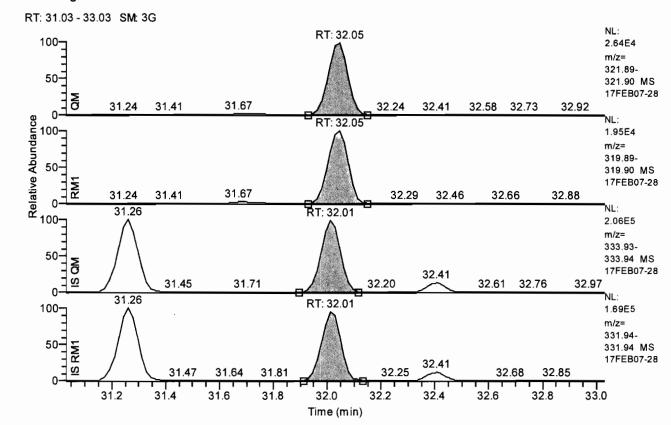
2378-TCDF

Client Flags

Status Overview passed



#### Chromatogram

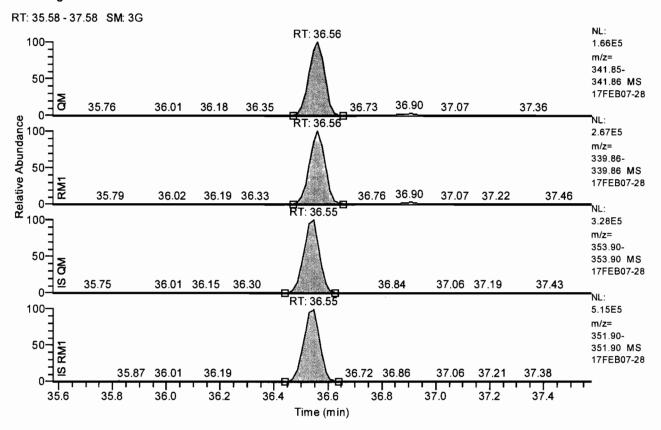


#### **Entry Parameters**

Compound Name 2378-TCDD QM Retention Time 32.05 QM Area 134077 QM Integration Mode RM1 Area 102753 RM1 Integration Mode Α ManInt 0.0067 Detection Limit (A) Unqualified Amount (A) 10.274205 Adjusted Amount (A) 10.2742 Signal-to-Noise 3801 Client Flags Status Overview passed



#### Chromatogram

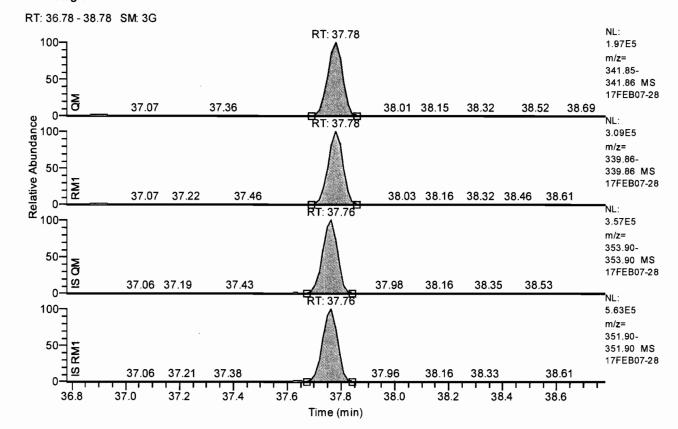


#### **Entry Parameters**

Compound Name 12378-PeCDF QM Retention Time 36.56 QM Area 672905 QM Integration Mode RM1 Area 1070113 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0049 Unqualified Amount (A) 51.164132 Adjusted Amount (A) 51.1641 Signal-to-Noise 27184 Client Flags Status Overview passed Status Info



#### Chromatogram



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#### **Entry Parameters**

Compound Name

23478-PeCDF

QM Retention Time

37.78

QM Area

761885

QM Integration Mode RM1 Area

Α 1189277

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0040

Unqualified Amount (A)

50.432100 50.4321

Adjusted Amount (A) Signal-to-Noise

31749

Client Flags

Status Overview

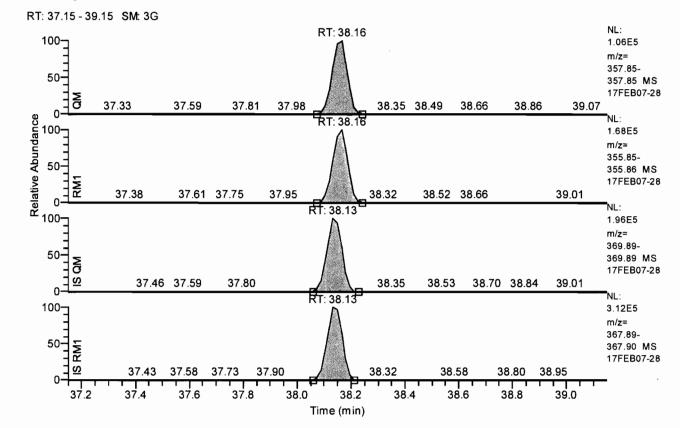
passed





## neurofins :





#### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.16

QM Area

416042

QM Integration Mode

Α

RM1 Area

654150

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0141

Unqualified Amount (A)

50.497473

Adjusted Amount (A)

50.4975

Signal-to-Noise

8993

Client Flags

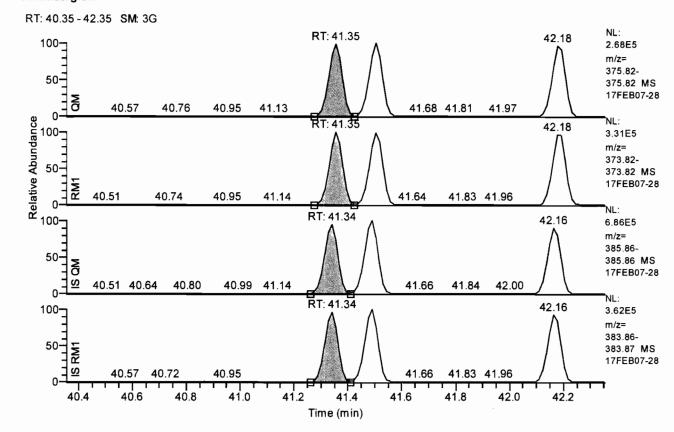
Status Overview

passed





#### Chromatogram



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#### **Entry Parameters**

Compound Name

123478-HxCDF

QM Retention Time

41.35

QM Area

912020

QM Integration Mode

RM1 Area RM1 Integration Mode 1135170 Α

ManInt

Detection Limit (A)

0.0116

Unqualified Amount (A)

50.564220

Adjusted Amount (A)

50.5642 10914

Signal-to-Noise Client Flags

Status Overview

passed

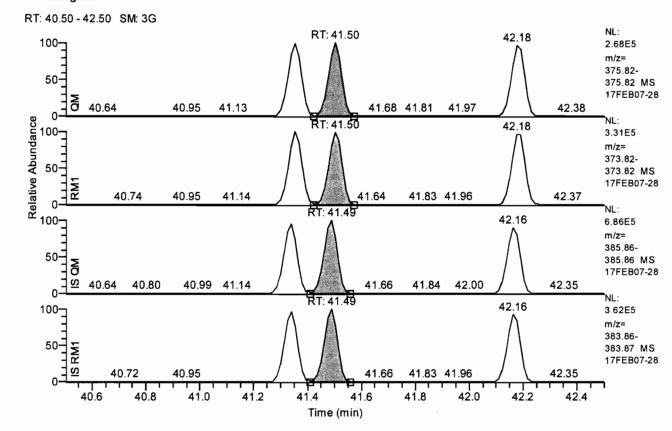
Status Info

TargetQuan3





#### Chromatogram



#### **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.50

QM Area

908588

QM Integration Mode

RM1 Area

1130843

RM1 Integration Mode

Α

ManInt

0.0113

Detection Limit (A) Unqualified Amount (A)

49.292628

Adjusted Amount (A)

49.2926

Signal-to-Noise

10919

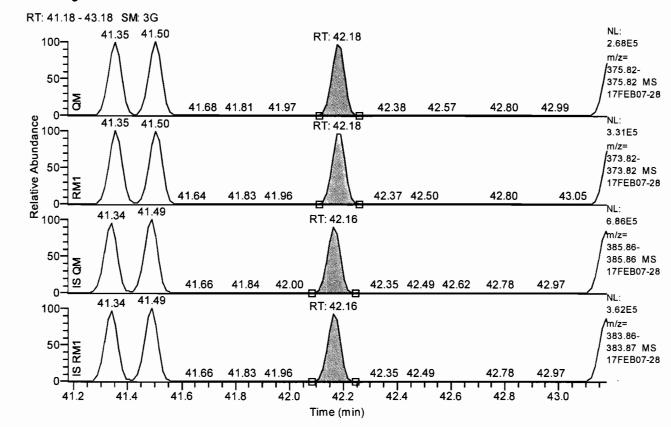
Client Flags

Status Overview

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name 234678-HxCDF

QM Retention Time 42.18 QM Area 880891 QM Integration Mode RM1 Area 1108930 RM1 Integration Mode

ManInt Detection Limit (A) 0.0118 Unqualified Amount (A) 50.462030 Adjusted Amount (A) 50.4620 Signal-to-Noise 10571

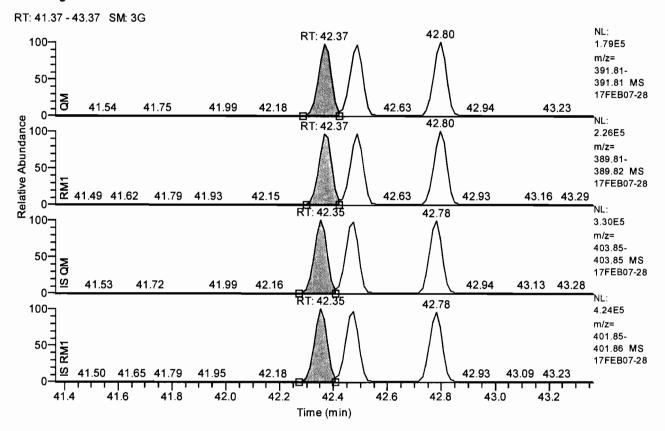
Client Flags

Status Overview passed





#### Chromatogram



#### **Entry Parameters**

Compound Name 123478-HxCDD

QM Retention Time 42.37 QM Area 575336

QM Integration Mode

RM1 Area 726854

RM1 Integration Mode Α Manint

Detection Limit (A) 0.0116 Unqualified Amount (A) 50.728331

Adjusted Amount (A) 50.7283

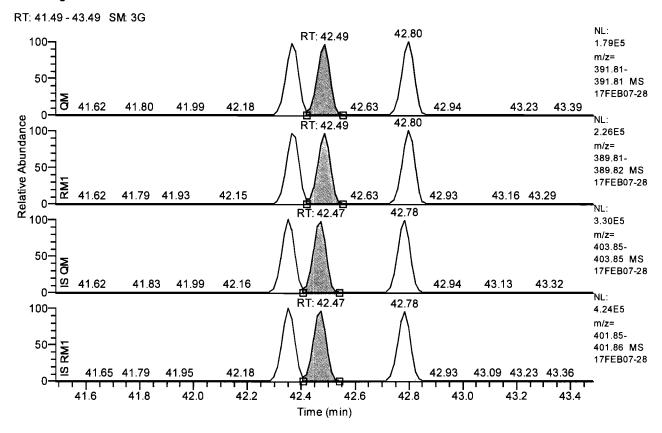
Signal-to-Noise 10924 Client Flags

Status Overview passed





#### Chromatogram



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#### **Entry Parameters**

Compound Name 123678-HxCDD QM Retention Time 42.49 QM Area 576266 QM Integration Mode Α 725509 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0120 Unqualified Amount (A) 51.090887 Adjusted Amount (A) 51.0909 10869

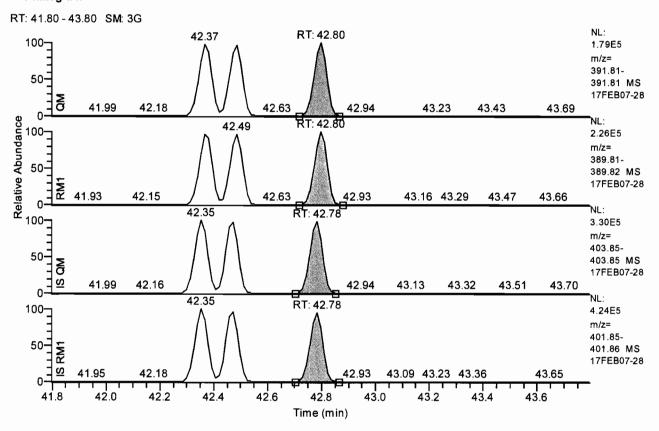
Signal-to-Noise Client Flags

Status Overview passed





#### Chromatogram



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#### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.80

QM Area

589489

QM Integration Mode

RM1 Area

749660

RM1 Integration Mode

Α

ManInt

0.0113

Detection Limit (A) Unqualified Amount (A)

51.077936

Adjusted Amount (A)

51.0779

Signal-to-Noise

11252

Client Flags

Status Overview

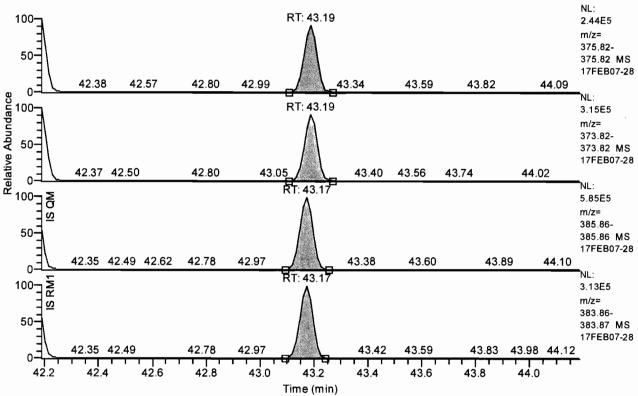
passed

Status Info

TargetQuan3

#### Chromatogram





#### **Entry Parameters**

Compound Name 123789-HxCDF

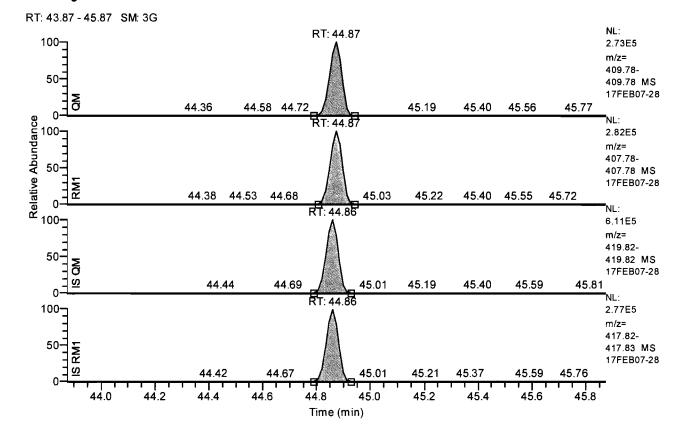
QM Retention Time 43.19 QM Area 756611 QM Integration Mode Α RM1 Area 969890 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0132 Unqualified Amount (A) 49.243239 Adjusted Amount (A) 49.2432 Signal-to-Noise 9335

Client Flags

Status Overview passed



#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.87

QM Area

888766

QM Integration Mode

Α

RM1 Area

919392

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A) 0.0138 49.344911

Adjusted Amount (A)

49.3449

Signal-to-Noise

8846

Client Flags

Status Overview

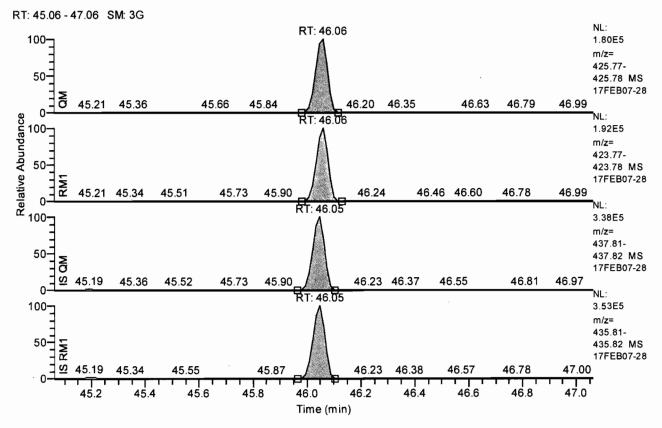
passed





### eurofins Lancaster





#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.06

QM Area

574773

QM Integration Mode

Α

RM1 Area

600907 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0191

Unqualified Amount (A)

50.679330

Adjusted Amount (A)

50.6793

Signal-to-Noise Client Flags

Status Overview

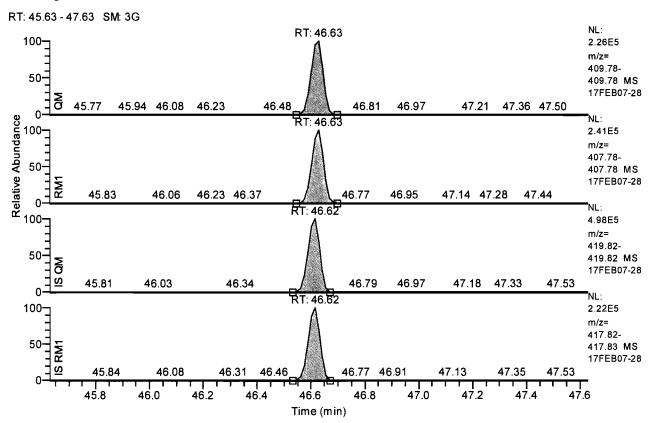
passed

6633





#### Chromatogram



#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.63

QM Area

734739

QM Integration Mode

Α

RM1 Area

764859

RM1 Integration Mode

Α

ManInt Detection Limit (A)

0.0165

Unqualified Amount (A)

49.937723

Adjusted Amount (A)

49.9377

Signal-to-Noise

7441

Client Flags

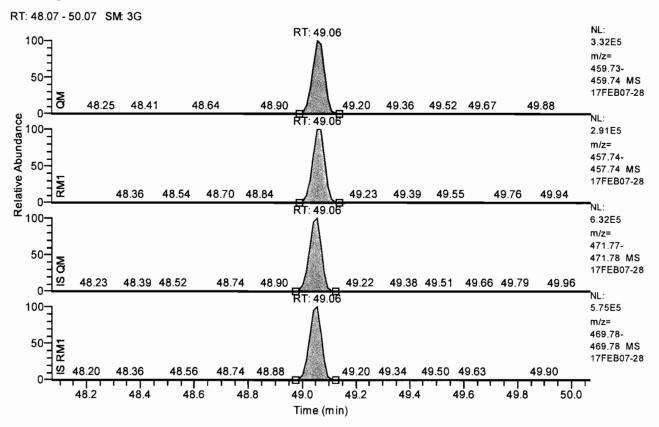
Status Overview

passed





#### Chromatogram

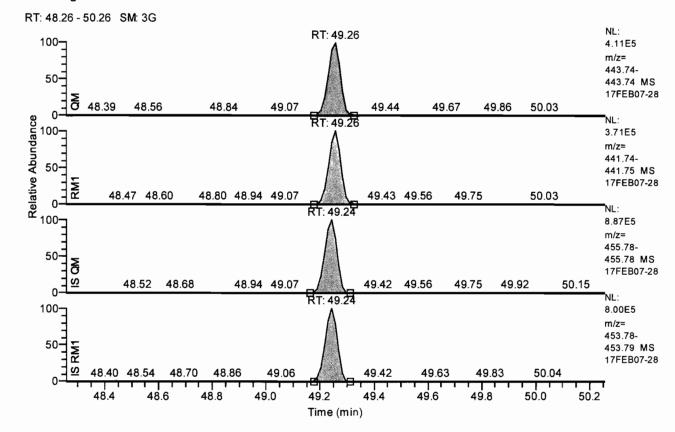


#### **Entry Parameters**

Compound Name OCDD 49.06 QM Retention Time QM Area 1044572 QM Integration Mode RM1 Area 930738 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0185 Unqualified Amount (A) 102.154103 Adjusted Amount (A) 102.1541 Signal-to-Noise 13689 Client Flags Status Overview passed Status Info



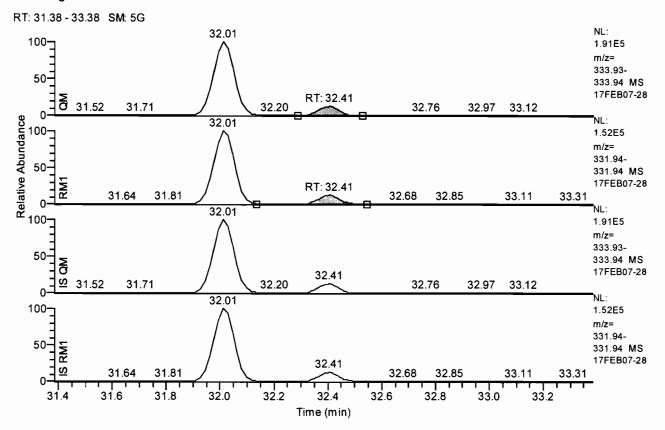
#### Chromatogram



Compound Name	OCDF
QM Retention Time	49.26
QM Area	1280674
QM integration Mode	Α
RM1 Area	1145102
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0128
Unqualified Amount (A)	98.363268
Adjusted Amount (A)	98.3633
Signal-to-Noise	19330
Client Flags	
Status Overview	passed
Status Info	



#### Chromatogram



AIL01 Page 465 of 560

#### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.41

QM Area

132045

QM Integration Mode

Α

RM1 Area

108149 Α

RM1 Integration Mode ManInt

Detection Limit (A)

Unqualified Amount (A)

0.0077 9.535057

Adjusted Amount (A)

9.5351

Signal-to-Noise

2997

Client Flags

Status Overview

passed







No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	31.00	31.00	31.00	30.97	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.05	32.05	32.05	32.01	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.56	36.56	36.56	36.55	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339,8597 +/- 5 ppm	37.78	37.78	37.78	37.76	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.16	38.16	38.16	38.13	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.35	41.35	41.35	41.34	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.50	41.50	41.50	41.49	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.18	42.18	42.18	42.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.37	42.37	42.37	42.35	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.49	42.49	42.49	42.47	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.80	42.80	42.80	42.78	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.19	43.19	43.19	43.17	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.87	44.87	44.87	44.86	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.06	46.06	46.06	46.05	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.63	46.63	46.63	46.62	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.06	49.06	49.06	49.06	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.26	49.26	49.26	49.24	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.41	32.41	32.41	32.41	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.26	31.26	31.26	31.26	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.25	41.25	41.25	41.25	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.97	30.97	30.97	31.00	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.01	32.01	32.01	32.01	passed	passed
23	13C12-12378-PeCDF	353,8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.55	36.55	36.55	36.70	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.76	37.76	37.76	37.70	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.13	38.13	38.13	38.13	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.34	41.34	41.34	41.38	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.49	41.49	41.49	41.48	passed	passed
28	13C12-234678-HxCDF	385,8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.16	42.16	42.16	42.15	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.35	42.35	42.35	42.35	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.47	42.47	42.47	42.47	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.78	42.78	42.78	42.78	passed	passed
<b>3</b> 2	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.17	43.17	43.17	43.24	passea	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.86	44.86	44.86	44.89	passea	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.05	46.05	46.05	46.05	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.62	46.62	46.62	46.57	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.06	49.06	49.06	49.06	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.24	49.24	49.24	49.23	passed	passed



No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit		Ratio 1 Status	Calculated RF (A)	Response File RF (A)	RF Limit		RF Status
1	2378-TCDF	31.00	0.7720	0.6450 -	0.8950	passed	1.0376	1.0349	0.8227 -	1.2471	passed
2	2378-TCDD	32.05	0.7664	0.6450 -	0.8950	passed	1.2677	1,2338	0.9809 -	1.4867	passed
3	12378-PeCDF	36.56	1.5903	1.3150 -	1.7850	passed	0.9924	0.9698	0.7710 -	1.1686	passed
4	23478-PeCDF	37.78	1.5610	1.3150 -	1.7850	passed	1.0879	1.0786	0.8575 -	1.2997	passed
5	12378-PeCDD	38.16	1.5723	1.3150 -	1.7850	passed	1.0697	1.0591	0.8420 -	1.2762	passed
6	123478-HxCDF	41,35	1,2447	1.0450 -	1,4350	passed	1,1882	1,1750	0.9341 -	1.4159	passed
7	123678-HxCDF	41,50	1.2446	1.0450 -	1.4350	passed	1.1343	1,1506	0.9147 -	1.3865	passed
8	234678-HxCDF	42.18	1.2589	1.0450 -	1,4350	passed	1.2218	1.2106	0.9624 -	1.4588	passed
9	123478-HxCDD	42.37	1.2634	1,0450 -	1.4350	passed	1.0390	1.0241	0.8142 -	1.2340	passed
10	123678-HxCDD	42.49	1.2590	1.0450 -	1.4350	passed	1.0434	1.0211	0.8118 -	1.2304	passed
11	123789-HxCDD	42.80	1.2717	1.0450 -	1.4350	passed	1,1072	1.0838	0.8616 -	1.3060	passed
12	123789-HxCDF	43.19	1.2819	1.0450 -	1.4350	passed	1.1358	1.1533	0.9169 -	1.3897	passed
13	1234678-HpCDF	44.87	1.0345	0.8750 -	1.2050	passed	1.2652	1.2820	1.0192 -	1.5448	passed
14	1234678-HpCDD	46.06	1.0455	0.8750 -	1.2050	passed	1.0733	1.0590	0.8419 -	1.2761	passed
15	1234789-HpCDF	46.63	1.0410	0.8750 -	1.2050	passed	1.3215	1.3231	1.0519 -	1.5943	passed
16	OCDD	49.06	0.8910	0.7550 -	1.0250	passed	1,0434	1.0214	0.8120 -	1.2308	passed
17	OCDF	49.26	0.8941	0.7550 -	1.0250	passed	0.9176	0.9329	0.7417 -	1.1241	passed
18	13C12-1278-TCDD (CRS)	32.41	0.8190	0.6450 -	0.8950	passed	1.2245	1.2842	0.8925 -	1.6759	passed
19	13C12-1234-TCDD	31.26	0.8107	0.6450 -	0.8950	passed	1.0000	1.0000	1.0000 -	1,0000	passed
20	13C12-123468-HxCDD	41.25	1.2592	1.0450 -	1.4350	passed	1.0000	1.0000	1.0000 -	1.0000	passed
21	13C12-2378-TCDF	30.97	0.7872	0.6450 -	0.8950	passed	1,8454	1.8681	1.2983 -	2.4379	passed
22	13C12-2378-TCDD	32.01	0.7948	0.6450 -	0.8950	passed	0.9524	0.9850	0.6846 -	1.2854	passed
23	13C12-12378-PeCDF	36.55	1.6059	1.3150 -	1.7850	passed	1.7907	1.7271	1.2003 -	2.2539	passed
24	13C12-23478-PeCDF	37.76	1.5908	1.3150 -	1.7850	passed	1.8286	1.7249	1.1988 -	2.2510	passed
25	13C12-12378-PeCDD	38.13	1.6123	1.3150 -	1.7850	passed	1.0201	0.9749	0.6776 -	1.2722	passed
26	13C12-123478-HxCDF	41.34	0.5317	0.4250 -	0.5950	passed	1.2001	1.2851	0.8931 -	1.6771	passed
27	13C12-123678-HxCDF	41.49	0.5241	0.4250 -	0.5950	passed	1.2523	1.3520	0.9396 -	1.7644	passed
28	13C12-234678-HxCDF	42.16	0.5353	0.4250 -	0.5950	passed	1.1344	1.2544	0.8718 -	1.6370	passed
29	13C12-123478-HxCDD	42.35	1.2857	1.0450 -	1.4350	passed	0.8730	0.9461	0.6575 -	1.2347	passed
30	13C12-123678-HxCDD	42.47	1.2856	1.0450 -	1.4350	passed	0.8690	0.9761	0.6784 -	1.2738	passed
31	13C12-123789-HxCDD	42.78	1.2380	1.0450 -	1.4350	passed	0.8425	0.9341	0.6492 -	1.2190	passed
32	13C12-123789-HxCDF	43.17	0.5298	0.4250 -	0.5950	passed	1.0588	1.1840	0.8229 -	1.5451	passed
33	13C12-1234678-HpCDF	44.86	0.4543	0.3650 -	0.5150	passed	0.9954	1.1050	0.7680 -	1.4420	passed
34	13C12-1234678-HpCDD	46.05	1.0487	0.8750 -	1.2050	passed	0.7630	0.8651	0.6012 -	1.1290	passed
35	13C12-1234789-HpCDF	46.62	0.4437	0.3650 -	0.5150	passed	0.7904	0.9436	0,6558 -	1.2314	passed
36	13C12-OCDD	49.06	0.9095	0.7550 -	1.0250	passed	0.6594	0.7794	0.5417 -	1.0171	passed
37	13C12-OCDF	49.24	0.8932	0.7550 -	1.0250	passed	0.9207	1.1485	0.7982 -	1.4988	passed





No. 1	Compound Name 2378-TCDF	Status Overview	QM Retention		QM								Client
2	2378-TCDF		Time	QM Aree	Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT		Flags
_		passed	31.00	211967	A	16364	Α	0.0065	10,026235	10.0262	10.000000	3922	
_	2378-TCDD	passed	32.05		A			0,0067		10.2742	10.000000	3801	
3	12378-PeCDF	passed	36.56	672905	A	1070113	Α .	0.0049	51,164132	51.1641	50.000000	27184	
4	23478-PeCDF	passed	37.78		A	1189277	΄ Α	0.0040	50.432100	50.4321	50.000000	31749	
5	12378-PeCDD	passed	38.16	416042	A	654150	) А	0.0141	50,497473	50.4975	50.000000	8993	
6	123478-HxCDF	passed	41 35	912020	A	1135170	' А	0.0116	50.564220	50.5642	50.000000	10914	
7	123678-HxCDF	passed	41.50	908588	A	113084	A	0.0113	49.292628	49.2926	50.000000	10919	
8	234678-HxCDF	passed	42.18	880891	А	1108930	А	0.0118	50.462030	50.4620	50.000000	10571	
9	123478-HxCDD	passed	42.37	575336	Α	726854	A	0.0116	50.728331	50.7283	50.000000	10924	
10	123678-HxCDD	passed	42.49	576266	A	725509	. А	0.0120	51.090887	51.0909	50.000000	10869	
11	123789-HxCDD	passed	42.80	589489	A	749660	Α	0.0113	51.077936	51.0779	50.000000	11252	
12	123789-HxCDF	passed	43.19	756611	A	969890	Α .	0.0132	49.243239	49.2432	50.000000	9335	
13	1234678-HpCDF	passed	44.87	888766	Α	919392	. A	0.0136	49.344911	49.3449	50.000000	8846	
14	1234678-HpCDD	passed	46.06	574773	Α	60090	΄ Α	0.0191	50.679330	50.6793	50.000000	6633	
15	1234789-HpCDF	passed	46.63	734739	A	764859	) А	0.0165	49.937723	49.9377	50.000000	7441	
16	OCDD	passed	49.06	1044572	Α	930738	1 А	0.0185	102.154103	102.1541	100.000000	13689	
17	OCDF	passed	49.26	1280674	A	1145102	! A	0.0128	98,363268	98.3633	100.000000	19330	
18	13C12-1278-TCDD (CRS)	passed	32.41	132045	A	108149	. А	0.0077	9.535057	9.5351	10.000000	2997	
19	13C12-1234-TCDD	passed	31.26	1083350	A	878260	) А	0.0148	100.00000	100.0000	100.000000	16866	
20	13C12-123468-HxCDD	passed	41.25	1270915	A	1600384	A	0.0159	100.000000	100.0000	100.000000	15685	
21	13C12-2378-TCDF	passed	30.97	2025483	A	1594399	Α .	0.0042	98.785170	98.7852	100.000000	55664	
22	13C12-2378-TCDD	passed	32.01	1040950	Α	82729	. А	0.0150	96.692604	96.6926	100.000000	16466	
23	13C12-12378-PeCDF	passed	36.55	1347934	Α	2164702	. A	0.0255	103.684373	103.6844	100.000000	12736	
24	13C12-23478-PeCDF	passed	37.76	1384548	A	2202489	Α	0.0256	106.014712	106.0147	100.000000	13892	
25	13C12-12378-PeCDD	passed	38.13	765969	A	1234989	) А	0.0158	104.634586	104.6346	100.000000	21992	
26	13C12-123478-HxCDF	passed	41.34		A	119608	i A	0.0175	93.381601	93.3816	100.000000	13292	
27	13C12-123678-HxCDF	passed	41.49				, ,	0.0166	92.625293	92.6253	100.000000	13917	
28	13C12-234678-HxCDF	passed	42.16		A	1135623	, ,	0.0179	90.431950	90.4320	100.000000	12766	
29	13C12-123478-HxCDD	passed	42.35		A			0.0168		92.2746	100.000000	14112	
30	13C12-123678-HxCDD	passed	42.47		-			0.0163	89.034977	89.0350	100.000000	13758	
31	13C12-123789-HxCDD	passed	42.78					0.0171	90.188372	90.1884	100,000000	13711	
32	13C12-123789-HxCDF	passed	43.17					0.0189		89.4214	100.000000	11936	
33	13C12-1234678-HpCDF	passed	44.86		-			0.0252	90.086932	90.0869	100.000000	9512	
34	13C12-1234678-HpCDD	passed	46.05					0.0206		88.1942		11468	
<b>3</b> 5	13C12-1234789-HpCDF	passed	46.62		-			0.0295	83,762907	83.7629	100.000000	7706	
36	13C12-OCDD	passed	49.06		A	180349	_	0.0145	169,191184	169.1912		31926	
37	13C12-OCDF	passed	49.24	2792667	A	2494314	Α.	0.0112	160.329918	160.3299	200.000000	39157	

File Name: Y:\17FEB07\17FEB07-28 Acq. Data: 2/8/2017 10:03:13 AM Instrument ID: DF18471-17FEB07 Sample ID: CS3CC04 Sample Name: VER-CALDF41737A PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 892 1074 818 25.40 26.66 1176 1241 1344 2.75E5 29.77 100-31.52 32.63 34.39 m/z=291.9825-80-292.9825 MS 17FEB07-60 28 40 20 0-NL: 1588 1649 1560 1359 37.<u>83</u> 38.26 3.82E5 39,20 34.73 100-Appropriate many many many to have the m/z=330,4792-80-331.4792 MS 17FEB07-60 28 40 20-0 NL: 1758 2000 1810 1672 40.79 41,49 44.05 2015 2.77E5 39,63 100-44.25 m/z=380.4760-Relative Abundance 1547 1662 80-381.4760 1358 36.76 37,63 39,40 MS 34.71 Contraction of the thickness 17FEB07-60-28 40 20-0-NL: 2174 2280 2123 2037 7.38E4 48.00 100 45.83 44.64 m/z=404.4760-80-405.4760 MS 17FEB07-60-28 40 20 0-2282 NL: 2351 48.11 9.71E4 49.03 100m/z=442.4728-80 443.4728 MS 17FEB07-60-28 40 20-

> AILO1 Page 469 of 560 34 36 38 40

> > Time (min)

42

By UMJS at 12:42 pm 999170

0-

24

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17FEB07-28
*** file opened Wed Feb 08 10:08:38 2017 ***
Started by - Xcalib
Instrument Internet name - DFS MS
                              - Xcalibur
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - LX18470
  Analysis started at: 08-Feb-17 10:08:37
  Analysis will stop at user request
  Firmware Version: 2.02
```

MCAL file name:

Sequence: 44428e9b-1f82-4600-a587-45b396ba3037

MID procedure: PFK16MAR24+MDT

Mid Time W Star		asure	End C	ycletime
# 1 11:30 # 2 21:00 # 3 34:36 # 4 39:30 # 5 44:15 # 6 48:00	min 9:30 min 13:36 min 4:53 min 4:45 min 3:45 min 3:00	min 21:00 min 34:36 min 39:30 min 44:15 min 48:00 min 51:00	min 1.00 min 0.90	sec sec sec sec sec sec
Mid Masses Window # 2 18.0129 218.9851 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 297.9752 299.9723 Window # 2	1 F int gr 1 1 1 20 1 2 1 2 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2	time (ms) 95 4 95 47 47 95 47 47 95 95 47 47 47		
	F int gr 1 20 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118		

Page 1





```
331.9363
                              23
 333.9333
                    1
                              23
 339.8592
                             118
                 1
 341.8562
                    1
                             118
 354.9787 c
                    1
               20
                               5
                    1
 375.8364
                 2
                              59
Window # 3
               int
                          time (ms)
     mass F
                     gr
 330.9787 1
                    1
               20
                               6
 339.8592
                1
1
                    1
                             133
 341.8562
                    1
                             133
 351.8994
                              44
                    1
 353.8965
                              44
 355.8541
                 1
                    1
                             133
 357.8511
                    1
                             133
 367.8943
                              44
                 3
 369.8914
                              44
 380.9755
               20
                    1
                               6
                 2
 409.7969
                    1
                              66
Window # 4
     mass F
               int
                          time (ms)
                     gr
 373.8201
                    1
                1
                             117
 375.8172
                    1
                             117
 380.9755
               20
                    1
                               5
 383.8634
                    1
                              39
 385.8604
                    1
                              39
 389.8151
                    1
                             117
 391.8121
                    1
                             117
                    1
1
 401.8554
                              39
                 3
                              39
 403.8524
 430.9723 c
               20
                    1
                               5
 445.7550
                    1
                              58
Window # 5
                          time (ms)
 mass F
404.9755 l
               int
                     gr
                    1
               20
 407.7812
                 1
                             117
                 1
3
 409.7783
                             117
 417.8244
                    1
                              39
 419.8215
                              39
 423.7761
                    1
                             117
 425.7732
                 1
3
2
                    1
                             117
 435.8164
                    1
                              39
                              39
 437.8134
                    1
 479.7160
                    1
                              58
 480.9691 c
               20
                    1
Window # 6
     mass F
               int
                     gr
                          time (ms)
                              95
 441.7422
                    1
                1
 442.9723
               20
                               4
                              95
 443.7393
                 1
                    1
 453.7825
455.7795
457.7372
                 1
                    1
                              95
                 1
                    1
                              95
                              95
 459.7342
                              95
 469.7774
                    1
                              31
 471.7745
                    1
                              31
 492.9691
               20
                    1
                               4
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU BQUAD CCURR DRAW	1000.0000 0.0500 0.0000 -25.0000	BCORRS CAPIL COUNTING DRAWC	0.0170 0.0000 0.0000 0.0000	BMASS CAPTSET DELAY DRAWS	98.5000 0.0000 0.0000 0.0000
DYNVOLTAGE	20.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-49.6667
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0175	<b>FVINLET</b>	0.0306	FVSRC	0.0291
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	98.5000	LKM	442.9723	MASS	98.5000
MDAC	1466744.8101	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2524.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.9001	RELEN	0.0000
RES	12451.3110	RPUSHER	-8.6374	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	638.0000	SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000

Source Gauge: 2.0e-005 mbar Analyzer Penning: 5.2e-008 mbar Pirani Analyse: 1.8e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.1e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

MID Time Window 1: Resolution is 11879.
MID Time Window 2: Resolution is 12729.
MID Time Window 3: Resolution is 12835.
MID Time Window 4: Resolution is 12755.
Page 3





17FEB07-28 MID Time Window 5: Resolution is 13723. MID Time Window 6: Resolution is 12451.

Amplifier Offset: 88.

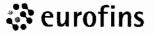
*** File closed Wed Feb 08 10:59:40 2017







# Raw QC Data Dioxins/Furans by HRMS



#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 00:23

Number of Entries 247

Comment BLK:11030:12937

Vial 102 Sample Name 17031003 Sample ID BLK031003 Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

Files Parameter

Quan y:\17feb07\17feb07-17.quan Data y:\17feb07\17feb07-17.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

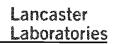
Injection Volume [h!JV] 1.0 Sample Volume [hSV] 20.0 Sample Weight [hSWT] 10.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

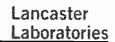
Weighted Regression Factor 1.0





	Compound	OM Potention	Status	Amount	RM1 Time	Datic 1	Bosoves:	Native ve Labeled	Stotus
No.	Compound Name	QM Retention Time	Status Overview	Amount Status	Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	31.02	failed	passed	failed	failed	passed	failed	Failed on: Ratio1A RM1Time < min RM2Time
2	2378-TCDD	32.03	failed	failed	passed	failed	passed	passed	Failed on: CAA Ratio1A
3	12378-PeCDF	36.55	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	37.76	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5 6	12378-PeCDD	38.16	passed	passed	passed	passed	passed	passed	
7	123478-HxCDF	41.36	passed	passed	passed	passed	passed	passed	_ , , _ ,
8	123678-HxCDF	41.49	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	234678-HxCDF 123478-HxCDD	42.18 42.35	failed failed	passed	passed	failed failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	42.33	failed	passed passed	passed passed	failed	passed passed	passed passed	Failed on: Ratio1A Failed on: Ratio1A
11	123789-HxCDD	42.78	failed	passed	passed	failed	passed	passed	Failed on: Ratio IA
12	123789-HxCDF	43.16	passed	passed	passed	passed	passed	passed	r alled on, NationA
13	1234678-HpCDF	44.86	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.04	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
15	1234789-HpCDF	46.60	passed	passed	passed	passed	passed	passed	
16	OCDD	49.04	passed	passed	passed	passed	passed	passed	
17	OCDF	49.26	failed	passed	passed	failed	passed	passed	Failed on: Ratio 1A
18	13C12-1278-TCDD (CRS)	32.39	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	31.24	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	41.23	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.95	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	32.00	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.53	passed	passed	passed	passed	passed	passed	
24 25	13C12-23478-PeCDF	37.75	passed	passed	passed	passed	passed	passed	
26	13C12-12378-PeCDD 13C12-123478-HxCDF	38.13 41.33	passed passed	passed	passed	passed	passed	passed	
27	13C12-123478-HxCDF	41.33	passed	passed passed	passed passed	passed passed	passed passed	passed passed	
28	13C12-234678-HxCDF	42.15	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.34	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.46	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.77	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.16	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.85	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.04	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.60	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.04	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.23	passed	passed	passed	passed	passed	passed	
38	Total TCDF	29.74	passed (1)						
39	Total TCDD	30.53	passed (1)						
<b>4</b> 0 41	Total PeCDF	36.18	failed					•	Failed on:
42	Total PeCDD	37.02	passed (1)						
43	Total HxCDF Total HxCDD	41.54 41.73	passed (2) failed						Failed on:
44	Total HpCDD	45.63	failed						Failed on:
45	Total HpCDF	45.75	passed (3)						i alled oit.
46	AVG Total PeCDF	0.00	passed (3) passed (2)		_				
47	AVG_Total HxCDF	0.00	passed (4)						
48	AVG_Total HxCDD	0.00							
49	AVG_Total HpCDF	0.00	passed (2)						
50	TEQ WHO 2005	0.00	passed (6)		-				
51	Single TCDF	29.83	failed	passed	passed	failed	passed		Failed on: Ratio1A
52	Single TCDF	26.08	failed	passed	passed	failed	passed		Failed on: Ratio1A
53	Single TCDF	27.83	failed	passed	passed	failed	passed		Failed on: Ratio1A
54	Single TCDF	30.54	failed	passed	failed	failed	passed		Failed on: Ratio1A RM1Time < min
55 56	Single TCDF	31.02	failed	passed	failed	failed	passed		Failed on: Ratio 1A RM1Time < min
56	Single TCDF	31.14	failed	passed	passed	failed	passed		Failed on: Ratio1A
57 58	Single TCDF	31.30	failed	passed	passed	failed	passed		Failed on: Ratio1A
59	Single TCDF	31.45	failed	passed	failed	failed	passed		Failed on: Ratio1A RM1Time < min
60	Single TCDF Single TCDF	32.06	failed	passed	passed	failed	passed		Failed on: Ratio1A
61	Single TCDF Single TCDF	32.85 33.42	passed failed	passed passed	passed passed	passed failed	passed passed		Failed on: Ratio1A
62	Single TCDD	30.94	failed	passed	passed	failed	passed		Failed on: Ratio IA
63	Single TCDD	27.84	failed	passed	passed	failed	passed		Failed on: Ratio IA
	Single (ODD	۷, ۵4	ianou	passed	Pusseu	, alled	pessou		, and on ratio







No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status	
64	Single TCDD	28.08	failed	passed	passed	failed	passed			Failed on: Ratio1A
65	Single TCDD	29.12	passed	passed	passed	passed	passed			
66	Single TCDD	29.67	failed	passed	passed	failed	passed			Failed on: Ratio1A
67	Single TCDD	31.16	failed	passed	passed	failed	passed			Failed on: Ratio1A
68	Single TCDD	33.14	failed	passed	passed	failed	passed			Failed on: Ratio1A
69	Single PeCDD	38.16	passed	passed	passed	passed	passed			
70	Single PeCDD	35.36	failed	passed	passed	failed	passed			Failed on: Ratio1A
71	Single PeCDD	38.09	failed	passed	passed	failed	passed			Failed on: Ratio1A
72	Single PeCDD	38.70	failed	passed	failed	failed	passed			Failed on: Ratio1A RM1Time2 > max
73	Single PeCDF	36.55	failed	passed	passed	failed	passed			Failed on: Ratio1A
74	Single PeCDF	33.38	failed	passed	passed	failed	passed			Failed on: Ratio1A
75	Single PeCDF	36.42	failed	passed	failed	failed	passed			Failed on: Ratio1A RM1Time < min
76	Single PeCDF	36.64	failed	passed	passed	failed	passed			Failed on: Ratio1A
77	Single PeCDF	36.75	failed	passed	passed	failed	passed			Failed on: Ratio1A
78 79	Single PeCDF	36.99	failed	passed	passed	failed	passed			Failed on: Ratio1A
	Single PeCDF	37.53	failed	passed	passed	failed	passed			Failed on: Ratio1A
80 81	Single PeCDF	37.66	failed	passed	passed	failed	passed			Failed on: Ratio 1A
82	Single PeCDF	37.76	failed	passed	passed	failed	passed			Failed on: Ratio 1A
83	Single PeCDF	38.03	failed	passed	passed	failed	passed			Failed on: Ratio1A
84	Single PeCDF	38.41	failed	passed	passed	failed	passed			Failed on: Ratio1A
85	Single PeCDF Single PeCDF	38.60 38.74	failed failed	passed	passed	failed	passed			Failed on: Ratio1A
86	Single PeCDF	39.00	failed	passed passed	passed failed	failed failed	passed passed			Failed on: Ratio1A Failed on: Ratio1A RM1Time < min
87	Single HpCDD	46.04	failed	passed	passed	failed	passed			Failed on: Ratio1A
88	Single HpCDD	45.21	failed	passed	passed	failed	passed			Failed on: Ratio 1A
89	Single HxCDF	43.16	passed	passed	passed	passed	passed			railed on: Ratio IA
90	Single HxCDF	40.10	failed	passed	passed	failed	passed			Failed on: Ratio1A
91	Single HxCDF	41.36	passed	passed	passed	passed	passed			Tared on Rado IA
92	Single HxCDF	41.49	failed	passed	passed	failed	passed			Failed on: Ratio 1A
93	Single HxCDF	42.18	failed	passed	passed	failed	passed			Failed on: Ratio 1A
94	Single HxCDF	42.81	failed	passed	passed	failed	passed			Failed on: Ratio1A
95	Single HxCDF	42.90	failed	passed	passed	failed	passed			Failed on: Ratio1A
96	Single HxCDF	43.04	failed	passed	passed	failed	passed			Failed on: Ratio1A
97	Single HxCDD	41.33	failed	passed	passed	failed	passed			Failed on: Ratio 1A
98	Single HxCDD	40.56	failed	passed	passed	failed	passed			Failed on: Ratio 1A
99	Single HxCDD	41,48	failed	passed	passed	failed	passed			Failed on: Ratio1A
100	Single HxCDD	42.14	failed	passed	passed	failed	passed			Failed on: Ratio 1A
101	Single HxCDD	42.20	failed	passed	passed	failed	passed			Failed on: Ratio1A
102	Single HxCDD	42.35	failed	passed	passed	failed	passed			Failed on: Ratio1A
103	Single HxCDD	42.47	failed	passed	passed	failed	passed			Failed on: Ratio1A
104	Single HxCDD	42.65	failed	passed	passed	failed	passed			Failed on: Ratio1A
105	Single HxCDD	42.78	failed	passed	passed	failed	passed			Failed on: Ratio1A
106	Single HpCDF	44.86	passed	passed	passed	passed	passed			
107	Single HpCDF	44.97	failed	passed	passed	failed	passed			Failed on: Ratio1A
108	Single HpCDF	45.07	failed	passed	passed	failed	passed			Failed on: Ratio1A
109 110	Single HpCDF	45.22	failed	passed	failed	passed	passed			Failed on: RM1Time2 > max
	Single HpCDF	45.39	passed	passed	passed	passed	passed			
111	Single HpCDF	45.44	failed	passed	passed	failed	passed			Failed on: Ratio1A
112	Single HpCDF	46.05	failed	passed	passed	failed	passed			Failed on: Ratio1A
113	Single HpCDF	46.60	passed	passed	passed	passed	passed			







#### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 00:23

**Number of Entries** 247

Comment BLK:11030:12937

Vial 102 Sample Name 17031003 Sample ID BLK031003 Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

Files Parameter

Quan y:\17feb07\17feb07-17.quan Data y:\17feb07\17feb07-17.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 20.0 Sample Volume [hSV] 10.0 Sample Weight [hSWT] Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

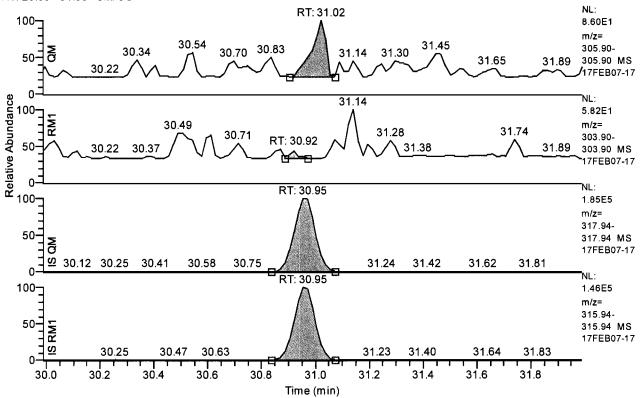
Weighted Regression Factor 1.0

AIL01 Page 1478 of 560



#### Chromatogram





Entry: 2378-tcdf IS: 13C12-2378-TCDF

#### **Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	31.02
QM Area	247
QM Integration Mode	Α
RM1 Area	12
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0108
Adjusted Amount (A)	n.d.
Signal-to-Noise	10

Client Flags

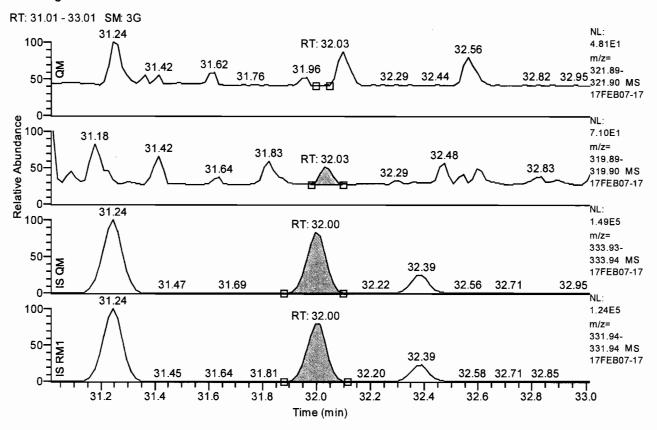
Status Info Failed on: Ratio1A RM1Time < min RM2Time < min

Status Overview failed





#### Chromatogram



Entry: 2378-tcdd IS: 13C12-2378-TCDD

#### **Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	32.03
QM Area	1
QM Integration Mode	Α
RM1 Area	53
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0117
Adjusted Amount (A)	n.d. < 0.0117
Signal-to-Noise	3

Client Flags

Status Info Failed on: CAA Ratio1A

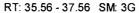
Status Overview failed

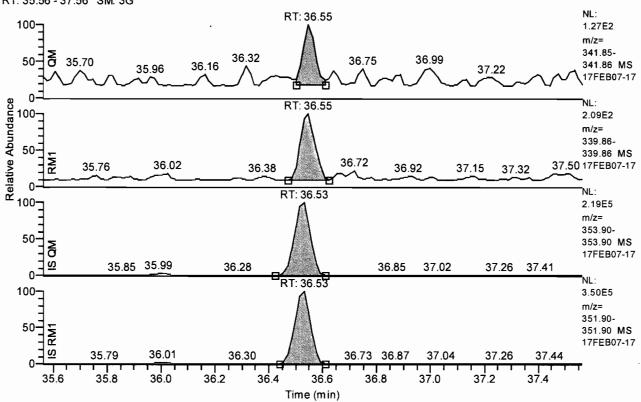




## neurofins :

#### Chromatogram





Entry: 12378-pecdf IS: 13C12-12378-PeCDF

## **Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	36.55

QM Area 327

QM Integration Mode Α

RM1 Area 706

RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0087 Adjusted Amount (A) n.d.

Signal-to-Noise 30

Client Flags

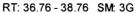
Status Info Failed on: Ratio1A

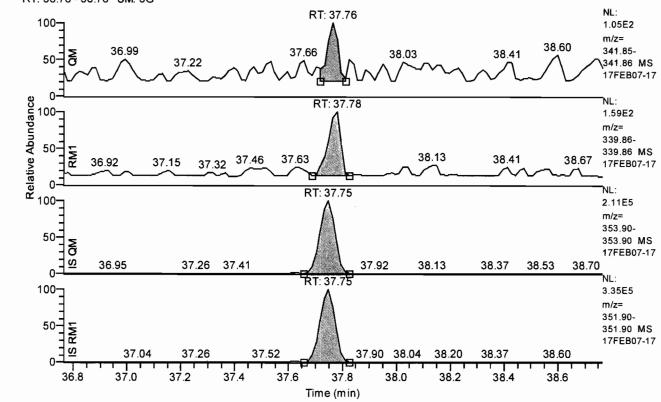
Status Overview failed





#### Chromatogram





Entry: 23478-pecdf IS: 13C12-23478-PeCDF

### **Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	37.76
QM Area	228
QM Integration Mode	Α
RM1 Area	450
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0081
Adjusted Amount (A)	n.d.
Signal-to-Noise	23

Client Flags

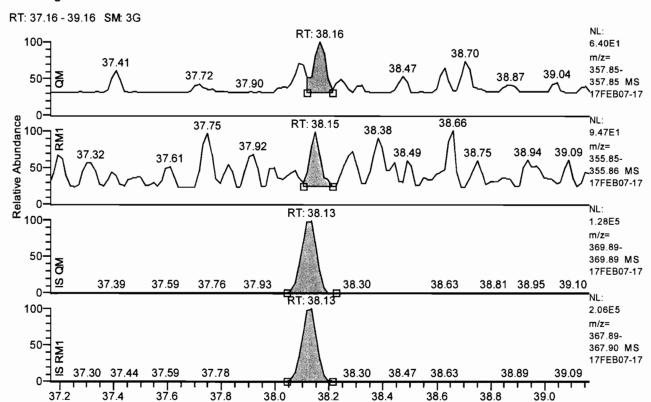
Status Info Failed on: Ratio1A

Status Overview failed





#### Chromatogram



Time (min)

Entry: 12378-pecdd IS: 13C12-12378-PeCDD

## **Entry Parameters**

Compound Name 12378-PeCDD QM Retention Time 38.16 QM Area 135 QM Integration Mode Α RM1 Area 189 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0185 0.0463 Adjusted Amount (A) Signal-to-Noise Client Flags Status Info

> **APPROVED** By uma9 at 12:02 pm, 2/9/17

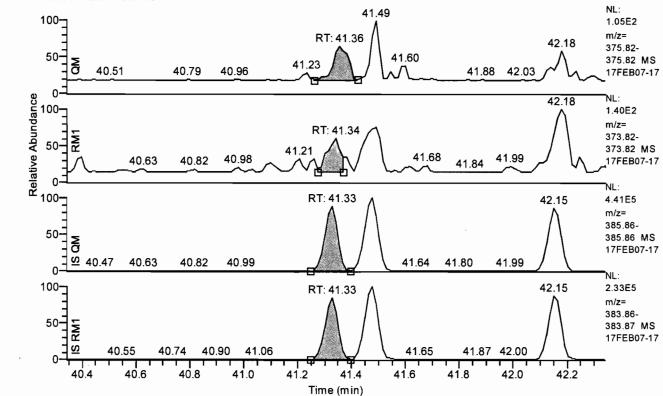
passed



Status Overview

#### Chromatogram





Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

### **Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	41.36

QM Area 183

QM Integration Mode Α

RM1 Area 213 RM1 Integration Mode Α

ManInt 0

Detection Limit (A) 0.0076

Adjusted Amount (A) 0.0341

Signal-to-Noise 10 Client Flags

Status Info

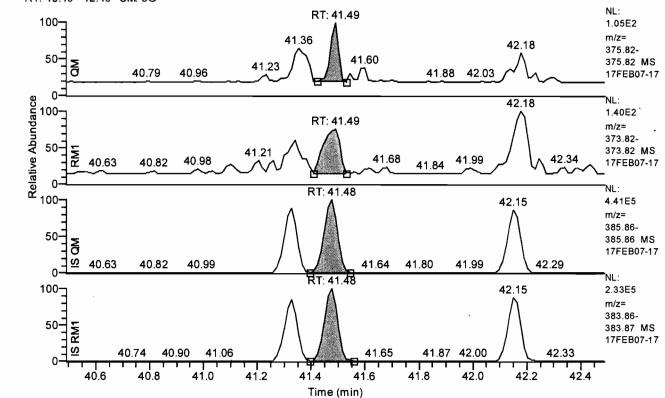
Status Overview passed





#### Chromatogram





Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

#### **Entry Parameters**

Compound Name 123678-HxCDF

QM Retention Time 41.49

QM Area 179

QM Integration Mode Α

RM1 Area 367

RM1 Integration Mode Α

ManInt

0.0069 Detection Limit (A)

Adjusted Amount (A) n.d.

Signal-to-Noise

Client Flags

Status Info Failed on: Ratio1A

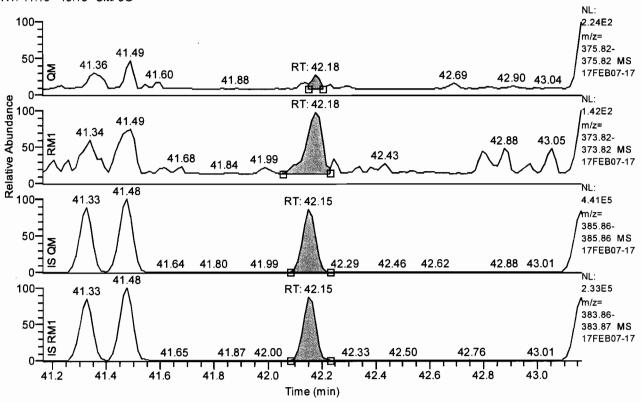
Status Overview failed





### Chromatogram

RT: 41.16 - 43.16 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

### **Entry Parameters**

Compound Name 234678-HxCDF

QM Retention Time 42.18 QM Area 84 QM Integration Mode Α 496 RM1 Area

RM1 Integration Mode Α ManInt 0.0075 Detection Limit (A) Adjusted Amount (A) n.d.

Signal-to-Noise 15

Client Flags

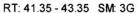
Status Info Failed on: Ratio1A

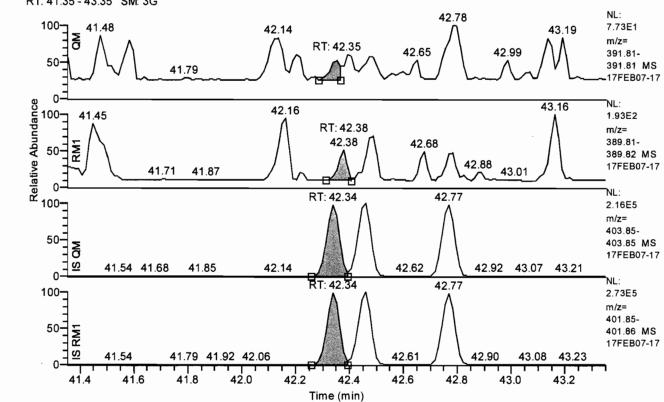
Status Overview failed





## Chromatogram





Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

#### **Entry Parameters**

Compound	Name	123478-HxCDD

QM Retention Time 42.35

QM Area 51

QM Integration Mode Α

RM1 Area 183 **RM1 Integration Mode** Α

ManInt

Detection Limit (A)

0.0116

Adjusted Amount (A)

n.d.

Signal-to-Noise Client Flags

Status Info

Failed on: Ratio1A

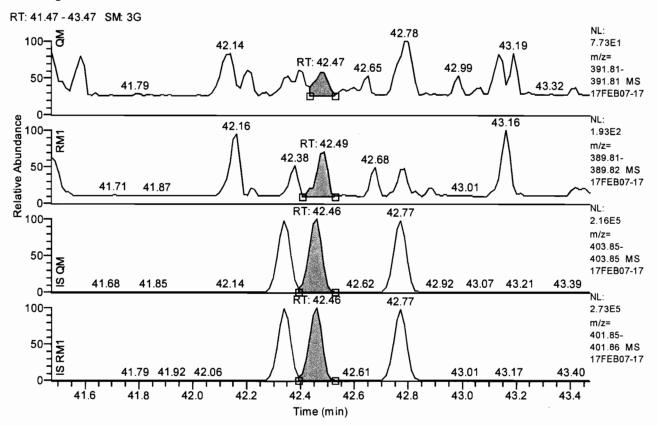
Status Overview

failed





#### Chromatogram



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

### **Entry Parameters**

Compound Name 123678-HxCDD

QM Retention Time 42.47 QM Area 85

QM Integration Mode Α

RM1 Area 348

RM1 Integration Mode Α

0

ManInt Detection Limit (A)

0.0115

Adjusted Amount (A)

n.d.

Signal-to-Noise

12

Client Flags

Status Info

Failed on: Ratio1A

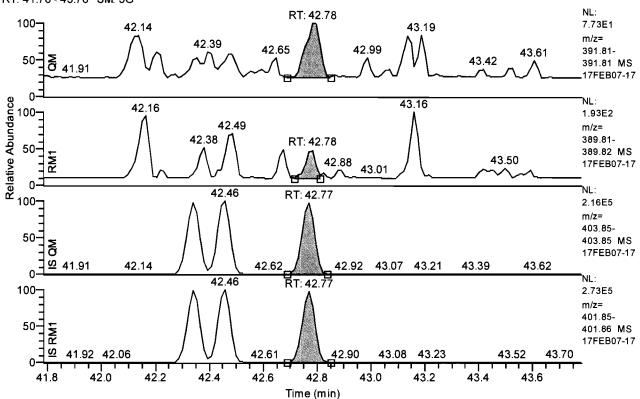
Status Overview

failed



#### Chromatogram





Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

#### **Entry Parameters**

Compound Name 123789-HxCDD

QM Retention Time 42.78 QM Area 220 QM Integration Mode RM1 Area 198 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0110 Adjusted Amount (A) n.d. Signal-to-Noise

Client Flags

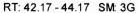
Status Info Failed on: Ratio1A

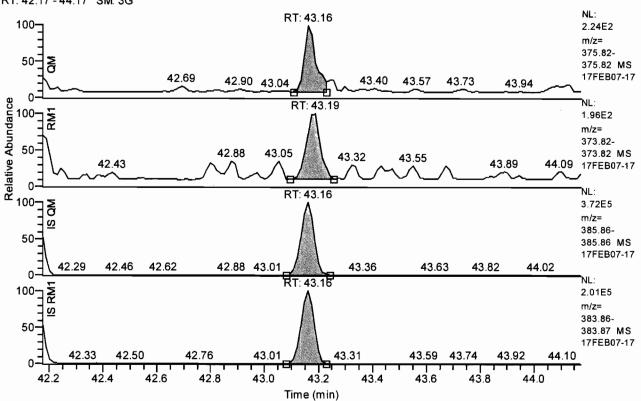
Status Overview failed





#### Chromatogram





Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

#### **Entry Parameters**

Compound Name	123789-HxCDF
OM Retention Time	43 16

QM Area 604 QM Integration Mode RM1 Area 646 RM1 Integration Mode Α

ManInt Detection Limit (A) 0.0080 0.1121

Adjusted Amount (A) Signal-to-Noise

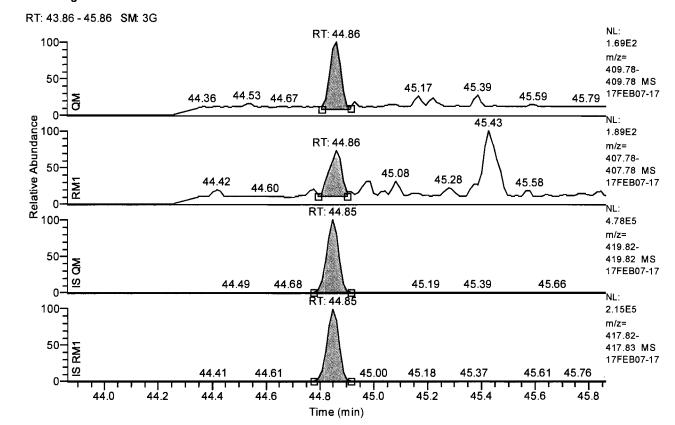
Client Flags Status Info

Status Overview passed





### Chromatogram

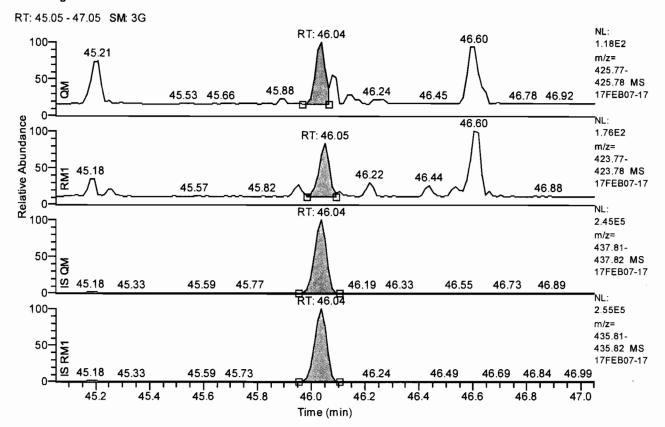


Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

Compound Name	1234678-HpCDF
QM Retention Time	44.86
QM Area	450
QM Integration Mode	Α
RM1 Area	404
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0065
Adjusted Amount (A)	0.0605
Signal-to-Noise	24
Client Flags	
Status Info	
Status Overview	passed



### Chromatogram



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

### **Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	46.04

QM Area 254 QM Integration Mode Α

347 RM1 Area RM1 Integration Mode Α ManInt

Detection Limit (A) 0.0090 Adjusted Amount (A) n.d. Signal-to-Noise 24

Client Flags

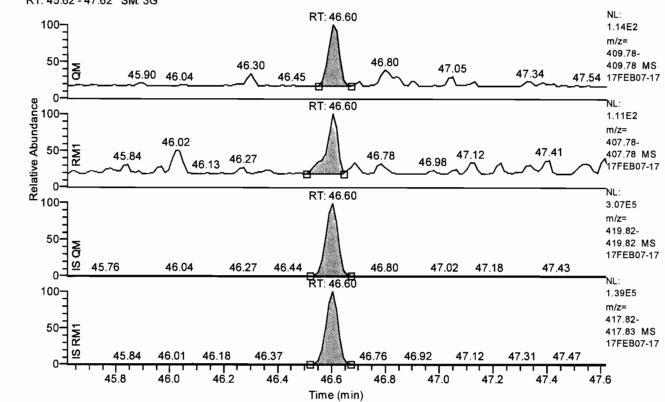
Status Info Failed on: Ratio1A

failed Status Overview



#### Chromatogram



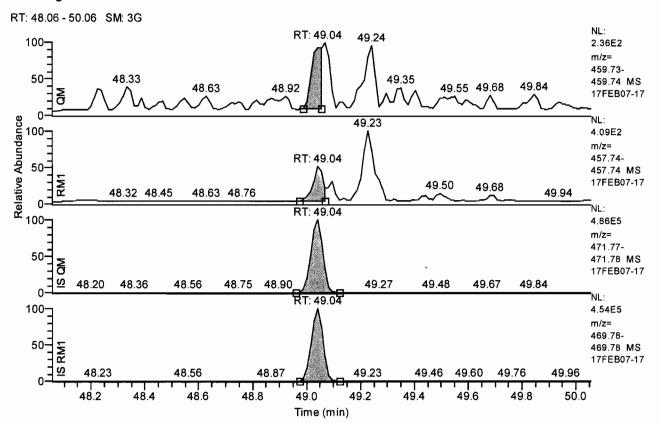


Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

Compound Name	1234789-HpCDF
QM Retention Time	46.60
QM Area	275
QM Integration Mode	Α
RM1 Area	270
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0098
Adjusted Amount (A)	0.0578
Signal-to-Noise	16
Client Flags	
Status Info	
Status Overview	passed



#### Chromatogram

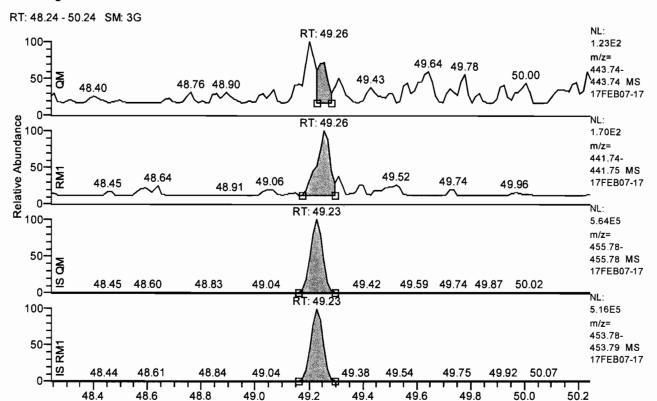


Entry: ocdd IS: 13C12-OCDD

Compound Name	OCDD
QM Retention Time	49.04
QM Area	474
QM Integration Mode	Α
RM1 Area	469
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0197
Adjusted Amount (A)	0.1287
Signal-to-Noise	21
Client Flags	
Status Info	
Status Overview	passed



#### Chromatogram



Time (min)

Entry: ocdf IS: 13C12-OCDF

#### **Entry Parameters**

Compound Name	OCDF
QM Retention Time	49.26
QM Area	166
QM Integration Mode	Α
RM1 Area	504
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0135
Adjusted Amount (A)	n.d.
Signal-to-Noise	16

Client Flags

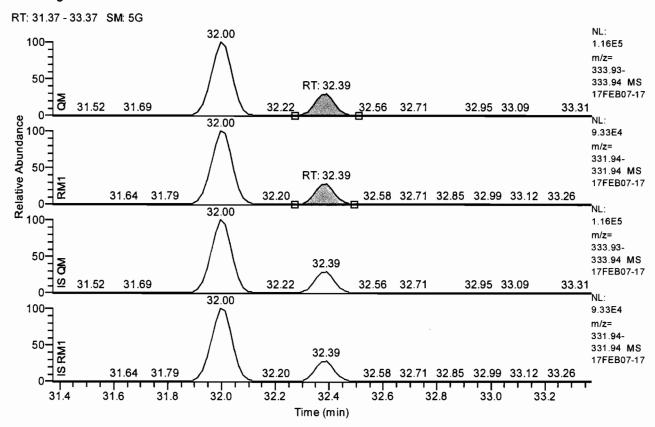
Status Info Failed on: Ratio1A

Status Overview failed





### Chromatogram



Entry: 1278-TCDD IS: 13C12-1234-TCDD

#### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.39

QM Area

182877

QM Integration Mode

141979

RM1 Area RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0261

Adjusted Amount (A)

35.5615 3342

Signal-to-Noise Client Flags

Status Info

Status Overview

passed







## Lancaster Laboratories

### **Quantitation Settings**

**Data File Parameter** 

2017/02/08 00:23 Acq. Data

Number of Entries 247

Comment BLK:11030:12937

Vial 102

Sample Name 17031003 Sample ID BLK031003

Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

**BatchNo** 17031003

Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-17.quan Data y:\17feb07\17feb07-17.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

**QualBrowser Compatibility** Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 20.0 10.0 Sample Weight [hSWT] Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

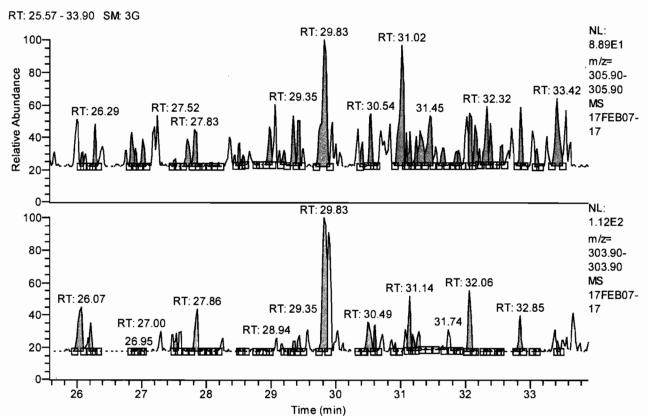
Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor



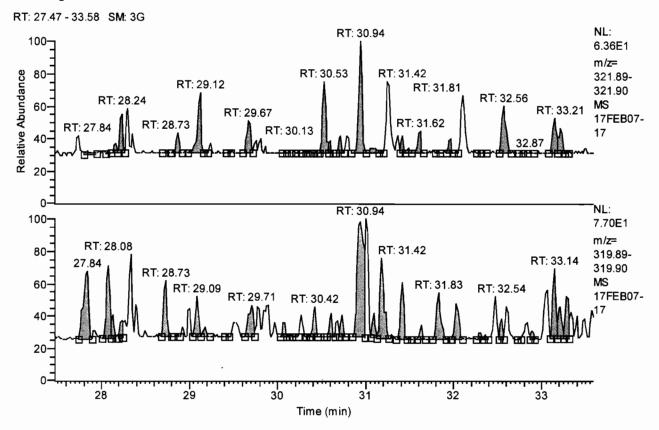
Chromatogram



Entry: total-tcdf IS: 13C12-2378-TCDF

Compound Name	Total TCDF
QM Retention Time	29.74
QM Area	79
QM Integration Mode	Α
RM1 Area	61
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0108
Adjusted Amount (A)	0.0149
Signal-to-Noise	8
Client Flags	
Status Info	
Status Overview	passed (1)

### Chromatogram

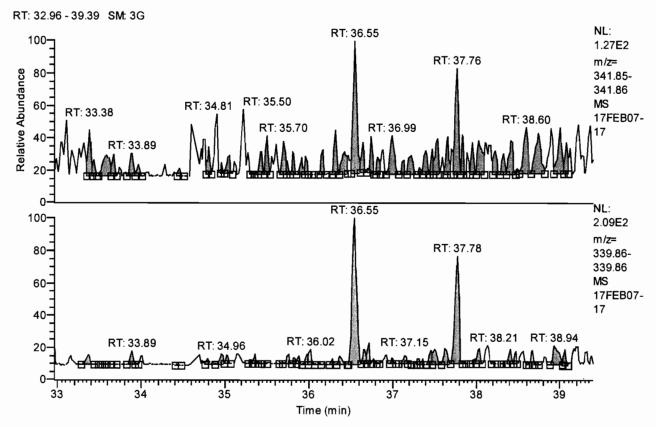


Entry: total-tcdd IS: 13C12-2378-TCDD

Compound Name	Total TCDD
QM Retention Time	30.53
QM Area	66
QM Integration Mode	Α
RM1 Area	48
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	0.0117
Adjusted Amount (A)	0.0160
Signal-to-Noise	7
Client Flags	
Status Info	
Status Overview	passed (1)



### Chromatogram

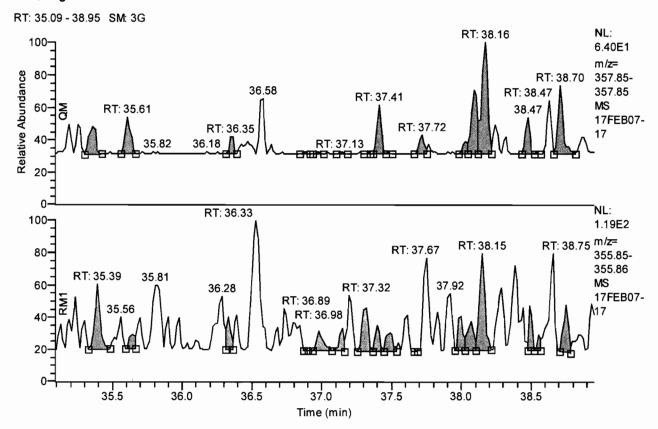


Entry: total-pecdf IS: 13C12-PeCDF_AVG

Compound Name	Total PeCDF
QM Retention Time	36.18
QM Area	0
QM Integration Mode	Α
RM1 Area	0
RM1 Integration Mode	М
ManInt	1
Detection Limit (A)	
Adjusted Amount (A)	
Signal-to-Noise	
Client Flags	
Status Info	Failed on:
Status Overview	failed



### Chromatogram



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Entry: total-pecdd IS: 13C12-12378-PeCDD

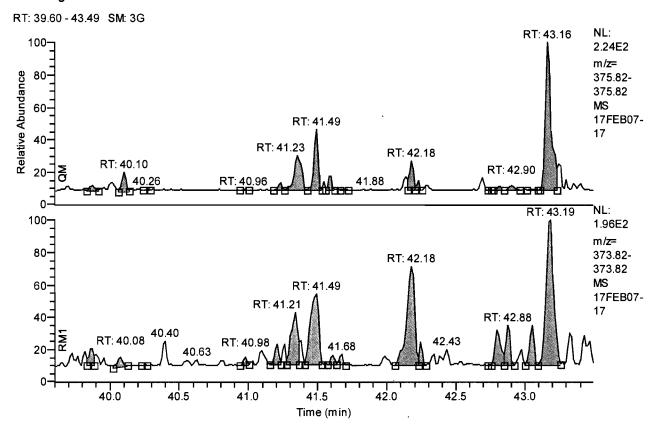
#### **Entry Parameters**

Compound Name	Total PeCDD				
QM Retention Time	37.02				
QM Area	135				
QM Integration Mode	M				
RM1 Area	189				
RM1 Integration Mode	M				
Manint	1				
Detection Limit (A)	0.0185				
Adjusted Amount (A)	0.0463				
Signal-to-Noise	9				
Client Flags					
Status Info					
Status Overview	passed (1)				



TargetQuan3

### Chromatogram



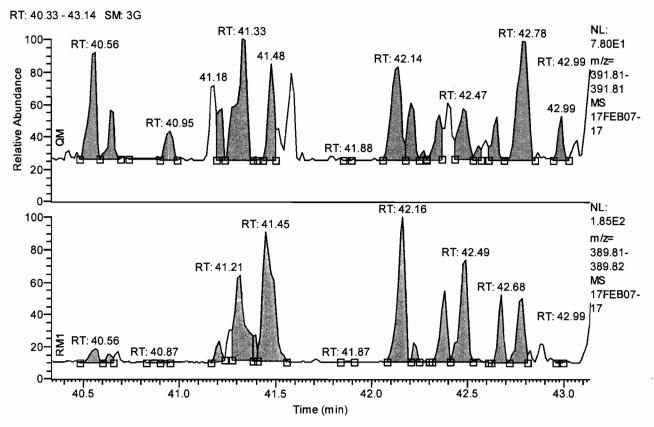
Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Compound Name	Total HxCDF				
QM Retention Time	41.54				
QM Area	787				
QM Integration Mode	M				
RM1 Area	858				
RM1 Integration Mode	М				
ManInt	1				
Detection Limit (A)	0.0075				
Adjusted Amount (A)	0.1368				
Signal-to-Noise	23				
Client Flags					
Status Info					
Status Overview	passed (2)				



## **eurofins** Lancaster

### Chromatogram



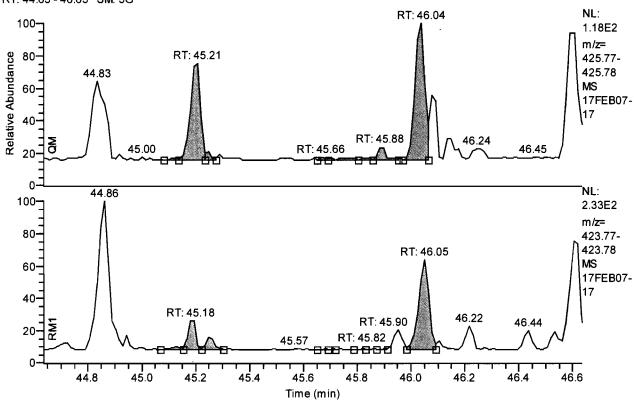
Entry: total-hxcdd IS: 13C12-HxCDD_AVG

Compound Name	Total HxCDD
QM Retention Time	41.73
QM Area	0
QM Integration Mode	M
RM1 Area	0
RM1 Integration Mode	Α
ManInt	1
Detection Limit (A)	
Adjusted Amount (A)	
Signal-to-Noise	
Client Flags	
Status Info	Failed on:
Status Overview	failed



### Chromatogram



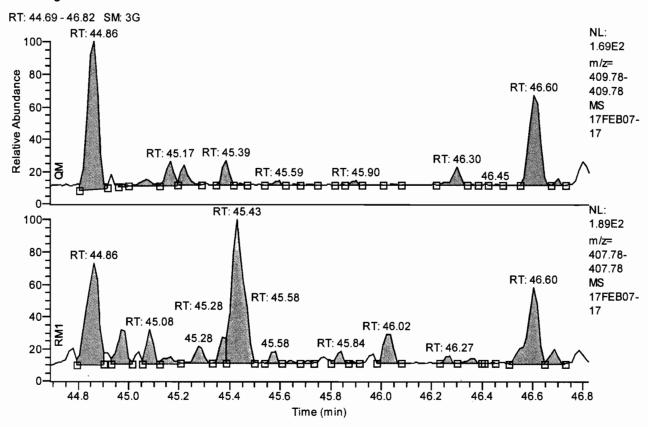


Entry: total-hpcdd IS: 13C12-1234678-HpCDD

Compound Name	Total HpCDD
QM Retention Time	45.63
QM Area	0
QM Integration Mode	Α
RM1 Area	0
RM1 Integration Mode	Α
ManInt	0
Detection Limit (A)	
Adjusted Amount (A)	
Signal-to-Noise	
Client Flags	
Status Info	Failed on:
Status Overview	failed



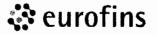
### Chromatogram



Entry: total-hpcdf IS: 13C12-HpCDF_AVG

Compound Name	Total HpCDF
QM Retention Time	45.75
QM Area	774
QM Integration Mode	Α
RM1 Area	730
RM1 Integration Mode	Α
Manint	0
Detection Limit (A)	0.0078
Adjusted Amount (A)	0.1275
Signal-to- <b>N</b> oise	15
Client Flags	
Status Info	
Status Overview	passed (3)





Lancaster Laboratories

### **Quantitation Settings**

**Data File Parameter** 

Acq. Data 2017/02/08 00:23

Number of Entries 249

Comment BLK:11030:12937

Vial 102 Sample Name 17031003 Sample ID BLK031003 Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-17.quan Data y:\17feb07\17feb07-17.raw

Response y:\responsefiles\df18471-17jan31dfical.resp

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 20.0 Sample Weight [hSWT] 10.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

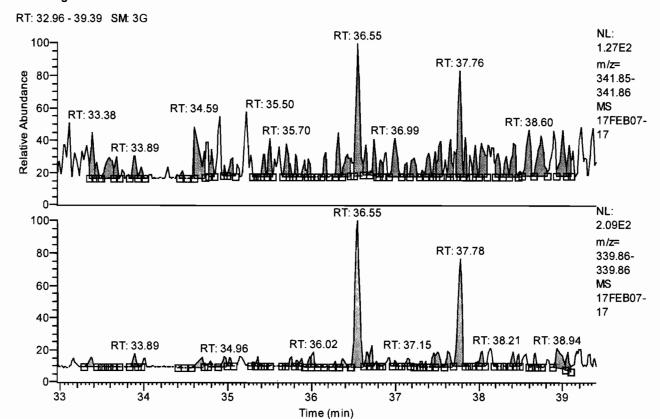
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





### Chromatogram

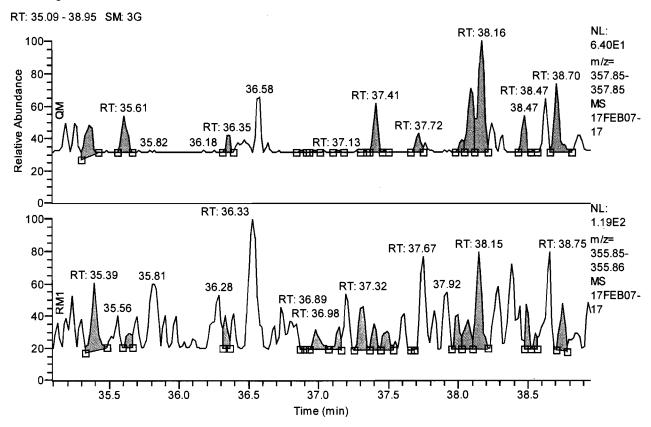


Entry: total-pecdf IS: 13C12-PeCDF_AVG

Compound Name	Total PeCDI				
QM Retention Time	36.18				
QM Area	26				
QM Integration Mode	Α				
RM1 Area	42				
RM1 Integration Mode	Α				
ManInt	1				
Detection Limit (A)	0.0084				
Unqualified Amount (A)	0.002988				
Adjusted Amount (A)	0.0060				
Signal-to-Noise	2				
Client Flags					
Status Overview	passed (2)				
Status Info					



## Chromatogram

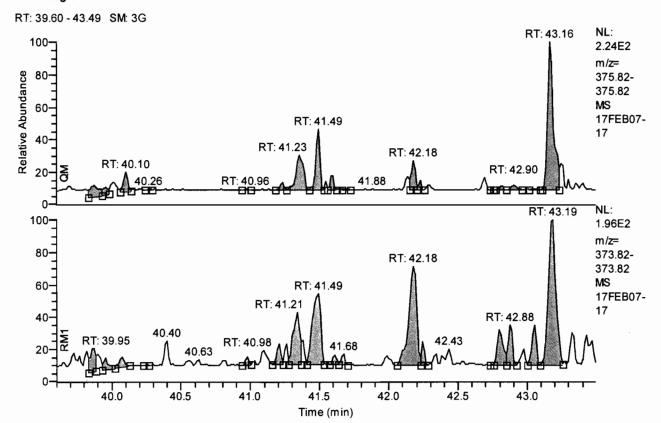


Entry: total-pecdd IS: 13C12-12378-PeCDD

Compound Name	Total PeCDD				
QM Retention Time	37.02				
QM Area	135				
QM Integration Mode	Α				
RM1 Area	189				
RM1 Integration Mode	Α				
ManInt	1				
Detection Limit (A)	0.0185				
Unqualified Amount (A)	0.046330				
Adjusted Amount (A)	0.0463				
Signal-to-Noise	9				
Client Flags					
Status Overview	passed (1)				
Status Info					



### Chromatogram

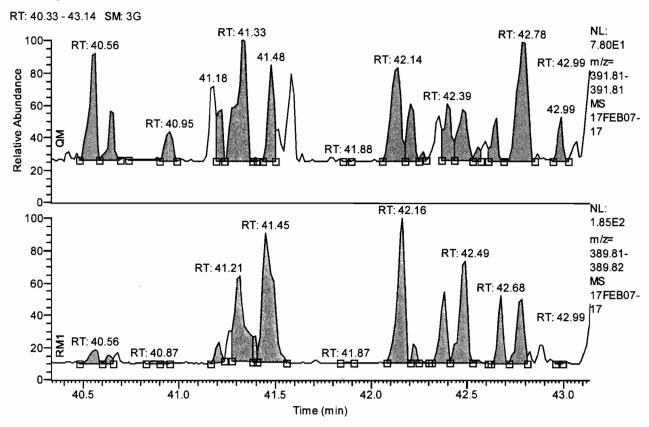


Entry: total-hxcdf IS: 13C12-HxCDF_AVG

Compound Name	Total HxCDF				
QM Retention Time	41.54				
QM Area	880				
QM Integration Mode	Α				
RM1 Area	973				
RM1 Integration Mode	Α				
ManInt	1				
Detection Limit (A)	0.0075				
Unqualified Amount (A)	0.038529				
Adjusted Amount (A)	0.1541				
Signal-to-Noise	13				
Client Flags					
Status Overview	passed (4)				
Status Info					



### Chromatogram



Entry: total-hxcdd IS: 13C12-HxCDD_AVG

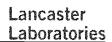
Compound Name	Total HxCDD				
QM Retention Time	41.73				
QM Area	0				
QM Integration Mode	Α				
RM1 Area	0				
RM1 Integration Mode	Α				
ManInt	1				
Detection Limit (A)					
Unqualified Amount (A)					
Adjusted Amount (A)					
Signal-to-Noise					
Client Flags					
Status Overview	failed				
Status Info	Failed on:				





No.	Compound	Quan.	Ratio	Specified	QM Retention	RM1 Retention	Labeled RT	RM1 Time	Native vs Labeled
L	Name	Mass	Mass 1	RT [min]	Time	Time		Status	Time Status
1 2	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98	31.02	30.92	30.95 32.00	failed	failed
3	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01	32.03	32.03		passed	passed
4	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54	36.55	36.55	36.53 37.75	passed	passed
	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76		37.78		passed	passed
5 6	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15		38.15	38.13	passed	passed
7	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34	41.36	41.34	41.33	passed	passed
8	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49	41.49	41.49	41.48	passed	passed
9	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16	42.18	42.18	42.15	passed	passed
10	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.35	42.38	42.34	passed	passed
	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.49	42.46	passed	passed
11 12	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.78	42.78	42.77	passed	passed
	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43,17	43.16	43.19	43.16	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86		44.86	44.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.04	46.05	46.04	passed	passed
15 16	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.60	46.60	46.60	passed	passed
	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.04	49.04	49.04	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.26	49.26	49.23	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.39	32.39	32.39	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31.24	31.24	31.24	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.23	41.23	41.23	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95		30.95	31.02	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	32.00	32.00	32.00	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.53	36.53	36.52	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.75	37.75	37.72	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.12		38.13	38.13	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32		41.33	41.29	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.48	41.48	41.60	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	<b>4</b> 2.15		42.15	42.18	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.33	42.34	42.34	42.34	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.46	42.46	42.46	42.46	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.77	42.77	42.77	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.16	43.16	43.16	43.12	passed	passed
33 34	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.84	44.85	44.85	45.10 46.04	passed	passed
	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.03	46.04	46.04		passed	passed
35 36	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.60	46.60	46.60	46.60	passed	passed
37	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.04	49.04	49.04	49.04	passed	passed
38	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22		49.23	49.23 29.74	passed	passed
39	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.73	29.74	29.74	30.53		
40	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.52	30.53	30.53			
41	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.17	36.18	36.18	36.18 37.02		
42	Total PeCDD	357,8516 +/- 5 ppm	355.8546 +/- 5 ppm	37.00	37.02	37.02	41.54		
43	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.54	41.54	41.54			
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.73	41.73	41.73	41.73 45.63	-	
45	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	45.63	45.63	45.63	45.03	-	
46	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.75	45.75	45.75	0.00		
47	AVG_Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.00	0.00	0.00	0.00		
48	AVG_Total HxCDD	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.00	0.00	0.00 0.00	0.00		
49	AVG_Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.00		0.00	0.00		-
50	AVG_Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.00			0.00		
51	TEQ WHO 2005	0.0000 +/- 0.0 mmu	0.0000 +/- 0.0 mmu	0.00		0.00	0.00		•
52	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	29.83		29.83	0.00	passed	-
53	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.08		26.07	0.00	passed	
54	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	27.83		27.86	0.00	passed	
55	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.54		30.49	0.00	failed	-
	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	31.02		30.92		failed	-
56 57	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	31.14		31.14	0.00	passed	-
57 50	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	31.30		31.28	0.00	passed	
58 50	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	31.45		31.38	0.00	failed	
59 60	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	32.06	32.06	32.06	0.00	passed	
60	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	32.85		32.85	0.00	passed	
61 62	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	33.42		33.43	0.00	passed	
62 63	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	30.94		30.94	0.00	passed	
63	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	27.84	27.84	27.84	0.00	passed	







No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
64	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	28.08	28.08	28.08	0.00	passed	-
65	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.12	29.12	29.09	0.00	passed	
66	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.67	29.67	29.71	0.00	passed	
67	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	31.16	31.16	31.18	0.00	passed	
68	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	33.14	33.14	33.14	0.00	passed	
69	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.16	38.16	38.15	0.00	passed	
70	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	35.36	35.36	35.39	0.00	passed	
71	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.09	38.09	38.07	0.00	passed	
72	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.70	38.70	38.75	0.00	failed	
73	Single PeCDF	341.8567 +/- 5 ppm	339,8597 +/- 5 ppm	36,55	36.55	36.55	0.00	passed	
74	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	33.38	33.38	33.36	0.00	passed	
75	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.42	36.42	36.38	0.00	failed	
76	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.64	36.64	36.65	0.00	passed	
77	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.75	36.75	36.72	0.00	passed	
78	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.99	36.99	36.99	0.00	passed	
79	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.53	37.53	37.50	0.00	passed	
80	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.66	37.66	37.63	0.00	passed	
81	Single PeCDF	341.8567 +/- 5 ppm	339,8597 +/- 5 ppm	37.76	37.76	37.78	0.00	passed	
82	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	38.03	38.03	38.04	0.00	passed	-
83	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	38.41	38.41	38.41	0,00	passed	
84	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	38.60	38.60	38.61	0.00	passed	
85	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	38.74	38.74	38.72	0.00	passed	
86	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	39.00	39.00	38.94	0.00	failed	
87	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.04	46.04	46.05	0.00	passed	
88	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm		45.21	45.18	0.00	passed	-
89	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.16	43.16	43.19	0.00	passed	
90 91	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.10	40.10	40.08	0.00 0.00	passed	
92	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.36	41.36	41.34	0.00	passed	
93	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49	41.49 42.18	41.49 42.18	0.00	passed	
94	Single HxCDF Single HxCDF	375.8178 +/- 5 ppm 375.8178 +/- 5 ppm	373.8208 +/- 5 ppm 373.8208 +/- 5 ppm	42.18 42.81	42.18 42.81	42.80	0.00	passed passed	
95	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm		42.90	42.88	0.00	passed	
96	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.04	43.04	43.05	0.00	passed	
97	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.33	41.33	41.31	0.00	passed	
98	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	40.56	40.56	40.56	0.00	passed	
99	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.48	41.48	41.45	0.00	passed	
100	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.14	42.14	42.16	0.00	passed	
101	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.20	42.20	42.22	0.00	passed	
102	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm		42.35	42.38	0.00	passed	
103	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.49	0.00	passed	
104	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.65	42.65	42.68	0.00	passed	
105	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.78	42.78	0.00	passed	
106	Single HpCDF	409,7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.86	44.86	0.00	passed	
107	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.97	44.97	44.97	0,00	passed	
108	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.07	45.07	45.08	0.00	passed	
109	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.22	45.22	45.28	0.00	failed	
110	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.39	45.39	45.37	0.00	passed	
111	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.44	45.43	0.00	passed	
112	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.05	46.05	46.02	0.00	passed	
113	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.60	46.60	46.60	0.00	passed	







### Entry Parameters

No.	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	_	Recovery
	Name	Time	(A)	Limit		Status	Recovery (A)	Limit		Status
1	2378-TCDF	31.02	0.0482	0.6450 -	0.8950	failed		0-	0	F
3	2378-TCDD	32.03	48.5974	0.6450 -	0.8950	failed		0 -	0	passed
4	12378-PeCDF	36.55	2.1625	1.3150 -	1.7850	failed		0 -	0	F
	23478-PeCDF	37.76	1.9720	1.3150 -	1.7850	failed	-	0 -	0	pactor
5	12378-PeCDD	38.16	1.4036	1.3150 -	1.7850	passed	-	0 -	0	F
6	123478-HxCDF	41.36	1.1634	1.0450 -	1.4350	passed	-	0 -	0	<b>,</b>
7	123678-HxCDF	41.49	2.0503	1.0450 -	1.4350	failed	-	0 -	0	F
8	234678-HxCDF	42.18	5.9402	1.0450 -	1.4350	failed		0-	0	,
9	123478-HxCDD	42.35	3.6147	1.0450 -	1.4350	failed	-	0 -	0	F
10	123678-HxCDD	42.47	4.0955	1.0450 -	1.4350	failed	-	0 -	0	passed
11	123789-HxCDD	42.78	0.9013	1.0450 -	1.4350	failed		0 -	0	passed
12	123789-HxCDF	43.16	1.0693	1.0450 -	1.4350	passed		0 -	0	passed
13	1234678-HpCDF	44.86	0.8973	0.8750 -	1.2050	passed		0 -	0	passed
14	1234678-HpCDD	46.04	1.3658	0.8750 -	1.2050	failed		0 -	0	passed
15	1234789-HpCDF	46.60	0.9829	0.8750 -	1.2050	passed		0 -	0	passed
16	OCDD	49.04	0.9892	0.7550 -	1.0250	passed		0 -	0	passed
17	OCDF	49.26	3.0340	0.7550 -	1.0250	failed		0 -	0	passed
18	13C12-1278-TCDD (CRS)	32.39	0.7764	0.6450 -	0.8950	passed	44.45	35 -	197	passed
19	13C12-1234-TCDD	31.24	0.8336	0.6450 -	0.8950	passed	100.00	0 -	0	passed
20	13C12-123468-HxCDD	41.23	1.2646	1.0450 -	1.4350	passed	100.00	0 -	0	passed
21	13C12-2378-TCDF	30.95	0.7869	0.6450 -	0.8950	passed	68.61	40 -	135	passed
22	13C12-2378-TCDD	32.00	0.8178	0.6450 -	0.8950	passed	82.21	40 -	135	passed
23	13C12-12378-PeCDF	36.53	1.5796	1.3150 -	1.7850	passed	96.16	40 -	135	passed
24	13C12-23478-PeCDF	37.75	1.5824	1.3150 -	1,7850	passed	86.98	40 -	135	passed
25	13C12-12378-PeCDD	38.13	1.5883	1.3150 -	1.7850	passed	95.01	40 -	135	passed
26	13C12-123478-HxCDF	41.33	0.5135	0.4250 -	0.5950	passed	77.98	40 -	135	passed
27	13C12-123678-HxCDF	41.48	0.5249	0.4250 -	0.5950	passed	87.93	40 -	135	passed
28	13C12-234678-HxCDF	42.15	0.5323	0.4250 -	0.5950	passed	79.35	40 -	135	passed
29	13C12-123478-HxCDD	42.34	1.2541	1.0450 -	1.4350	passed	84.97	40 -	135	passed
30	13C12-123678-HxCDD	42.46	1.2457	1.0450 -	1.4350	passed	85.44	40 -	135	passed
31	13C12-123789-HxCDD	42.77	1.2616	1.0450 -	1.4350	passed	86.33	40 -	135	passed
32	13C12-123789-HxCDF	43.16	0.5400	0.4250 -	0,5950	passed	82.92	40 -	135	passed
33	13C12-1234678-HpCDF	44.85	0.4482	0.3650 -	0.5150	passed	101.21	40 -	135	passed
34	13C12-1234678-HpCDD	46.04	1.0513	0.8750 -	1.2050	passed	93.03	40 -	135	passed
35	13C12-1234789-HpCDF	46.60	0.4521	0.3650 -	0.5150	passed	76.85	40 -	135	passed
36	13C12-OCDD	49.04	0.9168	0.7550 -	1.0250	passed	93.56	40 -	135	passed
37	13C12-OCDF	49.23	0.9153	0.7550 -	1.0250	passed	74.42	40 -	135	passed
38	Total TCDF	29.74	0.7765	0.6450 -	0.8950	passed	14.42	0-	0	
39	Total TCDD	30.53	0.7709	0.6450 -	0.8950			0-	0	
40	Total PeCDF	36.18	0.7505	1.3150 -	1.7850			0-	0	
41										
42	Total PeCDD Total HxCDF	37.02 41.54	1.4036 1.0912	1.3150 - 1.0450 -	1.7850 1.4350			0 - 0 -	0	
43			1.0912							
43	Total HxCDD	41.73		1.0450 -	1.4350			0-	0	<del>-</del>
45	Total HpCDD	45.63 45.75	0.0420	0.8750 -	1.2050			0-	0	-
45 46	Total HpCDF	45.75	0.9439	0.8750 -	1.2050			0-	0	
46	AVG_Total PeCDF	0.00	0.0000	0.0000 -	0.0000		91.57	0 -	٠	
	AVG_Total HxCDF	0.00	0.0000	0.0000 -	0.0000		82.04	0-	0	
48	AVG_Total HxCDD	0.00	0.0000	0.0000 -	0.0000		85.58	0 -	0	
49 50	AVG_Total HpCDF	0.00	0.0000	0.0000 -	0.0000		89.03	0 -	0	-
50	TEQ WHO 2005	0.00	1.0330	0.0000 -	0.0000		0.00	0 -	0	
51	Single TCDF	29.83	1.2721	0.6450 -	0.8950	failed		0 -	0	passed
52	Single TCDF	26.08	8.3694	0.6450 -	0.8950	failed	-	0 -	0	
53	Single TCDF	27.83	1.4158	0,6450 -	0.8950	failed	-	0 -	0	passed
54	Single TCDF	30.54	1.1744	0.6450 -	0.8950	failed	_	0 -	0	passed
55	Single TCDF	31.02	0.0482	0.6450 -	0.8950	failed	-	0 -	0	passed
56	Single TCDF	31.14	2.1921	0.6450 -	0.8950	failed	-	0 -	0	passed
57	Single TCDF	31.30	0.4170	0.6450 -	0.8950	failed	-	0 -	0	passed
58	Single TCDF	31.45	0.0309	0.6450 -	0.8950	failed		0 -	0	passed
59	Single TCDF	32.06	1.7461	0.6450 -	0.8950	failed	-	0 -	0	passed
60	Single TCDF	32.85	0.7765	0.6450 -	0.8950	passed		0 -	0	passed
61	Single TCDF	33.42	0.0711	0.6450 -	0.8950	failed		0 -	0	passed
62	Single TCDD	30.94	2.3618	0.6450 -	0.8950	failed		0 -	0	passed
63	Single TCDD	27.84	27.2173	0.6450 -	0.8950	failed		0 -	0	passed

TargetQuan3





N-	Compound	QM Retention	RM1 Ratio	Ratio1		Ratio1	Percent	Recovery	Recovery
No.	Name	Time	(A)	Limit		Status	Recovery (A)	Limit	Status
64	Single TCDD	28.08	72.8583	0.6450 -	0.8950	failed		0-	passed
65	Single TCDD	29.12	0.7309	0.6450 -	0.8950	passed		0 -	passed
66	Single TCDD	29.67	1.5109	0.6450 -	0.8950	failed		0 - 0	passed
67	Single TCDD	31.16	56.9728	0.6450 -	0.8950	failed		0 - 0	) passed
68	Single TCDD	33.14	2.0975	0.6450 -	0.8950	failed		0 - 0	) passed
69	Single PeCDD	38.16	1.4036	1.3150 -	1.7850	passed		0- 0	passed
70	Single PeCDD	35.36	3.5105	1.3150 -	1.7850	failed		0- (	) passed
71	Single PeCDD	38.09	0.8978	1.3150 -	1.7850	failed		0- (	) passed
72	Single PeCDD	38.70	1.1649	1.3150 -	1.7850	failed		0- (	) passed
73	Single PeCDF	36.55	2.1625	1.3150 -	1.7850	failed		0- (	) passed
74	Single PeCDF	33.38	0.4705	1.3150 -	1.7850	failed		0- (	) passed
75	Single PeCDF	36.42	0.4719	1.3150 -	1.7850	failed		0- (	) passed
76	Single PeCDF	36.64	0.8737	1.3150 -	1.7850	failed			) passed
77	Single PeCDF	36.75	0.8460	1,3150 -	1.7850	failed		0- (	passed
78	Single PeCDF	36.99	0.1363	1.3150 -	1.7850	failed		0- (	passed
79	Single PeCDF	37.53	0.8536	1.3150 -	1.7850	failed		0- (	passed
80	Single PeCDF	37.66	0.8669	1.3150 -	1.7850	failed		0- (	) passed
81	Single PeCDF	37.76	1.9720	1.3150 -	1.7850	failed		0 - 0	passed
82	Single PeCDF	38.03	0.4445	1.3150 -	1.7850	failed		0- 0	passed
83	Single PeCDF	38.41	0.4725	1.3150 -	1.7850	failed		0- 0	passed
84	Single PeCDF	38.60	0.0304	1.3150 -	1.7850	failed		0 - (	) passed
85	Single PeCDF	38.74	0.0376	1.3150 -	1.7850	failed		0 - 0	) passed
86	Single PeCDF	39.00	0.9605	1.3150 -	1.7850	failed		0- (	passed
87	Single HpCDD	46.04	1.3658	0.8750 -	1.2050	failed		0- 0	passed
88	Single HpCDD	45.21	0.4649	0.8750 -	1.2050	failed		0- (	) passed
89	Single HxCDF	43.16	1.0693	1.0450 -	1.4350	passed			) passed
90	Single HxCDF	40.10	0.5399	1.0450 -	1.4350	failed		0- 0	passed
91	Single HxCDF	41.36	1.1634	1.0450 -	1.4350	passed			) passed
92	Single HxCDF	41.49		1.0450 -	1.4350	failed		0- (	F
93	Single HxCDF	42.18	5.9402	1.0450 -	1.4350	failed			passed
94	Single HxCDF	42.81	11.5800	1.0450 -	1.4350	failed			passed
95	Single HxCDF	42.90	5.9760	1.0450 -	1.4350	failed		0- (	F
96	Single HxCDF	43.04	29.9647	1.0450 -	1.4350	failed		0- (	· · · · · · · · · · · · · · · · · · ·
97	Single HxCDD	41.33	1.6256	1.0450 -	1.4350	failed		0- 0	
98	Single HxCDD	40.56	0.3840	1.0450 -	1.4350	failed		0- (	F
99	Single HxCDD	41.48	5.8166	1.0450 -	1.4350	failed	-	0- 0	'
100	Single HxCDD	42.14	2.8026	1.0450 -	1.4350	failed		0- (	
101	Single HxCDD	42.20	0.4881	1.0450 -	1.4350	failed		0- (	,
102	Single HxCDD	42.35	3.6060	1.0450 -	1.4350	failed		0- (	
103	Single HxCDD	42.47	4.0955	1.0450 -	1.4350	failed		0- 0	•
104	Single HxCDD	42.65		1.0450 -	1.4350	failed		0- (	•
105	Single HxCDD	42.78	0.9013	1.0450 -	1.4350	failed		0- (	,
106	Single HpCDF	44.86	0.8973	0.8750 -	1.2050	passed		0- (	•
107	Single HpCDF	44.97	30.3170	0.8750 -	1.2050	failed		0- 0	F
108	Single HpCDF	45.07	3.7540	0.8750 -	1.2050	failed		0- 0	
109	Single HpCDF	45.22	1.1251	0.8750 -	1.2050	passed		0- 0	
110	Single HpCDF	45.39	1.1540	0.8750 -	1.2050	passed		0- 0	F
111	Single HpCDF	45.44	214.1723	0.8750 -	1.2050	failed		0- (	,
112	Single HpCDF	46.05	56.3652	0.8750 -	1.2050	failed		0- 0	F
113	Single HpCDF	46.60	0.9829	0.8750 -	1.2050	passed		0- 0	) passed

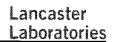






No.	Compound	Status	QM Retention	QM Area	QM	RM1 Area	RM1	Detection	Unqualified	Adjusted	Signal-to-Noise
1	Name 2378-TCDF	Overview failed	Time 31.02	247	Mode A		Mode A	Limit (A) 0.0108	Amount (A) 0.027399	Amount (A)	3igriai-to-Noise
2	2378-TCDF 2378-TCDD	failed	32.03	1	A		A	0.0108	0.027399	n.d. n.d. < 0.0117	3
3	12378-PeCDF	failed	36.55	327	A	706	A	0.0087	0.090153	n.a. < 0.0117 n.d.	30
4	23478-PeCDF	failed	37.76	228	A	450	A	0.0081	0.058891	n.d.	23
5	12378-PeCDD	passed	38.16	135	A	189	A	0,0185	0.046330	0.0463	9
6	123478-HxCDF	passed	41.36	183	A	213	A	0.0076	0,034109	0.0341	10
7	123678-HxCDF	failed	41.49	179	A	367	A	0.0069	0.040572	n.d.	16
8	234678-HxCDF	failed	42.18	84	A	496	A	0.0075	0.048864	n.d.	15
9	123478-HxCDD	failed	42.35	51	Α	183	Α	0.0116	0.028773	n.d.	9
10	123678-HxCDD	failed	42.47	85	Α	348	Α	0.0115	0.051612	n.d.	12
11	123789-HxCDD	failed	42.78	220	Α	198	Α	0.0110	0.048549	n.d.	11
12	123789-HxCDF	passed	43.16	604	Α	646	Α	0.0080	0.112129	0.1121	36
13	1234678-HpCDF	passed	44.86	450	Α	404	Α	0.0065	0.060496	0.0605	24
14	1234678-HpCDD	failed	46.04	254	Α	347	Α	0.0090	0.071606	n.d.	24
15	1234789-HpCDF	passed	46.60	275	Α	270	Α	0.0098	0.057772	0.0578	16
16	OCDD	passed	49.04	474	Α	469	Α	0.0197	0.128737	0.1287	21
17	OCDF	failed	49.26	166	Α	504	Α	0.0135	0.085351	n.d.	16
18	13C12-1278-TCDD (CRS)	passed	32.39	182877	Α	141979	Α	0.0261	35.561501	35.5615	3342
19	13C12-1234-TCDD	passed	31.24	775909	Α	646801	Α	0.0253	200.000000	200.0000	19725
20	13C12-123468-HxCDD	passed	41.23	869249	Α	1099216	Α	0.0452	200.000000	200.0000	11068
21	13C12-2378-TCDF	passed	30.95	1020542	Α	803019	Α	0.0131	137.228298	137.2283	24860
22	13C12-2378-TCDD	passed	32.00	633733	Α	518292	Α	0.0257	164.417311	164.4173	16162
23	13C12-12378-PeCDF	passed	36.53	915920	Α	1446830	Α	0.0656	192.319888	192.3199	9217
24	13C12-23478-PeCDF	passed	37.75	826563	Α	1307961	Α	0.0657	173.963184	173.9632	8823
25	13C12-12378-PeCDD	passed	38.13	509119	Α	808611	Α	0.0425	190.015831	190.0158	14775
26	13C12-123478-HxCDF	passed	41.33	1303320	Α	669293	Α	0.0437	155.952245	155.9522	8921
27	13C12-123678-HxCDF	passed	41.48	1534566	Α	805513	Α	0.0416	175.851365	175.8514	10147
28	13C12-234678-HxCDF	passed	42.15	1278759	Α	680680	Α	0.0448	158.707371	158.7074	8822
29	13C12-123478-HxCDD	passed	42.34	70199 <del>9</del>	Α	880380	Α	0.0477	169.935465	169.9355	9061
30	13C12-123678-HxCDD	passed	42.46	731025	Α	910624	Α	0.0463	170.885144	170.8851	9149
31	13C12-123789-HxCDD	passed	42.77	701872	Α	885511	Α	0.0484	172.652158	172.6522	8996
32	13C12-123789-HxCDF	passed	43.16	1254967	Α	677666	Α	0.0474	165.838920	165.8389	8641
33 34	13C12-1234678-HpCDF	passed	44.85	1520160	Α	681303	Α	0.0512	202.424273	202.4243	10381
	13C12-1234678-HpCDD	passed	46.04	772310	A	811924	A	0.0532	186.062669	186.0627	9193
35 36	13C12-1234789-HpCDF	passed	46.60	983072 1497676	A	444445 1373140	A	0.0599	153.700199	153.7002	6679 29977
37	13C12-OCDD	passed	49.04	1756885	A	1608128	A	0.0341	374.230406	374.2304	28024
38	13C12-OCDF	passed	49.23	79	A	61	A	0.0264	297.696980	297.6970	8
39	Total TCDF Total TCDD	passed (1)	29.74 30.53	66	A	48	A A	0.0108	0.014892	0.0149	7
40	Total PeCDF	passed (1) failed	36.18	0	A	0	M	0.0117	0.015961	0.0160	
41	Total PeCDD	passed (1)	37.02	135	M		M	0.0185	0.046330	0.0463	9
42	Total HxCDF	passed (1)	41.54	787	M	858	M	0.0075	0.068410	0.1368	23
43	Total HxCDD	failed	41.73	0	M		A	0.0070	0.000410	0.1505	
44	Total HpCDD	failed	45.63	0	A	0	A				
45	Total HpCDF	passed (3)	45.75	774	A	730	A	0.0078	0.042485	0.1275	15
46	AVG_Total PeCDF	passed (2)	0.00	871242	^	1377396	^	0.0656	183.141536	183.1415	9020
47	AVG_Total HxCDF	passed (4)	0.00	1342903		708288		0.0444	164.087475	164.0875	9133
48	AVG_Total HxCDD	passed (3)	0.00	711632		892172		0.0475	171.157589	171.1576	9069
49	AVG_Total HpCDF	passed (2)	0.00	1251616		562874		0.0555	178.062236	178,0622	8530
50	TEQ WHO 2005	passed (6)	0.00	2121		2191		0.0117	0.439573	0.4396	19
51	Single TCDF	failed	29.83	352	Α	448	Α	0.0108	0.084830	n.d.	22
52	Single TCDF	failed	26.08	15	Α	127	Α	0.0108	0.015121	n.d.	5
53	Single TCDF	failed		63	Α	89	Α	0.0108	0.016131	n.d.	7
54	Single TCDF	failed	30.54	75		88	Α	0.0108	0.017175	n.d.	7
55	Single TCDF	failed	31.02	247	Α	12	Α	0.0108	0.027399	n.d.	10
56	Single TCDF	failed	31.14	38	Α	84	Α	0.0108	0.012944	n.d.	8
57	Single TCDF	failed	31.30	84	Α	35	Α	0.0108	0.012646	n.d.	4
58	Single TCDF	failed	31.45	123	Α	. 4	Α	0,0108	0.013441	n.d.	4
59	Single TCDF	failed	32.06	67	Α	116	Α	0.0108	0.019398	n.d.	10
60	Single TCDF	passed	32.85	79	Α	61	Α	0.0108	0.014892	0.0149	8
61	Single TCDF	failed	33.42	165	Α	12	Α	0.0108	0.018735	n,d.	6
62	Single TCDD	failed	30.94	119	Α	280	Α	0.0117	0.056098	n.d.	15







No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	Signal-to-Noise
64	Single TCDD	failed	28.08	1	Α	97	A	0.0117	0.013897	n.d.	6
65	Single TCDD	passed	29.12	66	Α	48	Α	0.0117	0.015961	0.0160	7
66	Single TCDD	failed	29.67	41	Α	61	Α	0.0117	0.014332	n.d.	4
67	Single TCDD	failed	31.16	2	A	124	Α	0.0117	0.017691	n. <b>d</b> .	. 6
68	Single TCDD	failed	33.14	40	Α	. 84	Α	0.0117	0.017418	n.d.	7
69	Single PeCDD	passed	38.16	135	A	189	Α	0.0185	0.046330	0.0463	9
70	Single PeCDD	failed	35.36	38	M	132	M	0.0185	0.024324	n.d.	4
71	Single PeCDD	failed	38.09	75	A	67	Α	0.0185	0.020389	n.d.	4
72	Single PeCDD	failed	38.70	73	A		Α	0.0185	0.022658	n.d.	5
73	Single PeCDF	failed	36.55	327	A		Α	0.0084	0.089705	n.d.	30
74	Single PeCDF	failed	33.38	88	A		Α	0.0084	0.011294	n.d.	5
75	Single PeCDF	failed	36.42	66	A	31	Α	0.0084	0.008381	n.d.	3
76	Single PeCDF	failed	36.64	52	A		Α	0.0084	0.008490	n.d.	4
77	Single PeCDF	failed	36.75	61	A		Α	0.0084	0.009802	n.d.	6
78	Single PeCDF	failed	36.99	115	A		Α	0.0084	0.011305	n.d.	4
79	Single PeCDF	failed	37.53	78	A		Α	0.0084	0.012517	n.d.	5
80	Single PeCDF	failed	37.66	75	A		Α		0.012105	n.d.	5
81	Single PeCDF	failed	37.76	228	A		Α	0.0084	0.058872	n.d.	23
82	Single PeCDF	failed	38.03	103	A		Α	0.0084	0.012922	n.d.	5
83	Single PeCDF	failed	38.41	84	A		Α	0.0084	0.010694	n.d.	5
84	Single PeCDF	failed	38.60	125	Α		Α		0.011218	n.d.	4
85	Single PeCDF	failed	38.74	152	Α		Α		0.013738	n.d.	3
86	Single PeCDF	failed	39.00	124	Α		M	0.0084	0.021029	n.d.	6
87	Single HpCDD	failed	46.04	254	A		Α	0.0090	0.071606	n.d.	24
88	Single HpCDD	failed	45.21	186	,		Α		0.032468	n.d.	12
89	Single HxCDF	passed	43.16	604	Α		Α		0.103941	0.1039	36
90	Single HxCDF	failed	40.10	60	A		Α		0.007701	n.d.	4
91	Single HxCDF	passed	41.36	183		_	Α		0.032880	0.0329	10
92	Single HxCDF	failed	41.49	179	Α		Α		0.045433	n.d.	16
93	Single HxCDF	failed	42.18	84	Α		Α		0.048208	n.d.	15
94	Single HxCDF	failed	42.81	11	A		Α		0.011824	n.d.	5
95	Single HxCDF	failed	42.90	18	Α		Α		0.010226	n.d.	5
96 97	Single HxCDF	failed	43.04	4	Α		A		0.009465	n.d.	5 14
	Single HxCDD	failed	41.33	224	Α		A		0.070489	n.d.	
98 99	Single HxCDD	failed	40.56	131	Α		A		0.021745	n.d.	6
100	Single HxCDD	failed	41.48	98	A		Α .		0.080145	n.d.	17 18
101	Single HxCDD	failed	42.14	164 65	Α	·	A		0.074577	n.d.	4
102	Single HxCDD	failed	42.20		A		A	0.0114	0.011514	n.d.	9
103	Single HxCDD	failed	42.35	51	M		A	0.0114	0.027899	n.d.	12
103	Single HxCDD	failed	42.47	85 41	Α.		A		0.051741	n.d.	9
105	Single HxCDD	failed	42.65	220	Α	•	A		0.022932	n.d.	11
106	Single HxCDD	failed	42.78				A		0.049952	n.d.	24
107	Single HpCDF	passed	44.86 44.97	450 4			A A	0.0078 0.0078	0.072337 0.009366	0.0723	4
108	Single HpCDF	failed		20	A					n.d.	4
109	Single HpCDF	failed	45.07	20 45	A	`	A	0.0078	0.008081	n.d.	4
110	Single HpCDF	failed	45.22	49	A	`	A	0.0078	0.008017	n.d.	5
111	Single HpCDF	passed	45.39	3	A	•	A	0.0078	0.008886	0.0089	15
112	Single HpCDF Single HpCDF	failed failed	45.44 46.05	2	A		A A	0.0078 0.0078	0.048822 0.008060	n.d.	3
113	- ·		46.60	275			A	0.0078	0.046230	n.d. 0.0462	16
113	Single HpCDF	passed	46.60	2/3	A	2/0	A	0.0078	0.046230	0.0462	10





File Name: Y:\17FEB07\17FEB07-17 Acq. Data: 2/8/2017 12:23:33 AM Instrument ID: DF18471-17FEB07 Sample ID: BLK031003 Sample Name: 17031003 PFK Reference Lock Mass Traces RT: 22.50 - 51.00 NL: 1282 710 1260 847 1302 945 4.14E5 1112 32.94 33.31 23.54 33.65 25.88 27.55 100-30,41 m/z=291.9825-80-292.9825 MS 60-17FEB07-17 40-20-0-1636 NL: 1496 1669 1360 38.98 5.47E5 36.82 34.73 39.49 100-m/z=330.4792-80-331.4792 MS 60-17FEB07-17 40-20-0-1673 NL: 1696 1955 39.63 39.94 3.48E5 43.43 100~ m/z=1657 380.4760-1386 1500 Relative Abundance 1362 80-35.13 39,31 381.4760 36.89 34.76 MS 17FEB07-60-17 40-20-0-2055 NL: 2192 2273 9.06E4 44.88 2025 100_ 46.77 47,89 44.46 m/z= 404.4760-80-405.4760 MS 17FEB07-60-17 40-20-0 NL: 2282 2295 1.11E5 48.09 100_ m/z=442.4728-80⊣ 443.4728 MS 60-17FEB07-17 40-20-0-Page 51 42 24

Time (min)

By UMJS at 12:42 pm 329/17

Acq. Data: 2/8/2017 12:23:33 AM File Name: Y:\17FEB07\17FEB07-17 Instrument ID: DF18471-17FEB07 Sample ID: BLK031003 Sample Name: 17031003 Chlorodiphenylether Interference Traces RT: 20.40 - 34.90 RT: 29.83 RT: 31.02 NL: AA: 352 9.00E1 AA: 248 100m/z=305.3987-RT: 25.12 RT: 28.51 306.3987 AA: 109 80 AA: 31.48 MS ICIS RT: 33.42 TCDF Quan Mass RT: 29.06 RT: 32.32 RT: 21.21 17FEB07-AA: 167 RT: 27.24 AA: 76.30 RT: 22.48 RT: 24.49 AA: 95.92 AA: 132 RT: 26.00 17 60-AA: 65.72 AA: 71.77 AA: 92.23 RT: 34.24 AA: 84.09 AA: 30.30 RT: 23.89 AA: 33.32 40 20 0 RT: 29.83 NL: AA: 448 1.13E2 100m/z=303.4016-304.4016 80 MS ICIS TCDF Ratio Mass 17FEB07-RT: 31.14 RT: 32.06 RT: 29.57 AA: 39.48 17 60-RT: 33.96 AA: 117 AA: 84.36 RT: 26.07 RT: 27.86 AA: 96.46 AA: 128 AA: 89.18 RT: 21.69 AA: 51.29 RT: 27.30 40 RT: 22.87 RT: 24.42 AA: 32.82 AA: 20.50 AA: 20.00 20 0 RT: 30.95 1.86E5 AA: 1019596 100m/z= 317.4389-318.4389 TCDF 13C12 Quan Mass 80 MS ICIS 17FEB07-17 60 40-RT: 30.75 AA: 340 20 RT: 29.21 RT: 24.65 RT: 26.00 RT: 28.17 RT: 31.24 RT: 33.35 RT: 21.11 RT: 22.85 AA: 26525 AA: 91.65 AA: 101 AA: 216 AA: 149 AA: 355 AA: 277 NL: RT: 22.20 7.60E1 AA: 139 100m/z=375.3364-376.3364 RT: 23.21 80 MS ICIS AA: 111 17FEB07-HxCDPE Trace RT: 22.15 17 AA: 57.90 60-RT: 23.33 AA: 4.10 RT: 27.14 40-RT: 29.11 RT: 30.44 RT: 31.04 RT: 21.13 RT: 34.59 RT: 24.41 AA: 10.77 AA: 89.04 AA: 4.10 AA: 4.10 AA: 6.15 AA: 174 AA: 6.15 20

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21

File Name: Y:\17FEB07\17FEB07-17 Acq. Data: 2/8/2017 12:23:33 AM Instrument ID: DF18471-17FEB07 Sample ID: BLK031003 Sample Name: 17031003 Chlorodiphenylether Interference Traces RT: 34.50 - 39.80 RT: 36.55 NL: AA: 336 1.29E2 100m/z=RT: 37.76 341.3567-AA: 228 RT: 36.64 342.3567 80 MS ICIS AA: 59.14 PeCDF Quan Mass RT: 37.83 RT: 35.22 17FEB07-RT: 35.75 AA: 55.51 AA: 133 17 60 AA: 16.21 RT: 39.21 RT: 39.35 RT: 38.60 RT: 36.32 RT: 35.50 RT: 36.99 RT: 37.66 AA: 123 AA: 124 AA: 157 AA: 75.77 AA: 63.81 AA: 116 AA: 74.44 20 0 RT: 36.55 NL: AA: 704 2.12E2 100m/z=339.3597-RT: 37.78 340.3597 AA: 448 80-MS ICIS PeCDF Ratio Mass 17FEB07-17 60-RT: 36.38 AA: 30.73 40-RT: 36.72 RT: 38.13 RT: 38.94 RT: 39.21 RT: 37.63 RT: 36.02 AA: 51.32 RT: 34.96 RT: 35.76 AA: 72.10 AA: 89.86 AA: 135 AA: 41.69 AA: 72.30 AA: 34.23 AA: 26.84 20-0 RT: 36.53 NL: RT: 37.75 AA: 914985 2.22E5 100-AA: 826847 m/z=353.3970-PeCDF 13C12 Quan Mass 354.3970 80-MS ICIS 17FEB07-17 60 RT: 36.28 40-AA: 395 20-RT: 35.99 RT: 35.28 RT: 36.85 RT: 37.63 RT: 35.04 RT: 37.92 RT: 38.95 RT: 39.40 AA: 24655 AA: 17639 AA: 1<u>311</u>8 AA: 4937 AA: 4552 AA: 730 AA: 7883 AA: 258 RT: 39.21 NL: 5.20E1 AA: 200 100m/z=RT: 37.22 409.2974-AA: 49.92 410.2974 80-MS ICIS RT: 37.15 17FEB07-HpCDPE Trace AA: 34.20 RT: 37.29 RT: 38.35 17 60-AA: 3.24 RT: 39.10 AA: 18.98 RT: 37.86 RT: 34.71 RT: 36.70 AA: 74.22 RT: 39.51 AA: 87.30 AA: 4.16 AA: 3.24 AA: 15.85 20-AlL01 Page 519 of 36.5 37.0 560 34.5 35 By uma9 at 12:02 pin 2/9/17 38.0 By UMJS at 12:42 pin,42/9/1 Time (min)

File Name: Y:\17FEB07\17FEB07-17 Acq. Data: 2/8/2017 12:23:33 AM Instrument ID: DF18471-17FEB07 Sample Name: 17031003 Sample ID: BLK031003 Chlorodiphenylether Interference Traces RT: 39.20 - 44.50 NL: RT: 43.16 2.30E2 AA: 605 100m/z=375.3178-376.3178 80 MS ICIS HxCDF Quan Mass 17FEB07-17 RT: 43.08 60-RT: 41.49 AA: 4.04 AA: 179 RT: 41.36 40 RT: 42.18 RT: 43.24 AA: 184 RT: 40.10 AA: 84.01 RT: 42.69 AA: 71.06 RT: 44.12 RT: 41.23 AA: 60.76 RT: 39.70 AA: 92.37 RT: 41.69 AA: 32.33 20-AA: 19.80 AA: 87.94 AA: 3.64 0-RT: 43.19 NL: 1.99E2 AA: 646 100m/z=373.3208-374.3208 RT: 42.18 80 MS ICIS AA: 496 HxCDF Ratio Mass 17FEB07-RT: 41.49 17 60-RT: 42.24 AA: 370 AA: 42.47 RT: 43.05 RT: 43.32 40 AA: 111 RT: 40.40 RT: 41.26 AA: 88.53 RT: 44.25 RT: 39.86 AA: 58.25 AA: 39.21 RT: 41.68 AA: 20.56 AA: 75.68 AA: 24.27 20-0 RT: 41.48 NL: 4.47E5 AA: 1535117 100-RT: 42.15 m/z=RT: 43.16 AA: 1277197 385.3610-AA: 1255219 386.3610 HxCDF 13C12 Quan Mass 80-MS ICIS 17FEB07-17 60-40-RT: 42.76 AA: 949 20-RT: 42.22 RT: 39.60 RT: 40.05 RT: 43.24 RT: 41.64 RT: 44.25 RT: 40.32 AA: 6351 AA: 23515 AA: 5186 AA: 6905 AA: 68.97 AA: 93.77 AA: 333 RT: 40.90 NL: 5.80E1 AA: 96.07 100m/z=445.2555-446.2555 RT: 42.18 RT: 43.05 80-AA: 43.62 RT: 43.92 MS ICIS AA: 65.48 RT: 40.74 AA: 34.76 17FEB07-OCDPE Trace AA: 46.84 17 RT: 43.70 RT: 41.10 60-AA: 19.39 AA: 2.83 RT: 41.60 RT: 39.60 RT: 44.25 AA: 5.66 AA: 94.42 AA: 124 20 Page 520 of 560 42.5 39.5 B\$ uma9 at 12.025m, 2/9/14 44.5 By UMJS at 12:42 ptn 42/9/17 Time (min)

File Name: Y:\17FEB07\17FEB07-17 Acq. Data: 2/8/2017 12:23:33 AM Instrument ID: DF18471-17FEB07 Sample ID: BLK031003 Sample Name: 17031003 Chlorodiphenylether Interference Traces RT: 44.10 - 48.20 RT: 44.86 NL: AA: 427 1.72E2 100m/z=409.2789-410.2789 80-RT: 46.60 MS ICIS HpCDF Quan Mass AA: 275 17FEB07-17 60 RT: 45.17 AA: 50.76 RT: 44.53 40 RT: 45.39 RT: 46.80 AA: 39.19 RT: 46.30 AA: 48.91 RT: 47.05 AA: 62.18 AA: 41.52 RT: 44.36 RT: 45.59 AA: 26.13 RT: 47.94 20 AA: 74.42 AA: 9.12 AA: 51.21 RT: 45.43 NL: AA: 575 1.93E2 100m/z=407.2818-RT: 44.86 408.2818 80-AA: 405 MS ICIS HpCDF Ratio Mass RT: 46.60 17FEB07-AA: 270 17 60 RT: 45.84 RT: 46.37 RT: 47.97 AA: 29.43 AA: 14.93 RT: 44.78 AA: 148 RT: 45.08 40-RT: 46.04 AA: 39.74 AA: 74.18 RT: 47.41 RT: 47.61 AA: 93.31 RT: 44.42 RT: 46.69 AA: 44.78 AA: 51.43 AA: 99.63 AA: 35.36 20-0 RT: 44.85 NL: 4.86E5 AA: 1520601 100m/z= 419.3220-HpCDF 13C12 Quan Mass 420.3220 80-MS ICIS RT: 46.60 17FEB07-AA: 979532 17 60-40-RT: 44.92 RT: 46.44 20-AA: 7425 AA: 97.10 RT: 46.66 RT: 47.43 RT: 47.90 RT: 44.49 RT: 45.39 RT: 46.04 AA: 6002 AA: 246 AA: 7160 AA: 818 AA: 1506 AA: 4573 0 NL: RT: 47.86 5.10E1 AA: 83.46 100-RT: 46.37 m/z=AA: 48.94 479.2165-480.2165 80 MS ICIS RT: 47.42 17FEB07-NCDPE Trace RT: 46.52 AA: 21.58 17 60-AA: 18.26 RT: 44.36 RT: 44.57 RT: 46.89 AA: 76.46 AA: 9.75 AA: 4.97 20 ¹AlL01 ∣Page 521

46.0

Time (min)

By uma9 at 12.02 pm, 2/9/145

47

By UMJS at 12:42 pH 42/9/1

File Name: Y:\17FEB07\17FEB07-17 Acq. Data: 2/8/2017 12:23:33 AM Instrument ID: DF18471-17FEB07 Sample ID: BLK031003 Sample Name: 17031003 Chlorodiphenylether Interference Traces RT: 47.90 - 51.20 NL: RT: 49.20 1.26E2 AA: 233 100m/z=443.2399-444.2399 RT: 49.26 80-MS ICIS AA: 166 OCDF Quan Mass RT: 49.64 RT: 50.23 17FEB07-RT: 50.86 AA: 200 AA: 109 17 60-AA: 135 RT: 50.19 RT: 50.32 RT: 49.16 AA: 68.12 RT: 50.95 AA: 74.15 AA: 70.91 AA: 36.11 RT: 48.25 RT: 48.76 40-RT: 48.11 AA: 45.96 AA: 30.40 AA: 92.73 20-NL: RT: 49.26 1.73E2 AA: 508 100m/z=441,2428-442.2428 80-MS ICIS OCDF Ratio Mass 17FEB07-17 60-RT: 49.31 RT: 50.36 AA: 67.35 AA: 137 40 RT: 48.64 RT: 49.74 RT: 49.06 AA: 36.45 RT: 49.96 RT: 50.67 AA: 26.44 RT: 48.15 AA: 42.47 AA: 16.44 AA: 12.82 20 AA: 89.51 NL: RT: 49.23 5.74E5 AA: 1757531 100m/z=455.2802-456.2802 OCDF 13C12 Quan Mass 80 MS ICIS 17FEB07-17 60-40-20-RT: 49.30 RT: 48.15 RT: 48.83 RT: 49.04 RT: 49.74 RT: 50.02 RT: 50.48 RT: 50.80 AA: 8633 AA: 36.74 AA: 32.01 AA: 1595 AA:_576_ _AA: 297 AA: 359 NL: 1.61E2 100m/z=513.1775-514.1775 80-MS ICIS 17FEB07-17 60-DCDPE RT: 50.11 RT: 48.11 RT: 48.36 AA: 9.60 20 AA: 111 "AlL01"Page 522 of 49.5 **∵560**1⋯⋯ 48.0 By umas at 12:02 pm, 2/9/17 50.0 By UMJS at 12:42 ph 42/9/17 Time (min)

```
17FEB07-17
*** file opened Wed Feb 08 00:29:00 2017 ***

Started by - Xcalibur
Instrument Internet name - DFS MS
Instrument model - DFS MS
Instrument service number - SN0000xxxx
Workstation internet name - LX18470

Analysis started at: 08-Feb-17 00:28:59

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:
```

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

Mid Time W Star		asure	End C	ycletime
# 5 44:15		min 34:36 min 39:30 min 44:15 min 48:00	min 1.00 min 0.90 min 0.80 min 0.80	sec sec sec
Mid Masses Window # mass 218.0129 218.9851 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 297.9752 299.9723 Window #	1 F int gr 1 1 1 20 1 1 2 1 1 1 1 1 1 2 1 1 1 1 1	time (ms) 95 4 95 47 47 95 95 47 47 95 95 47		
mass 292.9819 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	F int gr 1 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118		

Page 1





```
23
23
 331.9363
                 5
                    1
 333.9333
                 5
                    1
 339.8592
                             118
                     1
 341.8562
                 1
                    1
                             118
 354.9787 c
                20
                    1
                               5
                              59
 375.8364
                    1
Window # 3
 mass F
330.9787 1
                          time (ms)
                int
                     gr
                20
                    1
                               6
 339.8592
                 1
                     1
                             133
                 1
 341.8562
                    1
                             133
 351.8994
                    1
                              44
 353.8965
                    1
                              44
 355.8541
                    1
                             133
 357.8511
                    1
                             133
 367.8943
                 3
                              44
                    1
 369.8914
                     1
                              44
 380.9755 c
                20
                    1
                               6
                 2
                    1
 409.7969
                              66
Window # 4
      mass F
                int
                      gr
                          time (ms)
                    1
                             117
 373.8201
                 1
                             117
 375.8172
                 1
                     1
 380.9755
                20
 383.8634
                    1
                              39
                 3
 385.8604
                 3
                              39
                    1
 389.8151
                    1
                             117
 391.8121
                    1
                             117
 401.8554
                    1
                              39
 403.8524
                 3
                    1
                              39
 430.9723 c
                20
                    1
                               5
                 2
                    1
 445.7550
                              58
Window # 5
      mass F
                int
                           time (ms)
                     gr
                               5
 404.9755
                     1
                20
 407.7812
                    1
                             117
                 1
 409.7783
417.8244
                 1
                    1
                             117
                              39
 419.8215
                    1
                              39
 423.7761
                 1
                    1
                             117
 425.7732
                    1
                             117
                 3
 435.8164
                              39
                    1
                 3
2
 437.8134
                    1
                              39
 479.7160
                    1
                              58
 480.9691 c
                20
                    1
                                5
Window # 6
                          time (ms)
      mass F
                int
                      gr
 441.7422
                     1
                              95
                 1
 442.9723 1
                20
                               4
                    1
 443.7393
                              95
                 1
                    1
 453.7825
                 1
                              95
 455.7795
                              95
                 1
                    1
 457.7372
                 1
                    1
                              95
 459.7342
                 1
                    1
                              95
 469.7774
                 3
                    1
                              31
                 3
 471.7745
                    1
                              31
 492.9691 c
                               4
                20
                    1
                              47
 513.6770
                    1
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





```
MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes
```

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

#### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	97.0000
BOUAD	0.0500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE		ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FOUAD	12.3500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0175	FVINLET	0.0304	FVSRC	0.0292
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	97.0000	LKM	442.9723	MASS	97.0000
MDAC	1448058.3899	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2525.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8977	RELEN	0.0000
RES	12431.6550	RPUSHER	-8.6227	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	97.0000	XLENS_POT	896.0000
XLENS SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000
VEENS_SIM	-6.3000	I LENS_PUI	308.000	I LENS_STM	0.0000

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.7e-002 mbar Pirani Source: 2.9e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

#### Sourcemode is EI POS

MID Time Window 1: Resolution is 11577.
MID Time Window 2: Resolution is 11839.
MID Time Window 3: Resolution is 12397.
MID Time Window 4: Resolution is 12163.
Page 3





17FEB07-17 MID Time Window 5: Resolution is 14112. MID Time Window 6: Resolution is 12431.

Amplifier Offset: 87.

*** File closed wed Feb 08 01:20:01 2017

Page 4







#### **Quantitation Settings**

**Data File Parameter** 

2017/02/07 22:30 Acq. Data

**Number of Entries** 140

Comment LCS:11030:12937

101 Sample Name 17031003

Sample ID OPR031003 Inst ID DF18471-17FEB07

Client

ida02741 Analyst

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

Files Parameter

Quan y:\17feb07\17feb07-15.quan Data y:\17feb07\17feb07-15.raw

y:\responsefiles\df18471-17jan31dfical.resp Response

Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC

Mass Ref

**Quan Parameter** 

Compatibility off QualBrowser Compatibility Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

1.0 Injection Volume [hIJV] 20.0 Sample Volume [hSV] 10.0 Sample Weight [hSWT] 1.0 Dilution Factor [hDF] Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

Regression Mode Non weighted Regression

Weighted Regression Factor 1.0



TargetQuan3



#### **Entry Parameters**

No.	Compound	QM Retention	Status	Amount	RM1 Time	Ratio1	Recovery	Native vs Labeled	Status
	Name	Time	Overview	Status	Status	Status	Status	Time Status	Info
1	2378-TCDF	30.98	passed	passed	passed	passed	passed	passed	
2	2378-TCDD	32.02	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	36,54	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	37.76	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	38.14	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	41.33	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	41,48	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	42.17	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	42.36	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	42.47	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	42.78	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	43.17	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	44.86	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	46.04	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	46.61	passed	passed	passed	passed	passed	passed	
16	OCDD	49.05	passed	passed	passed	passed	passed	passed	
17	OCDF	49.25	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	32.38	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	31.24	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	41.23	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	30.94	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	31.99	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	36.52	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	37.74	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	38.13	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	41.32	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	41.47	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	42.16	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	42.33	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	42.45	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	42.76	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	43.15	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	44.85	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	46.03	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	46.59	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	49.03	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	49.23	passed	passed	passed	passed	passed	passed	





#### **Quantitation Settings**

**Data File Parameter** 

2017/02/07 22:30 Acq. Data

**Number of Entries** 140

LCS:11030:12937 Comment

Vial 101 Sample Name 17031003 Sample ID OPR031003 Inst ID DF18471-17FEB07

Client

Analyst jda02741

GC Column DB5MS 60 M x 0.25um x 0.25mm

BatchNo 17031003

Barcode

**Files Parameter** 

Quan y:\17feb07\17feb07-15.quan Data y:\17feb07\17feb07-15.raw

y:\responsefiles\df18471-17jan31dfical.resp Response

C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC Script

Mass Ref

**Quan Parameter** 

QualBrowser Compatibility Compatibility off Sum Area/Height Sum QM RM1 **Quantitation Status** Dependend on Area

Injection Volume [hIJV] 1.0 Sample Volume [hSV] 20.0 Sample Weight [hSWT] 10.0 Dilution Factor [hDF] 1.0 Det. Limit Factor [hDLF] 2.5

Response Factor Mode Average RF Fit Calc. Mode Linear Fit

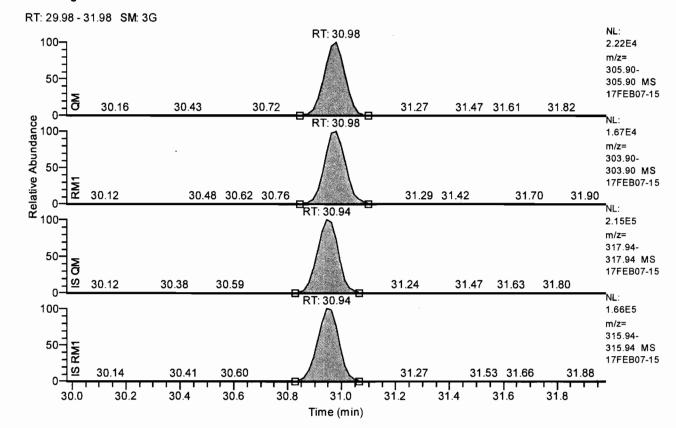
Regression Mode Non weighted Regression

Weighted Regression Factor 1.0





#### Chromatogram

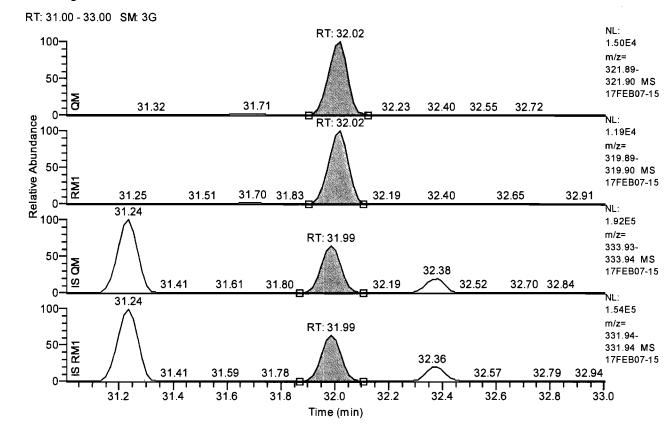


#### **Entry Parameters**

Compound Name 2378-TCDF QM Retention Time 30.98 120999 QM Area QM Integration Mode Α RM1 Area 92121 RM1 Integration Mode Α ManInt Ω Detection Limit (A) 0.0187 Unqualified Amount (A) 19.425140 Adjusted Amount (A) 19.4251 Signal-to-Noise 2627 Client Flags Status Overview passed Status Info



#### Chromatogram

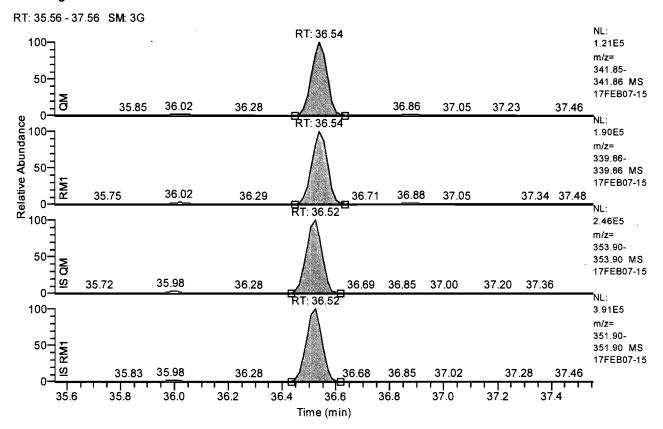


#### **Entry Parameters**

2378-TCDD Compound Name **QM** Retention Time 32.02 QM Area 75184 QM Integration Mode Α RM1 Area 61158 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0170 Unqualified Amount (A) 19.140032 Adjusted Amount (A) 19.1400 Signal-to-Noise 2850 Client Flags Status Overview passed Status Info



#### Chromatogram



#### **Entry Parameters**

Compound Name 12378-PeCDF QM Retention Time 36.54 QM Area 487104 QM Integration Mode RM1 Area 766542 RM1 Integration Mode ManInt Detection Limit (A) 0.0133 Unqualified Amount (A) 98.166210 Adjusted Amount (A) 98.1662 Signal-to-Noise 18876 Client Flags Status Overview passed Status Info



Chromatogram

#### RT: 36.76 - 38.76 SM: 3G NL: RT: 37.76 100 1.18E5 m/z= 341.85-50-341.86 MS 17FEB07-15 S 37.05 37.23 37.46 37.94 38.14 38.36 38.57 0-NL: Relative Abundance 100-1.83E5 m/z= 339.86-339.86 MS 17FEB07-15 RM1 37.94 37.05 37.34 37.48 38.14 38.39 38.62 RT: 37.74 NL: 100-2.42E5 m/z= 353.90-50-353.90 MS S 17FEB07-15 <u>ග</u> 37.00 37.20 37.36 37.90 38.13 38.27 38.42 38.60 0. RT: 37.74 NL: 100-3.88E5 m/z= 351.90-50-IS RM1 351.90 MS 17FEB07-15 37.94 38.13 38.37 38.54 37.02 37.28 37.46

37.8

Time (min)

38.0

38.2

38.4

38.6

37.6

#### **Entry Parameters**

36.8

Compound Name

23478-PeCDF

37.2

37.4

QM Retention Time

37.76 465524

QM Area

QM Integration Mode RM1 Area

731835

37.0

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0121 90.708808

Unqualified Amount (A) Adjusted Amount (A)

90.7088

Signal-to-Noise

18265

Client Flags

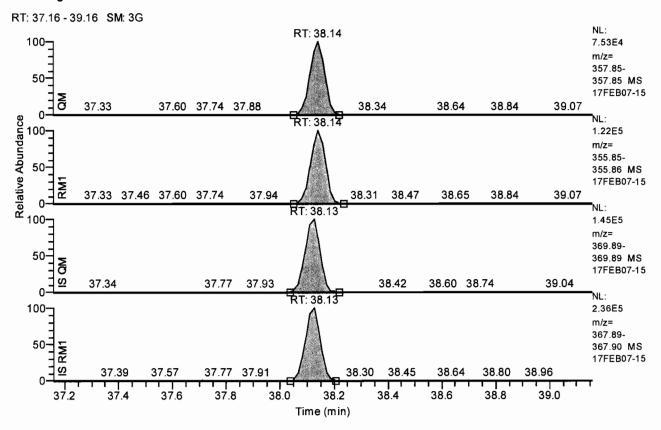
Status Overview

passed





#### Chromatogram



#### **Entry Parameters**

Compound Name

12378-PeCDD

QM Retention Time

38.14

QM Area

285664

QM Integration Mode

Α

RM1 Area RM1 Integration Mode 465854

ManInt

Detection Limit (A)

0.0298

Unqualified Amount (A)

95.313482

Adjusted Amount (A)

95.3135

Signal-to-Noise

8202

Client Flags

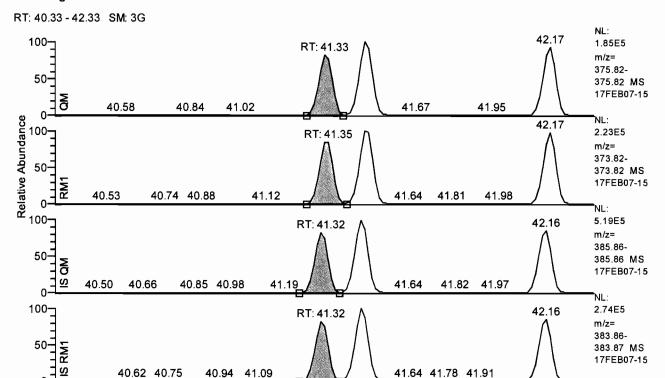
Status Overview

passed





#### Chromatogram



41.4

Time (min)

41.6

41.8

42.0

42.2

#### **Entry Parameters**

40.4

Compound Name

123478-HxCDF

40.8

41.0

41.2

QM Retention Time

41.33

QM Area

535694

QM Integration Mode

40.6

RM1 Area

675179

RM1 Integration Mode

Α

ManInt

0.0331

Detection Limit (A)

91.166926

Unqualified Amount (A) Adjusted Amount (A)

91.1669

Signal-to-Noise

6702

Client Flags

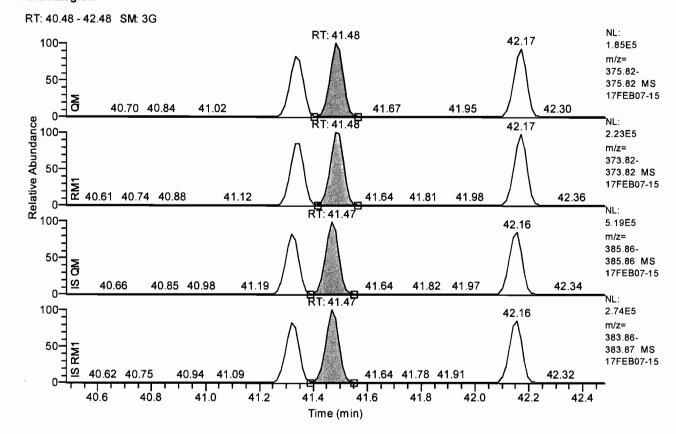
Status Overview

passed





### Chromatogram



#### **Entry Parameters**

Compound Name

123678-HxCDF

QM Retention Time

41.48

QM Area

637501

QM Integration Mode

RM1 Area RM1 Integration Mode

782387 Α

ManInt

Detection Limit (A)

0.0280

Unqualified Amount (A)

90.941355

Adjusted Amount (A)

90.9414

Signal-to-Noise

7994

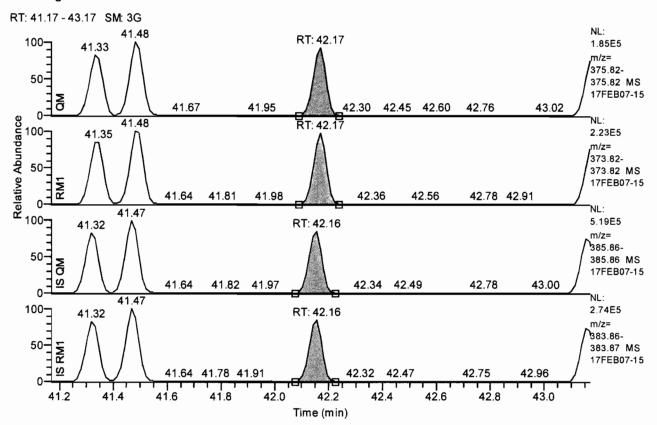
Client Flags

Status Overview

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name 234678-HxCDF

QM Retention Time 42.17 QM Area 571029 QM Integration Mode Α RM1 Area 725426 RM1 Integration Mode Α ManInt 0 Detection Limit (A) 0.0312 Unqualified Amount (A) 93.886365 93.8864 Adjusted Amount (A) Signal-to-Noise 7645

Client Flags

Status Overview passed

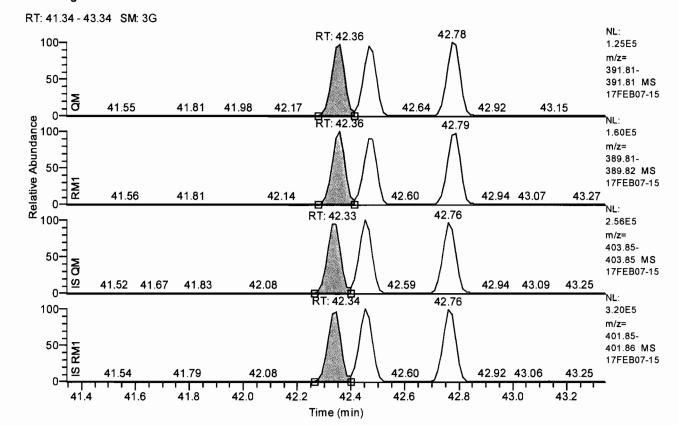
Status Info





AIL01 Pæge1537 of 560

#### Chromatogram



#### **Entry Parameters**

Compound Name 123478-HxCDD

QM Retention Time 42.36 QM Area 418196 QM Integration Mode Α RM1 Area 529889 RM1 Integration Mode Α ManInt Detection Limit (A) 0.0262 Unqualified Amount (A) 96.714784 96.7148 Adjusted Amount (A) Signal-to-Noise 9466

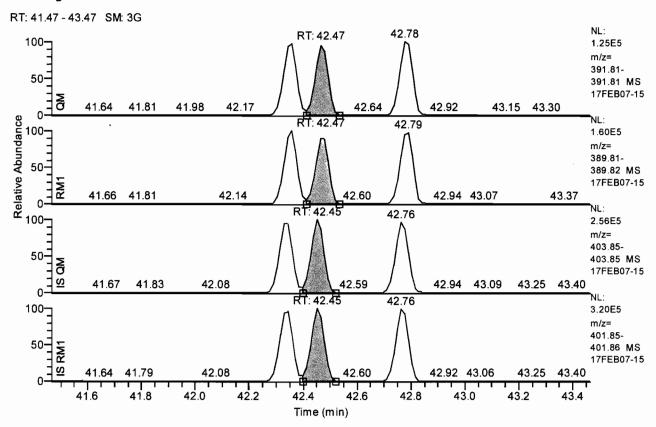
Client Flags

Status Overview passed





#### Chromatogram



AIL01 Pager 539 of 560

#### **Entry Parameters**

Compound Name

123678-HxCDD

QM Retention Time

42.47

QM Area

398716

QM Integration Mode

RM1 Area

496529

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0253 91.487348

Unqualified Amount (A) Adjusted Amount (A)

91.4873

Signal-to-Noise

8898

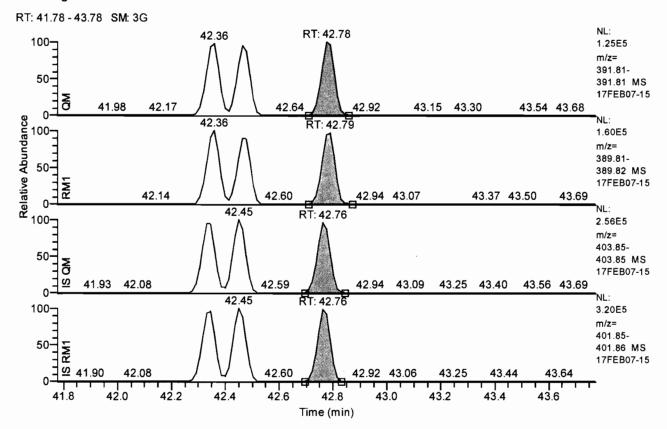
Client Flags

Status Overview

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name

123789-HxCDD

QM Retention Time

42.78

QM Area

427286

QM Integration Mode

Α

RM1 Area

531069

RM1 Integration Mode ManInt

Α

Detection Limit (A)

0.0244

Unqualified Amount (A)

94.509525

Adjusted Amount (A)

94.5095

Signal-to-Noise

9445

Client Flags

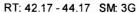
Status Overview

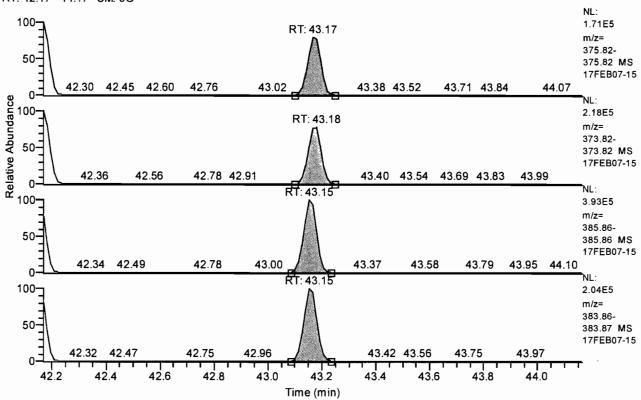
passed





#### Chromatogram





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#### **Entry Parameters**

Compound Name

123789-HxCDF

QM Retention Time

43.17 473741

QM Area

QM Integration Mode RM1 Area

591696

RM1 Integration Mode

Α

ManInt

Detection Limit (A) Unqualified Amount (A)

0.0371 91.327557

Adjusted Amount (A)

91.3276

Signal-to-Noise

6072

Client Flags

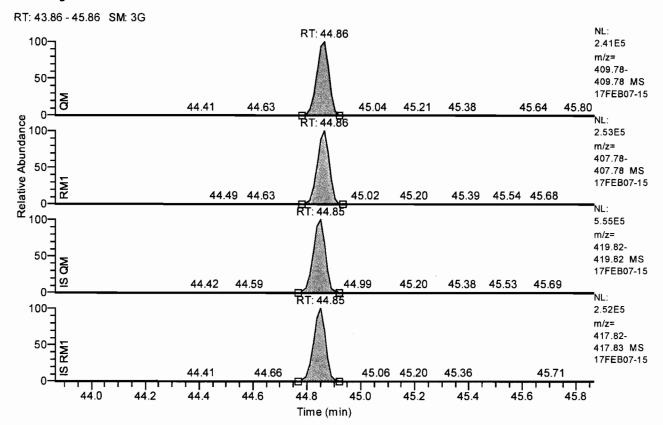
Status Overview

passed





#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDF

QM Retention Time

44.86

QM Area

780141

QM Integration Mode

RM1 Area

808043

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0292

Unqualified Amount (A)

96.125247

Adjusted Amount (A)

96.1252

Signal-to-Noise Client Flags

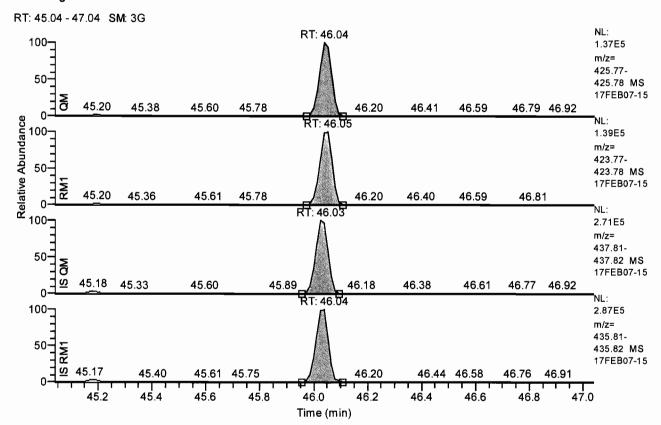
8173

Status Overview

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name

1234678-HpCDD

QM Retention Time

46.04

QM Area

445792

QM Integration Mode

Α

RM1 Area

462909 Α

RM1 Integration Mode ManInt

Detection Limit (A)

0.0365

Unqualified Amount (A)

92.269425

Adjusted Amount (A) Signal-to-Noise

92.2694 6398

Client Flags

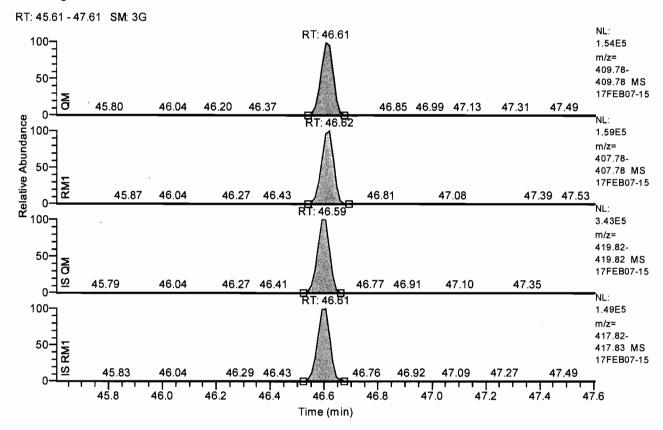
Status Overview

passed









#### **Entry Parameters**

Compound Name

1234789-HpCDF

QM Retention Time

46.61

QM Area

505422

QM Integration Mode

Α

RM1 Area

522727

RM1 Integration Mode

Α

ManInt

0

Detection Limit (A)

0.0465

Unqualified Amount (A) Adjusted Amount (A)

95,433024 95.4330

Signal-to-Noise

5181

Client Flags

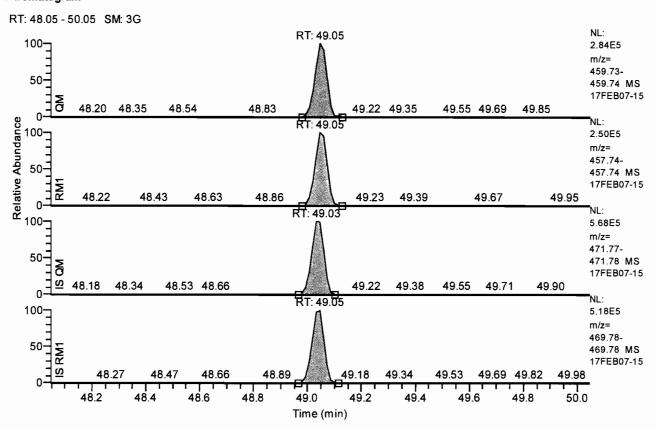
Status Overview

passed





#### Chromatogram

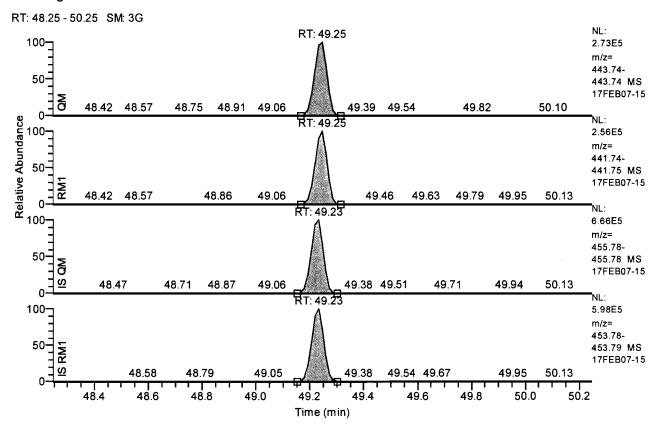


#### **Entry Parameters**

OCDD Compound Name 49.05 QM Retention Time QM Area 876924 QM Integration Mode Α 782932 RM1 Area RM1 Integration Mode ManInt 0 Detection Limit (A) 0.0375 Unqualified Amount (A) 188.314499 Adjusted Amount (A) 188.3145 Signal-to-Noise 12843 Client Flags Status Overview passed Status Info



#### Chromatogram



#### **Entry Parameters**

Status Overview

Status Info

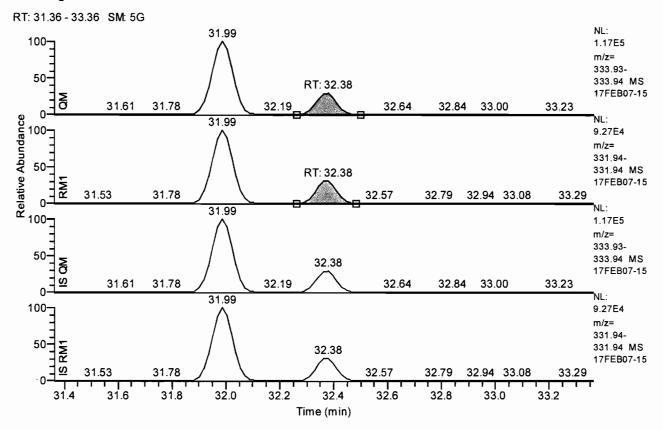
**OCDF** Compound Name QM Retention Time 49.25 QM Area 886777 QM Integration Mode Α 804095 RM1 Area RM1 Integration Mode Α ManInt Detection Limit (A) 0.0253 Unqualified Amount (A) 181.350789 Adjusted Amount (A) 181.3508 Signal-to-Noise 17731 Client Flags

> **APPROVED** By uma9 at 12:02 pm, 2/9/17

passed



#### Chromatogram



#### **Entry Parameters**

Compound Name

13C12-1278-TCDD (CRS)

QM Retention Time

32.38 190527

QM Area

QM Integration Mode RM1 Area

157519

RM1 Integration Mode

Α

ManInt

Detection Limit (A)

0.0194 29.685138

Unqualified Amount (A) Adjusted Amount (A)

29.6851

Signal-to-Noise

3668

Client Flags

Status Overview

passed





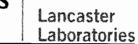


#### **Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	30.98		30.98	30.94	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	32.01	32.02	32.02	31.99	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.54		36.54	36.52	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	37.76		37.76	37.74	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	38.15		38.14	38,13	passed	passed
6	123478-HxCDF	375,8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.34	41.33	41.35	41.32	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.49		41.48	41.47	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	42.16	42.17	42.17	42.16	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.35	42.36	42.36	42.33	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.47	42.47	42.47	42.45	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	42.78	42.78	42.79	42.76	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	43.17	43.17	43.18	43.15	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	44.86	44.86	44.86	44.85	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	46.05	46.04	46.05	46.03	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	46.61	46.61	46.62	46.59	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	49.05	49.05	49.05	49.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	49.24	49.25	49.25	49.23	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	32.37	32.38	32.38	32.38	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.24	31.24	31.24	31.24	passed	passed
20	13C12-123468-HxCDD	403,8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.23	41.23	41.23	41.23	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	30.95	30.94	30.94	31.10	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	31.99	31.99	31.99	31.99	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.51	36.52	36.52	36.54	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	37.75	37.74	37.74	37.79	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	38.12	38.13	38.13	38.13	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.32	41.32	41.32	41.27	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.47	41.47	41.47	41.52	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	42.15	42.16	42.16	42.17	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.33	42.33	42.34	42.34	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.46	42.45	42.45	42.45	passed	passed
31	13C12-123789-HxCDD	403,8529 +/- 5 ppm	401.8559 +/- 5 ppm	42.77	42.76	42.76	42.76	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	43.16	43.15	43.15	43.18	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	44.84	44.85	44.85	44.89	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	46.03	46.03	46.04	46.04	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	46.60	46.59	46.61	46.44	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	49.04	49.03	49.05	49.05	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	49.22	49.23	49.23	49.29	passed	passed







#### Entry Parameters



1 2378-TCDF 30.98 0.7613 0.6450- 0.8950 passed 97.13 75- 158 2 2378-TCDD 32.02 0.8134 0.6450- 0.8950 passed 95.70 67- 158 3 12378-PBCDF 36.54 1.5737 1.3150- 1.7850 passed 96.70 67- 158 4 23478-PBCDF 37.76 1.5721 1.3150- 1.7850 passed 90.71 68- 160 5 12378-PBCDD 38.14 1.6308 1.3150- 1.7850 passed 90.71 68- 160 6 123478-HKCDF 41.43 1.2604 1.0450- 1.4350 passed 95.31 70- 142 6 123478-HKCDF 41.48 1.2273 1.0450- 1.4350 passed 90.94 84- 130 8 234678-HKCDF 42.17 1.2704 1.0450- 1.4350 passed 90.94 84- 130 8 234678-HKCDD 42.36 1.2671 1.0450- 1.4350 passed 93.89 70- 156 9 123478-HKCDD 42.36 1.2671 1.0450- 1.4350 passed 96.71 70- 164 10 123678-HKCDD 42.78 1.2673 1.0450- 1.4350 passed 91.49 76- 134 11 123789-HKCDD 42.77 1.2453 1.0450- 1.4350 passed 91.49 76- 134 11 123789-HKCDD 42.78 1.2429 1.0450- 1.4350 passed 91.49 76- 134 11 123789-HKCDD 43.17 1.2490 1.0450- 1.4350 passed 96.71 70- 164 12 123789-HKCDF 44.86 1.0358 0.8750- 1.2050 passed 96.13 82- 122 14 1234678-HCDD 46.61 1.0384 0.8750- 1.2050 passed 99.13 82- 122 14 1234678-HCDD 46.61 1.0384 0.8750- 1.2050 passed 99.13 82- 122 14 1234678-HCDF 48.61 1.0342 0.8750- 1.2050 passed 99.16 78- 144 17 CCDF 49.25 0.9068 0.7550- 1.0250 passed 99.68 63- 170 18 13C12-1278-TCDD (3.2.38 0.8268 0.6450- 0.8950 passed 99.68 63- 170 18 13C12-1278-TCDD (3.2.38 0.8268 0.6450- 0.8950 passed 99.68 63- 170 18 13C12-1278-PBCDF 38.52 1.5982 1.3150- 1.7850 passed 93.51 40- 135 12 13C12-1278-PBCDF 38.52 1.5982 1.3150- 1.7850 passed 93.51 40- 135 13 13 12-41278-PBCDF 38.52 1.5982 1.3150- 1.7850 passed 93.51 40- 135 13 13 12-1278-PBCDF 38.52 1.5982 1.3150- 1.7850 passed 93.51 40- 135 13 13 12-1278-PBCDF 38.52 1.5982 1.3150- 1.7850 passed 93.51 40- 135 13 13 13 13 13 13 13 13 13 13 13 13 13 1	
3 12378-PeCDF 36.54 1.5737 1.3150- 1.7850 passed 96.71 86 160 4 23478-PeCDF 37.76 1.5721 1.3150- 1.7850 passed 90.71 86 160 5 12378-PeCDD 38.14 1.6308 1.3150- 1.7850 passed 90.71 86 160 6 123478-PeCDD 38.14 1.6308 1.3150- 1.7850 passed 95.31 70 - 142 6 123478-PeCDD 41.33 1.2604 1.0450- 1.4350 passed 95.31 70 - 142 7 123678-PeCDF 41.48 1.2273 1.0450- 1.4350 passed 90.94 84 130 8 224678-PeCDF 42.17 1.2704 1.0450- 1.4350 passed 93.88 70 - 156 9 123478-PeCDD 42.47 1.2453 1.0450- 1.4350 passed 93.88 70 - 156 10 123678-PeCDD 42.47 1.2453 1.0450- 1.4350 passed 93.88 70 - 164 10 123678-PeCDD 42.47 1.2453 1.0450- 1.4350 passed 93.89 70 - 164 11 123769-HxCDF 43.17 1.2490 1.0450- 1.4350 passed 94.51 64 - 162 12 123769-HxCDF 43.17 1.2490 1.0450- 1.4350 passed 94.51 64 - 162 12 123769-PeCDD 46.64 1.0356 0.8750- 1.2050 passed 91.33 78 - 130 13 1234678-PeCDF 46.61 1.0342 0.8750- 1.2050 passed 92.27 70 - 140 15 1234789-PeCDF 46.61 1.0342 0.8750- 1.2050 passed 92.27 70 - 140 15 1234789-PeCDF 49.55 0.8928 0.7550- 1.0250 passed 95.43 78 - 138 16	passed
4 23478-RCDF 37.76 1.5721 1.3150-1.7850 passed 90.71 68-180	passed
5 12378-PeCDD 38.14 1.6308 1.3150 1.7850 passed 95.31 70 142 6 123478-HxCDF 41.33 1.2604 1.0450 1.4350 passed 95.31 70 142 6 123478-HxCDF 41.48 1.2273 1.0450 1.4350 passed 99.117 72 134 7 123678-HxCDF 41.48 1.2273 1.0450 1.4350 passed 99.94 84 130 8 2234678-HxCDD 42.17 1.2704 1.0450 1.4350 passed 99.94 84 130 9 123478-HxCDD 42.36 1.2671 1.0450 1.4350 passed 99.71 70 164 10 123678-HxCDD 42.47 1.2453 1.0450 1.4350 passed 99.71 70 164 11 123789-HxCDD 42.78 1.2459 1.0450 1.4350 passed 91.49 76 134 11 123789-HxCDD 42.78 1.2459 1.0450 1.4350 passed 91.33 78 130 13 1234678-HpCDF 44.86 1.0358 0.8750 1.2050 passed 99.13 82 122 14 1234678-HpCDF 46.04 1.0342 0.8750 1.2050 passed 96.13 82 122 14 1234678-HpCDF 49.05 0.8928 0.7550 1.0250 passed 96.13 82 122 15 1234789-HxCDF 49.05 0.8928 0.7550 1.0250 passed 96.13 82 122 16 12 123789-HxCDF 49.25 0.9068 0.7550 1.0250 passed 96.13 70 144 17 OCDF 49.25 0.9068 0.7550 1.0250 passed 96.13 70 144 18 13C12-1278-TCDD (CRS) 32.38 0.8268 0.6450 0.8950 passed 96.8 63 170 19 13C12-12378-PcDD 31.24 0.8170 0.6450 0.8950 passed 90.68 63 170 20 13C12-12378-TCDD 31.24 0.8170 0.6450 0.8950 passed 100.00 0 0 0 20 13C12-12378-TCDD 31.94 0.7904 0.6450 0.8950 passed 100.00 0 0 0 21 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 40.20 40 135 22 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 40.20 40 135 23 13C12-12378-PCDF 36.52 1.5982 1.3150 1.7850 passed 40.20 40 135 24 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 40.20 40 135 25 13C12-12378-PCDF 36.52 1.5982 1.3150 1.7850 passed 40.20 40 135 26 13C12-12378-HxCDF 41.32 0.5221 0.4250 0.5950 passed 40.3 40 135 27 13C12-12378-HxCDF 41.47 0.5310 0.4250 0.5950 passed 40.3 40 135 28 13C12-12378-HxCDF 41.47 0.5310 0.4250 0.5950 passed 40.3 40 135 30 13C12-12378-HxCDF 41.47 0.5310 0.4250 0.5950 passed 40.3 40 135 31 13C12-12378-HxCDF 42.16 0.5222 0.4250 0.5950 passed 40.4 0 135 31 13C12-12378-HxCDF 42.16 0.5222 0.4250 0.5950 passed 40.1 40 135 31 13C12-12378-HxCDF 42.16 0.5221 0.4250 0.5950 passed 40.1 40 135 31 13C12-12378-HxCDF 42.16 0.5243 0	passed
6 123478-HxCDF	passed
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18 13C12-1278-TCDD (CRS) 32.38 0.8268 0.6450 0.8950 passed 37.11 31 191 19 13C12-1234-TCDD 31.24 0.8170 0.6450 0.8950 passed 100.00 0 0 0 20 13C12-123468-HxCDD 41.23 1.3144 1.0450 1.4350 passed 100.00 0 0 0 21 13C12-2378-TCDF 30.94 0.7904 0.6450 0.8950 passed 62.16 40 135 22 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 62.16 40 135 23 13C12-12378-PeCDF 36.52 1.5982 1.3150 1.7850 passed 83.51 40 135 24 13C12-23478-PeCDF 37.74 1.6077 1.3150 1.7850 passed 77.71 40 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150 1.7850 passed 83.64 40 135 26 13C12-123478-HxCDF 41.32 0.5321 0.4250 0.5950 passed 73.91 40 135 27 13C12-123478-HxCDF 41.32 0.5321 0.4250 0.5950 passed 73.91 40 135 28 13C12-123478-HxCDF 42.16 0.5222 0.4250 0.5950 passed 76.41 40 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 135 30 13C12-12378-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 135 32 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 71.79 40 135 33 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 0.5150 passed 71.79 40 135	passed
19 13C12-12347-CDD 31.24 0.8170 0.6450 0.8950 passed 100.00 0 0 0 0 1 0 0 135 13144 1.0450 1.4350 passed 100.00 0 0 0 0 0 0 0 0 1 135 13144 1.0450 1.4350 passed 100.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	passed
20 13C12-123468-HxCDD 41 23 1.3144 1.0450 - 1.4350 passed 100.00 0 - 0 21 13C12-12378-TCDF 30.94 0.7904 0.6450 0.8950 passed 62.16 40 - 135 22 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 64.20 40 - 135 23 13C12-12378-PeCDF 36.52 1.5982 1.3150 - 1.7850 passed 83.51 40 - 135 24 13C12-23478-PeCDD 38.13 1.6184 1.3150 1.7850 passed 77.71 40 - 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150 1.7850 passed 83.64 40 135 26 13C12-123478-HxCDF 41.32 0.5321 0.4250 0.5950 passed 73.91 40 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250 0.5950 passed 73.91 40 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250 0.5950 passed 76.41 40 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 135 32 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 135 33 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 71.79 40 135 33 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-1234878-HpCDF 44.85 0.4494 0.3650 0.5150 passed 98.01 40 135	passed
21 13C12-2378-TCDF 30.94 0.7904 0.6450 0.8950 passed 62.16 40 135 22 13C12-2378-TCDD 31.99 0.7879 0.6450 0.8950 passed 64.20 40 135 23 13C12-12378-PeCDF 36.52 1.5982 1.3150 1.7850 passed 83.51 40 135 24 13C12-23478-PeCDF 37.74 1.6077 1.3150 1.7850 passed 77.71 40 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150 1.7850 passed 83.64 40 135 26 13C12-12378-PeCDD 41.32 0.5321 0.4250 0.5950 passed 73.91 40 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250 0.5950 passed 73.91 40 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250 0.5950 passed 74.44 40 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 82.50 40 135 32 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 135 33 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 0.5150 passed 98.01 40 135	passed
22 13C12-2378-PCDD 31.99 0.7879 0.6450 0.8950 passed 64.20 40 - 135 23 13C12-12378-PeCDF 36.52 1.5982 1.3150 1.7850 passed 83.51 40 - 135 24 13C12-23478-PeCDF 37.74 1.6077 1.3150 1.7850 passed 77.71 40 - 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150 1.7850 passed 83.64 40 - 135 26 13C12-12378-PeCDD 41.32 0.5321 0.4250 0.5950 passed 73.91 40 - 135 27 13C12-123678-HxCDF 41.32 0.5321 0.4250 0.5950 passed 73.91 40 - 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250 0.5950 passed 64.34 40 - 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 - 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 - 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 0.5150 passed 71.79 40 - 135	passed
23 13C12-12378-PeCDF 36.52 1.5982 1.3150- 1.7850 passed 83.51 40 - 135 24 13C12-23478-PeCDF 37.74 1.6077 1.3150- 1.7850 passed 77.71 40 - 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150- 1.7850 passed 83.64 40 - 135 26 13C12-123478-HxCDF 41.32 0.5321 0.4250- 0.5950 passed 73.91 40 - 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250- 0.5950 passed 64.34 40 - 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250- 0.5950 passed 64.34 40 - 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450- 1.4350 passed 85.02 40 - 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450- 1.4350 passed 82.50 40 - 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450- 1.4350 passed 64.16 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250- 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650- 0.5150 passed 98.01 40 - 135	passed
24 13C12-23478-PeCDF 37.74 1.6077 1.3150- 1.7850 passed 77.71 40 135 25 13C12-12378-PeCDD 38.13 1.6184 1.3150- 1.7850 passed 83.64 40 135 26 13C12-123478-HxCDF 41.32 0.5321 0.4250- 0.5950 passed 73.91 40 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250- 0.5950 passed 64.34 40 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250- 0.5950 passed 76.41 40 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450- 1.4350 passed 85.02 40 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450- 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450- 1.4350 passed 64.16 40 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250- 0.5950 passed 71.79 40 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650- 0.5150 passed 98.01 40 135	passed
25 13C12-12378-PeCDD 38.13 1.6184 1.3150- 1.7850 passed 73.91 40 - 135 26 13C12-123478-HxCDF 41.32 0.5321 0.4250- 0.5950 passed 73.91 40 - 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250- 0.5950 passed 64.34 40 - 135 28 13C12-234878-HxCDF 42.16 0.5222 0.4250- 0.5950 passed 76.41 40 - 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450- 1.4350 passed 85.02 40 - 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450- 1.4350 passed 82.50 40 - 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450- 1.4350 passed 64.16 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250- 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650- 0.5150 passed 98.01 40 - 135	passed
26 13C12-123478-HxCDF 41.32 0.5321 0.4250- 0.5950 passed 73.91 40- 135 27 13C12-123678-HxCDF 41.47 0.5310 0.4250- 0.5950 passed 84.34 40- 135 28 13C12-123678-HxCDF 42.16 0.5222 0.4250- 0.5950 passed 76.41 40- 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450- 1.4350 passed 85.02 40- 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450- 1.4350 passed 82.50 40- 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450- 1.4350 passed 82.50 40- 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250- 0.5950 passed 71.79 40- 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650- 0.5150 passed 98.01 40- 135	passed
27 13C12-123678-HxCDF 41.47 0.5310 0.4250 0.5950 passed 64.34 40 135 28 13C12-234678-HxCDF 42.16 0.5222 0.4250 0.5950 passed 76.41 40 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 82.50 40 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 0.5150 passed 98.01 40 135	passed
28 13C12-234878-HxCDF 42.16 0.5222 0.4250 - 0.5950 passed 76.41 40 - 135 29 13C12-123478-HxCDD 42.33 1.2642 1.0450 - 1.4350 passed 85.02 40 - 135 30 13C12-123678-HxCDD 42.45 1.2705 1.0450 - 1.4350 passed 82.50 40 - 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 - 1.4350 passed 82.50 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 - 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 - 0.5150 passed 98.01 40 - 135	passed
29 13C12-123478-HxCDD 42.33 1.2642 1.0450 1.4350 passed 85.02 40 135 30 13C12-123478-HxCDD 42.45 1.2705 1.0450 1.4350 passed 82.50 40 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 1.4350 passed 64.16 40 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 0.5950 passed 71.79 40 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 0.5150 passed 98.01 40 135	passed
30 13C12-123678-HxCDD 42.45 1.2705 1.0450 - 1.4350 passed 82.50 40 - 135 31 13C12-123789-HxCDD 42.76 1.2621 1.0450 - 1.4350 passed 64.16 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 - 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 - 0.5150 passed 98.01 40 - 135	passed
31 13C12-123789-HxCDD 42.76 1.2621 1.0450 - 1.4350 passed 64.16 40 - 135 32 13C12-123789-HxCDF 43.15 0.5243 0.4250 - 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 - 0.5150 passed 98.01 40 - 135	passed
32 13C12-123789-HxCDF 43.15 0.5243 0.4250 - 0.5950 passed 71.79 40 - 135 33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 - 0.5150 passed 98.01 40 - 135	passed
33 13C12-1234678-HpCDF 44.85 0.4494 0.3650 - 0.5150 passed 98.01 40 - 135	passed
100 12-12-00 10-11-00 10-11-00 10-11-00 10-11-00 passed 80.01 40-100	passed
34 13C12-1234678-HnCDD 46.03 1.0720 0.8750 1.2050 passed 90.34 40 125	passed
100 12-120-10 0-19-000 1.0720 0.0730 1.2000 passed 50,54 40 100	passed
35 13C12-1234789-HpCDF 46.59 0.4449 0.3650 - 0.5150 passed 72.51 40 - 135	passed
36 13C12-OCDD 49.03 0.9055 0.7550 - 1.0250 passed 93.04 40 - 135	passed
37 13C12-OCDF 49.23 0.8908 0.7550 - 1.0250 passed 73.13 40 - 135	passed





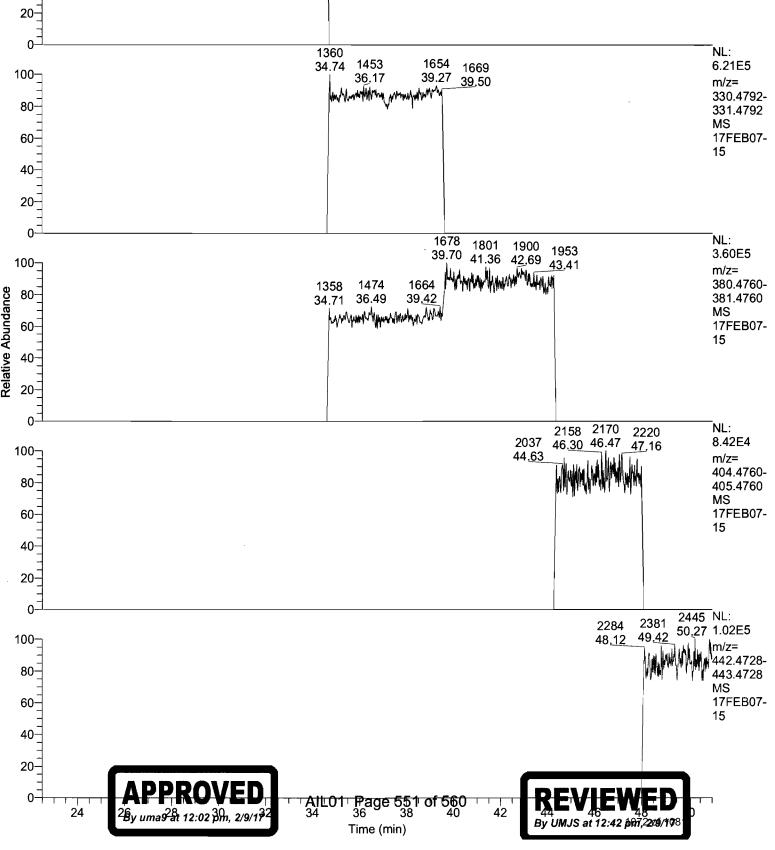


#### Entry Parameters

	Compound	Status	QM Retention	014.4	QM		RM1	Detection	Unqualified	Adjusted			Client
No.	Name	Overview	Time	QM Area	Mode	RM1 Area	Mode	Limit (A)	Amount (A)	Amount (A)	AdjSpecAMT	Signel-to-Noise	Flags
1	2378-TCDF	passed	30,98	120999	-	92121	А	0.0187	19.425140	19,4251	20.000000	2627	,
2	2378-TCDD	passed	32.02	75184	4	61158	Α	0.0170	19.140032	19.1400	20.000000	2850	)
3	12378-PeCDF	passed	36.54	487104	4	766542	. A	0.0133	98.166210	98.1662	100.000000	18876	3
4	23478-PeCDF	passed	37.76	465524	Α.	731835	A	0.0121	90.708808	90.7088	100.000000	18265	i
5	12378-PeCDD	passed	38.14	285664	A	465854	Α	0.0298	95,313482	95.3135	100.000000	8202	2
6	123478-HxCDF	passed	41.33	535694	Α	675179	A	0.0331	91.166926	91.1669	100.000000	6702	?
7	123678-HxCDF	passed	41.48	637501	4	782387	A	0.0280	90.941355	90.9414	100.000000	7994	ļ
8	234678-HxCDF	passed	42.17	571029	<b>A</b>	725426	A	0.0312	93.886365	93.8864	100.000000	7645	i
9	123478-HxCDD	passed	42.36	418196	<b>A</b>	529889	A	0.0262	96,714784	96.7148	100.000000	9466	i
10	123678-HxCDD	passed	42.47	398716	<b>A</b>	496529	· A	0.0253	91.487348	91.4873	100.000000	8898	1
11	123789-HxCDD	passed	42.78	427286	<b>A</b>	531069	A	0.0244	94.509525	94.5095	100.000000	9445	i
12	123789-HxCDF	passed	43.17	473741	4	591696	A	0.0371	91.327557	91.3276	100.000000	6072	2
13	1234678-HpCDF	passed	44.86	780141	A	808043	A	0.0292	96,125247	96.1252	100.000000	8173	3
14	1234678-HpCDD	passed	46.04	445792	Д	462909	A	0.0365	92.269425	92.2694	100.000000	6398	l .
15	1234789-HpCDF	passed	46.61	505422	A	522727	A	0.0465	95.433024	95.4330	100.000000	5181	
16	OCDD	passed	49.05	876924	A	782932	. A	0.0375	188.314499	188,3145	200.000000	12843	3
17	OCDF	passed	49.25	886777	A	804095	A	0.0253	181.350789	181.3508	200.000000	17731	
18	13C12-1278-TCDD (CRS)	passed	32.38	190527	A	157519	A	0.0194	29.685138	29.6851	80.000000	3668	l
19	13C12-1234-TCDD	passed	31.24	1004953	A	821056	A	0.0329	200.000000	200.0000	200.000000	15181	
20	13C12-123468-HxCDD	passed	41.23	1028385	A	1351669	Α	0.0389	200.000000	200.0000	200.000000	12855	i
21	13C12-2378-TCDF	passed	30.94	1184243	A	935984	A	0.0113	124.313837	124.3138	200.000000	26047	,
22	13C12-2378-TCDD	passed	31.99	645832	<b>A</b>	508854	Α.	0.0334	128.399373	128.3994	200.000000	9806	i
23	13C12-12378-PeCDF	passed	36.52	1013595	A	1619945	Α	0.0591	167.016738	167.0167	200.000000	9008	}
24	13C12-23478-PeCDF	passed	37.74	938626	A	1509051	Α	0.0592	155,426213	155.4262	200.000000	8906	ì
25	13C12-12378-PeCDD	passed	38.13	568619	A	920267	΄ Α	0.0347	167.277891	167.2779	200.000000	16257	
26	13C12-123478-HxCDF	passed	41.32	1475681	A	785155	A	0.0420	147.829008	147.8290	200.000000	8648	3
27	13C12-123678-HxCDF	passed	41.47	1772615	A	941266	A	0.0399	168,673501	168.6735	200.000000	10463	3
28	13C12-234678-HxCDF	passed	42.16	1498636	A	782616	A	0.0430	152.819654	152.8197	200.000000		
29	13C12-123478-HxCDD	passed	42.33	845559	A	1068919	Ι Α	0.0411	170.045298	170,0453	200.000000	10163	3
30	13C12-123678-HxCDD	passed	42.45	844141	A	1072478	A	0.0398	165.006309	165.0063	200.000000	10551	
31	13C12-123789-HxCDD	passed	42.76	827193	Α.	1044035	A	0.0416	168.328525	168,3285	200.000000		
32	13C12-123789-HxCDF	passed	43.15	1327281	A			0.0456	143.581559	143.5816			
33	13C12-1234678-HpCDF	passed	44.85	1778248	<b>A</b>			0.0511	196.0 <b>1</b> 2115	196.0121	200.000000		
34	13C12-1234678-HpCDD	passed	46.03	897683	A			0.0509	180.674580	180.6746	200.000000		
35	13C12-1234789-HpCDF	passed	46.59	1127078	<b>A</b>	501396	A	0.0599	145.015592	145.0156	200.000000		
36	13C12-OCDD	passed	49.03	1811526		1640403	A	0.0276	372.165778	372.1658	400.000000		
37	13C12-OCDF	passed	49.23	2114334	Α.	1883376	. A	0.0252	292.509401	292.5094	400.000000	31104	ļ



File Name: Y:\17FEB07\17FEB07-15 Acq. Data: 2/7/2017 10:30:26 PM Instrument ID: DF18471-17FEB07 Sample ID: OPR031003 Sample Name: 17031003 PFK Reference Lock Mass Traces RT: 22.50 - 51.00 1299 1310 NL: 915 953 1150 31.06 33.61 33.80 4.26E5 24.76 27.05 34.35 100my hours would be horn which have been the second m/z=291.9825-80 292.9825 MS 60 17FEB07-15 40-20-0-NL: 1360 1453 1654 6.21E5 34.74 1669 100-36,17 39.27 39.50 m/z=330.4792-80-331.4792 MS 17FEB07-15 0-NL: 1801 1900 39.70 41.36 42.69 3.60E5 100-43,41 m/z=1474 1664 380.4760-1358 Relative Abundance 80-36.49 39.42 381.4760 34.71 MS 17FEB07-60-15 40-20-0-2158 2170 NL: 2220 46.30 46.47 2037 8.42E4 100-44.63 m/z=404.4760-80-405.4760 MS 17FEB07-60-15 40



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17FEB07-15
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*** file opened Tue Feb 07 22:35:54 2017 ***

Started by - Xcalibu
Instrument Internet name - DFS MS - Xcalibur Instrument model - DFS MS
Instrument service number - SN0000XXXX Workstation internet name - LX18470

Analysis started at: 07-Feb-17 22:35:53

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence: ef723472-e848-43e5-a9f2-e1bcce0ed473

MID procedure: PFK16MAR24+MDT

#### Mid Time Windows:

	Start	Measure	End	Cycletime
# 3 # 4 # 5	11:30 min 21:00 min 34:36 min 39:30 min 44:15 min 48:00 min	4:53 min 4:45 min 3:45 min	34:36 min	1.00 sec 1.00 sec 0.90 sec 0.80 sec 0.80 sec 0.80 sec

id Masses:		
window # 1 mass F 218.0129 218.9851 1 220.0100 230.0532 232.0502 251.9739 253.9710 264.0142 266.0112 285.9350 287.9320 292.9819 c 297.9752 299.9723	int gr 1 1 20 1 1 1 2 1 2 1 1 1 1 1 2 1 2 1 2 1 2 1 2	time (ms) 95 4 95 47 47 95 47 47 95 95 47
window # 2 mass F 292.9819 1 303.9011 305.8981 315.9413 317.9384 319.8960 321.8930	int gr 20 1 1 1 1 1 5 1 5 1 1 1 1 1	time (ms) 5 118 118 23 23 118 118

Page 1





```
331.9363
                              23
                    1
                 5
 333.9333
                    1
                              23
 339.8592
                             118
 341.8562
                 1
                    1
                             118
 354.9787 c
               20
                    1
                               5
                              59
 375.8364
                2
                    1
Window # 3
 mass F
330.9787 1
               int
                     gr
                          time (ms)
               20
                    1
                               6
 339.8592
                 1
1
                             133
                    1
 341.8562
                             133
 351.8994
                 3
                    1
                              44
 353.8965
                    1
                              44
 355.8541
                    1
                             133
 357.8511
                    1
                             133
 367.8943
                    1
                              44
                 3
 369.8914
                              44
 380.9755 c
               20
                    1
                               6
 409.7969
                2
                    1
                              66
Window # 4
                          time (ms)
117
               int
      mass F
                     gr
 373.8201
                1
 375.8172
                             117
                 1
 380.9755
               20
 383.8634
                    1
                              39
                 3
 385.8604
                              39
                 3
                    1
 389.8151
                1
                    1
                             117
 391.8121
                    1
                             117
 401.8554
                              39
                    1
 403.8524
                 3
                    1
                              39
 430.9723 c
               20
                               5
                    1
 445.7550
                2
                    1
                              58
Window # 5
      mass F
               int
                          time (ms)
                     gr
                               5
 404.9755 1
               20
                    1
 407.7812
                    1
                             117
                1
 409.7783
417.8244
                    1
                             117
                              39
 419.8215
                    1
                              39
 423.7761
                 1
                             117
                    1
 425.7732
                             117
 435.8164
                    1
                              39
 437.8134
479.7160
                 3
                    1
                              39
                    1
                              58
                    1
 480.9691 c
               20
                               5
Window # 6
                     gr
      mass F
               int
                          time (ms)
                              95
 441.7422
                1
 442.9723 1
               20
                               4
                    1
                              95
95
 443.7393
                1
                    1
 453.7825
 455.7795
                              95
                1
                    1
 457.7372
                1
                    1
                              95
 459.7342
                    1
                              95
 469.7774
                    1
                              31
                 3
 471.7745
                    1
                              31
               20
 492.9691 c
                    1
                               4
                              47
 513.6770
```

MID Window terminated after 21.000000 minutes MID Window end time was 21.000000 minutes MID Window terminated after 34.600000 minutes MID Window end time was 34.600000 minutes Page 2





# MID Window terminated after 39.500000 minutes MID Window end time was 39.500000 minutes MID Window terminated after 44.250000 minutes MID Window end time was 44.250000 minutes MID Window terminated after 48.000000 minutes MID Window end time was 48.000000 minutes MID Window terminated after 51.000000 minutes MID Window end time was 51.000000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\17JAN26.DFSTune

### DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.0000
BQUAD	0.0500	CAPIL	0.0000	CAPTSET	0.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	61.3333
ELEN	-45.0000	EMULT	1300.0000	ENS	173.0000
ENSBR	0.0500	<b>ERATIO</b>	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	172.0000	EXSBR	-0.4700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	10.0000	FMII	50.0000	FQUAD	12.3500
FOUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0297	FVSRC	0.0286
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICALO	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	714.0000
LENS_SYM	14.3000	LM	1050.0000	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1460524.2399	MRANGE	1304.6486	NSAM	200.0000
NSCAN	2524.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	0.0000	PSAM	10.0000
PUSHER	-9.0000	RECURR	0.8952	RELEN	0.0000
RES	12191.3823	RPUSHER	-8.6960	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT		SHIELD_SYM	0.0000	SHIGH	1050.0000
SKIM	0.0000	SLOW	10.0000	SS	2.0000
SW	0.0206	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	60.6748	THRESH	2.0000
TIS	0.2000	TREF	100.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.0000	XLENS_POT	896.0000
XLENS_SYM	-8.5000	YLENS_POT	568.0000	YLENS_SYM	0.0000
ALLING_3 IN	0.5000	I ELINO_FOT	300.0000		0.0000

Source Gauge: 1.9e-005 mbar Analyzer Penning: 5.1e-008 mbar Pirani Analyse: 1.7e-002 mbar Pirani Source: 2.8e-002 mbar Pirani Inlet System: 3.0e-002 mbar

Scantype is magnetic

### Sourcemode is EI POS

MID Time Window 1: Resolution is 11751. MID Time Window 2: Resolution is 11911. MID Time Window 3: Resolution is 12493. MID Time Window 4: Resolution is 12138.

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17FEB07-15 MID Time Window 5: Resolution is 12874. MID Time Window 6: Resolution is 12191.

Amplifier Offset: 88.

*** File closed Tue Feb 07 23:26:55 2017







# Extraction Logs Dioxins/Furans by HRMS

		Lot No.	MKBW7349V	4769 25101				Micro Temp		Due Date Prio	02/08/2017 Q	02/08/2017 Q	02/08/2017 Q	02/09/2017 Q	02/09/2017 Q	02/09/2017 Q	02/09/2017 Q	02/09/2017 Q
Sox Stop:	Dry Stop:	Solvent Used	Quartz Sand	glass fiber thimble	hexane	methylene chloride	toluene	Ž :	10	Analyses	12937 02			12937 02,	12937 02	12937 02,	12937 02	12937 02
Sox Start: 11:30	Dry Start:			IS amt	(nr)	0) 7				(3) Wall 20 Comments	A brown soil	dark gray sondy soi ), wet 12937	dark brown/tan soil, stones	*	*	*	*	*
2:		3290		ΡŞ		0.1	70.70	DF 16471	Y.InFeso	IS amt (uL) BC	A48 63	() 34A	(0 34k	e660 <i>o )</i>	e660 ⁽⁾	ho 099a	e660 ° )	, с 099а
Tech 2:		ans in Solids-8290			IV 5 501.	PARDFX1737A		Instrument:	Sequence:	Filter	Z							<b>→</b>
308		o <b>xins/Fura</b>	ds - Sox		_ _	D.I		lns	Sec	Amt FV (mL)	20.1	5 1.0	0.1	13	200	2 1.0	2	0.1
Tech 1: DM 2 308		Analyses on Batch: Dioxins/Furans	Prep Analysis: 11030 Dioxins/Furans in Solids - Sox	-	(g) SOILCSDEX1737A L	+			ec Spike Spike	SS/IS Sol.	LCSDFX1737A	LCSDFX1737A	LCSDFX1737A	(O.06 LCSDFX1737A (	(0.03 LCSDFX1737A	LCSDFX1737A	LCSDFX1737A	10.33 LCSDFX1737A
	7	∢	10501	-		<u>5</u> 6.0			DF Perform and Rec Spil DF Labeled Comp Spike	Amt (a)	10.30	91.01	30.05	10.06	60.03	10.01	(0.09)	10.33
17031003			Prep Analysis	8300	FIN K031003	OPR031003		Witness:	DF Perform and Rec Spike DF Labeled Comp Spike	Sample Code	-200-	-004-	-005-	STARB	STARA	STARM	STARJ	JMESU
1703			L'ept. 37		BI ANKA	LCSA		Spike Solutions:	PARDFX1737A LCSDFX1737A	Sample #	8807304	्र <mark>स्</mark> ट्र 8807305	•3 8807306	8810426	8810427	8810428	8810429	8810430

Start time: 10:45

Start Date: (31/17

Reviewed by: Ma-12-

Organic Extraction Batchlog Assigned to: 0

THIOT SO 290F 17031003 M-vap 15615 50C C Micro Unit S-bath ID PLLL Balance # Date: _ Internal Standard | 25Hoin 31/A 1078 of 1081

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															_
mel	101/17	7695		Analyses	12937	12937	12937	12937	12937	12937	12937	12937			
Reviewed by: MAN	Start Date: O2/C1/17	Tech 1: 855 7-692	Tech 2:	Comments											
	Sox														
umn cleanup	Furans in Solids -			amt (W)										7	
CDD/CDF column cleanup	Prep: 11030 Dioxins/Furans in Solids - Sox	Batch: 17031003		Cleanup std	7	>	7	//	/	/	7		>	7	
	Prep	Ba		(mL) extract	ω									7	
				Aliquot (mL) E=entire extract	W									V	
				Sample #	1 8807304	8807305	8807306	4 8810426	8810427	8810428	8810429	8810430	BLANKA	LCSA	
					1	2	3	4	ľΑι	Ľ <b>ზ</b> 1	'nε	ıge	538	ुं क	60

DF = Dilution Factor FV = Final Volume

Miscellaneous	Lot No.
13mm filter paper	760524
Nonane	ļ

308013117B

99% তারতামহ সহেস্প্রার্থান্স hexane

१७८१५५५

2:1 Toluene:Hexane

24528010917

Chack 17 3

AGS2011913 A methylene chloride

500

Lot No.

Solvent Used hexane

Lot No.

Media Used

Additional Comment:

345ACUSI TO

sodium sulfate silica gel

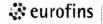
acid silica gel

M-Evap 15615 The documented temperatures are NIST corrected.

1079 of 1081

AgNO3 silica gel basic silica gel alumina

# **Moisture Data**



Lancaster Laboratories

**Environmental** 

CLIENT: ARS International, LLC

SDG: AIL01

### MOISTURE

### **SAMPLE NUMBERS:**

Sample #

Sample Code

8807304

-007-

8807305

-004-

8807306

-002-

### **COMMENTS:**

Method defined actions are taken for any failed matrix QC.

# **Laboratory Compliance Quality Control**

LCS

**LCSD** 

LCS/LCSD

**Analysis Name** 

%REC

%REC

<u>Limits</u>

8807304-8807306

RPD Max

Batch number:

17033820006A

Moisture

Sample number(s):

99-101

# **Sample Matrix Quality Control**

BKG DUP

**Analysis Name** 

Conc

Conc <u>RPD</u> RPD Max

<u>RPD</u>

Batch number:

17033820006A

Sample number(s):

Moisture

11.0

8807304-8807306 0

11.1

5

(1) - The result for one or both determinations was less than five times the LOQ.

# **Moisture Data Report**

Batch #: 17033820006

,				Sample			Analysis	Verified
Sample ID	Batch ID	Analysis#	Tare Wt	<u>Wt</u>	Dry Wt	%Moisture	Date (Emp#)	Date (Emp#)
8807304	Α	00111	1.1117	6.8375	7.1478	11.72	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)
8807305	Α	00111	1.1029	7.4271	5.4341	41.68	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)
8807306	Α	00111	1.1461	7.3436	7.6701	11.16	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)
P807415BKG	Α	00111	1.1268	8.5154	8.7034	11.02	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)
P807415DUP	Α	00111	1.1210	8.5683	8.7404	11.07	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)
LCS 89.5% Std.		00111	1.1167	5.0223	1.6453	89.47	2/ 2/17 (1201/SWF)	2/ 3/17 (236/CW)

^{* -} Outside of specification



# **ARS International, LLC**

# **Laboratory Analysis Report**

ARS1-17-00215

Prepared for:

# **Applied Sciences Company**

Joel I. Cehn 4714 Windsor Blvd Cambria, CA 93428

cehn@aol.com

Phone: (510) 863-1570

Project Manager Review

**Management Review** 

Notes: ARS International, LLC assumes no liability for the use or the interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.

Contact Person: Questions regarding this analytical report should be addressed to:

Project Manager ProjectManagers@amrad.com

> Phone: 225.381.2991 Fax: 225.381.2996



LELAP Cert# 01949

# INTERNATIONAL

# Case Narrative



### CASE NARRATIVE

Client:

**Applied Sciences Company** 

Project:

BBI

SDG Number:

ARS1-17-00215

Received Date: Report Date: 1/24/2017

2/22/2017

# **SAMPLE RECEIPT**

The samples were received in good condition. The samples were screened for radioactive contamination as per procedure ARS-062 "Sample Receiving".

## **ANALYTICAL DATA**

This data package contains sample and QC results for four (4) aqueous samples (3 actual samples and 1 trip blank) requested for the above referenced project on 1/23/2017.

The analytical method utilized for the VOA analysis was ARS-159/SW846 8260B.

The analysis for Gross Alpha spectroscopy was performed using SOP ARS-090/SM 7110C.

The analysis for Strontium was performed using SOP ARS-032/Eichrom SRW-01.

The following analytical batches are associated with these samples: ARS1-B17-00152 for the VOA analysis, ARS1-B17-00214 for Gross Alpha and batch ARS1-B17-00188 for Strontium.

The result data that are flagged with "U" indicate that the activity is below the MDC.

Sample results are being reported on an "as is" basis (aqueous).

Sample OS-10 was collected on 1/16/2017 and received on 1/24/2017 exceeding the holding time for a non-preserved sample. Samples OS-3 and BB-17 expired on the day of receipt but all were analyzed after consulting with the client who authorized analysis. The samples were also above the 6 degree C limit and all were authorized for analysis by the client.

Some of the requested analytical results did not meet the required detection limits due to insufficient sample volume and possible matrix interference.

The Gross Alpha analysis was originally logged for analysis by GPC-A-001 (Gross Alpha/Beta Activity in Water; EPA 900.0) but was re-logged for analysis by GPC-A-028 (Gross Alpha Radioactivity in Water with High Dissolved Solids; Standard Methods 7110 C) to try to meet the requested detection limits.

# American Radiation Services Project Manager/Laboratory Director's Comments:

"I certify that this sample data package is in compliance with SOW requirements, both technically and for completeness, other than the conditions detailed above. Release of the data contained in this sample data package and the computer-readable EDD, as applicable, submitted on diskette or by modem, has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature. I certify that this electronic image and all hardcopies produced from this image accurately represent the data and is in compliance with the company specific requirements, both technically and for completeness, other than the conditions detailed above or in the sample data package narrative. Release, by submission through email, the data contained in this electronic image and the computer-readable EDD (as applicable), has been authorized by the laboratory Manager/Technical Director or the Manager's designee."

x land &	lody	Laboratory Manager, ARS International	2-22-17
Signature		Title	Date

	MITERNATIONAL	SDG	SDG ARS1-17-00218	-00215	
*	SDG/ABatch	Date	Dept	Technical Note	User ID
-	ARS1-17-00215	01/24/2017 2:07 PM	MGMT	Samples received not preserved except for Trip Blank and OS-3 for VOA.	RVARNELL
2	ARS1-17-00215	01/31/2017 10:42 AM	SDG	User Deleted Analysis from SDG; Analysis: GPC-A-001 Reason: Wrong Method	RVARNELL
٣	ARS1-17-00215	01/31/2017 11:31 AM	SDG	ted Analysis from Sample; Fraction: 001; Analysis: GPC-A-028 Reason: Not	RVARNELL
4	ARS1-17-00215	01/31/2017 11:32 AM	SDG	Deleted Analysis from Sample; Fraction: 003; Analysis: GPC-A-028 Reason: Not ed	RVARNELL
2	ARS1-17-00215	02/01/2017 10:46 AM	SDG	After obtaining client's approval, sample ARS1-17-00215 was filtered prior to analysis.	SLEESE
9	ARS1-17-00215	02/01/2017 10:47 AM	SDG	previous note referred to ARS1-17-00215-004 (BB-17)	SLEESE

1 (800) 401-4277 • Fax (225) 381-2996

# **Notes (Case Narrative):**

# Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Soil and Sludge analysis are reported on a wet basis or an as received basis unless otherwise indicated.
- 3.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 4.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix.

  Modified analyses are indicated by the subsequent addition of "m" to the procedure number (i.e. 900.0M).
- 5.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 6.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 7.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 8.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (HPGe).
- 9.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 10.0) Gamma spectroscopy results are calculated values based on the ORTEC GammaVision ENV32 Analysis Engine.
- ACLASS DOD and ISO 17025 certification applies only to the following analytes and methods: Gross Alpha and Gross Beta (EPA 900, SM7110B&C, SW846 9310); Radium 226 (EPA 903, EPA 903.1, SM 7500 Ra-B, SW846 9315); Radium 228 (EPA 904, SM 7500 Ra-B SW846 9320); Iodine-131(EPA 901.1); Uranium by ICPMS (EPA 200.8); Strontium 89/90 (EPA 905, Eichrom SRW01, HASL 300 Sr-03-RC); Tritium (EPA 906, EPA 906M); Gamma Emitters (EPA 901.1, SM7120B, HASL 300 Ga-01-R); Americium-241, Curium 242/244, Plutonium 239/240 and 241, Thorium 228/230/232, Uranium 234/233 and 238 (Eichrom ACW03 VBS); Lead 210 (HASL 300 Pb-01-RC, Eichrom OTW01); Polonium 210 (HASL 300 Po-01-RC, HASL 300 Po-02-RC); Technetium-99 (Eichrom TCW02, Eichrom TCS01M).

### **Method References:**

- 1.0) EPA 600/4-80-032; Prescribed Procedures for the Measurements of Radioactivity in Drinking Water, August 1980.
- 2.0) Standard Methods for the Examination of Water and Wastewater (On-Line Edition)
- 3.0) EPA SW-846; Test Methods for Evaluating Solid Waste, (On-Line edition)
- 4.0) EPA 600/4/79-020; Methods for Chemical Analysis of Water and Waste, March 1983.
- 5.0) HASL 300; The Procedures Manual of the Environmental Measurements Laboratory, Volume I, 28th Edition February, 1997.

# **Definitions:**

CRDL Contract Required Detection Limit
CSU Combined Standard Uncertainty

DLC Decision Level Concentration (ANSI N42.23) or critical level

DUP Duplicate Original Method Duplicate

LCS/LCSD Laboratory Control Sample/Laboratory Control Sample Duplicate

MDA Minimum Detectable Activity

MDC (Minimum Detectable Concentration) minimum concentration of the analyte that ARS can detect utilizing the specific analysis

MBL Method Blank

MS/MSD Matrix Spike/Matrix Spike Duplicate

N/A Not Applicable
NP Not Provided
NR Not Referenced

# **Data Qualifiers:**

B The analyte is found in both the associated method blank and the sample. This flag indicates probable blank contamination.

D Sample analysis accomplished through dilution.

J The reported result is an estimated value (e.g., matrix interference was observed or the analyte was detected at a concentration

outside the quantitation range).

Q One or more quality control criteria failed (e.g., LCS recovery, surrogate spike recovery, or CCV recovery).

Spike

*SC Subcontracted out to another qualified laboratory

U Activity is below the MDC or MDL

LELAP Cert# 01949

NELAP Cert# E87558

ARS-059-010 Revision: 9 Revision Date: 05-02-16



# Sample Identification

**Cross Reference** 



# **SAMPLE IDENTIFICATION CROSS-REFERENCE**

Applied Sciences Company SAMPLE ID(s)	ARS SAMPLE ID NUMBER(s)
OS-3	ARS1-17-00215-001
OS-10	ARS1-17-00215-002
Trip Blank	ARS1-17-00215-003
BB-17	ARS1-17-00215-004



# Chain of Custody and Supporting Documentation

Page 1 of 2

LAB ADDRESS:	ARS International	2609 North River Rd. Port Allen, LA 70767-3469			SPECIAL INSTRUCTIONS / NOTES											
SEND REPORT TO:	Joel I. Cehn, CHP	4714 Windsor Blvd. Cambria, CA 93428	cehn@aol.com		DATE & TIME COLLECTED		1/17/2017	1/16/2017	1/18/2017	1/18/2017	1/17/2017	1/17/2017	1/18/2017	1/17/2017	o origin QC Requirements:	
BILLING ADDRESS:	Cehn CHP	4714 Windsor Blvd. Cambria CA 93428	21.00.10		ANALYSIS REQUESTED	PCBs 8082 Dioxins 8290 Sr-90 Gamma 901.1 TCE 8260B TCE 8260B	×	×	×	× × ×	× × × × ×	×	× × × × ×	×	x Disposal by Lab Return to origin	
					PRESERV -ATIVE		none	none	none	none	none	none	none	none	x Dispo	
		Nulligan	991	ON ON	CONTAIN- ERS		-	2	-	2	4	2	4	-	Months.	
	ASAP	Virgene Mulligan	225.381.2991		VOLUME		40 ml	40ml + 1L	40ml	1 gal + 4oz	1 gal + 3x4oz	2x4oz	1 gal + 3x4oz	402	e for	
Project Fax	Req'd Report Date	Lab Contact	Lab Phone		CONTAINER TYPE (G, P)		VOA	VOA +	VOA	Poly bag+jar	Poly bag + 3 jars	2 jars	Poly bag + 3	Jar	Archive for	
ā	 	E	ا ت		MAT -RIX	2OIF ∀ÖNEON2	×	×	×	×	×	×	×	×	Sample Disposal:	
161115 SL	BBI	Joel I. Cehn	510-863-1570		Sample ID# and Description										21d	
Quote Number	Project Name	Project Manager	Project Phone		# Sample ID		1 OS-3	0S-10	Trip blank	BB-16L	BB-18	0S-2	BB-19M	8 BB-16B	Sample TAT Req'd:	Notes/Comments:

Relinquished By:
Relinquished By:

CUSTODY TRACKING

Time: //୧.၁۵
Time:

Date: Date: Date:

Received By:
Received By:

Date: 177

Time:

Time:

Date:

← **೧ ೧** 10 of 292

# **Chain of Custody Record**

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Page

Ouote Number 16	161115 SL	u	Project Fax			80	BILLING ADDRESS:	DDRES	ÿ	SEN	SEND REPORT TO:	LAB ADDRESS:
5	Joel I. Cehn 510-863-1570		Req'd Report Date Lab Contact Lab Phone	ASAP Virgene Mulligan 225.381.2991	Illigan 91	Ca 4 4	Joel I. Cehn, CHP 4714 Windsor Blvd. Cambria, CA 93428	n, CHP sor Blvd A 93428		Joel 4714 Cam cehn	Joel I. Cehn, CHP 4714 Windsor Blvd. Cambria, CA 93428 cehn@aol.com	ARS International 2609 North River Rd. Port Allen, LA 70767-3469
# Sample ID# a	Sample ID# and Description	MAT -RIX	X TYPE (G, P)	VOLUME	NO. OF CONTAIN- ERS	PRESERV -ATIVE	7 22	ANALYSIS REQUESTED	SIS	Q	DATE & TIME COLLECTED	SPECIAL INSTRUCTIONS / NOTES
		AQUEOUS	7105				PCBs 8082 Dioxins 8290	Sr-90	Gross alpha	07 <u>28</u> HA9		
9 BB-16A			x Jar	4 02	-	none				x 1/17/2017	2017	
10 BB-17		×	Bottle	0.5L	-	none		×	×	1/17/	1/17/2017	Limited to 0.5L
11 BB-17			x Jars	402	2	none	×			1/17/2017	2017	
12 88-17			x Bottle	~.25L	1	none		×		1/17/2017	2017	Mud-do what you can with this
13						none						
14						none						
						none						
						none						
Sample TAT Red d:	210	Sample Disposal:	Archive for		Months.	X Disposal by Lab	by Lab		Retu	Return to origin	n QC Requirements:	
Notes/Comments:												

Relinquished By: Relinquished By:

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# **CUSTODY TRACKING**

(4:00

Time:

Date: Date: Date:

Time: Time:

Received By:

Date: Date: Date:

Time:

Time:

Time:

COMPANY NAME: Applied Spirace Co.

External and Internal Surveys

SHIPPING CONTAINER  Good Condition Yes No	Exposure	M3 2508	B16	Coriol No	RN 20034	Calibration Due	5/23/17
Radioactive Yes No	Rate Meter: Count Rate					Date:  Calibration Due	2/3/17
UN2910 ☐ Yes ☐ No Sec. Seals ☐ Yes ☐ No	Meter:	M3 237	303	_ Serial No.:	PR165363	Date:	2/3/1/
Seals Intact 🗌 Yes 🗌 No 🗐 N/A	Background	Exposure Rate		Max. Exposure R Shipping Contain			
Air Bill Yes 🗹 No	()	R/hr)	20	(Plus Bkgd)		no	μR/hr
COC PRESENT WITH SAMPLES				Max. Removable	Count Rate on		
COC Yes No SAMPLE CONTAINER(S)	Background (	Count Rate (cpm)	100	011 1 0 1111		100	cpm
Good Condition Yes No	<u> </u>			– Max. Removable Shipping Contain		,	- '
Sec. Seals ☐ Yes ☐ No Seal Intact ☐ Yes ☐ No N/A				(Plus Bkgd)	ers internars	80	cpm
Marked Radioactive				L			
# Samples Rcv	· <b>-</b>	0. 00					
Matrix [ AF , 😡 BI ,			UK, VG 1	<b>!</b>		· ·	nce Limits
	<u>-</u>	Acceptable	Mark if	Acid		<500 ^{µR} / _{hr}	<100 ^{cpm} / _{cm²}
Sample Label/Comments/Notes	pH Orig	pH Final	Preserve	i	Weight(g) / Volume(mL)	μR/hr	cpm
05-3 (19.5°C)	<b>\</b>	2 4			<u>u</u>	14	70
05-10 (9.1%)		M. M.			71	131	80
V (15°C)	57	1-	29	P6-0973	1000	عاآ	100
Trip blank (15.70)		1			67	15	20
13.8-17 \$(98)	17	1		R16-00793	550	15	80
		`					
+ 05-10 received in M	1,2915						
unpreserved 40m/viel							
DAPIESEARED TOMPOLET			十二				
	<u> </u>						
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ARS International Baton Rouge Laboratory

DQO Report for SDG

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ARS1-17-00215

Analysis Code Prep Type	GCMS-8260B-AQ WVOA		Trichloroethene (79-01-6)	1,2-Dichloroethane-d4 (Surr)	Bromofluorobenzene (Surr)	Dibromofluoromethane (Surr)	Toluene-d8 (Surr)	GPC-A-009 WRAD		Sr-90	GPC-A-028 WRAD		GROSS ALPHA
Units	бn	Analyte	e (79-01-6)	nane-d4 (Surr)	nzene (Surr)	nethane (Surr)	(2.11	Ō	Analyte		Öd	Analyte	
Aliquot	7							_				18800	
Prep Code	5030B	TQ2	0.5 ug/L					N/A	RDI,	1 pCI/L	N/A	RDL	1 pCi/L
Procedure	ARS-159	TCS IT/NI	79/123	N/A	N/A	N/A	N/A	ARS-032	102 LL/UL	75/125	ARS-090	LCS-LL/UL	75/125
Count Time		MS LL/UL	60/140	N/A	N/A	N/A	N/A		MS LL/UL	60/140		MS LL/UL	60/140
	A CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR OF THE CONTRACTOR	Rady LL/UL	30/110	N/A	N/A	N/A	N/A		RadY LL/UL	30/110		Rady LL/UL	30/110
		GravY LL/UL	40/110	N/A	N/A	N/A	N/A		GravY LL/UL	40/110		Grawy LL/UL	40/110
		RER	-1	N/A	N/A	N/A	N/A		RER	1		COLUMBER	H
		COD	25	N/A	N/A	N/A	N/A		RPD	25		RPD	25
		Sur LL/UL	N/A	80/120	80/120	80/120	80/120		Surt LL/UL	N/A		Sur LL/UL	N/A

Legend; Blue - RDL source was client profile, Green - RDL source was analyte library.

# DQO Report for SDG

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ARS1-17-00215

Analysis Code	Fraction	Units	Conductivity Analyte Count
GCMS-8260B-AQ	001	T Group	N/A Analyte
		VOA (8260B) in Aqueous Waste and Wastewater	Trichloroethene
GCMS-8260B-AQ	002		N/A 1
		dion	Analyte
The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s	3	VOA (8260B) in Aqueous Waste and Wastewater	Trichloroethene
GCMS-8260B-AQ	003		
		<b>Group</b>	Analytic
		VOA (8260B) in Aqueous Waste and Wastewater	Trichloroethene
GPC-A-009	002	pCi	N/A 1
		dion distribution of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state	Analyte
		STD	Sr-90
GPC-A-009	004	pCi	N/A 1
		donous	Analyte
		STD	Sr-90
GPC-A-028	005	Dd	N/A
		Group	Analyte
		STD	GROSS ALPHA
GPC-A-028	004	DQi	N/A
		dnors	Analyte
		STD	GROSS ALPHA

# Management Technical Notes

Date	User	Date User Note
01/24/2017 2:07 PM	RVARNELL	Samples received not preserved except for Trip Blank and OS-3 for VOA.

# ARS International Baton Rouge Laboratory

# SDG Report - Samples and Containers

ARS1-17-00215         TAT Days         21         Project Type         Environ           4         Rpt Level         4         Date Received         1/24/2017         COC Number         Quote#           Applied Sciences Company         Client Deadline         2/23/2017         PO Number         Quote#           971         Internal Deadline         2/21/2017         Job Number         Issue P           PN-00975         Lab Deadline         2/17/2017         Job Location         Comments	10 In the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of			SDG Specific Data		
4         Rpt Level         4         Date Received         1/24/2017         COC Number         Quote#           Applied Sciences Company         Client Deadline         2/23/2017         PO Number         Issue P           971         Internal Deadline         2/21/2017         Job Number         Issue P           PN-00975         Lab Deadline         2/17/2017         Job Location	SDG		TAT Days		Project Type	Environmental
Applied Sciences Company Client Deadline 2/23/2017 PO Number Quote# issue P   971 Job Number   1   1   1   1   1   1   1   1   1		Rpt L	Date Received	1/24/2017	COC Number	
971         Internal Deadline         2/21/2017         Job Number           PN-00975         Lab Deadline         2/17/2017         Job Location	Client	Applied Sciences Company	Client Deadline	2/23/2017	PO Number	Quote# 161115 SL - Will
971 Internal Deadline 2/21/2017 Job Number PN-00975 Lab Deadline 2/17/2017 Job Location		March 1997 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 1998 - 199				issue PO
PN-00975 Lab Deadline 2/17/2017 Job Location	Client Code	971		2/21/2017	Job Number	
Commonts	Profile Number	PN-00975	Lab Deadline	2/17/2017	Job Location	. ;
			Comments	TETTETETETETETETETETETETETETETETETETET	\$1.00.00 (\$1.00.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (\$20.00) (	TO VIDEO CONTRACT THE CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT CONTRACT

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FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch 1	Storage	Conductivity	Comments
001	0S-3	AQ	1/17/2017 12:00 PM 1/17/2017	1/17/2017 12:00 PM	Τ	30	Ŋ	AI-1		15.5*C
	IC_ID	35	Volume (mL)	Container Type pH Orig pH Final	Horig	pH Final	CPM	uR Hr Stor	Stor VOA Head AF Units AF Rate AF Mins	te AF Mins AF Vol
	255878	-	40.00	VOA Vial			14	12	Z	
005	OS-10	Ą	1/16/2017 12:00 PM 1/16/2017	1/16/2017 12:00 PM	I	30	2	05	100 C C C C C C C C C C C C C C C C C C	9.1*C
	IC_ID	GR	Volume (mL)	Container Type p	pH Orig pH Fina	pH Final	CPM	uR Hr Stor	Stor VOA Head AF Units AF Rate	te AF Mins AF Vol
	255879	-	40.00	VOA Vial			80	15	Z	
	255882	7	1000.00	HDP Bottle	7		100	16	N N/A	e de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de l
003	TRIP BLANK	Ą	1/18/2017 12:00 PM 1/18/2017	1/18/2017 12:00 PM	I	30	2	AI-1		15.7*C
	rc_ro	CH	Volume (mL)	Container Type p	pH Orig pH Final	pH Final	CPM	uR Hr Stor	Stor VOA Head AF Units AF Rate	te AF Mins AF Vol
	255880	1	40.00	VOA Vial			80	15	Z	
004	BB-17	Ą	1/17/2017 12:00 PM 1/17/2017 12:00 PM	1/17/2017 12:00 PM	r	30	5	02		
	ar_ie_io	5	Volume (mL)	Container Type p	pH Orig	pH Final	CPM	uR Hr Stor	Stor VOA Head AF Units AF Ra	AF Rate AF Mins AF Vol
	255881		550.00	HDP Bottle	7	H	80	15	N N/A	

# **SDG Report - Analysis Assignments**

Sount 4	6-8
Sample (	Analysis Count
ARS1-17-00215	Client Applied Sciences Company Analysis Count 3-9
SDG	Client

Sample Count Totals Per Analysis	Analysis Description Samples Count	VOCs in Aqueous Waste		Gross Alpha in (Aqueous [AQ])	
Sample Count Total	<b>V</b>				
1981200000000000000000000000000000000000	Analysis Code	GCMS-8260B- AQ	GPC-A-009	GPC-A-028	

action	X = Assigned	×	X	× 1	×	×	×	X	×	×
<b>Analyses Assigned Per Fraction</b>	Analysis Code	GCMS-8260B-AQ	GPC A-028	GCMS-8260B-AQ	GPC-A-009	GPC-A-028	GCMS-8260B-AQ	GPC-A-028	GPC-A-009	GPC-A-028
Ā	Fraction	001	100	005	002	002	003	003	004	004



# Analytical Results Sample Data Summary





ARS Sample Delivery Group: ARS1-17-00215 Client Sample ID: 0S-3

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00215-001

Sample Collection Date: 01/17/17

Date Received: 01/24/17

Sample Matrix: Aqueous

Report Date: 02/16/17

Percent Solids: N/A

Sample Volume (mL):

GC Column: Elite-VMS

Purge Volume (mL):

Level:

Soil Extract Volume (uL):

Preparation Method: ARS-159/5030B

Soil Aliquot Volume (uL):

Analysis Method: ARS-159/SW846 8260B

# **Volatile Organics**

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician
79-01-6	Trichloroethene	<0.300	0.300	1.00	0.500	1	U	ug/L	01/26/17 19:14	APOLLARD

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
17060-07-0	1,2-Dichloroethane-d4	50.0	53.6	ug/L	107%	80/120
460-00-4	Bromofluorobenzene	50.0	53.1	ug/L	106%	80/120
1868-53-7	Dibromofluoromethane	50.0	41.3	ug/L	82.6%	80/120
2037-26-5	Toluene-d8	50.0	54.7	ug/L	109%	80/120

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



ARS Sample Delivery Group: ARS1-17-00215

Client Sample ID: OS-10

Sample Collection Date: 01/16/17

Sample Matrix: Aqueous
Percent Solids: N/A

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00215-002

**Date Received:** 01/24/17 **Report Date:** 02/16/17

# **Radiochemistry**

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Sr-90	0.087	0,543	0,934	0.442	1	U	pCi/L	ARS-032/Eichrom SRW-01	02/03/17 13:40	ст	56%
GROSS ALPHA	0.679	0.736	1.074	0,374	1	U	pCi/L	ARS-090/SM 7110C	02/07/17 9:34	BSCHREITER	N/A

Sample Volume (mL):

1

GC Column: Elite-VMS

Purge Volume (mL):

5

Leve

Soil Extract Volume (uL):

Preparation Method: ARS-159/5030B

Soil Aliquot Volume (uL):

Analysis Method: ARS-159/SW846 8260B

# **Volatile Organics**

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	TOTAL MARKETAN
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79-01-6	Trichloroethene	< 0.300	0.300	1.00	0.500	1	U	ug/L	01/26/17 19:39	APOLLARD	į
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CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
17060-07-0	1,2-Dichloroethane-d4	50.0	53.3	ug/L	107%	80/120
460-00-4	Bromofluorobenzene	50.0	52.6	ug/L	105%	80/120
1868-53-7	Dibromofluoromethane	• 50.0	40.7	ug/L	81,3%	80/120
2037-26-5	Toluene-d8	50.0	54.6	ug/L	109%	80/120

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



ARS Sample Delivery Group: ARS1-17-00215

Client Sample ID: TRIP BLANK

Sample Collection Date: 01/18/17

Sample Matrix: Aqueous

Percent Solids: N/A

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00215-003

Date Received: 01/24/17

Report Date: 02/16/17

Sample Volume (mL):

Purge Volume (mL):

Soil Extract Volume (uL):

Soil Aliquot Volume (uL):

GC Column: Elite-VMS

Preparation Method: ARS-159/5030B

Analysis Method: ARS-159/SW846 8260B

# **Volatile Organics**

CAS#	Analyte	Analysis Result	MDL	PQL	CRDL	Dilution Factor	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	September 18 control
79-01-6	Trichloroethene	<0.300	0.300	1.00	0.500	1	U	ug/L	01/26/17 20:03	APOLLARD	A NOW

CAS#	Surrogate	Spiked Amount	Analysis Result	Analysis Units	% Recovery	Recovery Limits
17060-07-0	1,2-Dichloroethane-d4	50,0	53.8	ug/L	108%	80/120
460-00-4	Bromofluorobenzene	50.0	52.7	ug/L	105%	80/120
1868-53-7	Dibromofluoromethane	50,0	41.8	ug/L	83,6%	80/120
2037-26-5	Toluene-d8	50.0	55.2	ug/L	110%	80/120

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



ARS Sample Delivery Group: ARS1-17-00215

Client Sample ID: BB-17

Sample Collection Date: 01/17/17

Sample Matrix: Aqueous

Percent Solids: N/A

Request or PO Number: Quote# 161115 SL

ARS Sample ID: ARS1-17-00215-004

Date Received: 01/24/17

Report Date: 02/16/17

# **Radiochemistry**

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Method	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Sr-90	0.872	1.171	1.921	0.910	1	U	pCi/L	ARS-032/Eichrom SRW-01	02/03/17 13:40	ст	68%
GROSS ALPHA	16.209	6.856	4.105	1,406	1		pCi/L	ARS-090/SM 7110C	02/07/17 9:34	BSCHREITER	N/A

Project/Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



# Radiological Analysis Quality Control Results



# **QC Results per Analytical Batch**

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Analytical Batch	ARS1-B17-00188
SDG	ARS1-17-00215
Analysis	Strontium-90 (Aqueous)
Analysis Test Method A	RS-032/Gas Proportional Counter
Analysis Code	GPC-A-009
Report Units	pci/L

Acceptable QC Performance Ranges							
QC Sample Type	Performance Items and Ranges						
Laboratory Control Sample	Recovery (%):	> 75	< 125				
Matrix Spike	Recovery (%):	> 60	< 140				
	Re	plicate Error Ratio (RER):	<1				
Duplicate	Duplicate Error Ratio (DER):						
	Relative Per	cent Difference (RPD %):	≤ 25				

Laboratory Control Sa	Laboratory Control Sample			02/03/17 13:40	Analysis Technician		<b>T</b>
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B17-00188-01	LCS	SR-90	20.615	3.164	19.413	106.2	0.391

Duplicate RER/DER/RPD			Analysis Date	02/03/17 13:40	Analysis Technician		T
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	RER	DER	RPD
SR-90	20.615	3,164	20.990	3.223	0.059	0.163	1.8

Method Blank		Analysis Date	02/03/17 13:40	Analysis Technician	C	т
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B17-00188-03	MBL	SR-90	-0.091	0.231	0.409	U

Project Manager Review

Notes: American Radiation Services, Inc. assumes no liability for the use or interpretation of any analytical results provided other than the cost of the analysis itself. Reproduction of this report in less than full requires the written consent of the client.



# **QC Results per Analytical Batch**

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Analytical Batch	ARS1-B17-00214
SDG	ARS1-17-00215
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Acc	Acceptable QC Performance Ranges								
QC Sample Type		Performance Items and Ranges							
Laboratory Control Sample	Recovery (%):	> 75	< 125						
Matrix Spike	Recovery (%):	> 60	< 140						
	Replicate Error Ratio (RER): < 1								
Duplicate	Duplicate Error Ratio (DER):								
	≤ 25								

Laboratory Control Sample			Analysis Date	02/07/17 09:34	Analysis Technician	egingal (specificial) property response quantum per a specific per a particular a securit	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B17-00214-01	LCS	GROSS ALPHA	6.156	1.788	5.781	106.5	0.480

Duplicate RER/DER/F	Duplicate RER/DER/RPD			02/07/17 09:34	Analysis Technician		
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	RER	DER	RPD
GROSS ALPHA	6.156	1.788	5.033	1.524	0.339	0.938	20.1

Duplicate RER/DER/F	RPD (Dup Sa	ample)	Analysis Date	02/07/17 09:34	Analysis Technician		
Analyte	Results DO	CSU DO (2s)	Results DUP	CSU DUP (2s)	RER	DER	RPD
GROSS ALPHA	13.177	7.357	7.683	6.063	0.409	1.130	52.7

Method Blank		Analysis Date	02/07/17 09:34	Analysis Technician		
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B17-00214-03	MBL	GROSS ALPHA	0.252	0.270	0.384	U

Matrix Spike			Analysis Date	02/07/17 09:34	Analysis Technician		anguage, city decision providents before the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the constraint of the con	
Analysis Batch Sample ID	QC Type	Analyte	Results	Expected Value	MS Rec (%)	CSU (2s)	MDC	
ARS1-B17-00214-09	MS	GROSS ALPHA	27.999	11.758	126.1	11.627	6.826	
ARS1-B17-00214-04	TRG	GROSS ALPHA	13.177	N/A	N/A	7.357	5.904	

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# Stable Chemistry Analysis Quality Control Results



# **QC Results per Analytical Batch**

Analytical Batch	ARS1-B17-00152
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Analysis	GCMS-8260B-AQ
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Labor	atory Control Sample	An	alysis Date	01/26/17 18:25	Analysis 1	Technician .	APOLLARD			
CAS#	Analyte	LCS Results	LCSD Results	Known Value	% Rec	Limits	RPD	Limits		
79-01-6	Trichloroethene	51.4 52.9		50.0	103	79 - 123	2.88	25		

Metho	d Blank	Analysis Date	01/26/17 18:01	Analysis Technician	APOLLARD
CAS#	Analyte	Blank Results	Qualifier	MDL	PQL
79-01-6	Trichloroethene	<0.300	U	0.300	1.00

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# Radiological Analysis EPA 905.0/SRW-01

									Units	DCI/L	pCi/L	DC/I	pCi/L	pCi/L	PC!/L	DC/V	pCi/L	DC!/L	pCi/L	pCi/L	pCi/L	pCi/L	pC/L	pC/L	pCi/L.	PCi/L	pCi/L)	pCi/L	PC!/L	pCi/L	pC/L	DCI/L	pCi/L
									Lc	0.186							#N/A			_	#N/A			#N/A	#N/A	#DIV/0i	#DIV/0i	i0/AIQ#		Н	_		#DIN/0i
									MDA	0.391	0.422	0.409	0.934	1.921	#N/A	#N/A	#N/A	#N/A	#W/A	#N/A	#N/A	#N/A	#N/A	#N/A		-	:   i0/AlQ#	#DIV/0!	#DIV/0!	#DIV/0!	Н	-	#DIV/0i
		7.43%	2						CSU (2s)	_	_	Н	_	_	_	_	#N/A	_	-	#N/A	Н		_	_	#N/A	_	#   i0/AiQ#	_	Ľ,	Н	Н	-	# i0//IC#
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					Instr			Count Finish	Date and Time	2/3/2017 13:40	2/3/2017 13:40	2/3/2017 13:40	2/3/2017 13:40	2/3/2017 13:40	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	М/ОО/УУУУ НН:ММ	M/DD/YYYY HH:MM	М/DD/YYYY НН:ММ	МИОДУУУУУ НН:ММ	M/DD/YYYY HH:MM	MADDAYYYY HH:MM	MVDD/YYYY HH:MM	M/DD/YYYY HH:MM	МИДДУУУУ НН:ММ	WDD/YYYY HH:MM	МОДУУУУ НН:ММ						
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								n Beta Bkg	count	774	228	751	620	644													_					ì	
							Count	s duration	(min)	240	240	240	240	240	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120	120
								Beta Gross	(counts)	3156	3182	188	170	195																			
							Chemical	Yield for	calculations	%09	63%	%09	%95	%89	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	0%	%0	0%	%0
6-00592	5		5	0.4141	12.07		•	chemical	yield ca	%09	63%	%09	26%	%89	%0	%0	%0	%0,	%0	%0	%0	%0	%0	%0		%0	%0	%0	%0	%0	%0	0%	%0
Carrier ID R16-00592	Sr/mL)	ie (mL)	(bm) pa		-	net mass	ō	Sr(NO3)2 ch	(mg)	L	9.7	H	L				0.0			0.0	-	0.0		_	0.0	-	0.0	0.0		0.0	Н	1	0.0
ଞ	Carrier Concentration (mg Sr/mL)	Carrier volume (mL	Carrier added (mg)	grav. Factor (mg Sr / mg Sr(NO3)2	Carrier expected mass (mg)	Пet			_	L	27													_		_	_		_	_			
	er Concent	Ö	O,	Factor (mg	Carrier ex			e Planchet +	ppt (g)	7.5514	7.5907	7.4932	7.5180	7.4827																			
	Carri			GLAV.				Planchet tare	(6)	7.5442	7.5831	7.4859	7.5112	7.4745																			
								Start of Y-90	ingrowth	2/2/2017 13:08	2/2/2017 13:45	2/2/2017 13:45	2/2/2017 13:08	2/2/2017 13:45	MIDD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	MADD/YYYY HH:MM	MINDD/YYYY HH:MIM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	M/DD/YYYY HH:MM	мирруууу нн:мм	M/DD/YYYY HH:MM
							_			2/2/20	2/2/20	2/2/20	2/2/20	2/2/20	MYDDYY	M/DD/YY	M/DD/YY	MADDAYY	WDDWY	MADDAY	M/DD/YY	W/DD/W	M/DD/YY	M/DD/YY	W/DD/YY	W/DD/YY	W/DD/W	M/DD/YY	W/DD/YY	MADDAYY	MADDAY	MADDAY	M/DD/YY
							Desired	reporting	units	ğ	ğ	ğ	Ö	ğ	Öd	তু	ğ	ō	ğ	ದ್ದ	õ	ğ	ğ	స్ట	ପୁ	Ö	ā	Ş	ğ	હૂ	БĊ	Ö	ලි
ARS-032		70215		-00188				Aliquot	Units	L	_	۔	_	_	_	_	-	_	_	-	_	_	_	_	٦	_	]	]	_	_	_	7	
ARS-060		ARS1-17-4		ARS1-B17					Aliquot	L	L	-	0.4	0.18	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	*	#	*	#
Procedures ARS-060 ARS-032		ARS File ID Number ARS1-17-00215		ARS Batch Number ARS1-B17-00188					9	B1700188-01	B1700188-02	B1700188-03	B1700188-04	B1700188-05	B15-########	B15-######	B15#######	B15-######	B15######	B15######	B15-######	B15-######	B15-########	B15-#########	B15######	B15######	B15-######	B15######	B15#####	B15######	B15-#######	B15-#######	B15 ########
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Caloulations
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#### Recount / Reprep Form

Date Initiated: /- 3	31-17	Action Needed (Check appropriate box)
Inititated By:		Recount
Management Approval:	P	Reprep/Recount
ARS Procedure(s):	-A-009	
SDG & Aliquot #(s):	1-17-00215 -00	2 + 004
Analytes: Se-	~ A	
Reason for required action:	NEEDS 1 pCi/L	L CROL,
Reprep? Yes	√ No □	
Action Recommended:	Cationic exchange	
Action Taken:	Cationic exchange	
Responsible Party:	Charlton Trange	
	6-বে Signature:	CIM
Recount? Yes Z	] No	
Action Recommended:	reune	
Action Taken:	1econt	
Responsible Party	M	
Date Completed: 2-6-1	Signature:	

Recount/Reprep Form Version 2 12-21-11

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#### Analysis Batch ID ARS1-B17-00188

<b>D</b>		Method	Method ARS-032		Analysis GPC-A-009	GPC-A-	600	Matrix AQ	AQ			
MIERNATIONAL		Description	1 Stronti	Description Strontium-90 (Aqueous)	(S)							
ABatch Sample ID	Type	Blind Iso1 Bli	Blind Iso2 Blind Iso3	Blind Iso3	SDG	Œ	Run	Prep Code		Client ID	Group Name	Lab Deadline
ARS1-B17-00188-01 LCS	rcs	B-23131										
ARS1-B17-00188-02 LCSD	CSD	B-23132										
ARS1-B17-00188-03 MBL	MBL											
ARS1-B17-00188-04	TRG			AR	ARS1-17-00215 002	5 002	2	J	OS-10		STD	02/17/17
ARS1-B17-00188-05 TRG	TRG			AR	ARS1-17-00215 004	5 004	7	B	88-17		STD	02/17/17

Procedure Data											
ABatch Sample ID	Client ID	Parent	ICOC ID	Aliquot Vol/Wt Aliquot Units	Aliquot Units	Strontium Carrier (5mg/ml)	Y Ingrowth Date 1	Disk Wt (g)	Disk Wt 2 (g)	Y Ingrowth Date 2	User ID
ARS1-B17-00188-01				1.0000 1		R16-00592	2/2/2017 1:08:00 PM	7.5442	7.5514		CTRAMEL
ARS1-B17-00188-02				1.0000 1		R16-00592	2/2/2017 12:45:00 PM	7.5831	7.5907		CTRAMEL
ARS1-B17-00188-03				1.0000 1		R16-00592	2/2/2017 7.4859 12:45:00 PM	7.4859	7.4932		CTRAMEL
ARS1-B17-00188-04 OS-10	0		256332	0.4000		R16-00592	2/2/2017 7.5112 1:08:00 PM	7.5112	7,5180		CTRAMEL
ARS1-B17-00188-05 BB-17	2		256333	0.1800 1	_	R16-00592	2/2/2017 7.4745 12:45:00 PM	7.4745	7.4827		CTRAMEL



#### Sr Yield Calculation Sheet 00188

СТ

Empty	Filled	Yie	ld(mg)	% Recovery
1 7.54	142	7.5514	7.2000	60
2 7.58	331	7.5907	7.6000	63
3 7.48	359	7.4932	7.3000	60
4 7.51	12	7.5180	6.8000	56
5 7.47	745	7.4827	8.2000	68
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#### Analysis Batch ID ARS1-B17-00188

5		Method	Method ARS-032	32	Analysis GPC-A-009	GPC-A-00	60	Matrix AQ	AQ			
MTERNATIONAL		Description	Stronti	Description Strontium-90 (Aqueous)	ıs)							
ABatch Sample ID	Туре	Blind Iso1	Blind Iso2	Blind Iso3	SDG	Æ	Run	Prep Code		Client ID	Group Name	Lab Deadline
ARS1-B17-00188-01 LCS	CS	B-23131		13.08								
ARS1-B17-00188-02 LCSD	CSD	B-23132		Sh: 41								
ARS1-B17-00188-03	MBL			27.45								
ARS1-B17-00188-04	TRG				ARS1-17-00215 002	5 002	7		OS-10		STD	02/17/17
ARS1-B17-00188-05	TRG				ARS1-17-00215 004	. <b>5</b> 004	2		88-17		STD	02/17/17

#### LCS Report Analytical Batch: ARS1-B17-00188

Mod Date	01/19/2017	01/19/2017
User ID	JBYRD	JBYRD 01/19/20
Count Date Known Value (pCI)		
		The second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of th
Expected Value CT Mid Point (pCi/g)		
Net Wt (g)	0.9983	0.9950
ross Wt (g)	18.2268	18.2136
Empty Wt G (9)	17.2285 18.2268	9.41333 17.2186 18.2136 0.9950
Expected Value (pCI/g)	19,41333	
Exp Addition (9)	<b>-</b>	
Isotope Exp /	Sr-90	Sr-90
Std ID	S-0313	S-0313
Blind Group	B-Sr90	B-Sr90
Blind ID ABatch Sample ID Blind Group Std ID Isotope Exp Addition Exp. (9)	B-23131 ARS1-B17-00188-01 B-Sr90 S-0313 Sr-90	B-23132 ARS1-B17-00188-02 B-5r90 S-0313 Sr-90 1
Blind ID	B-23131	B-23132

	L	-	ΓB	14100-C			\\Ars-f	\\Ars-f52mv91\LB4100\LB4100\GRAY\DATA\GENER709.XLD	-B4100\GRAY\D <i>F</i>	4TA\GENER709.)	(LD
<b>)</b>	A		Back	Batch Sample ID			Sam	Samples Transferred		Samples E	Samples Eligible To Save
INTERNATIONAL	TIONAL		ARS1-	ARS1-B17-00188	3			2			2
LIMS Batch Sample ID	Detector ID	LB41.10 Sample ID	Alpha	Beta	Count	LB4110 Voltage	LB4110 Count Date	Analysis i Batch	LIMS	LIMS LIMS Run Fraction	S LIMS on Analysis
ARS1-B17-00188-01	A1	17-00188-01	26.00	3156.00	240.00	1410.00	02/03/17 13:40	ARS1-B17-00188			
ARS1-B17-00188-02	A2	17-00188-02	10.00	3182.00	240.00	1410.00	02/03/17 13:40	ARS1-B17-00188			
ARS1-B17-00188-03	A4	17-00188-03	13.00	188.00	240.00	1410.00	02/03/17 13:40	ARS1-B17-00188			
ARS1-B17-00188-04	81	17-00188-04	5.00	170.00	240.00	1410.00	02/03/17 13:40	ARS1-817-00188	ARS1-17-00215	2 002	GPC-A-009
ARS1-B17-00188-05	B2	17-00188-05	10.00	195.00	240.00	1410.00	02/03/17 13:40	ARS1-817-00188	ARS1-17-00215	2 004	GPC-A-009

SEN 709	2 11160	ഗ്	WJS
G	$\circ$		

TOD	2/3/17 13:40	2/3/17 13:40	2/3/17 13:40	2/3/17 13:40	2/3/17 13:40
Voltage	1410	1410	1410	1410	1410
Count Time	240	240	8 240	240	240
Beta	3156	3182	188	170	195
_	26	10	13	2	10
Sample ID	17-00188-01	17-00188-02	17-00188-03	17-00188-04	17-00188-05
_			A4		

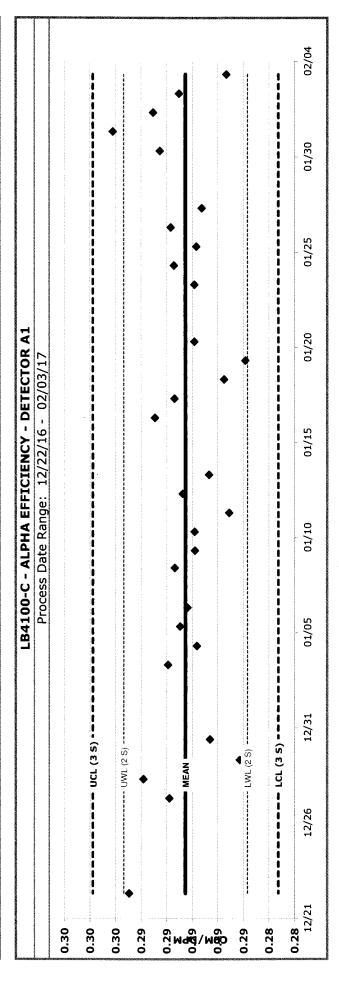
GEN 693 C 11160 LONG BKG WJS

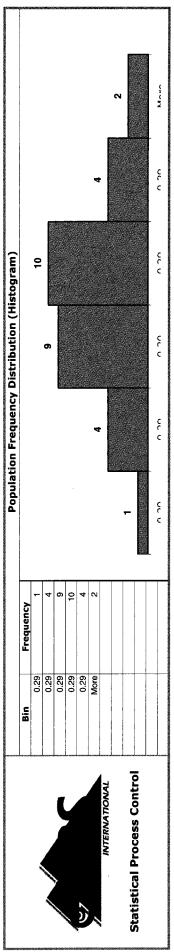
TOD	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:12	1/28/17 5:13	1/28/17 5:13	1/28/17 5:13	1/28/17 5:13
Voltage	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410
Count Time	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006
Beta	774	877	784	751	1060	749	703	771	714	678	672	707	620	644	3756	847
Alpha	28	48	20	37	26	33	42	47	25	56	16	20	59	28	21	25
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	D1-01	D2-01	D3-01	D4-01	B1-01	B2-01	B3-01	B4-01
Detector ID	, A1	<b>A</b> 2	A3	<b>A</b> 4	5	C5	క	2	10	D2	D3	D4	9	B2	B3	B4

## **LB4100-C - ALPHA EFFICIENCY**

Printed: 2/16/2017 4:19 PM Page 1 of 1

Population Statistics				Trending Analysis	
orio acite li aco	00			Most recent point outside of the 3-sigma values.	OK
Population Size	ה ה	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.2905	CPM/DPM	0.2874	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.2978	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2833	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

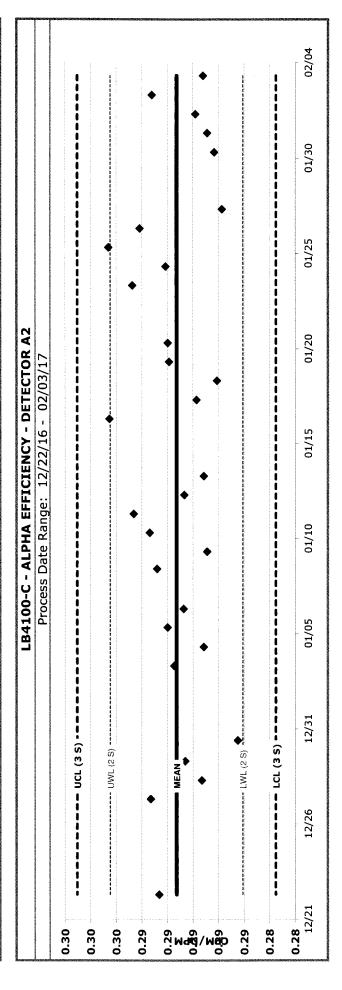


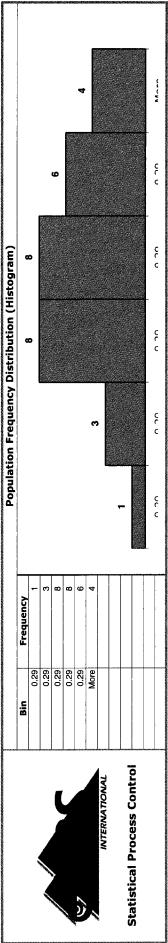


## **LB4100-C - ALPHA EFFICIENCY**

Printed: 2/16/2017 4:19 PM Page 1 of 1

Population Statistics				Trending Analysis	
CTIO COITE LICED	CC			Most recent point outside of the 3-sigma values.	ОК
ropulation Size	) ()	Date	02/03/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2913	CPM/DPM	0.2892	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0026			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2991	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2835	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

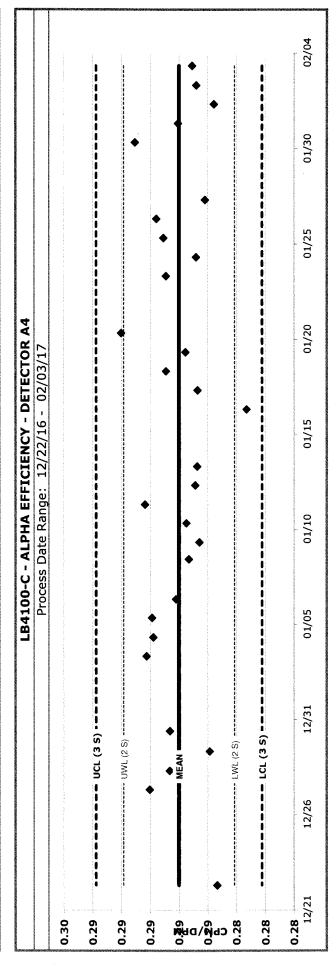


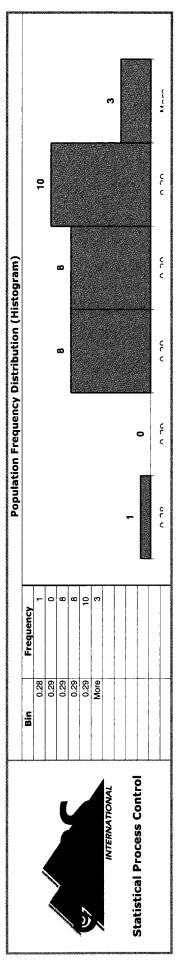


## **LB4100-C - ALPHA EFFICIENCY**

Printed: 2/16/2017 4:19 PM Page 1 of 1

Population Statistics				Trending Analysis	
C C C C C C C C C C C C C C C C C C C				Most recent point outside of the 3-sigma values.	OK OK
רטשומנוטון אוני	<b>)</b>	Date	02/03/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2880	СРМ/ДРМ	0.2871	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0019			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.2938	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.2822	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

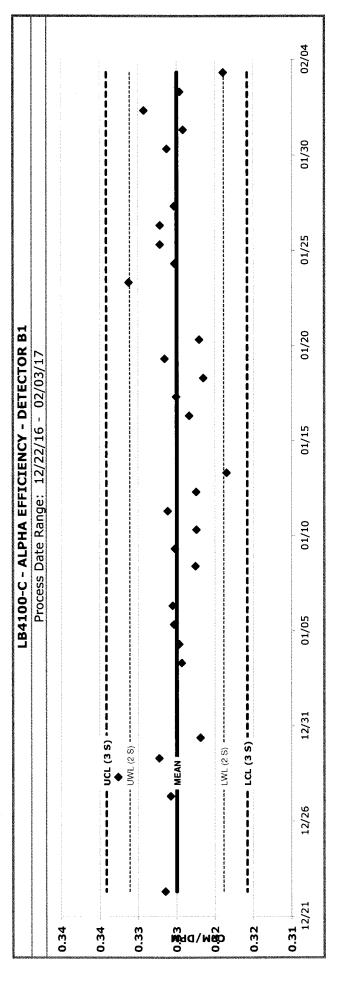


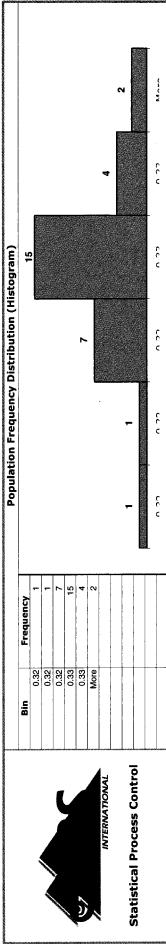


## **LB4100-C - ALPHA EFFICIENCY**

Printed: 2/16/2017 4:19 PM Page 1 of 1

Population Statistics				Trending Analysis	
CTIC CONTRACTOR	CC			Most recent point outside of the 3-sigma values.	OK
Population Size	20	Date	02/03/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.3250	CPM/DPM	0.3189	2 of 3 most recent points above 2 sigma.	ΟK
Standard Deviation	0.0031			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.3341	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.3158	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	ОК

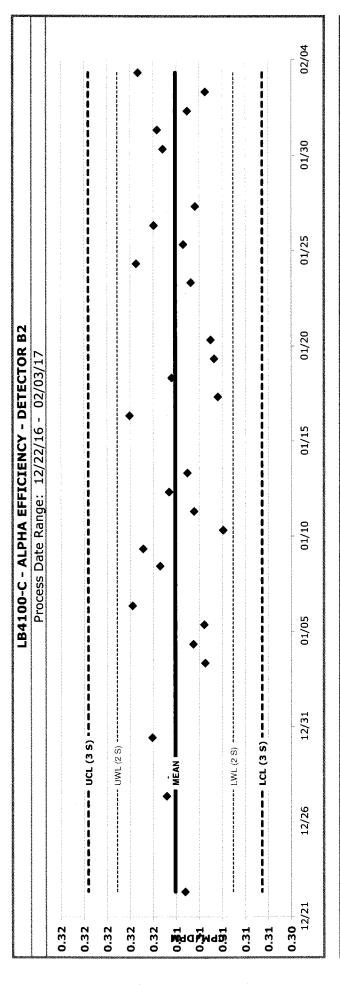




## **LB4100-C - ALPHA EFFICIENCY**

Printed: 2/16/2017 4:21 PM Page 1 of 1

Population Statistics				Trending Analysis	
orio coite lacon	CC			Most recent point outside of the 3-sigma values.	OK
Population Size	<b>)</b>	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.3141	СРМ/DРМ	0.3173	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0025			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.3216	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.3065	CPM		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	ОК

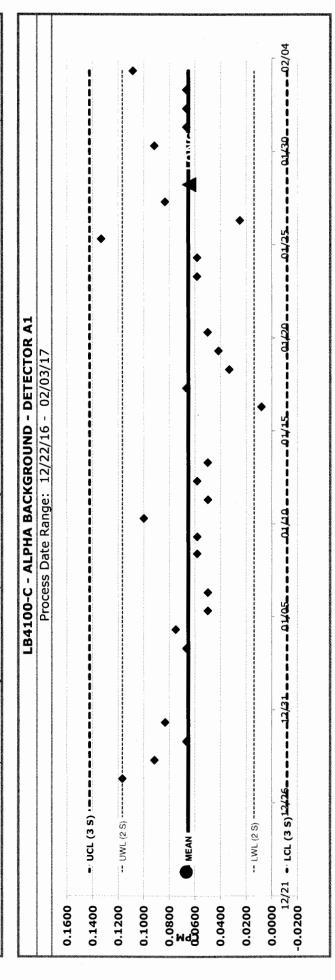


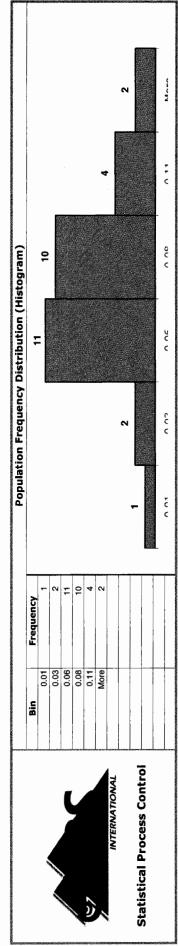


# LB4100-C - Alpha Daily BKG Check

2/16/2017 2:58 PM	Page 1 of 1
Printed:	

Population Statistics		DER Analysis	ОК	Trending Analysis	
orio acitalinad	06	DER	1.4060	Most recent point outside of the 3-sigma values.	OK
Population Size	<b>N</b> 7	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.0652	Long B CPM	0.0644	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0257	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.1423	Date	02/03/17	7 trending most recent points in a row.	OK
- 3-sigma value	-0.0118	СРМ	0.1083	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

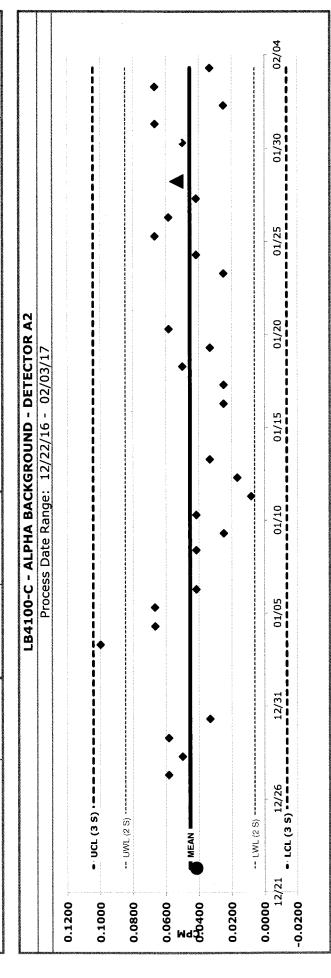


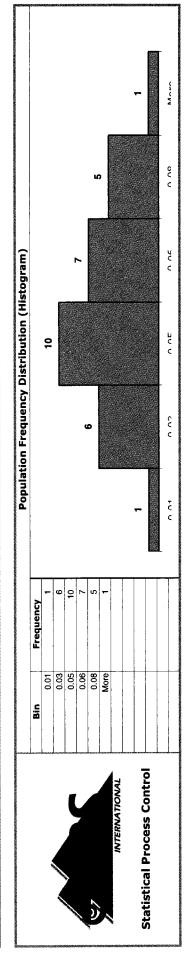


# LB4100-C - Alpha Daily BKG Check

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Population Statistics		DER Analysis	) YO	Trending Analysis	
	C	DER	1.0894	Most recent point outside of the 3-sigma values.	ОК
Population Size	מ	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0454	Long B CPM	0.0533	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0196	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.1043	Date	02/03/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0135	CPM	0.0333	15 most recent points inside 1 sigma.	OK
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK



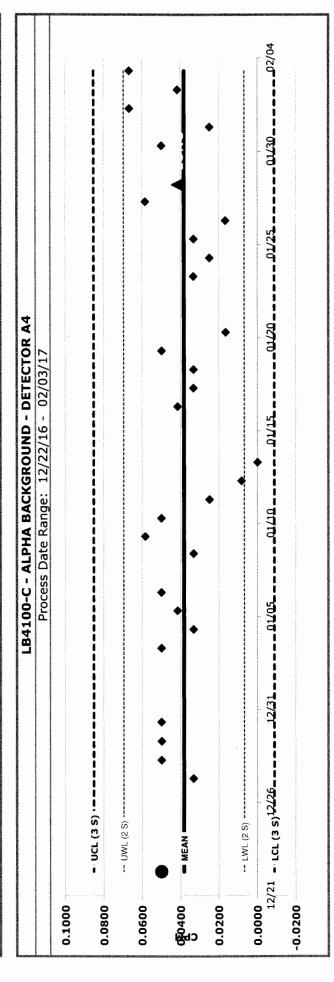


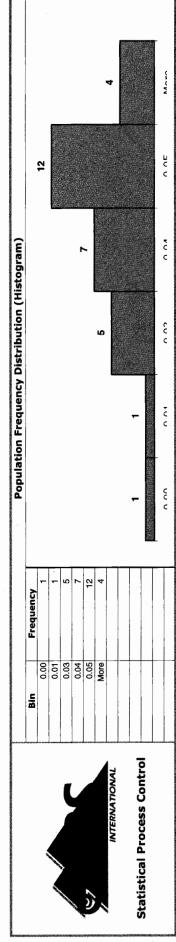
Printed: 2/16/2017 3:01 PM Page 1 of 1

# LB4100-C - Alpha Daily BKG Check

American Radiation Services Baton Rouge Laboratory

Population Statistics		DER Analysis	OK	Trending Analysis	
orio de italiano	56	DER	1.0422	Most recent point outside of the 3-sigma values.	ОК
Population Size	<b>7</b>	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0382	Long B CPM	0.0411	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0157	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0852	Date	02/03/17	7 trending most recent points in a row.	OK
- 3-sigma value	-0.0088	CPM	0.0667	15 most recent points inside 1 sigma.	OK
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК



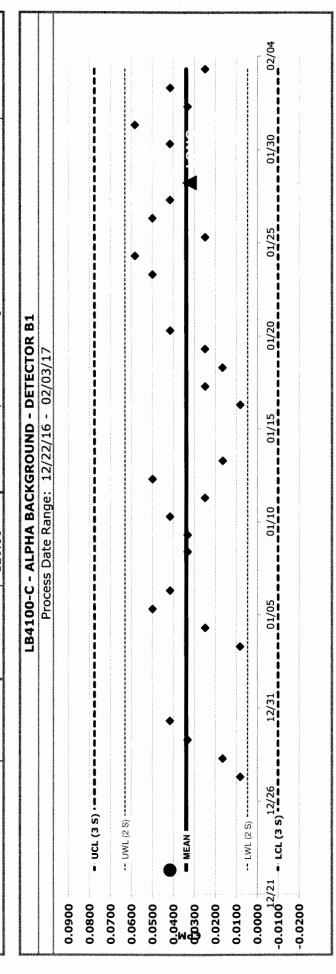


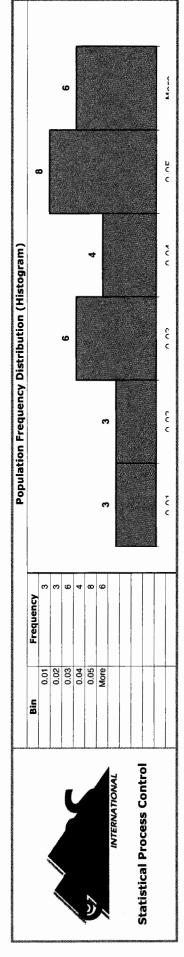
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# LB4100-C - Alpha Daily BKG Check

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Population Statistics		DER Analysis	OK	Trending Analysis	TO SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SECOND SE
	OC.	DER	0.4622	Most recent point outside of the 3-sigma values.	ОК
ropulation Size	(2)	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0339	Long B CPM	0.0322	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0146	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0777	Date	02/03/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0099	CPM	0.0250	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

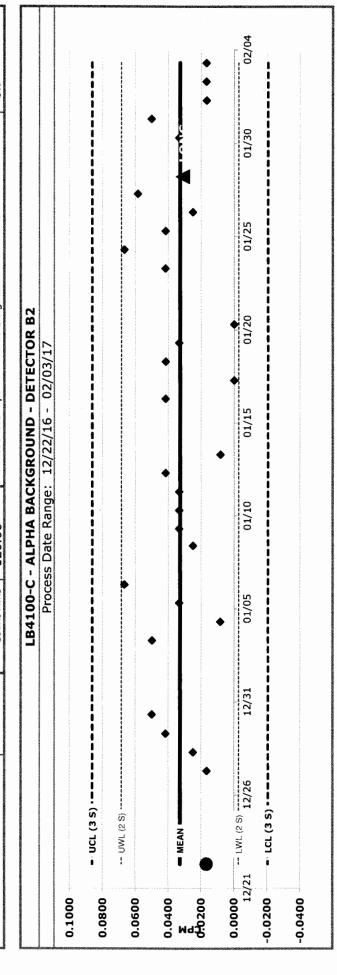


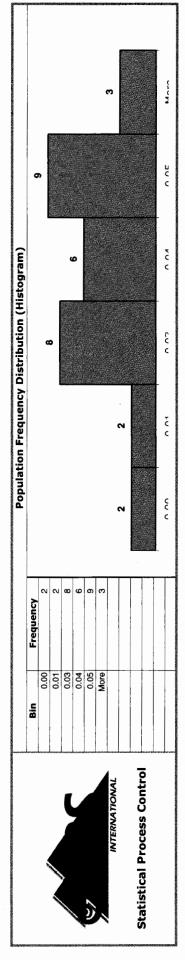


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Population Statistics		DER Analysis	OK	Trending Analysis	
Doctor City	0.0	DER	1.0967	Most recent point outside of the 3-sigma values.	ОК
ropulation Size	43	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0328	Long B CPM	0.0311	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0178	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0862	Date	02/03/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0207	СРМ	0.0167	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK



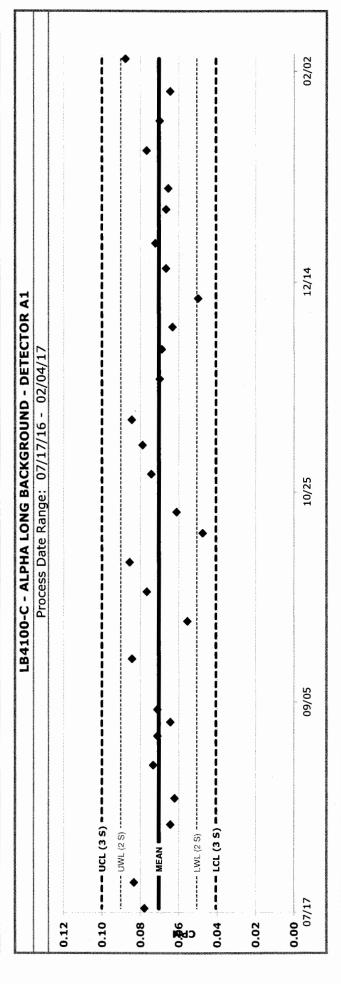


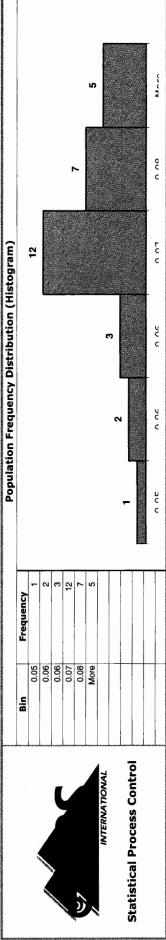
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## Instrument Background Analysis

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Population Statistics	S			Trending Analysis	
Crit Clare	06		ć,	Most recent point outside of the 3-sigma values.	OK
Population Size	) 1	-		8 consecutive most recent points on one side of the mean.	OK
Average	0.0703			2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	6600.0			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.1000			7 trending most recent points in a row.	ОК
- 3-sigma value	0.0406			15 most recent points inside 1 sigma.	OK
	30.0000			8 most recent points outside 1 sigma.	OK

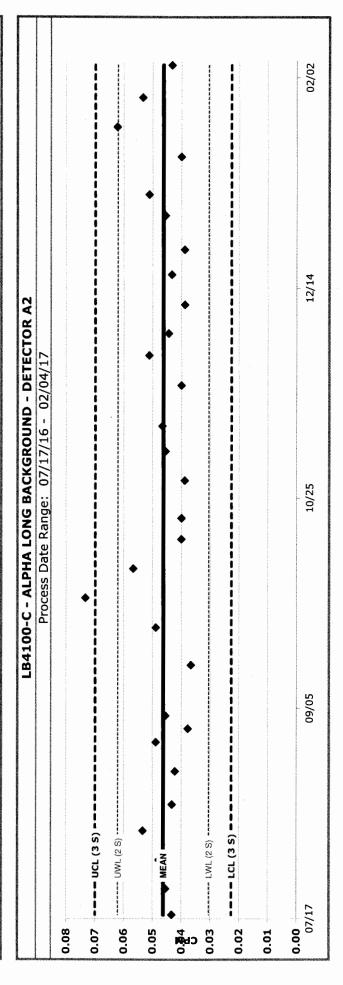


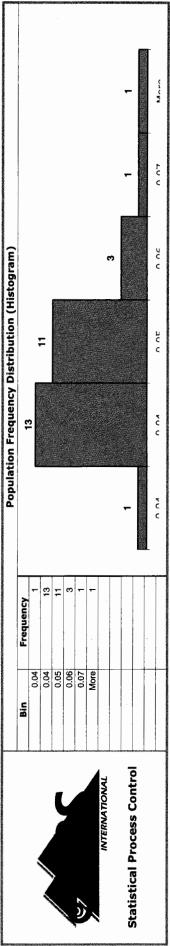


## Instrument Background Analysis

Printed: 2/16/2017 2:22 PM Page 1 of 1

Population Statistics	5	Trending Analysis	alysis	
orio acitalizado	6	Most recent point outside of the 3-sigma values.	-	OK
Paris ilongiano	) 1	8 consecutive most recent points on one side of the mean.	the mean.	OK
Average	0.0462	2 of 3 most recent points above 2 sigma.		ΟĶ
Standard Deviation	0.0079	4 of 5 most recents points beyond the 1-sigma.		OK
+ 3-sigma value	0.0699	7 trending most recent points in a row.		ОК
- 3-sigma value	0.0226	15 most recent points inside 1 sigma.		ОК
	30.0000	8 most recent points outside 1 sigma.		OK

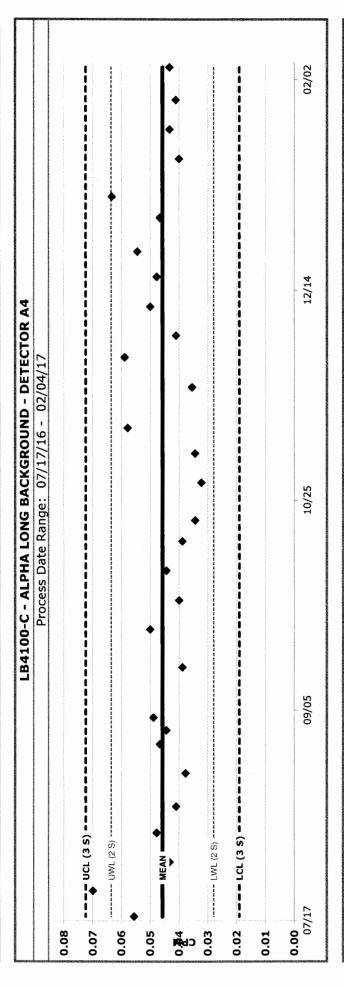


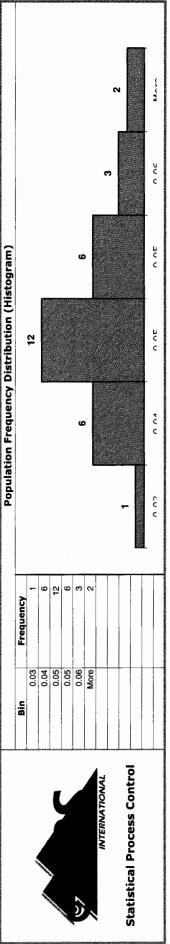


# Instrument Background Analysis

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Population Statistics	S	Trending	Trending Analysis	
10000	6	Most recent point outside of the 3-sigma values.	es. OK	
Population Size	) ) )	8 consecutive most recent points on one side of the mean.	of the mean.	
Average	0.0457	2 of 3 most recent points above 2 sigma.	OK	
Standard Deviation	0.0089	4 of 5 most recents points beyond the 1-sigma.	а. ОК	
+ 3-sigma value	0.0724	7 trending most recent points in a row.	ОК	
- 3-sigma value	0.0191	15 most recent points inside 1 sigma.	ОК	
	30.0000	8 most recent points outside 1 sigma.	ОК	



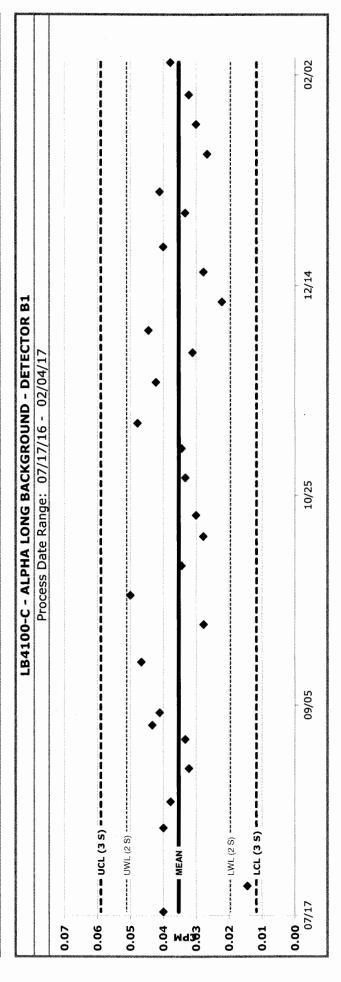


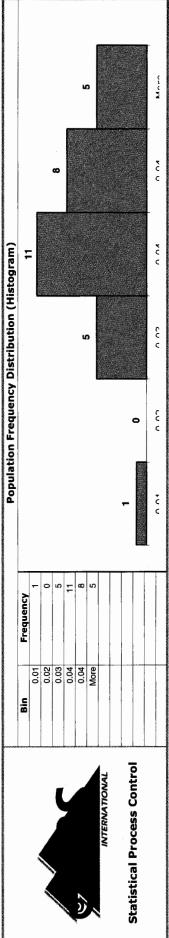
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## Instrument Background Analysis

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Population Statistics	6	Trending Analysis	
	C O	Most recent point outside of the 3-sigma values.	ОК
ropulation size	5	8 consecutive most recent points on one side of the mean.	OK
Average	0.0353	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0079	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0589	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0117	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	OK



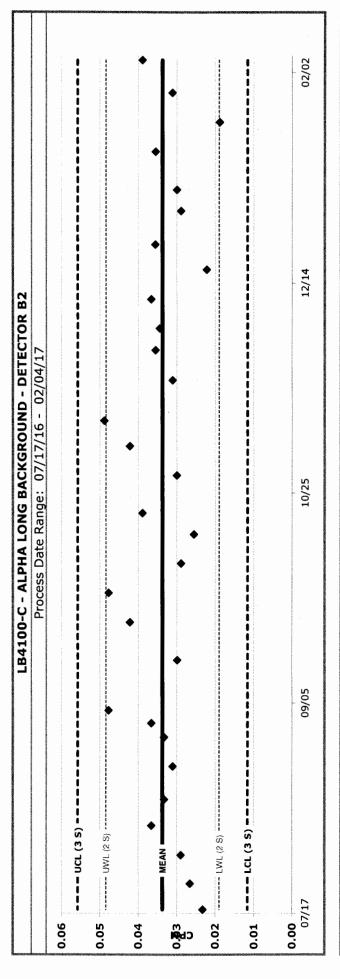


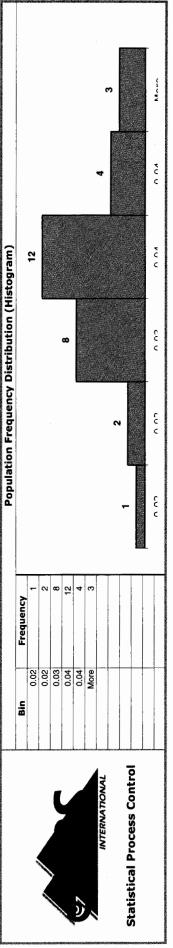
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Instrument Background Analysis

American Radiation Services Baton Rouge Laboratory

Population Statistics	9	Trending Analysis	
orio cotte		Most recent point outside of the 3-sigma values.	OK
בוכ ווסומומוסר	<b>)</b>	8 consecutive most recent points on one side of the mean.	OK
Average	0.0337	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0074	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0558	7 trending most recent points in a row.	OK
- 3-sigma value	0.0116	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	OK

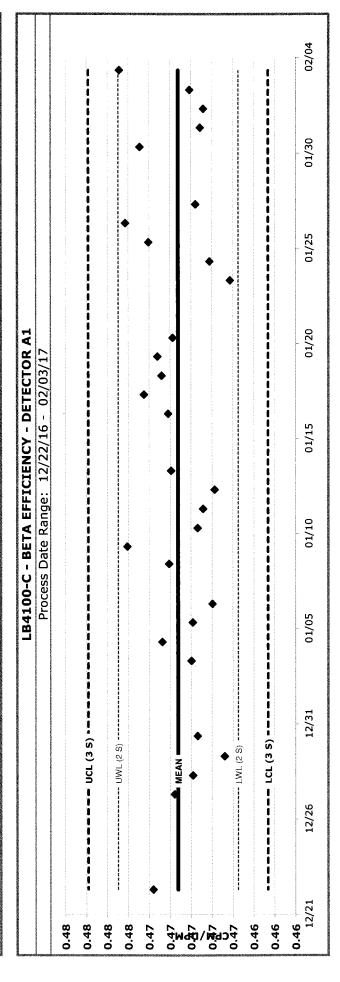


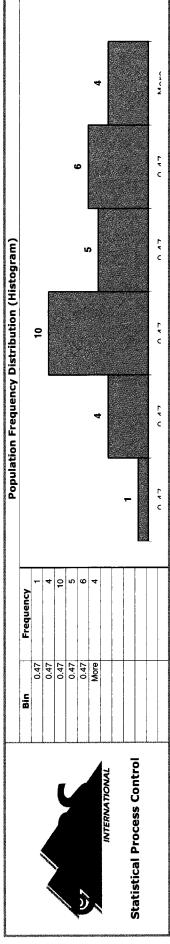


#### **LB4100-C - BETA EFFICIENCY**

#### American Radiation Services Baton Rouge Laboratory

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	00			Most recent point outside of the 3-sigma values.	ОК
Population Size	0	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4712	СРМ/DРМ	0.4769	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0029			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4798	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4627	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

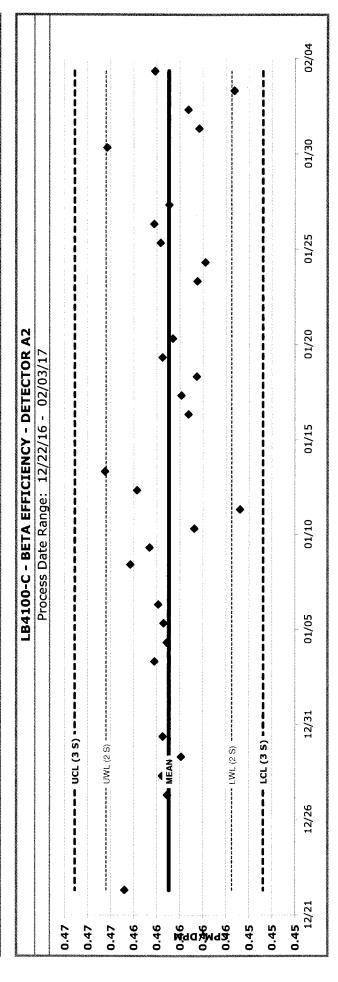




#### **LB4100-C - BETA EFFICIENCY**

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Population Statistics	2			Trending Analysis	
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Average	0.4610	CPM/DPM	0.4622	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0027			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4691	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4528	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	ОК

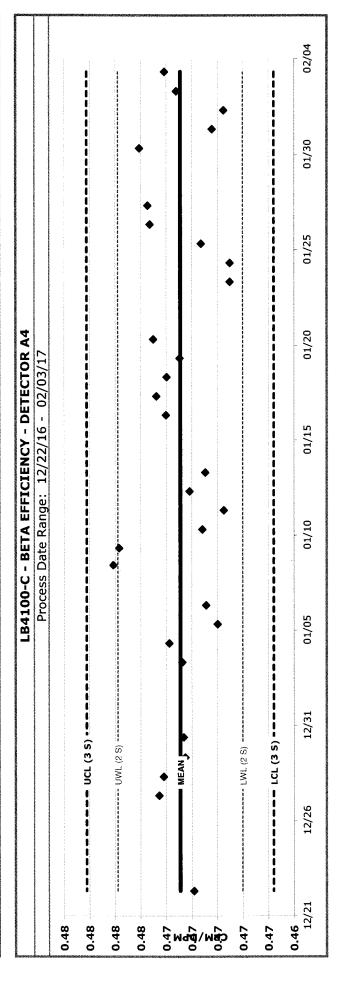


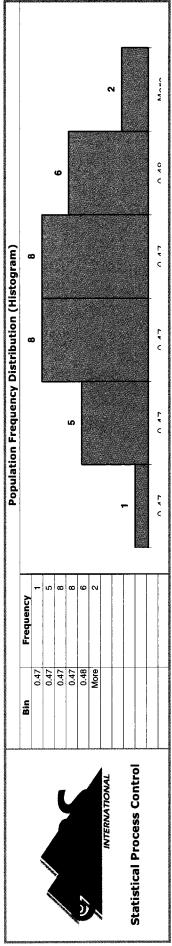
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#### LB4100-C - BETA EFFICIENCY

American Radiation Services Baton Rouge Laboratory

Population Statistics				Trending Analysis	
	00			Most recent point outside of the 3-sigma values.	ОК
Population Size	<b>)</b>	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4729	СРМ/DРМ	0.4741	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4802	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4656	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

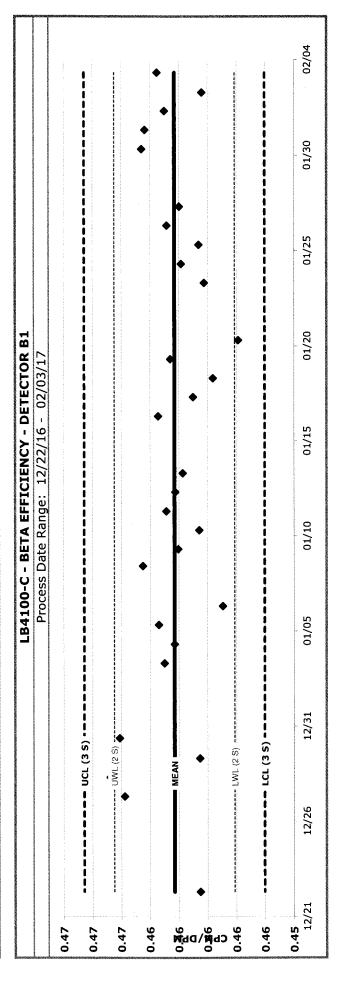


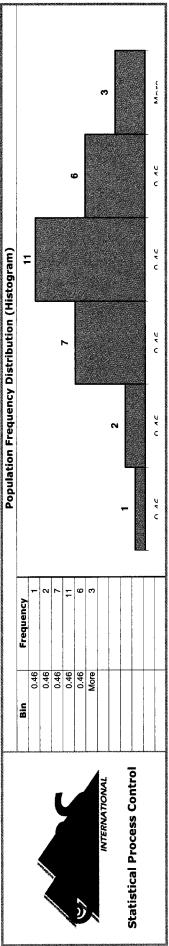


#### **LB4100-C - BETA EFFICIENCY**

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Population Statistics				Trending Analysis	
	6			Most recent point outside of the 3-sigma values.	ОК
Population size	ָ ס	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4623	CPM/DPM	0.4635	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0021			4 of 5 most recents points beyond the 1-sigma.	QK
+ 3-sigma value	0.4686	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4560	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК





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בסלוכ ווסושוחלטב	) )	Date	02/03/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4406	CPM/DPM	0.4419	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0022			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.4471	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4341	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

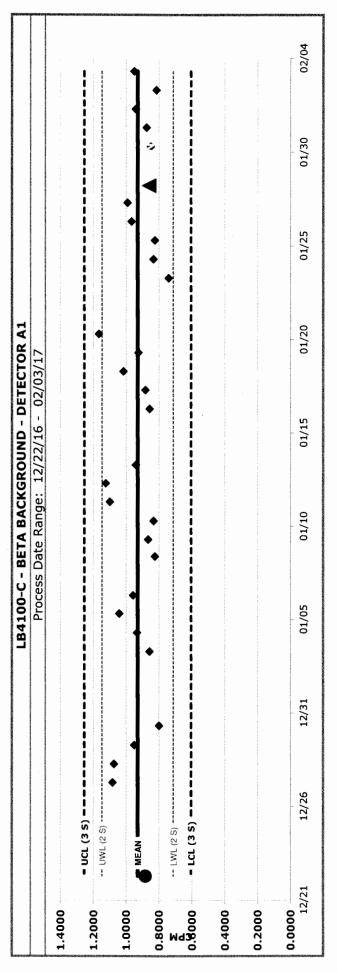
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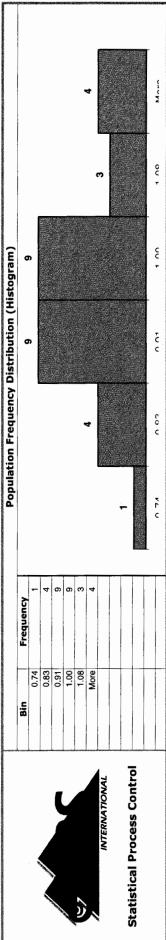
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<b>Population Statistics</b>		DER Analysis	ОК	Trending Analysis	
	C	DER	0.9555	Most recent point outside of the 3-sigma values.	
Population Size	מ	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	
Average	0.9299	Long B CPM	0.8600	2 of 3 most recent points above 2 sigma.	
Standard Deviation	0.1083	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	
+ 3-sigma value	1.2546	Date	02/03/17	7 trending most recent points in a row.	
- 3-sigma value	0.6051	CPM	0.9500	15 most recent points inside 1 sigma.	
		Count Mins	120.00	8 most recent points outside 1 sigma.	

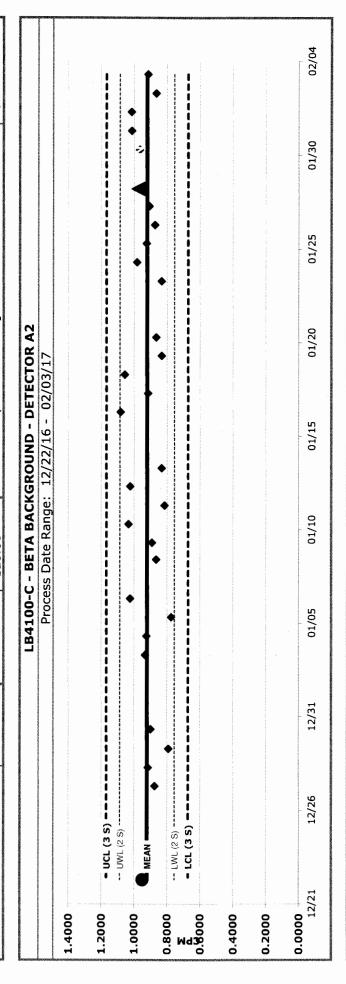


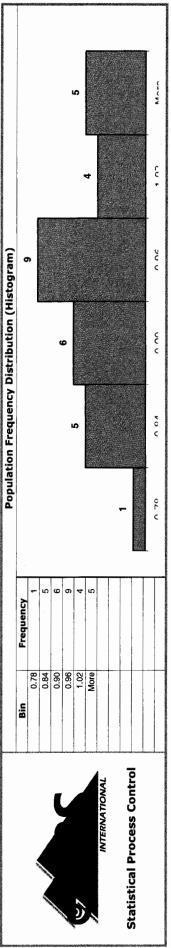


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Ci2 milation	0	DER	0.6187	Most recent point outside of the 3-sigma values.	ОК
Population 3126	ת ע	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.9210	Long B CPM	0.9744	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0827	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.1690	Date	02/03/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6730	CPM	0.9167	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK



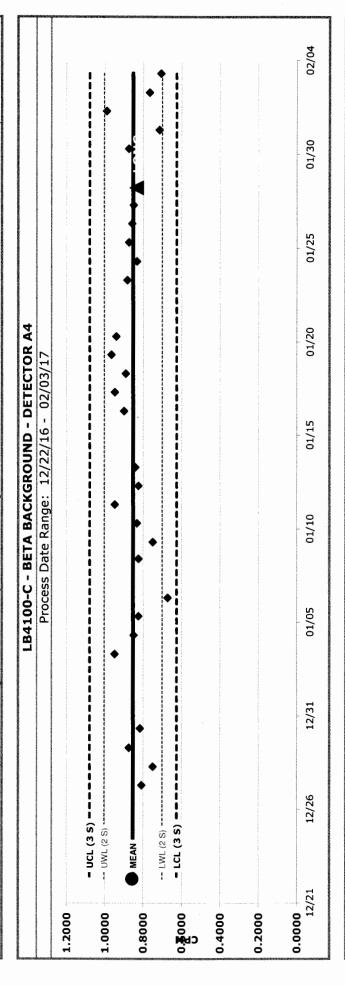


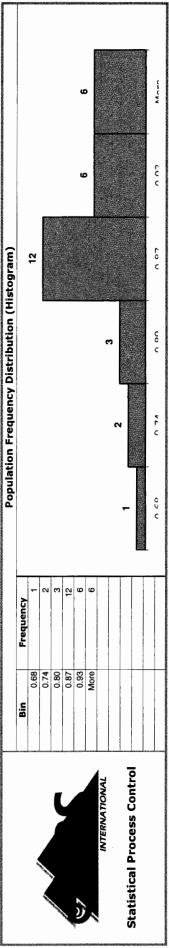
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Population Statistics	9	DER Analysis	OK	Trending Analysis	
ori2 noitelingo	96	DER	1.5260	Most recent point outside of the 3-sigma values.	OK
SIC Honding Size	<b>L 2</b>	Long B Date 01/28/17	01/28/17	8 consecutive most recent points on one side of the mean.	УО
Average	0.8529	Long B CPM	0.8344	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0756	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.0796	Date	02/03/17	7 trending most recent points in a row.	OK
- 3-sigma value	0.6262	СРМ	0.7083	15 most recent points inside 1 sigma.	OK
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

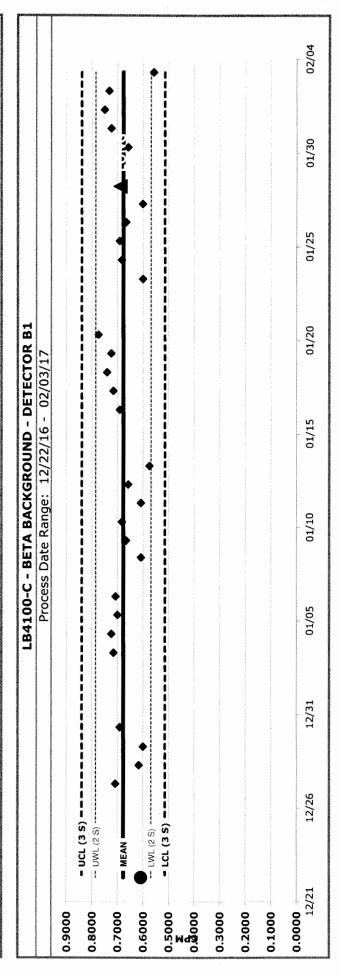


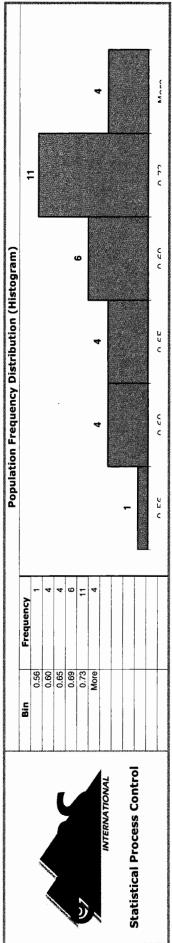


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ori2 acitelinacd	C	DER	1.7736	Most recent point outside of the 3-sigma values.	ОК
בינו ווסטפוייסטר	7	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.6770	Long B CPM	0.6889	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0543	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.8398	Date	02/03/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.5142	СРМ	0.5583	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

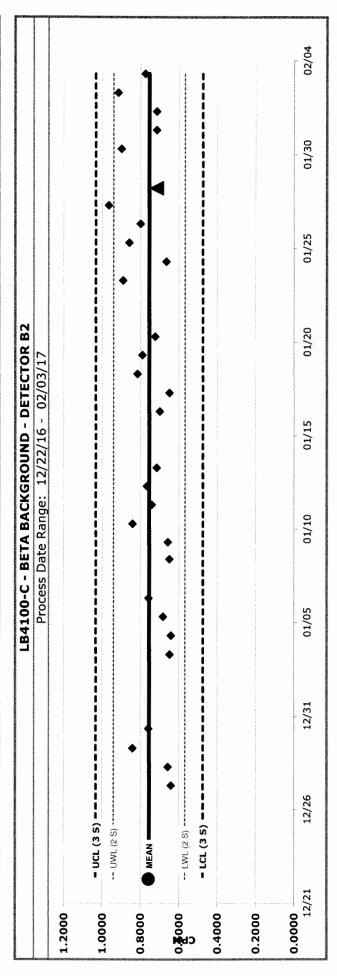


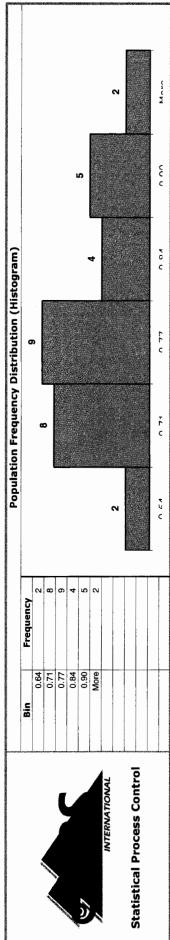


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Population Statistics	S	DER Analysis	OK	Trending Analysis	
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ropulation Size	<b>7</b>	Long B Date	01/28/17	8 consecutive most recent points on one side of the mean.	~
Average	0.7546	Long B CPM	0.7156	2 of 3 most recent points above 2 sigma.	<b>Y</b>
Standard Deviation	0.0931	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	~
+ 3-sigma value	1.0338	Date	02/03/17	7 trending most recent points in a row.	~
- 3-sigma value	0.4754	CPM	0.7750	15 most recent points inside 1 sigma.	_
		Count Mins	120 00	8 most recent points outside 1 sigma.	•



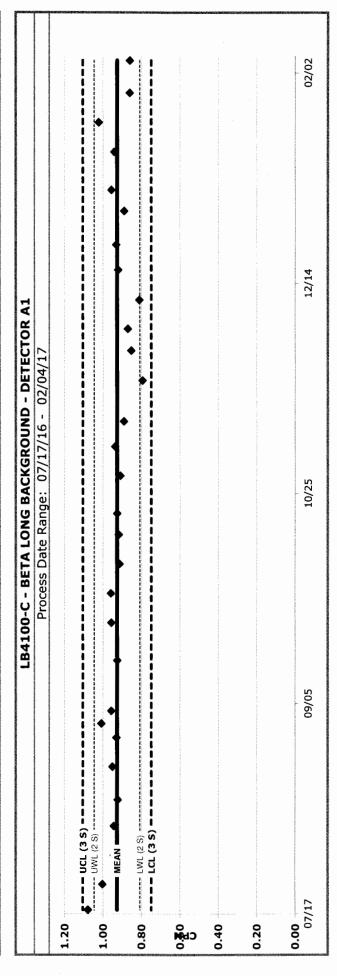


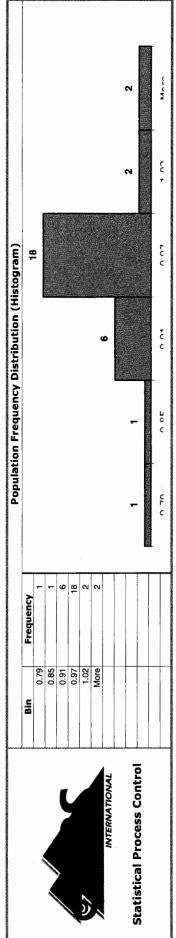
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Instrument Background Analysis

American Radiation Services Baton Rouge Laboratory

Population Statistics	S.	Trending Analysis	
orio aciteliaco		Most recent point outside of the 3-sigma values.	ОК
ropulation size	<b>5</b>	8 consecutive most recent points on one side of the mean.	ОК
Average	0.9270	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0594	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.1052	7 trending most recent points in a row.	ОК
- 3-sigma value	0.7488	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ОК



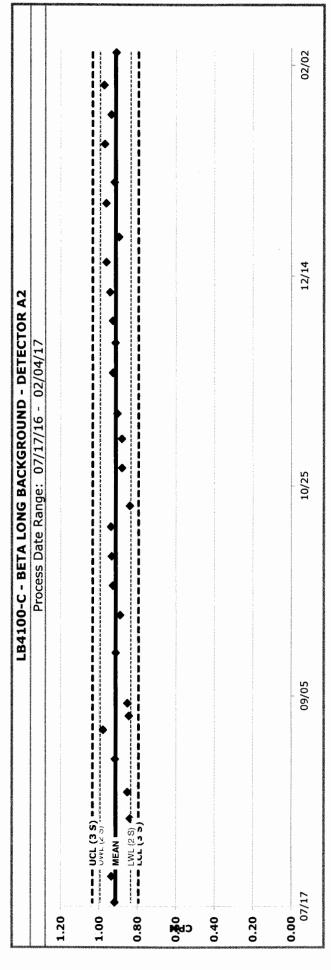


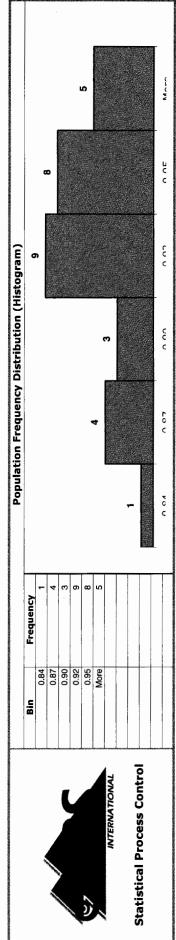
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# Instrument Background Analysis

American Radiation Services Baton Rouge Laboratory

Population Statistics Trending Analysis	s of the 3-sigma values.	8 consecutive most recent points on one side of the mean.	above 2 sigma.	s beyond the 1-sigma.	oints in a row.	side 1 sigma.	side 1 sigms
	Most recent point outside of the 3-sigma values.	8 consecutive most recei	2 of 3 most recent points above 2 sigma.	4 of 5 most recents points beyond the 1-sigma.	7 trending most recent points in a row.	15 most recent points inside 1 sigma.	O mont today to the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract o
		) 1	0.9138	0.0400	1.0338	0.7937	20,000
Population Statistics	O+iO coi+clinaca	ropulation Size	Average	Standard Deviation	+ 3-sigma value	- 3-sigma value	



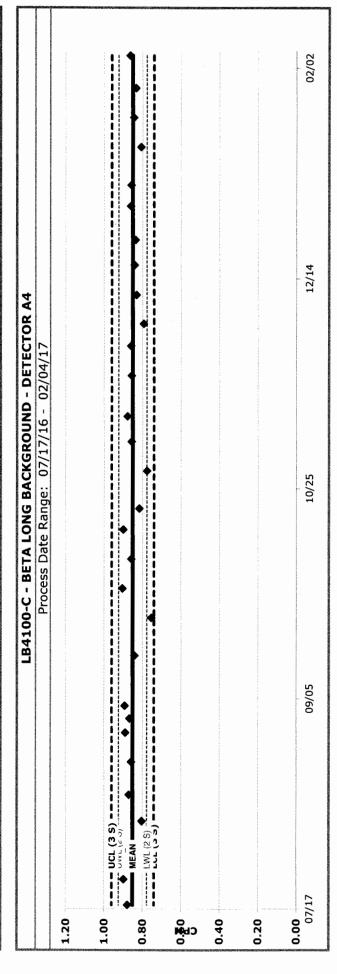


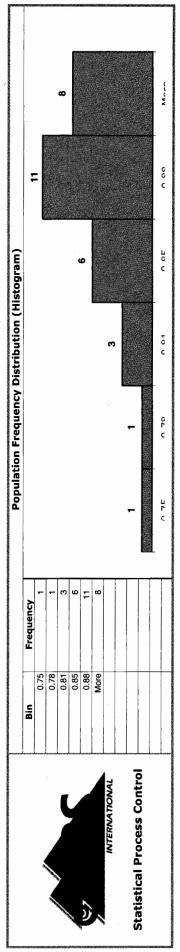
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Instrument Background Analysis

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Population Statistics	8	Trending Analysis	ALARIPETRIONS BENEDAMENTONO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE SERVICIO DE
orio ditaliano	C	Most recent point outside of the 3-sigma values.	ОК
יסטיים איני		8 consecutive most recent points on one side of the mean.	ОК
Average	0.8507	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0366	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.9605	7 trending most recent points in a row.	ОК
- 3-sigma value	0.7410	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	ОК



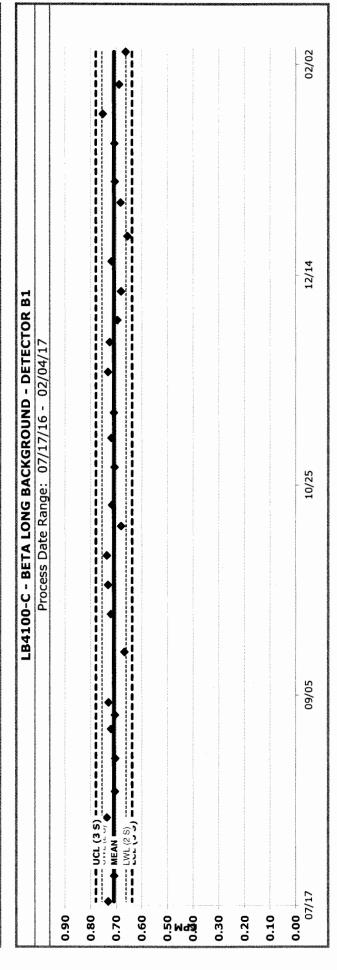


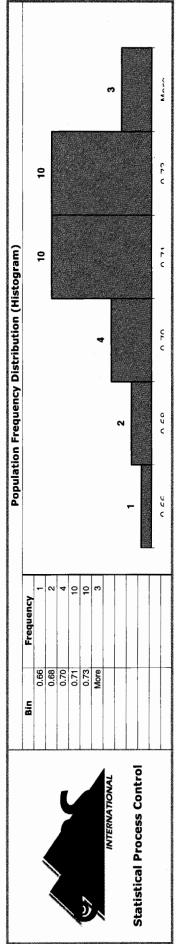
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# Instrument Background Analysis

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Population Statistics	S. S. S. S. S. S. S. S. S. S. S. S. S. S		Trending Analysis
	<b>C</b>	Most recent point outside of the 3-sigma values.	values.
Population Size	) 1	8 consecutive most recent points on one side of the mean.	side of the mean.
Average	0.7087	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0236	4 of 5 most recents points beyond the 1-sigma.	sigma. OK
+ 3-sigma value	0.7794	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6380	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ОК

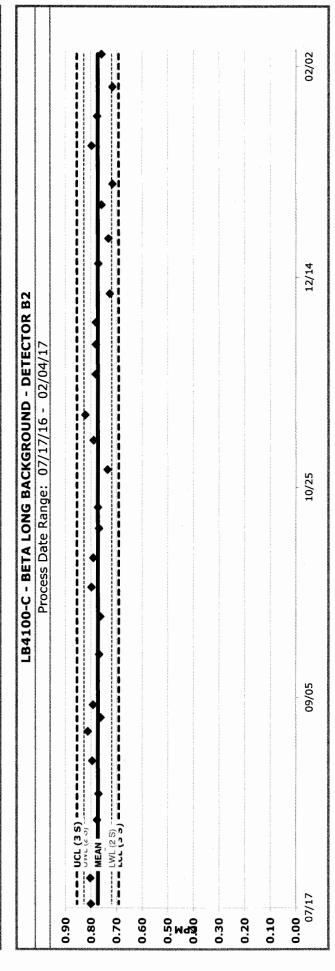


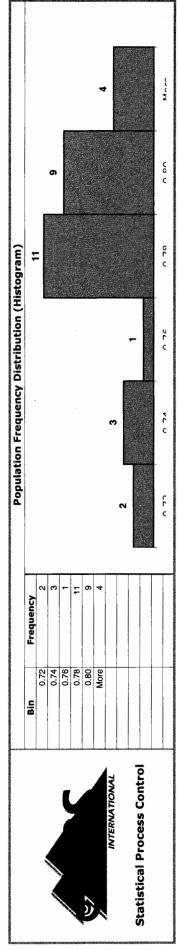


# Instrument Background Analysis

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Population Statistics	5		Trending Analysis	
orio goiteliaco	<b>C</b>	Most recent point outside of the 3-sigma values.	gma values.	ОК
Population Size	<b>)</b>	8 consecutive most recent points on one side of the mean.	one side of the mean.	ОК
Average	0.7728	2 of 3 most recent points above 2 sigma.	ıma.	ОК
Standard Deviation	0.0272	4 of 5 most recents points beyond the 1-sigma.	e 1-sigma.	ОК
+ 3-sigma value	0.8544	7 trending most recent points in a row.	w.	ОК
- 3-sigma value	0.6913	15 most recent points inside 1 sigma.		ОК
	30.0000	8 most recent points outside 1 sigma.	-	ОК





## Sr-90/Y90 Efficiency Calibrations 12/8/14

Tech:

B Steffens

Pipet #

FJ40469

Scale ID

H113112173560P

Standard #

S-0121

Sample ID	Std weight g.	Sep. Date: 12/8/14			
Sr_Y_Cal_1B	1.0114	12:12			
Sr_Y_Cal_2B	] 1.0121	12:19			
Sr_Y_Cal_3B	1.0063	12:17 Sr.	Planchett Weigts	Empty	Full
Sr_Y_Cal_4B	1.0122	12:12	Sr_Cal_1B	7.591	7.603
Sr_Y_Cal_5B	1.0127	12:16	Sr_Cal_2B	7.592	7.604
			Sr_Cal_3B	7.594	7.606
Performed By:	B Steffens		Sr_Cal_4B	7.603	7.615
			Sr_Cal_5B	7 599	7.611

Approved JOT 12-10-14

Calibration

Updated: 12/10/2014

pCi dpm Bq

Y-90 Eff	0.40049	0.36412	0.3896	0.37163	0.40727	0.36326	0.38768	0.36834	0.39388	0.36578	0.3746	0.36872	0.39648	0.37102	0.381	0.37063
Sr-90 Eff	0.36363	0.34188	0.36654	0.3397	0.36065	0.33271	0.36741	0.33335	0.35984	0.33342	0.36303	0.3386	0.36109	0.34154	0.3671	0.33457
Detector	A1	A2	A3	A4	81	B2	B3	B4	5	C2	C3	Q 4	5	D2	D3	D4

_							1										
Y-90 FT	0.40049	0.36412	0.3896	0.37163	0.40727	0.36326	0.38768	0.36834	0.39388	0.36578	0.3746	0.36872	0.39648	0.37102	0.381	0.37063	
25-30 ET	0.36363	0.34188	0.36654	0.3397	0.36065	0.33271	0.36741	0.33335	0.35984	0.33342	0.36303	0.3386	0.36109	0.34154	0.3671	0.33457	
5																	

Sr-90 half	life days	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515,51	10515.51	10515.51	10515.51	10515.51	10515.51
	count midpoint	12/8/14 2:04 PM	12/8/14 2:04 PM	12/8/14 2:04 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:11 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:20 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	12/8/14 2:27 PM	1/0/00 12:00 AM	1/0/00 12:00 AM
	count date/time	12/8/14 14:02	12:8/14 14:02	12/8/14 14:02	12/8/14 14:09	17/8/14 14:00	12/8/14 14:00	12/8/14 14/09	12/8/14 14:18	12,8/14 14,18	12/8,14 14 (8	12:8:14 14:18	12.8.14.14.25	12/8/14 14 25	13/8/14 14:25	12/8/14/14/25		
separation	date/time	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12:8:2014 12:12	12/8/2014 12:16	12/8/2014 12.17	12:8:2014 12:19	12.8/2014 12:13	12.8.2014 12:16		
Chemical	Vield	0 9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	#DIV/0]	#DIV/0
planchet	net (mg)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	0.0	0.0
planchet tare	(g)	7 5920	7,6030	7.5990	7.5910	7 5920	7.6030	0065	1 5010	7.3920	7 1030	7 5940	5 5910	0.000	7.6630	1 5090		
planchet	gross (g)	7.6040	7,6150	7,6110	7,6030	7.6040	7,6150	7.6110	7,6030	7 6640	0519'	7,6110	7,6030	7.6040	7.6150	76110		
carrier expected (mg	SrN03)	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	0.00	0.000
g SrNO3/	g Sr	2.4153	2,4153	2.4153	2,4153	2.4153	2.4153	2.4153	2,4153	2,4153	2.4153	2.4153	2,4153	2,4153	2.4153	2.4153		
carrier	(mg as Sr)	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000	5.0000		
Total Activity Added (Sr-90 in DPM) on	date	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18	11425.18	11425.18
Mass	added (g)	1.0121	1.0122	1.0127	1.0114	1,0121	1,0122	1 0127	1 0114	1,0121	1,0122	1.0127	1.0114	10121	10152	1,0127		
อายายุลเ	date	3/31/2006	3/31/2006	3/31/2006	3/31/2006	3/31/2006	3/31/2006	3/31:2006	3/31/2006	3/31/2006	3/31/2006	3:31/2006	3/31/2006	3/31/2006	3-31/2006	3/31/2006		
Standard Specific Activity	(g/mdp)	11281,89593	11281,89593	11281.89593	11281.89593	11281 89593	11281.89593	11281,80593	11281 89593	11281.89593	11281.89593	11281 89593	11281 89593	£6508 18211	11281 89593	11281 89593		
	Standard 1D	5-0121	8-0121	S-0151	S-0121	S-0121	S-0121	8-0131	5-0131	5-0121	5-0121	5-0121	5-0121	S-0153	1.10-5	5-0121		
Sr-90	<u>د</u> د ه	2 CF 73 2- CF 73 2- CF 73	Sr Cal 413	Ja C	C _a	ౌ	ॅं	ت	ج	ج	Ü	ŝ	Cal	ొ	ت	Sr Cal 5B		

Sr-90 half life days	Sr-90	decay	3	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51	3174.51
count midpoint		Sr-90 half-life days	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51	10515.51
count date/time		count date	12/8/14 15:13	12/8/14 15:13	12:8/14 15:13	12/8/14 15:13	12/8/14 15:19	12:8:14 15:19	12:8:14 15:19	12:8:14 (5:19	12 8/14 15/29	12 8:14 15:29	12-8 14 15:29	12:8:14 15:29	12.8 14 15.35	12:8:14 15:35	12.8 14.15.35	12.8 14 15:35
separation date/lime		separation date	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12/8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12/8/2014 12:12	12:8/2014 12:16	12/8/2014 12:12	12/8/2014 12:19	12:8/2014 12:12	12-8-2014 12 16
Chemical Yield		Yield	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937	0.9937
planchet net (ng)		planchet net (me)	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
planchet tare (g)		planchet tare (e)	7.5910	7.5020	7 6030	7.5990	7.5910	7.5920	7,6030	7.5090	7 5910	7 5920	7 6030	7.5990	7.5910	7,5920	7 6030	0665
planchet gross (g)		planchet gross (g)	7,6030	7,6040	7.6150	7.6110	7 6030	7.6040	7,6150	7,6110	7 6030	7 64)-40	7 6150	7.6110	7,6630	7 6040	7 6150	76110
carrier expected (mg SrNO3)	саптег	expected (mg)	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077	12.077
g SrNO3/		g SrNO3/ g Sr	2,4153	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2.415	2415	2.415	2.415	2.415	2.415	2.415
carrier added (mg as Sr)	Carrier	added (mg)	5.0000	5.0000	5.0000	\$ 0000	5 0000	5 0000	5.0000	5 0000	5 0000	5 0000	5.0000	5 ()000	5,0000	0000	00005	\$ 0000
Total Activtiy Added (Sr-90 in DPM) on reference date	Total Activity Added	(Sr-90 in DPM)	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18	11410.51	11418.41	11419.54	11425.18
Mass added (g)	:	Mass added (g)	1.0114	1.0121	1.0132	1.0127	1.0114	1.0123	1.0122	1.0127	1,0114	1,0121	1.0122	1.0127	1.0114	1.0121	1.0122	1.0127
reference date		collection	3/31/2006	3/31/2006	3/31/2006	3:31/2006	3/31/2006	3/31/2006	3-31/2006	3-31/2006	3:31/2006	3/31/2006	3-31/2006	3/31/2006	3.31/2006	3.31/2006	3.31/2006	331/2006
Standard Specific Activity (dpm/g)	Standard	Activity (dpm/g)	11281 89593	11281.89593	11281.89593	11281.89593	11281.89593	11281 89593	11281.89543	11281.89593	11281 89593	11281.89593	11281 89593	11281 89593	11281 89503	11281 89593	11281.89593	11281 89593
Standard ID		Standard 1D	S-0131	S-0121	S-0121	5-0121	S-0121	S-0121	8-0121	S-0121	5-0121	S-0121	S-0121	S-0121	S-0121	8-0121	S-0121	1710-5
Sr-90	۲-90	Ð	Y Cal 1B					Y Cal 2B		ੌ	3			Y Cal 5B	Y Cal 113			Y Cat SB

Sr-90 Eff					Y-90 Eff	0.40049	0.36412	0.38960	0.37163	0.40727	0.36326	0.38768	0.36834	0.39388	0.36578	0.37460	0.36872	0.39648	0.37102	0.38100	0.37063
Detector					Detector	٩I	Ą	Α3	Α4	BI	B2	B3	B4	IJ	S	ខ	C4	ΙQ	D2	D3	<u>D</u>
net CPM					net CPM	4392.8822	4001.8122	4276.7689	4084.5422	4462.4622	3987,9611	4251.1756	4044,0078	4307.8744	4008.3756	4100.3189	4040.8533	4331.6189	4061.4056	4165.8811	4057 3333
bkg time min					bkg time min	0.006	0.006	0.009	0.000	0.000	0 006	0.006	0.006	0.006	0.000	0.000	0 006	0.006	0 006	0.006	0.000
bkg counts					bkg counts	826	688	748	<b>052</b>	664	755	3442	713	833	625	793	852	703	715	047	380
sample time					sample time	5.0	5.0	5.0	5.0	5.0	0.3	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	2.0
sample				sample	counts	21969	20014	21388	20428	22316	10044	21275	20224	21544	20047	20506	20209	21662	20311	20833	1650č
Y-90 Eff (from below)				Y-90	Activity	10968.760	10990.230	10977.437	10990.792	10956.887	10978.333	10965.554	10978,895	10937,127	10958.535	10945.778	10959.095	10925.288	10946.673	10933.930	10947.232
y-90 ingrowth					Y-90 Decay	0.967420	0.968643	0.967420	0.968118	0.966372	0.967594	0.966372	0.967070	0.964630	0.965849	0.964630	0.965326	0.963585	0.964804	0.963585	0.964281
Y-90 ingrowth days to count midpoint				Y-90 half-	life days	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667	2.667
Y-90 half-life days			Y-90	decay	days	0.1274	0.1226	0.1274	0.1247	0.1316	0.1267	0.1316	0.1288	0.1385	0.1337	0.1385	0.1358	0.1427	0.1378	0.1427	0.1399
Sr-90 activtiy at count midpoint (DPM)		Sr-90 activtiy	at count	separation	(DPM)	9197.4	9203.8	9204.7	9209.2	9197.4	9203.8	9204.7	9209.2	9197.4	9203.8	9204.7	9209.2	9197.4	9203.8	9204.7	9209.2
Sr-90 decay days to count Sr decay correction midpoint to count midpoint					count midpoint	12/8/14 3:15 PM	12/8/14 3:15 PM	12/8/14 3:15 PM	12/8/14 3:15 PM	12/8/14 3:21 PM	12/8/14 3:21 PM	12/8/14 3:21 PM	12/8/14 3:21 PM	12/8/14 3:31 PM	12/8/14 3:31 PM	12/8/14 3:31 PM	12/8/14 3:31 PM	12/8/14 3:37 PM	12/8/14 3:37 PM	12/8/14 3:37 PM	12/8/14 3:37 PM
Sr-90 decay days to count midpoint			Sr decay	correction to	separation	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119	0.81119
9	r-90				0	Y Cal 1B	Y Cal 2B	Y Cal 4B	Y Cat 5B	Y Cal 1B	Y Cal 2B	Y Cal 418	Y Cal 5B			Y Cal 4B	Y Cal 5B	Y Cal 1B	Y Cat 2B	Y Cal 4B	Y Cal 5B

GEN 686	C 11160	Ş	BZF

TOD	12/8/14 14:02	12/8/14 14:02	12/8/14 14:02	12/8/14 14:02
Voltage		1410		
Count Time	5	5	5	5
Beta	17097	16054	17234	15979
		3		
Sample ID	SR_CAL_1B	SR_CAL_2B	SR_CAL_4B	SR CAL 5B
$\Box$		<b>A</b> 2		

	TOD 12/8/14 14:09 12/8/14 14:09 12/8/14 14:09
	Voltage 1410 1410 1410 1410
97	Beta Count Time Voltage 16989 5 1410 15651 5 1410 17309 5 1410
GEN 687 C 11160 Sr BZF	Beta 16989 15651 17309
	Alpha 18 13 9
	Sample ID SR_CAL_1B SR_CAL_2B SR_CAL_4B SR_CAL_4B
	Detector ID B1 B2 B3 B3

GEN 888 C 11160 Sr BZF			
---------------------------------	--	--	--

TOD	12/8/14 14:18	12/8/14 14:18	12/8/14 14:18	12/8/14 14:18
Voltage	1410	1410	1410	1410
Count Time	2	2	2	2
Beta	16968	15714	17107	15973
Alpha	4	∞	2	က
Sample ID Alpha	SR_CAL_1B	SR_CAL_2B	SR_CAL_4B	SR_CAL_5B
Detector ID		C2		

	TOD 12/8/14 14:25 12/8/14 14:25 12/8/14 14:25 12/8/14 14:25
	Voltage 1410 1410 1410
Ø C	Beta Count Time Voltage 17050 5 1410 16113 5 1410 17322 5 1410 15810 5 1410
GEN 689 C 11160 Sr BZF	, , , ,
	Alpha 4 8 5 8
	Sample ID SR_CAL_1B SR_CAL_2B SR_CAL_4B SR_CAL_4B
	Detector (D D1 D2 D3 D4

060	09		
S C E S	C 11160	>	RZE

TOD	12/8/14 15:13	1410 12/8/14 15:13	12/8/14 15:13	12/8/14 15:13
Voltage	1410	1410	1410	1410
Count Tim	2	2	2	2
Beta	21969	20014	21388	20428
Alpha	2	3	4	5
Sample ID	Y_CAL_1B	Y_CAL_2B	Y_CAL_4B	Y CAL 5B
Detector ID	A1	A2 Y_CAL_2B 3 2	A3	A4

TOD	12/8/14 15:19	12/8/14 15:19	12/8/14 15:19	12/8/14 15:19
Voltage			1410	
Count Time	5	5	5	5
Beta	22316	19944	21275	20224
Alpha	6	5	3	9
Sample ID	Y_CAL_1B	Y_CAL_2B	Y_CAL_4B	Y_CAL_5B
Detector ID	B1	B2	B3	B4

GEN 691 C 11160 Y BZF

GEN 692	C 11160	>	BZF	

TOD	12/8/14 15:29	12/8/14 15:29	12/8/14 15:29	12/8/14 15:29
Voltage	1410	1410	1410	1410
Count Time	5	5	5	5
Beta	21544	20047	20506	20209
Alpha	4	<del>-</del>	2	4
Sample ID	Y_CAL_1B	Y_CAL_2B	Y_CAL_4B	Y_CAL_5B
Detector ID Sample ID	ပ	C5	ဗ	C4

	TOD 12/8/14 15:35 12/8/14 15:35 12/8/14 15:35
	Voltage 1410 1410 1410
	Count Time Voltage 5 1410 5 1410 5 1410 5
GEN 693 C 11160 Y BZF	Beta 21662 20311 20833 20291
	Alpha 3 4 2 5
	Sample ID Y_CAL_1B Y_CAL_2B Y_CAL_4B Y_CAL_4B
	Detector ID Sample ID D1 Y_CAL_1B D2 Y_CAL_2B D3 Y_CAL_4B D4 Y_CAL_56

GEN 683 C 11160 LONG BKG BZF

TOD	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:15	12/6/14 7:16	12/6/14 7:16	12/6/14 7:16	12/6/14 7:16
													1410			
Count Time	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006
Beta	826	889	748	952	833	922	793	852	703	715	647	780	664	755	3442	713
Alpha	135	116	09	126	93	123	126	182	22	29	53	63	22	63	82	61
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	D1-01	D2-01	D3-01	D4-01	B1-01	B2-01	B3-01	B4-01
Detector ID	A1	A2	A3	A4	ပ	C2	C3	C4	0	D2	D3	D4	B1	82	B3	B4

## Sr-90/Y90 Efficiency Calibrations

Tech:

**B** Steffens

Pipet#

FJ40469

Scale ID

H113112173560P

Standard #

S-0121

1.0127

Sample ID	Std weight g.	Sep. Date: 12-8-14
Sr_Y_Cal_1B	1.0114	12:12

Sr_Y_Cal_2B 1.0121 Sr_Y_Cal_3B 1,0063 Sr_Y_Cal_4B

Sr_Y_Cal_5B

12:19 12:17 1,0122 5421

12:16

Sr Planchett Weigts **Empty** Full Sr_Cal_1B 7.403 7.5918 Sr_Cal_2B 7.5429 7.604 7,5949 Sr_Cal_3B 7.606 Sr_Cal_4B 7.6039

Sr_Cal_5B

7.615

7.611

Performed By: B Steffens

95 of 292

Sr-90 Verification

1/5/2016

Tech:

JPB AB
B Steffens 1-5-16

Pipet # MU02055

Scale ID

12332539

Standard # S-0300

Sample ID Std weight g. S-0300-V1A 1.02347 S-0300-V2A 0.99389

S-0300-V3A 1.00089

S-0300-V4A 1 0046g

S-0300-V5A 1.01179

Performed By: B Steffens-

J. Byrd JA 1-5-16

Page 1 of 1



## **Carrier Pipette Calibration Sheet**

Vau Vu Chemist:

00:00 Date/Time: 12-8-14

Balance ID	Balance Calibration Date	Pipette ID	Nominal Weight	Weight #1	Weight#2	Weight#3	MEAN	Acceptance Limits ±2% Mean	STDEV	RSD%	Acceptance Limits <1% RSD	
12332539	6/2/14	FJ40469	1.00	1.000	1.004	1.007	1.00	Pass	0.004	0.350	Pass	

Printed: 1/6/2016 8:13 AM



### QUALITY CONTROL PROGRAM

## AMERICAN RADIATION SERVICES RADIOACTIVE REFERENCE SOLUTIONS:

## ANNUAL ACTIVITY VERIFICATION

**VERIFICATION DATE** 

1/5/2016 16:31 date counted

STANDARD REFERENCE #

S-0300

Principal Radionuclide

Sr-90

Half Life, Years

ENTER --> 2.880E+01

2.880E+01

OR -->

Half Life, Days

1.0520E+04 1.0520E+04

Radionuclide Sr-90 Dilution Reference Date

12/11/2014 12:05

**Dilution Activity** Verif. Date Decay Corrected 21.73 pCi per gram ===> dpm/g 21.18 pCi per gram ===> dpm/g 48.23

47.01

	Minimum of 3 Required													
Trial 1D	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Decay Corrected Activity Result (dpm/g)	Decay Corrected Activity Result (pCi/g)						
S-0300-V1A	2534.50	120	B1	0.4103	0.68	1.023	48.68	21.93						
S-0300-V2A	2411.50	120	B2	0.4015	0.78	0.994	48.41	21.81						
S-0300-V3A	2451.00	120	B4	0.4004	0.79	1.001	49.00	22.07						
S-0300-V4A	2469.50	120	C1	0.4068	0.87	1.005	48.23	21.72						
S-0300-V5A	2442.00	120	C2	0.4025	1.32	1.012	46.73	21.05						

Average

5% Max

Two Sigma Uncertainty Standard Deviation percent of known concentration

48.21 21.72 1.72 0.77 1.86% 1.86% 47.01 21,18

10% Max **PASS** 

**Target Activity** % Diff

2.55% 2.55%

Verification Expiration Date: January 4, 2017

**PASS** 

Prepared & Counted By

Verified & Approved By

QC Approval

Date:

1/5/2016 16:31

Date:

S-0300		
Sr-90	Verified	
SL		1/5/16
	Expires	1/5/17
Manufactuer	Analytics	-/ J/ I/
Sol Matrix	.1M HCL with 30 ug/g	
Ref No	75186-526	
Tech	BSteffens	APC
Parent ID	S-0160	71/13
RADIOACTIVE STANI	DARDS BATON ROUGE	ADOD
	- THOUGE	LABORATORY

## Sr-90 Verification

1/5/2016

Tech:	J Byrd
Pipet #	MU02055
Scale ID	12332539
Standard #	S-0300

Sample ID	Std weight g.
S-0300-V1A	1.0234
S-0300-V2A	0.9938
S-0300-V3A	1.0008
S-0300-V4A	1.0046
S-0300-V5A	1 0117

Performed By: J Byrd

Sr-90 Verification

1/5/2016

Tech:

JPB 93 B Steffens 1-5-16

Pipet#

MU02055

Scale ID

12332539

Standard # S-0300

Sample ID Std weight g.

S-0300-V1A 1.02349

S-0300-V2A 0.99389 S-0300-V3A 1.00089

S-0300-V4A 1 0046g

S-0300-V5A 1.0117 g

Performed By: B Steffens-

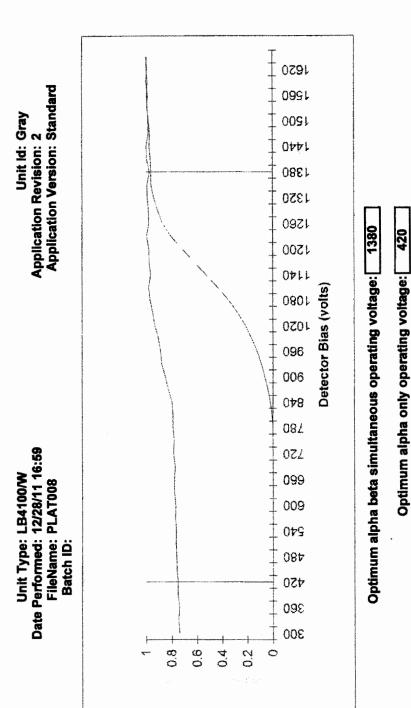
5. Byrd JA 1-5-16

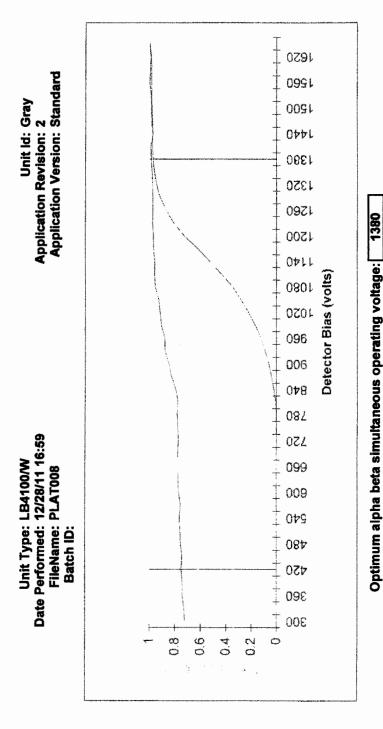
Count Time	9 4939 120 1410 1/5/16 16:31	120	120 1410	120 1410	120
Alpha	6	13	∞	12	d
Sample ID	S-0300-V4A	S-0300-V5A	S-0300-V1A	S-0300-V2A	C 0300 1/31
Detector ID	5	C	91	B2	ď
J	5, PJ P G	2442	25345	グイーナで	7

GEN 704 C 11160 LONG BKG WJS

TOD 1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:03	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06	1/1/16 4:06
Voltage 1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410	1410
_S 20 €	900 روز:														
	1191	788	305	069	747	689	725	773	804	707	743	610.	705	3102	713、
Alpha 68	85														
Sample ID C1-01	C2-01	C3-01	C4-01	D1-01	D2-01	D3-01	D4-01	A1-01	A2-01	A3-01	A4-01	B1-01	B2-01	B3-01	B4-01
Detector ID C1	C5	င္ပ	C4	10	D2	D3	D4	<b>A</b> 1	A2	<b>A</b> 3	<b>A</b> 4	B1	B2	B3	B4

Printed 12/30/2011 09:35

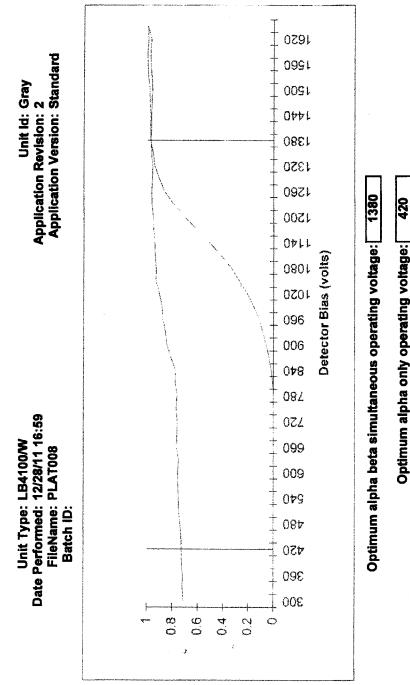




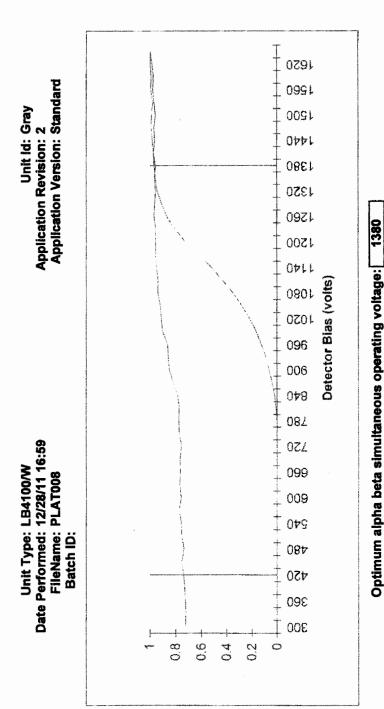
Optimum alpha only operating voltage: 420

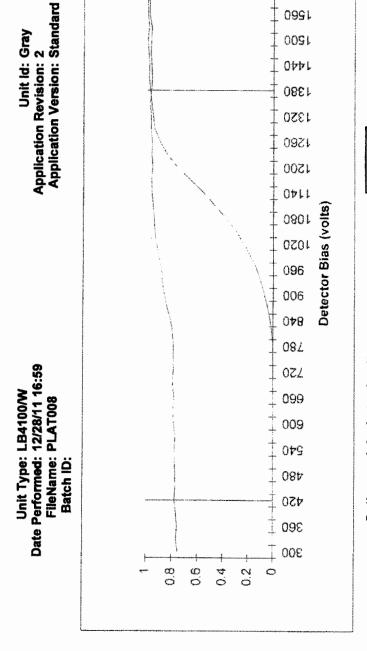
Beta slope at beta voltage 2.37%
Alpha slope at alpha voltage 1.90%

Printed 12/30/2011 09:35



Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage

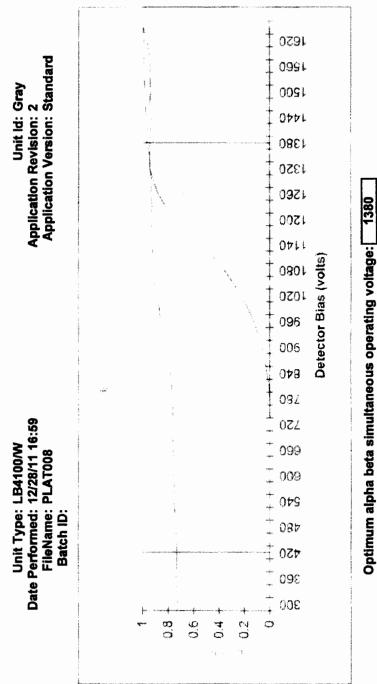




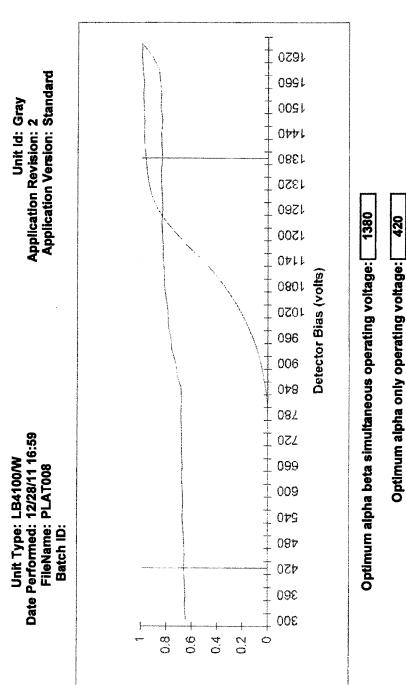
Optimum alpha beta simultaneous operating voltage: 1380

1620

Beta slope at beta voltage 1.59% Alpha slope at beta voltage 0.37% Alpha slope at alpha voltage 1.35%

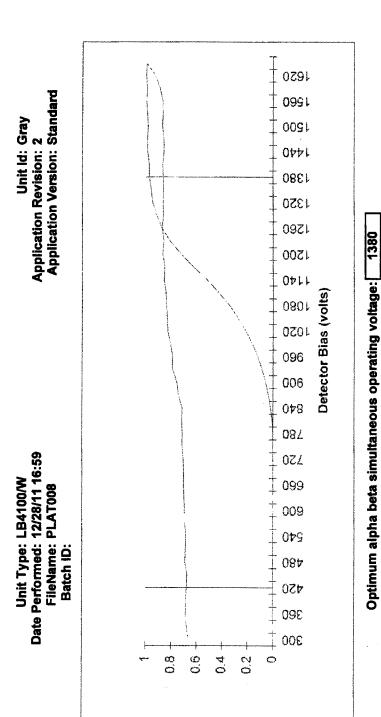


Printed 12/30/2011 09:35



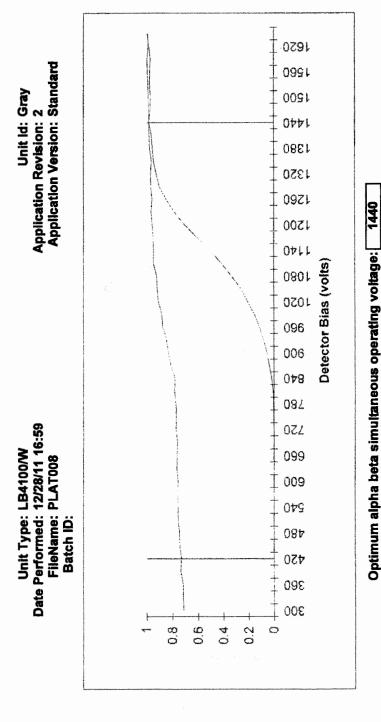
Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage

Printed 12/30/2011 09:35



420

Optimum alpha only operating voltage:



Optimum alpha only operating voltage:

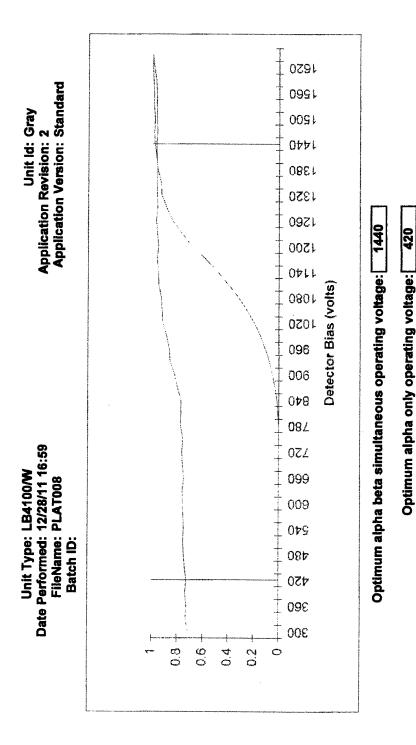
C1

Beta slope at beta voltage 1.59%

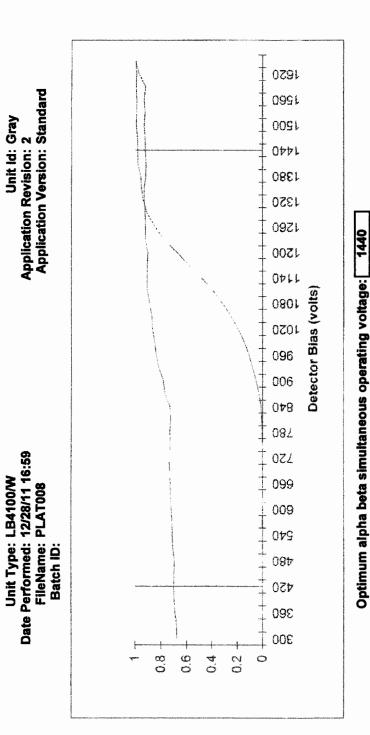
Alpha slope at alpha voltage 1.35%

420

Printed 12/30/2011 09:35



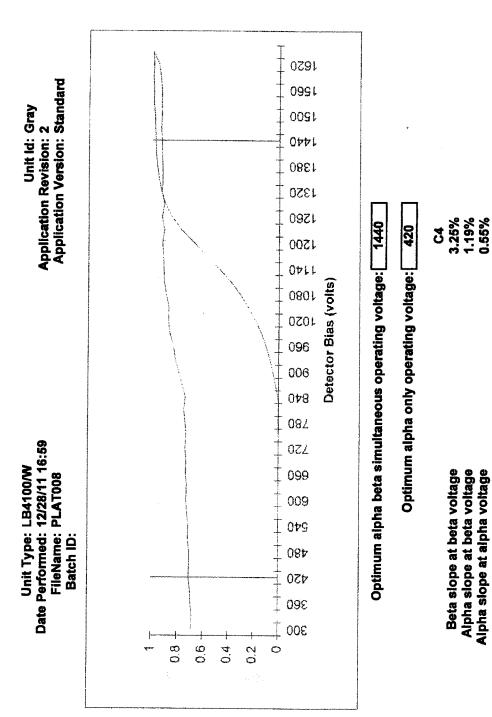
Printed 12/30/2011 09:35



420

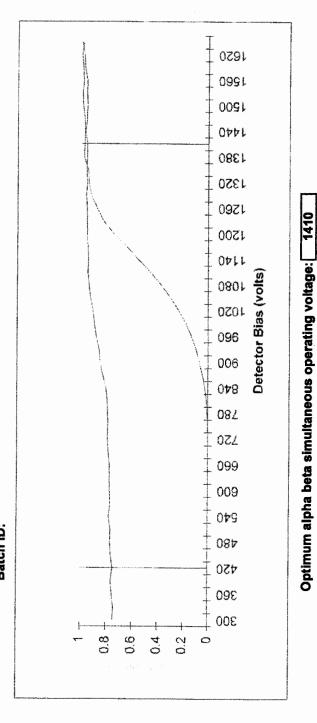
Optimum alpha only operating voltage:

Printed 12/30/2011 09:35



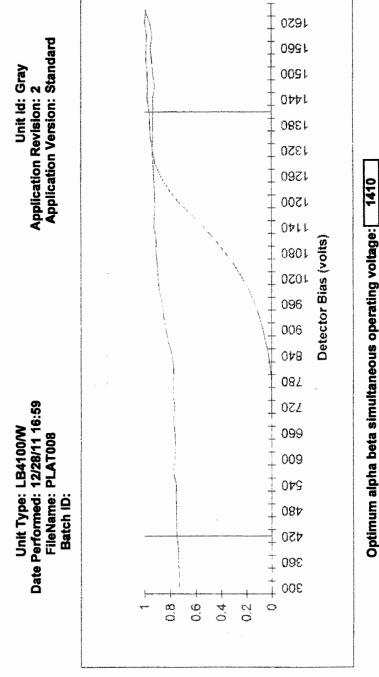
Unit Type: LB4100/W
Date Performed: 12/28/11 16:59
FileName: PLAT008
Batch ID:





420 Optimum alpha only operating voltage:

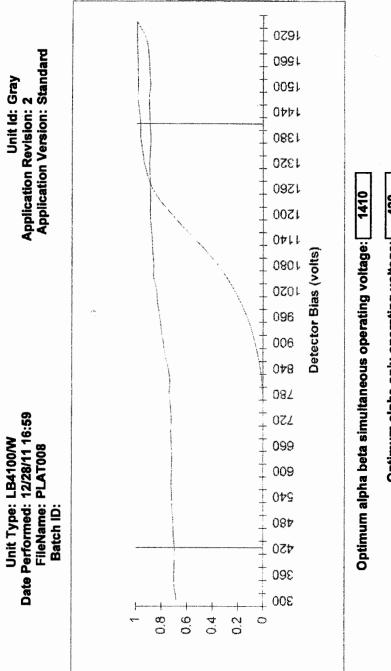
D1 1.59% 0.37% 1.35% Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage



Optimum alpha only operating voltage: 420

Beta slope at beta voltage 2.37%
Alpha slope at alpha voltage 1.90%

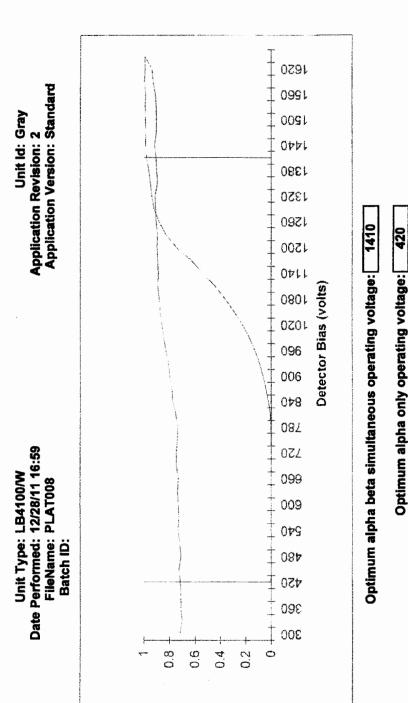
Printed 12/30/2011 09:35



Printed 12/30/2011 09:35

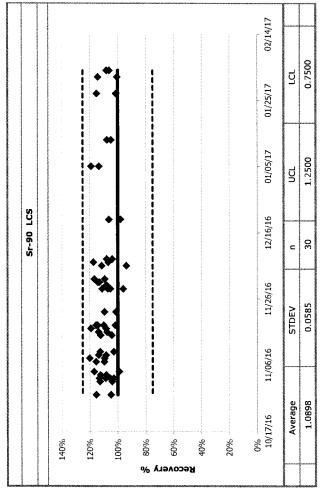
D4 3.25% 1.19% 0.55%

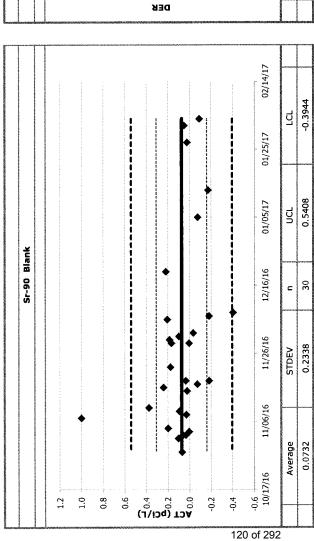
> Beta slope at beta voltage Alpha slope at beta voltage Alpha slope at alpha voltage

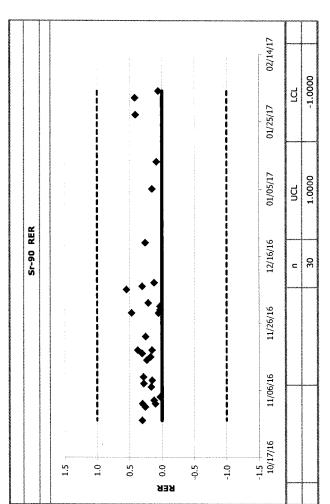


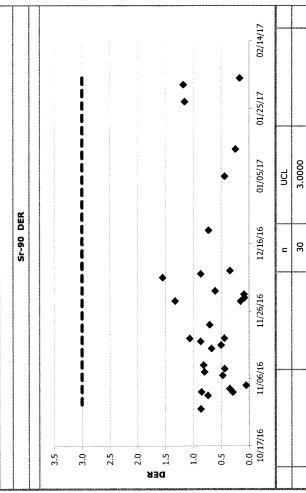
118 of 292

Instrument C Calibration	Updated: 12/10/2014		
Instrument B Calibration	Updated: 8/20/2013	Detector         Sr-90 Eff         Y-90 Eff         pCi         2.22           A1         0.32591         0.42792         dpm         1           A3         0.32756         0.44781         Bq         60           A4         0.31932         0.36974         60           A4         0.31867         0.40999         60         644781           B2         0.31867         0.40999         60         64404           B2         0.33829         0.4404         60         60           B3         0.3385         0.3256         0.3256         60           C1         0.3287         0.42418         60         60           C2         0.32773         0.37433         60         60           C3         0.32773         0.37433         60         60           D1         0.31614         0.45936         60         60           D2         0.3257         0.37431         60         60           D3         0.32367         0.37431         60         60           D4         0.31993         0.41729         60         60	
	Updated:	Detector         Sr-90 Eff         Y-90 Eff         pCi         2.22           A1         0.34747         0.44088         dpm         1           A2         0.34268         0.46189         Bq         60           A3         0.33064         0.37872         Bq         60           A4         0.33657         0.40068         Bq         60           B2         0.34381         0.40727         0.40727         0.40727           C1         0.34147         0.44304         0.43068         0.43565           C2         0.33671         0.46077         0.43068         0.42745           D1         0.30659         0.43397         0.43397         0.33566           D2         0.34063         0.43366         0.39466           D4         0.33677         0.41747         0.41747	









Tennelec LB41-PF4 Low Background  $\alpha/\beta$  Counter

(Instrument C)

Date	Time	ARS Batch Number	Batch Fraction	Type of Analysis	GEN Number	Detector	Analyst Initials
1-31-17	1407	17-00128	14	CACB	1111	n	5
2-1-17	isil	Pms	M	Bleg	721	AU	y
2-1-17	1733	Darry	90	617	712	AN	3
2-1-17	1612	n-uvis)	01	G	713	CI	h
	1	1	12	1	i	CL	v
			V3			63	V
			19			64	V
			U			1) /	V
			16	Try research		DL	4
W2-1-17	<i>J</i>	<u> </u>	17	7		13	5
7-2-1-17	1231	17-00117	01	4	714	11	to
			12	. /	1	62	70
			13			63	7
			19			th	フ
			11			17)	9
			16			DI	. Lo
	9	<u></u>	67	<u>J</u>	5	03	4
2-2-17	1577	Only	P	Bly	115	M	y
2-1-17	1721	my	IN .	BA	727	M	l
2-3-17	6571	PN	M	Blen	717	bn	h
7-5-17	6738	DNS	M	6/12	704	AN	り
1-3-17	6131	17-00118	01	8	721	Al	6
		7	12		1	M	5
			13			Dh	U
			19			137	4
- L	1	<u>ا</u>	U	レ と	J.	BU	り
2-417	0632	Lay Bly	U	Bly	7111	AN	h

Page 77 of 200

CE-17 Revision: 1

**Revision Date: 031115** 

Reviewed 9 Date 2-21-17



2609 North River Road, Port Allen, Louisiana 70767 1 (800) 401-4277 FAX (225) 381-2996

#### Radiological Analysis Standard Methods 7110C

SDG# ARS1-17-00215 COC AQUEOUS SAMPLES Lab Deadline

Group Name

Client ID

02/14/17

STD

02/22/17 02/17/17 02/17/17

STD STD STD

BB-17

ARS1-17-00215 004

TRG

ARS1-B17-00214-07

4	
<b>3</b>	

#### IDW-WATER-01-011917-001 5159-6461 0S-10 Matrix AQ Prep Code Run Parent: ARS1-17-00184-001 Parent: ARS1-17-00184-001 Analysis GPC-A-028 ARS1-17-00184 001 ARS1-17-00213 001 ARS1-17-00215 002 FR SDG Analysis Batch ID ARS1-B17-00214 Gross Alpha (Water) Blind Iso3 **ARS-090** Blind Iso2 Method Description Blind Iso1 B-23158 B-23159 LCSD TRG DUP TRG TRG CS MBL MS ARS1-B17-00214-06 ARS1-B17-00214-01 ARS1-B17-00214-02 ARS1-B17-00214-03 ARS1-B17-00214-04 ARS1-B17-00214-08 ARS1-B17-00214-09 ARS1-B17-00214-05 ABatch Sample ID

Printed: 2/7/2017 1:51 PM Page 1 of 1

LCS Report

ARS International Baton Rouge Laboratory

Analytical Batch: ARS1-B17-00214

Mod Date	02/02/2017	02/02/2017
User ID	JBYRD	JBYRD
Known Value (pCl)	5.78150	5.79114
Expected Value CT Mid Point Count Date Known Value (PCI/g) (PCI)	02/07/2017	02/07/2017
Expected Value CT (PCI/g)	5.66980	5.66980
Net Wt (g)	1.0197	1.0214
sross Wt (g)	18.2171	17.2237 18.2451 1.0214
Empty Wt Gross Wt Net Wt Exp (9) (9) (9)	17.1974	17.2237
Expected Value (pCI/g)	5.66980	5.66980
Exp Addition (g)		П
Isotope	Th-230	Th-230
Std ID	S-0315	5-0315
Blind Group	B-Th230	B-Th230
Blind ID ABatch Sample ID Blind Group Std ID Isotope	B-23158 ARS1-B17-00214-01 B-Th230 S-0315 Th-230	B-23159 ARSI-B17-00214-02 B-Th230 S-0315 Th-230
Blind ID	B-23158	8-23159

#### Matrix Spike Report

ARS International Baton Rouge Laboratory

#### Analytical Batch: ARS1-B17-00214

Isotope 2 Std ID 2 Empty Wt 2 Filled Wt 2 Net Wt 2 Isotope 1 Th-230 5-0315 Std ID1 Net Wt 1 1.037 Sample Type Empty Wt 1 Filled Wt 1 2.616 1.579 MS ABatch Sample ID ARS1-B17-00214-09

SCAUSEY User ID

#### INTERNATIONAL

#### ARS-090 WorkSheet (Method SM 7110/EERF 00-02)

B17-00214 6

Batch Number: # of samples

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'Final Weight of	0.0178	0.0177	0.0178	0.3134	0.0324	0.0195	0.0779	0.3203	0.3252											
1	16	0.1062	0.1060	0.4024	0.1224	0.1098	0.1689	0.4096	0.4143											
Initial Filter Final Filter Weight	1_	0.0885	0.0882	0.0890	0.0900	0.0903	0.0910	0.0893	0.0891											
Planchette with filter	7.6207	7.6673	7.6243	7.9043	7.7218	7.6533	7.7638	7.9714	7.9349									11/2 - 1		
Plancher with filter and samule	7.6029	7.6496	7.6065	7.5909	7.6894	7.6338	7.6859	7.6511	7.6097											
i Anno	7.5128	7.5611	7.5183	7.5019	7.5994	7.5435	7.5949	7.5618	7.5206		5									4,72   14
Balance Secial Number	12332539	12332539	12332539	12332539	12332539	12332539	12332539	12332539	12332539											
Iron Carrier (5mø/mL)	427	R11-00427																		
Barium Carrier (5mg/mL)	R14-00184	R14-00184	R14-00184	R14-00184	R14-00184	R14-00184	R14-00184	R14-00184	R14-00184											
Barium Car Alicuct(1) (5mg/mL)	1	1	1	0.5	0.5	0.392	0.18	0.5	0.5									-		35 <b>0</b> (3
0001	$\bigvee$	M	$\bigvee$	255728	255855	255882	255881	255728	255727											
(T. June	14-01	B17-00214-02	B17-00214-03	B17-00214-04	B17-00214-05	B17-00214-06	B17-00214-07	B17-00214-08	B17-00214-09											

1	3		ΓB	LB4100-C			\\Ars-	\\Ars-f52mv91\LB4100\LB4100\GRAY\DATA\GENER717.XLD	B4100\GRAY\DA	TA\GENER7	17.XLD	
D			Batc	atch Sample ID			S A S	Samples Transferred		Sampl	Samples Eligible To Save	e To Save
2	INTERNATIONAL		ARS1-	-B17-00214	4			6			6	
LIMS Batch Sample 10	Detector ID	LB4110 Sample ID	Alpha Counts	Beta	Count	LB4110 Voltage	LB4110 Count Date	Analysis Batch	LIMS	Run	LIMS	Analysis
ARS1-B17-00214-06	CI	17-00214-06	9.00	164.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214	ARS1-17-00215	1 002		GPC-A-028
ARS1-B17-00214-07	23	17-00214-07	37.00	388.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214	ARS1-17-00215	1 004		GPC-A-028
ARS1-B17-00214-08	ß	17-00214-08	14.00	496.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214				
ARS1-B17-00214-09	C4	17-00214-09	39.00	528.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214				
ARS1-B17-00214-01	A1	17-00214-01	140.00	226.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214				
ARS1-B17-00214-02	A2	17-00214-02	109.00	190.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214				
ARS1-B17-00214-03	A4	17-00214-03	8.00	181.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214				
ARS1-B17-00214-04	81	17-00214-04	20.00	541.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214	ARS1-17-00184	1 001		GPC-A-028
ARS1-B17-00214-05	82	17-00214-05	94.00	225.00	60.00	1410.00	02/07/17 10:34	ARS1-B17-00214	ARS1-17-00213	1 001	and the office of the	GPC-A-028

<b>ABatchSampleID</b>	506	Fraction	ClientID	æ	Isotope	٩ct	TP.	TPU1s	TPU2s	MDA	4	3	CU1s	CU2s	ActivityReportUnits
ARS1-B17-00214-01					GROSS ALPHA	6.156470995	1.787677683		1.787677683	0.480328832		0.17822578 1.061611902 0.541638726 1	0.541638726	1.061611902 pCi	pCi
ARS1-B17-00214-02	***				GROSS ALPHA	5.032788251	1.523771822			0.387485483	0.129626688	0.969214728	0.49449731	0.969214728 pCi	pCi
ARS1-B17-00214-03					GROSS ALPHA	0.252022511	0.269827985	0.13766734		0.384171188	0.128517947 0.263325562 0.134349777 0.2	0.263325562	0.134349777	0.263325562 pCi	pCi
ARS1-B17-00214-04   ARS1-17-00184   001	ARS1-17-00184	100	IDW-WATER-01-011917-001	1	GROSS ALPHA	13.17742933	7.35728888			5.90432603	1.929842511	6.682203226	3.40928736	6.682203226 pci	PCi
ARS1-B17-00214-05   ARS1-17-00213   001	ARS1-17-00213	001	5159-6461	1	GROSS ALPHA	9.791901255	3.060910411			0.844504854	0.277410667	2.033662838	1.03758308	2.033662838 pci	pCi
ARS1-B17-00214-06 ARS1-17-00215 002	ARS1-17-00215	002	OS-10	1	GROSS ALPHA	0.679292671	0.735578548			1.073959955	0.373723593	0.718254548	0.718254548 0.366456402 0.718254548 pci	0.718254548	DC.
ARS1-B17-00214-07 ARS1-17-00215 004	ARS1-17-00215	004	88-17	1	GROSS ALPHA	16.20926682	6.855600754		6.855600754	4.105453051	1.405527606	5.714751742	2.915689664	5.714751742	pCi
ARS1-B17-00214-08					GROSS ALPHA	7.683419521	6.062682834	3.093205527	6.062682834	7.45731066	2.67192529	5.79084471	2.954512607	5.79084471	pCi
ARS1-817-00214-09					GROSS ALPHA	27.9989126	11.6268094	5.932045613		6.826174197	2.352939234	9.612168733	9.612168733 4.904167721 9.612168733 pCi	9.612168733	PCi

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ABatchSampleID	SDG	Fraction	Fraction AliquotReportUnits ChemRecovery TracerRecovery	ChemRecovery	TracerRecovery	SampleCounts	SampleCounts SampleCountMins BKG_Counts BKG_CountMins	BKG_Counts	BKG_CountMins	EFF	ALIQ	ALIQ SampleCollDate	MidPointCol	BP_DL
ARS1-B17-00214-01			1			140	09		006	0.164237918	1	2/7/2017		
ARS1-B17-00214-02				THE RESERVOIS A LABOR THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART AND THE PART		109	09	39	006	0.158660306	1	2/7/2017		
ARS1-B17-00214-03		-	7	Age anomer of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon		8	09	39	006	0.160029089	1	2/7/2017		
ARS1-B17-00214-04	ARS1-17-00184	001		The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the s		20	09	34	006	0.019901142		1/19/2017		
ARS1-B17-00214-05   ARS1-17-00213   001	ARS1-17-00213	001	And the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of t			94	09	35	006	0.140466018		1/19/2017		
ARS1-817-00214-06 ARS1-17-00215 002	ARS1-17-00215	002		THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CHARGE STATE OF THE CH		6	9	20	006	0.158956697		1/16/2017		
ARS1-B17-00214-07 ARS1-17-00215 004	ARS1-17-00215	004		o de maleira de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la companya de la co	A COLUMN TO THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PARTY OF THE PA	37	09	45	006	0.087322223		1/17/2017		
ARS1-B17-00214-08			7			14	09	61	006	0.019253115	0.5	2/7/2017	2/7/2017	
ARS1-B17-00214-09						39	09	47	006	0.019191045		7/2017		

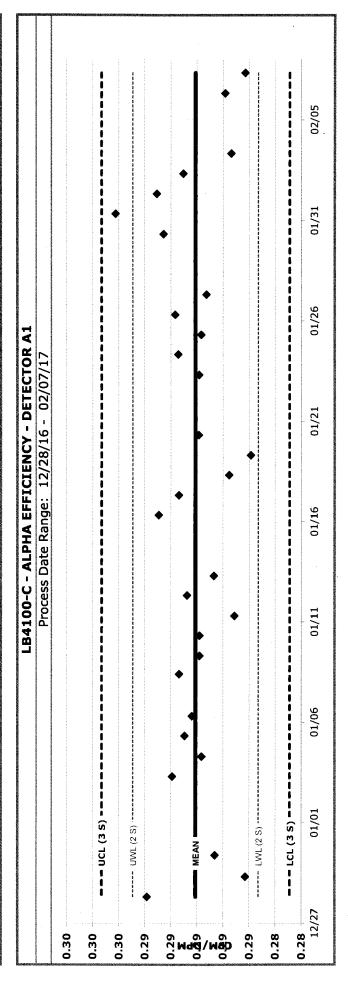
ABatchSampleID	SDG	Fraction	BP MDA	Sb_Val	T)	F	Fraction BP MDA Sb Val UCF CF GrossCountRate	BKGCountRate	NetCountRate	<b>PlatingRecovery</b>	InstFileName	DetectorID	InstrumentkeV	NuclideAbd	TracerMeasACT	BKGCountRate NetCountRate PlatingRecovery InstFileName DetectorID InstrumentkeV NuclideAbd TracerMeasACT TracerKnownACT
RS1-B17-00214-01					2.22 1.96	1.96	2.33333333	0.087777778	2.244699677		GENER717.XLD A1	A1				
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ARS1-817-00214-09					2.22 1.96	1.96	0.65	0.05222222	0.596434514		GENER717.XLD	2				

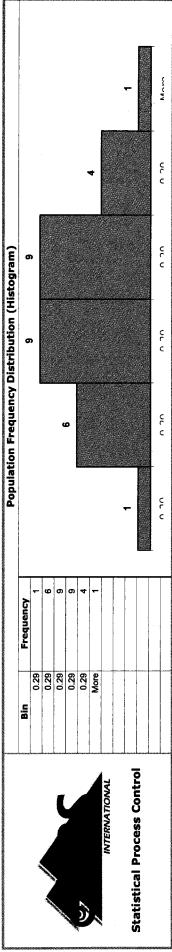
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ADC1-817-00214-08					T	T	-	0.119197836	0.021370958	1.282257481		AMRAD\BSCHREITER	2/7/2017
ADC1-817-0021-100				T	-	T	<del> </del>	0.119197836	0.02130206	1.278123595	GPC-A-028	AMRAD\BSCHREITER	2/7/2017

## **LB4100-C - ALPHA EFFICIENCY**

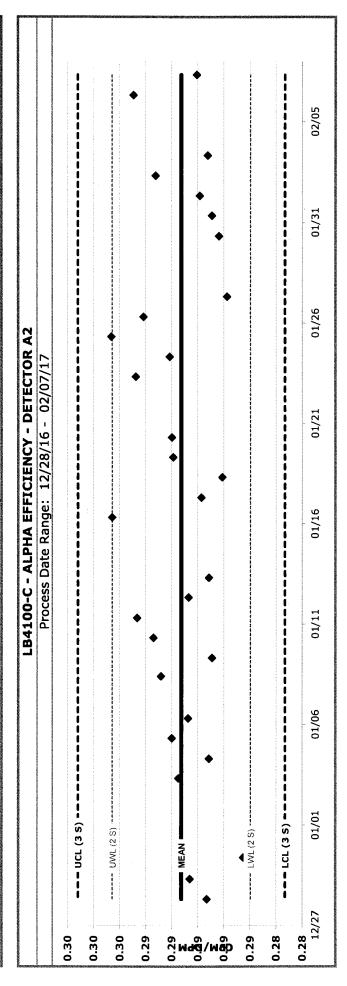
Population Statistics				Trending Analysis	
OVID COITCLE	Co			Most recent point outside of the 3-sigma values.	OK
ביבים ביים ביים ביים ביים ביים ביים ביי	כ ס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2901	СРМ/DРМ	0.2863	2 of 3 most recent points above 2 sigma.	οK
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2973	Date		7 trending most recent points in a row.	οK
- 3-sigma value	0.2829	CPM		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

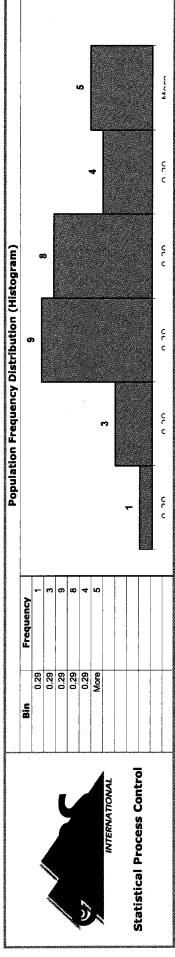




## **LB4100-C - ALPHA EFFICIENCY**

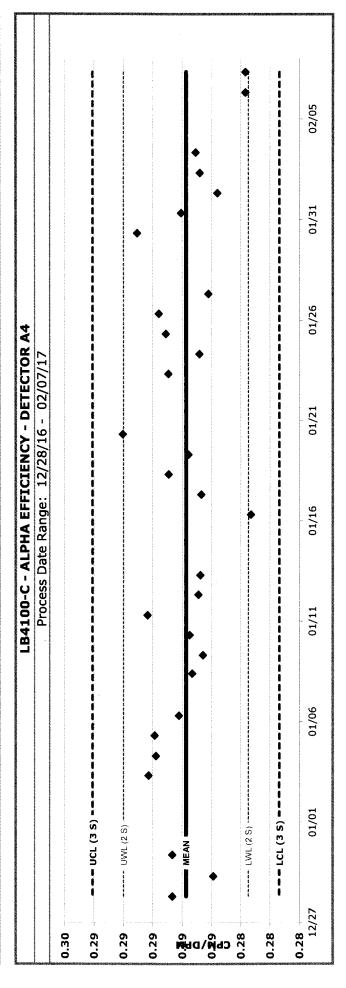
Population Statistics			ANY CARTON MANAGEMENT OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY OF THE PARTY PROPERTY PROPERTY OF THE PARTY PROPERTY PROPERTY OF THE PARTY PROPERTY	nonimanimanimanimanimanimanimanimanimanima	SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE SPECIAL STATES OF THE	
orio aciteliared	<b>CC</b>			Most recent point outside of the 3-sigma values.	OK	
Population Size	ם ס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК	
Average	0.2913	CPM/DPM	0.2901	2 of 3 most recent points above 2 sigma.	ОК	
Standard Deviation	0.0026			4 of 5 most recents points beyond the 1-sigma.	OK	
+ 3-sigma value	0.2992	Date		7 trending most recent points in a row.	ОК	
- 3-sigma value	0.2833	СРМ		15 most recent points inside 1 sigma.	OK	
		Count Mins		8 most recent points outside 1 sigma.	OK	

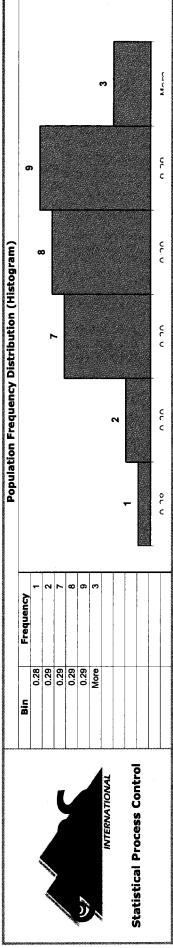




## **LB4100-C - ALPHA EFFICIENCY**

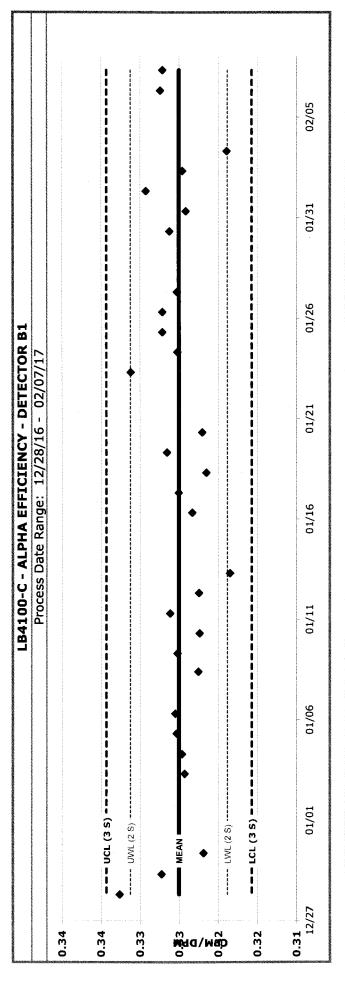
Population Statistics				Trending Analysis	
oris mitching	CC			Most recent point outside of the 3-sigma values.	ОК
	סס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.2877	CPM/DPM	0.2837	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0021			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2941	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2814	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK X

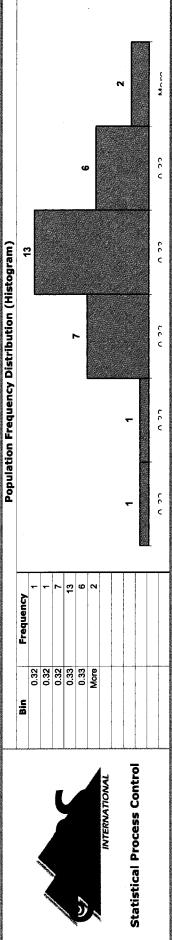




## **LB4100-C - ALPHA EFFICIENCY**

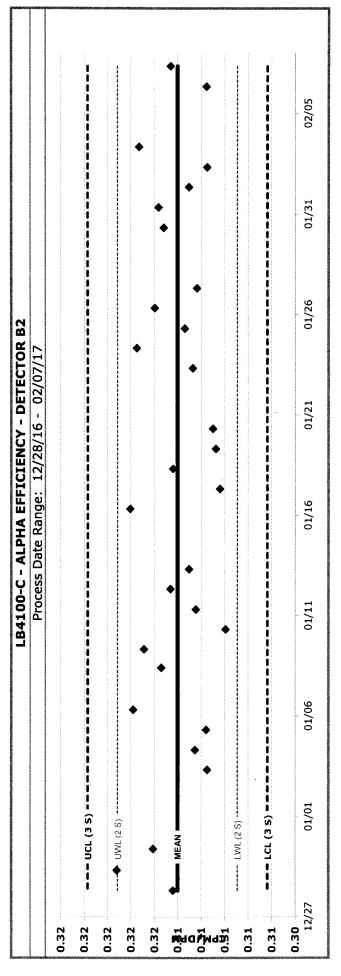
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	CC			Most recent point outside of the 3-sigma values.	ΟK
אסטים שלטר	<b>)</b>	Date	02/07/17	8 consecutive most recent points on one side of the mean.	λO
Average	0.3250	CPM/DPM	0.3272	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0031			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.3343	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.3158	СРМ		15 most recent points inside 1 sigma.	Ą
		Count Mins		8 most recent points outside 1 sigma.	QK

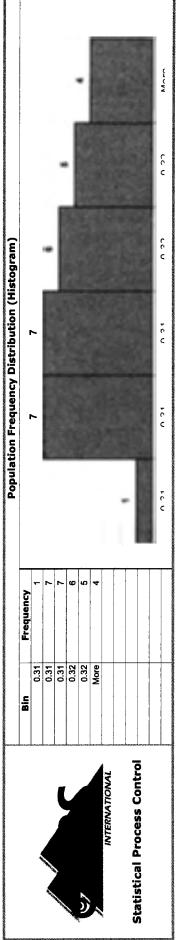




## **LB4100-C - ALPHA EFFICIENCY**

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	CC			Most recent point outside of the 3-sigma values.	ОК
ropulation Size	) )	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.3140	СРМ/ДРМ	0.3146	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0026			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.3217	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.3064	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

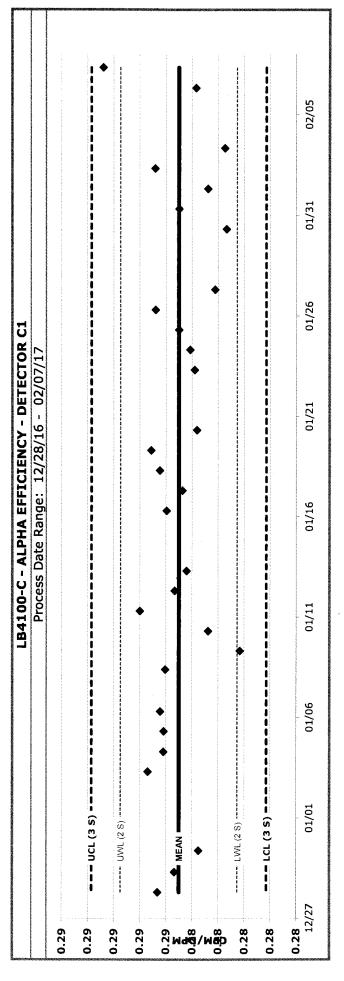


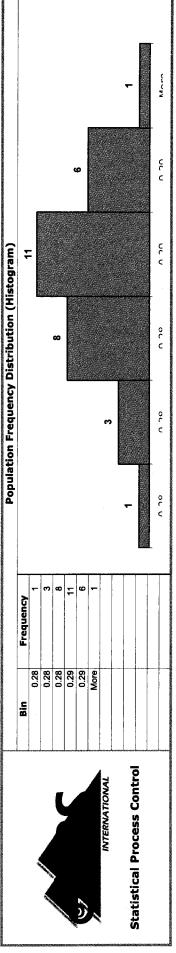


## **LB4100-C - ALPHA EFFICIENCY**

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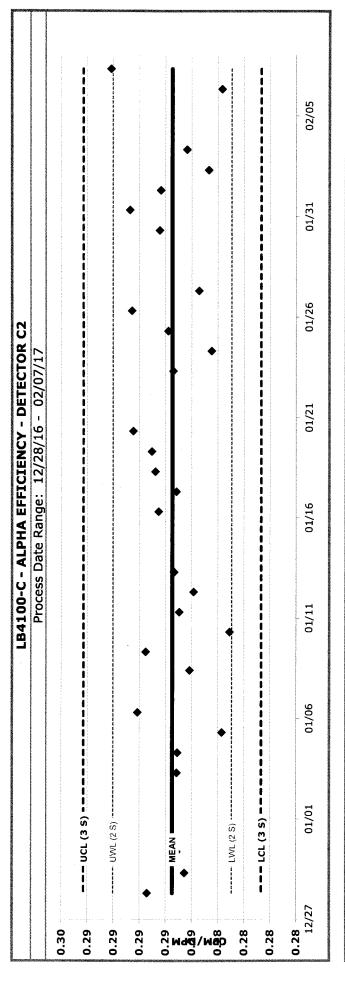
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ovin rotte land	UC.			Most recent point outside of the 3-sigma values.	OK
	כ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2850	CPM/DPM	0.2908	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0022			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2917	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2783	CPM		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

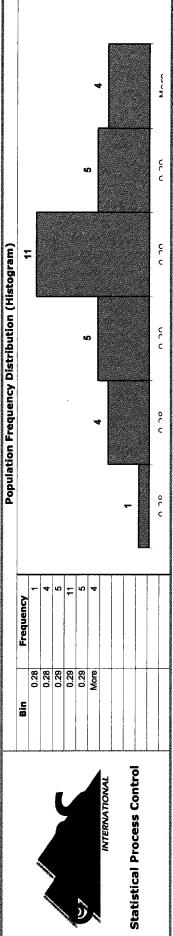




## **LB4100-C - ALPHA EFFICIENCY**

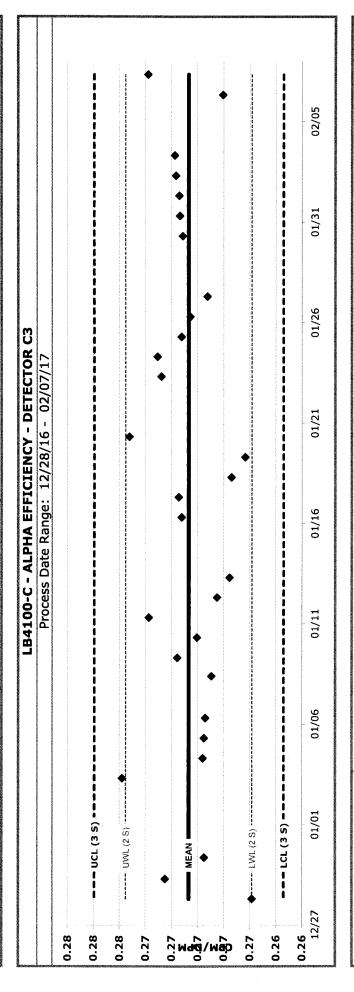
Population Statistics				Trending Analysis	
	00			Most recent point outside of the 3-sigma values.	OK
טבוט ווטיפישלטר	כ מ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.2875	CPM/DPM	0.2922	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0023			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.2943	Date		7 trending most recent points in a row.	οχ
- 3-sigma value	0.2807	CPM		15 most recent points inside 1 sigma.	Ao
		Count Mins		8 most recent points outside 1 sigma.	OK

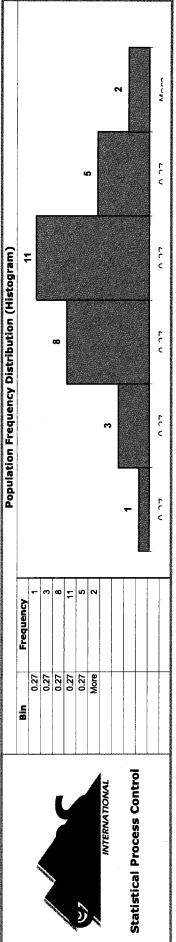




## **LB4100-C - ALPHA EFFICIENCY**

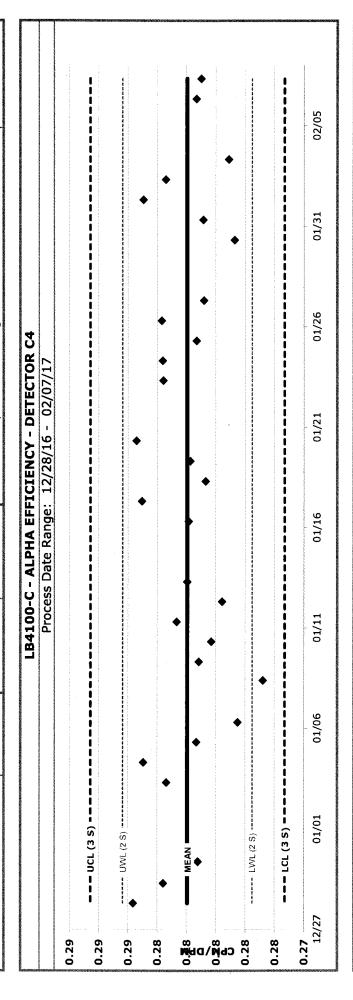
Population Statistics			energenene spatesche statesche sone energene energene energene energene energene energene energene energene en	production of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the con	
Donulation Cite	UC			Most recent point outside of the 3-sigma values.	OK
	כ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.2707	CPM/DPM	0.2738	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2779	Date		7 trending most recent points in a row.	OK.
- 3-sigma value	0.2634	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

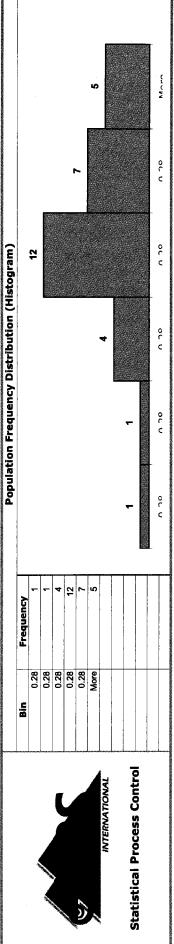




## **LB4100-C - ALPHA EFFICIENCY**

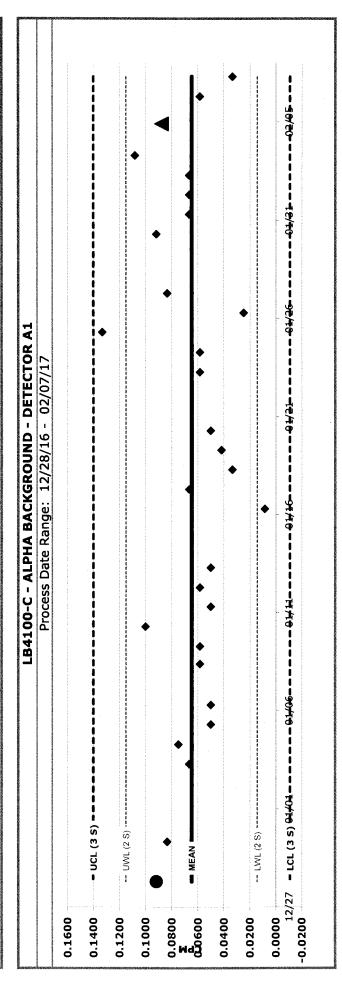
Population Statistics	9			Trending Analysis	CONTRACTOR OF THE STANKE STREET, STANKE STREET, STANKE STREET, STANKE STREET, STANKE STREET, STANKE STREET, ST
OF IS ROSE	VC.			Most recent point outside of the 3-sigma values.	OK
בטלמופווסן אוני	) )	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.2819	CPM/DPM	0.2810	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0022			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.2886	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.2753	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

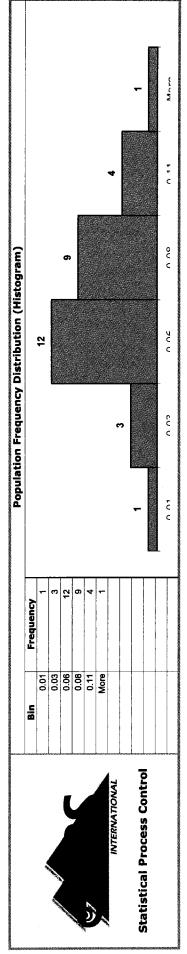




# LB4100-C - Alpha Daily BKG Check

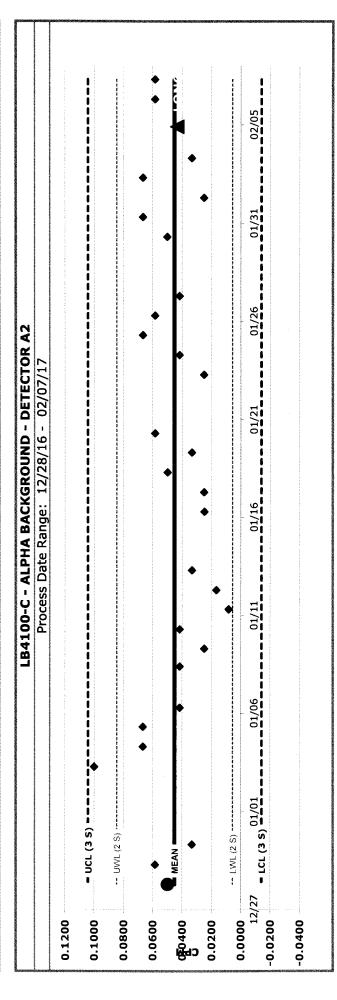
Population Statistics	DER Analysis	OK	Trending Analysis	
Oci 2 miletimod	DER	2.8103	Most recent point outside of the 3-sigma values.	¥
	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	<b>Y</b>
Average 0.0647	7 Long B CPM	0.0878	2 of 3 most recent points above 2 sigma.	¥
Standard Deviation 0.0252	2 Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	¥
+ 3-sigma value 0.1401	1 Date	02/07/17	7 trending most recent points in a row.	¥
- 3-sigma value   -0.0108	R CPM	0.0333	15 most recent points inside 1 sigma.	¥
	Count Mins	120.00	8 most recent points outside 1 sigma.	<b>Y</b>

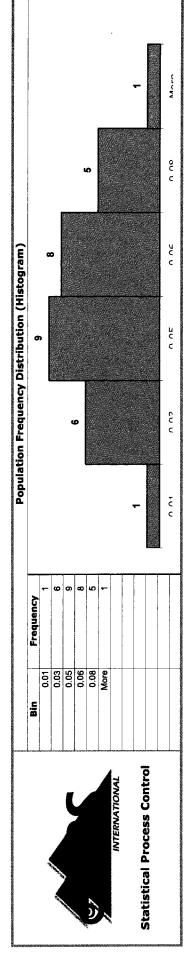




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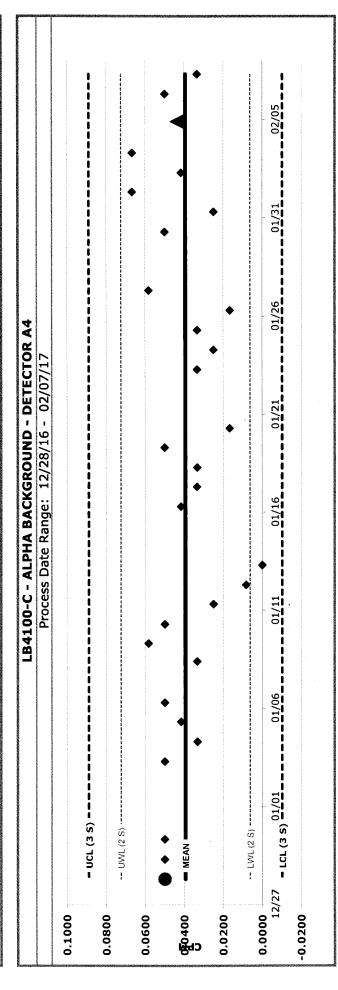
Population Statistics		DER Analysis	OK	Trending Analysis	
ori2 miteliand	00	DER	0.6490	Most recent point outside of the 3-sigma values.	ОК
רטטטימיוטרי איניי	מ	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	X
Average	0.0451	Long B CPM	0.0433	2 of 3 most recent points above 2 sigma.	X
Standard Deviation	0.0197	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	×
+ 3-sigma value	0.1043	Date	02/07/17	7 trending most recent points in a row.	X
- 3-sigma value	-0.0141	СРМ	0.0583	15 most recent points inside 1 sigma.	Ж
		Count Mins	120.00	8 most recent points outside 1 sigma.	×

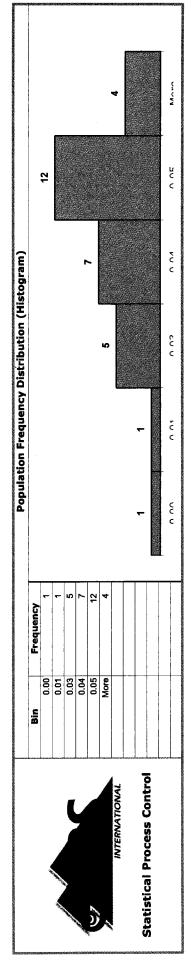




# LB4100-C - Alpha Daily BKG Check

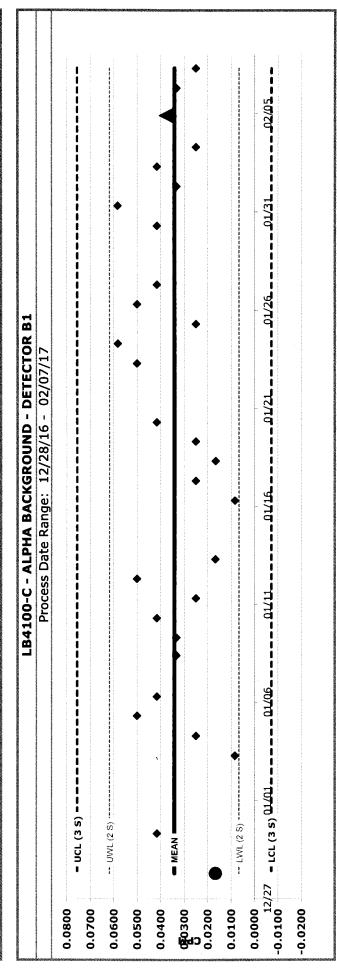
Population Statistics	DER Analysis	is OK	Trending Analysis	
	DER	ER 0.5539	Most recent point outside of the 3-sigma values.	ОК
	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	Ą
Average 0.0394	4 Long B CPM	1 . 0.0433	2 of 3 most recent points above 2 sigma.	ΟĶ
Standard Deviation 0.0165	5 Count Mins	ء 900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value   0.0889	9 Date	02/07/17	7 trending most recent points in a row.	X
- 3-sigma value   -0.0101	)1	1 0.0333	15 most recent points inside 1 sigma.	ОК
-	Count Mins	120.00	8 most recent points outside 1 sigma.	X

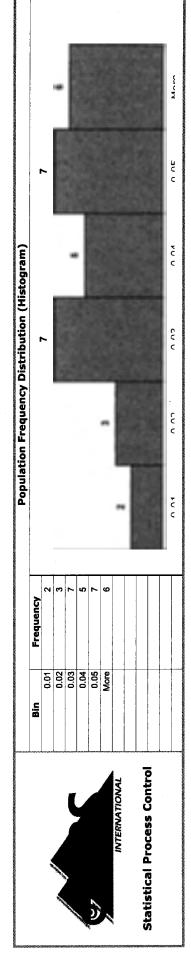




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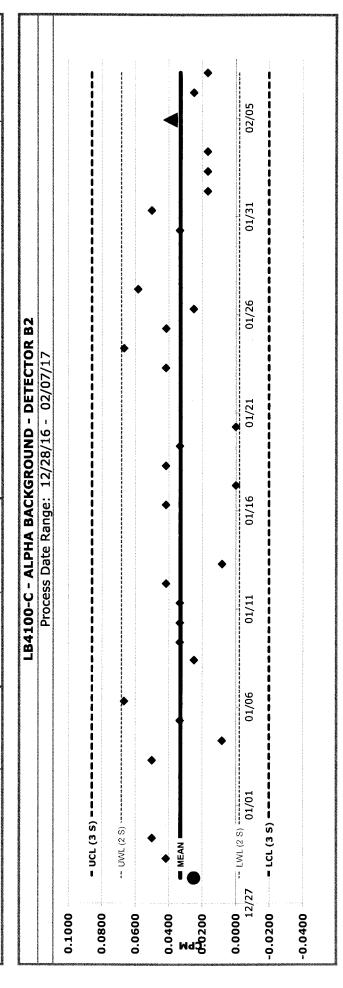
Population Statistics		DER Analysis	ΥO	Trending Analysis	A DESCRIPTION OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY
C oriz moiteling	- C	DER	0.8076	Most recent point outside of the 3-sigma values.	OK.
	ר	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average 0.0342	342	Long B CPM	0.0378	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.0138	138	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value 0.0756	756	Date	02/07/17	7 trending most recent points in a row.	o <del>K</del>
- 3-sigma value   -0.0072	072	СРМ	0.0250	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	οĶ

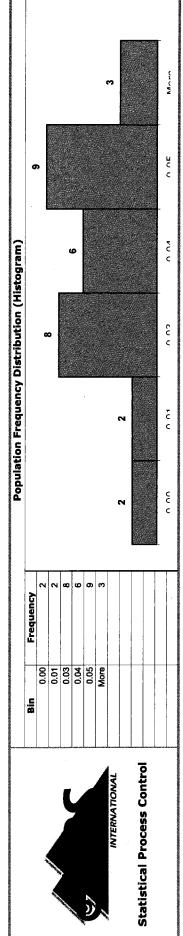




# LB4100-C - Alpha Daily BKG Check

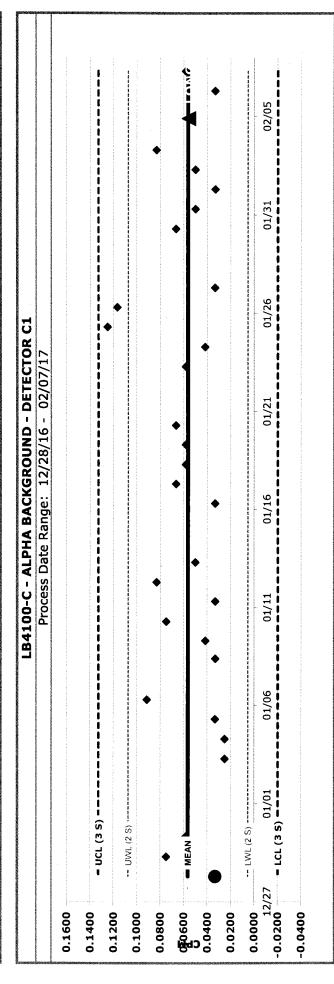
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Ori2 goiteland	0	DER	1.6468	Most recent point outside of the 3-sigma values.	ΟĶ
	ת ע	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ŎĶ
Average 0.0	0.0330	Long B CPM	0.0389	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation 0.0	0.0176	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value   0.0	0.0859	Date	02/07/17	7 trending most recent points in a row.	OK
- 3-sigma value   -0.	-0.0198	СРМ	0.0167	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

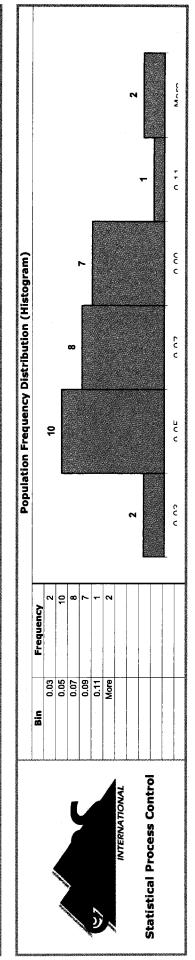




# LB4100-C - Alpha Daily BKG Check

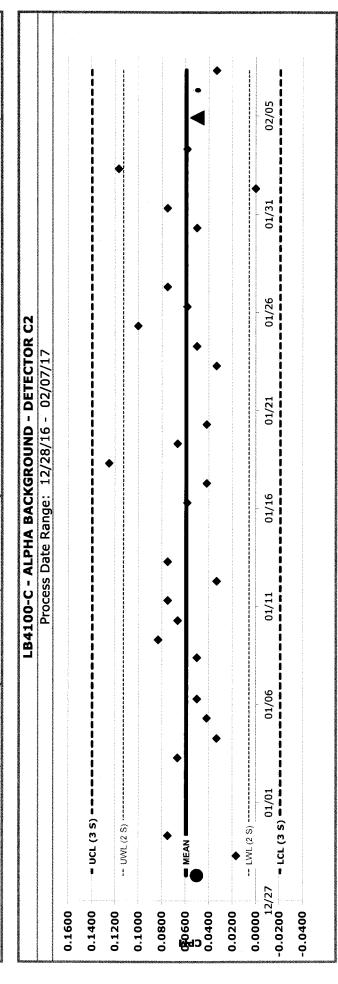
Population Statistics		DER Analysis	OK	Trending Analysis	
Octor action	- C	DER	0.1187	Most recent point outside of the 3-sigma values.	OK
סלים ווסיפושלטר	כ כ	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.0564	Long B CPM	0.0556	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation (	0.0255	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value   0	0.1329	Date	02/07/17	7 trending most recent points in a row.	OK
- 3-sigma value	-0.0201	СРМ	0.0583	15 most recent points inside 1 sigma.	OK
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

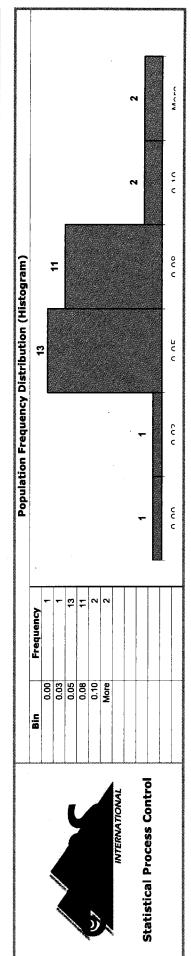




# LB4100-C - Alpha Daily BKG Check

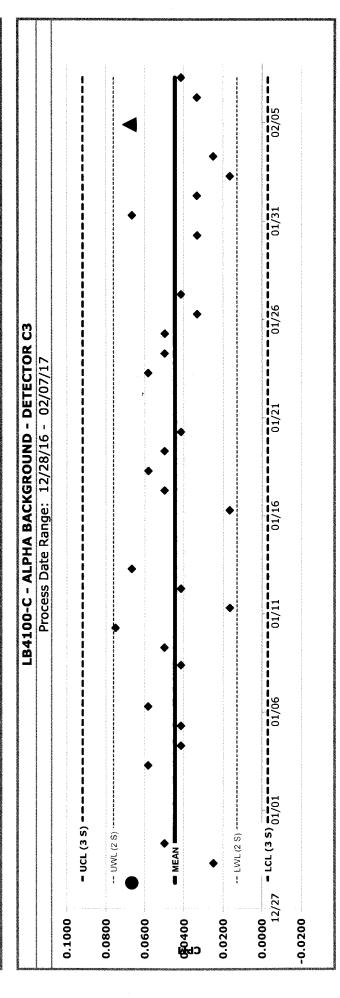
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second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco		
Population Statistics	<b>******</b>	DER Analysis	Š	Trending Analysis	
Docupation Size	06	DER	0.9129	Most recent point outside of the 3-sigma values.	ОК
סבוכ ווסויפוניקטר	Ŋ	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0592	Long B CPM	0.0500	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0268	Count Mins	900.000	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.1395	Date	02/07/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0211	CPM	0.0333	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

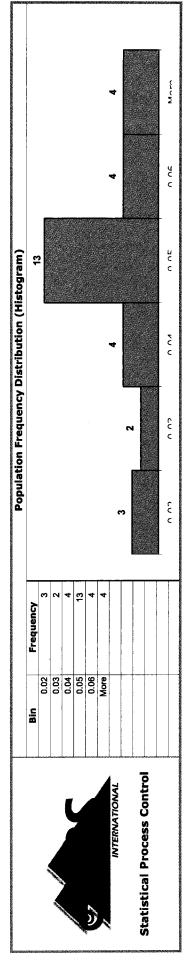




# LB4100-C - Alpha Daily BKG Check

Population Statistics		DER Analysis	OK	Trending Analysis	
orio coitchaco	06	DER	1.2703	Most recent point outside of the 3-sigma values.	ОK
ropulation Size	7	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0445	Long B CPM	0.0678	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0158	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ΟK
+ 3-sigma value	0.0919	Date	02/07/17	7 trending most recent points in a row.	ОК
- 3-sigma value	-0.0028	СРМ	0.0417	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

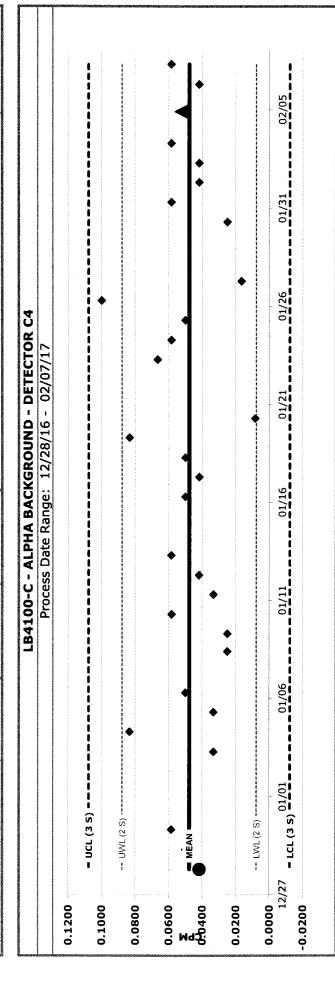


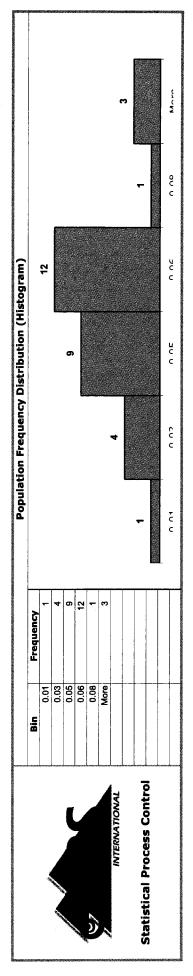


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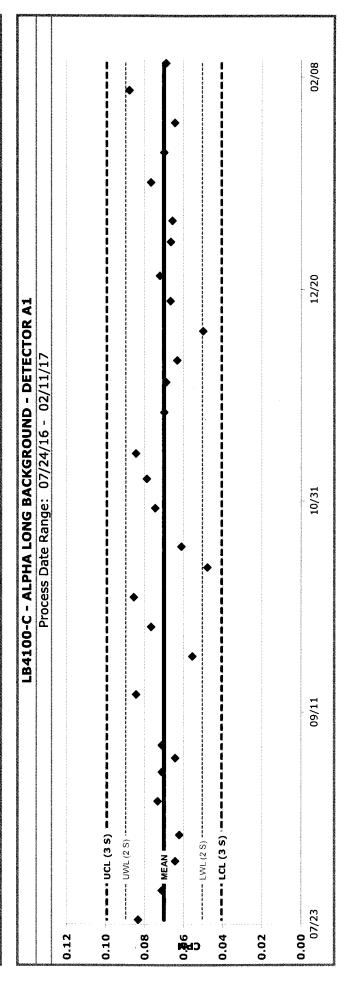
	acethologicomostacocomos		NORSCONDENSIONAL MANAGEMENT AND AND AND AND AND AND AND AND AND AND		
		DER Analysis	ŏ	i rending Analysis	
ſ	00	DER	0.2620	Most recent point outside of the 3-sigma values.	OK
1	J.	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ΟK
ó	0.0477	Long B CPM	0.0522	2 of 3 most recent points above 2 sigma.	OK
0.0	0.0200	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	OK
).1(	0.1078	Date	02/07/17	7 trending most recent points in a row.	ОК
0.0	-0.0124	CPM	0.0583	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ΟK

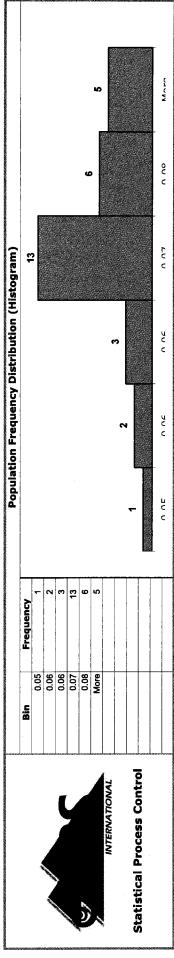




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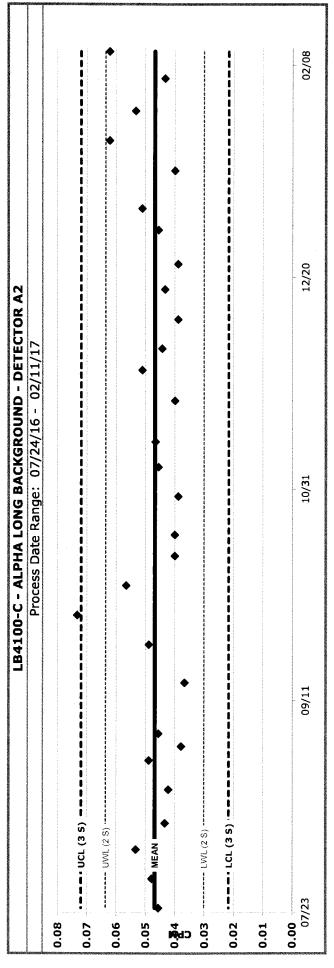
Population Statistics			Trending Analysis	
C C C C C C C C C C C C C C C C C C C	<b>C</b> C	Most	Most recent point outside of the 3-sigma values.	OK
אוכ ווסוופוסטר	כ ק	8 cor	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0700	2 of	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0098	4 of	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0994	7 tre	7 trending most recent points in a row.	OK
- 3-sigma value	0.0406	15 m	15 most recent points inside 1 sigma.	ОК
	30.0000	8 mo	8 most recent points outside 1 sigma,	οK

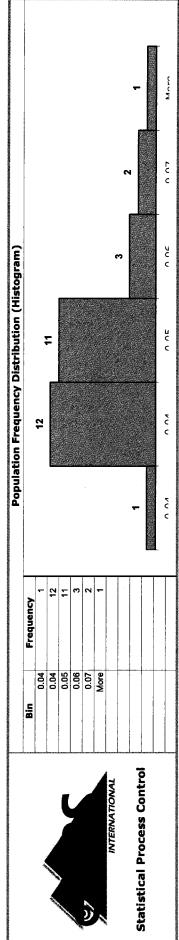




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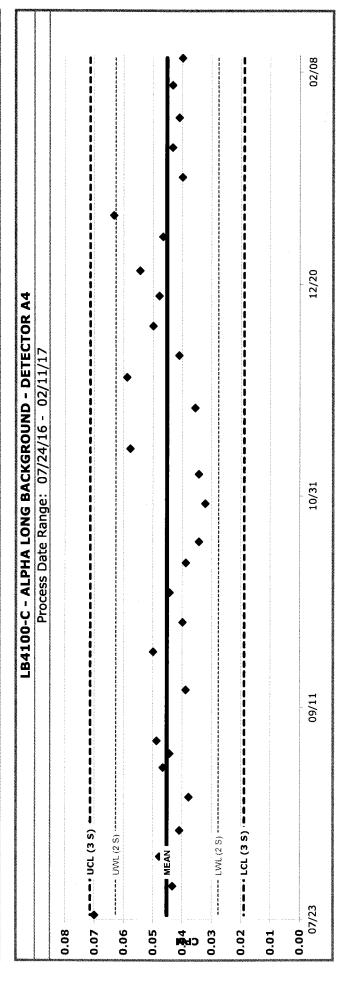
Population Statistics	6	Trending Analysis	
CLID ROLL	C 0	Most recent point outside of the 3-sigma values.	) XO
אבוכ ווסיפושלטר	כ ה	8 consecutive most recent points on one side of the mean.	УО
Average	0.0469	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0084	4 of 5 most recents points beyond the 1-sigma.	χo
+ 3-sigma value	0.0720	7 trending most recent points in a row.	Ϋ́O
- 3-sigma value	0.0217	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	OK

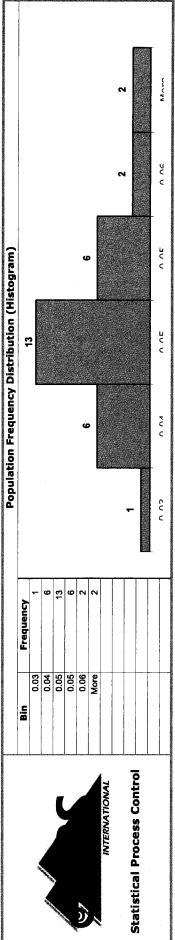




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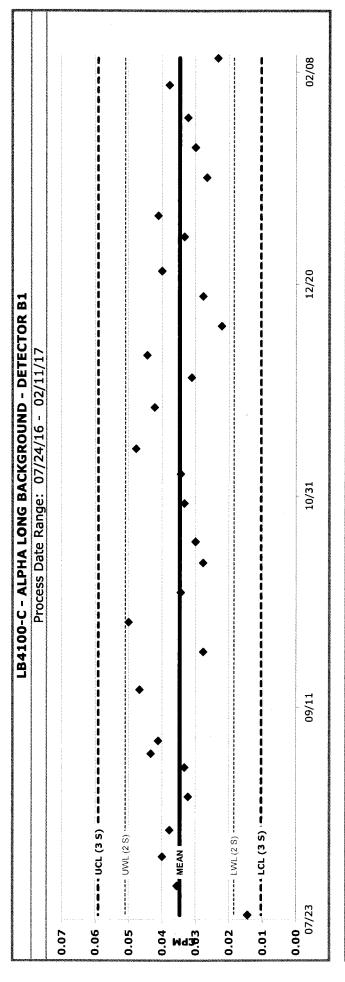
Population Statistics		montenance and the second and the second and the second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second and second	
Ovin a cital raco	C	Most recent point outside of the 3-sigma values.	ОК
	כ	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0452	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0088	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0715	7 trending most recent points in a row.	οK
- 3-sigma value	0.0190	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	OK

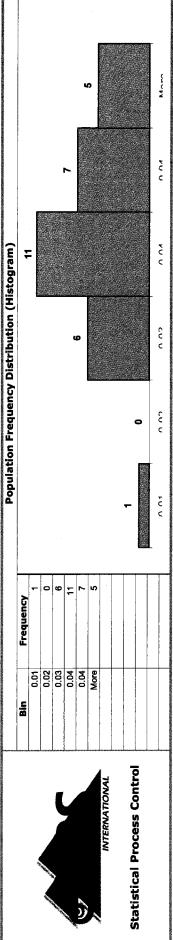




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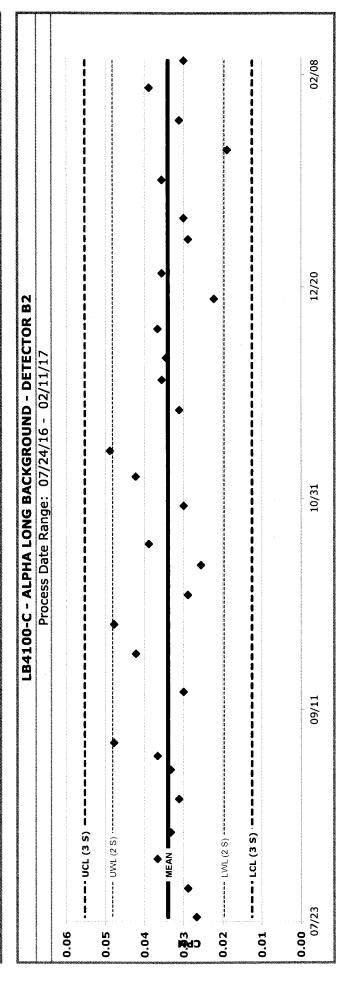
Population Statistics	•	Trending Analysis	
OFIN CONTRACTOR	<b>C</b> C	Most recent point outside of the 3-sigma values.	OK
	) )	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0347	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0081	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0591	7 trending most recent points in a row.	OK
- 3-sigma value	0.0104	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	ОК

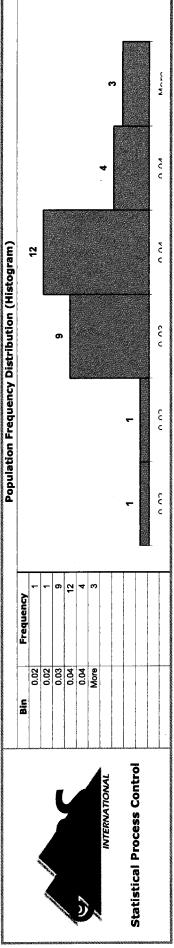




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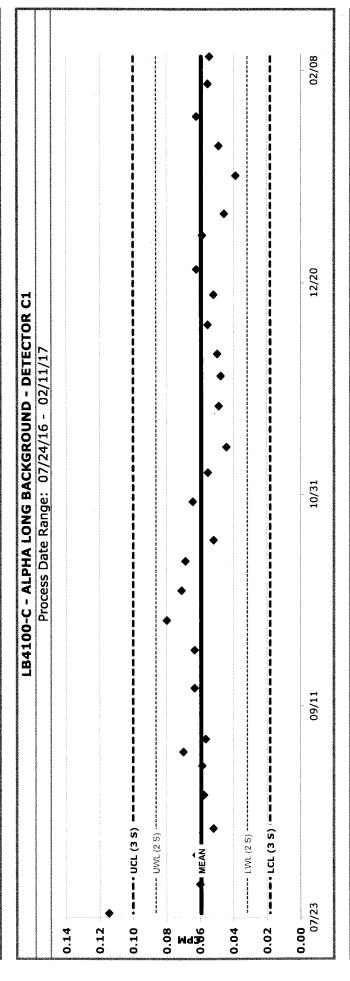
Population Statistics	5	Trending Analysis	
C.I.O. CO.I.L.	CO	Most recent point outside of the 3-sigma values.	ОК
	<b>)</b>	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0339	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0071	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0553	7 trending most recent points in a row.	ОК
- 3-sigma value	0.0125	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	OK

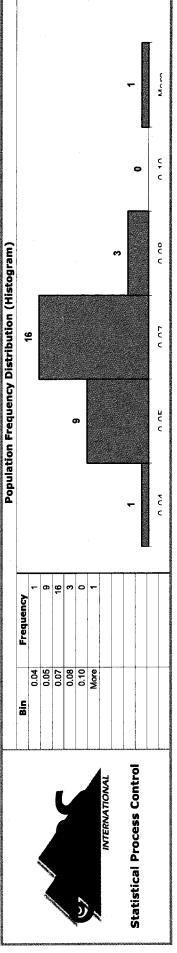




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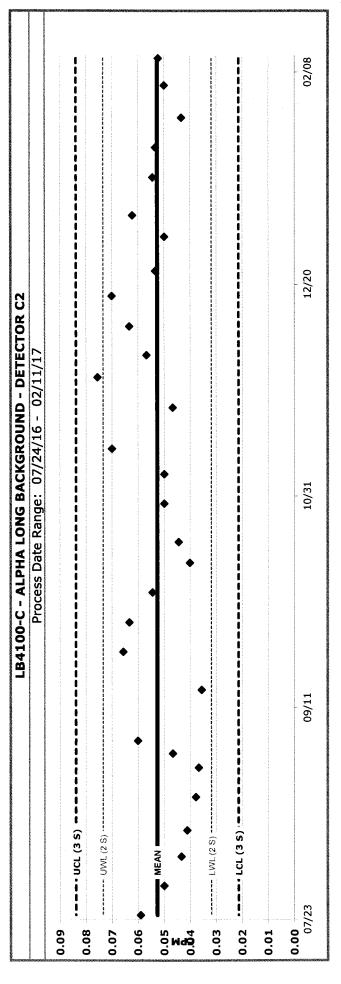
Population Statistics	9	noneconamics consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences and the consequences are consequences are consequences are consequences and the consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are consequences are	TO THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF THE STATE OF TH
	Ç	Most recent point outside of the 3-sigma values.	OK
Population Size	<b>)</b>	8 consecutive most recent points on one side of the mean.	χo
Average	0.0592	2 of 3 most recent points above 2 sigma.	ΟK
Standard Deviation	0.0136	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.1001	7 trending most recent points in a row.	OK
- 3-sigma value	0.0183	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	Š

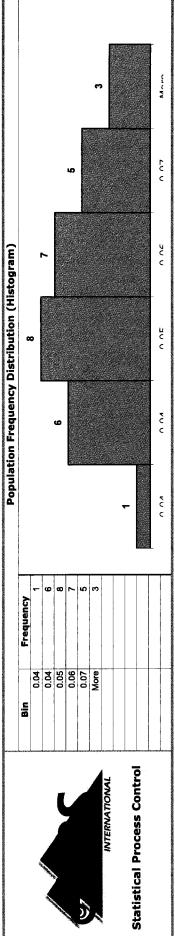




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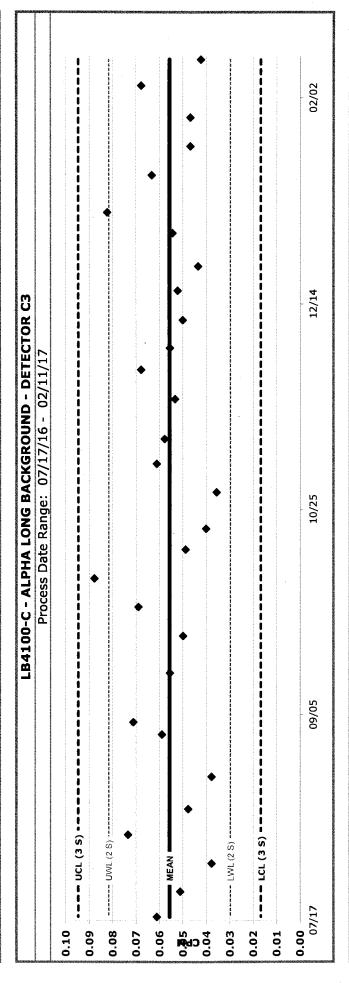
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	6	Most recent point outside of the 3-sigma values.	OK
Population Size	] }	8 consecutive most recent points on one side of the mean.	ОК
Average	0.0526	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0104	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.0838	7 trending most recent points in a row.	δ
- 3-sigma value	0.0214	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ŏ

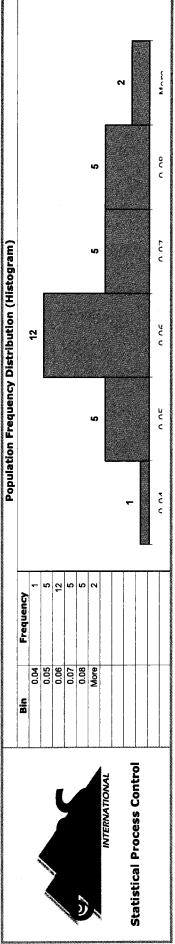




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orio contrinco	CC		Most recent point outside of the 3-sigma values.	ОК
SZC TODBINGOL	<b>)</b>		8 consecutive most recent points on one side of the mean.	Ş
Average	0.0557		2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0130		4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0946		7 trending most recent points in a row.	ОК
- 3-sigma value	0.0167		15 most recent points inside 1 sigma.	ОК
	30.000		8 most recent points outside 1 sigma.	OK

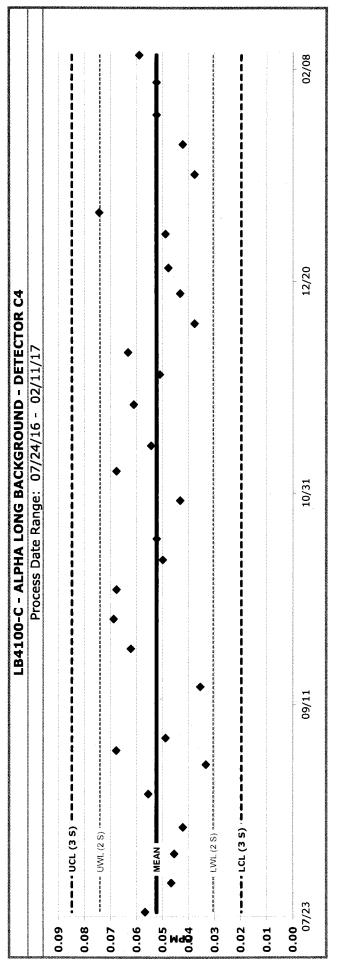


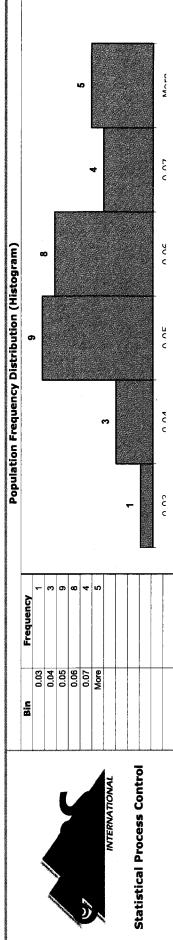


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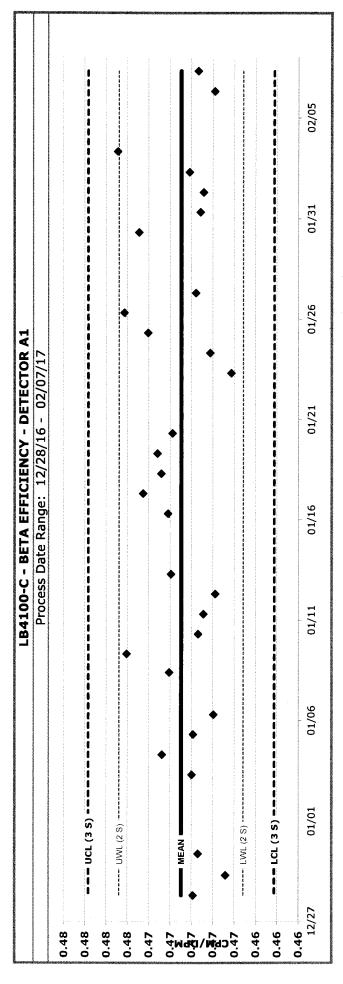
Population Statistics		Trending Analysis	
OTIO ROLL	CC	Most recent point outside of the 3-sigma values.	OK
ביים ביים ביים ביים ביים ביים ביים ביים	) )	8 consecutive most recent points on one side of the mean.	OK
Average	0.0523	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0108	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.0849	7 trending most recent points in a row.	OK
- 3-sigma value	0.0198	15 most recent points inside 1 sigma.	OK
	30.000	8 most recent points outside 1 sigma.	OK

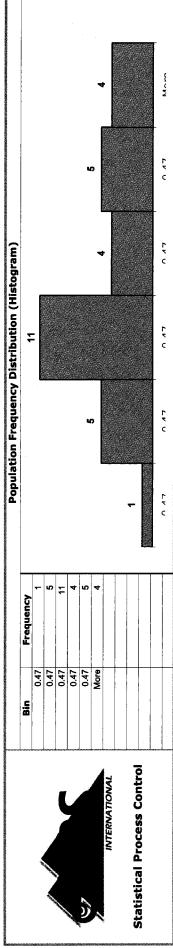




#### **LB4100-C - BETA EFFICIENCY**

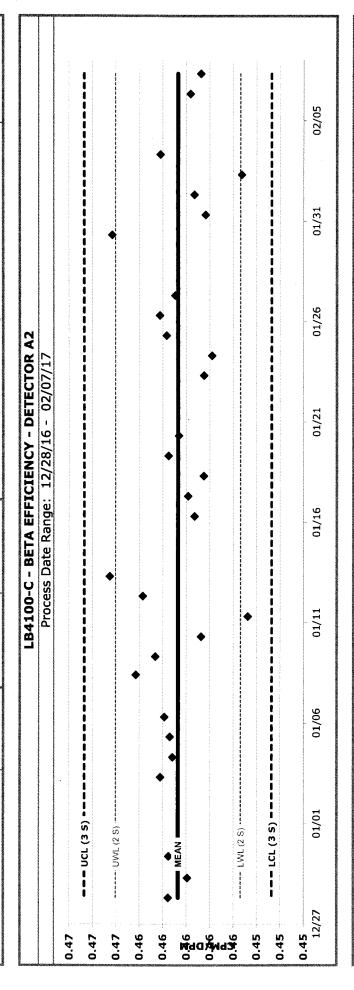
Population Statistics				processors and the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of the contract of	
ovi S coitelinad	C			Most recent point outside of the 3-sigma values.	ОК
ביים ביים ביים ביים ביים ביים ביים ביים	כ מ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4710	CPM/DPM	0.4694	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0029			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4797	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4623	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

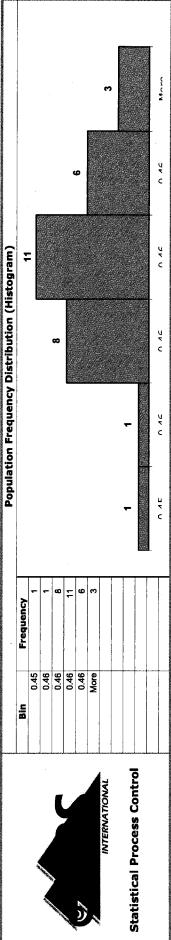




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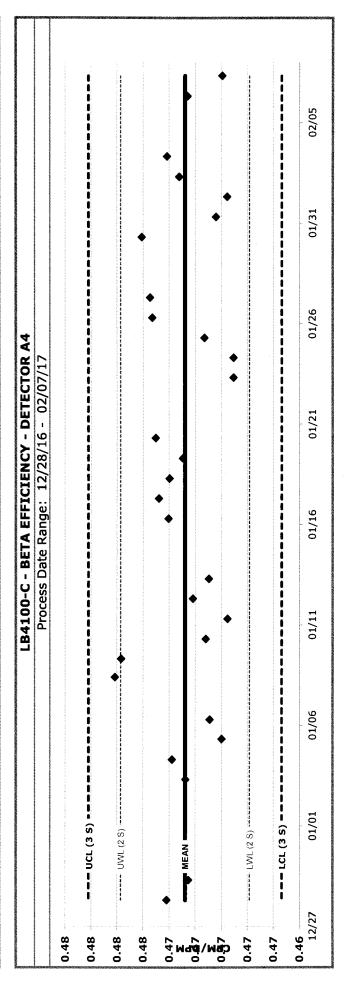
Population Statistics	anti-characteriteriteriteriteriteriteriteriteriteri			Trending Analysis	
O acite	CC			Most recent point outside of the 3-sigma values.	OK
ביי וויים ביים ליים ביים ב	כ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	λO
Average	0.4607	CPM/DPM	0.4587	2 of 3 most recent points above 2 sigma.	ΟK
Standard Deviation	0.0027			4 of 5 most recents points beyond the 1-sigma.	ΟK
+ 3-sigma value	0.4687	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4527	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	OK

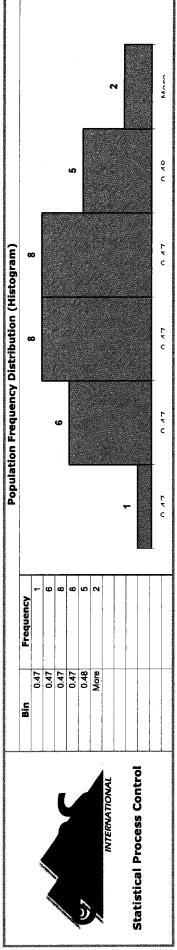




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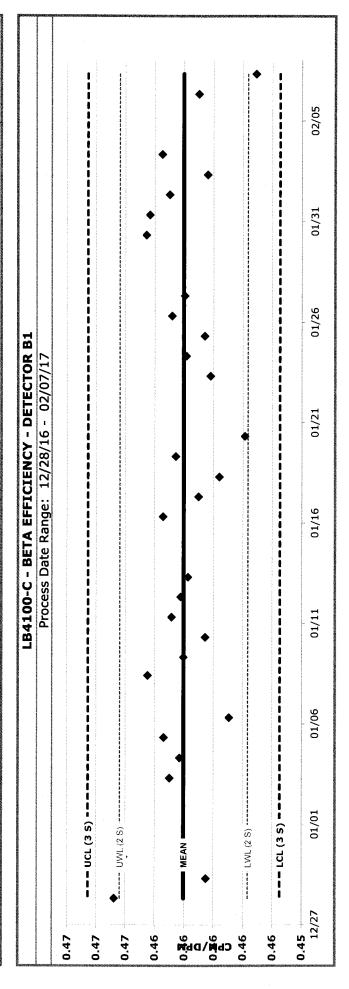
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drin coite	00			Most recent point outside of the 3-sigma values.	ОК
Population Size	<b>)</b>	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4728	СРМ/DРМ	0.4699	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0025			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4802	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4654	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

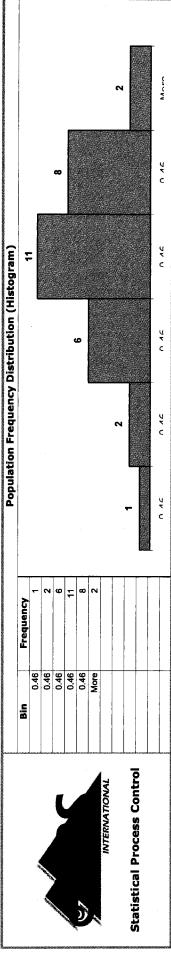




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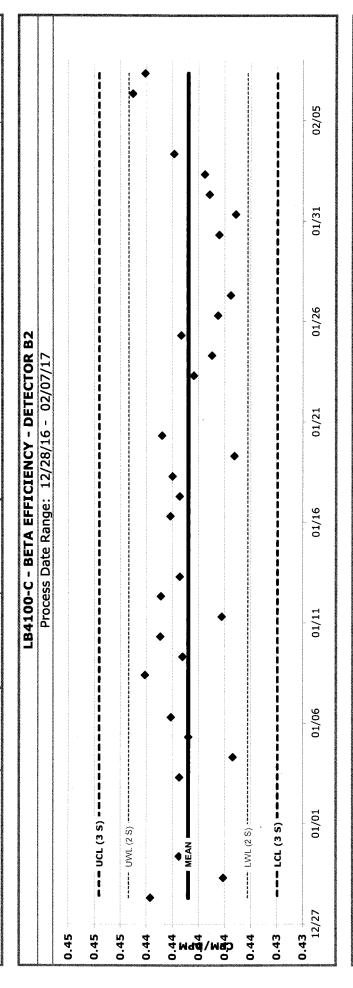
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Donatelian Size	06			Most recent point outside of the 3-sigma values.	OK OK
03.0 -	כס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4620	CPM/DPM	0.4571	2 of 3 most recent points above 2 sigma.	οK
Standard Deviation	0.0022			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.4686	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4555	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

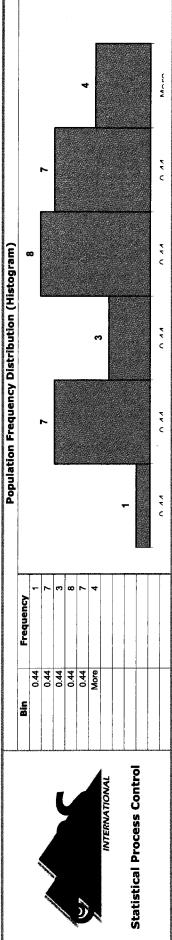




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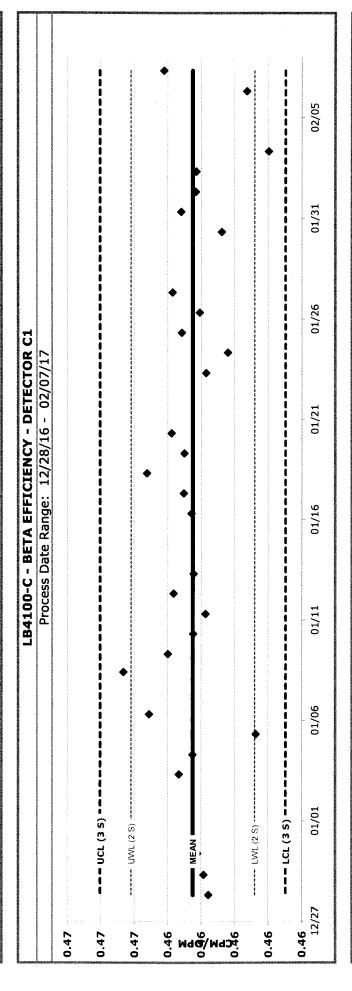
Population Statistics				Trending Analysis	
CLID COSTALLINGO	00			Most recent point outside of the 3-sigma values.	OK
רטשומנוטן אוני	) )	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4408	CPM/DPM	0.4441	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0023			4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.4476	Date		7 trending most recent points in a row.	οK
- 3-sigma value	0.4339	CPM		15 most recent points inside 1 sigma.	OK
		Count Mins	-	8 most recent points outside 1 sigma.	OK

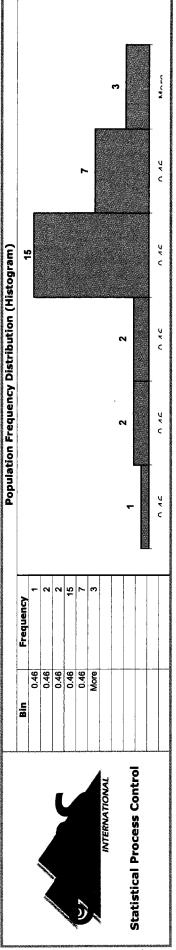




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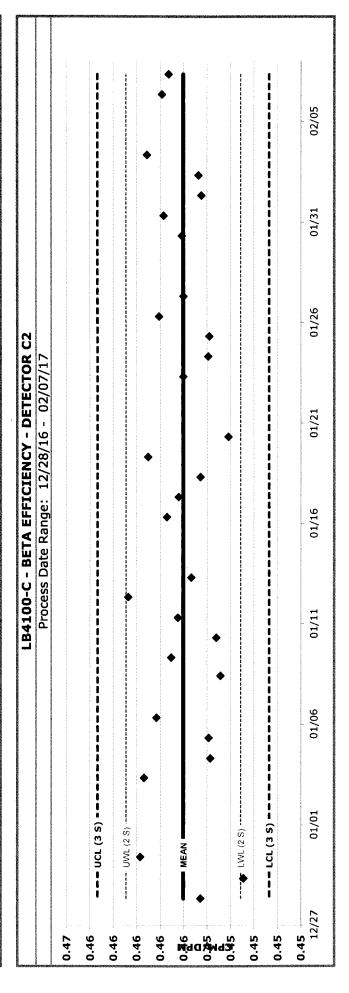
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Ocid acitalisado				Most recent point outside of the 3-sigma values.	ОК
אזוכ ויטיפושלטר	) )	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4625	СРМ/DРМ	0.4642	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0018			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4680	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4570	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

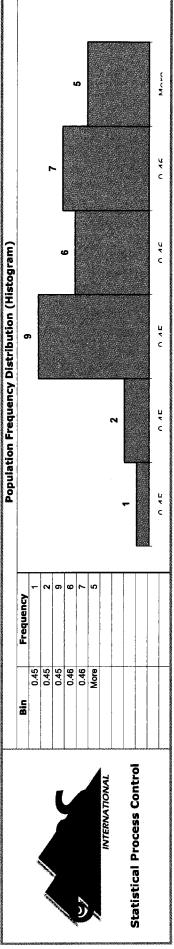




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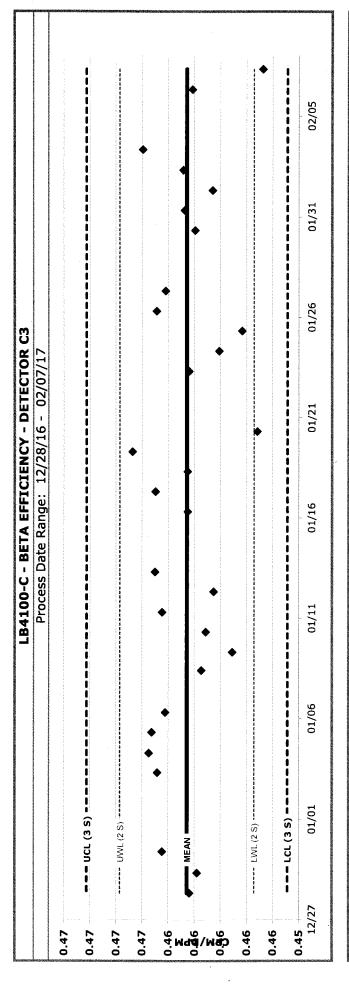
Population Statistics	MOSCUPACIONISTE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SENSE SE		CHITATH AND AND AND AND AND AND AND AND AND AND	Trending Analysis	
Ovint Charles	96			Most recent point outside of the 3-sigma values.	ОК
אלוכ ווסיפוטלטר	ם ס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.4560	CPM/DPM	0.4573	2 of 3 most recent points above 2 sigma.	ΟĶ
Standard Deviation	0.0024			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4634	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4487	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

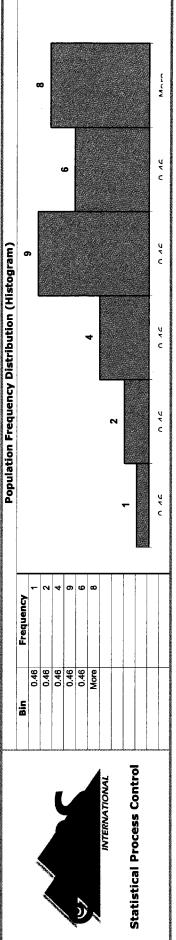




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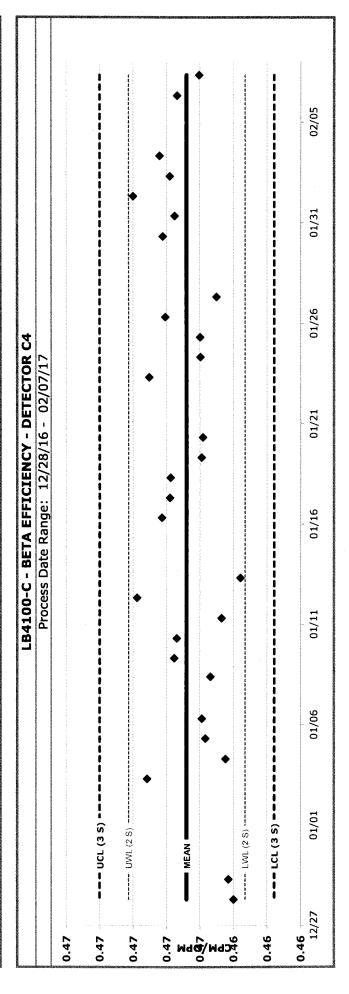
Population Statistics	_			Trending Analysis	
Docite Linea	<b>C</b> C			Most recent point outside of the 3-sigma values.	ОĶ
רטטיים בייניים	כ	Date	02/07/17	8 consecutive most recent points on one side of the mean.	οĶ
Average	0.4626	CPM/DPM	0.4567	2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0026			4 of 5 most recents points beyond the 1-sigma.	ΟK
+ 3-sigma value	0.4703	Date		7 trending most recent points in a row.	OK
- 3-sigma value	0.4549	СРМ		15 most recent points inside 1 sigma.	OK
		Count Mins		8 most recent points outside 1 sigma.	OK

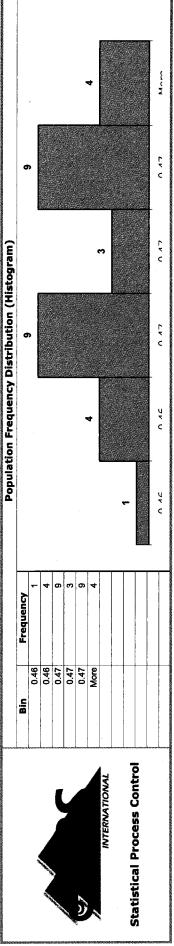




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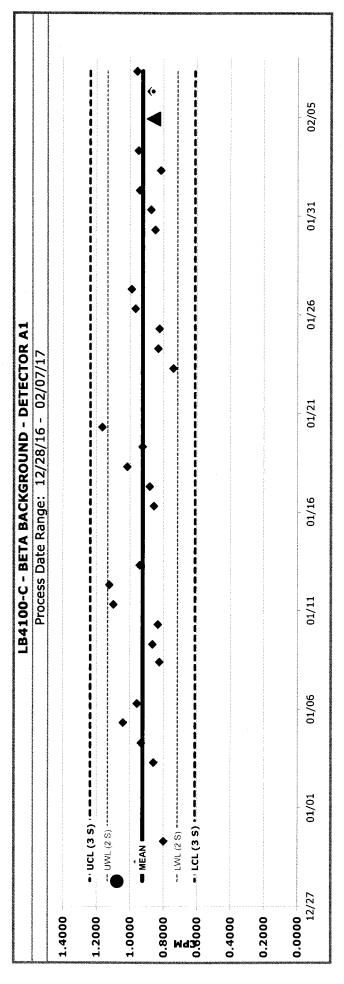
Population Statistics	S		anoctocococa (acomposanoca acococaca se se se se se se se se se se se se se	Trending Analysis	
OUT COLOR	00			Most recent point outside of the 3-sigma values.	ОК
ביים ביים ביים ביים ביים ביים ביים ביים	כ ס	Date	02/07/17	8 consecutive most recent points on one side of the mean.	OK
Average	0.4668	СРМ/ДРМ	0.4661	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0017			4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.4720	Date		7 trending most recent points in a row.	ОК
- 3-sigma value	0.4616	СРМ		15 most recent points inside 1 sigma.	ОК
		Count Mins		8 most recent points outside 1 sigma.	ОК

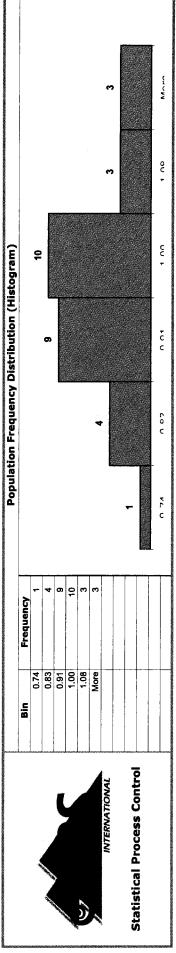




## LB4100-C - Beta Daily BKG Check

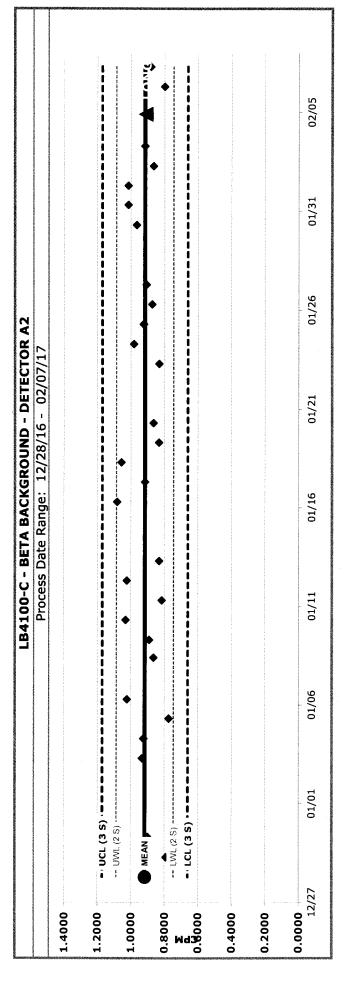
Population Statistics		DER Analysis	OK	nonementaliseren en en en en en en en en en en en en e	
C ori2 noiteliand	0	DER	1.0399	Most recent point outside of the 3-sigma values.	OK
	Ŋ	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	OK
Average 0.9	0.9250	Long B CPM	0.8600	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.1	0.1044	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value   1.2	1.2382	Date	02/07/17	7 trending most recent points in a row.	OK
- 3-sigma value 0.6	0.6118	CPM	0.9583	15 most recent points inside 1 sigma.	OK
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

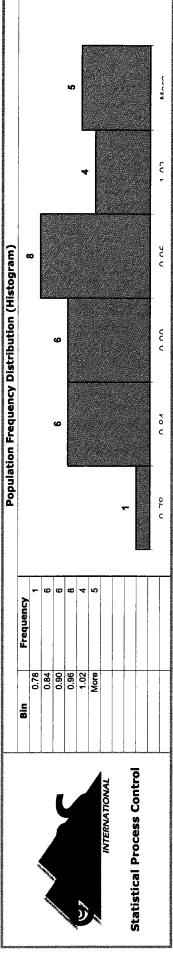




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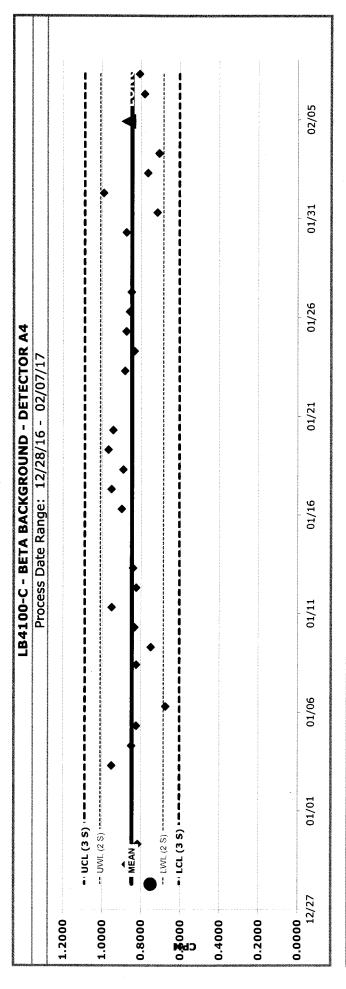
Population Statistics		DER Analysis	OK	processes and the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the con	their percent mentions and the recommendation to the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of th
Ovi Sacitation City	7	DER	0.3036	Most recent point outside of the 3-sigma values.	OK
· ·	ת ע	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	OK
Average 0	0.9172	Long B CPM	0.9111	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0	0.0851	Count Mins	900.000	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value 1.	1.1724	Date	02/07/17	7 trending most recent points in a row.	ОК
- 3-sigma value 0	0.6620	СРМ	0.8833	15 most recent points inside 1 sigma.	ОК
	indeki calo	Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

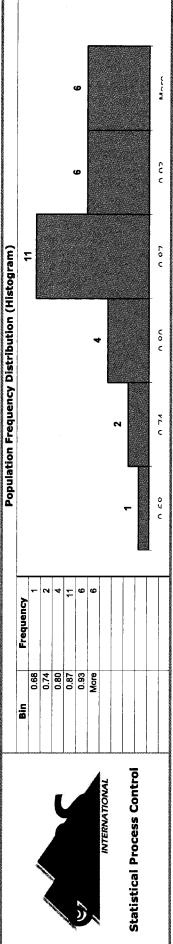




# LB4100-C - Beta Daily BKG Check

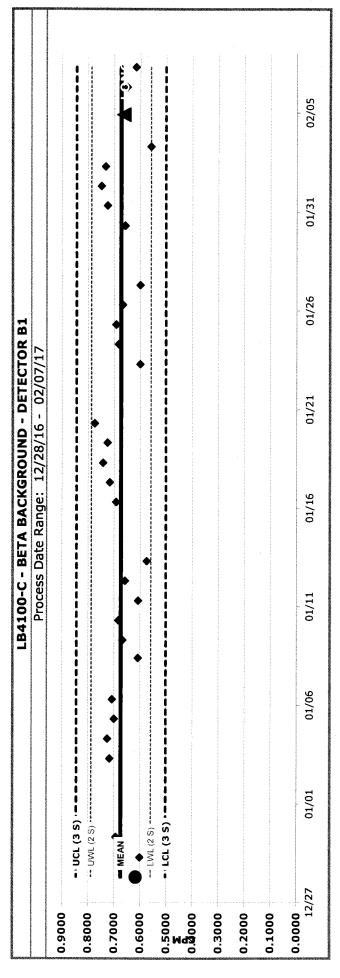
Population Statistics	DER Analysis	OK	noiseacestementementementementementementementem	
Domination Give	DER	0.6396	Most recent point outside of the 3-sigma values.	OK
	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	X
Average 0.8468	Long B CPM	0.8644	2 of 3 most recent points above 2 sigma.	X
Standard Deviation 0.0807	Count Mins	00.006	4 of 5 most recents points beyond the 1-sigma.	X
+ 3-sigma value 1.0891	Date	02/07/17	7 trending most recent points in a row.	X
- 3-sigma value 0.6046	СРМ	0.8083	15 most recent points inside 1 sigma.	λ
	Count Mins	120.00	8 most recent points outside 1 sigma.	X

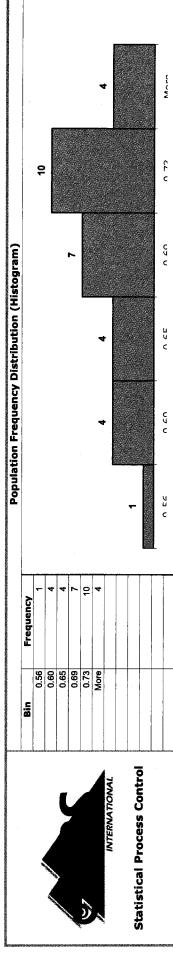




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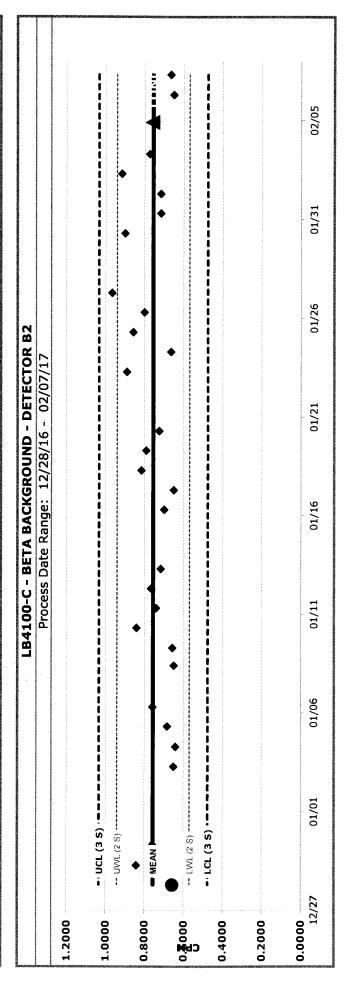
managementaries en en en en en en en en en en en en en	DED ASSIST	70	Tebriler Are Ive	
	DEN Allalysis			
	DER	0.6088	Most recent point outside of the 3-sigma values.	OK
1 U	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
0.6733	Long B CPM	0.6633	2 of 3 most recent points above 2 sigma.	ОК
0.0571	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	ОК
0.8445	Date	02/07/17	7 trending most recent points in a row.	OK
0.5021	CPM	0.6167	15 most recent points inside 1 sigma.	ОК
	. Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

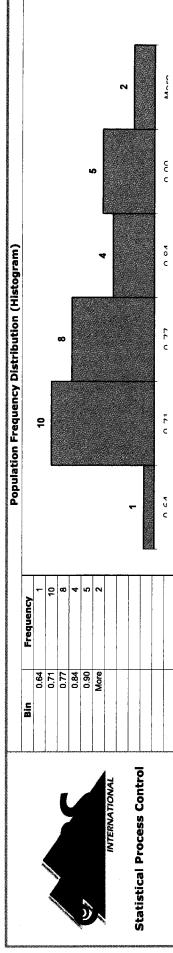




## LB4100-C - Beta Daily BKG Check

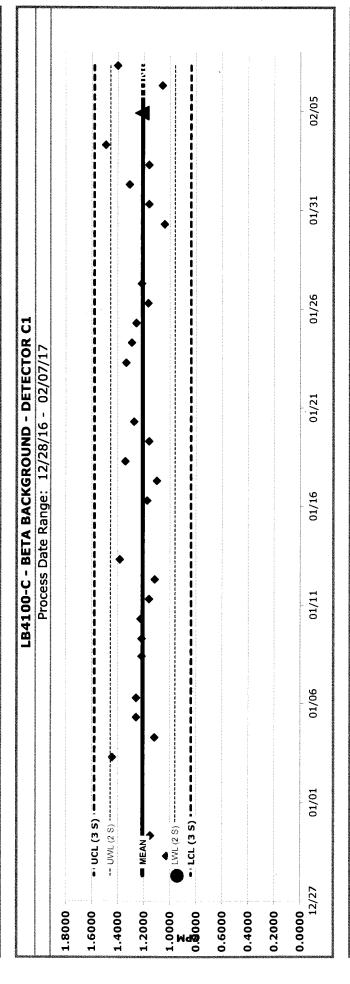
FORMATO INCOME SACURATION OF THE PROPERTY.							
	o K	Q	ŏ	Ş	Ş	ŏ	OK
Trending Analysis	Most recent point outside of the 3-sigma values.	8 consecutive most recent points on one side of the mean.	2 of 3 most recent points above 2 sigma.	4 of 5 most recents points beyond the 1-sigma.	7 trending most recent points in a row.	15 most recent points inside 1 sigma.	8 most recent points outside 1 sigma.
) YO	1.1529	02/04/17	0.7589	900.006	02/07/17	0.6667	120.00
DER Analysis	DER	Long B Date	Long B CPM	Count Mins	Date	СРМ	Count Mins
	00	א ט	0.7555	0.0928	1.0339	0.4770	
Population Statistics	Population Size	SZIC IIONBIRGO	Average	Standard Deviation	+ 3-sigma value	- 3-sigma value	

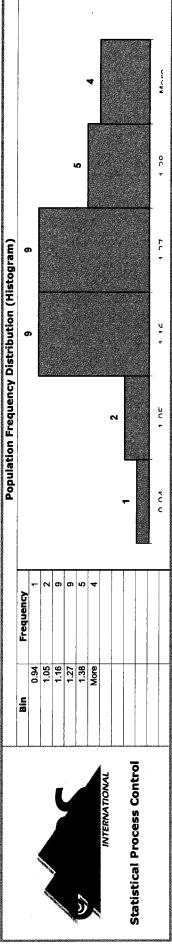




# LB4100-C - Beta Daily BKG Check

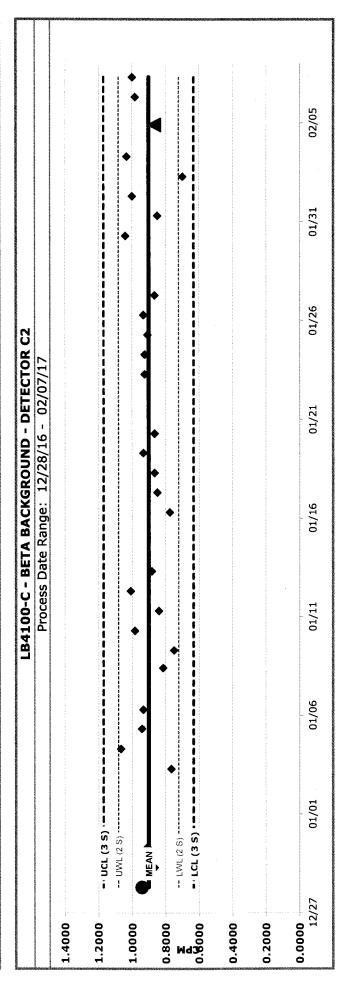
Population Statistics	,	DER Analysis	OK	Trending Analysis	
DODE COLLEGE	6	DER	1.6264	Most recent point outside of the 3-sigma values.	ОК
	ת ו	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average	1.2083	Long B CPM	1.2144	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.1236	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.5792	Date	02/07/17	7 trending most recent points in a row.	ОК
- 3-sigma value	0.8375	CPM	1.4000	15 most recent points inside 1 sigma.	ОК
	- <b> </b>	Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

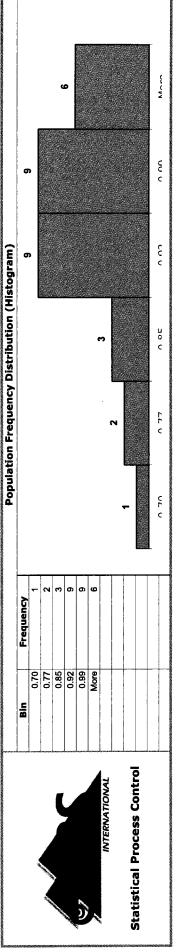




## LB4100-C - Beta Daily BKG Check

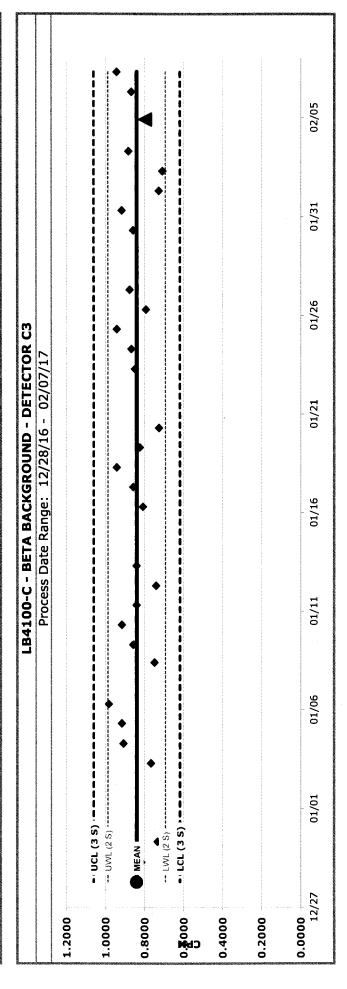
Population Statistics		DER Analysis	OK	Trending Analysis	
C. D. C. H. C. L. C. C.	G	DER	1.3596	Most recent point outside of the 3-sigma values.	ΟĶ
	ת ת	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average 0.9	0.9023	Long B CPM	0.8689	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation 0.0	0.0897	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value 1.1	1.1714	Date	02/07/17	7 trending most recent points in a row.	ОК
- 3-sigma value 0.6	0.6332	СРМ	1.0000	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	ОК

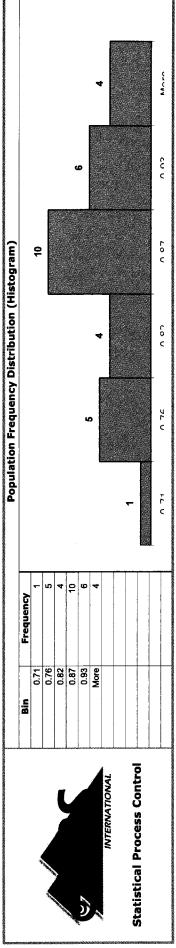




## LB4100-C - Beta Daily BKG Check

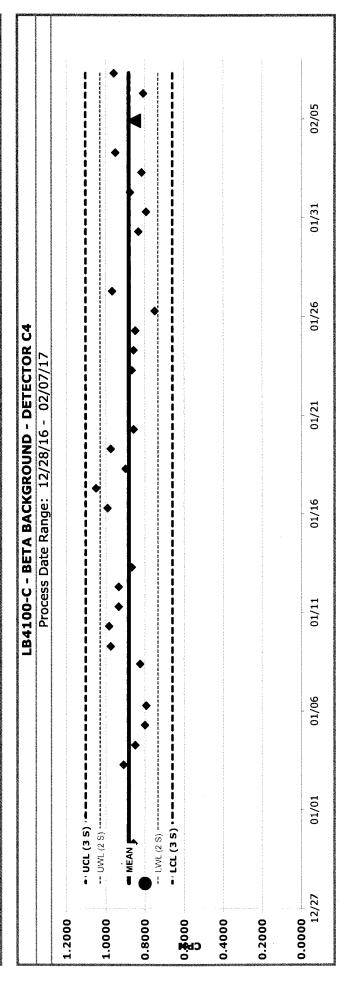
Population Statistics		DER Analysis	OK	Trending Analysis	
ori3 noitelineo0	0	DER	1.5517	Most recent point outside of the 3-sigma values.	×
	ן ע	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	×
Average 0.	0.8399	Long B CPM	0.7967	2 of 3 most recent points above 2 sigma.	X
Standard Deviation 0.	0.0736	Count Mins	900.006	4 of 5 most recents points beyond the 1-sigma.	Υc
+ 3-sigma value 1.	0607	Date	02/07/17	7 trending most recent points in a row.	ΣK
- 3-sigma value 0.	0.6192	СРМ	0.9417	15 most recent points inside 1 sigma.	X
		Count Mins	120.00	8 most recent points outside 1 sigma.	¥

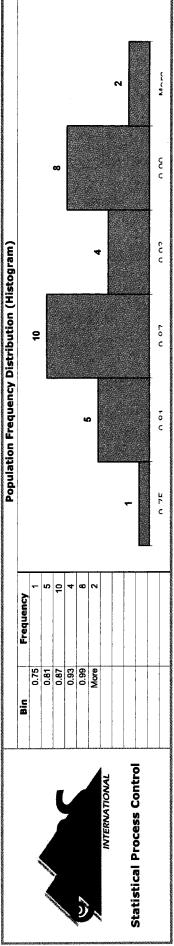




# LB4100-C - Beta Daily BKG Check

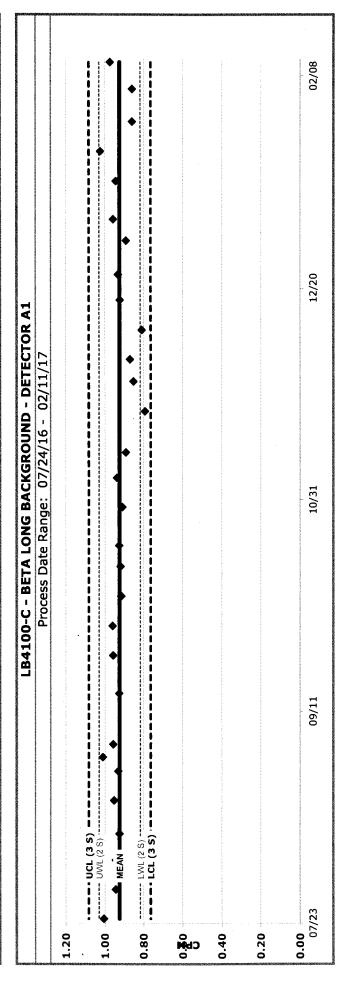
Population Statistics		DER Analysis	OK	nneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenneumenne	
i i i i i i i i i i i i i i i i i i i		DER	1.0872	Most recent point outside of the 3-sigma values.	OK
Population Size	ת ע	Long B Date	02/04/17	8 consecutive most recent points on one side of the mean.	ОК
Average	0.8816	Long B CPM	0.8556	2 of 3 most recent points above 2 sigma.	ΟĶ
Standard Deviation	0.0739	Count Mins	900.00	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	1.1033	Date	02/07/17	7 trending most recent points in a row.	χo
- 3-sigma value	0.6599	CPM	0,9583	15 most recent points inside 1 sigma.	ОК
		Count Mins	120.00	8 most recent points outside 1 sigma.	OK

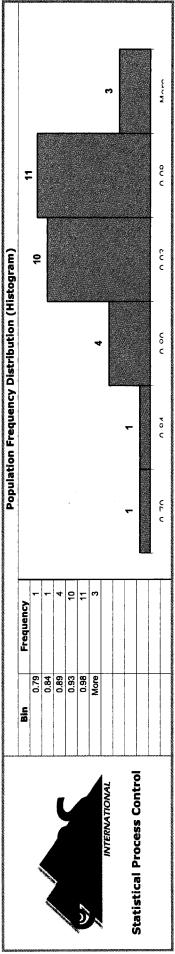




## Instrument Background Analysis

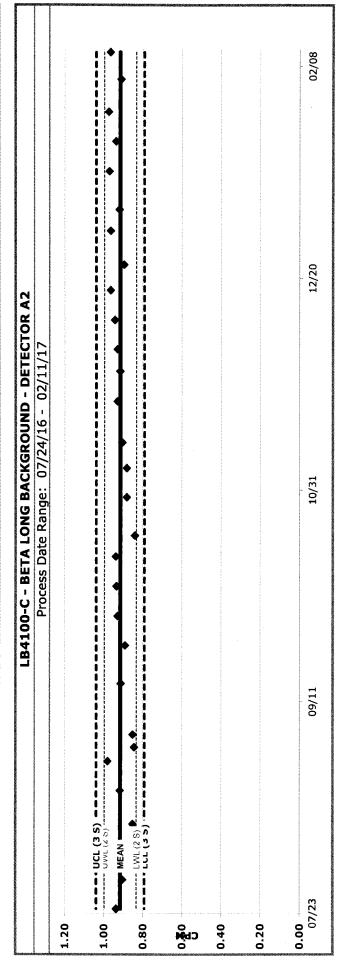
Population Statistics	8		Trending Analysis	
CHICAGO CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CONTRACTOR CON	C	Most recent point outside of the 3-sigma values.		OK
אלוכ ווסשפותסר	) )	8 consecutive most recent points on one side of the mean.	on one side of the mean.	OK
Average	0.9235	2 of 3 most recent points above 2 sigma.		OK
Standard Deviation	0.0529	4 of 5 most recents points beyond the 1-sigma.	l the 1-sigma.	OK
+ 3-sigma value	1.0820	7 trending most recent points in a row.	l row.	ОК
- 3-sigma value	0.7649	15 most recent points inside 1 sigma.		OK
	30.0000	8 most recent points outside 1 sigma.		ОК

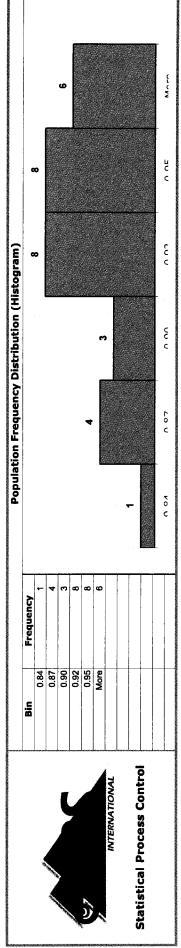




## Instrument Background Analysis

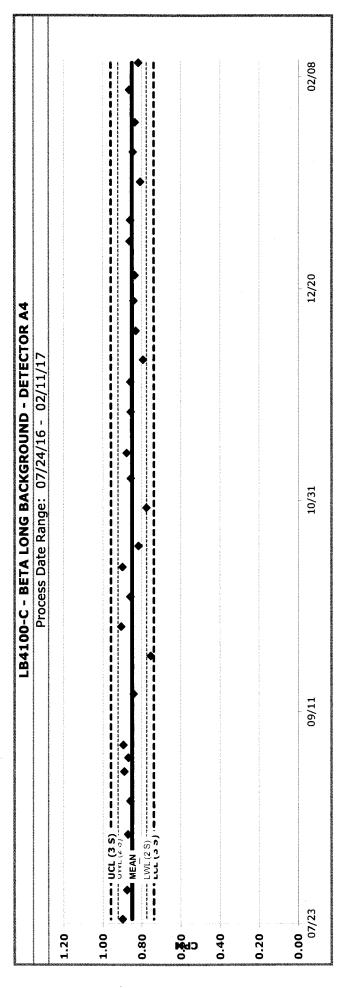
Population Statistics	9		Trending Analysis	
Donielation Size	96		Most recent point outside of the 3-sigma values.	OK
מאונט יוסיויםיטעסר	) )		8 consecutive most recent points on one side of the mean.	OK
Average	0.9153		2 of 3 most recent points above 2 sigma.	OK
Standard Deviation	0.0411	,	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.0387		7 trending most recent points in a row.	ОК
- 3-sigma value	0.7920	-	15 most recent points inside 1 sigma.	OK
	30.000		8 most recent points outside 1 sigma.	OK

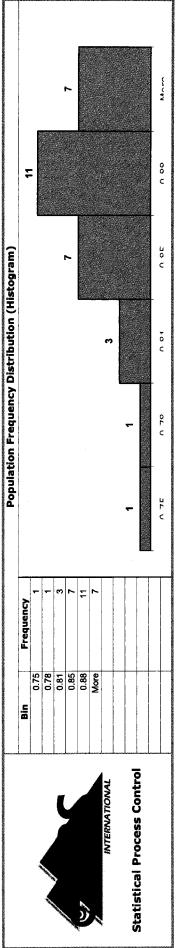




## Instrument Background Analysis

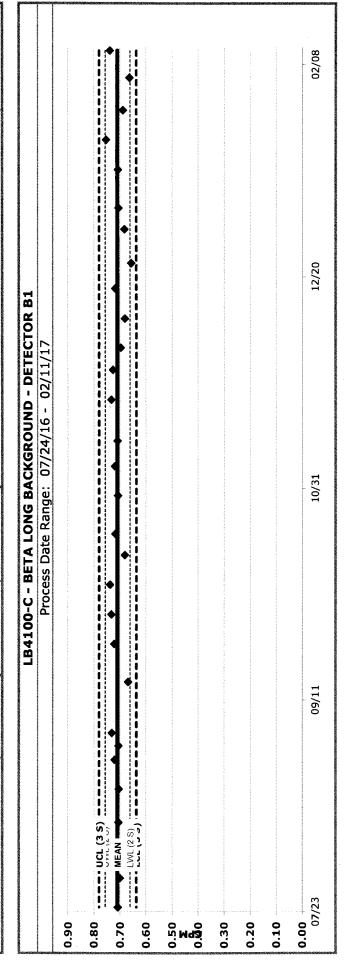
Population Statistics			mental properties and the second properties and the second properties and the second properties and the second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second properties and second	sis	
orio coitchae	C		Most recent point outside of the 3-sigma values.	OK	
Population Size	) )		8 consecutive most recent points on one side of the mean.	nean. OK	
Average	0.8487	-	2 of 3 most recent points above 2 sigma.	OK	
Standard Deviation	0.0367		4 of 5 most recents points beyond the 1-sigma.	OK	
+ 3-sigma value	0.9587		7 trending most recent points in a row.	OK	
- 3-sigma value	0.7387		15 most recent points inside 1 sigma.	OK	
	30.0000		8 most recent points outside 1 sigma.	) OK	

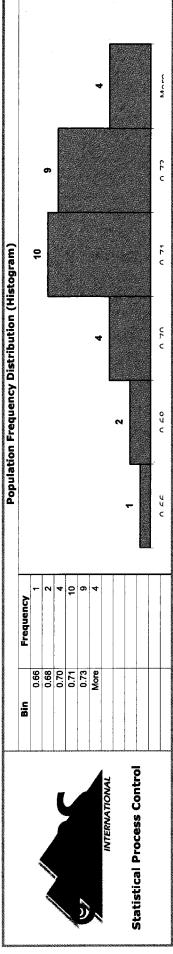




### Instrument Background Analysis

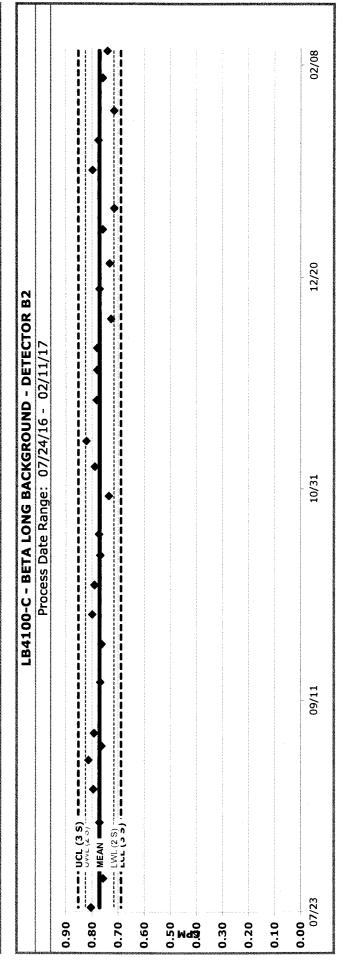
Population Statistics	4	Trending Analysis	
OLIO ROSTALITAROS	00	Most recent point outside of the 3-sigma values.	ОК
	<b>)</b>	8 consecutive most recent points on one side of the mean.	У0
Average	0.7089	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0238	4 of 5 most recents points beyond the 1-sigma.	χo
+ 3-sigma value	0.7804	7 trending most recent points in a row.	ОК
- 3-sigma value	0.6374	15 most recent points inside 1 sigma.	ОК
	30.0000	8 most recent points outside 1 sigma.	οκ

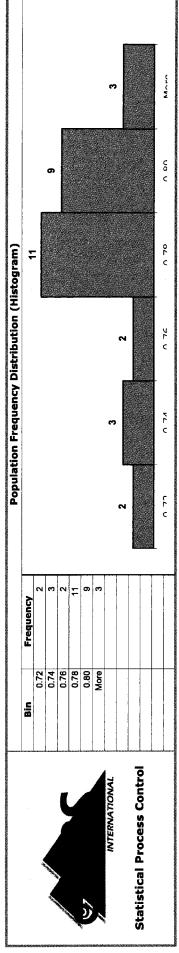




## Instrument Background Analysis

Population Statistics	5	Trending Analysis	
Ci3 soitelingo	<b>C</b> C	Most recent point outside of the 3-sigma values.	ОК
	3	8 consecutive most recent points on one side of the mean.	ОК
Average	0.7708	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0273	4 of 5 most recents points beyond the 1-sigma.	ОК
+ 3-sigma value	0.8526	7 trending most recent points in a row.	ОК
- 3-sigma value	6889.0	15 most recent points inside 1 sigma.	ОК
	30.000	8 most recent points outside 1 sigma.	ОК

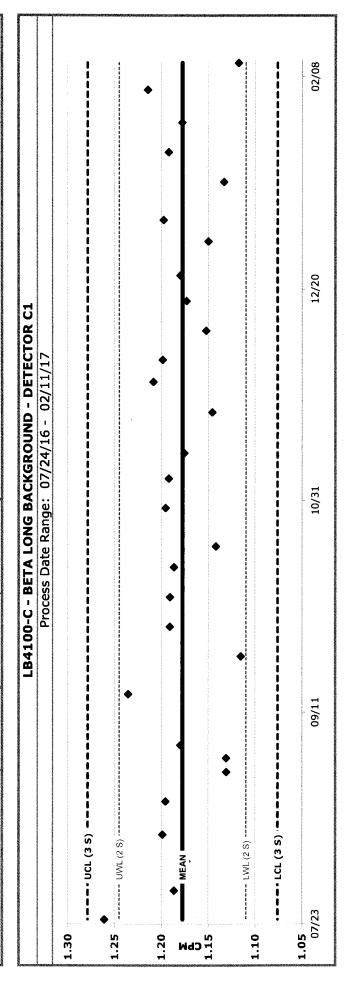


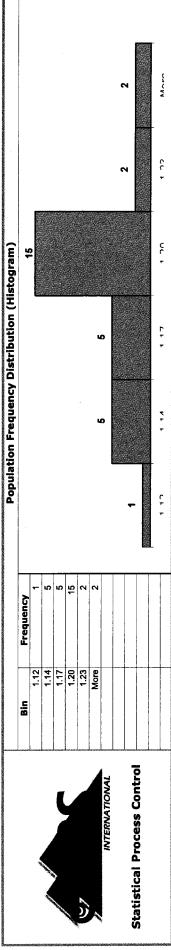


## Instrument Background Analysis

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Population Statistics		Trending Analysis	
Orio Coitching Co	7 06	Most recent point outside of the 3-sigma values.	OK
אלוכ ויטיים אלוכיים אליים אלוכים אלוכים אלוכים אלוכים אלוכיים אלוכיים אלוכיים אלוכיים	) 1	8 consecutive most recent points on one side of the mean.	ОК
Average	1,1775	2 of 3 most recent points above 2 sigma.	Š
Standard Deviation	0.0337	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.2788	7 trending most recent points in a row.	OK
- 3-sigma value	1.0763	15 most recent points inside 1 sigma.	OK
	30.0000	8 most recent points outside 1 sigma.	OK OK

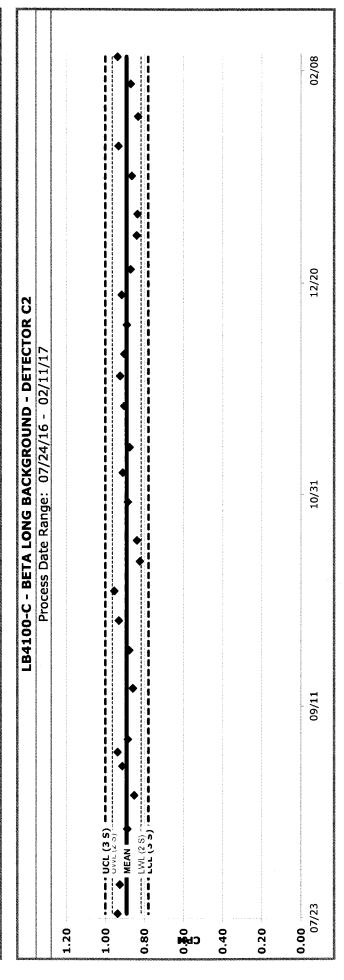


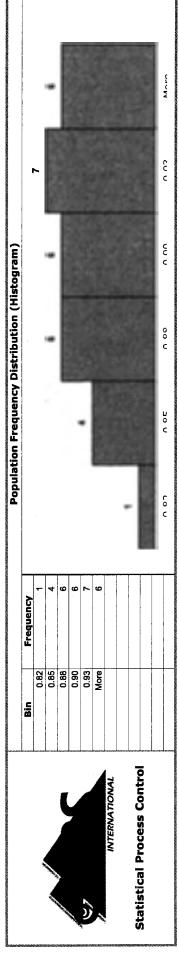


## Instrument Background Analysis

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Population Statistics			Trending Analysis	
CLID COLLEGE		Mo	Most recent point outside of the 3-sigma values.	OK
סטנים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים בייסטים	5	08	8 consecutive most recent points on one side of the mean.	ΑO
Average	0.8899	20	2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0368	40	4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	1.0002	7 t	7 trending most recent points in a row.	ОК
- 3-sigma value	0.7796	15	15 most recent points inside 1 sigma.	ОК
	30.0000		8 most recent points outside 1 sigma.	OK

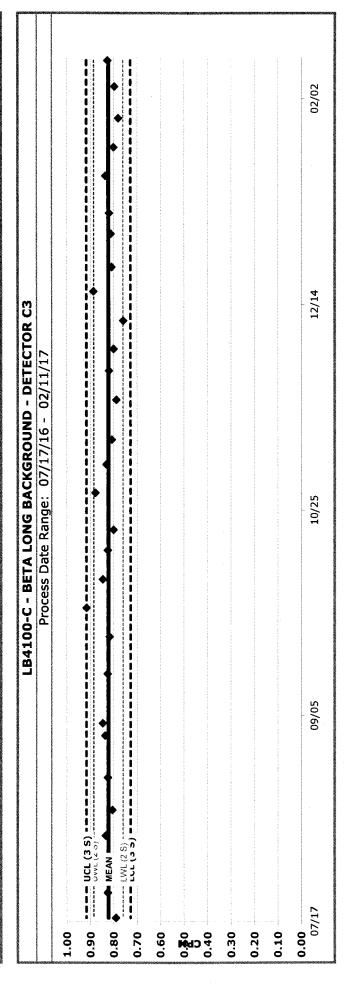


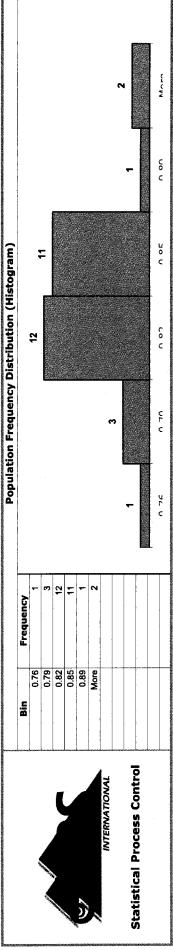


## Instrument Background Analysis

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Population Statistics			nationers restriction control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control control	
			Most recent point outside of the 3-sigma values.	ОК
	<u> </u>		8 consecutive most recent points on one side of the mean.	OK
Average	0.8228		2 of 3 most recent points above 2 sigma.	χo
Standard Deviation (	0.0314		4 of 5 most recents points beyond the 1-sigma.	OK
+ 3-sigma value	0.9170		7 trending most recent points in a row.	OK
- 3-sigma value	0.7287		15 most recent points inside 1 sigma.	ОК
E	30.0000		8 most recent points outside 1 sigma.	OK

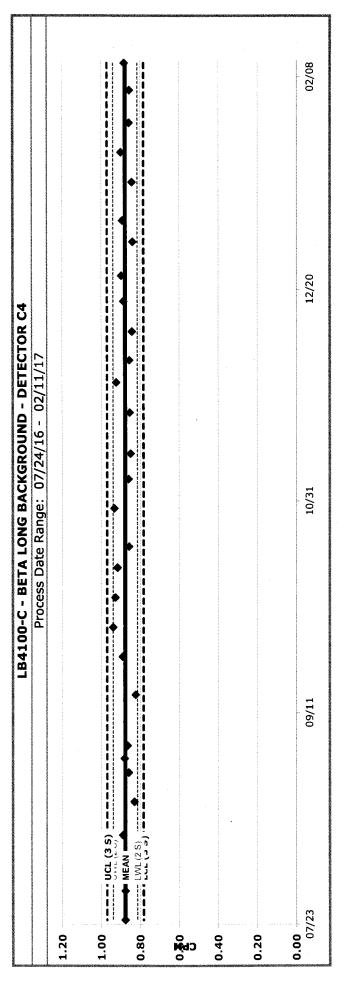


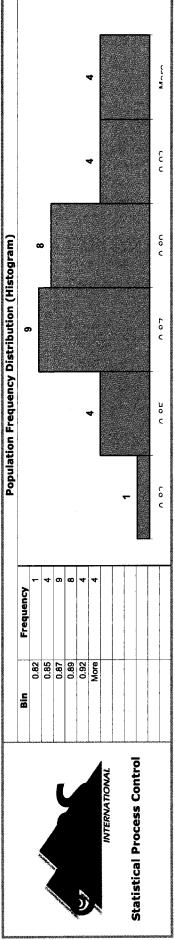


## Instrument Background Analysis

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Population Statistics	5		**************************************	ACCOMMENDATION PROTECTION CONTINUES OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PRO
	C	***************************************	. Most recent point outside of the 3-sigma values.	ОК
Population Size	)		8 consecutive most recent points on one side of the mean.	QK
Average	0.8761		2 of 3 most recent points above 2 sigma.	ОК
Standard Deviation	0.0310		4 of 5 most recents points beyond the 1-sigma.	Ϋ́O
+ 3-sigma value	0.9692		7 trending most recent points in a row.	ÀO
- 3-sigma value	0.7831		15 most recent points inside 1 sigma.	ОК
	30.000		8 most recent points outside 1 sigma.	ΟX





Tennelec LB41-PF4 Low Background α/β Counter

(Instrument C)

Date	Time	ARS Batch Number	Batch	Type of	GEN	Detector	Analyst Initials
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**Revision Date: 031115** 

Reviewed Date 2-7/-/7



2609 North River Road, Port Allen, Louisiana 70767 1 (800) 401-4277 FAX (225) 381-2996

#### Volatile Organics Analysis

SW 846 8260B

SDG# ARS1-17-00215 COC AQUEOUS SAMPLES

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01 - LCS	Trichloroethene			70000000	01/26/17 18:25	51.410	1.0	51.410	No time	0.300	1.000	20.000	102.8%	
02 - LCSD	Trichloroethene	Withington Table Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service (1995) And Service 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	Bromofluorobenzene (Surr)			ARS1-17-00215-002	01/26/17 19:39	52.570	1.0	52.570		N/A	N/A	50.000	105.1%	West of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco
	Dibromofluoromethane (Surr)			ARS1-17-00215-002	01/26/17 19:39	40.650	1.0	40.650		N/A	N/A	50.000	81.3%	CANCINO OF PROPERTY PARTY.
	Toluene-d8 (Surr)			ARS1-17-00215-002	01/26/17 19:39	54.640	1.0	54.640	1	N/A	N/A	50.000	109.3%	Pot to the section with the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section of the section
06 - TRG	Trichloroethene			ARS1-17-00215-003	01/26/17 20:03	0.000	1.0	0.000	n	0.300	1.000	0.000		900000000000000000000000000000000000000
	1,2-Dichloroethane-d4 (Surr)			ARS1-17-00215-003	01/26/17 20:03	53.830	1.0	53.830	Control Control	N/A	N/A	50.000	107.7%	NATIONAL CONTRACTOR OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PERSON OF THE PER
	Bromofluorobenzene (Surr)	PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF TH		ARS1-17-00215-003	01/26/17 20:03	52.730	1.0	52.730	No.	N/A	N/A	50.000	105.5%	77-983069374 X X X X 46606
	Dibromofluoromethane (Surr)			ARS1-17-00215-003	01/26/17 20:03	41.780	1.0	41.780		N/A	N/A	20.000	83.6%	0.74 to 11 APAGGA NO CONTROL
	Toluene-d8 (Surr)			ARS1-17-00215-003	01/26/17 20:03	55.170	1.0	55.170	100	N/A	N/A	50.000	110.3%	entitled as between this best

#### Volatile Internal Standard Area and RT Summary

Lab Name:

Contract:

File Name (Std):

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 ccv6 ars16-122007.raw

Sample ID:

01-26-17 ccv6 ars16-122007 01-26-17 ccv6 ars16-122007

Description: Inject Date/Time:

January 27, 2017 7:53:57 AM

Vial: Tune File:

36

Instrument:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Quantify Method:

8260b water 01-26-2017 B17-00152 Last Updated:

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

February 02, 2017 12:58:57 PM January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS ID: 250 um

Heated Purge:

		IS1 ()		IS2 (CBZ)		IS3 ()	
		Area	RT	Area	RT	Area	RT
	12 HOUR STD	1507867	4.10	1298681	7.37	753166	9.86
	UPPER LIMIT	3015734	4.60	2597361	7.87	1506331	10.36
	LOWER LIMIT	753933	3.60	649340	6.87	376583	9.36
	File Name	Area #	RT #	Area #	RT #	Area #	RT #
1	01-26-17 B17- 00152 ccv ars16- 122001	2277814	4.10	1757654	7.37	966856	9.86
2	01-26-17 B17- 00152 LCS ars16- 122001	2061660	4.11	1625488	7.37	898981	9.86
3	01-26-17 B17- 00152 LCSD ars16- 122001	2016164	4.11	1587090	7.38	888041	9.87
4	01-26-17 B17- 00152 (001)	2041166	4.11	1563942	7.37	847077	9.86
5	01-26-17 B17- 00152 (002)	1998331	4.11	1535095	7.38	823292	9.87
6	01-26-17 B17- 00152 (003)	2051715	4.11	1562256	7.37	829630	9.86
7	01-26-17 B17- 00152 iblk2	1968884	4.11	1504561	7.37	820649	9.86
8	01-26-17 B17- 00152 ccv2 ars-16- 122001	1910416	4.11	1497453	7.37	848023	9.86

IS1 () = Fluorobenzene IS2 (CBZ) = Chlorobenzene-d5 IS3 = 1,4-Dichlorobenzene-D4

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 values outside QC limits with an asterisk

^{*} Values outside QC limits

#### **Volatile Organic Instrument Performance Check**

#### Bromofluorobenzene (BFB)

Lab Name:

Contract:

File Name:

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 B17-00152 iblk1.raw

Sample ID:

01-26-17 B17-00152 iblk1

Description:

01-26-17 B17-00152 iblk1

Inject Date/Time:

January 26, 2017 6:01:21 PM

Instrument:

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

GC Column:

Elite-VMS ID: 250 um

Scans:

COMBINE(1671:1674)-(1655:1661,1695:1699)

Test Name:

BFB 624/8260 TEST

Result:

**PASS** 

m/z	Ion Abundance Criteria	% Relative Abundance	Result
50	15% - 40% of mass 95	18.7	Pass
75	30% - 60% of mass 95	45.6	Pass
95	Base Peak, 100% relative abundance	100.0	Pass
96	5% - 9% of mass 95	6.7	Pass
173	Less than 2% of mass 174	0.7	Pass
174	Greater than 50% of mass 95	64.6	Pass
175	5% - 9% of mass 174	7.6	Pass
176	Greater than 95% but less than 101% of 174	96.9	Pass
177	5% - 9% of mass 176	6.5	Pass

This check applies to the following samples, MS, MSD, blanks and standards:

	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	01-26-17 B17-00152 ccv ars16-122001	01-26-17 B17-00152 ccv ars16-122001	January 26, 2017	05:36:51 PM
2	ARS1-B17-00152-02	01-26-17 B17-00152 LCS ars16-122001	January 26, 2017	06:25:47 PM
3	ARS1-B17-00152-03	01-26-17 B17-00152 LCSD ars16-122001	January 26, 2017	06:50:17 PM
4	ARS1-B17-00152-04	01-26-17 B17-00152 (001)	January 26, 2017	07:14:47 PM
5	ARS1-B17-00152-05	01-26-17 B17-00152 (002)	January 26, 2017	07:39:16 PM
6	ARS1-B17-00152-06	01-26-17 B17-00152 (003)	January 26, 2017	08:03:47 PM
7	01-26-17 B17-00152 iblk2	01-26-17 B17-00152 iblk2	January 26, 2017	08:28:18 PM
8	01-26-17 B17-00152 ccv2 ars16-122001	01-26-17 B17-00152 ccv2 ars-16-122001	January 26, 2017	08:52:43 PM
9	01-26-17 ccv6 ars16-122007	01-26-17 ccv6 ars16-122007	January 27, 2017	07:53:57 AM

#### Schedule "8260 water 01-26-17 B17-00152, MDLs, new std cal" version 1

Instrument: PE CLARUS GCMS

Last Save Time: Thursday, January 26, 2017 at 5:19:26 PM Creation Time: Thursday, January 26, 2017 at 5:19:26 PM

Comments: None

Line	Use?	Vial	Method	Type	STD 1	STD 2	STD 3	Dilution
1	Yes	1	8260 Water hi heat	Water	5	0	0	1:1
2	Yes	2	8260 Water hi heat	Water	5	0	0	1:1
3	Yes	3	8260 Water hi heat	Water	5	0	0	1:1
4	Yes	4	8260 Water hi heat	Water	5	0	0	1:1
5	Yes	5	8260 Water hi heat	Water	5	0	0	1:1
6	Yes	6	8260 Water hi heat	Water	5	0	0	1:1
7	Yes	7	8260 Water hi heat	Water	5	0	0	1:1
8	Yes	8	8260 Water hi heat	Water	5	0	0	1:1
9	Yes	9	8260 Water hi heat	Water	5	0	0	1:1
10	Yes	10	8260 Water hi heat	Water	5	0	0	1:1
11	Yes	11	8260 Water hi heat	Water	5	0	0	1:1
12	Yes	12	8260 Water hi heat	Water	5	0	0	1:1
13	Yes	13	8260 Water hi heat	Water	5	0	0	1:1
14	Yes	14	8260 Water hi heat	Water	5	0	0	1:1
15	Yes	15	8260 Water hi heat	Water	5	0	0	1:1
16	Yes	16	8260 Water hi heat	Water	5	0	0	1:1
17	Yes	17	8260 Water hi heat	Water	5	0	0	1:1
18	Yes	18	8260 Water hi heat	Water	5	0	0	1:1
19	Yes	19	8260 Water hi heat	Water	5	0	0	1:1
20	Yes	20	8260 Water hi heat	Water	5	0	0	1:1
21	Yes	21	8260 Water hi heat	Water	5	0	0	1:1
22	Yes	22	8260 Water hi heat	Water	5	0	0	1:1
23	Yes	23	8260 Water hi heat	Water	5	0	0	1:1
24	Yes	24	8260 Water hi heat	Water	5	0	0	1:1
25	Yes	25	8260 Water hi heat	Water	5	0	0	1:1
26	Yes	26	8260 Water hi heat	Water	5	0	0	1:1
27	Yes	27	8260 Water hi heat	Water	5	0	0	1:1
28	Yes	28	8260 Water hi heat	Water	5	0	0	1:1
29	Yes	29	8260 Water hi heat	Water	5	0	0	1:1
30	Yes	30	8260 Water hi heat	Water	5	0	0	1:1
31	Yes	31	8260 Water hi heat	Water	5	0	0	1:1
32	Yes	32	8260 Water hi heat	Water	5	0	0	1:1
33	Yes	33	8260 Water hi heat	Water	5	0	0	1:1
34	Yes	34	8260 Water hi heat	Water	5	0	0	1:1
35	Yes	35	8260 Water hi heat	Water	5	0	0	1:1
36	Yes	36	8260 Water hi heat	Water	5	0	0	1:1

about:blank ₁₉₄ 1/27/2017

#### Volatile Internal Standard Area and RT Summary

Lab Name:

Contract:

File Name (Std):

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 ccv6 ars16-122007.raw

Sample ID:

01-26-17 ccv6 ars16-122007

Description: Inject Date/Time: 01-26-17 ccv6 ars16-122007

January 27, 2017 7:53:57 AM

Vial: 36

Instrument:

Tune File:

010317.IPR

GC Method: Quantify Method: 8260.mth

MS Method:

8260.EXP

Calibration File:

8260b water 01-26-2017 B17-00152 Last Updated: 8260B water IC 01-24-17cal2

February 02, 2017 12:58:57 PM

Last Updated:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS ID: 250 um

Heated Purge:

		IS1 ()		IS2 (CBZ)		IS3 ()	
		Area	RT	Area	RT	Area	RT
	12 HOUR STD	1507867	4.10	1298681	7.37	753166	9.86
	UPPER LIMIT	3015734	4.60	2597361	7.87	1506331	10.36
	LOWER LIMIT	753933	3.60	649340	6.87	376583	9.36
	File Name	Area #	RT #	Area #	RT #	Area #	RT #
1	01-26-17 B17- 00152 ccv ars16- 122001	2277814	4.10	1757654	7.37	966856	9.86
2	01-26-17 B17- 00152 LCS ars16- 122001	2061660	4.11	1625488	7.37	898981	9.86
3	01-26-17 B17- 00152 LCSD ars16- 122001	2016164	4.11	1587090	7.38	888041	9.87
4	01-26-17 B17- 00152 (001)	2041166	4.11	1563942	7.37	847077	9.86
5	01-26-17 B17- 00152 (002)	1998331	4.11	1535095	7.38	823292	9.87
6	01-26-17 B17- 00152 (003)	2051715	4.11	1562256	7.37	829630	9.86
7	01-26-17 B17- 00152 iblk2	1968884	4.11	1504561	7.37	820649	9.86
8	01-26-17 B17- 00152 ccv2 ars-16- 122001	1910416	4.11	1497453	7.37	848023	9.86

IS1 = Fluorobenzene () IS2 (CBZ) = Chlorobenzene-d5 IS3 = 1,4-Dichlorobenzene-D4

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 values outside QC limits with an asterisk

^{*} Values outside QC limits

#### **Volatile Organic Instrument Performance Check**

#### Bromofluorobenzene (BFB)

Lab Name:

Contract:

File Name:

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 B17-00152 iblk1.raw

Sample ID:

01-26-17 B17-00152 iblk1

Description:

01-26-17 B17-00152 iblk1

Inject Date/Time:

January 26, 2017 6:01:21 PM

Instrument:

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

GC Column:

Test Name:

Elite-VMS ID: 250 um

Scans:

COMBINE(1671:1674)-(1655:1661,1695:1699) BFB 624/8260 TEST

Result:

**PASS** 

m/z	Ion Abundance Criteria	% Relative Abundance	Result
50	15% - 40% of mass 95	18.7	Pass
75	30% - 60% of mass 95	45.6	Pass
95	Base Peak, 100% relative abundance	100.0	Pass
96	5% - 9% of mass 95	6.7	Pass
173	Less than 2% of mass 174	0.7	Pass
174	Greater than 50% of mass 95	64.6	Pass
175	5% - 9% of mass 174	7.6	Pass
176	Greater than 95% but less than 101% of 174	96.9	Pass
177	5% - 9% of mass 176	6.5	Pass

This check applies to the following samples, MS, MSD, blanks and standards:

	Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed
1	01-26-17 B17-00152 ccv ars16-122001	01-26-17 B17-00152 ccv ars16-122001	January 26, 2017	05:36:51 PM
2	01-26-17 B17-00152 LCS ars16-122001	01-26-17 B17-00152 LCS ars16-122001	January 26, 2017	06:25:47 PM
3	01-26-17 B17-00152 LCSD ars16-122001	01-26-17 B17-00152 LCSD ars16-122001	January 26, 2017	06:50:17 PM
4	01-26-17 B17-00152 (001)	01-26-17 B17-00152 (001)	January 26, 2017	07:14:47 PM
5	01-26-17 B17-00152 (002)	01-26-17 B17-00152 (002)	January 26, 2017	07:39:16 PM
6	01-26-17 B17-00152 (003)	01-26-17 B17-00152 (003)	January 26, 2017	08:03:47 PM
7	01-26-17 B17-00152 iblk2	01-26-17 B17-00152 iblk2	January 26, 2017	08:28:18 PM
8	01-26-17 B17-00152 ccv2 ars16-122001	01-26-17 B17-00152 ccv2 ars-16-122001	January 26, 2017	08:52:43 PM
9	01-26-17 ccv6 ars16-122007	01-26-17 ccv6 ars16-122007	January 27, 2017	07:53:57 AM

#### Water Volatile System Monitoring Compound Recovery

Lab Name:

Contract:

Project Path:

C:\TurboMass\T020117 B1700152.PRO

Instrument:

Tune File:

Last Updated:

010317.IPR

GC Method:

8260.mth MS Method:

8260.EXP

Quantify Method:

8260b water 01-26-2017 B17-00152 Last Updated:

dated: February 01, 2017 1:23:36 PM

Calibration File:

8260B water IC 01-24-17cal2

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS ID: 250 um

		SMC 1	SMC 2	SMC 3	SMC 4	Tot
	File Name	(BFM) #	(TD8) #			Out
1	01-26-17 B17- 00152 ccv ars16- 122001	92	109	107	107	0
2	01-26-17 B17- 00152 LCS ars16- 122001	94	108	107	105	0
3	01-26-17 B17- 00152 LCSD ars16- 122001	94	107	106	106	0
4	01-26-17 B17- 00152 (001)	83	109	106	107	0
5	01-26-17 B17- 00152 (002)	81	109	105	107	0
6	01-26-17 B17- 00152 (003)	84	110	105	108	0
7	01-26-17 B17- 00152 iblk2	82	110	106	107	0
8	01-26-17 B17- 00152 ccv2 ars-16- 122001	94	108	106	105	0

QC LIMITS

SMC1 (BFM) = Dibromofluoromethane

(80 - 119)

SMC2 (TD8) = Toluene-d8 SMC3 (BFB) = Bromoflurorobenzene (89 - 112) (85 - 114)

SMC4 (dced) = 1,2-Dichloroethane-d4

(81 - 118)

# Column to be used to flag recovery values

* Values outside of required QC limits

#### Volatile Internal Standard Area and RT Summary

Lab Name:

Contract:

File Name (Std):

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 ccv6 ars16-122007.raw

Sample ID:

01-26-17 ccv6 ars16-122007

Description:

01-26-17 ccv6 ars16-122007 January 27, 2017 7:53:57 AM

Inject Date/Time:

Vial:

36

Instrument:

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Quantify Method:

8260b water 01-26-2017 B17-00152 Last Updated:

February 01, 2017 1:23:36 PM

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS ID: 250 um

Heated Purge:	N	
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		IS1 ()			IS2 (C	BZ)			IS3	()		
		Area	RT		Area		RT		Area		RT	
	12 HOUR STD	1507867	4.10	)	1298681		7.37		753166		9.86	,
	UPPER LIMIT	3015734	4.60	)	2597361		7.87		1506331		10.36	
	LOWER LIMIT	753933	3.60	)	649340		6.87		376583		9.36	;
	File Name	Area :	# RT	#	Area	#	RT	#	Area	#	RT	#
1	01-26-17 B17- 00152 ccv ars16- 122001	2277814	4.10	)	1757654		7.37		966856	}	9.86	
2	01-26-17 B17- 00152 LCS ars16- 122001	2061660	4.11		1625488		7.37		898981		9.86	
3	01-26-17 B17- 00152 LCSD ars16- 122001	2016,164	4.11		1587090		7.38		888041		9.87	
4	01-26-17 B17- 00152 (001)	2041166	4.11		1563942		7.37		847077	,	9.86	
5	01-26-17 B17- 00152 (002)	1998331	4.11		1535095		7.38		823292		9.87	
6	01-26-17 B17- 00152 (003)	2051715	4.11		1562256		7.37		829630	)	9.86	
7	01-26-17 B17- 00152 iblk2	1968884	4.11		1504561		7.37		820649	)	9.86	
8	01-26-17 B17- 00152 ccv2 ars-16- 122001	1910416	4.11	1	1497453		7.37		848023	3	9.86	

IS1 () = Fluorobenzene IS2 (CBZ) = Chlorobenzene-d5 IS3 = 1,4-Dichlorobenzene-D4

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 values outside QC limits with an asterisk

^{*} Values outside QC limits

Lab Name:

Instrument:

8260.mth GC Method:

8260b water 01-26-2017 B17-00152 Quantify Method:

8260B water IC 01-24-17cal2 Elite-VMS ID: 250 um Calibration File:

GC Column:

C:\TurboMass\T020117 B1700152.PRO Project Path:

Contract:

010317.IPR Tune File:

February 01, 2017 1:23:36 PM 8260.EXP Last Updated: MS Method:

January 24, 2017 4:48:29 PM N Last Updated:

Heated Purge:

	Concentration	File Name
1	0	0 1001171701
2	0	0 IC01171702
3	1	IC01171703
4	2	2 IC01171704
5	2	5 1C01171705
9	10	10 IC01171706
7	20	20 1001171707
8	40	40 IC01171708
9	90	50 1C01171709
10	80	80 1001171710
11	100	100 IC01171711
12	120	120 IC01171712
13	160	160 1001171713
14	200	200 IC01171714

											:
Compound	Level 1	Level 2	Level 3	1 Level 2 Level 3 Level 4 Level 5	Level 5	Level 6	Level 7	Level 6 Level 7 Level 8 Level 9	Level 9	Level	Level
Dichlorodifluoromethane	0.138	0.084	0.052	0.127	0.161	0.103	0.141	0.162	0.173	0.167	0.158
Chloromethane	0.866	0.638	0.513	0.431	0.422	0.363	0.353	0.349	0.349	0.351	0.337
Vinyl Chloride	0.313	0.273	0.281	0.270	0.310	0.245	0.293	0.310	0.322	0.329	0.302
Bromomethane	0.334	0.293	0.249	0.221	0.225	0.194	0.178	0.171	0.169	0.169	0.159
Chloroethane	0.194	0.187	0.171	0.150	0.163	0.141	0.148	0.155	0.151	0.147	0.141
Trichlorofluoromethane	0.303	0.156	0.150	0.198	0.268	0.184	0.224	0.182	0.172	0.159	0.151
1,1-Dichloroethene	0.156	0.139	0.155	0.153	0.177	0.139	0.160	0.167	0.170	0.166	0.155
Carbon disulfide	0.722	0.500	0.446	0.391	0.424	0.352	0.406	0.460	0.476	0.493	0.469
Iodomethane	0.040	0.047	0.038	0.054	0.076	0.096	0.170	0.219	0.210	0.222	0.213
Acrolein											
Allyl Chloride	0.066	90'0	0.095	0.092	0.111	0.105	0.111	0.116	0.115	0.116	0.112
Methyl Tert-butyl Ether											
Methylene Chloride	0.486	0.392	0.262	0.239	0.251	0.240	0.225	0.227	0.219	0.220	0.208

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Compound Dichlorodifluoromethane						
Dichlorodifluoromethane	Level	Level	Level	RRF	RSD	_ ₂ _
	0.183					0.9931
Chloromethane	0.360	0.337	0.367			0.9975
Vinyl Chloride	0.328	0.264	0.317	0.297	8.9	
Bromomethane	0.177	0.162	0.170			0.9981
Chloroethane	0.150	0.133	0.146	0.156	11.3	
Trichlorofluoromethane	0.171					0.9914
1,1-Dichloroethene	0.169	0.132	0.150	0.156	8.5	
Carbon disulfide	0.511	0.432	0.483			0.9941
Iodomethane	0.211	0.225	0.205			0.9965
Acrolein		0.000	0.000	0.000	17.9	
Allyl Chloride	0.120	0.110	0.114			0.9984
Methyl Tert-butyl Ether						
Methylene Chloride	0.219	0.200	0.205			0866'0

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level	Level
trans-1,2 Dichloroethene	0.244	0.259	0.215	0.221	0.222	0.203	0.213	0.219	0.217	0.216	0.204
Acetone	0.290	0.178	0.114	0.077	0.060	0.054	0.045	0.042	0.039	0.039	0.037
Acrylonitrile	0.511	0.135	0.128	0.131	0.143	0.142	0.130	0.132	0.123	0.127	0.122
1,1,-Dichloroethane	0.626	0.560	0.516	0.470	0.521	0.481	0.482	0.495	0.486	0.490	0.464
Chloroprene	0.511	0.401	0.406	0.382	0.421	0.349	0.396		0.425	0.422	0.399
cis-1,2,-Dichloroethene	0.295	0.275	0.257	0.260	0.285	0.272	0.262		0.260	0.261	0.248
2,2,-Dichloropropane	0.271	0.219	0.223	0.209	0.236	0.203	0.224	0.244	0.250	0.252	0.241
2-Butanone	0.016	0.016	0.018	0.020	0.036	0.041	0.040	0.043	0.039	0.038	0.039
Propionitrile	0.020	0.022	0.031	0.037	0.054	0.056	0.053	0.057	0.054	0.054	0.052
Bromochloromethane	0.053	0.066	0.085	0.103	0.119	0.119	0.118	0.122	0.116	0.119	0.116
Chloroform	0.544	0.504	0.425	0.402	0.436	0.420	0.412	0.425	0.412	0.413	0.396
Carbon tetrachloride	0.084	0.069	0.110	0.123	0.163	0.130	0.175	0.202	0.219	0.223	0.219
Vinyl Acetate											
1,1,1-Trichloroethane	0.234	0.243	0.264	0.247	0.301	0.256	0.295	0.322	0.330	0.330	0.315
1,1-Dichloropropene	0.436	0.331	0.310	0.312	0.353	0.289	0.325	0.347	0.352	0.350	0.333
Benzene	1.692	1.422	1.226	1.141	1.204	1.096	1.078	1.119	1.084	1.096	1.030
Methacrylonitrile	0.280	0.264	0.256	0.230	0.254	0.259	0.244	0.252	0.238	0.240	0.226
1,2-Dichloroethane	0.527	0.468	0.415	0.392	0.434	0.411	0.394	0.414	0.389	0.391	0.378
Trichloroethene	0.390	0.277	0.277	0.256	0.273	0.240	0.245		0.245	0.243	0.228
1,2-Dichloropropane	0.310	0.325	0.297	0.293	0.323	0.311	0.308	0.324	0.313	0.312	0.302
Bromodichloromethane	0.221	0.225	0.206	0.205	0.244	0.253	0.266		0.294	0.308	0.303
Methyl methacrylate	0.191	0.235	0.211	0.214	0.255		0.263		0.260	0.269	0.260
Dibromomethane	0.079	0.121	0.128	0.131	0.150		0.147	0.154	0.145	0.147	0.142
1,4-Dioxane	0.003	0.000	0.000	0.001	0.001	0.002	0.003		0.004	0.004	0.003
2-Chloroethyl Vinyl Ether	0.071	0.084	0.080	0.085	0.103	0.003	0.097	0.104	0.104	0.103	0.097
cis-1,3-Dichloropropene	0.319	0.382	0.286	0.277	0.328	0.338	0.354	0.402	0.392	0.414	0.409
Toluene	1.258		0.913	0.805	0.843		0.796	0.805	0.784	0.777	0.721
trans-1,3-Dichloropropene	0.324	0.293	0.271	0.266	0.330		0.381		0.437	0.458	0.448
1,1,2-Trichloroethane	0.220		0.238	0.231	0.255	0.259	0.246		0.244	0.245	0.233
Ethyl methacrylate	0.495		0.476	0.456	0.525		0.542	0.589	0.558	0.570	0.540
Tetrachloroethene	0.373		0.317	0.286	0.308		0.262		0.259	0.247	0.234
Chlorodibromoethane	0.053	0.101	0.141	0.142	0.177	0.193	0.208	0.247	0.242	0.260	0.256
1,3-Dichloropropane	0.751	0.710	0.624	0.581	0.640	0.628	0.600		0.595	0.592	0.563
1,2-Dibromoethane	0.208	0.262	0.240	0.254	0.295	0.307	0.300		0.303	0.302	0.288
Ethylbenzene	2.093	1.610	1.576	1.410	1.549		1.452		1.481	1.464	1.378
1,1,1,2-Tetrachloroethane	0.103		0.174	0.163	0.198	0.211	0.226		0.249	0.263	0.258
Chlorobenzene	1.443	1.207	1.044	0.956			0.920		0.914	0.906	0.860
m,p-Xylene	0.851	0.689	0.646		0.645		0.601	0.623	0.608	0.596	0.703
o-Xylene	0.739	0.661	0.616	0.578	0.629	0.597	0.597	0.621	0.603	0.599	0.565

Compound	Level	Level	Level	Avg RRF	% RSD	٦2
trans-1,2 Dichloroethene	0.219	0.195	0.203	0.218	9.7	
Acetone	0.041	0.038	0.039			0.9979
Acrylonitrile	0.138	0.128	0.133			0.9976
1,1,-Dichloroethane	0.500	0.458	0.471	0.501	8.9	
Chloroprene	0.432	0.364	0.401	0.409		
cis-1,2,-Dichloroethene	0.264	0.244	0.250	0.265	5.2	
2,2,-Dichloropropane	0.265	0.235	0.250	0.237	8.4	
2-Butanone	0.046	0.042	0.044			0.9956
Propionitrile	0.062	0.058	0.061			0.9952
Bromochloromethane	0.125	0.116	0.120			0.9989
Chloroform	0.434	0.401	0.413	0.431	9.7	
Carbon tetrachloride	0.250					0.9924
Vinyl Acetate						
1,1,1-Trichloroethane	0.346	0.301	0.328	0.294	12.9	
1,1-Dichloropropene	0.367	0.312	0.351	0.341	10.3	
Benzene	1.120	1.038	1.083			0.9986
Methacrylonitrile	0.252	0.229	0.235	0.247	6.2	
1,2-Dichloroethane	0.413	0.380	0.389			0.9985
Trichloroethene	0.249		0.233			0.9976
1,2-Dichloropropane	0.325	1	0.308			0.9986
Bromodichloromethane	0.332		0.329			0.9981
Methyl methacrylate	0.296	0.278	0.293			0.9972
Dibromomethane	0.155	0.144	0.148	-		0.9988
1,4-Dioxane	0.004		0.005			0.9954
2-Chloroethyl Vinyl Ether	0.107	0.099	0.103			0.9970
cis-1,3-Dichloropropene	0.451	0.426	0.449			0.9977
Toluene	0.779	0.702	0.710			0.9970
trans-1,3-Dichloropropene	0.493		0.478			0.9985
1,1,2-Trichloroethane	0.254	0.236	0.244			0.9987
Ethyl methacrylate	0.612	0.567	0.591			0.9979
Tetrachloroethene	0.251		0.226			0.9937
Chlorodibromomethane	0.286	0.271	0.284			0.9973
1,3-Dichloropropane	0.613		0.584	0.620	8.5	
1,2-Dibromoethane	0.314	0.288	0.292			0.9984
Ethylbenzene	1.493		1.407	1.515	12.0	
1,1,1,2-Tetrachloroethane	0.282		0.280			0.9983
Chlorobenzene	0.924					0.9985
m,p-Xylene	0.722					
Vylene	0.603	0.556	0.564	0.609	7.7	

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	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level	Level
	0.021	0.029	0.051	0.066	0.097		0.116	0.143	0.143	0.162	0.167
4-Methyl-2-pentanone	0.015	0.019	0.030	0.040	0.059	0.064	0.063	0.066	0.064	0.064	0.061
	0.245	0.347	0.274	0.270	0.315	0.336	0.309	0.325	0.312	0.316	0.297
Styrene	1.211	0.991	0.950	0.905	1.025	1.010	1.005	1.051	1.012	1.012	0.974
Isopropylbenzene	1.963	1.530	1.530	1.385	1.546	1.410	1.471	1.536	1.522	1.500	1.426
	0.895	0.796	0.775	0.712	0.760	0.749	0.700	0.725	0.699	0.686	0.646
-2-butene	0.014	600.0	0.106	0.050	0.077	960'0	0.109	0.144	0.150	0.177	0.176
Je	0.114	0.161	0.123	0.183	0.230	0.255	0.234	0.284	0.257	0.284	0.278
n-Propylbenzene	5.270	3.832	3.713	3.286	3.562	3.203	3.333	3.484	3.415	3.323	3.098
oethane	0.755	0.785	0.729	0.725	0.849	0.876	0.852	0.881	0.843	0.839	0.801
1,2,3-Trichloropropane	0.117	0.207	0.124	0.132	0.148	0.144	0.140	0.130	0.130	0.123	0.112
1,3,5-trimethylbenzene		3.036	2.898	2.654	2.873	2.692	2.708	2.764	2.707	2.637	2.466
2-Chlorotoluene	3.415	2.703	2.544	2.290	2.383	2.237	2.203	2.262	2.179	2.124	1.969
4-Chlorotoluene	3.672	3.014	2.617	2.355	2.425	2.326	2.253	2.290	2.226	2.292	2.053
tert-Butylbenzene	3.347	2.496	2.557	2.297	2.570	2.297	2.427	2.565	2.561	2.509	2.380
1,2,4-Trimethylbenzene	4.305	3.289	3.075	2.782	2.989	2.855	2.828	2.906	2.820	2.770	2.576
sec-Butylbenzene	4.748	3.391	3.476	3.046	3.438	2.939	3.190	3.339	3.304	3.190	2.964
	4.274	3.071	2.974	2.663	2.913	2.600	2.758	2.921	2.856	2.810	2.646
er.	2.875	2.126	1.722	1.504	1.535	1.464	1.390	1.447	1.387	1.404	1.339
1,4-Dichlorobenzene	2.875	2.126	1.722	1.504	1.535	1.464	1.390	1.447	1.387	1.404	1.339
n-Butylbenzene	4.136	2.765	2.491	2.193	2.402	2.149	2.306	2.472	2.468	2.418	2.279
1,2-Dichlorobenzene	1.989	1.678	1.508	1.412	1.450	1.415	1.359	1.414	1.358	1.360	1.306
1,2-Dibromo-3-chloropropane	0.052	0.062	0.071	0.082	0.120	0.143	0.145	0.171	0.172	0.187	0.182
1,2,4-Trichlorobenzene	2.019	1.441	1.137	1.028	1.075	1.030	1.000	1.074	1.024	1.046	1.015
Hexachlorobutadiene	0.447	0.326	0.383	0.301	0.354	0.314	0.354	0.382	0.381	0.378	0.362
Naphthalene	4.923	3.989	3.497	3.203	3.521	3.434	3.293	3.449	3.276	3.270	3.120
1,2,3-Trichlorobenzene	1.557	1.370	1.142	1.071	1.124	1.078	1.045	1.094	1.040	1.050	1.024

Compound	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6	Level 7	Level 8	Level 9	Level	Level
Dibromofluoromethane	0.216	0.215	0.213	0.215	0.218	0.220	0.222	0.226	0.227	0.231	0.231
Toluene-d8	1.238	1.224	1.249	1.246	1.249	1.248	1.249	1.256	1.266	1.253	1.225
Bromoflurorobenzene	0.518	0.522	0.521	0.524	0.532	0.532	0.539	0.544	0.540	0.539	0.543
1,2-Dichloroethane-d4	0.086	0.085	0.088	0.088	0.086	0.087	0.088	0.088	0.088	0.087	0.084

Level     0.192     0.064     0.328     0.972     1.386     0.613     0.290     2.807     2.290     2.290     2.245     2.245     2.427     2.245     2.450     3.313     1.313     2.088     1.299     0.199     0.0966	Level Level	ב	ממם	7
one one one one one one one one one one		אא	200	_
outene 0.069  outene 0.349  outene 0.316  -butene 0.316  -butene 0.316  ane 0.142  ane 0.142  cene 2.604  cene 2.604  cene 2.081  cene 2.172  cene 2.081  cene 2.172  cene 2.081  cene 2.472  ne 1.425  ne 1.425  ne 1.400  oxopropane 0.210  cene 0.210		11		0.9985
outene 0.349  utene 0.688  utene 0.210  -butene 0.316  -butene 0.316  ane 0.142  ane 0.142  ane 2.071  zene 2.081  zene 2.071  zene 2.172  zene 2.172  zene 2.472  ne 1.425  ne 1.425  ne 1.426  ne 1.400  oropropane 0.210	0.064 0.068	89		0.9974
1.041 1.547 1.547 1.547 0.688  utene 0.316 2.butene 0.316 3.255 ethane 0.142 ane 0.142 ane 2.604 cene 2.604 cene 2.604 le 1.425 le 1.425 le 1.400 oropropane 0.210 cene 1.400 oropropane 0.210	0.328 0.344	4		0.9963
1.547  outene 0.688  charene 0.210  charene 0.316  charene 0.42  ane 0.142  ane 0.142  ane 2.604  cene 2.604  cene 2.674  zene 2.574  zene 2.477  cene 2.427  ne 1.425  ne 1.425  ne 1.425  cene 0.210  rene 0.210  rene 1.078	0.972 0.993	13		0.9990
outene 0.210 -butene 0.316 -butene 0.316 -butene 0.325 -butene 0.42 -butene 0.142 -butene 0.142 -butene 0.142 -butene 0.142 -butene 0.142 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210 -butene 0.210	1.386 1.440	0 1.514	9.4	
utene     0.210       2-butene     0.316       3.255     3.255       ethane     0.892       ane     2.604       cene     2.081       2.172     2.172       zene     2.711       zene     2.711       zene     2.711       re     1.425       ne     1.425       re     1.400       oropropane     0.210       cene     1.078	0.613 0.599	9 0.717	10.7	
2-butene 0.316 3.255 ethane 0.892 ane 0.142 ane 2.604 2.081 2.172 2.172 2.172 zene 2.711 zene 2.711 zene 1.425 ne 1.425 ne 1.400 vropropane 0.210	0.211 0.217	7		0.9901
ane     0.892       ane     0.142       ene     2.604       cene     2.081       2.172     2.172       zene     2.711       zene     2.711       ne     1.425       ne     1.425       ne     1.425       ne     1.400       propropane     0.210       cene     1.078	0.290 0.294	14		0.9972
ethane 0.892 ane 0.142 ene 2.604 2.081 2.172 2.172 zene 2.711 zene 2.711 ne 1.425 ne 1.425 ne 1.400 vropropane 0.210 zene 0.210	2.807 2.766	96		0.9905
ane 0.142 ene 2.604  2.081 2.081 2.172 2.574  zene 2.711  e 1.425  ne 1.425  ne 1.400  oropropane 0.210  cene 0.210	0.839 0.839	9 0.822	9.9	
ene 2.604  2.081  2.172  2.172  2.172  2.574  zene 2.574  2.826  1.425  1.425  1.425  1.400  propropane 0.210  zene 1.078	0.119 0.126	:6		0.9923
2.081 2.172 2.172 2.574 zene 2.711 3.205 2.826 ne 1.425 ne 1.425 ne 1.425 ne 1.400 oropropane 0.210 cene 1.078	2.230 2.233	13		0.9921
2.172 zene 2.574 zene 2.574 ne 3.205 ne 1.425 ne 1.425 ne 1.400 propropane 0.210 zene 1.078	1.869 1.817	7		0.9938
2.574  zene 2.711  2.711  3.205  1.425  1.425  1.400  propropane 0.210  zene 1.078	2.050 2.041	.1		0.9978
zene 2.711 3.205 18.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205 19.205	2.245 2.242	2 2.505	10.9	
3.205 ne 2.826 ne 1.425 ne 1.425 ne 1.400 nopropane 0.210 cene 1.078	2.427 2.401	11		0.9947
2.826  The second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the secon	2.670 2.757	.7		0.9908
ne 1.425 ne 1.425 ne 2.427 ne 1.400 propropane 0.210 cene 1.078	2.450 2.451	11		0.9935
1.425 2.427 1.400 propane 0.210 ne 1.078	1.313 1.337	37		0.9986
2.427 1.400 propane 0.210 ne 1.078	1.313 1.337	37		0.9986
1.400 propane 0.210 ne 1.078	2.088 2.207	77		0.9948
propane 0.210 ne 1.078	1.299 1.320	1.448	12.7	
1.078	0.199 0.199	99		0.9969
	0.966 0.963	33		0.9968
Hexachlorobutadiene 0.336 0.336	0.336 0.353	53 0.362	10.4	
Naphthalene 3.381 3.052	3.052 2.990	3.457	14.1	
1,2,3-Trichlorobenzene 1.084 0.973	0.973 0.972	72		6966.0

				Avg	%	
Compound	Level	Level	Level	RRF	RSD	Γ²
Dibromofluoromethane	0.233	0.233	0.236	0.224	3.5	
Toluene-d8	1.222	1.196	1.181	1.236	1.9	
Bromoflurorobenzene	0.553	0.562	0.572	0.539	2.9	
1,2-Dichloroethane-d4	0.084	0.083	0.081	0.086	2.6	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
Last modified: Wed Feb 01 13:23:36 2017
Job Code:

Sample Name: 01-26-17 B17-00152 ccv arg16-122001	B17-00152	ccv ars16	-122001	Sample ID:	01-26-17 B17-00152 ccv ars16-122001
Name	RT	Area	Height	ug/L!	
Fluorobenzene	4.100	2277814	67691448	50.00	
Chlorobenzene-d5	7.371	1757654	52970584	50.00	
1,4-Dichlorobenzene-	9.862	966856	36538292	50.00	
Dibromofluoromethane	3.395	468553	13806431	45.89	
Toluene-d8	5.660	2371180	71502088	54.59	
Bromoflurorobenzene	8.867	1015201	33762872	53.63	
1,2-Dichloroethane-d	3.840	161720	4831969	53.60	
Dichlorodifluorometh	0.859	319976	9998649	41.94	
Chloromethane	0.954	703889	19052466	43.83	
Vinyl Chloride	0.994	660705	21742572	48.84	
Bromomethane	1.159	413062	13332967	53.56	
Chloroethane	1.224	324250	10862979	45.74	
Trichlorofluorometha	1.294	347995	11255016	45.63	
1,1-Dichloroethene	1.589	402785	12757742	56.56	
Carbon disulfide	1.589	1008120	32780606	47.12	
Iodomethane	1.669	477372	13905125	50.06	
Acrolein					
Allyl Chloride	1.909	235793	7224743	45.41	
Methyl Tert-butyl Et	2.219	19	826	00.0	
Methylene Chloride	1.984	505886	15220099	52.41	
trans-1,2 Dichloroet	2.099	504584	14990661	50.84	
Acetone	2.054	89284	2655520	48.75	
Acrylonitrile	2.629	237530	7384831	40.15	
1,1,-Dichloroethane	2.564	974601	27392780	42.66	
Chloroprene	2.549	872166	26129672	46.79	
cis-1,2,-Dichloroeth	2.999	604979	18196482	50.20	
2,2,-Dichloropropane	3.079	452797	12054570	41.87	
2-Butanone	3.540	73377	2083653	38.95	
Propionitrile	3.775	99657	2994818	38.70	
Bromochloromethane	3.154	248903	7406192	46.01	
Chloroform	3.245	862282	25151692	43.90	
Carbon tetrachloride	3.320	440367	12105014	43.12	
Vinyl Acetate					
1,1,1-Trichloroethan	3.385	664367	18063156	49.65	
1,1-Dichloropropene	3.495	710584	20485194	45.80	
Benzene	3.710	2235900	65555996	45.47	
Methacrylonitrile		458951	13289404	40.79	
$_{ m N}$ 1, 2-Dichloroethane		765030	22785760	42.73	
GTrichloroethene		555289	16512349	51.50	
o 1,2-Dichloropropane		619376	18004636	43.86	
N Bromodichloromethane	4.835	624161	18483548	44.14	
Methyl methacrylate		457239	13766160	36.56	
Dibromomethane		318433	9596871	47.43	
1,4-Dioxane	5.070	5708	190311	37.41	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

B17-0015	2 ccv ars16	5-122001	Sample ID:	01-26-17 B17-00152 ccv ars16-122001
RT	Area	Height	uq/L!	
5.715	201692	6124761	44.28	
5.475	748908	22760138	39.41	
5.715	1489170	44828740	57.17	
6.196	673473	20821958	42.03	
6.356	423165	12608647	49.38	
6.461	835908	25549360	41.53	
6.101	512378	15327846	61.87	
6.526	445247	13356949	47.96	
6.641	969182	29360156	44.48	
6.746	511551	15157382	48.86	
7.476	2778847	83247768	52.16	
7.491	450950	13295636	48.41	
7.386	1598845	48626056	51.18	
7.661	2231571	67334000	99.04	
8.171	1070620	32482770	49.99	
8.216	255686	7790285	48.53	
6.191	99920	2927914	43.72	
7.156	446372	12892407	39.14	
8.247	1838165	57061868	52.24	
8.592	2729215	82686240	51.29	
8.937	642360	21773226	46.31	
8.987	107287	4085225	31.90	
9.297	232480	8032028	42.22	
9.047	3242692	112587072	54.81	
9.137	689026	23982124	43.36	
9.222	92659	4228005	37.67	
9.262	2438383	86652544	50.79	
9.152	2034263	70969560	52.78	
9.312	2081133	76297768	50.37	
9.517	2170327	75150208	44.81	
9.587	2509781	93337128	49.80	
9.672	2974447	108911104	51.67	
9.802	2542375	94864152	49.62	
9.872	1341345	50687832	50.60	
9.872	1341345	50687832	20.60	
10.122	2365051	88969952	53.52	
10.177	1283872	48863928	45.86	
10.742	119986	4584790	33.70	
11.173	915935	35539956	46.68	
11.173	367125	14247987	52.38	
11.368	2652457	102309848	39.68	
11.478	896071	34982432	45.13	
	817-0015:  78.7  5.715  5.475  6.196  6.356  6.356  6.461  6.196  7.476  7.486  7.481  7.481  7.156  8.216  8.216  8.216  9.222  9.222  9.222  9.222  9.312  9.262  9.312  9.312  9.312  9.312  9.312  9.312  9.312  10.122	RT Area 5.715	Area  Area  201692 748908 1489170 673473 423165 835908 835908 815378 445247 969182 2778847 969182 2778847 969182 2778847 969182 2778847 969182 2778847 969182 2778847 969182 2778847 2778847 1070620 255686 99920 446372 107287 22342692 642360 107287 225097447 2250974447 256242375 119986 915935 367125 2652457 896071	6

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Sample Name: 01-26-17	B17-00152	ib1k1	Sample ID:	01-26-17 B17-00152 ib1k1
Nаme	RT	Area	Height	ĭ
Fluorobenzene	٦.	2114605	62437952	50.00
Chlorobenzene-d5	7.371	1602786	49002756	50.00
1,4-Dichlorobenzene-	9.857	865291	32336032	50.00
Dibromofluoromethane	3.400	397449	11744611	41.93
Toluene-d8	5.665	2174903	65791060	54.91
Bromoflurorobenzene	8.862	915723	30543558	53.05
1,2-Dichloroethane-d	3.845	147807	4418380	53.72
Dichlorodifluorometh	0.859	188	7598	1.62
Chloromethane	0.959	2414	65937	0.36
Vinyl Chloride	0.994	340	13424	0.03
Bromomethane	1.169	1158	39134	0.00
Chloroethane	1.229	83	3895	0.01
Trichlorofluorometha	1.299	210	8178	
1,1-Dichloroethene	1.594	164	5848	0.02
Carbon disulfide	•	6119	228881	•
Iodomethane	1.684	196	4298	1.39
Acrolein				
Allyl Chloride	1.919	20	1068	0.00
Methyl Tert-butyl Et	2.254	19	923	•
Methylene Chloride	1.989	199	22491	0.00
trans-1,2 Dichloroet	2.104	835	30382	•
Acetone	2.059	689	21598	0.00
Acrylonitrile	2.649	55	2451	
1,1,-Dichloroethane	2.569	123	4821	0.01
Chloroprene	2.554	538	20731	0.03
cis-1,2,-Dichloroeth	2.999	246	8974	0.02
2,2,-Dichloropropane	3.089	10	526	0.00
2-Butanone	3.575	21	849	1.70
Propionitrile	3.785	46	2394	2.02
Bromochloromethane	3.169	34	886	0.15
Chloroform	3.244	20	2358	00.00
Carbon tetrachloride	3.349	19	619	2.55
Vinyl Acetate				
1,1,1-Trichloroethan		16	944	00.00
1,1-Dichloropropene		1545	46113	0.11
Benzene	3.710	788	28021	00.00
	3.790	09	2451	0.01
	3.905	191	5565	00.00
-	4.250	273	11778	00.00
	4.760	27	1197	00.00
S Bromodichloromethane	4.825	45	1543	1.98
	5.080	28	1574	1.59
Dibromomethane	4.640	42	1873	00.00
1,4-Dioxane	5.045	∞	474	ω

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
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Job Code:

Printed: Thu Feb 02 07:54:45 2017

Sample Name: 01-26-17 B17-00152 iblkl Sample ID: 01-26-17 B17-00152 iblkl

	ug/L1	1.14	2.24	00.0	1.86	00.0	0.81	0.00	2.85	0.00	00.0	0.04	2.10	00.0	60.0	0.01	1.63	1.08	1.44	00.0	0.04	0.02	117.97	1.71	00.0	00.0	00.00	00.00	00.00	00.00	0.04	00.0	00.0	00.00	00.0	00.00	٥.	0.07	2.86	00.00	۲.	0.15	0.00
Ī	Height	2005	1839	55403	2631	1412	955	12295	165	1255	1378	63276	214	63230	59363	8062	337	394	2928	28192	73693	12195	13834810	755	196299	1723	0	119162	101765	157369	72367	122685	184988	214180	203670	203670	266351	66085	999	164305	39642	350567	128221
	Area	42	46	1592	61	51	15	348	2	19	41	2086	7	1768	1795	219	2	9	94	863	2177	309	415466	13	5662	38	<b>∞</b> ₁	3138	2743	4387	1887	3320	4969	5638	5350	5350	7214	1675	16	4192	1008	9226	3254
	RŢ	5.715	5.490	5.715	6.206	908.9	6.486	6.101	6.516	6.631	6.761	7.481	7.506	7.386	7.666	8.166	8.241	6.186	7.146	8.256	8.592	8.932	8.862	9.272	9.047	9.132	9.237	9.262	9.152	9.317	9.517	9.587	9.667	9.802	9.867	9.867	$\overline{}$	10.177	10.732	11.168	1.16	ä	11.473
•	Name	2-Chloroethyl Vinyl	cis-1,3-Dichloroprop	Toluene	trans-1,3-Dichloropr	1,1,2-Trichloroethan	Ethyl methacrylate	Tetrachloroethene	Chlorodibromomethane	1,3-Dichloropropane	1,2-Dibromoethane	Ethylbenzene	1,1,1,2-Tetrachloroe	Chlorobenzene	m,p-Xylene	o-Xylene	Bromoform	4-Methyl-2-pentanone	2-Hexanone	Styrene	Isopropylbenzene	Bromobenzene	cis-1,4-dichloro-2-b	trans-1,4-dichloro-2	n-Propylbenzene	1,1,2,2-Tetrachloroe	1,2,3-Trichloropropa	1,3,5-trimethylbenze	2-Chlorotoluene	4-Chlorotoluene	tert-Butylbenzene	1,2,4-Trimethylbenze	sec-Butylbenzene	4-Isopropyltoluene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	n-Butylbenzene	1,2-Dichlorobenzene	N 1,2-Dibromo-3-chloro		Q Hexachlorobutadiene	Naphthalene	№ 1,2,3-Trichlorobenze

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
Last modified: Wed Feb 01 13:23:36 2017
Job Code:

Thu Feb 02 07:54:45 2017 Printed:

Sample Name: 01-26-17 B17-00152 LCS ars16-122001	B17-0015	LCS ars16	-122001	Sample ID: 01-26-17 B17-00152 LCS ars16-122001
Маще	£	Area	Height	ug/L!
Fluorobenzene	4.105	2061660	61244636	50.00
Chlorobenzene-d5	7.371	1625488	49612604	50.00
1,4-Dichlorobenzene-	9.862	898981	34074076	50.00
Dibromofluoromethane	3.400	432162	12736546	46.77
Toluene-d8	5.665	2162549	65756476	53.83
Bromoflurorobenzene	8.867	933372	31148796	53.31
1,2-Dichloroethane-d	3.845	147117	4419760	52.72
Dichlorodifluorometh	0.859	317310	10006612	45.80
Chloromethane	0.959	635743	16671139	43.73
Vinyl Chloride	0.999	614571	20285502	50.19
Bromomethane	1.164	371400	11907660	53.20
Chloroethane	1.229	300732	10258628	46.87
Trichlorofluorometha	1.294	314890	10482550	45.61
1,1-Dichloroethene	1.594	373367	11865414	57.93
Carbon disulfide	1.599	898947	29469888	46.43
Iodomethane	1.679	460264	13130337	53.24
Acrolein	1.919	1020	30247	104.08
Allyl Chloride	1.914	205310	6297805	43.69
Methyl Tert-butyl Et	2.239	41	1849	0.00
Methylene Chloride	1.994	469847	14190665	53.83
trans-1,2 Dichloroet	2.104	454665	13724389	50.61
Acetone	2.069	96855	2866900	58.91
Acrylonitrile	2.639	235727	7304257	43.98
1,1,-Dichloroethane	2.574	879515	25234614	42.53
Chloroprene	2.554	789565	23577344	46.80
cis-1,2,-Dichloroeth	3.004	539567	16162657	49.47
2,2,-Dichloropropane	3.089	407442	10873502	41.62
2-Butanone	3.545	77120	2236422	44.95
Propionitrile	3.780	97639	2964057	41.73
Bromochloromethane	3.164	229913	6891696	46.95
Chloroform	3.249	780966	22785166	43.93
Carbon tetrachloride	3.325	412383	11391136	44.52
Vinyl Acetate				
1,1,1-Trichloroethan	3.390	613133	16754649	50.62
1,1-Dichloropropene	3.500	649173	18914656	46.23
Benzene	3.715	2037554	60429584	45:79
Methacrylonitrile	3.790	429364	12328551	42.17
%1,2-Dichloroethane	3.905	695804	20780500	42.94
OTrichloroethene	4.255	501788	15057042	51.41
41,2-Dichloropropane	4.745	561350	16159250	43.91
Spromodichloromethane	4.835	556832	16647408	43.54
Nethyl methacrylate	5.065	449175	13703428	39.54
Dibromomethane	4.640	290179	8871229	47.76
1,4-Dioxane	5.075	6856	199265	48.09

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Sample Name: 01-26-17 B17-00152 LCS ar816-122001	B17-00152	LCS arsl6	-122001	Sample ID:	Sample ID: 01-26-17 B17-00152 LCS ars16-122001
Name	RT	Area	Height	ug/L!	
2-Chloroethyl Vinyl	5.715	180851	5465820	43.88	
cis-1,3-Dichloroprop Tolmene	5.480	1350219	40850076	39.66	
trans-1.3-Dichloropr	6.201	615278	19156038	41.54	
1,1,2-Trichloroethan	6.361	397729	11908379	50.19	
Ethyl methacrylate	6.461	792837	24016558	42.57	
Tetrachloroethene	6.101	493981	14480434	64.62	
Chlorodibromomethane	6.531	408504	12466753	47.60	
1,3-Dichloropropane	6.646	903768	26834218	44.85	
1,2-Dibromoethane	6.746	480683	14499231	49.65	
Ethylbenzene	7.476	2502658	75518976	50.80	
1,1,1,2-Tetrachloroe	7.491	409765	11936825	47.60	
Chlorobenzene	7.386	1442520	43464840	49.90	
m,p-Xylene	7.661	1972369	59344932	94.65	
o-Xylene	8.171	960896	29397862	48.87	
Bromoform	8.216	241518	7356135	49.42	
4-Methyl-2-pentanone	6.196	100583	2943533	47.49	
2-Hexanone	7.161	472781	13673269	44.61	
Styrene	8.247	1658830	51212904	50.97	
Isopropylbenzene	8.592	2469621	74456456	50.18	
Bromobenzene	8.937	594924	20134432	46.13	
cis-1,4-dichloro-2-b	8.987	103866	3948909	32.97	
trans-1,4-dichloro-2	9.297	220670	7620301	43.06	
n-Propylbenzene	9.047	2900009	100766096	52.57	
1,1,2,2-Tetrachloroe	9.137	663157	22937850	44.88	
1,2,3-Trichloropropa	9.222	86568	4019546	37.86	
1,3,5-trimethylbenze	9.262	2193979	78123464	49.01	
2-Chlorotoluene	9.152	1820920	63725520	50.68	
4-Chlorotoluene	9.312	1871225	68727376	48.65	
tert-Butylbenzene	9.517	1958410	67822776	43.49	
1,2,4-Trimethylbenze	9.587	2266219	84202488	48.28	
sec-Butylbenzene	9.672	2707401	99380432	50.52	
4-Isopropyltoluene	9.802	2299341	85571840	48.19	
1,3-Dichlorobenzene	9.872	1220542	46324748	49.50	
1,4-Dichlorobenzene	9.872	1220542	46324748	49.50	
n-Butylbenzene	10.117	2119702	80134536	51.52	
1,2-Dichlorobenzene	10.177	1195353	45740452	45.92	
N. 2-Dibromo-3-chloro	10.738	121679	4669493	36.50	
Q,2,4-Trichlorobenze	11.168	846987	32999310	46.41	
Hexachlorobutadiene	11.168	338027	13103667	51.87	
Naphthalene	11.368	2637666	103032952	42.44	
7,2,3-Trichlorobenze	11.478	847757	32872848	45.95	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017 Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Sample Name: 01-26-17 B17-00152 LCSD ars16-122001	B17-0015	2 LCSD ars]	.6-122001	Sample ID: 01-26-17 B17-00152 LCSD ars16-122001
Name	RT	Area	Height	ug/L!
Fluorobenzene	4.105	2016164	59394800	50.00
Chlorobenzene-d5	7.376	1587090	48383508	50.00
1.4-Dichlorobenzene-	9.867	888041	33400048	50.00
Dibromofluoromethane	3.405	424291	12417209	46.95
Toluene-d8	5.670	2105247	63844120	53.67
Bromoflurorobenzene	8.872	907757	30402536	53.10
1.2-Dichloroethane-d	3.850	144044	4260670	52.87
Dichlorodifluorometh	0.859	312480	9636756	46.11
Chloromethane	0.959	632024	16252285	44.45
Vinyl Chloride	0.999	614896	20297678	51.35
Bromomethane	1.164	378121	11977199	55.42
Chloroethane	1.229	303667	10295886	48.39
Trichlorofluorometha	1.294	308931	10262855	45.77
1,1-Dichloroethene	1.594	374271	11882527	59.38
Carbon disulfide	1.599	924759	30097444	48.82
Iodomethane	1.674	492126	14124612	58.08
Acrolein				
Allyl Chloride	1.914	215024	6533377	46.79
Methyl Tert-butyl Et	2.224	43	1634	0.00
Methylene Chloride	1.994	473092	14192324	55.48
trans-1,2 Dichloroet	2.104	461998	13911095	52.59
Acetone	2.069	83553	2487295	51.68
Acrylonitrile	2.639	234759	7364905	44.78
1,1,-Dichloroethane	2.574	896822	25508750	44.35
Chloroprene	2.559	799680	23741638	48.46
cis-1,2,-Dichloroeth	3.009	548716	16356824	51.44
2,2,-Dichloropropane	3.089	420292	11349676	43.91
2-Butanone	3.545	70196	2061923	41.96
Propionitrile	3.785	93886	2963942	43.55
Bromochloromethane	3.164	234343	7097833	48.93
Chloroform	3.254	800524	23400920	46.05
Carbon tetrachloride	3.329	423427	11735660	46.62
Vinyl Acetate				
1,1,1-Trichloroethan	3.395	623024	16958590	52.60
1,1-Dichloropropene	3.505	654182	19261074	47.64
Benzene	3.720	2054089	60692872	47.21
Methacrylonitrile	3.795	434766	12660679	43.66
71,2-Dichloroethane	3.910	703758	20971832	44.43
Trichloroethene	4.260	504734	15091987	52.91
1,2-Dichloropropane	4.750	574151	16623603	45.95
G Bromodichloromethane	4.840	572718	17140520	45.69
Nethyl methacrylate	5.070	453547	13868150	40.78
Dibromomethane	4.645	293795	8965127	49.44
1,4-Dioxane	5.080	6198	185688	44.86

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Мате	RT	Area	Height	ug/L!		
2-Chloroethyl Vinyl	5.720	185560	5556653	45.98		
cis-1,3-Dichloroprop	5.485	702443	21622190	41.63		
Toluene	5.720	1379024	41605336	58.68		
trans-1,3-Dichloropr	6.206	632441	19865118	43.63		
1,1,2-Trichloroethan	998.9	399959	11966349	51.71		
Ethyl methacrylate	6.471	812931	24990246	44.67		
Tetrachloroethene	6.111	476242	14066105	63.77		
Chlorodibromomethane	6.536	421052	12756502	50.09		
1,3-Dichloropropane	6.651	911762	27554446	46.34		
1,2-Dibromoethane	6.751	486457	14490614	51.49		
Ethvlbenzene	7.481	2556050	77647072	53.14		
1,1,1,2-Tetrachloroe	7.501	424614	12529320	50.39		
Chlorobenzene	7.396	1485349	45004332	52.70		
m,p-Xylene	7.671	2015596	62090976	99.07		
o-Xylene	8.176	920066	29699842	51.19		
Bromoform	8.221	248422	7525494	51.70		
4-Methyl-2-pentanone	6.201	100066	2953066	48.37		
2-Hexanone	7.166	449884	13209985	43.52		
Styrene	8.251	1712907	53118692	53.93		
Isopropylbenzene	8.597	2506894	76270008	52.17		
Bromobenzene	8.942	605814	20602628	47.55		
cis-1,4-dichloro-2-b	8.992	112083	4265863	35.45		
trans-1,4-dichloro-2	9.302	221427	7666975	43.72		
n-Propylbenzene	9.052	2930752	101811656	53.87		
1,1,2,2-Tetrachloroe	9.142	676416	23688726	46.34		
1,2,3-Trichloropropa	9.227	90476	4127148	40.10		
1,3,5-trimethylbenze	9.267	2240137	79600032	50.80		
2-Chlorotoluene	9.157	1868314	65587020	52.77		
4-Chlorotoluene	9.317	1897553	69769872	49.99		
tert-Butylbenzene	9.522	2043361	71276712	45.93		
1,2,4-Trimethylbenze	9.592	2321053	85983616	50.17		
sec-Butylbenzene	9.677	2744825	99905248	51.93		
4-Isopropyltoluene	9.807	2331555	87373568	49.54		
1,3-Dichlorobenzene	9.877	1247367	47144804	51.25		
1,4-Dichlorobenzene	9.877	1247367	47144804	51.25		
n-Butylbenzene	10.122	2143945	81352520	52.80		
1,2-Dichlorobenzene	10.182	1204963	45926904	46.86		
31,2-Dibromo-3-chloro	10.742	121889	4701223	36.97		
N1,2,4-Trichlorobenze	11.173	859477	33491310	47.72		
9Hexachlorobutadiene	11.173	339088	13184555	52.68		
Naphthalene	,1,1	0.000	000711000			
	11.3/3	76339TO	102554088	42.90		

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Thu Feb 02 07:54:45 2017 Printed:

Sample Name: 01-26-17 B	B17-00152	00)	Sample ID:	01-26-17 B17-00152	152 (001)
	RT 4.105	<b>Area</b> 2041166	H <b>elght</b> 61084036	50.00	
	7.371	1563942	47616844	50.00	
	9.857	847077	31494920	20.00	
.,,		377641	11015986	41.28	
ı, a	. 665	2114857	29534808	54.72	
, (,,	845	143834	4319896	53.57	
O	.859	705	27048	1.69	
0	.964	1986	66454	0.34	
0	.994	626	24450	0.05	
Н	.169	1076	38459	00.0	
Н	.229	96	3874	0.02	
7	.304	672	25766	00.0	
Н	.589	268	10677	0.04	
Н	.604	9764	505	0.92	
ri	684	341	12294	1.41	
,	0	c			
-i (	404	∞ ς	320	00.0	
, .	477	27.5	70571	00.0	
•	ν. ν.	/ T / F	1/027 01/11	7.0	
•	114	1493	22618	) T.O.	
, ,	9 0	0000	017442	10.96	
, N	S LC	177	48	0.01	
	55	955	32860	90.0	
	00	373	14149	0.03	
З.	.094	20	889	00.0	
ω,	26	13	817	1.70	
ω.	78	1	268	٠	
	4	0	0	0.14	
	.244	100	3211		
r	.324	11	641	•	
m	389	47	1957	00.0	
ω.	.505	1749	58296	0.13	
т М	.720	1585	54710	0.00	
ς.	.820	119	2742	0.01	
Э.	905	65	2487	0.00	
4	.260	1143	39932	0.00	
4	.755	27	1203	0.00	
4	•	14	629	1.98	
Ŋ	060.	74	2488	1.59	
4	4.610	n	0	00.0	

1.84

535

13

5.065

1,4-Dioxane

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
Last modified: Wed Feb 01 13:23:36 2017
Job Code:

Sample Name: 01-26-17	B17-00152 (001)	(001)	Sample ID:	01-26-17 B17-00152 (001)
Name	RT	Area	Height	ug/L!
2-Chloroethyl Vinyl	7.	88	3378	1.15
cis-1,3-Dichloroprop	5.490	100	3375	2.24
Toluene	5.720	2897	93769	0.00
trans-1,3-Dichloropr	6.206	174	9699	1.87
1,1,2-Trichloroethan	6.376	15	761	0.00
Ethyl methacrylate	6.496	30	1209	0.81
Tetrachloroethene	6.106	1338	48500	0.00
Chlorodibromomethane	6.521	12	471	2.85
1,3-Dichloropropane	6.651	137	4388	0.01
1,2-Dibromoethane	6.761	93	3601	00.00
Ethylbenzene	7.481	5130	155847	0.11
1,1,1,2-Tetrachloroe	7.481	17	695	2.10
Chlorobenzene	7.391	3668	123245	00.00
m,p-Xylene	7.671	4648	149005	0.23
o-Xylene	8.176	627	22989	0.03
Bromoform	8.191	٣	175	1.63
4-Methyl-2-pentanone	6.191	6	557	1.08
2-Hexanone	7.201	62	2008	1.44
Styrene	8.256	1954	61137	00.00
Isopropylbenzene	8.592	4849	154949	0.10
Bromobenzene	8.932	774	30300	90.0
cis-1,4-dichloro-2-b	8.867	404819	13391235	117.44
trans-1,4-dichloro-2	9.307	37	1408	1.71
n-Propylbenzene	9.047	10669	361422	00.00
1,1,2,2-Tetrachloroe	9.122	99	1562	0.00
1,2,3-Trichloropropa	9.242	-40	0	00.00
1,3,5-trimethylbenze	9.262	5838	205978	00.00
2-Chlorotoluene	9.152	5615	203535	00.00
4-Chlorotoluene	9.317	9059	309752	00.00
tert-Butylbenzene	9.517	4033	151332	0.10
1,2,4-Trimethylbenze	9.587	6652	247020	0.00
sec-Butylbenzene	6.667	9393	343269	0.00
4-Isopropyltoluene	9.802	9446	361062	0.00
1,3-Dichlorobenzene	9.872	9288	348400	0.00
1,4-Dichlorobenzene	9.872	9288	348400	00.0
n-Butylbenzene	10.122	12774	470962	00.00
1,2-Dichlorobenzene	10.177	3712	144310	٦.
N1,2-Dibromo-3-chloro	10.712	36	1140	2.87
礼,2,4-Trichlorobenze	11.168	7095	279663	00.00
QHexachlorobutadiene	•	2274	90378	0.37
Naphthalene	•	12920	481083	0.22
N1,2,3-Trichlorobenze	11.473	57.82	227707	00.0

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Printed: Thu Feb	02 07:54	:45 2017			
Sample Name: 01-26-17	B17-00152	(003)	Sample ID:	01-26-17 B17-00152 (002)	
Name	RT	Area	Height	ug/L!	
Fluorobenzene	4.105	1998331	58834820	50.00	
Chlorobenzene-d5	7.376	1535095	46971256	50.00	
1,4-Dichlorobenzene-	9.867	823292	30613572	50.00	
Ulbromoiluoromethane	3.405	3640/4	1067/928 62864344	40.83	
Bromoflurorobenzene	8.867	869165	28788840	52.57	
1,2-Dichloroethane-d	3.850	140568	4206843	53.34	
Dichlorodifluorometh	0.859	67	2987	1.60	
Chloromethane	0.964	1551	45886	0.31	
Vinyi chiciide Bromomethane	1.164	674	22998	00.0	
Chloroethane	1.229	91	2118	0.01	
Trichlorofluorometha	1.299	113	4484	0.00	
1,1-Dichloroethene	1.604	123		0.02	
Carbon disulfide	1.604	4290	86	0.64	
Iodomethane	1.694	104	3995	1.38	
Acrolein			707	.0	
Mathul Entoride	1.904	700	† ° ° °		
Methylene Chloride	٠, o	140	6072	00.0	
trans-1.2 Dichloroet		354	13421	0.04	
Acetone	2.069	3812	122421		
Acrylonitrile	2.629	25	1167		
1,1,-Dichloroethane	2.569	47	2225	0.00	
Chloroprene	2.554	382	11926	•	
cis-1,2,-Dichloroeth	2.999	155	4575		
2,2,-Dichloropropane	3.049	97	1144		
Z-bucanone Propionitrile	2 790	o v	966	2.01	
Browochloromethane	3.164	· თ	358	0.15	
Chloroform	3.249	26	1328		
Carbon tetrachloride	3.284	9	377	2.55	
Vinyl Acetate	(	i		(	
1, 1, 1-Trichloroethan	3.390	54	1981	0.00	
1,1-Dicilolopiopelle Benzene	3 715	521	19606	07:0	
Methacrylonitrile	3.810	10	169	00.0	
1,2-Dichloroethane	3.915	27	1232	0.00	
Prichloroethene	4.260	213	9266	00.0	
1,2-Dichloropropane	4.765	15	724	•	
Bromodichloromethane	4.850	38	1177	1.98	
Mecnyl mechaciylare	001.6	ה מ מ	200	66.4	
1.4-Dioxane	5.120	13	787	1.84	

Sample List: C:\Tur	boMass\T020	117 B170	0152.PRO\Sar	C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water	01-26-17 B17-00152
	Wed Feb 01 13:31:42 2017 C:\TurboMass\T020117 B17 Wed Feb 01 13:23:36 2017	42 2017 117 B170 36 2017	2017 B1700152.PRO\MethDB\8260b 2017	water	01-26-2017 B17-00152
Printed: Thu Feb	b 02 07:54:45	45 2017			
Sample Name: 01-26-17	B17-00152	(002)	Sample ID:	01-26-17 B17-00152	2 (002)
Name	RT	Area	Height	nd/Fi	
2-Chloroethyl Vinyl	5.705	111	3538	1.16	
cis-1,3-Dichloroprop	5.475	3	369	2.23	
Toluene	5.720	1252	44392	00.0	
trans-1,3-Dichloropr	6.231	46	1834	1.86	
1,1,2-Trichloroethan	6.401	37	1364	0.00	
Etnyl metnacrylate Tetrachloroethene	6.501	35	11624	18.0 00.0	
Chlorodibromomethane	6.546	24	802	2.85	
1,3-Dichloropropane	6.656	21	1083	0.00	
1,2-Dibromoethane	6.741	12	621	0.00	
Ethylbenzene	7.486	2657	83181	90.0	
1,1,1,2-Tetrachloroe	7.471	16	625	2.10	
Chlorobenzene	7.396	1365	45197	0.00	
m,p-Xylene	7.676	2072	68291	0.11	
o-Xylene	8.186	224	7044	0.01	
Bromoform	8.186	4.1	179	1.63	
4-Methyl-2-pentanone	6.191	7	405	1.08	
2-Hexanone	7.171	T P	933	L.43	
Styrene	8.256	591	20797	0.00	
Isopropylbenzene	8.597	1845	1971 1971	0.04	
bromobenzene	8.93/	143 296560	12115500	118 22	
trans-1,4-dichloro-2	6.007	33	1637	1.71	
n-Propvlbenzene	9.052	5411	185617	00.0	
1,1,2,2-Tetrachloroe	9.162	4	179	0.00	
1,2,3-Trichloropropa	9.242	- 5	0	00.00	
1, 3, 5-trimethylbenze	9.267	2834	105837	0.00	
2-Chlorotoluene	9.157	2686	98231	0.00	
4-Chlorotoluene	9.322	4103	149161	0.00	
terr-Burylbenzene	7.52.0	1193	400/0	50.0	
1,2,4-Trimetnylbenze	2.532	324/	160172	00.0	
4-Tsopropyltoliene	9.807	4062	154908	00.0	
1.3-Dichlorobenzene	9.877	4992	193458	00.0	
1,4-Dichlorobenzene	9.877	4992	193458	0.00	
n-Butylbenzene	10.127	6590	248942	00.00	
1,2-Dichlorobenzene	10.187	1294	50705	0.05	
1,2-Dibromo-3-chloro	10.717	20	933	٠	
o1, 2, 4-Trichlorobenze	11.178	3550	140491	0.00	
Hexachlorobutadiene	11.168	644	25731	0.11	
Naphthalene	•	3695	139894	0.06	
1,2,3-Trichlorobenze	11.483	1826	72299	0.00	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

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(003)
B17-00152
01-26-17 B17
Sample ID:
(003)
-17 B17-00152
: 01-26-17 1
a
Sample Name

	ΚI	Area				
			Height	ng/Fi		
	4.105	2051715	60943856	20.00		
	7.371	1562256	47128160	20.00		
	9.862	829630	31188220	50.00		
Dibromofluoromethane	3.405	384206	11238699	41.78		
Toluene-d8	5.670	2130040	64021000	55.17		
Bromoflurorobenzene	8.867	887311	29762780	52.73		
1,2-Dichloroethane-d	3.845	144371	4291829	53.83		
	0.849	46	1252	1.60		
Chloromethane	0.959	1647	49253	0.31		
Vinyl Chloride	0.989	81	3137	0.01		
	1.164	642	24478	00.0		
Chloroethane	1.234	95	3134	0.01		
ha	1.299	105	4189	00.0		
	1.569	9	372	00.00		
	1.604	2909	105434	0.57		
	1.684	278	34	1.40		
Acrolein						
Allyl Chloride	1.914	4	222	00.00		
Methyl Tert-butyl Et	2.249	10	627	00.00		
Methylene Chloride	1.989	258	8562	00.0		
	2.104	154	5916	0.05		
Acetone	2.069	2734	91827	00.0		
Acrylonitrile	2.639	12	538	0.42		
1,1, -Dichloroethane	2.569	7	657	00.0		
Chloroprene	2.559	114	4488	0.01		
cis-1,2,-Dichloroeth	3.009	47	866	00.0		
2,2,-Dichloropropane	3.074	28	1182	00.00		
2-Butanone	3.565	42	1707	1.72		
Propionitrile	3.740	26	1418	2.01		
Bromochloromethane	3.134	4	178	0.15		
Chloroform	3.254	29941	878510	1.69		
Carbon tetrachloride	3.279	7	0	.5		
Vinyl Acetate						
1,1,1-Trichloroethan	3.400	∞	409	00.0		
1,1-Dichloropropene	3.390	12	564	00.0		
Benzene	3.715	248	7648	00.0		
Methacrylonitrile	3.810	80	855	00.0		
-Dichloroethane	3.855	29	1749	00.0		
chloroethene	4.255	82	3311	00.0		
-Dichloropropane	4.740	11	857	00.0		
modichloromethane	4.840	28968	868358	4.15		
Methyl methacrylate	5.065	33	1436			
Dibromomethane	4.650	14	788	0.00		
1.4-Dioxane	5.065	1	0			

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

RT RT -00152 ( 5.725	Area 77 77 860 16 20 20 26 190 48543 35 18	Sample ID: Height 2761 1876	01-26-17 B17-	
1,3-Dichloroptop   5.725   1,3-Dichloroptop   5.726   1,3-Dichloroptop   5.720   1,3-Dichloroptop   5.720   1,2-Trichloroethan   6.361   1,2-Dichloroptopane   6.366   1,2-Tetrachloroe   7.486   1,2-Tetrachloroe   7.486   1,2-Tetrachloroe   7.486   1,2-Tetrachloroe   7.486   1,2-Tetrachloroe   7.486   1,2-Tetrachloroe   7.486   1,4-Tetrachloroe   7.671   1,4-dichloro-2-b   8.181   1,4-dichloro-2-b   8.251   1,4-dichloro-2-b   8.867   1,4-dichloro-2-b   8.867   1,4-dichloroptopa   9.222   1,2-Tetrachloroe   9.197   1,4-dichloroptopa   9.262   1,2-Tetrachloroe   9.157   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichlorobenzene   9.872   1-Dichloropenzene   9.872   1-Dichlorobenzene   9.872   1-Dichloropenzene   9.872   1-Dichlorobenzene   9.872   1-Dichloropenzene   9.872   1-Dichloropenz	Ar 8 8 85	Height 2761 1876		B17-00152 (003)
1,3-Dichloroptop   5.725     1,3-Dichloroptop   5.460     1,3-Dichloroptop   5.720     2-Trichlorocthan   6.221     2-Trichlorocthan   6.361     3-Dichloroptopane   6.56     3-Dichloroptopane   6.56     3-Dichloroptopane   6.56     3-Dichloroptopane   6.756     3-Dichloroptopane   6.756     3-Dichloroptopane   6.756     3-Dichloroptopane   7.456     3-Dichloroptopane   7.456     3-Dichloroptopane   7.456     3-Dichloroptopane   8.181     3-Dichloroptopane   8.216     3-Dichloroptopane   8.251     3-Dichloroptopane   8.251     3-Dichloroptopane   8.252     3-Dichloroptopane   8.252     3-Dichloroptopane   8.252     3-Dichloropene   8.252     3-Dichloropene   8.252     3-Dichloropene   8.252     3-Dichlorobenzene   9.317     3-Dichlorobenzene   9.372     3-Dichloropenzene   9.372     3-Dichloropenzene   9.372     3-Dichloropenzene   9	8 1 8	2761	ug/L!	
11,3-Dichloroprop 5.460  18-1,3-Dichloroprop 5.720  19-1,3-Dichloroprop 6.221  2-Trichloroethan 6.361  1 methacrylate 6.46  1 methacrylate 6.106  1 codibromomethane 6.536  1 bichloropropane 6.556  1 bichloropropane 6.756  1 bichloropropane 6.756  1 codibromoethane 7.486  1 componentation 7.486  1 componentation 7.671  1 conform 8.181  1 cofform 8.216  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 8.597  1 copylbenzene 9.197  2 copylbenzene 9.262  3 Trichloropropa 9.262  1 copylbenzene 9.157  1 cortoluene 9.157  1 cortoluene 9.157  2 butylbenzene 9.517  3 drimethylbenze 9.517  3 drimethylbenzene 9.517  3 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517  5 drimethylbenzene 9.517	8 1 85	1876	1.15	
### 1.3 - Dichloropr 6.221  2. Trichloroethan 6.361  1. methacrylate 6.106  rachloroethene 6.106  rachloroethene 6.106  rachloroethene 6.106  Dichloropropane 6.256  Dibromoethane 6.756  Dibromoethane 7.486  1. 2. Tetrachloroe 7.386  Xylene 8.181  lene 8.216  rotorm 8.216  rotorm 8.216  rotorm 8.216  rotorm 8.216  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorm 8.251  rotorylbenzene 8.251  rotorhoroe 9.252  3. Trichloroerop 9.252	8 1 85	00000	2.24	
12.Trichloropr 6.221 2.Trichloroethan 6.361 2.Trichloroethan 6.361 2.Trichloroethan 6.446 2.106 2.201 2.Trichloropropane 6.106 2.106 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201	185	23336	00.0	
2-Trichloroethan 6.361    methacrylate 6.446   archloroethene 6.106   bichloroptopane 6.536   Dichloroptopane 6.536   color	185	984	1.86	
methacrylate	1 85	856	0.00	
archloroethene 6.106  prodibromomethene 6.536  Dibtloropropane 6.556  Libenzene 7.486  Libenzene 7.486  Litz-Tetrachloroe 7.386  Xylene 8.181  Androm 8.216  Androm 8.216  Androm 8.216  Androm 8.216  Androm 8.216  Androm 8.216  Androm 9.221  Androhoro-2-b 8.867  Androhoro-2-b 8.867  Androhoro-2-b 9.302  Copylbenzene 8.597  Androhoro-2-b 9.302  Copylbenzene 9.197  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157  Androhoro-2-b 9.157	Φ	1237	0.81	
bichloropenee 6.536 Dichloropenee 6.656 Dibromoethane 6.756 Dibromoethane 6.756 T. 2-Tetrachloroe 7.486 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T. 386 T.	ω	7045	0.00	
Dichloropropane 6.656  Dibromoethane 6.756  1,2-Tetrachloroe 7.486  1,2-Tetrachloroe 7.486  1,2-Tetrachloroe 7.876  Xylene 8.181  noform 8.216  Ethyl-2-pentanone 6.201  Exanone 8.251  oropylbenzene 8.867  is-1,4-dichloro-2-b 8.867  is-1,4-dichloropa 9.22  copylbenzene 8.937  is-1,4-dichloro-2-b 8.867  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.22  is-1,4-dichloropa 9.25  is-1,4-dichlorobenzene 9.872  is-1,4-dichlorobenzene 9.872  is-1,4-dichlorobenzene 9.872  is-1,4-dichlorobenzene 9.872	35 18	1424620	8.38	
Dibromoethane 6.756 Thenzene 7.486 T.2-Tetrachloroe 7.456 Xylene 7.386 Xylene 7.671 Tensor 7.386 Xylene 7.671 The contour 8.181 Toropylbenzene 8.251 Toropylbenzene 8.937 Toropylbenzene 8.937 Toropylbenzene 8.937 Toropylbenzene 8.937 Toropylbenzene 9.197 Torotoluene 9.262 Torotoluene 9.262 Torotoluene 9.262 Terimethylbenzene 9.517 Telurotoluene 9.592 Thrimethylbenzene 9.592 Thrimethylbenzene 9.517 Torotoluene 9.592 Thrimethylbenzene 9.872 Thrimethylbenzene 9.872 Thrimethylbenzene 9.872 Thrimethylbenzene 9.872	18	905	0.00	
1,2-Tetrachloroe		794	0.00	
1,2-Tetrachloroe 7.456 robenzene 7.386 Xylene 7.671 Ilene 7.587 Ilene 8.181 noform 8.216 tthyl-2-pentanone 6.201 xxanone 8.251 ropylbenzene 8.597 mobenzene 8.597 mobenzene 8.597 ropylbenzene 9.302 ropylbenzene 9.197 3Trichloropropa 9.222 5.2-Tetrachloroe 9.197 3Trichloropropa 9.262 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157 Ilorotoluene 9.157	1449	45777	0.03	
xylene 7.386 Xylene 7.671 Iene 8.181 oldorum 8.216 stahyl-2-pentanone 6.201 xxanone 8.251 ropylbenzene 8.597 aobenzene 8.597 sel, 4-dichloro-2-b 9.302 copylbenzene 9.197 3-Trichloropropa 9.222 5.2-Tetrachloroe 9.197 3-Trichloropropa 9.252 1.0roctoluene 9.157 1lorotoluene 9.157 2.157 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2.201 2	σ	422	2.10	
Xylene         7.671           **Ilene         8.181           **inform         8.216           **inform         6.201           **xanone         6.201           **xanone         8.251           **inform         8.597           **inform         8.857           **inform         8.867           **inform         8.867           **inform         9.052           **inform         9.197           **inform         9.197           **inform         9.262           **inform         9.157           **inform         9.157           **inform         9.517           **inform         9.517           **inform         9.517           **inform         9.517           **inform         9.872           **inform         9.872 <tr< td=""><td>735</td><td>25351</td><td>0.00</td><td></td></tr<>	735	25351	0.00	
Section   Section	1196	38540	90.0	
bethyl-2-pentanone 6.201  exanone 6.201  exanone 7.176  rene 8.251  ropylbenzene 8.37  ropylbenzene 8.867  ropylbenzene 9.052  copylbenzene 9.052  copylbenzene 9.197  3.4Trichloropropa 9.222  5.4.Trimethylbenze 9.262  rlocotoluene 9.262  rlocotoluene 9.27  rlocotoluene 9.262  rlocotoluene 9.262  rlocotoluene 9.262  rlocotoluene 9.262  rlocotoluene 9.262  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.27  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317  rlocotoluene 9.317	09	2194	00.0	
thyl-2-pentanone 6.201  sxanone 8.251  oxopylbenzene 8.597  ns-1,4-dichloro-2-b 8.867  ns-1,4-dichloro-2  2,2-Tetrachloroe 9.197  2,2-Tetrachloropa 9.222  5-trimethylbenze 9.262  1-trimethylbenze 9.262  3-trimethylbenze 9.262  4-Trimethylbenze 9.592  Butylbenzene 9.517  Horotoluene 9.517  -Butylbenzene 9.592  Butylbenzene 9.502  Butylbenzene 9.672  Butylbenzene 9.672  -Dichlorobenzene 9.872  -Dichlorobenzene 9.872  -Dichlorobenzene 9.872  -Dichlorobenzene 9.872  -Dichlorobenzene 9.872	43504	1279718	11.51	
1.176	22	1010	1.09	
8.251	24	1004	1.43	
oropylbenzene abobenzene	241	8618	00.0	
1,4-dichloro-2-b 8.867     1,4-dichloro-2-b 8.867     1,4-dichloro-2 9.302     2,2-Tetrachloroe 9.197     3-Trichloropropa 9.222     3-Trichloropropa 9.222     1-drotoluene 9.157     1-drotoluene 9.157     2-Butylbenzene 9.592     3-Trimethylbenze 9.592     4-Trimethylbenze 9.592     5-Trimethylbenze 9.592     6-Trimethylbenze 9.592     6-Trimethylbenzene 9.872     10-Trimethylbenzene 9.872	1093	40564	0.02	
1, 4-dichloro-2-b 8.867  1s-1, 4-dichloro-2 9.302  12, 2-Tetrachloroe 9.197  2, 2-Trichloropropa 9.222  3-Trichloropropa 9.222  1-trimethylbenze 9.157  1-lorotoluene 9.317  1-Butylbenzene 9.517  4-Trimethylbenze 9.592  Butylbenzene 9.672  sopropyltoluene 9.872  -bichlorobenzene 9.872  utylbenzene 9.872	131	5118	0.01	
is-1,4-dichloro-2 copylbenzene 2,2-Tetrachloroe 3,1-Trichloropropa 5,5-trimethylbenze 1lorotoluene 1-Butylbenzene 4-Trimethylbenze Putylbenzene 2-Butylbenzene 3-propyltoluene 1-bichlorobenzene blichlorobenzene 1-bichlorobenzene 1-bichlorobenzene 1-bichlorobenzene 1-bichlorobenzene 1-bichlorobenzene	401379	13442513	118.82	
copylbenzene 2,2-Tetrachloroe 3-Trichloropropa 5-trimethylbenze 1lorotoluene 1-Butylbenzene 4-Trimethylbenze Butylbenzene Atrimethylbenzene popropyltoluene Dichlorobenzene Dichlorobenzene Lichlorobenzene Dichlorobenzene	107	2653	1.73	
2,2-Tetrachloroe 3-Trichloropropa 5-trimethylbenze nlorotolueneButylbenzene 4-Trimethylbenze Butylbenzene A-Trimethylbenzene popropyltolueneDichlorobenzeneDichlorobenzeneDichlorobenzeneDichlorobenzene	3883	139519	00.0	
3-Trichloropropa 5-trimethylbenze 11orotoluene 1-Butylbenzene 4-Trimethylbenze Butylbenzene 9-Trimethylbenzene 1-Butylbenzene 1-Dichlorobenzene 1-Dichlorobenzene 1-Dichlorobenzene 1-Dichlorobenzene 1-Dichlorobenzene 1-Dichlorobenzene	17	857	00.00	
.5-trimethylbenze nlorotoluene nlorotolueneButylbenzene -4-Trimethylbenze -Butylbenzene sopropyltoluene -Dichlorobenzene -Dichlorobenzene -tylbenzene	Т	307	0.00	
llorotoluene llorotolueneButylbenzene 4-Trimethylbenze -Butylbenzene sopropyltoluene -Dichlorobenzene -Dichlorobenzene tylbenzene	1781	67442	0.00	
nze e ne ne	1640	61672	0.00	
nze e ne ne	2567	91369	00.0	
nze e ne ne	452	17807	0.01	
1	2238	83901	0.00	
1	3211	123994	00.0	
9 9 0	3244	127337	00.00	
10	4072	160755	00.00	
10	4072	160755	00.0	
	4437	166041	00.0	
	627	24552	0.03	
	42	1480	2.87	
∞1,2,4-Trichlorobenze 11.173	2336	93246		
	364	14576	90.0	
Naphthalene 11.373	2017	79348	0.04	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
Last modified: Wed Feb 01 13:23:36 2017
Job Code:

	RT	Area	Height	ug/L!	
Fluorobenzene	4.105	1968884	59183708	20.00	
Chlorobenzene-d5	7.371	1504561	46160640	20.00	
1,4-Dichlorobenzene-	9.862	820649	30473256	50.00	
Dibromofluoromethane	3.400	362215	10520053	41.05	
Toluene-d8	5.665	2035889	61711704	54.75	
Bromoflurorobenzene	8.867	860069	28817528	53.07	
1,2-Dichloroethane-d	3.845	137805	4132442	53.35	
Dichlorodifluorometh	0.864	110	3364	1.61	
Chloromethane	0.964	1492	46447	0.31	
Vinyl Chloride	0.984	14	551	00.00	
Bromomethane	•	497	19419	00.00	
Chloroethane		64	2311	0.01	
Trichlorofluorometha	1.304	67	2566	00.00	
1,1-Dichloroethene	1.594	11	581	0.00	
Carbon disulfide	1.604	2453	90157	0.55	
Iodomethane	1.684	9	1967	1.38	
Acrolein					
Allyl Chloride	1.924	4	220	0.00	
Methyl Tert-butyl Et	2.229	22	1091	0.	
Methylene Chloride	1.994	103	4269	0.00	
trans-1,2 Dichloroet	2.109	89	3097	0.01	
Acetone	2.064	444	16134	0.00	
Acrylonitrile	2.624	17	784	0.42	
1,1, -Dichloroethane	2.554	29	1099	0.00	
Chloroprene	2.559	124	4897	0.01	
cis-1,2,-Dichloroeth	3.034	н	0	00.00	
2,2,-Dichloropropane	3.074	12	420	00.0	
2-Butanone	3.530	3	272	1.70	
Propionitrile	3.790	31	1384	2.02	
Bromochloromethane	3.149	23	924	0.15	
Chloroform	3.249	48	1730	00.0	
Carbon tetrachloride	3.284	7	215	2.55	
Vinyl Acetate					
1,1,1-Trichloroethan	3.420	18	630	00.00	
1,1-Dichloropropene	3.345	328	9223	0.02	
Benzene	3.715	185	7897	00.00	
Methacrylonitrile	3.845	Q	808	00.00	
N1,2-Dichloroethane	3.905	39	1787	00.00	
hloroethene	4.260	65	3347	00.0	
01,2-Dichloropropane	4.770	37	1405	•	
odichloromethane	4.815	28	1087	1.98	
Methyl methacrylate	5.080	11	599	1.59	
Dibromomethane	4.650	11	445	00.00	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

Thu Feb 02 07:54:45 2017 Printed:

Sample Name: 01-26-17 Bl	E E	A	Sample in:	/T-28-TO	75100-719	151K2
2-Chloroethyl Vinyl 5	۲.	71	2664	1.15		
Д	.465	13	581	2.23		
	.720	811	28302	00.00		
trans-1,3-Dichloropr 6	.216	19	748	1.86		
an	•	36	1081	00.00		
Ethyl methacrylate 6	.451	М	210	0.81		
	6.101	70	2839	00.00		
a)	6.496	33	1019	2.85		
ne	6.636	18	709	00.00		
	6.726	7	262	00.0		
	7.481	1102	38013	0.02		
1,1,1,2-Tetrachloroe 7	7.466	12	404	2.10		
	7.386	542	20596	00.0		
7	7.661	737	26036	0.04		
	8.166	93	2777	0.01		
80	8.201	4	176	1.63		
4-Methyl-2-pentanone 6	6.206	S	305	1.08		
	7.126	17	994	1.43		
ω.	3.256	149	4343	00.0		
Isopropylbenzene 8	3.592	875	30436	0.02		
	3.927	24	962	00.0		
cis-1,4-dichloro-2-b 8	8.867	386724	12943596	115.89		
	.287	11	523	1.71		
	0.052	3410	122411	00.0		
loroe	1.167	Н	284	00.0		
	9.222	0	0	00.0		
penze	3.262	1728	66391	00.0		
-Chlorotoluene	9.152	1016	36327	00.0		
	.317	2067	76147	00.00		
	9.517	467	18856	0.01		
1,2,4-Trimethylbenze 5	.587	2023	78422	00.0		
	9.672	2693	103113	00.00		
	9.807	2998	114220	00.00		
	9.872	2946	116305	00.00		
	9.872	2946	116305	00.0		
_	10.122	4112	156103	00.0		
	10.172	412	16436	0.02		
	10.697	17	729	2.87		
υ υ	11.173	1611	63817	00.0		
	1.158	272	10930	0.05		
11	1.373	2123	82136	0.04		
1 2 2 Trichlorohonge 11	710	6,01	1000	0		

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017 Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

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Sample Name: 01-26-17 B17-00152 ccv2 ars-16-122001	B17-00152	ccv2 ars-	.16-122001	Sample ID: 01-26-17 B17-00152 ccv2 ars16-122001
Name	RT	Area	Height	ug/L!
Fluorobenzene	4.105	1910416	56947276	50.00
Chlorobenzene-d5	7.371	1497453	45830304	50.00
1,4-Dichlorobenzene-	9.857	848023	31993450	50.00
Dibromofluoromethane	3.400	400637	11790923	46.79
Toluene-d8	5.665	1995292	61036548	53.92
Bromoflurorobenzene	8.862	854133	28716324	52.96
1,2-Dichloroethane-d	3.845	135534	4050175	52.72
Dichlorodifluorometh	0.859	278181	8789828	43.42
Chloromethane	0.959	613481	16249421	45.53
Vinyl Chloride	666.0	577853	19256102	50.93
Bromomethane	1.164	376177	12141882	58.22
Chloroethane	1.229	290799	9830186	48.91
Trichlorofluorometha	1.299	288418	9551860	45.06
1,1-Dichloroethene	1.599	356406	11144580	59.67
Carbon disulfide	1.599	836656	27640980	46.63
Iodomethane	1.679	450664	13031381	56.17
Acrolein	1.924	1381	40328	152.04
Allyl Chloride	1.919	200519	6188660	46.05
Methyl Tert-butyl Et	2.254	σ	526	0.00
Methylene Chloride	1.994	462857	14121670	57.34
trans-1,2 Dichloroet	2.109	442660	13562903	53.17
Acetone	2.069	83600	2464112	54.71
Acrylonitrile	2.639	227908	7174650	45.87
1,1,-Dichloroethane	2.574	845438	24116940	44.12
Chloroprene	2.559	748248	22510190	47.86
cis-1,2,-Dichloroeth	3.009	532451	15765160	52.68
2,2,-Dichloropropane	3.089	359064	9698201	39.59
2-Butanone	3.545	64661	1974973	40.83
Propionitrile	3.780	95519	2879043	43.94
Bromochloromethane	3.164	226707	6878556	49.95
Chloroform	3.254	765855	22141966	46.49
Carbon tetrachloride	3.329	380622	10542535	44.36
Vinyl Acetate				
1,1,1-Trichloroethan	3.390	582117	15849470	51.87
1,1-Dichloropropene	3.505	612454	17973156	47.07
Benzene	3.715	1973107	57920220	47.87
Nethacrylonitrile	3.790	413592	11809870	43.83
V1,2-Dichloroethane	3.905	668730	19914146	44.56
o Trichloroethene	4.255	491695	14695647	54.43
N. 1, 2-Dichloropropane	4.745	549536	16039124	46.42
G Bromodichloromethane	4.835	541867	16177873	45.62
Methyl methacrylate	5.065	433447	13260809	41.11
Dibromomethane	4.640	286099	8697880	50.82
1,4-Dioxane	5.075	6094	181399	46.35

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

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Name 2-Chloroethyl Vinyl	E	201	1 1 1 1		
2-Chloroethyl Vinyl	T.Y	שדעם	Height	ug/L1	
	5.715	176602	5360852	46.18	
cis-1,3-Dichloroprop	5.480	654865	20261116	41.00	
Toluene	5.715	1330390	40330072	60.04	
trans-1,3-Dichloropr	6.201	579948	18234184	42.46	
1,1,2-Trichloroethan	6.361	389986	11704592	53.45	
Ethyl methacrylate	6.466	772034	23403792	44.96	
Tetrachloroethene	6.106	488468	14391906	69.58	
Chlorodibromomethane	6.531	398467	12072073	50.23	
1,3-Dichloropropane	6.646	873457	26165206	47.05	
1,2-Dibromoethane	6.746	468647	14128561	52.59	
Ethylbenzene	7.476	2450613	74170904	54.00	
1,1,1,2-Tetrachloroe	7.491	402946	11921480	50.67	
Chlorobenzene	7.386	1417831	42997060	53.33	
m,p-Xylene	7.661	1928259	58727384	100.45	
o-Xylene	8.171	943573	28700984	51.71	
Bromoform	8.216	230658	7007104	50.99	
4-Methyl-2-pentanone	6.196	96351	2838647	49.34	
2-Hexanone	7.161	434050	12606825	44.47	
Styrene	8.246	1635801	50099340	54.59	
Isopropylbenzene	8.587	2380735	71627312	52.51	
Bromobenzene	8.937	584112	19436448	48.01	
cis-1,4-dichloro-2-b	8.982	91612	3415073	31.22	
trans-1,4-dichloro-2	9.292	188970	6766438	39.25	
n-Propylbenzene	9.042	2826101	80960996	54.44	
1,1,2,2-Tetrachloroe	9.137	642660	22453618	46.11	
1,2,3-Trichloropropa	9.217	95460	4291255	44.39	
1,3,5-trimethylbenze	9.257	2148414	77317728	51.04	
2-Chlorotoluene	9.147	1779385	62383556	52.62	
4-Chlorotoluene	9.307	1838537	66277556	50.75	
tert-Butylbenzene	9.517	1896990	67240840	44.66	
1,2,4-Trimethylbenze	9.582	2243203	83665800	50.81	
sec-Butylbenzene	6.667	2600758	95934568	51.50	
4-Isopropyltoluene	9.802	2217197	83150520	49.32	
1,3-Dichlorobenzene	9.867	1208964	45299516	52.03	
1,4-Dichlorobenzene	9.867	1208964	45299516	52.03	
n-Butylbenzene	10.117	2036638	77402824	52.51	
1,2-Dichlorobenzene	٠.	1176297	44719056	47.91	
21,2-Dibromo-3-chloro		116775	4445422	37.08	
N1,2,4-Trichlorobenze	11.163	833274	32338430	48.47	
9 Hexachlorobutadiene	11.163	319797	12281649	52.03	
Naphthalene	11.363	2588847	100882704	44.15	
N 1 2 3-Trichlorobenze	•	0327260	32542640	00 00	

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152 Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152 Last modified: Wed Feb 01 13:23:36 2017

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Sample Name: 01-26-17 ccv6 ars16-122007	

ng/L!	50.00	50.00	50.00	40.33	50.02	51.74	48.59	1.60	0.42	00.0	00.0	0.02	00.0	00.0	0.49	1.42	23782.94	00.0	00.0	00.0	00.0	26.07	0.43	00.00	00.0	00.0	00.0	•	2.01		00.0	2.55		00.00	0.05	00.0	0.18	00.0	00.00	00.00	1.98	1.59	00.0	1.90
Height	44378400	39583336	28302018	8106551	48660032	23908768	3272112	1028	73123	771	94962	5035	497	309	40823	10500	5157919	201	57396424	7541	393	903650	1671	554	496	0	479	55192	953		0	349	42422292	919	5226	5061	40106	2507	594	719	1089	932	588	592
Area	1507867	1298681	753166	272581	1605314	723784	108326	26	2382	21	2727	104	13	2	1044	289	170450	3	2152978	199	12	32914	41	19	7	2	4	1668	17		П	<b>œ</b>	1357487	18	200	182	1334	61	2	12	18	14	12	16
RT	4.100	7.371	9.857	3.405	5.665	8.867	3.845	0.869	0.959	0.989	1.164	•	1.309	1.594	1.519	1.669	1.849	1.879	2.244	1.989	2.084	2.244	2.614	2.599	2.549		3.094	3.570	3.785		•	•	2.829	•	٠	•	3.730	3.915	•	4.760	4.810	5.075	4.645	•
Name	Fluorobenzene	Chlorobenzene-d5	1,4-Dichlorobenzene-	Dibromofluoromethane	Toluene-d8	Bromoflurorobenzene	1,2-Dichloroethane-d	Dichlorodifluorometh	Chloromethane	Vinyl Chloride	Bromomethane	Chloroethane	Trichlorofluorometha	1,1-Dichloroethene	Carbon disulfide	Iodomethane	Acrolein	Allyl Chloride	Methyl Tert-butyl Et	Methylene Chloride	trans-1,2 Dichloroet	Acetone	Acrylonitrile	1,1,-Dichloroethane	Chloroprene	cis-1,2,-Dichloroeth	2,2,-Dichloropropane	2-Butanone	Propionitrile	Bromochloromethane	Chloroform	Carbon tetrachloride	Vinyl Acetate	1,1,1-Trichloroethan	1,1-Dichloropropene	Benzene	Methacrylonitrile	N1,2-Dichloroethane	Trichloroethene	1,2-Dichloropropane	Bromodichloromethane	Methyl methacrylate	Dibromomethane	1,4-Dioxane

Sample List: C:\TurboMass\T020117 B1700152.PRO\SampleDB\8260 water 01-26-17 B17-00152
Last modified: Wed Feb 01 13:31:42 2017
Method: C:\TurboMass\T020117 B1700152.PRO\MethDB\8260b water 01-26-2017 B17-00152
Last modified: Wed Feb 01 13:23:36 2017
Job Code:

Printed:

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Name 2-Chloroethyl Vinyl cis-1,3-Dichloroprop Toluene trans-1,3-Dichloropr	RŢ	Area		1.7/1.1	
cis-1,3-Dichloroprop Toluene trans-1,3-Dichloropr	5.715	7.5	Height	11.15	
Toluene trans-1,3-Dichloropr	5.490	33	992	2.24	
trans-1,3-Dichloropr	5.715	313	9525	0.00	
	6.201	39	1060	1.86	
1,1,2-Trichloroethan	6.361	22	992	00.00	
Ethyl methacrylate	6.431	36	1361	0.81	
Tetrachloroethene	6.101	21	086	00.00	
Chlorodibromomethane	6.511	0	0	2.85	
1,3-Dichloropropane	6.646	20	1189	00.00	
1,2-Dibromoethane	6.746	13	520	00.00	
Ethylbenzene	7.371	1509	51548	0.04	
1,1,1,2-Tetrachloroe	7.486	9	210	2.10	
Chlorobenzene	7.381	87	3294	0.00	
m,p-Xylene	7.671	217	7554	0.01	
o-Xylene	8.171	23	1102	00.0	
Bromoform	8.216	13	562	1.63	
4-Methyl-2-pentanone	6.206	80	372	1.08	
2-Hexanone	7.131	1151	25415	1.56	
Styrene	8.261	19	675	0.00	
Isopropylbenzene	8.597	115	4066	0.00	
Bromobenzene	8.932	17	502	00.00	
cis-1,4-dichloro-2-b	8.867	355085	11804748	115.94	
trans-1,4-dichloro-2	9.297	7	386	1.71	
n-Propylbenzene	9.052	740	27229	00.0	
1,1,2,2-Tetrachloroe	9.117	19	929	00.0	
1,2,3-Trichloropropa	9.237	-5	0	00.00	
1,3,5-trimethylbenze	9.262	2642	96573	00.00	
2-Chlorotoluene	9.152	234	8350	00.0	
4-Chlorotoluene	9.312	257	8808	00.0	
tert-Butylbenzene	9.527	98	2908	00.00	
1,2,4-Trimethylbenze	9.587	7142	262960	00.00	
sec-Butylbenzene	9.587	7142	262960	00.00	
4-Isopropyltoluene	9.792	517	17430	00.00	
1,3-Dichlorobenzene	9.862	935	36408	00.00	
1,4-Dichlorobenzene	9.862	929	36348	00.00	
n-Butylbenzene	10.122	1229	46506	00.0	
	10.167	63	2093	00.00	
	10.722	31	1243	2.87	
1,2,4-Trichlorobenze	11.163	313	12360	00.00	
Hexachlorobutadiene	11.143	0	0	00.00	
Naphthalene :	11.363	260	22061	0.01	
1,2,3-Trichlorobenze	11.463	85	3150	0.00	

File Name: C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 B17-00152 ccv ars16-

Sample ID: 01-26-17 B17-00152 ccv ars16-122 Operator: ap

Description: 01-26-17 B17-00152 ccv ars16-122001

Inject Date/Time: January 26, 2017 5:36:51 PM Tune File: 010317.IPR GC Method: 8260.mth MS Method: 8260.EXP

Quantify Method: 8260b water 01-26-2017 B17-00152 Last Updated: February 02, 2017 12:58:57 PM

Calibration File: 8260B water IC 01-24-17cal2 Last Updated: January 24, 2017 4:48:29 PM GC Column: Elite-VMS Level:

Dilution: 1.000 Sample Wt: 1.000 Soil Extract Vol: Purge Vol: 5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT D∨	Man
1	Fluorobenzene	363-72-4	4.100	96	2,278,000	50.00	-0.01	
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,758,000	50.00	0.00	
3	1,4-Dichlorobenzene-D4	3855-82-1	9.862	152	966,900	50.00	0.01	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.395	113	468,600	50.00	45.89	91.79	-0.01	
5	Toluene-d8	2037-26-5	5.660	98	2,371,000	50.00	54.59	109.2	0.00	
6	Bromofluorobenzene	460-00-4	8.867	95	1,015,000	50.00	53.63	107.3	0.01	
7	1,2-Dichloroethane-d4	17060-	3.840	102	161,700	50.00	53.60	107.2	-0.01	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	320,000	0.00	41.94	1.00	
9	Chloromethane	74-87-3	0.954	50	703,900	0.00	43.83	1.00	
10	Vinyl Chloride	75-01-4	0.994	62	660,700	0.00	48.84	1.00	
11	Bromomethane	74-83-9	1.159	94	413,100	0.00	53.56	1.00	
12	Chloroethane	75-00-3	1.224	64	324,300	0.00	45.74	1.00	
13	Trichlorofluoromethane	75-69-4	1.294	101	348,000	0.00	45.63	1.00	
14	1,1-Dichloroethene	75-35-4	1.589	96	402,800	0.00	56.56	1.00	
15	Carbon disulfide	75-15-10	1.589	76	1,008,000	0.00	47.12	1.00	
16	Iodomethane	74-88-4	1.669	142	477,400	0.00	50.06	1.00	
18	Allyl Chloride	107-05-1	1.909	76	235,800	0.00	45.41	1.00	
19	Methyl Tert-butyl Ether	1634-04-4	2.219	73	18.52	0.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.984	84	505,900	0.00	52.41	1.00	
21	trans-1,2 Dichloroethene	156-60-5	2.099	96	504,600	0.00	50.84	1.00	
22	Acetone	67-64-1	2.054	58	89,280	0.00	48.75	5.00	
23	Acrylonitrile	75-34-3	2.629	53	237,500	0.00	40.15	1.00	
24	1,1,-Dichloroethane	75-34-3	2.564	63	974,600	0.00	42.66	1.00	
25	Chloroprene	107-13-1	2.549	53	872,200	0.00	46.79	1.00	ļ
26	cis-1,2,-Dichloroethene	156-59-2	2.999	96	605,000	0.00	50.20	1.00	
27	2,2,-Dichloropropane	594-20-7	3.079	77	452,800	0.00	41.87	1.00	
28	2-Butanone	78-93-3	3.540	72	73,380	0.00	38.95	5.00	
29	Propionitrile	107-02-8	3.775	54	99,660	0.00	38.70	1.00	ļ
30	Bromochloromethane	74-97-5	3.154	128	248,900	0.00	46.01	1.00	ļ
31	Chloroform	67-66-3	3.245	83	862,300	0.00	43.90	1.00	
32	Carbon tetrachloride	56-23-5	3.320	117	440,400	0.00	43.12	1.00	<u> </u>
34	1,1,1-Trichloroethane	71-55-6	3.385	97	664,400	0.00	49.65	1.00	

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.495	75	710,600	0.00	45.80	1.00	
36	Benzene	71-43-2	3.710	78	2,236,000	0.00	45.47	1.00	
37	Methacrylonitrile	126-98-7	3.785	41	459,000	0.00	40.79	1.00	
38	1,2-Dichloroethane	107-06-2	3.900	62	765,000	0.00	42.73	1.00	
39	Trichloroethene	79-01-6	4.250	95	555,300	0.00	51.50	1.00	
40	1,2-Dichloropropane	78-87-5	4.740	63	619,400	0.00	43.86	1.00	
41	Bromodichloromethane	75-27-4	4.835	83	624,200	0.00	44.14	1.00	
42	Methyl methacrylate	80-62-6	5.065	69	457,200	0.00	36.56	1.00	
43	Dibromomethane	79-95-3	4.635	93	318,400	0.00	47.43	1.00	
44	1,4-Dioxane	123-91-1	5.070	88	5,708	0.00	37.41	1.00	
45	2-Chloroethyl Vinyl Ether	110-75-8	5.715	63	201,700	0.00	44.28	1.00	
46	cis-1,3-Dichloropropene	10061-	5.475	75	748,900	0.00	39.41	1.00	
47	Toluene	108-88-3	5.715	92	1,489,000	0.00	57.17	1.00	
48	trans-1,3-	10061-	6.196	75	673,500	0.00	42.03	1.00	
49	1,1,2-Trichloroethane	79-00-5	6.356	83	423,200	0.00	49.38	1.00	
50	Ethyl methacrylate	97-63-2	6.461	69	835,900	0.00	41.53	1.00	
51	Tetrachloroethene	79-01-6	6.101	164	512,400	0.00	61.87	1.00	
52	Chlorodibromomethane	124-48-1	6.526	129	445,200	0.00	47.96	1.00	
53	1,3-Dichloropropane	142-28-9	6.641	76	969,200	0.00	44.48	1.00	
54	1,2-Dibromoethane	100-41-4	6.746	107	511,600	0.00	48.86	1.00	
55	Ethylbenzene	100-41-4	7.476	91	2,779,000	0.00	52.16	1.00	
56	1,1,1,2-	630-20-6	7.491	131	450,900	0.00	48.41	1.00	
57	Chlorobenzene	108-90-7	7.386	112	1,599,000	0.00	51.18	1.00	
58	m,p-Xylene	106-42-	7.661	106	2,232,000	0.00	99.04	2.00	
59	o-Xylene	95-47-6	8.171	106	1,071,000	0.00	49.99	1.00	
60	Bromoform	75-25-2	8.216	173	255,700	0.00	48.53	1.00	
61	4-Methyl-2-pentanone	108-10-1	6.191	100	99,920	0.00	43.72	5.00	
62	2-Hexanone	591-78-6	7.156	43	446,400	0.00	39.14	5.00	
63	Styrene	100-42-5	8.247	104	1,838,000	0.00	52.24	1.00	
64	Isopropylbenzene	98-82-8	8.592	105	2,729,000	0.00	51.29	1.00	
65	Bromobenzene	108-86-1	8.937	156	642,400	0.00	46.31	1.00	<del>                                     </del>
66	cis-1,4-dichloro-2-	1476-11-5	8.987	75	107,300	0.00	31.90	1.00	<u> </u>
67	trans-1,4-dichloro-2-	110-57-6	9.297	53	232,500	0.00	42.22	1.00	<del> </del>
68	n-Propylbenzene	103-65-1	9.047	91	3,243,000	0.00	54.81	1.00	
		79-34-5	9.137	83	689,000	0.00	43.36	1.00	<b> </b>
69	1,1,2,2- 1,2,3-Trichloropropane	96-18-4	9.137	77	92,660	0.00	37.67	1.00	<b>†</b>
70		108-67-8	9.262	105	2,438,000	0.00	50.79	1.00	<b> </b>
71	1,3,5-trimethylbenzene 2-Chlorotoluene		9.152	91	2,034,000	0.00	52.78	1.00	ļ
72		95-49-8 106-43-4	9.132	91	2,034,000	0.00	50.37	1.00	
73	4-Chlorotoluene			119	2,170,000	0.00	44.81	1.00	1
74	tert-Butylbenzene	98-06-6	9.517	105	2,170,000	0.00	49.80	1.00	<del> </del>
75	1,2,4-Trimethylbenzene	95-63-6	9.587		2,974,000	0.00	51.67	1.00	<del>                                     </del>
76	sec-Butylbenzene	135-98-8	9.672	105		0.00	49.62	1.00	<b>†</b>
77	4-Isopropyltoluene	99-87-6	9.802	119	2,542,000	0.00	50.60	1.00	$\vdash$
78	1,3-Dichlorobenzene	541-73-1	9.872	146	1,341,000			1.00	<del>                                     </del>
79	1,4-Dichlorobenzene	106-46-7	9.872	146	1,341,000	0.00	50.60	1.00	<del> </del>
80	n-Butylbenzene	104-51-8	10.122	91	2,365,000	0.00	53.52	1.00	<del> </del>
81	1,2-Dichlorobenzene	95-50-1	10.177	146	1,284,000	0.00	45.86		<del> </del>
82	1,2-Dibromo-3-	96-12-8	10.742	75_	120,000	0.00	33.70	1.00	<del> </del>
83	1,2,4-Trichlorobenzene	120-82-1	11.173	180	915,900	0.00	46.68	1.00	
84	Hexachlorobutadiene	87-68-3	11.173	225	367,100	0.00	52.38	1.00	+
85	Naphthalene	91-20-3	11.368	128	2,652,000	0.00	39.68	1.00	<del> </del>
86	1,2,3-Trichlorobenzene	87-61-6	11.478	180	896,100	0.00	45.13	1.00	

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File Name:

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Sample ID:

01-26-17 B17-00152 iblk1

Operator:

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Description: Inject Date/Time: 01-26-17 B17-00152 iblk1

Tune File:

010317.IPR

GC Method:

January 26, 2017 6:01:21 PM 8260.mth

MS Method:

8260.EXP

Quantify Method:

8260b water 01-26-2017 B17-00152

Last Updated:

February 02, 2017 12:58:57 PM

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

January 24, 2017 4:48:29 PM

Level:

GC Column:

Elite-VMS

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Purge Vol:

5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv	Man
1	Fluorobenzene	363-72-4	4.105	96	2,115,000	50.00	0.00	
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,603,000	50.00	0.00	
3	1.4-Dichlorobenzene-D4	3855-82-1	9.857	152	865,300	50.00	0.00	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.400	113	397,400	50.00	41.93	83.87	0.00	
5	Toluene-d8	2037-26-5	5.665	98	2,175,000	50.00	54.91	109.8	0.01	
6	Bromofluorobenzene	460-00-4	8.862	95	915,700	50.00	53.05	106.1	0.00	
7	1.2-Dichloroethane-d4	17060-	3.845	102	147,800	50.00	53.72	107.4	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	187.8	0.00	1.62	1.00	Х
9	Chloromethane	74-87-3	0.959	50	2,414	0.00	0.36	1.00	
10	Vinyl Chloride	75-01-4	0.994	62	339.8	0.00	0.03	1.00	Х
11	Bromomethane	74-83-9	1.169	94	1,158	0.00	0.00	1.00	
12	Chloroethane	75-00-3	1.229	64	82.75	0.00	0.01	1.00	X
13	Trichlorofluoromethane	75-69-4	1.299	101	210.2	0.00	0.00	1.00	X
14	1,1-Dichloroethene	75-35-4	1.594	96	164.4	0.00	0.02	1.00	X
15	Carbon disulfide	75-15-10	1.604	76	6,779	0.00	0.76	1.00	
16	lodomethane	74-88-4	1.684	142	196.4	0.00	1.39	1.00	X
18	Allyl Chloride	107-05-1	1.919	76	20.03	0.00	0.00	1.00	X
19	Methyl Tert-butyl Ether	1634-04-4	2.254	73	19.22	0.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.989	84	661.2	0.00	0.00	1.00	X
21	trans-1,2 Dichloroethene	156-60-5	2.104	96	835.1	0.00	0.09	1.00	X
22	Acetone	67-64-1	2.059	58	688.8	0.00	0.00	5.00	Х
23	Acrylonitrile	75-34-3	2.649	53	55.37	0.00	0.43	1.00	X
24	1,1,-Dichloroethane	75-34-3	2.569	63	123.2	0.00	0.01	1.00	X
25	Chloroprene	107-13-1	2.554	53	537.9	0.00	0.03	1.00	X
26	cis-1,2,-Dichloroethene	156-59-2	2.999	96	246.4	0.00	0.02	1.00	X
27	2,2,-Dichloropropane	594-20-7	3.089	77	10.46	0.00	0.00	1.00	X
28	2-Butanone	78-93-3	3.575	72	20.72	0.00	1.70	5.00	X
29	Propionitrile	107-02-8	3.785	54	46.39	0.00	2.02	1.00	X
30	Bromochloromethane	74-97-5	3.169	128	33.85	0.00	0.15	1.00	X
31	Chloroform	67-66-3	3.244	83	50.43	0.00	0.00	1.00	X
32	Carbon tetrachloride	56-23-5	3.349	117	18.69	0.00	2.55	1.00	X
34	1,1,1-Trichloroethane	71-55-6	3.380	97	16.09	0.00	0.00	1.00	X

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.345	75	1,545	0.00	0.11	1.00	
36	Benzene	71-43-2	3.710	78	787.9	0.00	0.00	1.00	Х
37	Methacrylonitrile	126-98-7	3.790	41	59.83	0.00	0.01	1.00	X
38	1,2-Dichloroethane	107-06-2	3.905	62	160.7	0.00	0.00	1.00	X
39	Trichloroethene	79-01-6	4.250	95	272.7	0.00	0.00	1.00	X
40	1,2-Dichloropropane	78-87-5	4.760	63	27.03	0.00	0.00	1.00	X
41	Bromodichloromethane	75-27-4	4.825	83	45.18	0.00	1.98	1.00	X
42	Methyl methacrylate	80-62-6	5.080	69	28.47	0.00	1.59	1.00	X
43	Dibromomethane	79-95-3	4.640	93	42.38	0.00	0.00	1.00	X
44	1,4-Dioxane	123-91-1	5.045	88	8.133	0.00	1.80	1.00	X
45	2-Chloroethyl Vinyl Ether	110-75-8	5.715	63	41.65	0.00	1.14	1.00	X
46	cis-1,3-Dichloropropene	10061-	5.490	75	45.98	0.00	2.24	1.00	X
47	Toluene	108-88-3	5.715	92	1,592	0.00	0.00	1.00	<del>- ^-</del>
48	trans-1,3-	10061-	6.206	75	61.26	0.00	1.86	1.00	Х
49	1,1,2-Trichloroethane	79-00-5	6.306	83	51.15	0.00	0.00	1.00	X
50	Ethyl methacrylate	97-63-2	6.486	69	14.85	0.00	0.81	1.00	X
51	Tetrachloroethene	79-01-6	6.101	164	348.4	0.00	0.00	1.00	X
52	Chlorodibromomethane	124-48-1	6.516	129	1.652	0.00	2.85	1.00	X
53	1,3-Dichloropropane	142-28-9	6.631	76	19.32	0.00	0.00	1.00	X
54	1,2-Dibromoethane	100-41-4	6.761	107	40.85	0.00	0.00	1.00	X
55	Ethylbenzene	100-41-4	7.481	91	2,086	0.00	0.04	1.00	_^_
56	1,1,1,2-	630-20-6	7.506	131	6.652	0.00	2.10	1.00	X
57	Chlorobenzene	108-90-7	7.386	112	1,768	0.00	0.00	1.00	_^_
58	m,p-Xylene	106-30-7	7.666	106	1,795	0.00	0.09	2.00	
59	o-Xylene	95-47-6	8.166	106	218.6	0.00	0.03	1.00	X
60	Bromoform	75-25-2	8.241	173	1.689	0.00	1.63	1.00	X
61	4-Methyl-2-pentanone	108-10-1	6.186	100	6.241	0.00	1.08	5.00	X
62	2-Hexanone	591-78-6	7.146	43	93.76	0.00	1.44	5.00	X
63	Styrene	100-42-5	8.256	104	863.0	0.00	0.00	1.00	X
64	Isopropylbenzene	98-82-8	8.592	105	2,177	0.00	0.04	1.00	
65	Bromobenzene	108-86-1	8.932	156	309.2	0.00	0.02	1.00	X
66	cis-1,4-dichloro-2-	1476-11-5	8.862	75	415,500	0.00	117.97	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.272	53	12.74	0.00	1.71	1.00	X
	n-Propylbenzene	103-65-1	9.047	91	5,662	0.00	0.00	1.00	_^
_	1,1,2,2-	79-34-5	9.132	83	38.08	0.00	0.00	1.00	Х
	1,2,3-Trichloropropane	96-18-4	9.237	77	-8.326	0.00	0.00	1.00	X
	1,3,5-trimethylbenzene	108-67-8	9.262	105	3,138	0.00	0.00	1.00	_^_
	2-Chlorotoluene	95-49-8	9.152	91	2,743	0.00	0.00	1.00	
	4-Chlorotoluene	106-43-4	9.317	91			0.00	1.00	
	tert-Butylbenzene	98-06-6	9.517	119	4,387	0.00		1.00	
75	1,2,4-Trimethylbenzene	95-63-6	9.517		1,887	0.00	0.04		
	sec-Butylbenzene	135-98-8		105	3,320		0.00	1.00	
	4-Isopropyltoluene	99-87-6	9.667	105	4,969	0.00	0.00	1.00	
	1,3-Dichlorobenzene		9.802	119	5,638	0.00	0.00	1.00	
	1,4-Dichlorobenzene	541-73-1 106-46-7	9.867	146	5,350	0.00	0.00	1.00	
	n-Butylbenzene	104-51-8	9.867 10.122	146 91	5,350	0.00	0.00	1.00	
	1,2-Dichlorobenzene	95-50-1			7,214	0.00			
	1,2-Dibromo-3-		10.177	146 75	1,675	0.00	0.07	1.00	
	1,2,4-Trichlorobenzene	96-12-8 120-82-1	10.732		16.15	0.00	2.86	1.00	Х
84	Hexachlorobutadiene		11.168	180 225	4,192	0.00	0.00	1.00	
	Naphthalene	87-68-3 91-20-3	11.168 11.368	128	1,008 9,226	0.00	0.16 0.15	1.00	
85									

File Name:

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 B17-00152 LCS ars16-

Sample ID:

01-26-17 B17-00152 LCS ars16-12

Description:

01-26-17 B17-00152 LCS ars16-122001

Inject Date/Time:

January 26, 2017 6:25:47 PM

Tune File:

Operator:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

ap

Quantify Method: 8260b water 01-26-2017 B17-00152

Last Updated:

February 02, 2017 12:58:57 PM

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Level:

1.000

Dilution: Soil Extract Vol:

1.000

Sample Wt: Purge Vol:

5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv	Man
1	Fluorobenzene	363-72-4	4.105	96	2,062,000	50.00	0.00	
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,625,000	50.00	0.00	
3	1,4-Dichlorobenzene-D4	3855-82-1	9.862	152	899,000	50.00	0.01	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.400	113	432,200	50.00	46.77	93.54	0.00	
5	Toluene-d8	2037-26-5	5.665	98	2,163,000	50.00	53.83	107.7	0.01	
6	Bromofluorobenzene	460-00-4	8.867	95	933,400	50.00	53.31	106.6	0.01	
7	1,2-Dichloroethane-d4	17060-	3.845	102	147,100	50.00	52.72	105.4	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	317,300	50.00	45.80	1.00	
9	Chloromethane	74-87-3	0.959	50	635,700	50.00	43.73	1.00	
10	Vinyl Chloride	75-01-4	0.999	62	614,600	50.00	50.19	1.00	
11	Bromomethane	74-83-9	1.164	94	371,400	50.00	53.20	1.00	
12	Chloroethane	75-00-3	1.229	64	300,700	50.00	46.87	1.00	
13	Trichlorofluoromethane	75-69-4	1.294	101	314,900	50.00	45.61	1.00	
14	1,1-Dichloroethene	75-35-4	1.594	96	373,400	50.00	57.93	1.00	
15	Carbon disulfide	75-15-10	1.599	76	898,900	50.00	46.43	1.00	
16	lodomethane	74-88-4	1.679	142	460,300	50.00	53.24	1.00	
17	Acrolein	107-05-1	1.919	56	1,020	50.00	104.08	1.00	
18	Allyl Chloride	107-05-1	1.914	76	205,300	50.00	43.69	1.00	
19	Methyl Tert-butyl Ether	1634-04-4	2.239	73	40.74	50.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.994	84	469,800	50.00	53.83	1.00	
21	trans-1,2 Dichloroethene	156-60-5	2.104	96	454,700	50.00	50.61	1.00	
22	Acetone	67-64-1	2.069	58	96,850	50.00	58.91	5.00	
23	Acrylonitrile	75-34-3	2.639	53	235,700	50.00	43.98	1.00	
24	1,1,-Dichloroethane	75-34-3	2.574	63	879,500	50.00	42.53	1.00	
25	Chloroprene	107-13-1	2.554	53	789,600	50.00	46.80	1.00	
26	cis-1,2,-Dichloroethene	156-59-2	3.004	96	539,600	50.00	49.47	1.00	
27	2,2,-Dichloropropane	594-20-7	3.089	77	407,400	50.00	41.62	1.00	
28	2-Butanone	78-93-3	3.545	72	77,120	50.00	44.95	5.00	
29	Propionitrile	107-02-8	3.780	54	97,640	50.00	41.73	1.00	
30	Bromochloromethane	74-97-5	3.164	128	229,900	50.00	46.95	1.00	
31	Chloroform	67-66-3	3.249	83	781,000	50.00	43.93	1.00	L
32	Carbon tetrachloride	56-23-5	3.325	117	412,400	50.00	44.52	1.00	

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
34	1,1,1-Trichloroethane	71-55-6	3.390	97	613,100	50.00	50.62	1.00	
35	1,1-Dichloropropene	563-58-6	3.500	75	649,200	50.00	46.23	1.00	
36	Benzene	71-43-2	3.715	78	2,038,000	50.00	45.79	1.00	
37	Methacrylonitrile	126-98-7	3.790	41	429,400	50.00	42.17	1.00	
38	1,2-Dichloroethane	107-06-2	3.905	62	695,800	50.00	42.94	1.00	
39	Trichloroethene	79-01-6	4.255	95	501,800	50.00	51.41	1.00	
40	1,2-Dichloropropane	78-87-5	4.745	63	561,400	50.00	43.91	1.00	
41	Bromodichloromethane	75-27-4	4.835	83	556,800	50.00	43.54	1.00	
42	Methyl methacrylate	80-62-6	5.065	69	449,200	50.00	39.54	1.00	
43	Dibromomethane	79-95-3	4.640	93	290,200	50.00	47.76	1.00	
44	1,4-Dioxane	123-91-1	5.075	88	6,856	50.00	48.09	1.00	
45	2-Chloroethyl Vinyl Ether	110-75-8	5.715	63	180,900	50.00	43.88	1.00	
46	cis-1,3-Dichloropropene	10061-	5.480	75	682,400	50.00	39.66	1.00	
47	Toluene	108-88-3	5.715	92	1,350,000	50.00	56.01	1.00	
48	trans-1,3-	10061-	6.201	75	615,300	50.00	41.54	1.00	
49	1,1,2-Trichloroethane	79-00-5	6.361	83	397,700	50.00	50.19	1.00	
50	Ethyl methacrylate	97-63-2	6.461	69	792,800	50.00	42.57	1.00	
51	Tetrachloroethene	79-01-6	6.101	164	494,000	50.00	64.62	1.00	-
52	Chlorodibromomethane	124-48-1	6.531	129	408,500	50.00	47.60	1.00	
53	1,3-Dichloropropane	142-28-9	6.646	76	903,800	50.00	44.85	1.00	
54	1,2-Dibromoethane	100-41-4	6.746	107	480,700	50.00	49.65	1.00	
55	Ethylbenzene	100-41-4	7.476	91	2,503,000	50.00	50.80	1.00	
56	1,1,1,2-	630-20-6	7.491	131	409,800	50.00	47.60	1.00	
57	Chlorobenzene	108-90-7	7.386	112	1,443,000	50.00	49.90	1.00	<b></b>
58	m,p-Xylene	106-30-7	7.661	106	1,972,000	50.00	94.65	2.00	<u> </u>
59	o-Xylene	95-47-6	8.171	106	968,100	50.00	48.87	1.00	<u> </u>
60	Bromoform	75-25-2	8.216	173	241,500	50.00	49.42	1.00	
61	4-Methyl-2-pentanone	108-10-1	6.196	100	100,600	50.00	47.49	5.00	
62	2-Hexanone	591-78-6	7.161	43	472,800	50.00	44.61	5.00	-
63	Styrene	100-42-5	8.247	104	1,659,000	50.00	50.97	1.00	
64	Isopropylbenzene	98-82-8	8.592	105	2,470,000	50.00	50.18	1.00	
65	Bromobenzene	108-86-1	8.937	156	594,900	50.00	46.13	1.00	
66	cis-1,4-dichloro-2-	1476-11-5	8.987	75	103,900	50.00	32.97	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.297	53	220,700	50.00	43.06	1.00	
	n-Propylbenzene	103-65-1	9.047	91	2,900,000	50.00	52.57	1.00	
	1,1,2,2-	79-34-5	9.137	83	663,200	50.00	44.88	1.00	
	1,2,3-Trichloropropane	96-18-4	9.222	77	86,570	50.00	37.86	1.00	
71	1,3,5-trimethylbenzene	108-67-8	9.262	105	2,194,000	50.00	49.01	1.00	
72	2-Chlorotoluene	95-49-8	9.152	91	1,821,000	50.00	50.68	1.00	
73	4-Chlorotoluene	106-43-4	9.312	91	1,821,000	50.00	48.65	1.00	
74	tert-Butylbenzene	98-06-6	9.517	119	1,958,000	50.00	43.49	1.00	
75	1,2,4-Trimethylbenzene	95-63-6	9.517	105	2,266,000	50.00	48.28	1.00	
76	sec-Butylbenzene	135-98-8	9.672	105	2,707,000	50.00	50.52	1.00	
77	4-Isopropyltoluene	99-87-6	9.802	119	2,299,000	50.00	48.19	1.00	
78	1,3-Dichlorobenzene	541-73-1	9.872	146	1,221,000	50.00	49.50	1.00	
79	1,4-Dichlorobenzene	106-46-7	9.872	146	1,221,000	50.00	49.50	1.00	
80	n-Butylbenzene	104-51-8	10.117	91	2,120,000	50.00	51.52	1.00	
81	1,2-Dichlorobenzene	95-50-1	10.117	146	1,195,000	50.00	45.92	1.00	
82	1,2-Dibromo-3-	96-12-8	10.777	75	121,700	50.00	36.50	1.00	
83	1,2,4-Trichlorobenzene	120-82-1	11.168	180	847,000	50.00	46.41	1.00	
84	Hexachlorobutadiene	87-68-3	11.168	225	338,000	50.00	51.87	1.00	
85	Naphthalene	91-20-3	11.368	128	2,638,000	50.00	42.44	1.00	
	madilialene	91-20-3	111.300	120	∠,038,000	50.00	42.44	1.00	

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File Name:

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Sample ID:

01-26-17 B17-00152 LCSD ars16-1

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Description:

01-26-17 B17-00152 LCSD ars16-122001

Inject Date/Time:

January 26, 2017 6:50:17 PM

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

Operator:

8260.EXP

Quantify Method: 8260b water 01-26-2017 B17-00152 Last Updated:

February 02, 2017 12:58:57 PM

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Level:

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Purge Vol: 5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv	Man
1	Fluorobenzene	363-72-4	4.105	96	2,016,000	50.00	0.00	
2	Chlorobenzene-d5	3114-55-4	7.376	117	1,587,000	50.00	0.01	
3	1,4-Dichlorobenzene-D4	3855-82-1	9.867	152	888,000	50.00	0.01	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.405	113	424,300	50.00	46.95	93.90	0.00	
5	Toluene-d8	2037-26-5	5.670	98	2,105,000	50.00	53.67	107.3	0.01	
6	Bromofluorobenzene	460-00-4	8.872	95	907,800	50.00	53.10	106.2	0.01	
7	1,2-Dichloroethane-d4	17060-	3.850	102	144,000	50.00	52.87	105.7	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	312,500	50.00	46.11	1.00	
9	Chloromethane	74-87-3	0.959	50	632,000	50.00	44.45	1.00	
10	Vinyl Chloride	75-01-4	0.999	62	614,900	50.00	51.35	1.00	
11	Bromomethane	74-83-9	1.164	94	378,100	50.00	55.42	1.00	
12	Chloroethane	75-00-3	1.229	64	303,700	50.00	48.39	1.00	
13	Trichlorofluoromethane	75-69-4	1.294	101	308,900	50.00	45.77	1.00	
14	1,1-Dichloroethene	75-35-4	1.594	96	374,300	50.00	59.38	1.00	
15	Carbon disulfide	75-15-10	1.599	76	924,800	50.00	48.82	1.00	
16	lodomethane	74-88-4	1.674	142	492,100	50.00	58.08	1.00	
18	Allyl Chloride	107-05-1	1.914	76	215,000	50.00	46.79	1.00	
19	Methyl Tert-butyl Ether	1634-04-4	2.224	73	42.52	50.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.994	84	473,100	50.00	55.48	1.00	
21	trans-1,2 Dichloroethene	156-60-5	2.104	96	462,000	50.00	52.59	1.00	ļ
22	Acetone	67-64-1	2.069	58	83,550	50.00	51.68	5.00	
23	Acrylonitrile	75-34-3	2.639	53	234,800	50.00	44.78	1.00	
24	1,1,-Dichloroethane	75-34-3	2.574	63	896,800	50.00	44.35	1.00	
25	Chloroprene	107-13-1	2.559	53	799,700	50.00	48.46	1.00	
26	cis-1,2,-Dichloroethene	156-59-2	3.009	96	548,700	50.00	51.44	1.00	
27	2,2,-Dichloropropane	594-20-7	3.089	77	420,300	50.00	43.91	1.00	
28	2-Butanone	78-93-3	3.545	72	70,200	50.00	41.96	5.00	
29	Propionitrile	107-02-8	3.785	54	99,860	50.00	43.55	1.00	
30	Bromochloromethane	74-97-5	3.164	128	234,300	50.00	48.93	1.00	<u>                                     </u>
31	Chloroform	67-66-3	3.254	83	800,500	50.00	46.05	1.00	
32	Carbon tetrachloride	56-23-5	3.329	117	423,400	50.00	46.62	1.00	ļ
34	1,1,1-Trichloroethane	71-55-6	3.395	97	623,000	50.00	52.60	1.00	

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.505	75	654,200	50.00	47.64	1.00	
36	Benzene	71-43-2	3.720	78	2,054,000	50.00	47.21	1.00	
37	Methacrylonitrile	126-98-7	3.795	41	434,800	50.00	43.66	1.00	
38	1,2-Dichloroethane	107-06-2	3.910	62	703,800	50.00	44.43	1.00	
39	Trichloroethene	79-01-6	4.260	95	504,700	50.00	52.91	1.00	
40	1,2-Dichloropropane	78-87-5	4.750	63	574,200	50.00	45.95	1.00	
41	Bromodichloromethane	75-27-4	4.840	83	572,700	50.00	45.69	1.00	
42	Methyl methacrylate	80-62-6	5.070	69	453,500	50.00	40.78	1.00	
43	Dibromomethane	79-95-3	4.645	93	293,800	50.00	49.44	1.00	
44	1,4-Dioxane	123-91-1	5.080	88	6,198	50.00	44.86	1.00	
45	2-Chloroethyl Vinyl Ether	110-75-8	5.720	63	185,600	50.00	45.98	1.00	
46	cis-1,3-Dichloropropene	10061-	5.485	75	702,400	50.00	41.63	1.00	
47	Toluene	108-88-3	5.720	92	1,379,000	50.00	58.68	1.00	
48	trans-1,3-	10061-	6.206	75	632,400	50.00	43.63	1.00	
49	1,1,2-Trichloroethane	79-00-5	6.366	83	400,000	50.00	51.71	1.00	
50	Ethyl methacrylate	97-63-2	6.471	69	812,900	50.00	44.67	1.00	
51	Tetrachloroethene	79-01-6	6.111	164	476,200	50.00	63.77	1.00	
52	Chlorodibromomethane	124-48-1	6.536	129	421,100	50.00	50.09	1.00	
53	1,3-Dichloropropane	142-28-9	6.651	76	911,800	50.00	46.34	1.00	
54	1,2-Dibromoethane	100-41-4	6.751	107	486,500	50.00	51.49	1.00	
55	Ethylbenzene	100-41-4	7.481	91	2,556,000	50.00	53.14	1.00	
56	1,1,1,2-	630-20-6	7.501	131	424,600	50.00	50.39	1.00	
57	Chlorobenzene	108-90-7	7.396	112	1,485,000	50.00	52.70	1.00	<b></b>
58	m,p-Xylene	106-30-7	7.671	106	2,016,000	50.00	99.07	2.00	
59	o-Xylene	95-47-6	8.176	106	990,100	50.00	51.19	1.00	
60	Bromoform	75-25-2	8.221	173	248,400	50.00	51.70	1.00	
61	**************************************	108-10-1	6.201	100	100,100	50.00	48.37	5.00	
62	4-Methyl-2-pentanone 2-Hexanone			43	449,900	50.00	43.52	5.00	
		591-78-6	7.166			50.00	53.93	1.00	
63	Styrene	100-42-5	8.251	104	1,713,000	50.00	52.17	1.00	
64	Isopropylbenzene	98-82-8	8.597	105	2,507,000 605,800	50.00	47.55	1.00	<u> </u>
65	Bromobenzene	108-86-1 1476-11-5	8.942	156		50.00	35.45	1.00	
66	cis-1,4-dichloro-2-		8.992	75	112,100		43.72	1.00	<u> </u>
67	trans-1,4-dichloro-2-	110-57-6	9.302	53	221,400	50.00		1.00	
68	n-Propylbenzene	103-65-1	9.052	91	2,931,000	50.00	53.87		
69	1,1,2,2-	79-34-5	9.142	83	676,400	50.00	46.34	1.00	
70	1,2,3-Trichloropropane	96-18-4	9.227	77	90,480	50.00	40.10	1.00	
71	1,3,5-trimethylbenzene	108-67-8	9.267	105	2,240,000	50.00	50.80	1.00	-
72	2-Chlorotoluene	95-49-8	9.157	91	1,868,000	50.00	52.77	1.00	
73	4-Chlorotoluene	106-43-4	9.317	91	1,898,000	50.00	49.99	1.00	
74	tert-Butylbenzene	98-06-6	9.522	119	2,043,000	50.00	45.93	1.00	<del> </del>
75	1,2,4-Trimethylbenzene	95-63-6	9.592	105	2,321,000	50.00	50.17	1.00	
76	sec-Butylbenzene	135-98-8	9.677	105	2,745,000	50.00	51.93	1.00	<del> </del>
77	4-Isopropyltoluene	99-87-6	9.807	119	2,332,000	50.00	49.54	1.00	
78	1,3-Dichlorobenzene	541-73-1	9.877	146	1,247,000	50.00	51.25	1.00	
79	1,4-Dichlorobenzene	106-46-7	9.877	146	1,247,000	50.00	51.25	1.00	
	n-Butylbenzene	104-51-8	10.122	91	2,144,000	50.00	52.80	1.00	
81	1,2-Dichlorobenzene	95-50-1	10.182	146	1,205,000	50.00	46.86	1.00	-
82	1,2-Dibromo-3-	96-12-8	10.742	75	121,900	50.00	36.97	1.00	
83	1,2,4-Trichlorobenzene	120-82-1	11.173	180	859,500	50.00	47.72	1.00	<b></b>
84	Hexachlorobutadiene	87-68-3	11.173	225	339,100	50.00	52.68	1.00	
85	Naphthalene	91-20-3	11.373	128	2,634,000	50.00	42.90	1.00	ļ
86	1,2,3-Trichlorobenzene	87-61-6	11.478	180	855,800	50.00	47.00	1.00	<u> </u>

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File Name:

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Sample ID:

01-26-17 B17-00152 (001)

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Description:

01-26-17 B17-00152 (001)

Inject Date/Time:

January 26, 2017 7:14:47 PM

Tune File:

Operator:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Calibration File:

Quantify Method: 8260b water 01-26-2017 B17-00152

Last Updated: Last Updated:

February 02, 2017 12:58:57 PM

8260B water IC 01-24-17cal2

Level:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Purge Vol:

5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv Man
1	Fluorobenzene	363-72-4	4.105	96	2,041,000	50.00	0.00
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,564,000	50.00	0.00
3	1,4-Dichlorobenzene-D4	3855-82-1	9.857	152	847,100	50.00	0.00

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.405	113	377,600	50.00	41.28	82.56	0.00	
5	Toluene-d8	2037-26-5	5.665	98	2,115,000	50.00	54.72	109.4	0.01	
6	Bromofluorobenzene	460-00-4	8.862	95	894,800	50.00	53.12	106.2	0.00	
7	1,2-Dichloroethane-d4	17060-	3.845	102	143,800	50.00	53.57	107.1	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	705.2	0.00	1.69	1.00	Х
9	Chloromethane	74-87-3	0.964	50	1,986	0.00	0.34	1.00	
10	Vinyl Chloride	75-01-4	0.994	62	626.4	0.00	0.05	1.00	Х
11	Bromomethane	74-83-9	1.169	94	1,076	0.00	0.00	1.00	
12	Chloroethane	75-00-3	1.229	64	96.04	0.00	0.02	1.00	X
13	Trichlorofluoromethane	75-69-4	1.304	101	671.9	0.00	0.00	1.00	X
14	1,1-Dichloroethene	75-35-4	1.589	96	267.8	0.00	0.04	1.00	X
15	Carbon disulfide	75-15-10	1.604	76	9,764	0.00	0.92	1.00	
16	lodomethane	74-88-4	1.684	142	341.0	0.00	1.41	1.00	X
18	Allyl Chloride	107-05-1	1.904	76	8.298	0.00	0.00	1.00	X
19	Methyl Tert-butyl Ether	1634-04-4	2.224	73	28.34	0.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.989	84	717.3	0.00	0.00	1.00	X
21	trans-1,2 Dichloroethene	156-60-5	2.114	96	1,493	0.00	0.17	1.00	
22	Acetone	67-64-1	2.069	58	20,940	0.00	10.96	5.00	
23	Acrylonitrile	75-34-3	2.639	53	56.27	0.00	0.43	1.00	X
24	1,1,-Dichloroethane	75-34-3	2.569	63	177.1	0.00	0.01	1.00	X
25	Chloroprene	107-13-1	2.559	53	955.3	0.00	0.06	1.00	X
26	cis-1,2,-Dichloroethene	156-59-2	3.009	96	373.1	0.00	0.03	1.00	X
27	2,2,-Dichloropropane	594-20-7	3.094	77	20.37	0.00	0.00	1.00	X
28	2-Butanone	78-93-3	3.565	72	12.63	0.00	1.70	5.00	X
29	Propionitrile	107-02-8	3.780	54	1.336	0.00	2.00	1.00	X
30	Bromochloromethane	74-97-5	3.149	128	0.00	0.00	0.14	1.00	X
31	Chloroform	67-66-3	3.244	83	99.81	0.00	0.01	1.00	X
32	Carbon tetrachloride	56-23-5	3.324	117	10.58	0.00	2.55	1.00	X
34	1,1,1-Trichloroethane	71-55-6	3.389	97	47.46	0.00	0.00	1.00	X

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#	Target Compounds	CAS	RT .	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.505	75	1,749	0.00	0.13	1.00	
36	Benzene	71-43-2	3.720	78	1,585	0.00	0.00	1.00	
37	Methacrylonitrile	126-98-7	3.820	41	118.7	0.00	0.01	1.00	Х
38	1,2-Dichloroethane	107-06-2	3.905	62	64.70	0.00	0.00	1.00	Х
39	Trichloroethene	79-01-6	4.260	95	1,143	0.00	0.00	1.00	
40	1,2-Dichloropropane	78-87-5	4.755	63	27.48	0.00	0.00	1.00	Х
41	Bromodichloromethane	75-27-4	4.835	83	13.87	0.00	1.98	1.00	X
42	Methyl methacrylate	80-62-6	5.090	69	73.50	0.00	1.59	1.00	Х
43	Dibromomethane	79-95-3	4.610	93	3.152	0.00	0.00	1.00	X
44	1,4-Dioxane	123-91-1	5.065	88	13.38	0.00	1.84	1.00	X
45	2-Chloroethyl Vinyl Ether	110-75-8	5.720	63	88.19	0.00	1.15	1.00	X
46	cis-1,3-Dichloropropene	10061-	5.490	75	99.94	0.00	2.24	1.00	Х
47	Toluene	108-88-3	5.720	92	2,897	0.00	0.00	1.00	
48	trans-1,3-	10061-	6.206	75	174.2	0.00	1.87	1.00	X
49	1,1,2-Trichloroethane	79-00-5	6.376	83	15.31	0.00	0.00	1.00	Х
50	Ethyl methacrylate	97-63-2	6.496	69	29.53	0.00	0.81	1.00	Х
51	Tetrachloroethene	79-01-6	6.106	164	1,338	0.00	0.00	1.00	
52	Chlorodibromomethane	124-48-1	6.521	129	11.51	0.00	2.85	1.00	Х
53	1,3-Dichloropropane	142-28-9	6.651	76	136.5	0.00	0.01	1.00	Х
54	1,2-Dibromoethane	100-41-4	6.761	107	93.05	0.00	0.00	1.00	X
55	Ethylbenzene	100-41-4	7.481	91	5,130	0.00	0.11	1.00	
56	1,1,1,2-	630-20-6	7.481	131	17.39	0.00	2.10	1.00	X
57	Chlorobenzene	108-90-7	7.391	112	3,668	0.00	0.00	1.00	
58	m,p-Xylene	106-42-	7.671	106	4,648	0.00	0.23	2.00	
59	o-Xylene	95-47-6	8.176	106	627.0	0.00	0.03	1.00	Х
60	Bromoform	75-25-2	8.191	173	2.622	0.00	1.63	1.00	Х
61	4-Methyl-2-pentanone	108-10-1	6.191	100	8.798	0.00	1.08	5.00	X
62	2-Hexanone	591-78-6	7.201	43	62.40	0.00	1.44	5.00	X
63	Styrene	100-42-5	8.256	104	1,954	0.00	0.00	1.00	
64	Isopropylbenzene	98-82-8	8.592	105	4,849	0.00	0.10	1.00	
65	Bromobenzene	108-86-1	8.932	156	774.2	0.00	0.06	1.00	X
66	cis-1,4-dichloro-2-	1476-11-5	8.867	75	404,800	0.00	117.44	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.307	53	37.02	0.00	1.71	1.00	X
68	n-Propylbenzene	103-65-1	9.047	91	10,670	0.00	0.00	1.00	
69	1,1,2,2-	79-34-5	9.122	83	56.36	0.00	0.00	1.00	X
70	1,2,3-Trichloropropane	96-18-4	9.242	77	-39.89	0.00	0.00	1.00	X
71	1,3,5-trimethylbenzene	108-67-8	9.262	105	5,838	0.00	0.00	1.00	
72	2-Chlorotoluene	95-49-8	9.152	91	5,615	0.00	0.00	1.00	
73	4-Chlorotoluene	106-43-4	9.317	91	9,059	0.00	0.00	1.00	
74	tert-Butylbenzene	98-06-6	9.517	119	4,033	0.00	0.10	1.00	
75	1,2,4-Trimethylbenzene	95-63-6	9.587	105	6,652	0.00	0.00	1.00	<u> </u>
76	sec-Butylbenzene	135-98-8	9.667	105	9,393	0.00	0.00	1.00	
77	4-Isopropyltoluene	99-87-6	9.802	119	9,446	0.00	0.00	1.00	<u> </u>
78	1,3-Dichlorobenzene	541-73-1	9.872	146_	9,288	0.00	0.00	1.00	<u> </u>
79	1,4-Dichlorobenzene	106-46-7	9.872	146	9,288	0.00	0.00	1.00	<u> </u>
80	n-Butylbenzene	104-51-8	10.122	91	12,770	0.00	0.00	1.00	<u> </u>
81	1,2-Dichlorobenzene	95-50-1	10.177	146	3,712	0.00	0.15	1.00	<u> </u>
82	1,2-Dibromo-3-	96-12-8	10.712	75	35.93	0.00	2.87	1.00	X
83	1,2,4-Trichlorobenzene	120-82-1	11.168	180	7,095	0.00	0.00	1.00	<b></b>
84	Hexachlorobutadiene	87-68-3	11.168	225	2,274	0.00	0.37	1.00	<b> </b>
85	Naphthalene	91-20-3	11.368	128	12,920	0.00	0.22	1.00	ļ
86	1,2,3-Trichlorobenzene	87-61-6	11.473	180	5,782	0.00	0.00	1.00	

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File Name:

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Sample ID:

01-26-17 B17-00152 (002)

Operator: ар

Description:

01-26-17 B17-00152 (002)

Inject Date/Time:

January 26, 2017 7:39:16 PM

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Quantify Method: 8260b water 01-26-2017 B17-00152

Last Updated:

February 02, 2017 12:58:57 PM

Calibration File:

8260B water IC 01-24-17cal2

Last Updated:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Level:

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Purge Vol:

5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv	Man
1	Fluorobenzene	363-72-4	4.105	96	1,998,000	50.00	0.00	
2	Chlorobenzene-d5	3114-55-4	7.376	117	1,535,000	50.00	0.01	
3	1,4-Dichlorobenzene-D4	3855-82-1	9.867	152	823,300	50.00	0.01	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.405	113	364,100	50.00	40.65	81.30	0.00	
5	Toluene-d8	2037-26-5	5.670	98	2,073,000	50.00	54.64	109.3	0.01	
6	Bromofluorobenzene	460-00-4	8.867	95	869,200	50.00	52.57	105.1	0.01	
7	1,2-Dichloroethane-d4	17060-	3.850	102	140,600	50.00	53.34	106.7	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	67.40	0.00	1.60	1.00	Х
9	Chloromethane	74-87-3	0.964	50	1,551	0.00	0.31	1.00	
10	Vinyl Chloride	75-01-4	0.999	62	113.0	0.00	0.01	1.00	X
_11	Bromomethane	74-83-9	1.164	94	674.1	0.00	0.00	1.00	Х
12	Chloroethane	75-00-3	1.229	64	91.40	0.00	0.01	1.00	Х
_13	Trichlorofluoromethane	75-69-4	1.299	101	112.7	0.00	0.00	1.00	X
14	1,1-Dichloroethene	75-35-4	1.604	96	123.3	0.00	0.02	1.00	Х
15	Carbon disulfide	75-15-10	1.604	76	4,290	0.00	0.64	1.00	
16	Iodomethane	74-88-4	1.694	142	103.5	0.00	1.38	1.00	Х
18	Allyl Chloride	107-05-1	1.904	76	12.55	0.00	0.00	1.00	Х
19	Methyl Tert-butyl Ether	1634-04-4	2.244	73	20.00	0.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.989	84	140.1	0.00	0.00	1.00	Х
21	trans-1,2 Dichloroethene	156-60-5	2.109	96	353.6	0.00	0.04	1.00	Х
22	Acetone	67-64-1	2.069	58	3,812	0.00	0.06	5.00	
23	Acrylonitrile	75-34-3	2.629	53	25.20	0.00	0.42	1.00	Х
24	1,1,-Dichloroethane	75-34-3	2.569	63	46.93	0.00	0.00	1.00	Х
25	Chloroprene	107-13-1	2.554	53	381.6	0.00	0.02	1.00	Х
26	cis-1,2,-Dichloroethene	156-59-2	2.999	96	155.1	0.00	0.01	1.00	Х
27	2,2,-Dichloropropane	594-20-7	3.049	77	25.94	0.00	0.00	1.00	X
28	2-Butanone	78-93-3	3.580	72	6.275	0.00	1.70	5.00	Х
29	Propionitrile	107-02-8	3.790	54	6.422	0.00	2.01	1.00	X
30	Bromochloromethane	74-97-5	3.164	128	8.964	0.00	0.15	1.00	X
31	Chloroform	67-66-3	3.249	83	25.98	0.00	0.00	1.00	X
32	Carbon tetrachloride	56-23-5	3.284	117	6.413	0.00	2.55	1.00	X
34	1,1,1-Trichloroethane	71-55-6	3.390	97	54.45	0.00	0.00	1.00	X

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.349	75	2,748	0.00	0.20	1.00	
36	Benzene	71-43-2	3.715	78	521.4	0.00	0.00	1.00	Х
37	Methacrylonitrile	126-98-7	3.810	41	10.28	0.00	0.00	1.00	Х
38	1,2-Dichloroethane	107-06-2	3.915	62	26.91	0.00	0.00	1.00	Х
39	Trichloroethene	79-01-6	4.260	95	213.3	0.00	0.00	1.00	X
40	1,2-Dichloropropane	78-87-5	4.765	63	15.20	0.00	0.00	1.00	Х
41	Bromodichloromethane	75-27-4	4.850	83	37.87	0.00	1.98	1.00	Х
42	Methyl methacrylate	80-62-6	5.100	69	39.12	0.00	1.59	1.00	Х
43	Dibromomethane	79-95-3	4.595	93	8.071	0.00	0.00	1.00	Х
44	1,4-Dioxane	123-91-1	5.120	88	13.19	0.00	1.84	1.00	Х
45	2-Chloroethyl Vinyl Ether	110-75-8	5.705	63	111.0	0.00	1.16	1.00	Х
46	cis-1,3-Dichloropropene	10061-	5.475	75	2.905	0.00	2.23	1.00	Х
47	Toluene	108-88-3	5.720	92	1,252	0.00	0.00	1.00	
48	trans-1,3-	10061-	6.231	75	45.90	0.00	1.86	1.00	Х
49	1,1,2-Trichloroethane	79-00-5	6.401	83	36.81	0.00	0.00	1.00	Х
50	Ethyl methacrylate	97-63-2	6.501	69	35.18	0.00	0.81	1.00	X
51	Tetrachloroethene	79-01-6	6.106	164	327.4	0.00	0.00	1.00	X
52	Chlorodibromomethane	124-48-1	6.546	129	23.92	0.00	2.85	1.00	X
53	1,3-Dichloropropane	142-28-9	6.656	76	20.56	0.00	0.00	1.00	X
54	1,2-Dibromoethane	100-41-4	6.741	107	12.39	0.00	0.00	1.00	X
55	Ethylbenzene	100-41-4	7.486	91	2,657	0.00	0.06	1.00	
56	1,1,1,2-	630-20-6	7.471	131	15.63	0.00	2.10	1.00	Х
57	Chlorobenzene	108-90-7	7.396	112	1,365	0.00	0.00	1.00	1
58	m,p-Xylene	106-42-	7.676	106	2,072	0.00	0.11	2.00	
59	o-Xylene	95-47-6	8.186	106	224.5	0.00	0.01	1.00	Х
60	Bromoform	75-25-2	8.186	173	4.480	0.00	1.63	1.00	X
61	4-Methyl-2-pentanone	108-10-1	6.191	100	6.551	0.00	1.08	5.00	X
62	2-Hexanone	591-78-6	7.171	43	16.19	0.00	1.43	5.00	Χ
63	Styrene	100-42-5	8.256	104	591.5	0.00	0.00	1.00	Х
64	Isopropylbenzene	98-82-8	8.597	105	1,845	0.00	0.04	1.00	
65	Bromobenzene	108-86-1	8.937	156	142.8	0.00	0.01	1.00	Х
66	cis-1,4-dichloro-2-	1476-11-5	8.867	75	396,600	0.00	118.32	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.292	53	32.95	0.00	1.71	1.00	Х
68	n-Propylbenzene	103-65-1	9.052	91	5,411	0.00	0.00	1.00	
	1,1,2,2-	79-34-5	9.162	83	4.485	0.00	0.00	1.00	Х
	1,2,3-Trichloropropane	96-18-4	9.242	77	-5.125	0.00	0.00	1.00	X
-	1,3,5-trimethylbenzene	108-67-8	9.267	105	2,834	0.00	0.00	1.00	
	2-Chlorotoluene	95-49-8	9.157	91	2,686	0.00	0.00	1.00	
	4-Chlorotoluene	106-43-4	9.322	91	4,103	0.00	0.00	1.00	
74	tert-Butylbenzene	98-06-6	9.527	119	1,193	0.00	0.03	1.00	
75	1,2,4-Trimethylbenzene	95-63-6	9.592	105	3,247	0.00	0.00	1.00	
76	sec-Butylbenzene	135-98-8	9.677	105	4,533	0.00	0.00	1.00	
77	4-Isopropyltoluene	99-87-6	9.807	119	4,062	0.00	0.00	1.00	
78	1,3-Dichlorobenzene	541-73-1	9.877	146	4,992	0.00	0.00	1.00	
79	1,4-Dichlorobenzene	106-46-7	9.877	146	4,992	0.00	0.00	1.00	
	n-Butylbenzene	104-51-8	10.127	91	6,590	0.00	0.00	1.00	
81	1,2-Dichlorobenzene	95-50-1	10.187	146	1,294	0.00	0.05	1.00	
82	1,2-Dibromo-3-	96-12-8	10.717	75	19.65	0.00	2.87	1.00	Х
83	1,2,4-Trichlorobenzene	120-82-1	11.178	180	3,550	0.00	0.00	1.00	
84	Hexachlorobutadiene	87-68-3	11.168	225	643.6	0.00	0.11	1.00	Х
85	Naphthalene	91-20-3	11.378	128	3,695	0.00	0.06	1.00	
86	1,2,3-Trichlorobenzene	87-61-6	11.483	180	1,826	0.00	0.00	1.00	

File Name:

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Sample ID:

01-26-17 B17-00152 (003)

Operator:

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Description:

01-26-17 B17-00152 (003)

Tune File:

010317.IPR

Inject Date/Time: GC Method:

January 26, 2017 8:03:47 PM

MS Method:

8260.EXP

Quantify Method: 8260b water 01-26-2017 B17-00152

8260.mth

Last Updated:

February 02, 2017 12:58:57 PM

Calibration File:

8260B water IC 01-24-17cai2

Last Updated:

January 24, 2017 4:48:29 PM

Level:

GC Column:

Dilution:

Elite-VMS

1.000

Sample Wt:

Soil Extract Vol:

Purge Vol:

1.000 5.000

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv Man
1	Fluorobenzene	363-72-4	4.105	96	2,052,000	50.00	0.00
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,562,000	50.00	0.00
3	1,4-Dichlorobenzene-D4	3855-82-1	9.862	152	829,600	50.00	0.01

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.405	113	384,200	50.00	41.78	83.56	0.00	
5	Toluene-d8	2037-26-5	5.670	98	2,130,000	50.00	55.17	110.3	0.01	
6	Bromofluorobenzene	460-00-4	8.867	95	887,300	50.00	52.73	105.5	0.01	
7	1,2-Dichloroethane-d4	17060-	3.845	102	144,400	50.00	53.83	107.7	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.849	85	46.37	0.00	1.60	1.00	X
9	Chloromethane	74-87-3	0.959	50	1,647	0.00	0.31	1.00	
10	Vinyl Chloride	75-01-4	0.989	62	81.02	0.00	0.01	1.00	X
11	Bromomethane	74-83-9	1.164	94	642.5	0.00	0.00	1.00	X
12	Chloroethane	75-00-3	1.234	64	94.79	0.00	0.01	1.00	X
13	Trichlorofluoromethane	75-69-4	1.299	101	104.9	0.00	0.00	1.00	X
14	1,1-Dichloroethene	75-35-4	1.569	96	5.520	0.00	0.00	1.00	X
15	Carbon disulfide	75-15-10	1.604	76	2,909	0.00	0.57	1.00	
16	lodomethane	74-88-4	1.684	142	277.8	0.00	1.40	1.00	X
18	Allyl Chloride	107-05-1	1.914	76	4.003	0.00	0.00	1.00	X
19	Methyl Tert-butyl Ether	1634-04-4	2.249	73	9.562	0.00	0.00	1.00	X
20	Methylene Chloride	75-09-2	1.989	84	258.2	0.00	0.00	1.00	X
21	trans-1,2 Dichloroethene	156-60-5	2.104	96	154.4	0.00	0.02	1.00	X
22	Acetone	67-64-1	2.069	58	2,734	0.00	0.00	5.00	
23	Acrylonitrile	75-34-3	2.639	53	11.52	0.00	0.42	1.00	X
24	1,1,-Dichloroethane	75-34-3	2.569	63	6.570	0.00	0.00	1.00	X
25	Chloroprene	107-13-1	2.559	53	114.4	0.00	0.01	1.00	X
26	cis-1,2,-Dichloroethene	156-59-2	3.009	96	47.38	0.00	0.00	1.00	Х
27	2,2,-Dichloropropane	594-20-7	3.074	77	27.93	0.00	0.00	1.00	X
28	2-Butanone	78-93-3	3.565	72	42.07	0.00	1.72	5.00	X
29	Propionitrile	107-02-8	3.740	54	25.65	0.00	2.01	1.00	X
30	Bromochloromethane	74-97-5	3.134	128	4.446	. 0.00	0.15	1.00	X
31	Chloroform	67-66-3	3.254	83	29,940	0.00	1.69	1.00	
32	Carbon tetrachloride	56-23-5	3.279	117	1.656	0.00	2.55	1.00	X
34	1,1,1-Trichloroethane	71-55-6	3.400	97	8.450	0.00	0.00	1.00	X

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.390	75	12.14	0.00	0.00	1.00	Х
36	Benzene	71-43-2	3.715	78	247.8	0.00	0.00	1.00	Χ
37	Methacrylonitrile	126-98-7	3.810	41	7.782	0.00	0.00	1.00	Х
38	1,2-Dichloroethane	107-06-2	3.855	62	28.80	0.00	0.00	1.00	Х
39	Trichloroethene	79-01-6	4.255	95	81.97	0.00	0.00	1.00	Х
40	1,2-Dichloropropane	78-87-5	4.740	63	10.83	0.00	0.00	1.00	Х
41	Bromodichloromethane	75-27-4	4.840	83	28,970	0.00	4.15	1.00	
42	Methyl methacrylate	80-62-6	5.065	69	33.08	0.00	1.59	1.00	Х
43	Dibromomethane	79-95-3	4.650	93	14.38	0.00	0.00	1.00	Х
44	1,4-Dioxane	123-91-1	5.065	88	1.333	0.00	1.75	1.00	Х
45	2-Chloroethyl Vinyl Ether	110-75-8	5.725	63	76.64	0.00	1.15	1.00	Х
46	cis-1,3-Dichloropropene	10061-	5.460	75	57.45	0.00	2.24	1.00	Х
47	Toluene	108-88-3	5.720	92	860.1	0.00	0.00	1.00	Х
48	trans-1,3-	10061-	6.221	75	16.16	0.00	1.86	1.00	Х
49	1,1,2-Trichloroethane	79-00-5	6.361	83	20.31	0.00	0.00	1.00	X
50	Ethyl methacrylate	97-63-2	6.446	69	26.49	0.00	0.81	1.00	X
51	Tetrachloroethene	79-01-6	6.106	164	190.0	0.00	0.00	1.00	X
52	Chlorodibromomethane	124-48-1	6.536	129	48,540	0.00	8.38	1.00	
53	1,3-Dichloropropane	142-28-9	6.656	76	35.00	0.00	0.00	1.00	X
54	1,2-Dibromoethane	100-41-4	6.756	107	18.09	0.00	0.00	1.00	X
55	Ethylbenzene	100-41-4	7.486	91	1,449	0.00	0.03	1.00	
56	1,1,1,2-	630-20-6	7.456	131	8.659	0.00	2.10	1.00	X
57	Chlorobenzene	108-90-7	7.386	112	735.5	0.00	0.00	1.00	X
58	m,p-Xylene	106-90-7	7.671	106	1,196	0.00	0.06	2.00	
59	o-Xylene	95-47-6	8.181	106	60.32	0.00	0.00	1.00	X
60	Bromoform	75-25-2	8.216	173	43,500	0.00	11.51	1.00	^
61	4-Methyl-2-pentanone	108-10-1	6.201	100	22.36	0.00	1.09	5.00	Х
62	2-Hexanone	591-78-6	7.176	43	23.89	0.00	1.43	5.00	X
63	Styrene	100-42-5	8.251	104	240.7	0.00	0.00	1.00	X
64	Isopropylbenzene	98-82-8	8.597	105	1,093	0.00	0.02	1.00	_^_
65	Bromobenzene	108-86-1	8.937	156	130.9	0.00	0.02	1.00	Х
66	cis-1,4-dichloro-2-	1476-11-5	8.867	75	401,400	0.00	118.82	1.00	
67	trans-1,4-dichloro-2-					0.00	1.73	1.00	Х
		110-57-6	9.302	53	106.6		0.00	1.00	
	n-Propylbenzene	103-65-1	9.052	91	3,883	0.00			
	1,1,2,2-	79-34-5	9.197	83	16.84	0.00	0.00	1.00	X
	1,2,3-Trichloropropane	96-18-4	9.222	77	1.297	0.00	0.00	1.00	
71	1,3,5-trimethylbenzene	108-67-8	9.262	105	1,781	0.00	0.00	1.00	
	2-Chlorotoluene	95-49-8	9.157	91	1,640	0.00	0.00	1.00	
	4-Chlorotoluene	106-43-4	9.317	91	2,567	0.00	0.00	1.00	
	tert-Butylbenzene	98-06-6	9.517	119	452.3	0.00	0.01	1.00	Х
75	1,2,4-Trimethylbenzene	95-63-6	9.592	105	2,238	0.00	0.00	1.00	
	sec-Butylbenzene	135-98-8	9.672	105	3,211	0.00	0.00	1.00	
77	4-Isopropyltoluene	99-87-6	9.807	119	3,244	0.00	0.00	1.00	
	1,3-Dichlorobenzene	541-73-1	9.872	146	4,072	0.00	0.00	1.00	
	1,4-Dichlorobenzene	106-46-7	9.872	146	4,072	0.00	0.00	1.00	
	n-Butylbenzene	104-51-8	10.122	91	4,437	0.00	0.00	1.00	
81	1,2-Dichlorobenzene	95-50-1	10.177	146	626.8	0.00	0.03	1.00	X
	1,2-Dibromo-3-	96-12-8	10.702	75	42.07	0.00	2.87	1.00	Х
	1,2,4-Trichlorobenzene	120-82-1	11.173	180	2,336	0.00	0.00	1.00	
84	Hexachlorobutadiene	87-68-3	11.163	225	364.5	0.00	0.06	1.00	X
	Naphthalene	91-20-3	11.373	128	2,017	0.00	0.04	1.00	
86	1,2,3-Trichlorobenzene	87-61-6	11.483	180	1,075	0.00	0.00	1.00	

File Name:

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Sample ID:

01-26-17 B17-00152 iblk2

Operator: ap

Description:

01-26-17 B17-00152 iblk2

Inject Date/Time:

January 26, 2017 8:28:18 PM

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Calibration File:

Quantify Method: 8260b water 01-26-2017 B17-00152

Last Updated: Last Updated:

February 02, 2017 12:58:57 PM

8260B water IC 01-24-17cal2

Level:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Soil Aliquot Vol:

Purge Vol: 5.000

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv	Man
_1	Fluorobenzene	363-72-4	4.105	96	1,969,000	50.00	0.00	
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,505,000	50.00	0.00	
3	1,4-Dichlorobenzene-D4	3855-82-1	9.862	152	820,600	50.00	0.01	

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.400	113	362,200	50.00	41.05	82.09	0.00	
5	Toluene-d8	2037-26-5	5.665	98	2,036,000	50.00	54.75	109.5	0.01	
6	Bromofluorobenzene	460-00-4	8.867	95	860,100	50.00	53.07	106.1	0.01	
7	1,2-Dichloroethane-d4	17060-	3.845	102	137,800	50.00	53.35	106.7	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.864	85	109.5	0.00	1.61	1.00	Х
9	Chloromethane	74-87-3	0.964	50	1,492	0.00	0.31	1.00	
10	Vinyl Chloride	75-01-4	0.984	62	13.68	0.00	0.00	1.00	Х
11	Bromomethane	74-83-9	1.164	94	496.6	0.00	0.00	1.00	X
12	Chloroethane	75-00-3	1.219	64	64.11	0.00	0.01	1.00	Х
13	Trichlorofluoromethane	75-69-4	1.304	101	67.14	0.00	0.00	1.00	Х
14	1,1-Dichloroethene	75-35-4	1.594	96	10.83	0.00	0.00	1.00	Х
15	Carbon disulfide	75-15-10	1.604	76	2,453	0.00	0.55	1.00	
16	Iodomethane	74-88-4	1.684	142	60.40	0.00	1.38	1.00	Х
18	Allyl Chloride	107-05-1	1.924	76	3.966	0.00	0.00	1.00	Х
19	Methyl Tert-butyl Ether	1634-04-4	2.229	73	22.21	0.00	0.00	1.00	Х
20	Methylene Chloride	75-09-2	1.994	84	103.2	0.00	0.00	1.00	Х
21	trans-1,2 Dichloroethene	156-60-5	2.109	96	89.48	0.00	0.01	1.00	Х
22	Acetone	67-64-1	2.064	58	444.3	0.00	0.00	5.00	Х
23	Acrylonitrile	75-34-3	2.624	53	16.84	0.00	0.42	1.00	Х
24	1,1,-Dichloroethane	75-34-3	2.554	63	28.93	0.00	0.00	1.00	Х
25	Chloroprene	107-13-1	2.559	53	124.2	0.00	0.01	1.00	Х
26	cis-1,2,-Dichloroethene	156-59-2	3.034	96	1.323	0.00	0.00	1.00	Х
27	2,2,-Dichloropropane	594-20-7	3.074	77	12.22	0.00	0.00	1.00	X
28	2-Butanone	78-93-3	3.530	72	3.267	0.00	1.70	5.00	Х
29	Propionitrile	107-02-8	3.790	54	31.09	0.00	2.02	1.00	Х
30	Bromochloromethane	74-97-5	3.149	128	23.10	0.00	0.15	1.00	Х
31	Chloroform	67-66-3	3.249	83	48.31	0.00	0.00	1.00	Х
32	Carbon tetrachloride	56-23-5	3.284	117	1.738	0.00	2.55	1.00	Х
34	1,1,1-Trichloroethane	71-55-6	3.420	97	17.51	0.00	0.00	1.00	Х

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
35	1,1-Dichloropropene	563-58-6	3.345	75	328.4	0.00	0.02	1.00	Х
36	Benzene	71-43-2	3.715	78	185.0	0.00	0.00	1.00	Х
37	Methacrylonitrile	126-98-7	3.845	41	9.255	0.00	0.00	1.00	Х
38	1,2-Dichloroethane	107-06-2	3.905	62	38.96	0.00	0.00	1.00	Х
39	Trichloroethene	79-01-6	4.260	95	64.94	0.00	0.00	1.00	Х
40	1,2-Dichloropropane	78-87-5	4.770	63	37.02	0.00	0.00	1.00	Х
41	Bromodichloromethane	75-27-4	4.815	83	27.77	0.00	1.98	1.00	Χ
42	Methyl methacrylate	80-62-6	5.080	69	11.01	0.00	1.59	1.00	Χ
43	Dibromomethane	79-95-3	4.650	93	10.84	0.00	0.00	1.00	Χ
44	1,4-Dioxane	123-91-1	5.075	88	3.524	0.00	1.76	1.00	Χ
45	2-Chloroethyl Vinyl Ether	110-75-8	5.720	63	71.01	0.00	1.15	1.00	Χ
46	cis-1,3-Dichloropropene	10061-	5.465	75	12.78	0.00	2.23	1.00	Χ
47	Toluene	108-88-3	5.720	92	810.5	0.00	0.00	1.00	Х
48	trans-1,3-	10061-	6.216	75	18.69	0.00	1.86	1.00	Χ
49	1,1,2-Trichloroethane	79-00-5	6.301	83	36.49	0.00	0.00	1.00	Χ
50	Ethyl methacrylate	97-63-2	6.451	69	3.495	0.00	0.81	1.00	Х
51	Tetrachloroethene	79-01-6	6.101	164	69.98	0.00	0.00	1.00	Х
52	Chlorodibromomethane	124-48-1	6.496	129	33.41	0.00	2.85	1.00	Х
53	1,3-Dichloropropane	142-28-9	6.636	76	18.47	0.00	0.00	1.00	Х
54	1,2-Dibromoethane	100-41-4	6.726	107	6.547	0.00	0.00	1.00	Х
55	Ethylbenzene	100-41-4	7.481	91	1,102	0.00	0.02	1.00	
56	1,1,1,2-	630-20-6	7.466	131	11.92	0.00	2.10	1.00	Х
57	Chlorobenzene	108-90-7	7.386	112	542.1	0.00	0.00	1.00	X
58	m,p-Xylene	106-42-	7.661	106	736.7	0.00	0.04	2.00	Х
59	o-Xylene	95-47-6	8.166	106	93.27	0.00	0.01	1.00	Χ
60	Bromoform	75-25-2	8.201	173	4.406	0.00	1.63	1.00	Х
61	4-Methyl-2-pentanone	108-10-1	6.206	100	4.985	0.00	1.08	5.00	Х
62	2-Hexanone	591-78-6	7.126	43	17.29	0.00	1.43	5.00	X
63	Styrene	100-42-5	8.256	104	149.3	0.00	0.00	1.00	Χ
64	Isopropylbenzene	98-82-8	8.592	105	875.3	0.00	0.02	1.00	X
65	Bromobenzene	108-86-1	8.927	156	24.07	0.00	0.00	1.00	Х
66	cis-1,4-dichloro-2-	1476-11-5	8.867	75	386,700	0.00	115.89	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.287	53	11.30	0.00	1.71	1.00	Χ
68	n-Propylbenzene	103-65-1	9.052	91	3,410	0.00	0.00	1.00	
	1,1,2,2-	79-34-5	9.167	83	1.256	0.00	0.00	1.00	Χ
	1,2,3-Trichloropropane	96-18-4	9.222	77	0.00	0.00	0.00	1.00	Х
71	1,3,5-trimethylbenzene	108-67-8	9.262	105	1,728	0.00	0.00	1.00	
72	2-Chlorotoluene	95-49-8	9.152	91	1,016	0.00	0.00	1.00	
73	4-Chlorotoluene	106-43-4	9.317	91	2,067	0.00	0.00	1.00	
	tert-Butylbenzene	98-06-6	9.517	119	466.8	0.00	0.01	1.00	Х
75	1,2,4-Trimethylbenzene	95-63-6	9.587	105	2,023	0.00	0.00	1.00	
	sec-Butylbenzene	135-98-8	9.672	105	2,693	0.00	0.00	1.00	
	4-Isopropyltoluene	99-87-6	9.807	119	2,998	0.00	0.00	1.00	
	1,3-Dichlorobenzene	541-73-1	9.872	146	2,946	0.00	0.00	1.00	
	1,4-Dichlorobenzene	106-46-7	9.872	146	2,946	0.00	0.00	1.00	***************************************
	n-Butylbenzene	104-51-8	10.122	91	4,112	0.00	0.00	1.00	
	1,2-Dichlorobenzene	95-50-1	10.172	146	411.9	0.00	0.02	1.00	Х
	1,2-Dibromo-3-	96-12-8	10.697	75	16.66	0.00	2.87	1.00	X
	1,2,4-Trichlorobenzene	120-82-1	11.173	180	1,611	0.00	0.00	1.00	
	Hexachlorobutadiene	87-68-3	11.158	225	272.1	0.00	0.05	1.00	Х
	Naphthalene	91-20-3	11.373	128	2,123	0.00	0.04	1.00	
	1,2,3-Trichlorobenzene	87-61-6	11.478	180	1,013	0.00	0.00	1.00	

File Name:

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 B17-00152 ccv2 ars-16-

Sample ID:

01-26-17 B17-00152 ccv2 ars16-12 Operator:

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Description:

01-26-17 B17-00152 ccv2 ars16-122001

Inject Date/Time:

January 26, 2017 8:52:43 PM

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Calibration File:

Quantify Method: 8260b water 01-26-2017 B17-00152 8260B water IC 01-24-17cal2

Last Updated: Last Updated:

February 02, 2017 12:58:57 PM

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

Level:

Dilution:

1.000

Sample Wt:

1.000

Soil Extract Vol:

Soil Aliquot Vol:

Purge Vol: 5.000

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv Man
1	Fluorobenzene	363-72-4	4.105	96	1,910,000	50.00	0.00
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,497,000	50.00	0.00
3	1,4-Dichlorobenzene-D4	3855-82-1	9.857	152	848,000	50.00	0.00

	#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
	4	Dibromofluoromethane	1868-53-7	3.400	113	400,600	50.00	46.79	93.58	0.00	
	5	Toluene-d8	2037-26-5	5.665	98	1,995,000	50.00	53.92	107.8	0.01	
L	6	Bromofluorobenzene	460-00-4	8.862	95	854,100	50.00	52.96	105.9	0.00	
L	7	1,2-Dichloroethane-d4	17060-	3.845	102	135,500	50.00	52.72	105.4	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.859	85	278,200	0.00	43.42	1.00	
9	Chloromethane	74-87-3	0.959	50	613,500	0.00	45.53	1.00	
10	Vinyl Chloride	75-01-4	0.999	62	577,900	0.00	50.93	1.00	
11	Bromomethane	74-83-9	1.164	94	376,200	0.00	58.22	1.00	
12	Chloroethane	75-00-3	1.229	64	290,800	0.00	48.91	1.00	
13	Trichlorofluoromethane	75-69-4	1.299	101	288,400	0.00	45.06	1.00	
14	1,1-Dichloroethene	75-35-4	1.599	96	356,400	0.00	59.67	1.00	
15	Carbon disulfide	75-15-10	1.599	76	836,700	0.00	46.63	1.00	
16	Iodomethane	74-88-4	1.679	142	450,700	0.00	56.17	1.00	
17	Acrolein	107-05-1	1.924	56	1,381	0.00	152.04	1.00	
18	Allyl Chloride	107-05-1	1.919	76	200,500	0.00	46.05	1.00	
19	Methyl Tert-butyl Ether	1634-04-4	2.254	73	9.316	0.00	0.00	1.00	Х
20	Methylene Chloride	75-09-2	1.994	84	462,900	0.00	57.34	1.00	
21	trans-1,2 Dichloroethene	156-60-5	2.109	96	442,700	0.00	53.17	1.00	
22	Acetone	67-64-1	2.069	58	83,600	0.00	54.71	5.00	
23	Acrylonitrile	75-34-3	2.639	53	227,900	0.00	45.87	1.00	
24	1,1,-Dichloroethane	75-34-3	2.574	63	845,400	0.00	44.12	1.00	
25	Chloroprene	107-13-1	2.559	53	748,200	0.00	47.86	1.00	
26	cis-1,2,-Dichloroethene	156-59-2	3.009	96	532,500	0.00	52.68	1.00	
27	2,2,-Dichloropropane	594-20-7	3.089	77	359,100	0.00	39.59	1.00	
_28	2-Butanone	78-93-3	3.545	72	64,660	0.00	40.83	5.00	
29	Propionitrile	107-02-8	3.780	54	95,520	0.00	43.94	1.00	
30	Bromochloromethane	74-97-5	3.164	128	226,700	0.00	49.95	1.00	
31	Chloroform	67-66-3	3.254	83	765,900	0.00	46.49	1.00	
32	Carbon tetrachloride	56-23-5	3.329	117	380,600	0.00	44.36	1.00	

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
34	1,1,1-Trichloroethane	71-55-6	3.390	97	582,100	0.00	51.87	1.00	
35	1,1-Dichloropropene	563-58-6	3.505	75	612,500	0.00	47.07	1.00	1
36	Benzene	71-43-2	3.715	78	1,973,000	0.00	47.87	1.00	
37	Methacrylonitrile	126-98-7	3.790	41	413,600	0.00	43.83	1.00	
38	1,2-Dichloroethane	107-06-2	3.905	62	668,700	0.00	44.56	1.00	
39	Trichloroethene	79-01-6	4.255	95	491,700	0.00	54.43	1.00	
40	1,2-Dichloropropane	78-87-5	4.745	63	549,500	0.00	46.42	1.00	
41	Bromodichloromethane	75-27-4	4.835	83	541,900	0.00	45.62	1.00	
42	Methyl methacrylate	80-62-6	5.065	69	433,400	0.00	41.11	1.00	
43	Dibromomethane	79-95-3	4.640	93	286,100	0.00	50.82	1.00	
44	1,4-Dioxane	123-91-1	5.075	88	6,094	0.00	46.35	1.00	
45	2-Chloroethyl Vinyl Ether	110-75-8	5.715	63	176,600	0.00	46.18	1.00	
46	cis-1,3-Dichloropropene	10061-	5.480	75	654,900	0.00	41.00	1.00	
47	Toluene	108-88-3	5.715	92	1,330,000	0.00	60.04	1.00	
48	trans-1,3-	10061-	6.201	75	579,900	0.00	42.46	1.00	
49	1,1,2-Trichloroethane	79-00-5	6.361	83	390,000	0.00	53.45	1.00	
50	Ethyl methacrylate	97-63-2	6.466	69	772,000	0.00	44.96	1.00	
51	Tetrachloroethene	79-01-6	6.106	164	488,500	0.00	69.58	1.00	
52	Chlorodibromomethane	124-48-1	6.531	129	398,500	0.00	50.23	1.00	
53	1,3-Dichloropropane	142-28-9	6.646	76	873,500	0.00	47.05	1.00	
54	1,2-Dibromoethane	100-41-4	6.746	107	468,600	0.00	52.59	1.00	
55	Ethylbenzene	100-41-4	7.476	91	2,451,000	0.00	54.00	1.00	
56	1,1,1,2-	630-20-6	7.491	131	402,900	0.00	50.67	1.00	
57	Chlorobenzene	108-90-7	7.386	112	1,418,000	0.00	53.33	1.00	
58	m,p-Xylene	106-42-	7.661	106	1,928,000	0.00	100.45	2.00	
59	o-Xylene	95-47-6	8.171	106	943,600	0.00	51.71	1.00	
60	Bromoform	75-25-2	8.216	173	230,700	0.00	50.99	1.00	
61	4-Methyl-2-pentanone	108-10-1	6.196	100	96,350	0.00	49.34	5.00	
62	2-Hexanone	591-78-6	7.161	43	434,100	0.00	44.47	5.00	
63	Styrene	100-42-5	8.246	104	1,636,000	0.00	54.59	1.00	
64	Isopropylbenzene	98-82-8	8.587	105	2,381,000	0.00	52.51	1.00	
65	Bromobenzene	108-86-1	8.937	156	584,100	0.00	48.01	1.00	
66	cis-1,4-dichloro-2-	1476-11-5	8.982	75	91,610	0.00	31.22	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.292	53	189,000	0.00	39.25	1.00	
68	n-Propylbenzene	103-65-1	9.042	91	2,826,000	0.00	54.44	1.00	
69	1,1,2,2-	79-34-5	9.137	83	642,700	0.00	46.11	1.00	
70	1,2,3-Trichloropropane	96-18-4	9.217	77	95,460	0.00	44.39	1.00	
71	1,3,5-trimethylbenzene	108-67-8	9.257	105	2,148,000	0.00	51.04	1.00	
72	2-Chlorotoluene	95-49-8	9.147	91	1,779,000	0.00	52.62	1.00	
	4-Chlorotoluene	106-43-4	9.307	91	1,839,000	0.00	50.75	1.00	
	tert-Butylbenzene	98-06-6	9.517	119	1,897,000	0.00	44.66	1.00	
75	1,2,4-Trimethylbenzene	95-63-6	9.582	105	2,243,000	0.00	50.81	1.00	
76	sec-Butylbenzene	135-98-8	9.667	105	2,601,000	0.00	51.50	1.00	
	4-Isopropyltoluene	99-87-6	9.802	119	2,217,000	0.00	49.32	1.00	
	1,3-Dichlorobenzene	541-73-1	9.867	146	1,209,000	0.00	52.03	1.00	
	1,4-Dichlorobenzene	106-46-7	9.867	146	1,209,000	0.00	52.03	1.00	
	n-Butylbenzene	104-51-8	10.117	91	2,037,000	0.00	52.51	1.00	
	1,2-Dichlorobenzene	95-50-1	10.172	146	1,176,000	0.00	47.91	1.00	
	1,2-Dibromo-3-	96-12-8	10.732	75	116,800	0.00	37.08	1.00	
	1,2,4-Trichlorobenzene	120-82-1	11.163	180	833,300	0.00	48.47	1.00	
	Hexachlorobutadiene	87-68-3	11.163	225	319,800	0.00	52.03	1.00	
$\overline{}$	Naphthalene	91-20-3	11.363	128	2,589,000	0.00	44.15	1.00	
	1,2,3-Trichlorobenzene	87-61-6	11.473	180	837,400	0.00	48.20	1.00	1

File Name:

C:\TurboMass\T020117 B1700152.PRO\Data\01-26-17 ccv6 ars16-122007.raw

Sample ID:

01-26-17 ccv6 ars16-122007

Operator:

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Description: Inject Date/Time:

01-26-17 ccv6 ars16-122007

January 27, 2017 7:53:57 AM

Tune File:

010317.IPR

GC Method:

8260.mth

MS Method:

8260.EXP

Calibration File:

Quantify Method:

8260b water 01-26-2017 B17-00152 8260B water IC 01-24-17cal2

Last Updated: Last Updated:

February 02, 2017 12:58:57 PM

Level:

January 24, 2017 4:48:29 PM

GC Column:

Elite-VMS

1.000

Dilution:

1.000

Sample Wt: Purge Vol:

5.000

Soil Extract Vol:

Soil Aliquot Vol:

#	Internal Standards	CAS	RT	m/z	Area	Spk Amt	RT Dv Man
1	Fluorobenzene	363-72-4	4.100	96	1,508,000	50.00	-0.01
2	Chlorobenzene-d5	3114-55-4	7.371	117	1,299,000	50.00	0.00
3	1,4-Dichlorobenzene-D4	3855-82-1	9.857	152	753,200	50.00	0.00

#	Surrogate Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	% Rec	RT Dv	Man
4	Dibromofluoromethane	1868-53-7	3.405	113	272,600	50.00	40.33	80.66	0.00	
5	Toluene-d8	2037-26-5	5.665	98	1,605,000	50.00	50.02	100.0	0.01	
6	Bromofluorobenzene	460-00-4	8.867	95	723,800	50.00	51.74	103.5	0.01	
7	1,2-Dichloroethane-d4	17060-	3.845	102	108,300	50.00	48.59	97.18	0.00	

#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
8	Dichlorodifluoromethane	75-71-8	0.869	85	26.36	0.00	1.60	1.00	Х
9	Chloromethane	74-87-3	0.959	50	2,382	0.00	0.42	1.00	
10	Vinyl Chloride	75-01-4	0.989	62	21.18	0.00	0.00	1.00	Х
11	Bromomethane	74-83-9	1.164	94	2,727	0.00	0.00	1.00	
12	Chloroethane	75-00-3	1.234	64	104.4	0.00	0.02	1.00	Х
13	Trichlorofluoromethane	75-69-4	1.309	101	13.47	0.00	0.00	1.00	Х
14	1,1-Dichloroethene	75-35-4	1.594	96	5.128	0.00	0.00	1.00	X
15	Carbon disulfide	75-15-10	1.519	76	1,044	0.00	0.49	1.00	
16	Iodomethane	74-88-4	1.669	142	289.0	0.00	1.42	1.00	Х
17	Acrolein	107-05-1	1.849	56	170,400	0.00	23782.94	1.00	
18	Allyl Chloride	107-05-1	1.879	76	2.929	0.00	0.00	1.00	Х
19	Methyl Tert-butyl Ether	1634-04-4	2.244	73	2,153,000	0.00	0.00	1.00	
20	Methylene Chloride	75-09-2	1.989	84	198.5	0.00	0.00	1.00	Х
21	trans-1,2 Dichloroethene	156-60-5	2.084	96	11.87	0.00	0.00	1.00	Х
22	Acetone	67-64-1	2.244	58	32,910	0.00	26.07	5.00	
23	Acrylonitrile	75-34-3	2.614	53	40.99	0.00	0.43	1.00	Χ
24	1,1,-Dichloroethane	75-34-3	2.599	63	18.89	0.00	0.00	1.00	Х
25	Chloroprene	107-13-1	2.549	53	6.781	0.00	0.00	1.00	Х
26	cis-1,2,-Dichloroethene	156-59-2	2.989	96	1.968	0.00	0.00	1.00	Х
27	2,2,-Dichloropropane	594-20-7	3.094	77	3.618	0.00	0.00	1.00	Χ
28	2-Butanone	78-93-3	3.570	72	1,668	0.00	2.97	5.00	
29	Propionitrile	107-02-8	3.785	54	16.99	0.00	2.01	1.00	Х
31	Chloroform	67-66-3	3.280	83	1.327	0.00	0.00	1.00	Х
32	Carbon tetrachloride	56-23-5	3.314	117	8.064	0.00	2.55	1.00	Х
33	Vinyl Acetate	108-05-4	2.829	43	1,357,000	0.00	0.00	1.00	

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#	Target Compounds	CAS	RT	m/z	Area	Spk Amt	ug/L	Report Limit	Man
34	1,1,1-Trichloroethane	71-55-6	3.405	97	18.10	0.00	0.00	1.00	Х
35	1,1-Dichloropropene	563-58-6	3.390	75	199.7	0.00	0.02	1.00	Х
36	Benzene	71-43-2	3.710	78	181.7	0.00	0.00	1.00	Х
37	Methacrylonitrile	126-98-7	3.730	41	1,334	0.00	0.18	1.00	
38	1,2-Dichloroethane	107-06-2	3.915	62	60.58	0.00	0.00	1.00	X
39	Trichloroethene	79-01-6	4.260	95	4.767	0.00	0.00	1.00	Х
40	1,2-Dichloropropane	78-87-5	4.760	63	12.42	0.00	0.00	1.00	Х
41	Bromodichloromethane	75-27-4	4.810	83	17.90	0.00	1.98	1.00	Х
42	Methyl methacrylate	80-62-6	5.075	69	13.77	0.00	1.59	1.00	Х
43	Dibromomethane	79-95-3	4.645	93	12.42	0.00	0.00	1.00	Х
44	1,4-Dioxane	123-91-1	5.075	88	16.47	0.00	1.90	1.00	Х
45	2-Chloroethyl Vinyl Ether	110-75-8	5.715	63	55.43	0.00	1.15	1.00	Х
46	cis-1,3-Dichloropropene	10061-	5.490	75	33.21	0.00	2.24	1.00	Х
47	Toluene	108-88-3	5.715	92	313.3	0.00	0.00	1.00	Х
48	trans-1,3-	10061-	6.201	75	39.08	0.00	1.86	1.00	Х
49	1,1,2-Trichloroethane	79-00-5	6.361	83	22.34	0.00	0.00	1.00	Х
50	Ethyl methacrylate	97-63-2	6.431	69	35.53	0.00	0.81	1.00	Х
51	Tetrachloroethene	79-01-6	6.101	164	21.12	0.00	0.00	1.00	Х
52	Chlorodibromomethane	124-48-1	6.511	129	0.00	0.00	2.85	1.00	Х
53	1,3-Dichloropropane	142-28-9	6.646	76	19.94	0.00	0.00	1.00	Х
54	1,2-Dibromoethane	100-41-4	6.746	107	13.10	0.00	0.00	1.00	Х
55	Ethylbenzene	100-41-4	7.371	91	1,509	0.00	0.04	1.00	
56	1,1,1,2-	630-20-6	7.486	131	9.443	0.00	2.10	1.00	Х
57	Chlorobenzene	108-90-7	7.381	112	86.97	0.00	0.00	1.00	Х
58	m,p-Xylene	106-42-	7.671	106	216.7	0.00	0.01	2.00	Х
59	o-Xylene	95-47-6	8.171	106	22.91	0.00	0.00	1.00	Х
60	Bromoform	75-25-2	8.216	173	13.11	0.00	1.63	1.00	Х
61	4-Methyl-2-pentanone	108-10-1	6.206	100	7.530	0.00	1.08	5.00	Х
62	2-Hexanone	591-78-6	7.131	43	1,151	0.00	1.56	5.00	
63	Styrene	100-42-5	8.261	104	18.56	0.00	0.00	1.00	Х
64	Isopropylbenzene	98-82-8	8.597	105	114.5	0.00	0.00	1.00	Х
65	Bromobenzene	108-86-1	8.932	156	16.75	0.00	0.00	1.00	Х
66	cis-1,4-dichloro-2-	1476-11-5	8.867	75	355,100	0.00	115.94	1.00	
67	trans-1,4-dichloro-2-	110-57-6	9.297	53	6.646	0.00	1.71	1.00	Х
68	n-Propylbenzene	103-65-1	9.052	91	740.3	0.00	0.00	1.00	Х
69	1,1,2,2-	79-34-5	9.117	83	19.03	0.00	0.00	1.00	Х
70	1,2,3-Trichloropropane	96-18-4	9.237	77	-5.480	0.00	0.00	1.00	Х
71	1,3,5-trimethylbenzene	108-67-8	9.262	105	2,642	0.00	0.00	1.00	
72	2-Chlorotoluene	95-49-8	9.152	91	233.9	0.00	0.00	1.00	Х
73	4-Chlorotoluene	106-43-4	9.312	91	257.1	0.00	0.00	1.00	Х
74	tert-Butylbenzene	98-06-6	9.527	119	86.24	0.00	0.00	1.00	Х
75	1,2,4-Trimethylbenzene	95-63-6	9.587	105	7,142	0.00	0.00	1.00	
76	sec-Butylbenzene	135-98-8	9.587	105	7,142	0.00	0.00	1.00	
77	4-Isopropyltoluene	99-87-6	9.792	119	516.9	0.00	0.00	1.00	Х
78	1,3-Dichlorobenzene	541-73-1	9.862	146	934.7	0.00	0.00	1.00	Х
79	1,4-Dichlorobenzene	106-46-7	9.862	146	929.3	0.00	0.00	1.00	Х
80	n-Butylbenzene	104-51-8	10.122	91	1,229	0.00	0.00	1.00	
81	1,2-Dichlorobenzene	95-50-1	10.167	146	62.93	0.00	0.00	1.00	Χ
82	1,2-Dibromo-3-	96-12-8	10.722	75	31.08	0.00	2.87	1.00	Χ
83	1,2,4-Trichlorobenzene	120-82-1	11.163	180	313.5	0.00	0.00	1.00	Χ
84	Hexachlorobutadiene	87-68-3	11.143	225	0.00	0.00	0.00	1.00	Χ
85	Naphthalene	91-20-3	11.363	128	559.6	0.00	0.01	1.00	Χ
86	1,2,3-Trichlorobenzene	87-61-6	11.463	180	84.85	0.00	0.00	1.00	Х

						Range		
Compound	Analysis Date	ICAL Midpoint ug/L	ICV/LCS %	%Drift REC	%	1 1	%	Pass/Fail
Fluorobenzene		20	20		80	,	120	pass
Chlorobenzene-d5		20	20	100	80	,	120	pass
1,4-Dichlorobenzene-D4		20	20	100	80	•	120	pass
Dibromofluoromethane		20	46.77	93.54	80	•	119	pass
Toluene-d8		20	53.83	107.66	89	•	112	pass
Bromoflurorobenzene		20	53.31	106.62	85		114	pass
1,2-Dichloroethane-d4		20	52.72	105.44	81	•	118	pass
Dichlorodifluoromethane		20	45.8	91.6	32		152	pass
Chloromethane		20	43.73	87.46	20	•	139	pass
Vinyl Chloride		20	50.19	100.38	28	•	137	pass
Bromomethane		20	53.2	106.4	53	1	141	pass
Chloroethane		20	46.87	93.74	09		138	pass
Trichlorofluoromethane		20	45.61	91.22	65	•	141	pass
1,1-Dichloroethene		20	57.93	115.86	71	,	131	pass
Carbon disulfide		20	46.43	92.86	64		133	pass
lodomethane		20	53.24	106.48	69	1	131	pass
Acrolein		20	104.08	208.16	39	,	155	fail
Allyl Chloride		20	43.69	87.38	89	,	130	pass
Methyl Tert-butyl Ether		20	0	0	71	r	124	fail
Methylene Chloride		20	53.83	107.66	74		124	pass
trans-1,2 Dichloroethene		20	50.61	101.22	75	,	124	pass
Acetone		20	58.91	117.82	39	r	160	pass
Aciylonitrile		20	43.98	87.96	63		135	pass
1,1,-Dichloroethane		20	42.53	85.06	11	1	125	pass

Project:

VOAx

Instrument: Clarus 600T

ICV/CCV Check Calculations Water

Chloroprene	20	46.8	93.6	80	ı	120	pass
cis-1,2,-Dichloroethene	20	49.47	98.94	78	,	123	pass
2,2,-Dichloropropane	20	41.62	83.24	09	1	139	pass
2-Butanone	20	44.95	89.9	99	1	143	pass
Propionitrile	20	41.73	83.46	64	,	136	pass
Bromochloromethane	20	46.95	93.9	78	•	123	pass
Chloroform	20	43.93	87.86	79	ı	124	pass
Carbon tetrachloride	20	44.52	89.04	72	1	136	pass
Vinyl Acetate	20		0	54	,	146	fail
1,1,1-Trichloroethane	20	50.62	101.24	74	,	131	pass
1,1-Dichloropropene	20	46.23	92.46	79	,	125	pass
Benzene	20	45.79	91.58	79	1	120	pass
Methacrylonitrile	20	42.17	84.34	63	•	133	pass
1,2-Dichloroethane	20	42.94	82.88	73	•	128	pass
Trichloroethene	20	51.41	102.82	79	,	123	pass
1,2-Dichloropropane	20	43.91	87.82	78	,	122	pass
Bromodichloromethane	20	43.54	87.08	79	1	125	pass
Methyl methacrylate	20	39.54	79.08	29	,	128	pass
Dibromomethane	20	47.76	95.52	79	,	123	pass
1,4-Dioxane	20	48.09	96.18	59	1	139	pass
2-Chloroethyl Vinyl Ether	20	43.88	87.76	51		139	pass
cis-1,3-Dichloropropene	20	39.66	79.32	75	,	124	pass
Toluene	20	56.01	112.02	80	١.	121	pass
trans-1,3-Dichloropropene	20	41.54	83.08	73	1	127	pass
1,1,2-Trichloroethane	20	50.19	100.38	80	•	119	pass
Ethyl methacrylate	20	42.57	85.14	72	,	126	pass
Tetrachloroethene Tetrachloroethene	20	64.62	129.24	74	•	129	fail
Chlorodibromomethane	20	47.6	95.2	74	1	126	pass
1,3-Dichloropropane	20	44.85	89.7	80	1	119	pass
1,2-Dibromoethane	20	49.65	99.3	77	,	121	pass
Et (Sylbenzene	20	50.8	101.6	79	,	121	pass
1, 1, 1, 2-Tetrachloroethane	20	47.6	95.2	78	•	124	pass
Cifforobenzene	50	49.9	8.66	82	ı	118	pass
m,p-Xylene	100	94.65	94.65	80	,	121	pass

o-Xvlene	50	48.87	97.74	78		22	oass
Bromoform	20	49.42	98.84	99	,	30	oass
4-Methyl-2-pentanone	20	47.49	94.98	29	-	30	oass
2-Hexanone	50	44.61	89.22	57		39	oass
Styrene	50	50.97	101.94	78	- 1	23	oass
Isopropylbenzene	50	50.18	100.36	72	-	31	oass
Bromobenzene	50	46.13	92.26	80	-	50	oass
cis-1,4-dichloro-2-butene	50	32.97	65.94	57	- 1	46	oass
trans-1,4-dichloro-2-butene	50	43.06	86.12	43	- 1	140	pass
n-Propylbenzene	50	52.57	105.14	9/	- 1	56	oass
1,1,2,2-Tetrachloroethane	50	44.88	92.68	71	- 1	21	oass
1,2,3-Trichloropropane	20	37.86	75.72	73	- 1	77	oass
1,3,5-trimethylbenzene	50	49.01	98.02	75	- 1	24	oass
2-Chlorotoluene	50	50.68	101.36	79	- 1	22	oass
4-Chlorotoluene	20	48.65	97.3	78	- 1	22	oass
tert-Butylbenzene	20	43.49	86.98	78	- 1	24	oass
1,2,4-Trimethylbenzene	50	48.28	96.56	9/	- 1	24	oass
sec-Butylbenzene	20	50.52	101.04	77	. 1	76	)ass
4-Isopropyltoluene	50	48.19	96.38	77	- 1	27	oass
1,3-Dichlorobenzene	50	49.5	66	80	. 1	19	oass
1,4-Dichlorobenzene	50	49.5	66	79	-	18	oass
n-Butylbenzene	50	51.52	103.04	75	-	28	oass
1,2-Dichlorobenzene	50	45.92	91.84	80		19	oass
1,2-Dibromo-3-chloropropane	50	36.5	73	62	,	78	oass
1,2,4-Trichlorobenzene	50	46.41	92.82	69	-	30	oass
Hexachlorobutadiene	50	51.87	103.74	99	-	34	oass
Naphthalene	20	42.44	84.88	61	,	78	oass
1,2,3-Trichlorobenzene	50	45.95	91.9	69		.29	pass

*Limits taken from DoD/DOE QSM July 2013, Appendix C*

	Pass/Fail		pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass '	pass	pass	pass	pass	pass	fail	pass	fail	pass	pass	pass	pass	pass
	%		150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
Range		ı	,	•	1	,	•	ı	ı	1	1	ı	1	•	1	ı	1	1	,	ı	ı	1	•	ı		
	%		20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
	%Drift	REC	100	100	100	93.58	107.84	105.92	105.44	86.84	91.06	101.86	116.44	97.82	90.12	119.34	93.26	112.34	304.08	92.1	0	114.68	106.34	109.42	91.74	88.24
	ClosingCCV	ng/L	20	20	20	46.79	53.92	52.96	52.72	43.42	45.53	50.93	58.22	48.91	45.06	29.62	46.63	56.17	152.04	46.05	0	57.34	248 23.17	of 24.71	28 45.87	44.12

pass	pass	pass	pass	pass	pass	pass	pass	fail	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
ı	,	•			ı	•	ı		,			•	,	1			,		,		.•	,	,	,	,	1		,				,	
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
95.72	105.36	79.18	81.66	87.88	6'66	92.98	88.72	0	103.74	94.14	95.74	87.66	89.12	108.86	92.84	91.24	82.22	101.64	92.7	92.36	82	120.08	84.92	106.9	89.92	139.16	100.46	94.1	105.18	108	101.34	106.66	100.45
47.86	52.68	39.59	40.83	43.94	49.95	46.49	44.36		51.87	47.07	47.87	43.83	44.56	54.43	46.42	45.62	41.11	50.82	46.35	46.18	41	60.04	42.46	53.45	44.96	85.69	50.23	47.05	52.59	<b>4</b> 5 249	29.05°	%23.33	100.45

	nace nace	bass	pass	pass	pass	bass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass	pass
7	150	051	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150	150
			•		,	,	,		,			,	1	ı		,	•	•		ı	ı	,	•	,		,	•	
C	S 5	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
103 43	101.08	101.98	89.86	88.94	109.18	105.02	96.02	62.44	78.5	108.88	92.22	88.78	102.08	105.24	101.5	89.32	101.62	103	98.64	104.06	104.06	105.02	95.82	74.16	96.94	104.06	88.3	96.4
	51./1	50.99	49.34	44.47	54.59	52.51	48.01	31.22	39.25	54.44	46.11	44.39	51.04	52.62	50.75	44.66	50.81	51.5	49.32	52.03	52.03	52.51	47.91	37.08	48.47	52.03	44.15	48.2



# **Standard Information**

SDG# ARS1-17-00215 COC AQUEOUS SAMPLES



# Certificate of Analysis

Rec 4/10/16



#### **VOC Mixture**

**Product Number:** 

DWM-588

Page:

1 of 3

Lot Number:

CP-0691

Lot Issue Date:

18-Feb-2016

**Expiration Date:** 

31-Mar-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

Analyte	CAS#	Analyte Lot	True Value
bromochloromethane	000074-97-5	NT01833	2010 ± 10 μg/mL
bromodichloromethane	000075-27-4	RM06861	2009 ± 10 μg/mL
bromoform	000075-25-2	RM07516	2009 ± 10 μg/mL
carbon tetrachloride	000056-23-5	RM07576	2009 ± 10 μg/mL
chloroform	000067-66-3	RM09609	2009 ± 10 μg/mL
dibromochloromethane	000124-48-1	RM04265	2009 ± 10 μg/mL
dibromomethane	000074-95-3	NT00378	2008 ± 10 μg/mL
methylene chloride	000075-09-2	RM09575	$2010 \pm 10 \mu \text{g/mL}$
trichlorofluoromethane	000075-69-4	RM00017	2009 ± 10 μg/mL
1,2-dibromoethane	000106-93-4	RM00018	2010 ± 10 μg/mL
1,1-dichloroethane	000075-34-3	RM09331	2010 ± 10 μg/mL
1,2-dichloroethane	000107-06-2	RM04655	2010 ± 10 μg/mL
1,1-dichloroethene	000075-35-4	RM09189	2009 ± 10 μg/mL
cis-1,2-dichloroethene	000156-59-2	RM09172	2008 ± 10 μg/mL
trans-1,2-dichloroethene	000156-60-5	RM07565	2008 ± 10 μg/mL
1,1,1,2-tetrachloroethane	000630-20-6	RM00024	2010 ± 10 μg/mL
1,1,2,2-tetrachloroethane	000079-34-5	RM02540	2008 ± 10 μg/mL
tetrachloroethene	000127-18-4	RM06491	$2008 \pm 10 \mu g/mL$
1,1,1-trichloroethane	000071-55-6	RM00027	2008 ± 10 μg/mL
1,1,2-trichloroethane	000079-00-5	RM01175	2009 ± 10 μg/mL
trichloroethene	000079-01-6	RM06644	2008 ± 10 μg/mL
1,2-dibromo-3-chloropropane	000096-12-8	RM03703	2010 ± 10 μg/mL
1,2-dichloropropane	000078-87-5	RM06643	2008 ± 10 μg/mL
1,3-dichloropropane	000142-28-9	RM02080	2007 ± 10 μg/mL
2,2-dichloropropane	000594-20-7	NT01867	2008 ± 10 μg/mL
1,1-dichloropropene	000563-58-6	RM10945	2010 ± 10 µg/mL
cis-1,3-dichloropropene	010061-01-5	RM06629	2009 ± 10 μg/mL

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

Initial Calibration Std.



ISO 9001 Registered TUV USA, Inc.

William J. Leary Quality Assurance Manager



# Certificate of Analysis



#### **VOC Mixture**

**Product Number:** 

DWM-588

Page:

2 of 3

Lot Number:

CP-0691

Lot Issue Date:

18-Feb-2016

**Expiration Date:** 

31-Mar-2019

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trans-1,3-dichloropropene	010061-02-6	RM01443	2006 ± 10 μg/mL
hexachlorobutadiene	000087-68-3	RM00438	2007 ± 10 μg/mL
1,2,3-trichloropropane	000096-18-4	NT00408	2010 ± 10 μg/mL
naphthalene	000091-20-3	RM02406	$2009 \pm 10 \mu g/mL$
benzene	000071-43-2	RM03830	$2010 \pm 10 \mu g/mL$
n-butylbenzene	000104-51-8	NT01633	$2009 \pm 10 \mu g/mL$
sec-butylbenzene	000135-98-8	NT01548	2009 ± 10 μg/mL
tert-butylbenzene	000098-06-6	NT01547	2009 ± 10 μg/mL
ethylbenzene	000100-41-4	RM00783	2009 ± 10 μg/mL
isopropylbenzene	000098-82-8	RM00835	2010 ± 10 μg/mL
4-isopropyltoluene	000099-87-6	NT01494	2010 ± 10 μg/mL
n-propylbenzene	000103-65-1	NT02060	2010 ± 10 μg/mL
styrene	000100-42-5	RM04974	2009 ± 10 μg/mL
toluene	000108-88-3	RM10201	$2010 \pm 10 \mu g/mL$
1,2,4-trimethylbenzene	000095-63-6	RM06731	2010 ± 10 μg/mL
1,3,5-trimethylbenzene	000108-67-8	NT01632	2006 ± 10 μg/mL
o-xylene	000095-47-6	NT00774	2009 ± 10 μg/mL
m-xylene	000108-38-3	RM00053	$2009 \pm 10 \mu g/mL$
p-xylene	000106-42-3	RM02647	2009 ± 10 μg/mL
1,4-dichlorobenzene	000106-46-7	RM07548	2006 ± 10 μg/mL
bromobenzene	000108-86-1	NT00251	2005 ± 10 μg/mL
chlorobenzene	000108-90-7	NT01538	2000 ± 10 μg/mL
2-chlorotoluene	000095-49-8	RM03906	2008 ± 10 μg/mL
4-chlorotoluene	000106-43-4	RM01866	2009 ± 10 μg/mL
1,2-dichlorobenzene	000095-50-1	RM00060	2003 ± 10 μg/mL
1,3-dichlorobenzene	000541-73-1	NT00356	2004 ± 10 μg/mL
1,2,3-trichlorobenzene	000087-61-6	NT00358	2003 ± 10 μg/mL
1,2,4-trichlorobenzene	000120-82-1	RM00063	2008 ± 10 μg/mL

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



ISO 9001 Registered TUV USA, Inc. William J. Leary Quality Assurance Manager



# Certificate of Analysis



#### **VOC Mixture**

**Product Number:** 

DWM-588

Page:

3 of 3

Lot Number:

CP-0691

Lot Issue Date:

18-Feb-2016

**Expiration Date:** 

31-Mar-2019

This ISO Guide 34 Reference Material (RM) was manufactured and verified in accordance with ULTRA's ISO 9001 registered quality system, and the analyte concentrations were verified by our ISO 17025 accredited laboratory. The true value and uncertainty value at the 95% confidence level for each analyte, determined gravimetrically, is listed below.

bromomethane	000074-83-9	RM00064	2000 ± 10 μg/mL
chloroethane	000075-00-3	RM00065	2006 ± 10 μg/mL
chloromethane	000074-87-3	RM05290	2010 ± 10 μg/mL
dichlorodifluoromethane	000075-71-8	RM09113	$2010 \pm 10 \mu g/mL$
vinyl chloride	000075-01-4	RM05458	2010 ± 10 μg/mL

Matrix:

methanol (methyl alcohol)

Storage:

Store Frozen (-25° to -10°C).

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



ISO 9001 Registered TUV USA, Inc. William J. Leary Quality Assurance Manager 254 of 292



# **CERTIFIED REFERENCE MATERIAL**



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

# **Certificate of Analysis**

Iac MRA



www.restek.com

Rec 4/10/16

#### FOR LABORATORY USE ONLY-READ SDS PRIOR TO USE.

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

Catalog No.:

30633

Lot No.: A0115742

Description:

8260B Calibration Mix #1

8260B MegaMix Calibration Mix 2000µg/mL, P&T Methanol, 1mL/ampul

Container Size:

2 mL

Pkg Amt:

> 1 mL

**Expiration Date:** 

December 31, 2018

Storage:

0°C or colder

#### CERTIFIED VALUES

Elution Order	Compour	nd	Grav. Conc. (weight/volume)		Expanded ( (95% C.L.;		
1	Diethyl ether (ethyl ether)  CAS # 60-29-7  Purity 99%	(Lot SHBF3466V)	2,016.7 μg/mL	+/- +/- +/-	14.3913 121.9622 122.2504	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
2	1,1,2-Trichlorotrifluoroethane (CF CAS # 76-13-1 Purity 99%	C-113) (Lot 00001135)	2,004.3 μg/mL	+/- +/- +/-	14.3028 121.2123 121.4988	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
3	1,1-dichloroethene CAS # 75-35-4 Purity 99%	(Lot SHBD6170V)	2,002.3 μg/mL	+/- +/- +/-	14.2204 121.0822 121.3683	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
4	Acetonitrile CAS # 75-05-8 Purity 99%	(Lot SHBB3177V)	2,005.2 μg/mL	+/- +/- +/-	14.3093 121.2668 121.5533	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
5	Iodomethane (methyl iodide) CAS # 74-88-4 Purity 99%	(Lot SHBF2149V)	2,010.5 µg/mL	+/- +/- +/-	14.3471 121.5873 121.8746	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
6	Allyl chloride ( 3-chloropropene )  CAS # 107-05-1  Purity 99%	(Lot MKBG5777V)	2,000.0 μg/mL	+/- +/- +/-	17.4997 121.3755 121.6603	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed
7	Carbon disulfide CAS # 75-15-0 Purity 98%	(Lot C30Y997)	2,014.0 μg/mL	+/- +/- +/-	14.3724 121.8018 122.0896	μg/mL μg/mL μg/mL	Gravimetric Unstressed Stressed

SECOND SOURCE (QA/QC std.)

24	carbon tetrachloride CAS # 56-23-5	(Lot SHBC1410V)	2,004.2	μg/mL	+/	14.2341 121.1983	μg/mL μg/mL	Gravimetric Unstressed
	Purity 99%				+/-	121.4847	μg/mL	Stressed
.5	1,2-Dichloroethane		2,001.3	μg/mL	+/-	14.2138	μg/mL	Gravimetric
,5	CAS # 107-06-2	(Lot SHBC6595V)	2,001.5	μg·III	+/-	121.0253	μg/mL	Unstressed
	Purity 99%	(200022000)			+/-	121.3113	μg/mL	Stressed
26	Benzene		2,000.2	ug/mI.	+/-	14.2063	μg/mL	Gravimetric
	CAS # 71-43-2	(Lot SHBF0424V)	2,000.2	P. G. 1122	+/-	120.9580	μg/mL	Unstressed
	Purity 99%	(2:1:2:2:1)			+/-	121.2438	μg/mL	Stressed
27	2-Chloroethanol		2,000.5	μg/mL	+/-	14.2757	μg/mL	Gravimetric
	CAS # 107-07-3	(Lot STBC2079V)	,	, ,	+/-	120.9825	μg/mL	Unstressed
	Purity 99%	,			+/-	121.2684	μg/mL	Stressed
28	Trichloroethene		2,011.8	μg/mL	+/-	14.2883	μg/mL	Gravimetric
	CAS # 79-01-6	(Lot SHBF0943V)	,	, ,	+/-	121.6603	μg/mL	Unstressed
	Purity 99%	,			+/-	121.9478	μg/mL	Stressed
29	1,2-Dichloropropane		2,003.5	μg/mL	+/-	14.2288	μg/mL	Gravimetric
	CAS # 78-87-5	(Lot 01113D0V)			+/-	121.1535	μg/mL	Unstressed
	Purity 99%				+/-	121.4399	$\mu g/mL$	Stressed
30	Methyl methacrylate		2,008.4	μg/mL	+/-	14.3321	μg/mL	Gravimetric
	CAS # 80-62-6	(Lot MKBN8882V)			+/-	121.4603	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.7473	μg/mL	Stressed
31	bromodichloromethane		2,000.5	μg/mL	+/-	14.2078	μg/mL	Gravimetric
	CAS # 75-27-4	(Lot 150916JLM)			+/-	120.9745	μg/mL	Unstressed
	Purity 99%				+/-	121.2604	μg/mL	Stressed
32	1,4-Dioxane		2,001.9	μg/mL	+/-	14.2857	μg/mL	Gravimetric
	CAS # 123-91-1	(Lot SHBF2002V)			+/-	121.0672	μg/mL	Unstressed
	Purity 99%				+/-	121.3533	μg/mL	Stressed
33	Dibromomethane		2,001.1	μg/mL	+/-	14.2124	μg/mL	Gravimetric
	CAS # 74-95-3	(Lot 10169264)			+/-	121.0094	$\mu g/mL$	Unstressed
	Purity 99%	•			+/-	121.2953	μg/mL	Stressed
34	2-Nitropropane		2,004.6	μg/mL	+/-	14.3050	μg/mL	Gravimetric
	CAS # 79-46-9	(Lot BCBJ4343V)			+/-	121.2306	$\mu g/mL$	Unstressed
	Purity 97%				+/-	121.5171	μg/mL	Stressed
35	cis-1,3-Dichloropropene		2,005.0	μg/mL	+/-	14.2400	μg/mL	Gravimetric
	CAS # 10061-01-5	(Lot 22119)			+/-	121.2491	μg/mL	Unstressed
	Purity 99%				+/-	121.5356	μg/mL	Stressed
36	Toluene		2,001.2	μg/mL	+/-	14.2133	μg/mL	Gravimetric
	CAS # 108-88-3	(Lot SHBF7904V)			+/-	121.0169	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.3029	μg/mL	Stressed
37	Ethyl methacrylate		2,004.3	μg/mL	+/-	14.3028	μg/mL	Gravimetric
	CAS # 97-63-2	(Lot SHBD9190V)			+/-	121.2123	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.4988	μg/mL	Stressed
38	trans-1,3-Dichloropropene		2,002.8	μg/mL	+/-	14.2243	μg/mL	Gravimetric
	CAS # 10061-02-6	(Lot C579534)			+/-	121.1148	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.4011	μg/mL	Stressed
			2,005.0	μg/mL	+/-	14.2396	μg/mL	Gravimetric
39	1,1,2-Trichloroethane		2,000.0	F-6-				
39	1,1,2-17; chloroethane  CAS # 79-00-5  Purity 99%	(Lot FGB01)	2,000.0		+/-	121.2454 121.5320	μg/mL μg/mL	Unstressed Stressed

56	trans-1,4-dichloro-2-butene		1,986.4	μg/mL	+/-	14.1752	μg/mL	Gravimetric
	CAS # 110-57-6	(Lot MKBK0511V)			+/-	120.1303	$\mu g/mL$	Unstressed
	Purity 94%	4% cis; 96% trans		-	+/-	120.4142	μg/mL	Stressed
7	n-Propylbenzene		2,000.3	μg/mL	+/-	14.2069	μg/mL	Gravimetric
	CAS # 103-65-1	(Lot MKBQ8049V)			+/-	120.9625	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2484	μg/mL	Stressed
58	Bromobenzene		2,001.3	μg/mL	+/-	14.2138	μg/mL	Gravimetric
	CAS # 108-86-1	(Lot MKBD4032V)			+/-	121.0214	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.3075	μg/mL	Stressed
59	1,3,5-Trimethylbenzene		2,000.6	μg/mL	+/-	14.2092	μg/mL	Gravimetric
	CAS # 108-67-8	(Lot BCBJ3305V)			+/-	120.9821	μg/mL	Unstressed
	Purity 99%				+/-	121.2681	μg/mL	Stressed
60	2-Chlorotoluene		2,000.9	μg/mL	+/-	14.2108	μg/mL	Gravimetric
	CAS # 95-49-8	(Lot MKBH8892V)			+/-	120.9957	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2817	$\mu g/mL$	Stressed
61	4-Chlorotoluene		2,000.5	μg/mL	+/-	14.2085	μg/mL	Gravimetric
	CAS # 106-43-4	(Lot MKBB7205V)			+/-	120.9761	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2620	μg/mL	Stressed
62	tert-Butylbenzene		2,001.1	μg/mL	+/-	14.2124	μg/mL	Gravimetric
	CAS # 98-06-6	(Lot S52237V)			+/-	121.0094	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2953	μg/mL	Stressed
63	1,2,4-Trimethylbenzene		2,000.4	μg/mL	+/-	14.2078	μg/mL	Gravimetric
	CAS # 95-63-6	(Lot MKBJ6229V)			+/-	120.9700	μg/mL	Unstressed
	Purity 98%				+/-	121.2559	μg/mL	Stressed
54	Pentachloroethane		2,001.6	μg/mL	+/-	14.2832	μg/mL	Gravimetric
	CAS # 76-01-7	(Lot 7GHYB)			+/-	121.0460	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.3321	$\mu g/mL$	Stressed
65	sec-Butylbenzene	-	2,000.1	μg/mL	+/-	14.2056	μg/mL	Gravimetric
	CAS # 135-98-8	(Lot MKBK3151V)			+/-	120.9519	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2378	μg/mL	Stressed
66	p-Isopropyltoluene (p-Cymene)		2,000.7	μg/mL	+/-	14.2095	μg/mL	Gravimetric
	CAS# 99-87-6	(Lot MKBK4439V)			+/-	120.9852	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2711	μg/mL	Stressed
67	1,3-Dichlorobenzene		2,002.7	μg/mL	+/-	14.2233	μg/mL	Gravimetric
	<b>CAS</b> # 541-73-1	(Lot BCBC1891V)			+/-	121.1064	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.3926	μg/mL	Stressed
68	1,4-Dichlorobenzene		2,002.6	μg/mL	+/-	14.2224	μg/mL	Gravimetric
	CAS # 106-46-7	(Lot MKBS1350V)			+/-	121.0991	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.3853	μg/mL	Stressed
69	n-Butylbenzene		2,000.3	μg/mL	+/-	14.2070	μg/mL	Gravimetric
	CAS # 104-51-8	(Lot 09418JJV)			+/-	120.9640	$\mu g/mL$	Unstressed
	Purity 99%				+/-	121.2499	μg/mL	Stressed
70	1,2-Dichlorobenzene		2,002.9	μg/mL	+/-	14.2248	μg/mL	Gravimetric
	CAS # 95-50-1	(Lot SHBD7331V)	-		+/-	121.1197	μg/mL	Unstressed
	Purity 99%	·			+/-	121.4059	μg/mL	Stressed
	, and 9970							
71		·····	2,000.8	μg/mL	+/-	14.2106	μg/mL	Gravimetric
71	1,2-Dibromo-3-chloropropane  CAS # 96-12-8	(Lot 150618JLM)	2,000.8	μg/mL	+/-	14.2106 120.9942	μg/mL μg/mL	Gravimetric Unstressed

lumn:

x 0.25mm x 1.4µm ktx-502.2 (cat.#10916)

Carrier Gas:

helium-constant pressure 30 psi

Temp. Program:

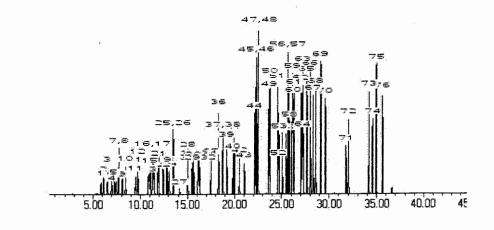
40°C (hold 6 min.) to 240°C @ 6°C/min. (hold 10 min.)

Inj. Temp:

200°C

Det. Temp:

Det. Type: MSD



This chromatogram represents a general set of testing conditions chosen for product acceptance. For optimal results in your lab, conditions should be adjusted for your specific instrument, method, and application.

Date Mixed:

02-Dec-2015

Balance: 1125113331

Jennyer 2 Pollino Jennifer L. Pollino - QC Analyst

Date Passed: 04-Dec-2015 Manufactured under Restek's ISO 9001:2008 Registered Quality System Certificate #FM 80397

STD ID: S-0313

ARS	Add/Edit Secondary Stds	Parent Sta	ndard Data
	Planning	Parent Solution Reference #	75186-526
Planning Comments	Create a Sr-90 LCS Standard	Parent Solution #	S-0160
Target dpm/g (on dil. date)	46.66	Parent Principal Radionuclide	Sr-90 Half Life 10409,6250000
Target Final volume mL	1000	Parent Reference Date	06/01/2807 12:00
Appx mass g of Parent Sol'n	12.82144356	Parent Certified Act	4521,643783 Certi Act/Vol Units dpm g
Appx vol ml of Parent Sol'n		Parent Cert Act Uncert 1 Sigma	0.017
Expected Addition for Analysis g	1	Parent Sp. Gravity G/MI	Market State Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control of the Control
Sta	ndards Preparation / Dilution	Parent Supplier	Analytics
Secondary Solution #	S-0313	Parent Date Recvd	05/21/07
Dilution Date (New Ref Date)	05/05/2016 00:00	Parent Received By	AGuerrero
Ampoule, Empty (g)		Parent Cert Exp Date	
Ampoule /Solution Gross (g)		Parent Matrix	.1M HCL with 30 ug/g Sr carrier
Net Wt Removed (g)	100 March 1997	Certified dpm/g At Ref Date	4521,643783
Transfer Container, empty (g)	17.2513	Certified dpm/g on 05/05/2016 00:00	3639.215802
Container Plus Solution (g)	29.2848		Intermediate standard for creating LCS standards. Dilution performed as stated above by BSteffensBIS 6/1/2007
Net Wt Transferred (g)	12.0335	Parent Comments.	
DPM Xferred on 05/05/2016 00:00	43792.30335		
Diluent/matrix	.1M HCL	Parent Tech	<b>BS</b> toffens
Diluent Density Cont, empty (g)	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	ls_Primary	FALSE
Test Mass of 5 mi of Diluent (g)	,	ls_LCS	FALSE
Diluent Density Test - (g/mL)		is_Tracer	FALSE
Dilution Empty Container Mass (g)	258.23	is_Calib	FALSE
Dilution Full Cont g (if measured)	1256.98	CONTRACTOR STATE OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPER	THE PROPERTY AND ADDRESS OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF THE PROPERTY OF TH
Dilution Final Volume ml (if measured)	1000 :		
Final Dilution Density (g/mL)	0,99875		
Final Dilution Measured Mass g	998.75		
Comments	1L of standard to be used as Sr-90 LCS diluted as stated	d above by Jacob Byrd - JF	PB 5/5/2016
Final Dilution dpm/g	43:84731249	n azzarátta i majuralonaki i	Provided 1-18 March - Anticopy and Control of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State of the State o
Final Dil New Ref Date/Time	05/05/2016 00:00		

S-0313		
Sr-90	Verified	5/9/16
S	Expires	5/9/17
Manufactuer	Analytics	
Sol Matrix	.1M HCL with 30 ug/g	
Ref No	75186-526	APS
Tech	BSteffens	INTERNATIONAL
Parent ID	S-0160	
RADIOACTIVE STAN	DARDS BATON ROUGE	LABURATURT



### QUALITY CONTROL PROGRAM

#### AMERICAN RADIATION SERVICES: RADIOACTIVE REFERENCE SOLUTIONS

### ANNUAL ACTIVITY VERIFICATION

**VERIFICATION DATE** STANDARD REFERENCE #

5/9/2016 16:52 date counted S-0313

**Principal Radionuclide** 

Sr-90

Half Life, Years ENTER -->

2.880E+01 2.880E+01

OR -->

Half Life, Days

1.0520E+04 1.0520E+04

Radionuclide

Sr-90

Dilution Reference Date

5/5/2016 0:00

**Dilution Activity** Verif. Date Decay Corrected 19.75 pCi per gram ===> dpm/g 19.74 pCi per gram ===> dpm/g

43.85

43.83

				Minimum o	f 3 Required			
Trial ID	Sample Counts	Count Time (min)	Detector	Efficiency	Bkg. (cpm)	Net Weight	Decay Corrected Activity Result (dpm/g)	Decay Corrected Activity Result (pCl/g)
S-0313-V1	2347.00	120	A2	0.4153	1.26	1.005	43.82	19.74
S-0313-V2	2336.00	120	А3	0.4145	0.99	1.009	44.17	19.90
S-0313-V3	2335.00	120	A4	0.4147	1.05	1.008	44.01	19.82
S-0313-V4	2329.50	120	B1	0.4033	0.83	1.011	45.58	20.53
S-0313-V5	2363.00	120	B2	0.4193	0,80	1.009	44.65	20.11

Average 44.44 20.02 Two Sigma Uncertainty 1.38 0.62 10% Max **PASS** 1.60% Standard Deviation percent of known concentration 1.60% 43.83 Target Activity 19.74

5% Max

**PASS** 

% Diff

1.39% 1.40%

Verification Expiration Date: May 9, 2017

Prepared & Counted By Jacob

Date: 5/9/2016 16:52

Verified & Approved By

Date:

QC Approval

Count Oate 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013 5/24/2013	•		LB ETT C	LB EII CAICUIATION REPORT	(eport						SUT	Instrument	LB4100-A	<b>4</b> -0	Detector	A2
Source		4	U.	00-00	The state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the 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1590   22574.00   91/1999   199   11   110   55720   1130   4.00   900   7470.75   5/24/2013     1591   22542.00   91/1999   39.00   11   110   5320   1130   4.00   900   691187   5/24/2013     1592   22446.00   91/1999   269.00   2   110   50435   1130   4.00   900   691187   5/24/2013     1593   23866.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1594   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1595   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   657137   5/24/2013     1595   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   657137   5/24/2013     1595   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   657137   5/24/2013     1596   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   657137   5/24/2013     1596   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1596   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1597   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1598   22446.00   91/1999   269.00   7   110   51425   1130   4.00   900   667137   5/24/2013     1598   22446.00   91/1999   269.00   7   110   2406   1130   4.00   900   667137   5/24/2013     1598   22446.00   91/1999   269.00   7   110   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406   2406	-		21102.00	9/1/1999	0.10	13	110	50208	1130	4.00	006	6275.37	5/24	/2013	15112.16	0.4153
1592   22245.00   9/1/1999   39.00   11   110   553200   1130   4.00   900   6911.87   5/24/2013     1593   223866.00   9/1/1999   103.60   9   110   51422   1130   4.00   900   6550.50   5/24/2013     1594   213.0.00   9/1/1999   103.60   9   110   51422   1130   4.00   900   6567.137     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.62   5/24/2013     1595   22446.00   9/1/1999   269.00   24050   24050   24050   24050     1595   22446.00   9/1/1999   269.00   24050   24050   24050     1595   22446.00   9/1/1999   269.00   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   24050   240	2	1590	23574.00	9/1/1999	19.90	21	110	59771	1130	4,00	006	7470.75	5/24,	/2013	16882.48	0.4425
1592   21480.00   91/1999   61.40   112   110   50445   1130   4.00   900   6535.00   57/4/2013     1594   22346.00   91/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   7   110   44050   1130   4.00   900   6427.12     1595   22446.00   91/1/1999   269.00   269.00     1596   22446.00   91/1/1999   269.00   269.00     1596   22446.00   91/1/1999   269.00   269.00     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427.12   27/4/2013     1596   2427/2013   27/	0	1591	22242.00	9/1/1999	39.00	11	110	55300	1130	4.00	006	6911.87	5/24,	/2013	15928.57	0.4339
1593   23866.00   9/1/1999   78.20   20   110   51376   1130   4.00   900   6671.37   5/24/2013     1594   231300.0   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.65   5/24/2013     1595   22446.00   9/1/1999   269.00   7   110   44050   1130   4.00   900   5505.65   5/24/2013     1	4	1592	21480.00	9/1/1999	61.40	12	110	50445	1130	4.00	006	6305.00	5/24,	/2013	15382.87	0.4099
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	L	1593	23886,00	9/1/1999	78.20	20	110	53376	1130	4.00	006	6671.37	5/24,	/2013	17105.92	0.3900
V = 3.936SE-07x ² - 4.5300E-04x + 4.5378E-01  V = 3.936SE-07x ² - 4.5300E-04x + 4.5378E-01  O.00, 0.415  O.00  O.15  O.15  O.15  O.15  O.15  O.15  O.15	9 1	1594	23130.00	9/1/1999	103.60	6	110	51422	1130	4.00	006	6427.12	5/24,	/2013	16564.51	0.3880
V = 3.036SE-07x2 - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x - 4.5300E-04x	V	5651	22446.00	9/1/1999	269.00	7	110	44050	1130	4.00	006	5505.62	5/24,	/2013	16074.67	0.3425
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3591	22242.00	9/1/1999	39,00	2	73	55335	708	4.00	006	6916.48	5/24	5/24/2013	15928.57	0.4342
3592	21480.00	9/1/1999	61.40	7	73	48912	708	4.00	006	6113.61	5/24	5/24/2013	15382.87	0.3974
3593	23886.00	9/1/1999	78.20	00	73	54816	708	4.00	006	6851.61	5/24	5/24/2013	17105.92	0.4005
1594	23130.00	9/1/1999	103.60	3	73	51545	708	4.00	006	6442.73	5/24	5/24/2013	16564.51	0.3889
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102   60840   804   4,00   900   7604.55   5/24/2013   16882.48     102   50868   804   4,00   900   5/31.05   5/24/2013   15928.57     28   102   5/368   804   4,00   900   6/79.05   5/24/2013   1532.87     34   102   5/268   804   4,00   900   6/79.05   5/24/2013   16564.51     27   102   4/5484   804   4,00   900   6/79.05   5/24/2013   16074.67     27   102   4/5484   804   4,00   900   6/79.05   5/24/2013   16074.67     28   20   20   20   20   20   20     29   20   20   20   20   20     20   20	1 -	9/1/1999	0.10	34	102	50695	804	4.00	006	6336.43	5/24/20	-	15112.16	Walter Walter
102   57052   804   4.00   900   7131.05   5/24/2013   15328.57     102   50868   804   4.00   900   6798.05   5/24/2013   113532.87     102   52636   804   4.00   900   6798.05   5/24/2013   16564.51     27   102   45484   804   4.00   900   5685.05   5/24/2013   16074.67     27   102   45484   804   4.00   900   5685.05   5/24/2013   16074.67     28   102   52636   804   4.00   900   5685.05   5/24/2013   16074.67     29   102   45484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05   5/24/2013   16074.67     20   245484   804   4.00   900   5685.05     20   2454/2013   16074.67     20   245484   804   4.00   900   5685.05     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/2013   16074.67     20   2454/201		9/1/1999	19.90	34	102	60840	804	4.00	006	7604.55	5/24/20	013	16882.48	0.4504
102   50868   804   4.00   900   6358.05   5/24/2013   15/105/92     34   102   54584   804   4.00   900   65/98.30   5/24/2013   17/105/92     37   102   45484   804   4.00   900   5685.05   5/24/2013   160/4.67     27   102   45484   804   4.00   900   5685.05   5/24/2013   160/4.67     27   102   45484   804   4.00   900   5685.05   5/24/2013   160/4.67     27   102   45484   804   4.00   900   5685.05   5/24/2013   160/4.67     27   102   45484   804   4.00   900   5685.05   5/24/2013   160/4.67     28   4.00   4.00   5685.05   5/24/2013   160/4.67     28   4.00   4.00   5685.05   5/24/2013   160/4.67     29   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5685.05   5/24/2013   160/4.67     20   4.00   4.00   5/24/2013   160/4.67     20   4.00   4.00   5/24/2013   160/4.67     20   4.00   4.00   5/24/2013   160/4.67     20   4.00   4.00   5/24/2013   160/4.67     20   4.00   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/24/2013   160/4.67     20   4.00   5/2		9/1/1999	39.00	37	102	57052	804	4.00	006	7131.05	5/24/20	013	15928.57	0.4477
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27 102 45484 804 4.00 900 5885.05 5/24/2013 150/4.57		9/1/1999	103.60	34	102	52636	804	4.00	006	6579.05	5/24/20	013	16564,51	0.3972
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### Sr-90 Verification

### 5/9/2016

Tech: J Byrd Pipet #

Scale ID

12332539

Standard # S-0313

 Sample ID
 Std weight g.

 S-0313-V1
 1.0053

 S-0313-V2
 1.0091

 S-0313-V3
 1.0084

 S-0313-V4
 1.0109

 S-0313-V5
 1.0091

Performed By: J Byrd

GEN 239 A 35723 Sr WJS

	ζ.	ζ.	S	ζ.	ςı.
TOD	1402.5 5/9/16 16:52	1402.5 5/9/16 16:52	1402.5 5/9/16 16:52	1402.5 5/9/16 16:52	1402.5 5/9/16 16:52
Voltage	1402.5	1402.5	1402.5	1402.5	1402.5
Count Time	120	120	120	120	120
Beta	4694	4672	4670	4659	4726
Alpha			14	5	18
Sample ID	S-0313-V1	S-0313-V2	S-0313-V3	S-0313-V4	S-0313-V5
Detector ID Sample ID		<b>A</b> 3		B1	B2

GEN 233 A 35723 LONG BKG WJS

TOD	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 5:59	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00	5/7/16 6:00
Voltage	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5	1402.5
Count Time	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006	006
Beta	1641	1137	893	949	763	<b>1</b> 92	1701	727	748	720	736	884	792	1429	688	1254
Alpha	61	98	86	77	46	88	32	29	43	46	22	105	4	65	30	54
Sample ID	A1-01	A2-01	A3-01	A4-01	C1-01	C2-01	C3-01	C4-01	B1-01	B2-01	B3-01	B4-01	D1-01	D2-01	D3-01	D4-01
Detector ID	A1	A2	<b>A</b> 3	<b>A</b> 4	5	C5	ဌ	2	B1	B2	B3	B4	5	D2	D3	D4

# Sr-90 Verification

5/9/2016

Tech: J Byrd

Pipet # Scale ID

Scale ID 12332539

Standard # S-0313

Sample ID	Std weight g.
S-0313-V1	1:0053
S-0313-V2	1,0091
S-0313-V3	1.0084
S-0313-V4	1.0109
S-0313-V5	1.0091

Performed By: J Byrd

STD ID: S-0313

ARS	Add/Edit Secondary Stds	Parent Stan	dard Data
,	Planning	Parent Solution Reference #	75186-526
Planning Comments	Crante a Surgo LCS Standard	Parent Solution #	S-0160
Target dpm/g (on dil. date)	46.66	Parent Principal Radionuclide	Sr-90 Half Life (Days) 10409.6250000
Target Final volume mL	1000	Parent Reference Date	06/01/2007 12:00
Appx mass g of Parent Soin	12.80817542	Parent Certified Act	4521.642783 Certi Act/Vol- Units dpm g
Appx vol ml of Parent Sol'n	April 1885	Parent Cert Act Uncert 1 Sigma	0.017
Expected Addition for Analysis g	1	Parent Sp. Gravity G/MI	
Star	ndards Preparation / Dilution	Parent Supplier	Analytics
Secondary Solution #	S-0313	Parent Date Recvd	05/21/07
Dilution Date (New Ref Date)	5-5-16	Parent Received By	AGuerraro
Ampoule, Empty (g)		Parent Cert Exp Date	
Ampoule /Solution Gross (g)		Parent Matrix	.1M HCL with 30 ug/g Sr carrier
Net Wt Removed (g)		Certified dpm/g At Ref Date	4521.643783
Transfer Container, empty (g)	17.2513	Certifled dpm/g on 04/19/2016 10:49	3642:985708
Container Plus Solution (g)	29.2848	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	Intermediate standard for creating LCS standards. Dilution performed as stated above by BSteffens, -835 6/1/2007
Net Wt Transferred (g)		Parent Comments	
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Test Mass of 5 ml of Diluent (g)		ls_LCS	FALSE
Diluent Density Test - (g/mL)		ls_Tracer	FALSE
Dilution Empty Container Mass (g)	258.23	ls_Calib	FALSE
Dilution Full Cont g (if measured)	1256,98	- Tabbilder arms	
Dilution Final Volume ml (if measured)	1000 mL	Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence of the Confidence o	
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**Isotope Products** 

24937 Avenue Tibbitts Valencia, California 91355

Tel 661·309·1010 Fax 661-257-8303



# **CERTIFICATE OF CALIBRATION** MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

Source No.:

1559-72-6

P.O. No.:

11-0530

Reference Date:

1-Feb-12

μCi

12:00 PST

Catalog No.:

EG-ML

Contained Radioactivity:

2.549

94.31

kBq

Physical Description:

A. Capsule type:

Customer supplied tuna can

B. Nature of active deposit:

Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (375.2 grams)

D. Backing:

Steel

E. Cover:

Steel

Gamma-Ray Energy (keV)	Nuclide	Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.
47	Pb-210	22.3 ± 0.2 years	4.18	0.5834	902.3	7.0 %
60	Am-241	432.17 ± 0.66 years	36.0	0.05866	781.4	3.0 %
88	Cd-109	462.6 ± 0.7 days	3.63	0.5345	717.9	3.1 %
122	Co-57	271.79 ± 0.09 days	85.6	0.02013	637.6	3.1 %
159	Te-123m	119.7 ± 0.1 days	84.0	0.02758	857.2	3.0 %
320	Cr-51	27.706 ± 0.007 days	9.86	0.6881	2510	3.0 %
392	Sn-113	115.09 ± 0.04 days	64.9	0.1048	2517	3.0 %
514	Sr-85	64.849 ± 0.004 days	98.4	0.1282	4668	3.0 %
662	Cs-137	30.17 ± 0.16 years	85.1	0.08881	2796	3.0 %
898	Y-88	106.630 ± 0.025 days	94.0	0.2068	7193	3.0 %
1173	Co-60	5.272 ± 0.001 years	99.86	0.1077	3979	3.0 %
1333	Co-60	5.272 ± 0.001 years	99.98	0.1077	3984	3.0 %
1836	Y-88	106.630 ± 0.025 days	99.4	0.2068	7606	3.0 %

#### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in µCi/g were determined by gamma spectrometry.

### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

EZIP Ref. No.: 1559-72

ISO 9001 CERTIFIED

ISO 9978:1992 OR DERIVED FROM THE LEAK TEST METHODS LISTED IN ISO 9978:1992. THE REGULATORY LIMITED LEAK TEST RESULTS IS <5 nCi (185 Bg) FOR BOTH ALPHA AND BETA-GAMMA ACTIVITY. LEAK TEST RESULTS MARK BELOW CONTAINED <5 nCi (185 Bq) OF REMOVABLE ACTIVITY UNLESS OTHERWISE STATED ON THIS CERTIFICAN Standard Wipe Test The source was wiped over its entire surface with a moistened filter paper disk. After drying, the disk was checked for activity using a scintillation detector. Special Wipe Test The source was wiped over its entire surface with moistened polystyrene. The polystyrene was then dissolved in a liquid scintillation cocktail and counted in a liquid scintillation counter. Distilled Water Soak Test The source was immersed in distilled water and maintained at (50 ± 5)°C for a minimum of four hours or room temperature (20 ± 5)°C for 24 hours. After removal of the source, the liquid was a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue checked for activity using a windowless proportional counter or end-window G.M. tube. Liquid Scintillation Soak Test The source was immersed for a minimum of 3 hours at room temperature(20 ± 5)°C in a liquid scintillation cocktail, which does not attack the source's outer surface material. The source was stored away from light to avoid photoluminescence. The sealed source was then removed and the activity of the liquid scintillation cocktail was measured. Gas Source Test The source was placed in a vacuum desiccator and maintained at a pressure of <10 mm Hg for not less than 12 hours. The activity was checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube. Ampoule Leak Test The ampoule was kept in an inverted position on a filter paper disk or polystyrene wipe for a minimum of 16 hours. The wipe was then checked for activity using a scintillation detector or liquid scintillation counter. Bubble Leak Test The container was pressurized to its fill pressure; then soapy water was applied over its valve and neck or, the valve and neck of the vessel were immersed in water. If no growing bubbles were observed, the container was considered leak free. Wipe Test for Industrial Ni-63 Sources The sources were wipe tested by an approved sampling plan, which called for either 100% of the batch to be individually wipe tested, or, a subset thereof. The wipe test(s) used to test for removable contamination and the results of those tests are recorded on the front of this form. Pressure Test for Triotech Kr-85 Sources Prior to filling the vessel with Kr-85 gas, the vessel was evacuated to <5 mm Hg, the gas manifold system shut off and the system allowed to stand for a minimum of 30 minutes. A vacuum difference not greater than the known vacuum loss of the manifold system itself signified the vessel did not leak. Leak Test Not Applicable The active area of the source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test or special wipe test depending on the nuclide. Other Leak Test

THE LEAR TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO DETERMINE THE INTEGRITY OF I SOURCE DESCRIBED ON THE FRONT SIDE. THE LEAK TESTS INDICATED BELOW WERE EITHER TAKEN DIRECTLY A



**Isotope Products** 

24937 Avenue Tibbitts Valencia, California 91355

Tel 661·309·1010 Fax 661·257·8303

# CERTIFICATE OF CALIBRATION MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

MERICAN RADIATION SERVICE

Source No.:

1748-90-1

P.O. No.:

14-0236

Reference Date:

1-Oct-14

-Oct-14 12:00 PST

Catalog No.:

EG-ML

Contained Radioactivity:

0.9342

μCi 34.57 kBq

### **Physical Description:**

A. Capsule type:

Customer supplied tuna can

B. Nature of active deposit:

Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (377.6 grams)

D. Backing:

Steel

E. Cover:

Steel

Gamma-Ray Energy (keV)	Nuclide	Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.
47	Pb-210	22.3 ± 0.2 years	4.18	0.2133	329.9	4.1 %
60	Am-241	432.17 ± 0.66 years	36.0	0.02113	281.5	3.1 %
88	Cd-109	462.6 ± 0.7 days	3.63	0.2039	273.9	3.1 %
122	Co-57	271.79 ± 0.09 days	85.6	0.007394	234.2	3.1 %
159	Te-123m	119.7 ± 0.1 days	84.0	0.01066	331.3	3.1 %
320	Cr-51	27.706 ± 0.007 days	9.86	0.2517	918.3	3.0 %
392	Sn-113	115.09 ± 0.04 days	64.9	0.03574	858.2	3.0 %
514	Sr-85	64.849 ± 0.004 days	98.4	0.04568	1663	3.0 %
662	Cs-137	30.17 ± 0.16 years	85.1	0.03171	998.5	3.1 %
898	Y-88	106.630 ± 0.025 days	94.0	0.07337	2552	3.0 %
1173	Co-60	5.272 ± 0.001 years	99.86	0.03965	1465	3.0 %
1333	Co-60	5.272 ± 0.001 years	99.98	0.03965	1467	3.0 %
1836	Y-88	106.630 ± 0.025 days	99.4	0.07337	2698	3.0 %

#### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in  $\mu$ Ci/g were determined by gamma spectrometry.

### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

Danel James Van Dalsenn Quality Control

18-80-14

EZIP Ref. No.: 1748-90

- ISO 9001 CERTIFIED -

THE LEAK TEST(S) INDICATED BY THE CHECKED BOX(ES) WAS(WERE) APPLIED TO DETERMINE THE INTEGRISS SOURCE DESCRIBED ON THE FRONT SIDE. THE LEAK TESTS INDICATED BELOW WERE EITHER TAKEN DIRECTLY ISO 9978:1992 OR DERIVED FROM THE LEAK TEST METHODS LISTED IN ISO 9978:1992. THE REGULATORY LIMITALEAK TEST RESULTS IS <5 nCi (185 Bq) FOR BOTH ALPHA AND BETA-GAMMA ACTIVITY. LEAK TEST RESULTS MADELOW CONTAINED <5 nCi (185 Bq) OF REMOVABLE ACTIVITY UNLESS OTHERWISE STATED ON THIS CERTIFICS.

71	Standard Wipe Test
<b>Y</b>	The source was wiped over its entire surface with a moistened filter paper disk. After drying, the disk was checked for activity using a scintillation detector.
	Special Wipe Test  The source was wiped over its entire surface with moistened polystyrene. The polystyrene was then dissolved in a liquid scintillation cocktail and counted in a liquid scintillation counter.
_	<b>Distilled Water Soak Test</b> The source was immersed in distilled water and maintained at $(50 \pm 5)^{\circ}$ C for a minimum of four hours or room temperature $(20 \pm 5)^{\circ}$ C for 24 hours. After removal of the source, the liquid was a) checked for activity using a liquid scintillation counter, or b) evaporated in a planchet and the residue checked for activity using a windowless proportional counter or end-window G.M. tube.
_	<b>Liquid Scintillation Soak Test</b> The source was immersed for a minimum of 3 hours at room temperature(20 ± 5)°C in a liquid scintillation cocktail, which does not attack the source's outer surface material. The source was stored away from light to avoid photoluminescence. The sealed source was then removed and the activity of the liquid scintillation cocktail was measured.
	Gas Source Test  The source was placed in a vacuum desiccator and maintained at a pressure of <10 mm Hg for not less than 12 hours.  The activity was checked by introducing air into the desiccator and monitoring the air with an end-window G.M. tube.
	Ampoule Leak Test  The ampoule was kept in an inverted position on a filter paper disk or polystyrene wipe for a minimum of 16 hours. The wipe was then checked for activity using a scintillation detector or liquid scintillation counter.
	<b>Bubble Leak Test</b> The container was pressurized to its fill pressure; then soapy water was applied over its valve and neck or, the valve and neck of the vessel were immersed in water. If no growing bubbles were observed, the container was considered leak free.
	Wipe Test for Industrial Ni-63 Sources  The sources were wipe tested by an approved sampling plan, which called for either 100% of the batch to be individually wipe tested, or, a subset thereof. The wipe test(s) used to test for removable contamination and the results of those tests are recorded on the front of this form.
	Pressure Test for Triotech Kr-85 Sources  Prior to filling the vessel with Kr-85 gas, the vessel was evacuated to <5 mm Hg, the gas manifold system shut off and the system allowed to stand for a minimum of 30 minutes. A vacuum difference not greater than the known vacuum loss of the manifold system itself signified the vessel did not leak.
	Leak Test Not Applicable  The active area of the source is uncovered or is protected by a very thin coating. Although the deposit is adherent, it is not designed or certified to pass a standard leak test. The inactive portions of the source have been checked using the standard wipe test or special wipe test depending on the nuclide.
	Other Leak Test

E&Z 1748-90-1 250ml Tuna Can 1.5g/cc

Nuclide	Energy	GPS	BRatio	Bq	DPM	pCi
PB-210	47	329.9	0.0418	7892.344	473540.7	213306.4
AM-241	60	281.5		781.9444	46916.67	21133.61
CD-109	88	273.9	0.0363	7545.455	452727.3	203931
CO-57	122	234.2	0.856	273.5981	16415.89	7394.537
TE-123m	159	331.3	0.84	394.4048	23664.29	10659.58
CR-51	320	918.3	0.0986	9313.387	558803.2	251712.9
SN-113	392	858.2	0.649	1322.342	79340.52	35738.94
SR-85	514	1663	0.984	1690.041	101402.4	45676.73
CS-137	662	998.5	0.851	1173.325	70399.53	31711.47
Y-88	898	2552	0.94	2714.894	162893.6	73375.43
CO-60	1173	1465	0.9986	1467.054	88023.23	39650.07
CO-60	1333	1467	0.9998	1467.293	88037.61	39656.54
Y-88	1836	2698	0.994	2714.286	162857.1	73359



**Isotope Products** 

24937 Avenue Tibbitts Valencia, California 91355 Recovered JoT

Tel 661-309-1010 Fax 661-257-8303

# **CERTIFICATE OF CALIBRATION** MULTINUCLIDE STANDARD SOURCE

Customer:

AMERICAN RADIATION SERVICE

Source No.:

1595-98-4

P.O. No.:

12-0210 / R5197

Reference Date:

1-Jul-12

12:00 PST

Catalog No.:

EG-ML

Contained Radioactivity:

1.024

μCi 37.89

kBq

**Physical Description:** 

A. Capsule type:

Customer supplied tuna can

B. Nature of active deposit:

Multinuclide distributed in 1.5 g/cc epoxy matrix

C. Active diameter/volume:

Approximately 250mL (376.2 grams)

D. Backing:

**Plastic** 

E. Cover:

**Plastic** 

Gamma-Ray Energy (keV)	Nuclide	Half-life	Branching Ratio (%)	Activity (μCi)	Gammas per second	Total Uncert.
47	Pb-210	22.3 ± 0.2 years	4.18	0.2320	358.8	7.0 %
60	Am-241	432.17 ± 0.66 years	36.0	0.02273	302.8	3.0 %
88	Cd-109	462.6 ± 0.7 days	3.63	0.2223	298.6	3.2 %
122	Co-57	271.79 ± 0.09 days	85.6	0.008038	254.6	3.1 %
159	Te-123m	119.7 ± 0.1 days	84.0	0.01098	341.3	3.1 %
320	Cr-51	27.706 ± 0.007 days	9.86	0.2766	1009	3.0 %
392	Sn-113	115.09 ± 0.04 days	64.9	0.04358	1046	3.0 %
514	Sr-85	64.849 ± 0.004 days	98.4	0.05122	1865	3.0 %
662	Cs-137	30.17 ± 0.16 years	85.1	0.03546	1117	3.0 %
898	Y-88	106.630 ± 0.025 days	94.0	0.07866	2736	3.0 %
1173	Co-60	5.272 ± 0.001 years	99.86	0.04279	1581	3.0 %
1333	Co-60	5.272 ± 0.001 years	99.98	0.04279	1583	3.0 %
1836	Y-88	106.630 ± 0.025 days	99.4	0.07866	2893	3.0 %

### Method of Calibration:

This source was prepared from weighed aliquots of solutions whose concentrations in µCi/g were determined by gamma spectrometry.

### Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from IAEA-TECDOC-619, 1991.
- Overall uncertainty is calculated at the 99% confidence level.
- This source has a working life of 1 year.

EZIP Ref. No.: 1595-98

1595-98-4 - Tuna Can 1.5g/cc - 7-1-12

Nuclide	Energy	GPS	BRatio	Bq	DPM	pCi
PB-210	47	358.8	0.0418	8583.73	515023.92	231992.53
AM-241	60	302.8	0.36	841.11	50466.67	22732.71
CD-109	88	298.6	0.0363	8225.90	493553.72	222321.27
CO-57	122	254.6	0.856	297.43	17845.7 <del>9</del>	8038.64
TE-123M	159	341.3	0.84	406.31	24378.57	10981.33
CR-51	320	1009	0.0986	10233.27	613995.94	276574.47
SN-113	392	1046	0.649	1611.71	96702.62	43559.69
SR-85	514	1865	0.984	1895.33	113719.51	51224.95
CS-137	662	1117	0.851	1312.57	78754.41	35474.92
Y-88	898	2736	0.94	2910.64	174638.30	78665.82
CO-60	1173	1581	0.9986	1583.22	94992.99	42789.59
CO-60	1333	1583	0.9998	1583.32	94999.00	42792.30
Y-88	1836	2893	0.994	2910.46	174627.77	78661.08





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404•352•8677 Fax 404•352•2837 www.analyticsinc.com

# CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73518-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.888 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

O A APPROVED:

278 of 292





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

# CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73519-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.851 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

Q A APPROVED:





1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

# CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73520-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.907 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

Q A APPROVED:

Carmenda Addi --

280 of 292



1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

### CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73521-526

Th-230 47 mm Diameter x 0.9 mm Thick Stainless Steel Disk in Stainless Steel Planchet

This standard radionuclide source was prepared by electrodeposition of Th-230 onto a stainless steel disk. Th-230 activity was determined with a ZnS scintillation detector. The calibration was checked by alpha spectroscopy after source preparation.

Analytics maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Regulatory Guide 4.15, Rev. 1.

ISOTOPE:

Th-230

ACTIVITY (dps):

1.916 E2

HALF-LIFE:

7.538 E4 years

CALIBRATION DATE:

September 11, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.0%

Diameter of Active Area: 33 mm. Low Ringed Bottom Planchet.

CAUTION: Active material deposited on the unmarked surface. Handle carefully to prevent scratching or damaging the active surface of this source (i.e., use Teflon coated forceps). Store in the container provided when not in use.

P O NUMBER

06-0431, Item 1

SOURCE CALIBRATED BY:

Daniel M. Montgomery, Radiochemist

O A APPROVED:

09-11-2006

Inhantani



1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

### CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73522-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.826 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: γ-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER 06-0422, Item 1

SOURCE PREPARED BY: M. Dimitrova, Radiochemist

Q A APPROVED:

M. m. J 10-10-06



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## CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73523-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.837 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: γ-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER

06-0422, Item 1

SOURCE PREPARED BY:

U. Smitron

M. Dimitrova, Radiochemist

Q A APPROVED:

10-10-06

Laboratore



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# CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73524-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.833 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: γ-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER

06-0422, Item 1

SOURCE PREPARED BY:

M. Dimitrova, Radiochemist

Q A APPROVED:

NM-MJ 2 10-10-06

Laboratoria



1380 Seaboard Industrial Blvd. Atlanta, Georgia 30318 Tel 404-352-8677 Fax 404-352-2837 www.analyticsinc.com

# CERTIFICATE OF CALIBRATION

Standard Radionuclide Source

73525-526

Sr-90 in Aluminized Mylar on 47 mm Diameter Aluminum Ring

This standard radionuclide source was prepared gravimetrically from a calibrated master solution. The master solution was calibrated by liquid scintillation counting. The calibration was checked by beta counting after source preparation.

ANALYTICS maintains traceability to the National Institute of Standards and Technology through Measurements Assurance Programs as described in USNRC Reg. Guide 4.15, Revision 1.

ISOTOPE:

Sr-90

ACTIVITY (dps):

1.811 E2

HALF-LIFE:

28.79 years

CALIBRATION DATE:

October 9, 2006 12:00 EST

RELATIVE EXPANDED

UNCERTAINTY (k=2):

3.3%

Impurities: y-impurities <0.1%

Diameter of active area: 33 mm. 0.8 mg/cm² aluminized mylar.

No expiration date has been given for this source due to the fragile nature of the mylar covering. This source should be carefully tested for leakage at least every six months. If leakage is detected this source should be disposed of by approved radioactive waste disposal procedures.

NOTE: This source also contains Y-90 in secular equilibrium with Sr-90. The Y-90 activity is equal to the Sr-90 activity. Since Sr-90 and Y-90 both decay 100% by beta emission, the total beta activity for the source is twice the certified Sr-90 activity. The half-life for Y-90 is 64.08 hours.

P O NUMBER 06-0422, Item 1

M. Dimitrova, Radiochemist

O A APPROVED:

W P J 10-10-01

Unverified Std S-0315 Verified Std S-0172

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			CA-7710-C	S 0472 VE	S-0172-V3	S-0172-V2	S-01/2-V1	S-U315-V5	S-0315-V4	S-0315-V3	S-0315-V2	S-0315-V1	ВKG	Std ID
			4839.05	4954.37	4863.92	4877.03	4888.79	53.61	54.42	54.79	55.38	53.91		Gr CPM
			41.13	41.13	41.13	41.13	41.13	41.13	41.13	41.13	41.13	41.13	41.13	Bkg CPM Net CPM
			4817.92	4913.24	4822.79	4835.9	4847.66	12.48	13.29	13.66	14.25	12.78		Net CPM
			4704	4704	4704	4704	4704	12.587	12.587	12.587	12.587	12.587		Std DPM/g
			2/5/2008	2/5/2008	2/5/2008	2/5/2008	2/5/2008	7/12/2016	7/12/2016	7/12/2016	7/12/2016	7/12/2016		То
			2/5/2008   7/19/2016   27530000   4703.63	2/5/2008 7/19/2016 27530000 4703.63	2/5/2008 7/19/2016 27530000 4703.63	2/5/2008 7/19/2016 27530000 4703.63	2/5/2008 7/19/2016 27530000 4703.63	7/12/2016 7/19/2016 27530000	7/12/2016 7/19/2016 27530000	7/12/2016 7/19/2016 27530000	7/12/2016 7/19/2016 27530000	7/12/2016 7/19/2016 27530000 12.59		71
			27530000	27530000	27530000	27530000	27530000	27530000	27530000	27530000	27530000	27530000		Т 1/2
			4703.63	4703.63	4703.63	4703.63	4703.63	12.59	12.59	12.59	12.59	12.59		Std DPM/g decayed
	<u> </u>		1.0211	1.0387	1.0176	1.0299	1.0304	1.0178	1.0172	1.0146	1.0128	1.0179		grams added
	Accep	Deviation	4802.8811	4885.6651	4786.4184	4844.2731	4846.62	12.81	12.80	12.77		12.81		STD DPM at count
	Acceptance Criteria	Deviation between stds	1.0031	1.0056	1.0076	0.9983	1.0002	0.9742	1.0380	1.0696	1.1178	0.9975		CPM/ DPM
Passes	<5%	4%	1.0030					1.0394						Mean CPM/DPM
			-0.0038					0.0572						Mean Stdey of CPN/DPM CPN/DPM
Passes	<10%		-0.38%					5.5%						%RSD of

Reviewed by: QA approval: 2-20-16

> Std Known DPM
> Avg Calculated DPM
> % Difference
> 2-sigma C.L.
> STD criteria 12.587 12.59 -0.00002% 0.055812101 0.44%

RADIOACTIVE STANDARDS BATON ROUGE LABORATORY	Parent ID S-0172	Tech   B Steffens	<b>Ref No</b>   75861-526	Sol Matrix 0.5M HNO3	Manufactuer Analytics	SL	Th-230	S-0315
BATON ROUGE LABORA			26	23	•	Expires 7/1	Verified 7/1	
ATORY	WITERNATIONAL	えし	うり			7/19/17	7/19/16	

### STD ID: S-0315

ARS	Add/Edit Secondary Stds	Parent Standard Data						
ti kati ya kina aki ki kati da kati ya ki ki kati kati kati ki ki ki ki ki ki ki ki ki ki ki ki ki	Planning	Parent Solution Reference #	75861-526		· ·			
Planning Comments	Create a Th-230 LCS Standard	Parent Solution #	S-0172					
Target dpm/g (on dil. date)	12.5	Parent Principal Radionuclide	Th-230	Haif Life (Days)	27534722.222222			
Target Final volume mL	100ò	Parent Reference Date	02/05/2008 12	:00	State Base			
Appx mass g of Parent Sol'n	2.657469047	Parent Certified Act	4704.088304	Certi Act/Vol Units	dpm g			
Appx vol mi of Parent Soi'n		Parent Cert Act Uncert 1 Sigma	0.02					
Expected Addition for Analysis g		Parent Sp. Gravity G/Mi						
Sta	ndards Preparation / Dilution	Parent Supplier	Analytics					
Secondary Solution #	S-0315	Parent Date Recvd	09/11/07					
Dilution Date (New Ref Date)	07/12/2016 00:00	Parent Received By	S Clayton					
Ampoule, Empty (g)		Parent Cert Exp Date						
Ampoule /Solution Gross (g)		Parent Matrix	0.5M HNO3					
Net Wt Removed (g)		Certified dpm/g At Ref Date	4704,088304					
Transfer Container, empty (g)	17.2581	Cartified dom/g on 07/12/2016 00:00	4703.723648	100	PAL			
Container Plus Solution (g)	19.9691			illution performed	for use in creating LCS as stated above by B			
Net Wt Transferred (g)	2.711	Parent Comments	Statistis on 2,740. Els 2,540					
PM Xferred on 07/12/2016 00:00	12751.79481				100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg 100 mg			
Diluent/matrix	.5 HNO3	Parent Tech	B Steffens					
Diluent Density Cont, empty (g)		is_Primery	FALSE	2	Section 2015			
Test Mass of 5 ml of Diluent (g)		is_LCS	TRUE					
Diluent Density Test - (g/mL)	about 1	ls_Tracer	FALSE					
liution Empty Container Mass (g)	275.41	is_Calib	FALSE		100			
Dilution Full Cont g (if measured)	1288.5							
illution Final Volume mi (if measured)	1000	augustus en ej						
Final Dilution Density (g/mL)	1,01309							
Final Dilution Measured Mass g	1013.09							
Comments	Th-230 LCS standard. Dilution performed as stated -JPB 07/12/2016	above by Jacob Byrd						
Final Dilution dpm/g	12,58703058		iki alikukuman di sumuhan hara dari i memuhan hari mangan dari hara sebah di bilangan mejara	ude gar variak sambilipas da ya rozorneg tirram ngamilik disibilih di	or management over the control and the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state			
Final Dil New Ref Date/Time	07/12/2016 00:00							

# STD ID: S-0315

ARS	Add/Edit Secondary Stds	Parent Standard Data						
	Planning	Parent Solution Reference #	75861-526					
Planning Comments	LCS solution used to make blinds	Parent Solution #	S-0172					
Target dpm/g (on dil. date)	12.5	Parent Principal Radionuclide	Th-230	Half Life (Days)	27534722.222222			
Target Final volume mL	1000	Parent Reference Date	02/05/2008 12		Figure Company			
Appx mass g of Parent Sol'n	2.657469026	Parent Certifled Act	4704.088304	Certi Act/Voi Units	dpm g			
Appx vol mi of Parent Sol'n		Parent Cert Act Uncert 1 Sigma	0.02					
Expected Addition for Analysis g	1	Parent Sp. Gravity G/MI						
Stan	dards Preparation / Dilution	Parent Supplier	Analytics					
Secondary Solution #	S-0315	Parent Date Recvd	09/11/07					
Dilution Date (New Ref Date)		Parent Received By	S Clayton					
Ampoule, Empty (g)		Parent Cert Exp Date						
Ampoule /Solution Gross (g)		Parent Matrix	9.5M HN03					
Net Wt Removed (g)		Certifled dpm/g At Ref Date	4704.086304					
Transfer Container, empty (g)	17.2581	Certified dpm/g on 07/11/2016 16:31	4703.723685					
Container Plus Solution (g)	17.2581			ilution performed	d for use in creating LCS I as stated above by B			
Net Wt Transferred (g)		Parent Comments						
DPM Xferred on 07/11/2016 16:31								
Diluent/matrix	,5M HNO3	Parent Tech	B Steffens					
Diluent Density Cont, empty (g)		Is_Primary	FALSE					
Test Mass of 5 ml of Diluent (g)	The second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second secon	ls_LCS	TRUE					
Diluent Density Test - (g/mL)	7-12-	ls_Tracer	FALSE					
Dilution Empty Container Mass (g)	a.7541 275.41 28	ls_Calib	FALSE					
Dilution Full Cont g (if measured)	1 288,50		The day of the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second 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Dilution Final Volume ml (if measured)	1000 m L							
Final Dilution Density (g/mL)								
Final Dilution Measured Mass g								
Comments					peterbiling controlling sectors			
Final Dilution dpm/g			erander-randererande appelepter from til had bled slede trappell til grut gjeldspeligt til gill et styllet sty	er effekt, (E) (E), penganghi senang sesenda dan sesenda dan sesenda dan se	one and analysis of a consequence of the consequence of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of the second of th			
Final Dil New Ref Date/Time	07/11/2016 16:31							

Assay Definition-

AB Widw Window assay Assay Description:

Assay Type: CPM

Report Name: Report1

Output Data Path: C:\Packard\Tricarb\Results\ARS\AB WIDE WINDOW 2\20160719_1149 Raw Results Path: C:\Packard\Tricarb\Results\ARS\AB WIDE WINDOW 2\20160719_1149\20160719_1149.results

Assay File Name: C:\Packard\TriCarb\Assays\AB WIDE WINDOW 2.lsa

Count Conditions

Nuclide: Wide Window

Quench Indicator: tSIE

External Std Terminator (sec): 0.5 2s%

Pre-Count Delay (min): 0.00

Quench Set: n/a

Count Time (min): 120.00

Assay Count Cycles: 1 Count Mode: Normal

Repeat Sample Count: 1 Calculate % Reference: Off #Vials/Sample: 1

Background Subtract: Off

Low CPM Threshold: Off

2 Sigma % Terminator: On - Any Region

0.50 0.50 2Sigma % Terminator ď 2000.0 2000.0 2000.0 0.00 占 Regions дυ

Count Corrections-

Luminescence Correction: n/a Heterogeneity Monitor: n/a Static Controller: On Colored Samples: n/a

Delay Before Burst (nsec): 75 Coincidence Time (nsec): 18

Half Life-

Units Half Life Correction: Off Half Life Regions

Reference Date

Reference Time

щυ

MESSAGES											
TIME	11:50:38 AM	1:53:16 PM	3:56:47 PM	6:00:15 PM	8:03:45 PM	10:07:17 PM	12:10:46 AM	12:44:55 AM	1:19:08 AM	1:53:26 AM	2:27:06 AM
DATE	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/19/2016	7/20/2016	7/20/2016	7/20/2016	7/20/2016	7/20/2016
LUM	Н	Н	Н	н	н	н	0	0	0	0	0
tSIE	367.33	342.90	341.59	341.24	344.10	340.81	342.54	343.04	343.84	342.81	342.91
CPMA	41.13	53.91	55.38	54.79	54.42	53.61	4888.79	4877.03	4863.92	4954.37	4859.05
Count Time	120.00	120.00	120.00	120.00	120.00	120.00	32.74	32.82	32.90	32.30	32.94
Cycle 1 Results S# SMPL ID	BACKGROUND	/ S-0172-V1	S-0172-V2	03154 8-01-72-V3	S-61-72-V4	3-01-75-V5	(3-0315 VI	S-03-15-V2	17 A8-03-5- V3	3-03-15-V4	(8-03-15-V5
Cycle 1 S#	П	7	r	4 5	Ŋ	9	7	ω	9 C	10	11

S-0315 Verificati	on Weights
Tech:	JPB
Pippete:	LH63076
Scale ID:	12332539
Standard 1 ID:	S-0315
Standard 2 ID:	S-0172
Sample ID	Std. Weight(g)
S-0315-V1	1.0179
S-0315-V2	1.0128
\$-0315-V3	1.0146
S-0315-V4	1.0172
S-0315-V5	1.0178
S-0172-V1	1.0304
\$-0172-V2	1.0299
S-0172-V3	1.0176
S-0172-V4	1.0387
S-0172-V5	1.0211

S-0315 Verificați	on Weights
Tech:	JPB
Pippete:	LH63076
Scale ID:	12332539
Standard 1 ID:	S-0315
Standard 2 ID:	S-0172
Sample (D	Std: Weight(g)
S-0315-V1	1.0179
S-0315-V2	1.0128
S-0315-V3	1.0146
S-031.5-V4	1-0172
S-0315-V5	1.0178
S-0172-V1	1.0304
S-0172-V2	1-0299
S-0172-V3	1.0176
S-0172-V4	1.0387
S-0172-V5	1-0311

### UNIVERSITY OF MIAMI ROSENSTIEL SCHOOL of MARINE & ATMOSPHERIC SCIENCE



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March 24, 2017

TRITIUM LABORATORY

Data Release #17-024 Job # 3491

JOEL I. CEHN, CHP TRITIUM SAMPLES

> Dr. James D. Happell Assistant Research Professor

Distribution:

Joel I. Cehn, CHP 4714 Windsor Blvd. Cambria, CA 93428

### COMMENTS ON TRITIUM RESULTS (revision date 29 November 2016)

### Tritium Scale New Half-life

Tritium concentrations are normally expressed in TU, where 1 TU indicates a T/H abundance ratio of  $10^{-18}$ . The values refer to the tritium scale recommended by U.S. National Institute of Science and Technology (NIST, formerly NBS), and International Atomic Energy Agency (IAEA). The TU-numbers are based on the NIST tritium water standard #4926E. Age corrections and conversions are made using the recommended half-life of 12.32 years, i.e., a decay rate of  $\lambda$  = 5.626% year⁻¹. In this scale, 1 TU is equivalent to 7.151 dpm/kg H₂O, or 3.222 pCi/kg H₂O, (equivalent to pCi/L in freshwater) or 0.1192 Bq/kg H₂O (Bq = disint/sec). We can also express tritium concentrations in pCi/L upon client request.

Tritium concentrations in TU or pCi/L are calculated for date of sample collection, REFDATE in the table, as provided by the submitter. If no such date is available, date of sample arrival at our laboratory is used.

The stated errors, eTU or err, are one standard deviation (1 sigma) including all conceivable contributions. In the table, QUANT is quantity of sample received, and ELYS is the amount of water taken for electrolytic enrichment. DIR means direct run (no enrichment).

#### Very low tritium values

In some cases, negative tritium values are listed. Such numbers can occur because the net tritium count rate is, in principle the difference between the count rate of the sample and that of a tritium-free sample (background count or blank sample). Given a set of "unknown" samples with no tritium, the distribution of net results should become symmetrical around 0 TU or pCi/L. The negative values are reported as such for the benefit of allowing the user unbiased statistical treatment of sets of the data. For other applications, 0 TU or pCi/L should be used.

### Additional information

Refer to Services Rendered (Tritium), Section II.8, in the "Tritium Laboratory Price Schedule; Procedures and Standards; Advice on Sampling", and our Web-site www.rsmas.miami.edu/groups/tritium.

Tritium efficiencies and background values are somewhat different in each of the nine counters and values are corrected for cosmic intensity, gas pressure and other parameters. For tritium, the efficiency is typically 1.00 cpm per 100 TU (direct counting). At  $50\times$  enrichment, the efficiency is equivalent to 1.00 cpm per 2.4 TU. The background is typically 0.3 cpm, known to about  $\pm$  0.02 cpm. Our reported results include not only the Poisson statistics, but also other experimental uncertainties such as enrichment error, etc.

Client: JOEL I. CEHN, CHP Purchase Order: Need it

Recvd: 17/01/23 Contact: Joel I. Cehn. 510-863-1570

Job# : 3491 email: cehn@aol.com Final : 17/03/22 Project name: BBI 4714 Windsor Blvd., Cambria,CA 93428

Cust LABEL INFO	JOB.SX	REFDATE	QUANT	ELYS	TU	eTU
OS-10 BB-16A OS-7 OS-3 BB-19M BB-17	3491.01 3491.02 3491.03 3491.04 3491.05 3491.06	170116 170117 170117 170117 170118 170117	40 40 40 40 40 35 40	DIR DIR DIR DIR DIR DIR	1 13 5 2 2 9	2 2 2 2 2 2 2 3